

From Paternalism to Participation: Evolving Techniques of Management Control in the South African Gold Mining Industry

GRANT CHARLES MITCHELL

Submitted in partial fulfilment of the requirements for the
degree of Master of Social Science in the Department of
Sociology, University of Natal.

DURBAN 1992

DECLARATION

I declare that this is my own, unaided work, unless otherwise stated in the text, and has not been submitted previously for any degree at any other University.

.....*J. Mitchell* 1/9/92.....

University of Natal, Durban, 1992

ABSTRACT

The South African gold mining industry has since its inception, relied on an authoritarian and paternalistic form of labour control. This inheritance is due to a number of reasons; the nature of the process of gold mining itself, the reliance on migrant labour, the poor levels of education of workers in the industry, the regulation of workers' lives in hostels as well as the attitudes of white supervisors towards the control of labour - an inheritance from the British system, which tends to view hierarchies as rigid and highly stratified.

The particular kind of paternalism found in gold mining has however, evolved over a time frame spanning this century, and has been subject to modification and external influence, particularly from managerial theories borrowed from Western Europe and the United States. Thus, scientific management made its presence felt in the first half of this century, whilst more recently, the need to transfer new and upgraded technology has drawn on the sociotechnical tradition. The human relation movement, also a more recent phenomenon, has grown in direct response to the increasing levels of conflict on gold mines between management and labour.

At present the industry is undergoing a crisis in the form of a depressed gold price (necessitating reduction in the labour force), poor levels of productivity and an increasing challenge to management hegemony in the growth of a mass based trade union - the National Union of Mine Workers.

It will be argued that these factors have necessitated that management in the industry search for new and more appropriate methods for the co-ordination and control of labour, and that the form that this has taken is towards more worker participation in decision-making.

Participation on gold mines is developing in a number of areas; with consultative councils, with increasing consultation with the unions, in particular the N.U.M., in productivity drives such as the quality circles movement, and more recently in employee share ownership schemes (E.S.O.P.S.).

All of the above approaches are attempts by senior management to incorporate labour more into the management process, and thus try to reduce the level of polarisation between labour and capital, which has gained in intensity in the industry over the past decade.

CONTENTSPage

ACKNOWLEDGEMENTS	iv
LIST OF ABBREVIATIONS	v
LIST OF FIGURES	vi
LIST OF TABLES	ix

CHAPTER ONE : FACTORS AFFECTING MANAGEMENT CONTROL ON
SOUTH AFRICAN GOLD MINES

1. Introduction	1
2. Paternalism, Participation and Control : Some Definitions	4
3. A cursory Overview of the Development and Formation of the Organisational Structures of Gold Mines in South Africa	7
4. The Moral Basis of Authority and Control in South African Gold Mines	11
5. Factors that have Entrenched the Autocratic Nature of Supervisory Control on Gold Mines	13
6. Factors that are Challenging the Autocratic Nature of Supervisory Control on Gold Mines	22
7. Notes	31

CHAPTER TWO : SYSTEMS OF MANAGERIAL CONTROL ON SOUTH
AFRICAN GOLD MINES : THEORETICAL PERSPECTIVES
AND PRACTICAL APPLICATIONS

1. Introduction	37
2. The Ideology and Practice of Scientific Management	40
3. The Development of the Human Relations Movement	44
4. Sociotechnical Systems	48
5. The Influence of Western Managerial Practice on South African Gold Mining	52
6. Summary	58
7. Notes	61

CHAPTER THREE : PARTICIPATION : THEORY AND PRACTICE Page

1. Introduction	66
2. Participation : Some Industrial Examples	
2.1 Co-determination	69
2.2 Quality Circles	71
3. To Participate or Not to Participate? Some <u>Ethical Questions</u>	78
4. Some Examples of Participation in the Manufacturing Sector in South Africa	80
5. Participation in the South African Gold Mining Industry	86
6. Notes	95

CHAPTER FOUR : ATTITUDES TO PARTICIPATION : FINDINGS FROM AN EMPIRICAL STUDY CONDUCTED ON FOUR GOLD MINES

1. Introduction	101
2. Research Design	101
3. Sample and Method	103
4. Summary of the Findings	105
4.1 Top Management : Survey Findings	105
4.2 Consultative Committees : Survey Findings	113
4.3 General Employees : Survey Findings	123
5. Summary	137
6. Notes	142

CHAPTER FIVE : QUO VADIS?

1. Summary and Overview	146
2. The "New South Africa"	
2.1 Economic and Social Parameters	148
2.2 The New Economic Order : Perceptions of the State, Capital and Opposition Groupings	150

Page

3. Industrial Citizenship in Gold Mining	153
4. Conclusions	157
5. Notes	162

ANNEXURES

One : Mining Houses in the RSA, 1989	165
Two : Survey Questionnaires	169
Three : Abbreviations of Scales used in Questionnaires	189
Four : Organisational Structures on Gold Mines	191

SOURCES AND REFERENCES	196
------------------------	-----

ACKNOWLEDGEMENTS

Firstly, I would like to thank my former colleagues in the Human Resources Division of the Chamber of Mines Research Organisation, in particular David Coldwell, Neil Barnes, Chalky White and Edwin Khoza, for their help and assistance in formulating and conducting the empirical study, which makes up a component of this dissertation (Chapter Four). I would also like to thank the Research Organisation for allowing this material to be used for the purposes of this Degree.

Secondly, I would like to thank my father, Raymond Mitchell, and my aunt, Kay Williams, for their assistance and support during the period of writing up this study.

Thirdly, I would like to acknowledge the help, advice and direction given to this study by my supervisor, Ari Sitas, from the Department of Industrial and Labour Studies, University of Natal.

Finally, I would like to thank Diana Duffy for excellent typing services rendered.

ABBREVIATIONS

A.N.C.	:	African National Congress
C.O.M.R.O.	:	Chamber of Mines Research Organisation
C.O.S.A.T.U.	:	Congress of South African Trade Unions
E.S.O.P.S.	:	Employee Share Ownership Schemes
N.A.P.R.O.Q.C.S.A.	:	National Association of Productivity and Quality Circles of South Africa
N.I.P.R.	:	National Institute of Personnel Research
N.U.M.	:	National Union of Mine Workers
M.W.U.	:	Mine Workers Union
P.A.C.	:	Pan African Congress
R.S.A.	:	Republic of South Africa
S.A.C.C.O.L.A.	:	South African Consultative Council on Labour Affairs
S.A.C.P.	:	South African Communist Party
T.E.B.A.	:	The Employment Bureau of Africa
Q.C.'s	:	Quality Circles
W.N.L.A.	:	Witwatersrand Native Labour Association
U.K.	:	United Kingdom
U.S.A.	:	United States of America

LIST OF FIGURES

	<u>Page</u>
Figure 1 : LANGUAGE PROFICIENCY OF BLACK MINE WORKERS	20
Figure 2 : CONFLICT ON GOLD MINES : 1975 - 1986	27
Figure 3 : FACTORS THAT HAVE AFFECTED MANAGEMENT STYLE ON GOLD MINES	30
Figure 4 : DIAGRAMATIC RESPRESENTATION OF THE INFLUENCE OF WESTERN MANAGERIAL IDEOLOGY ON SOUTH AFRICAN GOLD MINING	60
Figure 5 : A MODEL OF EMPLOYEE DECISION-MAKING	68
Figure 6 : COMPOSITION OF SUPERVISORY BOARDS UNDER CO-DETERMINATION	70
Figure 7 : WEIGHTED AVERAGE RANKINGS OF PROBLEMS OR FACTORS THAT IMPEDE THE IMPLEMENTATION OF QUALITY CIRCLES PROGRAMMES	75
Figure 8 : JOINT MANAGEMENT-UNION COMMUNICATION STRUCTURES AT VOLKSWAGEN SOUTH AFRICA	85
Figure 9 : PARTICIPATION RESEARCH DESIGN	102
Figure 10 : COMMITTEE EFFECTIVENESS (BLACKS) PROBLEM AREAS - MINE C	116
Figure 11 : COMMITTEE EFFECTIVES (WHITES) PROBLEMS AREAS - MINE C	117
Figure 12 : COMMITTEE AND NON-COMMITTEE REPRES- ENTATIVES' ATTITUDES TOWARDS PARTICIPATION	119
Figure 13 : ATTITUDES TOWARDS PARTICIPATION : TOP MANAGEMENT ACROSS MINES	126
Figure 14 : WORKERS' COMMITMENT TO THEIR WORK : UNION/NON-UNION PERCEPTIONS	127

Figure 15 :	SOCIAL NEED SATISFACTION : UNION/NON-UNION EMPLOYEES	128
Figure 16 :	ECONOMIC INSECURITY : UNION/NON-UNION EMPLOYEES	128
Figure 17 :	ATTITUDES TOWARDS PARTICIPATION : UNION/NON-UNION EMPLOYEES	129
Figure 18 :	WORKERS' COMMITMENT TO THEIR WORK : PERCEPTIONS ACROSS JOBS	130
Figure 19 :	SOCIAL NEED SATISFACTION : PERCEPTIONS ACROSS JOBS	131
Figure 20 :	ATTITUDES TOWARDS PARTICIPATION : PERCEPTIONS ACROSS JOBS	132
Figure 21 :	WORKERS' COMMITMENT TO THEIR WORK : PERCEPTIONS ACROSS RACE GROUPS	133
Figure 22 :	WORKERS' COMMITMENT TO THEIR WORK : PERCEPTIONS ACROSS RACE GROUPS (ITEM BREAKDOWN)	133
Figure 23 :	SATISFACTION OF SOCIAL NEEDS : PERCEPTIONS ACROSS RACE GROUPS	134
Figure 24 :	ECONOMIC INSECURITY : PERCEPTIONS ACROSS RACE GROUPS	134
Figure 25 :	JOB SATISFACTION : PERCEPTIONS ACROSS RACE GROUPS (ITEM BREAKDOWN)	135
Figure 26 :	ATTITUDES TOWARDS PARTICIPATION : PERCEPTIONS ACROSS GROUPS	136
Figure 27 :	ATTITUDES TOWARDS PARTICIPATION : PERCEPTIONS ACROSS RACE GROUPS (ITEM BREAKDOWN)	136

Figure 28 :	A FRAMEWORK FOR IDENTIFYING ECONOMIC AND SOCIAL POLICY	149
Figure 29 :	A FRAMEWORK FOR REGULATING MANAGEMENT/ LABOUR RELATIONS IN THE GOLD MINING INDUSTRY	156

LIST OF TABLESPage

Table 1	:	THE SAMPLE BY TARGET GROUP AND MINE	104
Table 2	:	THE METHODS AND TECHNIQUES USED FOR EACH TIER	105
Table 3	:	MANAGEMENT'S RATIONALE FOR PARTICIPATION	106
Table 4	:	PARTICIPATION SYSTEMS ACROSS FOUR MINES	107
Table 5	:	PARTICIPATION POLICY STATEMENT	108
Table 6	:	TRADE UNION INVOLVEMENT IN PARTICIPATION	109
Table 7	:	THE EXTENT OF TRAINING GIVEN IN PARTICIPATION ACROSS FOUR MINES	109
Table 8	:	PERCEIVED BARRIERS TO PARTICIPATION (TOP MANAGEMENT)	110
Table 9	:	MAJOR PROBLEM AREAS (BLACKS)	116
Table 10	:	MAJOR PROBLEM AREAS (WHITES)	117
Table 11	:	BARRIERS TO PARTICIPATION : FINDINGS OF PARTICIPANT OBSERVATION ACROSS MINES	120
Table 12	:	ATTITUDES TOWARDS PARTICIPATION (COMBINED MINES)	125
Table 13	:	ATTITUDES TOWARDS PARTICIPATION : (SEPARATE MINES)	125
Table 14	:	SAMPLE SIZE FOR THE UNION/NON-UNION GROUP	127
Table 15	:	JOB CATEGORY SAMPLE SIZE AND CODES	130

CHAPTER ONE : FACTORS AFFECTING MANAGEMENT CONTROL ON SOUTH AFRICAN GOLD MINES

1. INTRODUCTION

This dissertation grew out of a study conducted into worker participation in the gold mining industry in South Africa in 1988 (detailed in Chapter 4). The study was conducted under the auspices of the Chamber of Mines Research Organisation (C.O.M.R.O.) and resulted in a report and presentation to the industry at the end of that year.¹

Essentially, the study involved an examination of the attitudes of managers, supervisors and rank and file workers towards the delegation of decision-making to lower levels in the organisation. An evaluation of consultative committees was also undertaken, as an example of management initiated participation.

An initial question that arises from this study, and which requires amplification, is: Why had senior management in the industry requested a study which set out to examine the traditional relationships of authority on gold mines? The answer to this question is a complex one, and will form a major theme throughout this dissertation. It will be argued that managerial controls in gold mining have evolved over a time frame spanning this century. At present, these techniques of managerial control have become obsolete in the face of changes that are occurring both within the organisation and in the external political environment. Thus, senior management is looking towards new, and more appropriate, mechanisms. Worker participation, which developed and evolved in Japan, the United States and Western Europe, and has been popularised in South Africa by consultants such as Albert Koopman² is seen by management as a method which will counteract the polarisation between

labour and capital, which has increased in intensity in the industry in the last decade³.

The dissertation sets out to review the evolution of the process of managerialism on gold mines, and the obstacles encountered by management in implementing new supervisory and managerial strategies. The study does not claim to be exhaustive; particular areas, such as the production process and consultation, are selected for review. Nor is the study strictly historical. What is highlighted is the influence of schools of thought (derived mainly from the social sciences) on the evolution of managerial thinking and application.

The study will proceed in the following way:

Chapter 1 will introduce the world of gold mining, examining the development of organisational structures in the industry, conditions under which gold mining occurs, as well as factors that have influenced the nature of supervision and the co-ordination of labour.

Chapter 2 will review the influence of major schools of thought on managerialism in gold mining. Of particular interest is the influence of scientific management, the human relations movement and the sociotechnical traditions. The emphasis will be on examining how these ideologies have surfaced and been applied in gold mining.

Chapter 3 examines the practice of participation in both Western Europe and the United States. Particular systems, such as West German Co-determination, Quality Circles, Employee Share Ownership Schemes, Consultation and participation with trade unions are examined from both a theoretical position and in terms of practical application. In addition, the influence of the above mentioned systems on gold mining are reviewed in some detail.

Chapter 4 presents the findings from an empirical study into participation undertaken by the author in 1988. The orientation will be on presenting the barriers, both structural and attitudinal, that impede, or alternatively enhance, the development of a more participative management style on gold mines. It will be argued that this study highlights the outcomes of a managerial thrust which is building up towards the delegation of more decision-making at the lower levels in the enterprise.

Chapter 5 summarises the findings from both the empirical study and the literature review. In addition, given the changes that have occurred in the external political environment since 1990, some observations will be made on the types of managerial systems that are likely to emerge in the next decade.

Some terms are used throughout the study which require initial clarification.

"Management" refers to senior management (the creator of policy) as well as to "management representatives", i.e. personnel whose function it is to implement senior management policy. In the case of gold mining, management refers to all mining "Officials".⁴

"Supervisors" are personnel whose function it is to carry out the day-to-day running of the production process. Supervisors therefore include "Union men"⁵ as well as team leaders. Details of organisation structures for senior management, the production, engineering and personnel departments are given in Annexure 4.

The terms "blacks" and "whites" are used throughout to denote the racial origins of employees. In gold mining, these terms are particularly important, as right up until the present time, the job colour bar has been enforced by legislation

such as the "Scheduled Persons" definition in the Mines and Works Act.⁶ The result has been that virtually the entire management is made up of whites (people of European descent) whilst all unskilled and semi-skilled employees are black (people of African origin). With the repeal of the "Scheduled Persons" in 1988, some racial mix is beginning to occur at the supervisory level (particularly miner level). However, the implications for the separation of races into different job categories is that attitudes towards authority and participation in the organisation are compounded in terms of both racial origin and job category. This is further highlighted in the empirical study (Chapter 4).

2. PATERNALISM, PARTICIPATION AND CONTROL: SOME DEFINITIONS

The short Oxford Dictionary defines paternalism as "a system under which a government or organisation deals with its subjects or employees in an authoritarian but *actively, friendly and helpful* ~~benevolent~~ way, especially by supplying all their needs and regulating their conduct".

In brief, this definition covers broadly the type of management that has traditionally been found on gold mines. Gold mines in South Africa are total institutions, "mini fiefdoms"⁷. Workers, supervisors and managers all reside on the mine property and the organisation supplies all the amenities of life, including accommodation, recreation and in some cases food⁸. However, as a result of this, together with other factors that will be explained, management control is centralised, autocratic and extends to all facets of employees' lives.

Many commentators on gold mining in South Africa have described the total nature of control in the industry. For example, Maxwell, past Chairman of the Chamber of Mines, has noted:

"Communications in the mining industry have traditionally been army-style, rather authoritarian",⁹

whilst Payne has described the system as:

"Historically mines have generally been paternalistically inclined and relied on a management style and structure not unlike that of the army"¹⁰.

Van Onselen¹¹ has described the system as a "closed system", referring to the extension of managerial control from the workplace to the domestic arenas.

"Participation", in contrast, is an approach which might be described at the opposite end of the managerial spectrum. The Short Oxford Dictionary defines participation as:

"the action or fact of partaking, having or forming part of: the fact or condition of sharing in common, partnership, fellowship, profit sharing".

Participation, however, takes on a specific meaning when used in the context of management science. Galvin, for example, defines participation as "the term participation implies integration and/or co-operation in an industrial relation system"¹².

Pateman sees participation as affecting the relationship between those who rule and those who are subject to authority.

"The whole point about industrial participation is that it involves a modification, to a greater or lesser extent, of the orthodox authority structure; namely one where decision-making is the 'prerogative' of management, in which workers play no part"¹³.

Horwitz sees participation as a difficult process for

management to achieve, particularly in organisations that have relied on autocracy as a central pillar of control and co-ordination.

"Employee participation, comparatively, can therefore be seen as a difficult balancing act between managerial control and employee opportunity, requiring sensitive judgements and sometimes awkward trade-offs"¹⁴.

Thus the process for management of moving in a more participative direction is a challenging one, as it involves changing set behavioural patterns and organisational structures that have had many years to become entrenched. However, it will be argued that this process is, in both the short and long term, unavoidable.

"Control" as a term is central to all managerial activity. For example, a standard manual of management training lists planning, organising, leading and controlling as central managerial functions¹⁵. Controlling is particularly important in gold mining in South Africa for two reasons. Firstly, as indicated, gold mines are total institutions where the workforce both sells its labour and resides. This means that managerial responsibility and control extends from the workplace to, in the case of black mine workers, the domestic arena as well¹⁶. Secondly, gold mining is the largest employer of industrial labour in South Africa, employing 636 982 African, 8 762 "coloured" and 78 202 white workers¹⁷. Taken in combination, managerial responsibility, and by implication control techniques, are far greater in gold mining than in the manufacturing sector.

The search for managerial and supervisory techniques is compounded by yet another factor. South Africa exists in a symbiotic relationship with the dominant Western industrial nations. Thus, in manufacturing models are taken from examples in Western Europe, Japan and the United States. This includes both the physical layout of plants,

manufacturing techniques, as well as techniques of management and supervision.

Gold mining is different in this respect. Gold mining in South Africa is unique in world terms. Nowhere else in the world do mines extend three and a half kilometres underground, nor are the particular geological formations found in South African mines duplicated elsewhere in the world. For these reasons, the industry has embarked, for the past twenty years, in a massive research drive to find solutions to both the technical and human related problems of extracting ore-bearing rock from the earth. The research budget of the Chamber of Mines Research Organisation (C.O.M.R.O.) was, in 1989, approximately seventy million rands per annum, although in the past two years this amount has been considerably reduced¹⁸.

The research drive by the industry illustrates, however, the importance of finding local solutions to both technical production and the co-ordination of labour. No overseas models are directly applicable as is the case in the manufacturing sector in South Africa.

3. A CURSORY OVERVIEW OF THE DEVELOPMENT AND FORMATION OF THE ORGANISATION STRUCTURES OF GOLD MINING IN SOUTH AFRICA

Gold was originally discovered in 1853 by P.J. Marais in the Crocodile and Jukskei rivers, just north of where Johannesburg stands today, although evidence has occurred that Africans had panned for gold long before this date¹⁹.

In 1874, Henry Lewis determined the presence of gold on the farms Blaauwbank and Zuikerboshfontein, and this led to the formation of the Nil Desperandum Co-operative Quartz Company in 1875²⁰.

George Walker and George Harrison stumbled across the main conglomerate formation at the foundations of a house under construction in February 1886²¹.

By September 1886, only a few months after the Langlaagte discovery, nine farms in the Central Rand from Roodepoort to Germiston had been proclaimed public diggings. From this point onwards, prospecting gave way to the establishment of the industry along the lines of the Witwatersrand.

In 1886, J.B. Robinson of Kimberley invested £31 500 in mining properties, demonstrating confidence in the future of the gold field²².

A government commission²³ in 1886 recommended the granting of Mynpacht or Mining Lease Rights for the larger companies and syndicates. The first of such syndicates was formed by Robinson in partnership with Beit (The Robinson Gold Mining Company). Others followed: Rhodes and Rudd formed Goldfields, Barnato - Johannesburg Consolidated Investments in 1889, whilst Rand Mines was formed by Eckstein and registered in 1893²⁴. By the middle of the 1890's more than seventy companies were registered.

The larger mining companies began to acquire the smaller ones, and the South African gold mining industry eventually settled into six major groups, namely: Anglo American Corporation, Anglovaal Limited, Gencor, Goldfields, Johannesburg Consolidated Investments and Rand Mines (see Annexure 1).

The Chamber of Mines, to which all mining groups belong, was formed in 1889, and at the outset acted in the interests of and promoted the mine owners and mining groups²⁵.

A typical example of this, taken from the end of the last century, was negotiating with the Kruger Government on

"issues which include taxes, excessive custom and excise duty, high inflation of wages and costs, mining legislation and concessions through which Kruger granted monopolies to various businessmen, giving them the sole right to supply crucial commodities"²⁶.

One of the biggest areas however, where the Chamber assisted the mine owners, was in the recruitment of labour. Gold mining, as has been indicated, required a massive supply of largely unskilled labour. At the turn of the century, mine owners obtained this through labour "touts" who charged commission on the volume of black mine workers they were able to supply to each mining group. The Chamber has argued that a centralised recruitment agency was necessary because:

"Unscrupulous freelance labour recruiters exploited the situation to their own ends. There was no standard by which mine workers could expect proper treatment and conditions. To overcome their problems and to stabilise labour supplies, the Chamber and the mining groups acted in concert, creating a responsible and reliable organisation, acting on their behalf, and in the interests of the industry as a whole"²⁷.

The initial recruiting organisation was called the Witwatersrand Native Labour Association (W.N.L.A.) and was founded in 1901, followed by the Native Recruiting Corporation (N.R.C.) in 1912. The Employment Bureau of Africa (T.E.B.A.) was formed out of the above two organisations in 1977²⁸.

The role of the above organisations has been the subject of heated debate, particularly their role in the migratory labour system. Commentators such as Johnstone²⁹ and Callinicos³⁰ have argued that such centralised recruitment agencies have, by monopolising recruitment and thus being in a position to expand the areas of recruitment, assisted in the exploitation of black labour by capital. Such a position has been questioned however by Nattrass³¹.

The Chamber of Mines controls a number of other areas in the industry besides recruitment. All wage bargaining between the employers and the various trade union bodies occurs centrally through the Chamber. Similarly, so does the administration of hospitals, social and welfare benefits and pensions as well as research³².

All of the six mining groups in South Africa are members of the Chamber, but the relationship between the Chamber, the Groups and individual mines is an interesting and often complex one.¹ Senior personnel from the Chamber are also senior personnel within the Groups, and sit on various high level committees: the most senior committee is the Executive Committee, followed by the Gold Producers Committee and the Collieries Committee³³. Whilst these committees set policy guidelines for the industry, overlap in some areas does occur. Some examples; whilst research is ostensibly controlled by the Chamber, most of the mining houses employ their own researchers, who conduct research and consultancy independently from COMRO³⁴. Another example is the interpretation of both Chamber and, in some cases, Group level policy, at individual mine level. Observation has revealed that the interpretation of this policy differs considerably, both in terms of the personality of management and the particular conditions on the mine³⁵.

Despite the anomalies that do arise, central structures in the mining industry are firmly established, and the administration and co-ordination of labour at this macro level has had many years in which to develop into its present format.

It can be argued that the administrative style that has been set at the very top end of the gold mining organisational structures, notably between the Chamber, group head offices and mine managements, has been a contributing factor towards the authoritarian nature of management control and

communications in the industry. This, however, is not out of line with what has occurred in the administration of large-scale enterprises in other developing economies. Kilby, for example, in a survey found that:

"The management systems found in both public and private enterprises was very often characterised by problems associated with the high degree of centralisation of authority in the office of top management and lack of delegation which created difficulties in the way of adoption of modern management methods. The principle reasons for this lack of delegation of authority were the transfer to the enterprise of the traditional authority systems, patriarchal roles, respect for age and superiors, lack of confidence of the top management in the competence of their subordinates, lack of trust in subordinates and suspiciousness of outsiders.

A second and related problem was the fact that managerial decisions were often made without consultation with subordinates and without sufficient flow of information from relevant departments within the firm"³⁶.

Whilst in recent years there have been attempts to introduce more modern managerial techniques to the top end of the Chamber³⁷, it is safe to say that many of the issues cited by Kilby hold true for the gold mining industry.

Thus the climate that is set at the senior levels of the organisational structures has a strong effect on what occurs at the lower end of the organisation. We will now examine in detail the kind of relationship that occurs there.

4. THE MORAL BASIS OF AUTHORITY AND CONTROL IN SOUTH AFRICAN GOLD MINES

Barrington-Moore suggests that the relationship between rulers and those who are ruled (either within organisations or civil society) may be typified in the following way:

Ghana
Ghana
Ghana

"There are certain mutual obligations that generally link rulers and ruled, those in authority and those subject to authority. They are obligations in the sense (1) that each of the parties is subject to a moral obligation to carry out certain tasks as its part of the implicit social contract, and (2) that failure of the party to perform the obligations constitutes grounds for the other to refuse the execution of its tasks. Each party finds moral justification and support for its own sense of moral outrage and anger in the alleged failure of the other to do its job properly"³⁸.

In gold mining, sanctions are carried out against the other party by both management and labour when the perceived "rules of the game" are violated.

Management for its part carries out sanctions, such as withdrawal of privileges, warnings issued formally to individuals or groups, and in extreme cases termination of employment. Disciplinary codes are written into management policy and form part of industrial relations practice. It must be noted that such codes of conduct apply to both workers and managers, although the rules and procedures that are applied in each case are often different.

Management and its representatives often carry out sanctions against workers in informal ways, however. For example, physical assault by supervisors on workers has been commonplace in the industry, although this practice is strictly against management policy and is an offence which may be subject to disciplinary measures against the individual concerned³⁹.

Workers, for their part, express outrage against management or its representatives when the "moral codes" are perceived to be violated. Most obvious examples are mobilisations (against management and its representatives, or by groups of workers against other groups of workers), formal conflict mediated via unions (strikes or work to rule) and informal

resistance such as depressed levels of productivity or industrial sabotage. These patterns of resistance have been documented by MacNamara⁴⁰, Moodie⁴¹ and Arnott⁴², and explore the specific nature of these patterns of resistance in gold mining.

The parameters of the "moral economy" are thus overt and covert rules, which regulate the behaviour of both management and workers in their relationship. This relationship is, however, subject to change by both parties. Management may change the ground rules for a number of reasons which will now be examined; similarly, workers may change the rules formally (through trade unions) or informally (through demands made within the present managerial structures). We will now examine specifically how the parameters of the "moral economy" in gold mining have been formed, and the issues at present which are arising to challenge the traditional order.

5. FACTORS THAT HAVE ENTRENCHED THE AUTOCRATIC NATURE OF SUPERVISORY CONTROL ON GOLD MINES

Whilst the overall relationship between management and labour in the gold mining industry may be described as paternalistic, the supervisory style at the point of production, particularly between the miner and the work group, is autocratic. This relationship has been documented, by Leger⁴³. There are, however, some specific reasons not covered by Leger, which illuminate the way that supervisory control has developed in gold mining in South Africa.

The reasons are, inter alia: the origins of managerial and supervisory control on gold mines, the physical conditions under which mining occurs, the structural relationship of the miner as a "contractor", the migratory labour system, the low level of education/skills in the industry, and the use of

Fanakalo as the means of communication in the workplace. We will now examine the contribution that each of these factors has had on the development of supervisory control.

The use of authority in the labour process in gold mines has developed historically in a particular way. Callinicos⁴⁴ has shown that during the early part of the century, the mine owners imported skilled workers into the industry mainly from Great Britain, and these workers, who became the supervisory class, resisted the upward mobility of black mine workers into their ranks. But apart from the technical skills that they brought into mining, they also brought a particular attitude to supervision, which was derived from their experience of British industry, and reinforced by the management in gold mining in South Africa, who also happened to be mainly British in origin.

Dore⁴⁵ has described the major features of authority in British industry, and we may use this as a background to examine the nature of authority in gold mining in South Africa. Management organisation in Britain tends to be hierarchical, with specific functions and assigned responsibilities for each function. Control is exercised by the setting of individual performance criteria with corresponding rewards and sanctions set to each criteria.

Supervision (via the foreman) tends to be autocratic with a clear work and social status distinction made between the foreman and the work group. Discipline is enforced by using formal rules with corresponding sanctions.

Workers themselves tend to resist authority. This may be ascribed to several factors; the ratio of supervisors to workers tends to be lower in England than, say for example, in Japan where workers have less feelings of rebelliousness. Co-lateral relationships in English firms seem more important

than vertical ones, where workers see themselves as separate from their immediate superiors.

Authority is reinforced in England by the use of symbolic gestures of privilege and rank. The class-based nature of British society tends to reinforce these differences. British workers thus look to class-based allegiances, such as the trade union movement, to support and retain this separateness⁴⁶.

Gold mining in South Africa displays many, but not all, of these characteristics found in English industry. Similarities include: departments on mines are all separate with different functional heads, eg. production, engineering, personnel (see Annexure 4). The structures in each department are steep and vertical, and departmental heads are recruited specifically for that particular post. There is thus little rotating of departmental heads.

Status differentials between managers, supervisors and workers are clear cut. The division is formalised between "officials" and "union men". "Officials" rank from shift boss (who may be viewed, in the British model, as the foreman) up to the most senior management levels. "Officials" are thus in broad terms the managerial group in the industry.

The difference in rank between "officials", "union men" and "workers" is reflected in social differences of rank and privilege which are, as indicated, rigidly reinforced at all levels. Thus, change room facilities, canteen facilities and membership of clubs, etc. are kept, where possible, separate⁴⁷.

The work group or gang is separated both socially and in work procedures from both the supervisor (the miner) and the management (officials). The gang operates in a semi-

autonomous way under the direct supervision of the team leader, who reports to the miner.

It is the relationship between the first-line supervisor, the team leader, and the gang that distinguishes gold mining in South Africa from its English model of origin. The team leader works very closely with the gang and enjoys a "hands on" approach, often carrying out specific functions with individual gang members. In many respects, this relationship is closer to the Japanese work-group, who view the supervisor as part of a team rather than an authority figure. In most cases, the team leader enjoys a high degree of trust of gang members, much more so that the miner or other management representatives⁴⁸. There have been occasions however, in conflict situations, when the team leaders have been isolated from the gang and accused of being management spies⁴⁹. This scenario is, however, rare in mining.

Workers in South African gold mining do not identify closely with the organisation (as is the case in Japan for example). The reasons for this are hardly surprising. Migratory labour, harsh labour conditions and little prospects for advancement within the organisation have left workers sights set low. In general, black mine workers view their jobs as a means to an end; a way of making as much money as possible during the contract, to be sent home to support families in the economically depressed regions of the country, and beyond the borders of South Africa.

Working conditions on gold mines are harsh, and the nature of the work is physically arduous. This factor alone makes the control of the labour process a difficult task. Unlike the layout of a typical production site in the manufacturing sector (production facilities are generally housed under one roof), gold mines extend over a larger geographical area, comprising a labyrinth of connecting tunnels and tramways leading to the "stoping face" where the recovery of ore-

bearing reef occurs. A government commission on gold mining, under the chairmanship of Franzsen, will illuminate in more detail the type of conditions on a typical gold mine in South Africa.

"A fairly typical gold mine may operate at a mean depth of some 1 600m, hoist 250 000 tons of rock per month, some 72 percent of which is extracted from stopes about 1,3m in width, and employ some 8 800 men underground and 2 600 on surface, giving a total complement of 11 400 men. Every month ore is extracted from an area some 50 000 m² in extent where the width of the gold-bearing channel is likely to be less than 0,5m. At any one time, the mine will have available for production some 10 000m length of face, which on average is expected to advance some 5m per month. To provide the face necessary to maintain production, the mine will have to develop some 50 km of tunnel every year. Currently, the main virgin rock temperature can be expected to be in the range of 38°C, with wet-bulb temperatures in the stopes in the region of 29°. During the last 13 years, the weighted mean depth and virgin rock temperatures have increased in the industry, on average by 29m and 0,41° per year, respectively. Thus, heat conditions in our typical mine are likely to become more severe in the years to come"⁵⁰.

Thus typically, mine workers work under cramped, restricted conditions (the stoping area itself usually requires workers to move about on all fours) and under temperatures which may only be described as severe. The nature of these conditions requires all workers who are actively engaged in labour underground to undergo acclimatisation⁵¹ prior to starting a contract.

Supervision of workers under such conditions is a difficult task. Usually a team leader, who is the first line supervisor, will have a number of panels under his control. These panels may cover a large geographical area, requiring him to move, over a shift, from one panel to the next. Thus, unlike a typical production plant in the manufacturing sector where supervision is ongoing, the team leader has to rely on the giving of specific instructions to workers in each panel;

ongoing vigilance of his gang is not possible in mining.

The team leader has therefore relied, under these conditions, on a direct mode of supervision. Instructions are carefully given, and unchallenged by workers. This form of "one-way communication" has been reinforced by the safety hazard in mining. Misunderstood or poorly executed instructions may result in accidents, which when they occur in mining are often severe⁵².

Working conditions in gold mining therefore, have had a great effect on the form of supervision and social interaction that occurs at the point of production. Whilst this has made the style of supervision autocratic, the harsh conditions have also, paradoxically, drawn the team leader and the gang into close co-operation with one another.

Whilst the team leader and the gang work in a close-knit relationship, the miner's relationship with both the gang and the team leader is a more distant and remote one. There are some important reasons for this.

The miner, unlike mining "officials" or black mine workers, is contracted into the mine on a commission basis. This means, in effect, that his salary is made up in part from a basic wage, and the rest in a production bonus, which depends on the metric units of ore-bearing rock he is able to recover over a set time period (his "call"). The miner is allocated by management machinery, materials and labour to achieve this objective. Quite clearly, it is in his interests to recover as much ore-bearing rock as is possible; the work group and the team leader also share in the spoils of a good yield, but nothing like the extent that the miner earns⁵³. Whether this system makes for an efficient recovery of ore-bearing rock is open to debate. Leger⁵⁴ for example, has argued that in his drive for production, the miner often overlooks safety procedures, thus endangering both his own and workers' safety

in the process. However, this system has been in operation for many years, and like other facets of the mining world, is entrenched within the organisation of mining.

This system however has developed its own peculiarities. Over the years, the team leader has acquired many of the skills of the miner, with the result that the miner has delegated more and more of his responsibilities to the team leader. The problem has been compounded by the shortage of good quality miners in the industry. The "Scheduled Persons" definition in the Mines and Works Act, which was on the statute books up until 1988, reserved the position of miner for persons of the "white" group only. The results of maintaining this piece of legislation for so long was that a shortage of miners built up, despite the fact that most of the mining groups had trained up black team leaders to move into this function⁵⁵. The results are that, in many cases, team leaders are more competent than the miners supervising them, and thus they have had to rely on their own judgements on a day-to-day basis, despite the fact that they had no legal authority to perform certain tasks (Leger⁵⁶). Many miners for their part, have largely withdrawn from supervision in the production process, and related to the work group in an intermittent way only. The poor quality of white miners has therefore seriously damaged the process of supervision in gold mining.

Education is the third factor that has affected the relationship between supervisors and workers on gold mines. Research indicates the mean level of black workers' formal education to be about five years of formal schooling⁵⁷, while white miners require a standard 8 certificate to enter mining. Both figures are misleading. The formal education of rural workers (these drawn from Transkei, Lesotho for example) is notoriously inaccurate and not much store can be placed on these figures. Similarly, management, in order to obtain a supply of miners, often waived the standard 8

requirement for entry into the job. A participation style of supervision is dependent, to some extent, on levels of education⁵⁸, and the low educational levels of both supervisors and workers has affected the nature of supervision, pushing it towards the autocratic end of the spectrum.

Similarly, language has played its part in reinforcing the authoratarian nature of supervision in gold mines. At present, the medium of instruction is Fanakalo, a *lingua franca* derived mainly from Zulu. The language itself is highly simplistic and is used mainly as a mode of instruction. It thus is a vehicle for conveying messages, or issuing orders. Gordon⁵⁹ observes that white miners evaluate their own supervisory ability in terms of their proficiency in Fanakalo. It is assumed that this is the best language medium, as black mine workers lack ability in other languages. Research⁶⁰ shows otherwise. A survey conducted on a typical gold mine revealed the following reported linguistic abilities of black mine workers.

	Afrikaans	English	Fanakalo	Mother Tongue
Understand, Read, Speak, Write	24%	40%	71%	93%

Figure 1: REPORTED LANGUAGE PROFICIENCY OF BLACK MINE WORKERS

It would, therefore, appear that the potential for communication in another language medium (eg. English) would be possible in gold mining, and that the tradition of using Fanakalo is based more on historical precedent than on objective assessment of the language abilities of mine workers at this point in time.

The migratory labour system is the final item in the list which has contributed towards the nature of supervisory behaviour on gold mines. Migratory labour has been a feature of gold mining in South Africa since its inception a century ago. Its impact on the wider economy and its contribution to the development of the particular nature of South African society will not be dealt with here, but rather the more narrow issue of the effect it has had on supervision in gold mining.

Migrant workers are drawn from both inside South Africa as well as from neighbouring countries such as Swaziland, Lesotho, Botswana, Mocambique and Malawi. The ratio of "foreign" to "indigenous" workers has varied over the years depending on recruitment pattern in the industry as well as political relationships with the "donor" countries. However, in 1980, the labour complement had swung from 78% foreign and 22% South African, to 60% South African and 40% foreign⁶¹. Thus gold mines are now less dependent on the importation of mine workers than they were in the past.

Migrant workers all share some characteristics in common. They generally are poorly educated, come from impoverished areas with high levels of unemployment, and initially have little knowledge or skills in gold mining. In the past, they have tended to be unstable, seldom renewing contracts over any length of time. The nett result is that traditionally the miner has been faced annually with an unskilled and

untrained gang. This factor has, coupled with the language barrier, reinforced the military style of supervision that has grown with the industry. The miners relationship with his work group is, generally, a relationship with a faceless group of expendable commodities, administered and controlled via a team leader. Any contact between the miner and individual gang members is done in a formal and ritualised way, without the personalities of the individuals being allowed to emerge. The unstable characteristics of the workforce have meant that relationships between supervisors and workers have been transient, unlike that found in industries with a tradition of long service amongst employees. This factor alone has reinforced the autocratic style of supervision which, as we noted, is a central feature of the gold mining industry.

absolute ruler

6. FACTORS THAT ARE CHALLENGING THE AUTOCRATIC NATURE OF SUPERVISORY CONTROL ON GOLD MINES

It has been noted that the nature of managerial and supervisory control on gold mines has been the result of a number of factors that have interacted together. However, with the passage of time, conditions on gold mines have slowly changed, with the result that the control mechanisms that have been appropriate up until now are no longer adequate to cope with the changes that are occurring in the industry. This section will examine some of these changes.

From management side, changes at present include the drive for increased productivity, the introduction of new technology and a move towards stabilisation (with consequent urbanisation) of the workforce.

Changes from labour include; increased levels of conflict with management, the growth of a mass-based union, the National Union of Mineworkers, and the increased levels of skills/education of black mine workers in general. Both parts of the equation will now be dealt with in some depth.

Productivity in the 1990's has become a major issue. Productivity in gold mining is dependent on a number of issues, such as the effectiveness of the recovery of the ore-bearing rock, as well as the quality of rock recovered. Profitability, in contrast, is more directly affected by issues such as the gold price, which in recent years has tended to fluctuate⁶². On all fronts, however, profits in gold mining are being "squeezed". Over the last few years, South Africa has moved from being the lowest cost producer of gold in the world to the highest cost producer⁶³. Management has thus looked to methods of improving productivity, which invariably has moved towards the nature of supervision and work organisation at the point of production. The ideas around Quality Circles have been examined, which rely on a high degree of worker participation, alongside less hierarchical managerial structuring. This is, of course, in direct contrast to the kind of work organisation found in

gold mines, and thus is a direct challenge to the old system.

The introduction of new technology into mining has, like the drive for improved work methods, also challenged the traditional systems. The development of new technology is particularly important in South African gold mines, because the unique geological and environmental conditions found in gold mines in this country warrant the development of appropriate technology to meet the demands of these conditions.

C.O.M.R.O., the research wing of the Chamber of Mines, has been conducting an ongoing research effort over the past twenty years to find solutions to these technical and human related problems. In the area of technology, research has taken two forms. Firstly, there have been developments to upgrade the traditional mining methods (the development of the hydraulic rock drill to replace the pneumatic drill, and the replacement of wooden packs as roof support with the backfill system, for example) as well as developments in entirely new mining methods which will revolutionise traditional mining.

Trackless mining⁶⁴ is an example of "new" technology. Unlike upgraded technology, new technology completely changes the process of gold mining. Thus, work organisation is re-defined in relation to the new systems. J.C.I., which has moved over to this new system partially on Randfontein

Estates gold mines, has encountered massive problems, particularly in the re-organisation and training of operators. To counteract this, the group has introduced participation to help in the process of transfer. Ken Maxwell, Chairman of the Group, explains:

"J.C.I. believes its participative management programme has played a major role in gaining workers' acceptance for mechanisation. Fundamental to J.C.I.'s programme has been the development of Employee Indaba Groups (E.I.G.'s) - a quality circles type meeting of people involved together in the work situation. Members of the group range from the highest to the lowest ranking employees. When the groups are in session, no seniority exists. The prime nature of the group is to exchange ideas and opinions with the objective of focusing on the problems affecting the labour process⁶⁵."

It must be noted, however, that this approach has only been used in relation to the new technology, and has not replaced the traditional methods of supervision on the rest of the mine, or within the group as a whole.

Urbanisation of the black mine workers on gold mines is an issue that has recently gained momentum with management. However, unlike urbanisation that occurs in wider society, this process is wholly controlled by management, although it must be noted that there has been some pressure from the international community as well as the N.U.M. on this issue⁶⁶. The primary motive from a management perspective is to develop a more stable and hence more technically skilled workforce than has been the case in the past. This is in response to the need, already noted, for a greater degree of technical skill required both on existing mines introducing technology piecemeal, and in the mines of the future. Similarly, mine workers who are well housed in the company of their families are less likely to mobilise against management than are workers housed in single sex hostels. However the

costs for building housing for all workers would be enormous, and the ramifications, particularly for gold mining with a limited life span, complex. Managerial response has been to begin the process with selective categories of staff (eg. team leaders) in the hope of stabilising these key workers⁶⁷. A second approach is to propose home ownership schemes for black mine workers, and some research has been conducted on worker attitudes to this at Vaal Reefs Mining Company⁶⁸. The National Union of Mineworkers, like management, is demanding a disbandment of migratory labour, however they want housing for all black mine workers in parity with their white counterparts.

The implications for management of large-scale urbanisation are that workers are likely to be less rebellious, more committed to the goals of the organisation, and in the long run more skilled: however, they are also likely to demand a greater say in decision-making, which, like new technology, alters the frontiers of the "moral economy".

Turning to the other side of the equation, notably the challenge to managerial hegemony by workers themselves, we noted three issues that stand out as altering the parameters of the "social contract". These issues are; the rise in mobilisations against management, the rise of the National Union of Mineworkers, and evidence of increasing levels of skills and/or education of black mine workers. In addition, changes that are occurring at a wider political level will, in the long run, impact on managerialism in gold mining.

Conflict on gold mines has risen dramatically in recent years, as Figure 2 indicates.

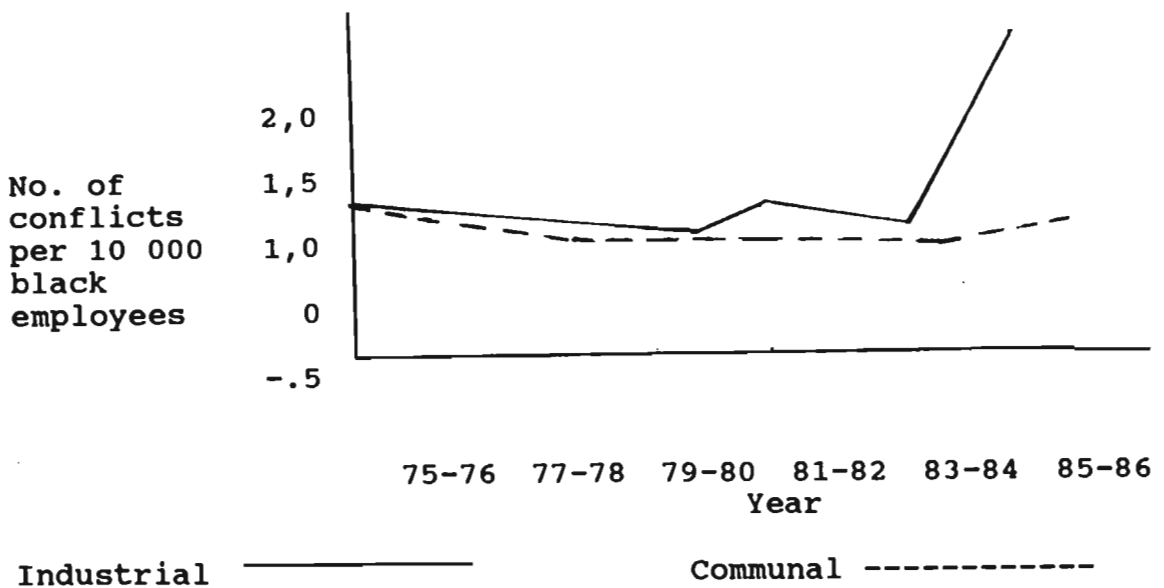


Figure 2: CONFLICT ON GOLD MINES 1975 - 1986
 (Adapted from the Chamber of Mines Research Organisation Annual Policy Review, 1988)

Industrial conflict is defined as mobilisations against line or hostel management, as well as against black management representatives (with or without union support). Communal conflicts are mobilisations between groups of black employees. What becomes obviously apparent in reviewing this data, is the increase in industrial conflict in the past ten years. Clearly, workers' outrage is being expressed in these terms. Schuitema, an independent consultant, has found in surveys conducted on gold mines, that the primary reason for dissatisfaction with management, and therefore the enterprise as a whole, is the lack of attention by management to employee welfare. He also demonstrated that there was no evidence to support the view that mobilisations were affected by union presence on mines.

"Management style is the most critical factor influencing trust in management, and hence the industrial relations climate. This trust is granted or withheld on the basis of management's attendance to employee welfare. These aspects may be seen to be the criteria in terms of which the legitimacy of management as industrial leadership was assessed."⁶⁹

In parallel with the increase in mobilisations against management, has been the growth of the mass-based black trade union, the N.U.M. (we have noted, however, that there is no direct correlation between these two factors). The N.U.M. was formed in 1983, and to date claims a membership in excess of two hundred thousand members, making it the largest trade union in ~~Africa~~. Its agenda from the outset was to:

1. Become actively involved in wage bargaining;
2. Become actively involved in the areas of health and safety;
3. Fight job reservation;
4. Change traditional labour practices, which Ramaphosa describes as for the "exploitation, manipulation and control" of black mine workers⁷⁰.

The N.U.M. is also a member of C.O.S.A.T.U. and has subscribed to the "living wage" campaign, which aims to determine a minimum wage for all workers, be they members of a trade union or not. Wages in the gold mining industry tend to be amongst the lowest in South African industry in general, and lag far behind wages in the chemical/pharmaceutical and manufacturing industries⁷¹.

The rapid ascension of the N.U.M. and its involvement in wage bargaining and in the health and safety areas, has challenged the virtual free hand that management has had in the past in the control of labour. In particular, it has made the role of the supervisor more complex, as the relationship between management and workers has been formalised in terms of discipline/grievance procedures, which in turn have precipitated the growth of specialist industrial relations departments. In addition to this, the area of labour legislation regulating employer/employee relationships has developed rapidly, and is subject to constant change. Thus the supervisor needs a greater level of both technical and human relations skills than was the case in the past⁷².

The education levels and skills of some categories of mine workers appear to have risen. This is a result of the process of stabilisation of the workforce, which has led to a greater reservoir of skills. This observation is supported by the fact that the Classification Test Battery⁷³, a psychological test battery used to screen semi-skilled black workers, was found to show in recent years skewed test results, resulting in it being replaced with a more sophisticated test battery, the Industrial Test Battery. The greater degree of skills now apparent in the workforce also acts as a challenge to supervisory control.

Finally, the political changes that are occurring in the wider South Africa, and which gained momentum from the beginning of 1990, are certainly going to affect managerialism in the gold mining industry in the next decade. A future South African dispensation will allocate greater rights to industrial workers, developing into industrial citizenship rights. The specific form that this will take is a matter of conjecture at this point, but is elaborated upon more fully in the concluding chapter (Chapter 5).

A summary of the forces of change that are at present acting on the gold mining environment is given in diagramatic form in Figure 3.

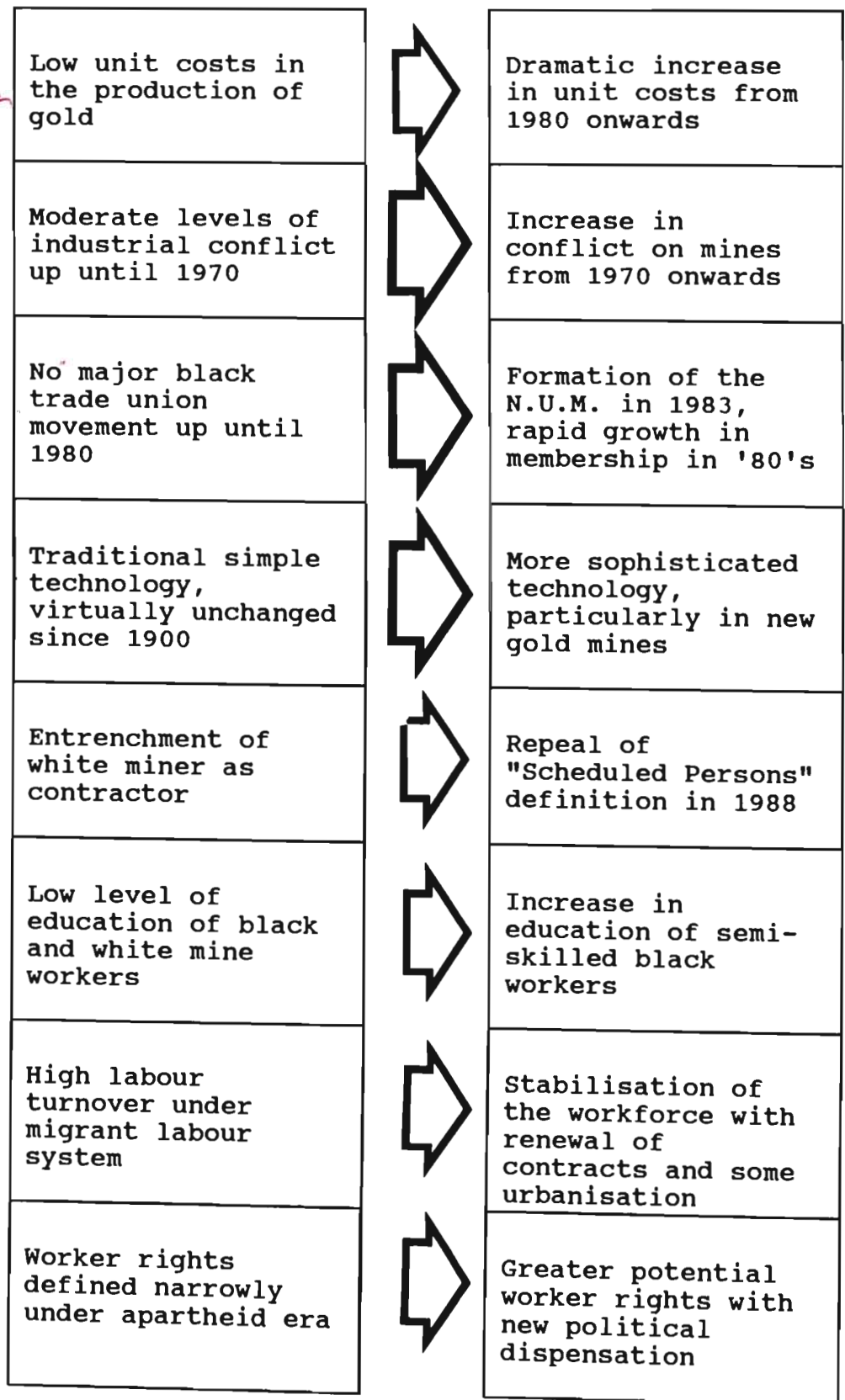


Figure 3: FACTORS THAT HAVE AFFECTED MANAGEMENT STYLE ON GOLD MINES

7. NOTES

1. Mitchell, G., Coldwell, D.A.L., Barnes, N.R., White, J.A.K., Khoza, E.H. and Seleka, F.
"Barrier to Participation on Four Gold Mines"
Unpublished Chamber of Mines Consultancy Report
C.O.M.R.O. Johannesburg, 1988
2. Koopman, A., author of The Corporate Crusaders, with Nasser, M.E., and Nel, J. Lexicon Publishers, Johannesburg, 1987, popularised participation in South Africa with his company Cashbuild, when he was the managing director. He has recently become a private consultant in this area.
3. Evidence of increased polarisation is found in the increase of conflict on gold mines. See Fig. 2 p.27.
4. "Officials" in mining terms are ranked from shiftboss level and above, and are considered management in the industry.
5. "Union men" refers to the job category "miner".
6. The "Scheduled Persons" definition in the Mines and Works Act reinforced the colour bar in gold mining up until 1988, when it was replaced with the "Competent Persons" definition, a non-racial category which allowed black mine workers for the first time to become miners.
7. The term "mini fiefdom" was coined by Dunbar Moodie in "The Moral Economy of the Black Miners Strike of 1946" in Journal of Southern African Studies vol. 13, No. 1, October 1986.
8. All black mine workers who reside in hostels on gold mines receive food and accommodation as part of their total pay package.
9. Maxwell, K., Financial Mail, September 29, 1989 (p 7-9).
10. Payne, T., quoted in The Star October 1988.
11. Van Onselen, Chibaro, Pluto Press, London 1976.

12. Galvin, A. "Industrial Conflict and Workers Participation in Management" in S.A. Journal of Labour Relations 1981, 5(4) (p64-67).
13. Pateman, C. Participation and Democratic Theory, Cambridge University Press, 1970, p69.
14. Horwitz, F. "Employee Financial Participation : A Comparative Perspective" in Anstey, M. (ed) Worker Participation, Juta, 1990 (p99-125).
15. Taken from the Louis Allen Management Training Programme, Louis Allen Associates, New York, 1969.
16. Managerial control extends to hostels where workers reside. Thus, the control mechanisms used in the workplace are often duplicated in the domestic arena.
17. Institute of Race Relations, Johannesburg 1985.
18. The budget of C.O.M.R.O. reached a peak in 1988 (\pm 70 million rands per annum). However, this has been considerably reduced over the past two years, due to rationalisation.
19. All historical data taken from "Discovery and Production of Gold on the Witwatersrand : 1866-1966" in S.A. Department of Mineral and Energy Affairs report of 1986.
20. Ibid.
21. Ibid.
22. Ibid.
23. Ibid.
24. Ibid.
25. Ibid.
26. Ibid, pxix.
27. Chamber of Mines Corporate Report, Financial Mail Supplement, September 1989 p57.
28. Ibid.

29. Johnstone, F. Class, Race and Gold, Routledge and Keegan Paul, London 1976.
30. Callinicos, L. Gold and Workers Ravan Press, Johannesburg, 1980
31. Nattrass, J. The South African Economy Oxford University Press, 1981.
32. Chamber of Mines Head Office : Personal Communication.
33. Chamber of Mines Corporate Report, Financial Mail Supplement, Sept. 1989.
34. Personal observation.
35. Research that I conducted into participation on two gold mines with the same group revealed major differences in the inclusion/exclusion of N.U.M. officials on consultative committees.
36. Kilby, cited in Gordon, R.J. Miners, Masters and Migrants Ravan Press, Johannesburg, 1977.
37. When Tom Main took over as General Manager of the Chamber, he promised to streamline the operation, using modern managerial techniques and rationalising the committee system. Source : Chamber of Mines Corporate Report in Financial Times supplement, September 29, 1989.
38. Barrington-Moore, Jr., Injustice : The Social Basis of Obedience and Revolt MacMillan, 1978, p20.
39. All assaults must be reported to the industrial relations officer on the shaft concerned. This is done in writing, and followed usually by a disciplinary procedure chaired by senior mine management.
40. MacNamara, J.A.K. Black Worker Conflicts on South African Gold Mines. Unpublished Phd. Thesis, University of Witwatersrand, Johannesburg, 1985.

41. Moodie, D. "Another Blanket" in Agency for Industrial Mission, Roodepoort, 1976.
42. Arnott, A. "The August 1987 Strike at Randfontein Estates Gold Mine. A Case Study in Trade Union Democracy" BA(Hons) Dissertation, University of Witwatersrand, 1981,
43. Leger, J. "Towards Safer Underground Gold Mining" Department of Sociology, University of Witwatersrand, 1985.
44. Callinicos, L. Gold and Workers, Ravan Press, Johannesburg, 1980.
45. Dore, R. British Factory - Japanese Factory George Allen & Unwin, London, 1973.
46. Ibid.
47. This trend has continued despite the demise of the "scheduled person". Personal observation.
48. Taken from Schuitema, E.O.F. "Improving the Industrial Relations Climate on Mines", seminar presented by the Human Resources Division of C.O.M.R.O. to the industry, June 1987.
49. Crowley, M. "The Occurrence and Causes of Conflict on Mines". C.O.M.R.O. seminar, June 1987.
50. Franzsen, D.G. "Commission of Inquiry into the Possible Introduction of a Five Day Working Week in the Mining Industry in the Republic of South Africa", SA(Rep) 1977.
51. Acclimatisation involves workers marching in a heated simulated environment, to evaluate their potential for underground work.
52. For further reading, see Leger, J. "Towards Safer Underground Gold Mining", Dept. of Sociology, University of Witwatersrand, Johannesburg, 1985.

53. In 1980, average bonuses paid to white workers was 80% of their monthly salary, whereas to black workers it was 20%. Leger, J. "Safety and the Organisation of Work in S.A. Gold Mines: a Crisis of Control" in International Labour Review, vol.125, October 1986.
54. Ibid.
55. Personal communications with mine managements.
56. op. cit.
57. Taken from Mitchell, G. and Daynes, M., "Participation Audit on one Gold Mine" Unpublished Consultancy Report, C.O.M.R.O. Johannesburg, 1987.
58. See Lawler, E. "Education, Management Style and Organisational Effectiveness" in Personal Psychology No. 38, 1985.
59. Gordon, R.J. Miners, Masters and Migrants Ravan Press, Johannesburg, 1977.
60. Taken from Mitchell, G. and Daynes, M. "Participation Audit on one Gold Mine" Unpublished Consultancy Report, C.O.M.R.O. Johannesburg, 1987.
61. The Chamber of Mines Corporate Report Financial Mail Supplement September 29, 1989, p60.
62. The gold price in 1980 was \$600-00 per ounce; in 1990 it was \$345-00 per ounce; Chamber of Mines Annual Report, 1990.
63. Maxwell, K. Chamber of Mines Corporate Report Financial Mail Supplement, Johannesburg, September 29, 1989, p7.
64. Trackless mining involves drills mounted on rigs, which run up and down the stope face. In effect, it replaces the need for a driller.
65. Maxwell, K. reported in Financial Mail September 1987, p7-9.

66. The N.U.M. has come out strongly in favour of urbanisation of all black mine workers, and want housing built in parity with whites. Reported in South African Labour Bulletin Vol. 12, number 4, June 1987, p54.
67. Anglo American have begun building housing for their black workers, mainly team leaders, on some of their gold mines.
68. MacGregor, R. "Development on Vaal Reefs" seminar paper The Implications of Urbanisation for the South African Mining Industry, arranged by C.O.M.R.O. Johannesburg, 1988.
69. Schuitema, E.O.F. "Improving the Industrial Relations Climate on Mines" Seminar given by the Human Resources Division of C.O.M.R.O., June 1987.
70. Financial Mail, October 1985, p15-17.
71. Wages for black mine workers are R417-00 per month (unskilled). In contrast, the lowest paid construction workers earn R535-00 per month, and pharmaceutical/chemical R1 018-00 per month. Daily News, Durban, November, 1989.
72. Comments on the changing role of the supervisor have been made by Webster, E. "A New Frontier of Control?" in Industrial Relations Journal of South Africa, 1st Quarter, 1986.
73. See Lourens, P. (et.al.) "The Validation of the Industrial Test Battery" C.O.M.R.O. Report, 1986.

**CHAPTER TWO: SYSTEMS OF MANAGERIAL CONTROL ON SOUTH AFRICAN
GOLD MINES : THEORETICAL PERSPECTIVES AND PRACTICAL
APPLICATIONS**

1. INTRODUCTION

In Chapter 1, the social and economic factors acting on gold mines in South Africa and precipitating the search for new managerial and supervisory techniques was discussed. It was noted that the response from management has been a transition from what was essentially a paternalistic system through to one incorporating a greater degree of worker participation. However, the transition has not been a quick switch-over, but may rather be viewed as a process of adaptation which has been occurring throughout this century. In this Chapter, it will be attempted to identify events in this process of change, and examine the influence of western managerial schools of thought on managerialism in gold mining in South Africa.

This exercise raises the question of method of analysis. The method employed will be sociological rather than historical, although the distinction between these two disciplines is not always clear cut, as Abrams¹ notes:

"In a sense, the difference between history and sociology is a difference of rhetoric and not a difference of logic. The historian uses a rhetoric of close presentation (seeking to persuade in terms of a dense texture of detail) while the sociologist uses a rhetoric of perspective (seeking to persuade in terms of the elegant patterning of connections seen from a distance). But the logic in terms of which objects to be explained are identified and related to their proposed contexts, cause and effects, is not necessarily different as a result of the difference of rhetoric. In both cases, knowledge is achieved by abstraction"².

Such an abstraction is presented by Weber, who suggests that

the process of the development of capitalist bureaucratic enterprises may be described as a process of "rationalisation".

"Rationalisation is embodied in economic action (the rise of capitalism), political action (the rise of bureaucratic administration, law and the state), and cultural action (the decline of magic and religion and the rise of science and technique)"³.

Unlike Marx, Weber sees capitalism as an economic practice which embodied its own complex of meaning.

"Whereas for Marx, capitalism is a type of relationship, a particular form of exploitation, for Weber it is a type of practice, a particular way of organisation and giving meaning to economic action, a way expressed most clearly in the form of the enterprise"⁴.

This process of "rationalisation" of the enterprise has been traced, in the United States by Bendix⁵, for example, who illustrates the Weberian method of analysis in lucid terms. A few examples taken from this analysis, provide a useful backdrop with which we may examine the development of managerialism in gold mining in South Africa.

Bendix noted that

"between the periods of 1880 and 1910, the United States underwent the most rapid period of economic expansion of any industrialised country for a comparable period of time. A country may be said to enter an advanced stage of industrialisation once less than 50 percent of its population is engaged in primary production (agriculture, forestry, and fishing). Judged by this index alone, American was a late-comer, for England had reached this halfway mark before 1841, France before 1866, Germany about 1870, and the United States shortly before 1880"⁶.

From 1910 onwards, industry in the United States was faced

with the growth and concentration of industrial production, the intensification of the problems of labour control as a result of this, the withdrawal of the owner-manager (replaced by the professional manager), and the growth of trade unionism. The growth of unionism, which was rapid between 1897 and 1905⁷ was particularly significant for managerialism in that country. Prior to the rise of mass-based unions, management ideology had centred on the issue of the "natural leader". Thus the "natural leader" was a member of an elite who possessed the qualities of tenacity, intelligence and leadership that were seen as prerequisites for leadership in industry. An extract taken from a popular journal of the time encapsulates these sentiments

".... the power to originate and conduct great industrial enterprises and accumulate great fortunes - always has been and always will be the inheritance of the few"⁸.

The growth of trade unionism coupled with the growing complexity of organisation, challenged this world view. Management at this juncture attempted to reassert its authority in three ways.

Firstly, in order to undermine trade union power, it introduced counter organisations which paralleled the different levels of trade union activity (the open shop campaign).

Secondly, employers organised trade schools and agitated for vocational training facilities so that workers could have the opportunity to improve their skills and internalise company philosophy.

Thirdly, employer organisation financially aided employers who were having labour problems, and measures were taken against employers who co-operated with the unions.⁹

It would appear that the above methods, using both coercion and reward, were insufficient in dealing with the changing role of management in its relationship with labour. It was against this background that the ideology of scientific management arose. We will now look in some depth into the theoretical base of scientific management, and the form that it took in the United States and Western Europe. This will be viewed against the perspective of the "rationalisation" of managerial control in the enterprise as a whole.

2. THE IDEOLOGY AND PRACTICE OF SCIENTIFIC MANAGEMENT

Scientific management provided an ideology and an application that was able to redefine the changing relationship between management and labour, and re-affirm managerial control and authority.

Taylor¹⁰, who is regarded as the founding father of the movement, and whose ideas gained acceptance after the first world war, reduced all of industrial production to one simple theme : efficiency. Inefficiency, the corollary, was, according to Taylor, due to two interrelated issues. Poor management practices on the one hand, and poor motivation of workers resulting in "soldiering" or "slacking" on the other. Management incompetence arose because, with the growth in size and complexity of the industrial firm, management had to rely on guesswork as to what constituted acceptable criteria of work standards. In addition, from 1910 onwards, the composition of management itself had begun to change. Professional managers had replaced the older owner-managers, who had been the captains of industry in the late nineteenth century. The new breed of professionals lacked the immediate and direct control the earlier generation of owners had enjoyed.

Taylor therefore redefined this issue of control, and

postulated that it rested on three interrelated issues - organisational structure, the measurement of work, and the selection and motivation of workers.

Organisational structures comprises the "gang", "foreman" and "inspector" (the forerunner of the production and quality assurance departments). In addition, a "thinking department" would be concerned with issues such as administration, pay calculation, engagement and discipline (an embryonic personnel department).

The measurement of work places Taylor as the founding father of modern work study. The methodology employed was quite simple. Twenty workers were randomly selected and their activities recorded using a stop watch, thereby setting down norms and standards. Thus, the whole production output could be calculated and standards introduced.

Selection of workers flowed from the above. Every task should be performed by "first class men", that is men who measured up to all the performance criteria laid down by the work study. Such men should be rewarded and given "a fair day's pay for a fair day's work".¹¹ Those who failed to meet these standards would either be rewarded at a lower level, or in extreme cases, removed altogether and replaced by more competent workers. The ceiling on rewards should be kept not too high, as "excessive" rewards would result in dissipation, drunkenness and absenteeism¹².

Scientific management, therefore, changed the role of both managers and workers. As Taylor said

"Scientific management is not any efficiency device not a system of figuring costs not a piecework system not a bonus system in its essence, scientific management involves a complete mental revolution on the part of the working man, and it involves an equally complete mental revolution on the part of those on the management's side"¹³.

In many respects, scientific management posed a greater threat to managers at the time than it did to workers, as it eliminated the need for individual judgement, which had been the skill that had previously set managers apart from the masses.

From the perspective of the latter quarter of the twentieth century, it is quite easy to criticise scientific management as both an ideology and in its practical application. Some major objections can be raised.

Firstly, as Rose¹⁴ points out, there are flaws in the internal logic and methodology Taylor employed to develop his system. The work study methods employed were flawed in that Taylor based his sample on experienced workers, and not a purposeful random sample. This clearly affected performance criterion. Secondly, Taylor did not take into account individual differences. That is, the work activities observed in his sample would not necessarily generalise to the population at large. This in some respects was no fault of Taylor, as work in psychology on individual differences was still in its infancy. Thirdly, Taylor tended to view the individual worker in much the same way that an engineer views a machine: that is, as a mechanised object. Similarly, a "fair day's pay" suffered from the same form of abstraction. It did not take into account the scientific manager's own reference point in determining the rate for the job, nor did it account for the organisation's ability to produce double this amount. Collective bargaining was also outside of Taylor's frame of reference.

Scientific management was also limited, in that it was trapped within the context of organisational development at a particular point in history. Littler¹⁵ traces some of the applications of scientific managements, in particular in the Ford Motor Company, and shows how the constraints of a restricted product market, and a restricted product, helped

scientific management achieve a footing. Ford established companies in Britain, Germany and other countries, and used its multi-national base to export the ideology. The particular application in Ford involved the extensive use of new machine technology, standardised product design, flow-line production, and the use of Taylor's work study methods in the work processes. But, as Littler¹⁶ observes, this occurred within the context of a particular product market. This market depended on a standardised product (the Model T Ford, which remained unchanged between 1908 and 1929, comprising some 15 million vehicles), and a non-competitive market which did not require a new product every few years, such as is the case in the motor industry today.

The social costs in terms of low worker job satisfaction were also high. Littler makes the point that,

"Ford found that control of the production process was not equal to the control of the workforce. Worker rejection of the new work processes were expressed in high rates of turnover, absenteeism and insufficient effort. For example, the head of Ford's employment department in 1913 cited a figure of \$38 to train up a new worker; a small amount, but with an annual turnover of more than 50 000 workers (400%), the total cost was two million dollars"¹⁷

The restrictions and limitations of scientific management, both in terms of the alienation it created amongst workers, and the restriction it imposed on product markets, eventually led to its demise in the 1920's as a managerial ideology in the United States, and some other industrialised First World countries.

Scientific management was challenged by a number of experiments conducted at the Western Electric Company in the United States in the nineteen twenties, known as the Hawthorne experiments. These experiments shed new light on motivation in the work place, and led to the growth of what

became known as the Human Relations movement.

3. THE DEVELOPMENT OF THE HUMAN RELATIONS MOVEMENT

The Human Relations movement is generally attributed to the work of Elton Mayo¹⁸, however, as Rose points out, Mayo only assumed the leadership of a loose association of people, and could not be compared with the role of Taylor as leader of the Scientific Management Movement.

The themes in the Human Relation Movement were developed in a celebrated study conducted at the Western Electric Company (the so-called Hawthorne Studies). The research was not conducted by Mayo himself, but by two company employees, C.M. Pennock and W.J. Dickson, in a department known as the division of Industrial Research.¹⁹ Mayo, however liaised with this department, and obviously had some input into the research design. His Human Problems appeared in 1932²⁰ and provided some commentary on the Hawthorne studies, as well as elucidating his views on managerial ideology and control.

What were the major findings? Tausky²¹ summarises the findings from this study.

Research began in 1927 and centred on productivity issues viewed through the eyes of scientific management; factors such as the physical conditions of work, the physiological capacity of workers, coupled with monetary incentives were held to be primary influences on productivity. No relationship was determined between any of these factors on work performance by the time the last study was conducted in 1932. In the intervening period, two other studies were conducted, the conclusion of which were to shape the ideology of the Human Relations Movement.

The first was the Relay Assembly Test Room. Two women, who

were friends, were allowed to select four other women for the purposes of the study. An observer was placed in the room to record notes and make observations (the women were involved in the assembly of electrical relay components). During the period that the experiment occurred, wage incentives were introduced. Productivity was found to rise, but not over the base period before the first experimental change in wage payment began. Conclusion: Productivity did not seem to be affected by either wage incentives or physical conditions. Later reflection pointed to the now famous "Hawthorne Effect". That is, work performance was affected positively by both the congenial atmosphere and the special attention these women received.

The second experiment in this sequence was known as the "Bank Wiring Room Experiment". In this exercise, fourteen men were selected for the Bank wiring room in which they would assemble switches. Workers were divided into "wiremen" and "solderers". Each group worked together with an observer stationed in the room. Despite financial incentives, and despite the physical ability of workers to produce more than the "fair day's work": that is, the norm of two switches per day per group, output remained at this level. The men constantly talked about the dangers of "rate busting" and argued that despite commitment from management to the contrary, piecework would be cut if they exceeded this level. Conclusions: the researcher concluded that restricted output amongst the men was something to do with social ranking within the group. That is, each man reached his own output, and therefore the social level within the group was the factor controlling productivity. As Tausky says,

"The 'economic man' of scientific management, who rationally pursued the largest possible pay envelope, had now been replaced by the 'social man' whose on-the-job behaviour could not be controlled by the size of the pay envelope."²²

Burawoy²³, some forty years later, reached some similar

conclusions about group cohesion when examining the "relations of production" within a work group:

"Individual (as opposed to collective) violation of rules leads to ritual punishment, which has the effect of reinforcing these obscuring and consent-producing consequences. That is, a violation of rules has the consequence of strengthening their hold over productive activities and relations. Thus, attempts by management to squeeze a little extra out of workers frequently enhanced consensual relations on the shop floor. Operators at Allied continually complained about 'being screwed' by the company, and initially I associated this with some vague notion of exploitation. Soon I discovered that such anguish referred to the company's failure to provide the necessary conditions to play the game of making out; for example, drills might have burned up, the blueprint might have disappeared, the machinery might not have been functioning properly, etc. In other words, management was being accused of 'cheating', of not playing according to the rules of the game; and these accusation served to reassert the legitimacy of the rules and the values of making out. In this way the consensual framework was continually being re-established and reinforced."²⁴

Unlike Mayo, Burawoy argues that the game of "making out" is a form of group consensus that maintains the momentum of the production process. Workers, for their part, seem unaware that their activity is connected with the production of surplus value.

"Although operators constantly shared private experience as a chief item of conversation, and always in terms of 'making money', they were in reality communicating 'game scores' or 'race results', not financial success or disappointments. It is doubtful if any speaker even thought that he had been 'making money'. It is likely that had anyone been able to communicate accurately such a conviction, he would have been laughed out of the shop".²⁵

Whilst Burawoy observes the process of group cohesion in much the same way that the Hawthorne researchers did, his motives

and conclusion differ considerably to that of the Human Relations School. For Burawoy, group cohesion serves as an instrument of exploitation in the production of surplus value. For Mayo and the Human Relations School, the motive for both the research and its findings was to increase the efficiency of the organisation as a whole. Motivation within the work group was found to be a key ingredient in this process. Bendix²⁶, in reviewing the contribution of Mayo and the human relations movement, concludes that Mayo made a contribution to managerial ideology and practice in three areas.

Firstly, Mayo rejected the conventional wisdom that man was motivated by economic interest alone. Mayo had argued that

"it is at least evident that the economists' pre-suppositions of individual self preservation as motive and logic is not characteristic of the industrial facts ordinarily encountered. The desire to stand with one's fellows, the so-called human instinct of association, easily outweighs the merely individual interest and logic of reasoning upon which so many spurious principles of management are based".²⁷

Mayo clearly believed that individuals act in terms of group consensus and only pursue self interest when "social association has failed".²⁸ This obviously had implications for management. Mayo saw workers as inherently co-operative and the role of management was therefore to reinforce this mutual association.

Secondly, Mayo differed from Taylor in that he saw both workers and managers as creatures who tended towards group consensus, or "non-logical" thinking. The difference between the two groups, however, was that the managerial group was required to suppress this sentiment and develop the ability to harness the "effective organisation of sustained skills".²⁹ According to Mayo,

"The administrator of the future must be able to understand the human social facts for what they actually are, unfettered by his own emotion or prejudice. He cannot achieve this ability except by careful training - a training that must include knowledge of relevant technical skills, of the systematic ordering of operations, and of the organisation of co-operation."³⁰

Mayo's third contribution involved the re-interpretation of managerial authority. We saw from the Hawthorne experiments that the work group could both enhance and restrict output in terms of its own group norms. Mayo and his followers obviously felt that the enhancement of productivity was the desirable goal that management was to pursue, and they concluded that the best method to achieve this was through the interview situation. The interview they saw as a method which enabled them to change and affect the inner processes of the worker. The Hawthorne experiments themselves had used the interview as a medium to achieve the Human Relations theory - some 21 000 were conducted.³¹ Using this technique, management could affect the process of change towards one of mutual co-operation between themselves and workers.

The Human Relations Movement therefore, redefined motivation in the workplace from one based on financial incentives towards one based on human co-operation: however, the movement did not anticipate the central role that technology was going to occupy in the second half of the twentieth century. We will now examine the role of technology in human relations in the light of the development of the sociotechnical movement.

4. SOCIOTECHNICAL SYSTEMS

The third major area of managerial ideology to address is that of sociotechnical systems. The studies that will be examined in some detail are those conducted at the Tavestock

Clinic in London during the early 1950's. These particular studies are selected for examination for two reasons. Firstly, what became known as "sociotechnical" systems in Britain, and to a lesser extent in the United States, was the first major break with the human relations movement, and indicated that technology was to occupy a central place in determining social and group interaction in the workplace. Secondly, the work at the Tavestock Institute was conducted in the British Coal Mining Industry, and therefore is particularly pertinent for this dissertation.

Briefly, the study at Tavestock, by Trist and Bamforth³², was based on the following background. Conventional British coal mining involved the mining of coal by hand or machine from the coalface, loading and transporting the coal from the face, and the supportive and preparatory activities of advancing the roof supports. Miners worked in small teams of about six men, each team being self selecting. Each miner was a complete workman; that is, he had to master all the necessary skills before becoming a member of the team. The group was paid a lump sum related directly to output, and in addition, the group made its own decisions as to how this money was to be distributed amongst group members. The group related to management almost as sub-contractors, and could be described as the forerunner of the "semi-autonomous work group". Supervision was via a supervisor, who stood in a service relationship to the group.

At the time of the investigation, some of the mines were moving to the longwall method. This mining technique was introduced partially as a result of the introduction of new technology in the form of a face conveyor. The longwall method operated on a mass production, factory philosophy. Instead of allround craftsmen working in teams, the new approach instituted instead specialised and particular operations per employee, emanating the production line logic of engineering. The new working relationship also affected

social interaction amongst workers; the twenty-four hour shifts meant that workers only met occasionally. Job design was based on narrow specialisms, with an occupational hierarchy of varying status.

This change-over was bitterly resented by the miners, who expressed a desire to return to the old "laissez-faire" approach, with little intrusions in their work routine. Not all the pits had, however, moved to the longwall method with its job specialisations and machine theory applications. In some pits the old "social" system had been carried over into the new technology (i.e. job redesign had not fragmented jobs into narrow specialisms, but had adapted to a multi-skilled team approach). A comparison was therefore able to be made between the longwall method and this adaptation to the longwall method, known as the composite method.

The Tavestock researchers focused on quality of work life and productivity factors. Quality of work life showed differences in terms of absenteeism: the longwall miners were absent on average two and a half times more frequently than the composite team members. Productivity as measured by output per man-shift was 3,5 tons for the conventional longwall, which was close to the national average: for the composite members the figure was 5,3 tons.

The conclusions that were drawn from the above study laid the basis for sociotechnical theory. Basically, this school, which was based around researchers like Trist and Bamforth³³ Woodward³⁴ in the United Kingdom, and Sayles³⁵ in the United States, argues that the interaction between man and machine must take into account the optimisation of both sets of variables. This is to say, that if one introduces a piece of technology X, and designs a social system Y around that technology, the optimum "fit" must be achieved between men and machinery. This requires taking into account all the skill requirements imposed by the technology, as well as the

possible social and work arrangements that may be made to meet these skill requirements.

Sociotechnical systems have been closely associated with the job design movement. Job design involves the process of developing jobs, often around new technology. Drawing from neo-human relations theorists such as Maslow³⁶, Hertzberg³⁷ and McGregor³⁸, job design seeks to optimise and propose alternative working relationships to the narrow specialisation imposed by the logic of engineering systems. Tausky³⁹ distinguishes between the various options that arise around technology. These include: job rotation (where a group of workers have interchangeable skills and may move from one job to the next in the course of a shift), job enlargement (where a number of skills are grouped together to make a more complex job), and job enrichment (an advancement on job enlargement, this system seeks to design jobs around more complex tasks where discretion is involved in the ordering and execution of these tasks. It therefore introduces more decision-making into the process).

The balance between the social and the technical in the sociotechnical equation is, however, a matter for debate. Sociotechnical systems vary from ones where the technical is the dominant partner (which is generally the case), to ones where technology is adapted to meet the social arrangements in the workplace. Such a case in point is the Volvo Motor Company in Sweden⁴⁰, which, in the sixties, re-organised some of their factories around social work arrangements. Thus, semi-autonomous work teams replaced the production line philosophy and fragmented the technology into separate units. This system is probably as far as one could push the social aspect in the sociotechnical equation. Engineers tend in industry to have more institutional power than social scientists, and thus the tradition historically has been towards one where work arrangements are adapted around the type of technology employed, rather than the other way around.

6. THE INFLUENCE OF WESTERN MANAGERIAL IDEOLOGY AND PRACTICE ON SOUTH AFRICAN GOLD MINING

South African industry relies on the dominant capitalist countries for most of its technological know-how as well as models in the organisation of work processes. Gold mining is, as indicated earlier, something of an exception to this rule, as the nature of the industry is considerably different to that found elsewhere in the world. However, the industry has adapted many of the models which have been described, and their application and the way they have surfaced within the gold mining industry will now be discussed.

Managerialism in Gold Mining in South Africa is a neglected area. Little appears to have been written in this field. One exception is a paper by Bozzoli⁴¹ which attempts to trace the development of managerialism, particularly in the earlier part of this century. She lists three phases in the development of control techniques in gold mining; "primitive accumulation", scientific management and the "liberal" phase embodied in the Anglo American tradition from the 1950s onwards.

"Primitive accumulation" is embodied in the period up until the 1913 Land Act. During this period, management sought to solve the problem of recruitment of labour (the W.N.L.A. was formed during this period), as well as other measures designed to coerce labour into the industry, such as the raising of Hut Taxes and the promulgation of the Pass laws.

During this period, management style on the mines was essentially paternalistic, dependent on the personality of the individual manager concerned. Whilst the "natural leader" syndrome was apparent (as in the U.S.A.), the paternalism was based, in large measure, on an underlying ideology of racial superiority.⁴² This, in essence, gave management its legitimacy.

Bozzoli demonstrates that scientific management was introduced in the nineteen thirties and forties by J.S. Ford, who outlined its potential to management.

"By reason of the particular type of native labour available, the gold mines should lend themselves more to Scientific Management than do the industries of Europe and America, where the greatest retarding power has been the human element, which is subject to neither calculation nor measurement. The workers are prone to a strong prejudice against working or living in a mechanical manner."⁴³

The application of scientific management was, as Ford outlined, particularly well-suited for the industry during this early period. Management was faced with developing a more rational system for what was a fast growing industry. In the thirties and forties, the influence of scientific management was thus felt in the development of the first psychological test batteries (for selecting semi-skilled workers),⁴⁴ the standardisation of acclimatisation⁴⁵ tests, the setting up of central administrative controls in the hostels⁴⁶ and the development of technical training.⁴⁷ The use of vast numbers of unskilled and semi-skilled workers, and the unchanging nature of the product market, meant that scientific management was able to gain a foothold in the industry. In addition, the management hierarchy was made up almost entirely of technocrats - engineers and production personnel - and this system appealed to their own sense of logic. In many respects, the technocratic composition of management has been a major reason for the persistence of scientific management thinking in the industry to this day.

The nineteen fifties and sixties appear to be a period in which the above mentioned areas were refined and developed. Work in research in the industry on labour centred around the physiology of work⁴⁸, the application of industrial psychology in industry⁴⁹, and the early work done in the manpower planning field⁵⁰.

However, with the centralisation of research under the Research Organisation in the 1960's, the influence of the human relations and sociotechnical traditions began to make their presence felt. This, of course, was in response to the changes that had occurred in the industry in the last twenty years and outlined in Figure 3.

The impact of the human relations movement has been in the following areas: quality of work life, work on industrial conflict, an increasing demand in the industry for "climate" surveys, the development of inter-personal skills training packages, research into industrial communication, and the whole area of consultation/ participation. This area, whilst falling squarely into the human relations camp, will however not be dealt with at this point, but will occupy a separate chapter (Chapter 3).

Studies conducted on the quality of work life have focused attention on worker perceptions of both the domestic (hostels) and work environment. Of particular interest are perceptions of the degree of freedom and mobility employees feel they have within the institution of gold mining (De Vries)⁵¹.

Work on industrial conflict (conflict on gold mines rose steadily during the nineteen seventies and eighties : see Figure 2) revolved mainly around the work of McNamara⁵² who showed management that the basis of both industrial conflict (mobilisation by workers against line management or its representatives) and communal (inter ethnic conflict) was due primarily to structural and not racial factors. In particular, the migratory labour system, single sex compounds and the competition between the various ethnic groupings to secure contracts were the major compounding factors for communal conflict on the mines.

Schuitema⁵³ developed this theme further whilst conducting

industrial relations climate surveys on gold mines in the industry. Climate surveys measure worker trust in various institutions on the mines (management and trade union structures) and roles that workers appeal to during periods of conflict and stress (eg. line management, supervisor, trade union representative, co-worker, etc.).

His findings, based on a wide data base, show that the key ingredient in worker dissatisfaction is management's lack of attention to employee grievances.

"It was found that in all cases where mine management was not seen to have an interest in employee welfare, trust in management was poor, and, conversely, employee trust in management was positive where management was seen to have such an interest. Management's interest in employee welfare was assessed in terms of action on grievances raised. The study concluded that managerial power (management's right to command) gains legitimacy in terms of management's attendance to welfare."⁵⁴

Schuitema's argument is clearly an appeal for a more employee centred and hence human relations as opposed to technical mode of management.

Management's concern with the levels of industrial conflict led directly to the sponsoring of a training package aimed at alleviating conflict at the point of production. This project, which has been widely used, is known as the "Interface Project" and is aimed to address conflict resolution and communications at the "interface"; that is, between the supervisor and workers. The training programme was developed by Goldstein and Sorcher⁵⁵ and piloted through the industry via the Anglo American training department.

Essentially, the training system was developed around a behaviourist model used in clinical settings (behaviour modification). Its application in industry involves the use of role models as "ideal types" which appear on video tape

and involve typical interaction between supervisors and workers. Some examples are: How to take corrective action (for supervisors), and How to bring grievances to the attention of your superiors (for workers). Each "frame" is designed to increase the skills of both supervisors and workers in the resolution of interpersonal conflict.

In the training situation, each set of actors acts out in a role play such typical interactions under the guidance of a trained instructor. Goldstein and Sorcher explain: Behaviour modelling consists

"of a sequence of modelling, role playing, social reinforcement and transfer training. Modelling involves presenting to a group of supervisory trainees on film or videotape, the behaviours necessary to accomplish a given interpersonal goal or resolve a current supervisor-worker problem. Role playing, or behavioural rehearsal, provides trainees with extended opportunities and encouragement to practice these effective behaviours. As the trainees' behaviour increasingly comes to resemble that of the film model, he is provided approval, praise, and similar social reinforcements from both the instructors and other trainees. These three procedures are implemented in such a way that the resulting behaviour change is likely to be a lasting behaviour change."⁵⁶

Thus management has attempted to change behaviours at the point where industrial conflict is most likely to occur; at the point of supervision. It also highlights the drive to incorporate the supervisors into the managerial ethos; a technique used many years previously at General Motors in the United States.⁵⁷

Another area that has been the focus of management attention, and has been researched by C.O.M.R.O., is the area of industrial communications. This is in direct response to the emergence of the N.U.M., which has set up an alternative media source to that of management, which in the past has had a monopoly in this area. The result is that there is now a

"communications arena", that is, competition for the attention of workers. Research by management reveals that print is the best vehicle, but more importantly the context must be factual, non-distorted and capable of authentication.⁵⁸

The contribution of C.O.M.R.O. towards management ideology and practice has not, however been limited to the human relations field. The primary function of the Research Organisation as a whole was the development of new technology to meet the requirements of the industry in the future. To this end, most of the research budget goes into the development of mechanisation in gold mining.⁵⁹ It was inevitable therefore, that human resource practitioners would be drawn into the design of jobs and work processes in response to new technology. However, this has proved to be a difficult role to play for two reasons.

Firstly, the dominant groups in the industry are production personnel (the most senior), following by engineering services, and further down the list, personnel and administration. This pecking order is a result of historical inheritance rather than any form of logic; personnel practitioners happen to be the newest arrivals on the scene, and hence are allocated the most junior partnerships.⁶⁰ The results on organisational designs in relation to new technology, have been that work designs have rarely deviated away from the "technical" component in the sociotechnical equations. Thus, the production line logic has tended to hold sway, despite input from industrial psychologists that suggest alternative work arrangements.

The second issue that has restricted re-designing work arrangements around technology is the agreement entered into between the Chamber of Mines and the various craft unions on the "demarcation of occupation" issue. These agreements resist the reorganisation of jobs on the grounds that

applications such as multi-skilled teams may result in tasks being shared amongst team members, and thus the possible "deskilling" of some occupations covered by union agreements.⁶¹

Coldwell alerts us to the dangers of new technology determining the social organisation in the workplace.

"A dangerous non-sequitur posed by the adoption of the sociotechnical approach is to assume that, because technology influences the social system of the organisation, the social system of the organisation therefore is determined by its technology."⁶²

Industrial psychologists employed as researchers by the Chamber have attempted to influence the work arrangements in relation to new technology. However, most of this input remains theoretical. Once technology begins to be transferred into the mining environment, the dominant engineering/production logic tends to dominate the work arrangements. Semi-skilled workers themselves have very little influence over these arrangements, although, as we have seen, senior management is aware of the need for more participation at this level. Coldwell⁶³ has further noted, based on opinion surveys conducted amongst rock drillers using the new hydraulic rockdrill, that their acceptance or rejection of this technology will in large part be measured by the perceived advantages the new technology offers them (in the case of the hydraulic rockdrill, it is less noisy and more efficient, a source of greater bonus earnings). However, what is clear is that the perceived advantages in workers' minds, are often outweighed by the arduous route new technology must take in order to gain acceptance in the mining environment.

7. SUMMARY

This brief sketch on the influence of western managerial

ideology in South African gold mining does not claim to be an exhaustive account; however, what becomes apparent from the evidence presented, is that all three movements - scientific management, human relations and the sociotechnical tradition, have made their presence felt in gold mining.

Scientific management still continues to exert an influence in gold mining. The rigid hierarchies in gold mining, the selection and training of workers, acclimatisation, and the use of task analysis⁶⁴ for the development of job description and organisational design all display a strong scientific management influence.

The sociotechnical tradition has been utilised in the design of new work arrangements around upgraded technology (the hydraulic rockdrill and the backfill system for example). Whilst, at a research stage, new work arrangements such as the use of multi-skilled teams around the backfill system⁶⁵ have been proposed, such proposals have to date not been implemented in actual practice. Further research is needed however, once these systems are fully commissioned.

The human relations movement has had its strongest impact on gold mining in the past fifteen years. This has been mainly in the area of industrial relations climate surveys, interpersonal skills training (at the "interface") and in the area of participation/consultation.

The influence of the three schools of thought presented is depicted in Figure A. This shows the emergence of the three movements, scientific management, human relations and socio-technical studies, in a time-frame. However it must be pointed out that each movement is a wave that contributes to the growth of the next movement, and becomes incorporated into that movement. Thus, scientific management, whilst developing in the early part of this century, is still implicit in management practice today. Similarly, the

physiology of work and manpower planning exercises are currently conducted, however the emphasis in management research at this point is more towards the neo-human relations movement.

The next chapter will examine in detail the neo-human relation movement in the form of participative systems.

pre 1913	Period of "Primitive Accumulation"
1920 - 1940	"Scientific Management" Period <ul style="list-style-type: none"> - Acclimatisation - Selection - Technical Training
1940 - 1960	"Personal Practice" Period <ul style="list-style-type: none"> - Formation of N.I.P.R. - Physiology of Work - Selection and Placement
1960 - 1980	"Human Relations" Period <ul style="list-style-type: none"> - Manpower Planning - Quality of Work Life - Sociotechnical Studies
1980's	"Neo-Human Relations" Period <ul style="list-style-type: none"> - Work on Conflict - Industrial Relations Climate Surveys - Interpersonal Skills Training - Communications - Participation

Figure 4: DIAGRAMMATIC REPRESENTATION OF THE INFLUENCE OF WESTERN MANAGERIAL IDEOLOGY ON SOUTH AFRICAN GOLD MINING

7. NOTES

1. Abrams, P. Historical Sociology Cornell University Press, New York, 1982.
2. Ibid, p194
3. Ibid, p85
4. Ibid, p89
5. Bendix, R. Work and Authority in Industry John Wiley & Sons, New York, 1956.
6. Ibid, p254
7. Ibid, p265
8. Ibid, p259
9. Ibid.
10. Taylor, F. Scientific Management New York, Harper & Row, 1947.
11. Ibid.
12. Taylor, F. cited in Rose M. Industrial Behaviour Pelican, UK, 1985.
13. Rose, M. Industrial Behaviour Pelican, UK, 1985, p276.
14. Ibid.
15. Littler, C.R. "Taylorism, Fordism and Job Design" in Littler, C.R. (ed) The Experience of Work St. Martins Press, New York, 1985.
16. Ibid.
17. Ibid, p40.
18. Mayo, E. The Human Problems of Industrial Civilisation Graduate School of Business Administration, Harvard, 1946.

19. Ibid.
20. Ibid.
21. Tausky, I.C. Work Organisations F.E. Peacock Publishers Inc. U.S.A, 1978.
22. Ibid, p46.
23. Burawoy, M. Manufacturing Consent : Changes in the Labour Process Under Monopoly Capitalism Chicago University Press, 1979.
24. Ibid, p.14.
25. Ibid, p.18.
26. op. cit.
27. Ibid, p316.
28. Ibid, p318.
29. Ibid.
30. Ibid.
31. Ibid.
32. Trist E.L. and Bamforth "Some Social and Psychological Consequences of the Longwall Method of Coal-getting" Human Relations 1951.
33. Ibid.
34. Woodward, J. Industrial Organisation : Theory and Practice Oxford University Press, 1965.
35. Sayles, L.R. The Behaviour of Industrial Work Groups : Prediction and Control Wiley, New York, 1958.
36. Maslow, A. Motivation and Personality New York, Harper & Row, 1954.
37. Hertzberg, F. Mausner, B. Snyderman, B. The Motivation to Work Wiley, 1959.

38. McGregor, D. The Human Side of Enterprise McGraw-Hill, New York, 1960.
39. op. cit.
40. "Thorsrud, E. (et al) Socio-technical Approaches to Industrial Democracy in Norway" in Dubin, R. (ed) Handbook of Work Organisation and Society, Chicago, 1976.
41. Bozzoli, B. "Managerialism and the Mode of Production in South Africa" in S.A. Labour Bulletin 3(8), S.A. 1977, p6-49. ✓
42. For the issue of race and class see Webster, E. Cast in a Racial Mould : Labour Process and Trade Unionism in the Foundries, Ravan Press, 1985.
43. op. cit. p.14.
44. The first test batteries were developed at the N.I.P.R. for the mining industry.
45. Acclimatisation involves placing mine workers in a heated chamber where they engage in physical exercise for three days, to ascertain their appropriate fitness levels for work in the mines.
46. Hostel control has always been central to management control on mines, see Chapter 4.
47. Prior to the formation of C.O.M.R.O., technical training occurred in an "on the job" basis on mines.
48. Early work in the industry prior to the formation of C.O.M.R.O. centred on the physiology of work, i.e. the effects of heat and stress on human performance. Some of this area of work still continues in the Industrial Hygiene branch of the Research Organisation.
49. Early work on industrial psychology included psychomatic testing, as well as work in selection and placement and technical training. The National Institute for Personnel Research, which was formed in 1946, contributed in this area before the formation of C.O.M.R.O. in the 1960s. ✓

See Webb

50. Manpower planning exercises have continued with the work of Parson, J. "An Integrative Model for Analysing the Skilled Manpower Shortage in South Africa". Unpublished M.A. University of Witwatersrand, Johannesburg, 1986.
51. De Vries, P. "Change to the Quality of Life of Black Mine Workers in South Africa" Unpublished Phd. Thesis, University of Natal, Durban, 1983.
52. McNamara, J.K. "Black Worker Conflicts on South African Gold Mines" Unpublished Phd Thesis, University of Witwatersrand, Johannesburg, 1985.
53. Schuitema, E. "Factors Influencing the Climate of Black Employee Opinion on Mines" unpublished C.O.M.R.O. Report, Johannesburg, 1987, p.1.
54. Ibid, p.2.28.
55. Goldstein, G. and Sorcher, M. Changing Supervisor Behaviour Pergamon International Library, New York, 1974.
56. Ibid, p.24.
57. Bendix, op. cit.
58. "Media research conducted by the Research Organisation shows convincingly that print is of vital importance when implementing effective industrial communications programmes on mines. However, the key emphasis, supported by ongoing research, is on information content rather than media." Chamber of Mines Research Organisation Annual Report 1987, p.30.
59. The Budget for Human Resources in 1988 was 2,3 million rand, whereas for stoping technology it was over 20 million rand per annum. Chamber of Mines, C.O.M.R.O. Annual Report, 1987.
60. These observations were made from four years' experience as a researcher for C.O.M.R.O.
61. Research conducted at C.O.M.R.O. on new technology has often run up against Union agreements, particularly when maintenance of equipment is involved.

62. Coldwell, D.A.L. "Patterns of Turbulence and Stability : Towards a Dynamic Sociotechnical Model of Technological Change" in South African Journal of Business Management 1985, 16:31-34.
63. Coldwell notes: "I think most observers would agree that many unskilled and semi-skilled workers do not expect their jobs to be intrinsically satisfying, but regard them largely as a means to earning a living. Thus, their expectations from work are relatively basic and usually focus on safety, pay, employment and the physical arduousness of the job. It follows that any new technology which can adversely or beneficially affect any one of these different aspects is likely to be assessed carefully by workers directly involved in using it and those indirectly associated with it." Ibid, p.34.
64. Task analysis breaks down the components of the activities required to operate machines into tasks, segments and assignments, which can then be grouped to form "jobs". Adapted by Moore, R.J. "Instruction for the Development of a Training Manual for Jobs Created by the Introduction of New Technology" Unpublished Chamber of Mines Research Report Johannesburg, 1983.
65. Various options have been put forward for moving away from production line logic on the backfill system. One such proposal is the use of "job rotation" as most of the jobs on the backfill system require a similar level of technical expertise. See White, J. and van Oudsthoorn, S.V.R. "Suggested Organisational Arrangements for the Underground Backfill System" Unpublished C.O.M.R.O. Report Johannesburg, 1987.

CHAPTER THREE: PARTICIPATION : THEORY AND PRACTICE

1. INTRODUCTION

Edwards¹ distinguishes between managerial control and co-ordination; all forms of social action, he argues, require an element of co-ordination, however control is a particular type of co-ordination since it evolves from the top down.

"Control is defined as the ability of capitalists and/or managers to obtain desired work behaviours from workers. Such ability exists in greater or lesser degrees, depending upon the relative strength of workers and their bosses."²

In addition, he suggests, control may be of a technical or bureaucratic nature. Technical control involves organisation of the process of production: bureaucratic control involves the development of company ideology, company policy, procedures and a regulation of the way the "rules of the game" are applied. Technical control tends to be determined by the logic of the process of production, whereas bureaucratic control has to be created by management, and therefore is more vigorously applied.

Participation, as a form of managerial control, changes the locus of control but does not remove control from the hands of management. Pateman's³ definition (p5) which suggests that participation changes the pattern of authority in organisations, is further developed by her in the distinction she makes between higher level participation and lower level participation. Higher level participation involves managerial decisions such as policy, goals and production rates, whilst lower level participation involves decisions which directly affect the worker in the workplace.

Guest and Knight⁴ refine these typologies by distinguishing levels of decision-making with the location, namely the level

at which the decision is made: the shop floor, the plant and the company. The levels at which decision-making takes place have to be distinguished from the types of decision that are made at those levels, even if there is some relationship between the two. Guest and Knight⁵ further link levels with the issues discussed at these levels - policy issues, long term executive issues, and immediate task related issues.

Lawler⁶ defines the extent or level of decision-making in a model, presented in Figure 5.

Clearly, his model is hierarchical. The top end of the model "top down" represents the least degree of participation, whilst the bottom end of the model "pure delegation" represents the greatest degree of participation. In addition, the top three points on the scale "top down", "Consultative" and "Consultative - upward communication", adopt a position which places the decision-making authority solidly in management's camp, albeit allowing for some input from workers. Conversely, the bottom three points on the scale, "delegation with veto", "delegation with policy guidelines" and "pure delegation", place decision-making in the hands of workers, with management acting, in a greater or lesser extent, as the censoring authority.

In summary, it appears that there are two key issues in examining control within participation systems. The first in the location that participation occurs - work station, company level, or group level, and secondly, the level or extent of that decision-making, as suggested by Lawler, occurs.

Top Down

Top level individuals in the organisation make decisions and tell people at lower levels what the decision is.

Consultative

People at the top level make a tentative decision, announce it to the organisation, and ask for input.

Consultative - Upward Communication

People at lower levels of the organisation are expected to propose ideas and potential decisions to higher levels.

Consensus

Decisions are widely discussed in the organisation and only considered final when everybody agrees that it is the right decision.

Delegation with Veto

Lower level employees make decision as a matter of course, however higher level managers retain the right of veto.

Delegation with Policy Guidelines

Decisions are made by lower level employees but they make these decisions within policy constraints.

Pure Delegation

Decisions are given to lower level employees and they made whatever decisions they wish.

Figure 5: A MODEL OF EMPLOYEE DECISION-MAKING
(Adapted from Lawler 1986)

2. PARTICIPATION - SOME INDUSTRIAL EXAMPLES

There are numerous examples of participative systems operating in both market economies and in Eastern Europe. Some examples are West German Co-determination, Quality Circles, the Scanlan Plan in the United States, Employee Shareholding Schemes, the Israeli Histadrut system and Yugoslavian Self Management. Participation would also cover the various job design/redesign options that have been pioneered in the Scandinavian countries. What is relevant for this dissertation however, is to select systems that have been adapted to the South African gold mining industry.

Participation in gold mining has occurred in four areas, namely, with consultative councils, with the various trade union bodies, in the production arena (quality circles) and with employee share ownership schemes. There has also been some attempt, as we have seen, to propose job redesign options, but as yet these have not been fully accepted into the mining environment.

Thus, if we examine our menu of participation systems, it becomes clear that only a few are worthy of further description, namely the systems that have been used in local conditions. These are: Quality circles, co-determination (although it must be noted that co-determination is a far more advanced system than consultation), share ownership and participation with trade unions. Systems such as the Israeli Histadrut and Yugoslavian self management arise in societies that are substantially different to South Africa, and therefore will not be discussed further. What follows is a description of participative systems that have had some impact in South Africa gold mining, or are likely to be part of management strategy in the future.

2.1 CO-DETERMINATION

In 1951 the German Bunderstag passed an Act providing for the

equal representation of capital and labour on the supervisory boards of Steel and Coal companies. Since that date, co-determination (mitbestimmung) has been a feature of West German industrial society and, with the adoption of some legislative modifications in the seventies, has continued to the present day. The essential features of the system are explained below. Workers in establishments with a minimum of six employees have a legal right to elect a workers council as representative of their interests, in relation to their employers. Those duly elected workers councils are entitled to information, consultation and co-decision-making on a range of specified subjects (Streek)⁷. The rights of these councils are depicted graphically in Figure 6.

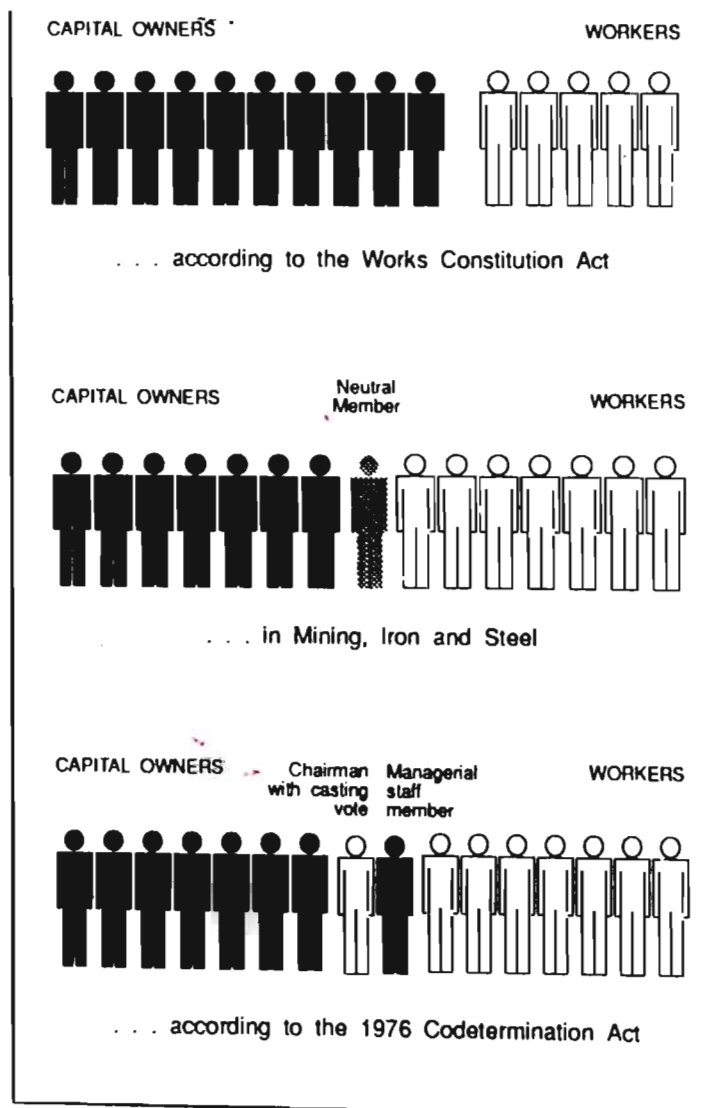


Figure 6: COMPOSITION OF THE SUPERVISORY BOARDS UNDER CO-DETERMINATION (adapted from Robinson)

The law permits all employees to vote and stand for election, regardless of whether they are union members or not. The Works Council has no co-determination rights in terms of business; it has only information and consultation rights in firms with more than 100 employees. But in larger companies, there are two levels of control (Robinson)⁸. The Aufsichtsrat (Supervisory Board) as the control organ (see Figure 6) and the Vorstand (Board of Management) responsible for day-to-day management. Thus, in all large and medium size companies in West Germany, a proportion of supervisory board members have to be made up of elected worker representatives. The ratio of these representatives in relation to those from capital depends on the size of the enterprise. There are thus two levels of participation; at shop floor level (through works councils) and representation at board level (through the supervisory board).

Co-determination thus differs from both collective bargaining and company level consultation. With the former, trade union representatives, within the framework of the law, negotiate with management on wages and other conditions of service. With the latter, employee representatives are consulted, but without any legal backing, on work and company related issues. Co-determination institutionalises the rights of worker representatives to co-direct the affairs of the organisation. In a sense, it may be described as a partnership between labour and capital, but falls short of worker ownership as is the case in Yugoslavia for example. Tegtmeier⁹ defines the relationship:

"The most adequate metaphor would be that of mutual incorporation of capital and labour by which labour internalises the interests of capital just as capital internalises those of labour, with the result that works councils and management become subsystems of an integrated internally differentiated system of industrial government which increasingly supersedes the traditional dualistic, class based system of industrial relations".¹⁰

Co-determination has been evaluated by a commission, known as the Biedenhof Commission of 1966, which was set up to study the economic and social consequences of parity co-determination in the coal and steel industries in West Germany. Streek¹¹ lists some findings:

i) Co-determination had not carried the confrontation between capital and labour into the decision-making bodies of the enterprise. Rather, it had fostered accommodation and compromise in spite of the continued existence of different interests.

ii) Companies under parity co-determination were no less orientated towards profitability than other companies, and their ability to rationalise and increase productivity was unimpaired.

iii) Attempts by trade union members and external labour representatives to introduce criteria in company level decision-making other than profitability and efficiency met with successful resistance of the internal board members.

iv) Parity co-determination contributed to the professionalism of management and increased its independence from stockholders.

v) Companies under parity co-determination paid much more attention to manpower policies and manpower planning, and their policies in this area differed from that of companies outside of coal and steel.¹²

Therefore, it would appear that co-determination is the most advanced form of consultation to have been developed within a pluralist industrial relations framework. However, it must be borne in mind, as Robinson¹³ notes, that the success of the system has been due to both support from Parliament in the form of legislation, as well as the strength of the trade

union movement which has been confident enough to enter into a partnership with management without fear of losing its identity or primary functions. Both these factors must be borne in mind, particularly when examining the role of consultation in South African gold mining.

2.2 QUALITY CIRCLES

Quality control circles has its theoretical roots in the human relations movement, most notably with thinkers like McGregor and Lickert, who underlined the significance of participation to management.¹⁴ Quality circles development was mainly in Japan from the nineteen sixties onwards, but it has also spread to other industrialised western economies. In Japan, by the mid-eighties approximately one million circles were operating.¹⁵

In the U.S.A. its growth has been more cautious, but significant. Lawler and Mohrman¹⁶ cite a study in the U.S.A. which showed that 44% of all companies with over 500 employees had quality circles programmes. Nearly three out of four started after 1980. Other countries that have used this approach are; the United Kingdom, Taiwan, Korea, Brazil, Norway, Sweden and South Africa. In South Africa, the system has established itself in the manufacturing industry, and to a lesser extent in mining. A national organisation has been set up, N.A.P.R.O.Q.C.S.A., which hosts an annual conference on QC's. Prof. Riddell, the President, estimates that at present there are 3 500+ productivity and quality circles operating in South Africa.¹⁷ Certainly, if the conference is an indication, most of the major corporations in South Africa are using quality circles in some form or another.¹⁸

Basically, the philosophy of quality control circles revolves around the principle of groups being more efficient in problem identification and problem solving in the workplace

than individuals. Derived from the human relations theorists, is the concept of the "psychological ownership" that individuals acquire when they collectively have some measure of control over their working environment. From this principle, it follows that quality circles are structured around teams known as quality control circles, who comprise between four and ten employees who all perform similar work within the organisation and who all meet once a week in a carefully structured forum to discuss and resolve work related problems. Each team has a "facilitator" who has received specific training to perform this role, and who acts as a liaison between the team and middle management. The fundamental idea behind quality circles, as Arbose¹⁹ points out, is to delegate problems and their solutions down to the grassroot levels of an organisation.

Team members rarely receive financial rewards for their participation, but join teams to satisfy needs for recognition and achievement (Hill)²⁰. Quality circle teams are therefore always voluntary, and do not rely on management coercion in order to operate.

As noted earlier, quality circles have mainly taken root in Japan, and to a lesser extent in other western countries. There has been quite considerable criticism however in this approach, both from mainstream managerial theorists and from theorists in the labour movement.

Basically, criticism revolves around two areas, namely:

- i) Management theorists argue that QC's work in Japan more than elsewhere because Japanese organisational culture is more conducive to worker commitment;
- ii) Labour theorists argue that QC's are an attempt by management to reduce or eliminate union influence by using socio-psychological techniques that "incorporate" workers into the organisation.

Concerning (i), King and Tan²¹ undertook a study of "successful" and "unsuccessful" attempts at introducing quality circles in U.K. companies. The obstacles to participation, as perceived by the selected sample, are given in Figure 7.

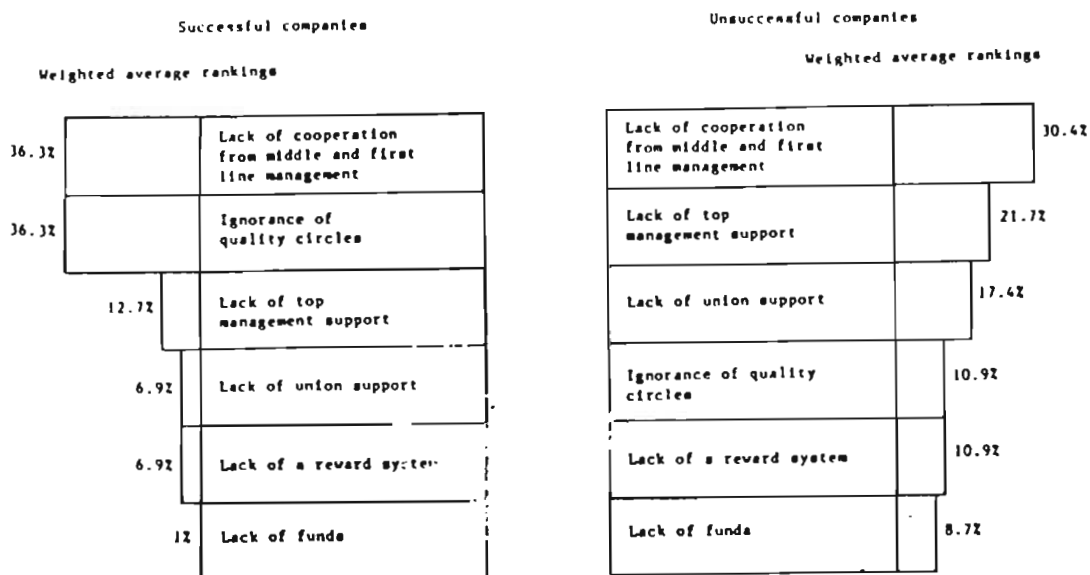


Figure 7: WEIGHTED AVERAGE RANKINGS OF PROBLEMS OR FACTORS THAT IMPEDED THE IMPLEMENTATION OF QUALITY CIRCLES PROGRAMMES (SUCCESSFUL AND UNSUCCESSFUL COMPANIES COMPARED) (adapted from King and Tan)

The study also showed that both categories of company ranked improved worker motivation and improved level of product/service as the chief motives for utilising quality circles. However, they also concluded that "it was observed from the study that perhaps the greatest pressure on the facilitator, in practice, is the constant need to be searching for new means to sustain or revive the flagging interest in established quality circle groups. Ishikawa doubts the long term viability of quality circles in the west for the very reason that interest and motivation may not be sustained."²²

Thorsud²³ has also echoed this view:

"If companies use quality circles as a quick gimmick, they won't work, and if they see they require a shift in cultural values, they will find it not as easy as it looks."²⁴

Concerning point (ii), much debate exists around the issue of whether QC's are attempts at coercing workers into the organisation. Webster, citing I. Sago, notes that QC's came into being in Japan after the trade unions in that country had been smashed by management.

"Quality control circles were introduced into Japan after the management had broken the unions around 1953. Until then, the unions had been similar to British unions. But in a massive confrontation that led to a 100-day strike at the Nissan/Datsun plants, the democratic unions were smashed and so-called 'company unions' put in their place. QC's were introduced as a method of communication between management and the shop floor, which favoured management."²⁵

This perspective may be offset against that of Prof. A. Goshi²⁶, a Professor of Business Management at Nihon University, Tokyo. He sees the QC movement as a process of survival for post-war Japan.

"From the Japanese viewpoint, it was a matter of survival. It started a few years after world war two. Japanese productivity was a joke abroad. If you bought one today it was supposed to be broken tomorrow. As you know, Japan had to export to survive. They didn't have enough land, natural resources to be self sufficient. So the common goal of the Japanese people, they had one target and that was to survive and be competitive abroad. In order to do so, they had to produce good products, so they asked Prof. Demming and Dr. Juran to come and share their experiences."²⁷

Two contrary views of quality circles? It seems that each perspective is motivated by a particular vantage point. Certainly, the replacement of unionism by productivity drives initiated by Demming and Juran (which later developed into quality circles) did reduce trade union influence, but

Japanese industry as a whole did make substantial gains, which eventually ploughed back to the workers, often not just in wages, but in benefits and company perks.²⁸ This, in a sense, has given Japanese industry its particular flavour with the principle of lifelong employment and high levels of commitment from workers and managers. Many commentators have argued that this aspect alone has allowed the quality circle concept to remain central to Japanese industry.

Management in South Africa has generally viewed quality circles as a productivity vehicle rather than a technique to bypass trade unionism. Godsell, for example, says: "Those who introduce quality circles in the hope that this will keep unions out are indulging a fantasy"²⁹. The reduction of trade union influence, via management initiated participation, is far more likely to take place in the consultative council arena, which aims directly to address the more upfront industrial relations issues, such as worker grievances.

The trade unions in South Africa have not specifically adopted a stance on participation in general, and quality circles in particular. P. Camay, General Secretary for C.U.S.A., for example, says:

"I think that we have to admit that organised labour in this country does not have a rigid policy on quality circles or quality of work life programmes. As the pressure increases from the shop floor, with management implementing Quality Circles without addressing the unions, unions will have to decide on their attitude to quality circles".³⁰

Possibly this perspective will change with time, as the quality circle movement becomes more integral to production. The "exploitation" issue, that is the linkage between increased output matching reward, is most certainly likely to be drawn more in the future into wage bargaining. The gold mining industry will be no exception in this regard.

3. TO PARTICIPATE OR NOT TO PARTICIPATE? SOME ETHICAL QUESTIONS

Participation has its exponents and antagonists from all sections of the political spectrum. It might be useful therefore, to examine the debate more closely in the light of some of these theoretical positions.

An opponent of participation, and someone firmly rooted in the British model of industrial relations, is Hugh Clegg³¹. Clegg argues that the only legitimate form of participation between management and labour is via trade unions. Clegg proceeds to define the relationship between management and labour as a tension of opposites. According to Clegg, a union acts in much the same manner as a political party; that is, an opposition. (Clegg is referring of course to the Westminster system.) Thus, attempts by management to incorporate the union into its own structures, or set up parallel organisations (such as workers councils) is doomed to failure,

"The union cannot become the organ of industrial management; there would be no-one to oppose management and no hope of democracy. Nor can the union enter into an unholy alliance for the joint management of industry, for its opposition functions would then become subordinate and finally stifled."³²

Clegg proceeds to base his theory on three interlocking principles.

"The first is that trade unions must be independent of both the state and of management. The second is that only the union can represent labour. The third is that the ownership of industry is irrelevant to good industrial relations."³³

Clegg goes on to defend his position against anomalies that arise. For example, with the case of co-determination, he argues that the unions have only a partial share in

management, and this share is kept within strictly defined limits. In the case of the Israeli Histadrut system, he argues that unions have maintained their autonomy because union members were originally drawn from industrialised democracies and have the know-how and experience to resist incorporation.

In summary, Clegg strives to maintain the "purity" of the union movement at all costs. Any encroachment on this autonomy is likely, in his view, to spoil the nature of the relationship between the two parties.

Clegg's position is challenged by Blumberg³⁴, who finds Clegg both logically and empirically weak. Blumberg attacks Clegg's position in three areas.

Firstly, he argues that an opposition is not a necessary precondition for a democratic system. A definition of democracy would be accountability. Many democratic organisations, he argues, do not have opposition.

Secondly, a trade union, unlike a political party, can never become a government, i.e. management. Thus, the role of a trade union is substantially different to that of an opposition party.

Thirdly, Blumberg argues that Clegg provides a weak defence for his explanation of West German co-determination and the Israeli systems. In the case of West Germany, what has tended to occur is that the unions and worker councils have taken on different functions. Thus, what has happened in practice is that unions and the workers councils have co-existed by assuming different roles. The legislation of works councils in West Germany has placed them in control of a number of functions which are normally the prerogative of the union (as exception is the right to call a strike). In some cases tensions do arise.

"Occasionally, management strives to weaken the union, which is normally the less conciliatory organisation, and from time to time the councils themselves, jealous of their power and support from workers, will try to undercut union power and policy."³⁵

However, both organisations have co-existed successfully for some time, and it would appear that there are a number of inbuilt checks and balances which maintain the equilibrium.

In appraising the two arguments, one cannot help but side with the argument for participation rather than that against it. In South Africa, for example, the independent trade union movement has effectively resisted complete incorporation into management structures, despite various attempts by management to set up participative systems in competition with the union. Participation also offers valuable opportunities for worker/management interaction, which are often lost in the more bureaucratic relationship of trade union/management negotiation. Often, the interaction that occurs in the workplace is not reflected in the formal negotiation process. We have also seen that management attention to worker grievances in gold mining is seen by workers as a central issue in workers' assessment of management legitimacy.³⁶ Participation is likely to enhance management's ability to detect worker dissatisfaction at the point that it occurs; that is, the point of production. Thus the argument for participation in South Africa must hinge on these issues; that it promotes industrial harmony, improves productivity, and is not a threat to the independent trade unions.

4. SOME EXAMPLES OF PARTICIPATION IN THE MANUFACTURING SECTOR IN SOUTH AFRICA

Three examples of participation in the manufacturing industry

in South Africa will be described; quality circles at Toyota, consultation at Volkswagen, and participation at Cashbuild. All the examples offer a different perspective on participation in South African industry.

Quality circles at Toyota has been reported on by Dewar³⁷ and by van den Bergh³⁸. Initially, the system was introduced directly from the Japanese model of origin, however major problems were encountered in adapting to South African conditions. For one thing, educational differences between Japanese and South African workers were vastly different, with the result that quality circles did not achieve any real footing. However modifications were made, including a greater degree of senior management involvement, which implied more direction given to the teams. The objectives of quality circles at Toyota therefore moved away from a purely productivity model towards one that sought to develop the "individual potential" of the worker. Van den Bergh observes that at Toyota,

"The best quality circle teams are not necessarily the ones that reduce costs. The best, irrespective of cost savings, are those that display a high degree of innovative thinking on the part of members of the team through the step-by-step approach, and those that display an obvious solution has not been pounced upon, but that methodical thinking has prevailed to ensure that the latent cause of the problem has been highlighted."³⁹

Whilst management have attempted to create a "thinking culture" by introducing more participation into the work environment in the form of Quality Circles, Natrass⁴⁰ observes that in Toyota-Durban, the organisation of work still remains strictly along fordist lines, and is distinctly different from Toyota-Tokyo, with its extensive use of robotics, flexible productive systems, use of multi-skilling and life-long employment practices. Thus, Quality Circles in Japan fits into a total management system and is an integral

part of that system. In South Africa there have been attempts to borrow only aspects of that system, in the hope that the successes of Japanese industry may be repeated here.

Such a position is, however, open to the danger that the "borrowed" managerial system will not fit into local conditions. Viljoen, for example, alerts us to this danger.

"The arguments in favour of participative management techniques are based on the assumptions about the nature of corporate (and perhaps even social) values. Should these assumptions not apply, as is commonly the case when the technique is 'borrowed' from another country with its own distinct sociocultural system, the basis for implementing participative techniques is effectively removed."⁴¹

Thus, management's rationale for adapting quality circles at Toyota are the perceived need to develop the organisational culture towards a more homogenous one, which will also be a more productive one. For workers however, quality circles offers little more than lower level participation within their own immediate work environment. It may therefore be defined as a limited form of consultation only, and falls far short of full participation.

The drive towards a common organisational culture has been taken a step further with the example of Cashbuild, a wholly South African owned and managed company that has developed distinctive participative managerial approach. The particular nature of this system is outlined in detail in a book by Koopman, Nasser and Nel⁴². Cashbuild is a group of 50 hardware stores, which supply material mainly for the building trade. The group is a subsidiary of Tradegro group, which in turn is a subsidiary of Sanlam. The system of worker participation was implemented in 1983 by Albert Koopman, the then Managing Director. By all accounts, it has been extremely successful. Cashbuild profits grew from R1,6 million in 1984 to R5,2 million nett profit before tax in

1987. In addition, other indices of organisational "health", such as worker satisfaction, industrial conflict, and labour turnover all show very positive signs.⁴³

Worker participation at Cashbuild operates in the following manner. There are four entities which together make up the running of Cashbuild. These are; the executive, which oversees policy and acts as a final appeal board for any disputes in the company, the venturecomm management committee at branch level, care groups consisting of all employees in a branch and representative indabas. Venturecomm committees are made up of between three and five people per branch, and these committees are responsible for the day-to-day running of the branch. All of the committee members are elected by the branch members, except for the manager of the branch who is appointed by the executive. The committee reports to the workers in the branch once a month, and workers in the branch have the right to vote against decisions taken by the committee. The guiding principles around this are outlined in a Creed of Trust. In cases of dispute, the executive acts as arbitrator.

Once a year an Indaba takes place between the executive and the various branches. Here, workers are elected from each branch and attend the Indaba, at which policy issues are discussed. However, worker representatives have no formal power, as they do at branch level, to influence the policy decisions of the executive. Rather, the system operates to air opinions and improve communications.

The system at Cashbuild thus operates in two ways. At branch level it may be defined as a system of joint control; at executive level it is a system of consultation. Jones and Maree argue therefore that Cashbuild is not a system of full participation, but partial participation.

"The participation at Cashbuild includes the accountability of management at branch level, but

not at company level we would maintain that for industrial democracy to exist, there would have to be a more direct form of worker participation and decision-making at the highest levels of the company."⁴⁴

However, Cashbuild is perhaps one of the better and more meaningful attempts at participation in the manufacturing sector.

The third example of participation in the manufacturing sector, is that of Volkswagen. This particular company has been selected because it is an example of consultation in the industrial relations area, which has been influenced by the West German co-determination model. Smith⁴⁵ claims that Volkswagen has attempted to build a participative culture, which counteracts the division created by apartheid rule. Although the company is one of the more progressive as regards labour relations (Volkswagen was one of the earlier companies to sign recognition agreements) over the past few years there has been considerable labour unrest.⁴⁶ However, the company has built a system of joint consultation with the unions, which by all accounts appears to be operating with some measure of success. The system is depicted in Figure 8.

The Joint Union Management Executive Committee meets quarterly and is chaired alternatively between management and the unions. Issues discussed are corporate strategy as well as broader political issues such as, for example, the Labour Relations Act. The union is represented on the committee by full-time shop stewards from both unions.

The next level is the Human Resources Committee. This comprises human resources managers with full-time shop stewards. Issues such as health and safety, recruitment, advancement, etc. are discussed.

Joint Union-Management Communication Structures			
1.	Joint union/ management executive committee (quarterly)	MD, directors and full-time shop stewards	Corporate strategic issues
2.	Human resources committee (quarterly)	HR department managers and full-time shop stewards	Policy and procedure on all people issues
3.	Department committees (monthly)	All major production related departments, management, senior supervision and shop stewards	All issues affecting the workers
4.	Finance/ marketing review (quarterly)	All shop stewards	Full financial and market disclosure
5.	VW community trust	Managers	Shop stewards and workers

Figure 8: JOINT UNION-MANAGEMENT COMMUNICATIONS STRUCTURES AT VOLKSWAGEN SOUTH AFRICA (adapted from Smith)

Level three comprises the Joint/Management Department Committees for each major department which is concerned mainly with production related issues.

The two other levels depicted are concerned with participation, but not direct consultation. The Finance/Marketing Review is a presentation given by the financial and marketing divisions to the shop stewards on how the company is performing. The VW Community Trust is a trust set up by the company to spend money on relevant social and community causes. The Board of Trustees is made up of management, trade union and worker representatives.

It would appear from this brief description that the system at Volkswagen is a system of consultation but not joint decision-making. Unlike Cashbuild, workers have representation rights up to executive level, and are involved in consultation from the shop floor right through to long range executive issues. However, Cashbuild has entrenched co-decision making at branch level. This is not the case with Volkswagen. At no point can workers' decisions taken at committee level over-ride those of management. The system therefore falls short of full co-determination, however it may be described as an advanced form of consultation.

5. PARTICIPATION IN THE SOUTH AFRICAN GOLD MINING INDUSTRY

Participation in gold mining has occurred in four areas:

- i) with consultative/liaison councils;
- ii) with trade unions;
- iii) in the productivity/quality circles area;
- iv) with employee shareholding schemes.

Each of these areas will now be discussed.

Consultative councils proliferate on gold mines, and their roots may be traced back to the izibonda system in the hostels. McNamara⁴⁷ describes the function of the izibonda's (room prefects) in the following way:

"Izibonda are grouped into four sections of the hostel, and meet hostel and mine management in 'liaison' committees on a mixed ethnic basis, one hostel section at a time. Approximately 65 izibonda attend each meeting on a monthly basis. Each meeting usually lasts from one to one and a half hours each. The meetings have both an upward and a downward communication content. Downward communication by hostel and line management usually concerns notification of wage increases, bonus schemes, safety, work team spirit and production propaganda, and appeals to izibonda to help curb absenteeism, or 'loafing' off work.

Upward communication through the izibonda from the room residents includes complaints about the hostel, such as the quality of the food, hot water and paper supplies, and so on, to those concerning the work situation, such as the shortage of tools and equipment, job opportunities, and so on."⁴⁸

Above the izibonda are the tribal policemen, who supervise and liaise with the izibonda. The tribal police are in turn supervised by the izinduna who are salaried employees of the mine, usually with a long standing service record. Research has shown that the induna's loyalties to white management are stronger than to his duties as a "representative" of hostel resident of his own tribal or ethnic group.⁴⁹

The system described is one of "partial representation". The izibonda is elected by his room mates, but the tribal police and the induna are nominated by management. This system is still in existence on gold mines, although some Groups have experimented with a system of elected hostel police, with some measure of success.⁵⁰

During the nineteen seventies and eighties, the process of "liaison" became more formalised, with the growth of industrial relations departments within the personnel departments on mines. Thus the izibonda system became absorbed into the overall consultation process, which was administered by the personnel departments. Each mine, and each Group, tends to have its own system, however, generally committees are grouped into domestic (hostel) industrial relations, and more recently production. On most gold mines the committees are segregated into black and white committees. These committees are structured around "tiers", "lower" level committees elected from work and domestic areas, and "higher" level committees made up of nominees of the "lower" level groups. Higher level committees usually meet with management from time to time. The functions, effectiveness and control of these committees vary from mine to mine. Some are highly centralised, non-participative and

are often used as a medium for conveying management's rationale to workers. Others are more democratically structured, placing great emphasis on the election of officials and adhering to democratic processes within the groups themselves.⁵¹ Some take up a strong anti-union stance (in relation to the N.U.M. that is), whilst others encourage the N.U.M.'s participation. An example of the latter are "worker councils"⁵² initiated in some Anglo American gold mines, which have attempted to follow the Volkswagen model and draw N.U.M. officials onto these committees.

Generally, however, the white committees are made up entirely of union members (either M.W.U. or the various craft unions), whilst the black committees tend to be largely non-N.U.M. members.

The non-participation of the N.U.M. has led some commentators to conclude that consultative councils in general are used by management as a method of reducing the emerging black trade unions' influence within management.

Webster⁵³, for example, has argued that committees were introduced in the pre-Wiehahn period as an attempt to shut out the emerging black union movement.

"Employees quickly embarked on an offensive to promote these committees, and between 1973 and 1975 the number of liaison committees increased from 118 to 1 751, the majority of which had been established by management's initiative."⁵⁴

Whilst Webster is referring to industry in general, it would be safe to say that during this period there was also an expansion in the number of committees on gold mines. He continues to argue that these committees were universally unpopular with workers.

"They (the committees) have been perceived as such by workers, who uniformly distrust the committees and who grow to distrust the workers who are members of these committees."⁵⁵

These observations are not without foundation. However, research⁵⁶ has shown that the primary reason for distrust in these committees is not the committee system per sé, but the fact that these committees are generally ineffective. This factor will be further explored in Chapter 4, when an evaluation of the committees on four gold mines is undertaken.

The second major area of participation to be discussed, is that between management and the various trade union bodies. There are seven recognised trade unions⁵⁷ and three officials associations⁵⁸, which negotiate with the Chamber as a centralised agency acting on behalf of the mining groups. There are also a number of "unofficial" unions whose number tends to fluctuate over time⁵⁹. The "white" unions are members of the Federation of Mining Unions and the Federation of Mine Production Workers, which act collectively on conditions of service which are common to all union men. The N.U.M. enters into separate negotiations with the Chamber on behalf of its black members.

Numerically, the two biggest unions are the M.W.U. and the N.U.M. Both unions are diametrically opposed to one another in terms of policy for their members and the long term goals of manpower in the industry. Up until the inception of the N.U.M. in August 1982, the M.W.U. had successfully maintained the job colour bar, thus preventing black mine workers from moving into jobs reserved for whites. This situation has now changed⁶⁰, but the N.U.M. has continued to negotiate to equity on all conditions of service for its members, including housing, rates of pay, advancement opportunities and training. However, the discrepancy between conditions of service for white and black underground workers will not

disappear overnight, but may take many years to reach parity.

Participation between management and the various unions tends to be dependent on the union under question. The officials associations tend to be synonymous with management, as their members are drawn from management ranks. The craft unions, and the M.W.U. also enjoy a close, participative relationship with management. The white committees tend to be made up entirely of union members, thus there is a lot of direct contact between the white unions and management at mine level, although management and these unions are often at loggerheads with one another. The position with the N.U.M. is on the whole the complete opposite. Most mine managements attempt to keep the N.U.M. at arms length and grant them minimum participation in terms of the recognition agreements entered into. Most committees, we have noted (with some possible exceptions), shut N.U.M. officials out and do not encourage their members to join these committees.

The most usual form of interaction between management and the unions is at a national level, and may be typified in the annual wage negotiations.

This form of participation tends to be formal, bureaucratic and remote from the lives of rank and file workers. Decisions made at this level are concerned with the overall relationship between labour and management (rates of pay, conditions of service, etc.) and do not touch on the everyday interaction that occurs on the production line and in the hostels. Because of the seriousness of the issues negotiated on, and the number of people affected by these issues, decision-making from both the management and the union sides tends to be made by an elite of elected representatives. The management structure is via the Chamber of Mines Industrial Relations Department, whilst the unions negotiate through their own elected officials. The issue of accountability, with both parties, is a thorny one. Trade union officials

obviously cannot canvas their members on all the decisions taken, just as the Chamber negotiating team cannot always be completely in step with the wishes of its member groups. Thus, decisions taken at this level are often in the hands of the appropriate officials concerned. Trade union democracy within the N.U.M. during a strike has been analysed by Arnott⁶¹ and does reveal, however, that the rank and file members were in fact consulted on many of the decisions taken.

Depressed levels of productivity have precipitated the search for means of increasing efficiency, and the use of the quality circles approach derived from the Japanese model has been used in the production area in gold mining. The quality circle groups occur within the normal production process, as well as in relation to new technology⁶². The particular systems employed differ from mine to mine, however all use the work group and a facilitator as a means of enhancing the problem-solving potential of workers. Some gold mines have employed full-time staff members to co-ordinate the activities of the various teams⁶³. The methodology employed also tends to differ between mines and groups. Some mines, for example Western Deep levels, have used the value circles approach⁶⁴, which is similar to quality circles in practice but draws on a different theoretical tradition.

The use of quality circles poses particular problems in implementation for management, as the production process in mining is considerably different to that found in manufacturing. However, as in manufacturing, the work group is isolated for set periods in order to raise problems encountered in the production process. Whilst this is usually a formal procedure, there have also been more informal attempts at enlisting the opinion of workers at the point of production. Anglo American have moved towards what they term "work station" participation. Godsell⁶⁵ defines this process:

"By 'work station participation', I understand the involvement of employees with their supervisors in making decisions about the organisation of the workplace or work station at which they are employed it involves employees directly with their immediate supervisors in a continuous process involving all the issues of the workplace."⁶⁶

This process therefore appears to be a more informal quality circles approach, but on an ongoing basis. It presumably has been introduced to supplement the use of quality circles, however it also would appear to serve a broader goal of improving the communications between supervisors and workers. This is an area of extreme concern to management at present, particularly in the unionised climate of the 80's.

The final area of participation to be discussed is that of financial participation. This has been initiated in gold mining with the Anglo American Group Employee Shareholding Scheme, and is the most recent form of participation to be developed. The scheme was introduced in 1988 and involved an initial 121 000 workers (63% of those eligible to join), each with shares with a total market value of R250 (1988 rates). The option to join was, and remains, voluntary. The mechanics of the scheme will not be gone into here, but are graphically described by Fletcher⁶⁷. However, what is more pertinent is the rationale for management introducing the schemes in the first place. Fletcher argues that it was introduced because:

"We wanted to engender a sense of stakeholding amongst our employees, and we wanted to expose them to the process of wealth creation in a modest way - specifically how a company operates. Why it needs to earn profits and how its profits can be used to the benefit of shareholders as well as the community as a whole. Shareholders benefitting from increases in dividends and share prices brought about from increases in dividends and the reinvestment of profits which have the effect of creating more jobs for the benefit of the community. We see skills development programmes, home ownership schemes and our contracting schemes

with small business as part of the same process of encouraging employees and others to take part in wealth creating opportunities."⁶⁸

These sentiments clearly describe management's rationale for the scheme. It is also in line with the training offered by the Free Market Foundation⁶⁹ which has been used extensively by some of the groups in the industry. Share participation or E.S.O.P.s have come in for severe opposition from the N.U.M. however, who have argued that these schemes are no substitute for wages, which as we noted previously, are lower in the mining sector than in manufacturing. However, the objection runs deeper as it touches on the socialist agenda of the union. Ramaphosa for example says:

"The debate has been raised by workers and their organisations and by other democratic organisations to have a socialist system in our country : it's clear to us that this intervention by Anglo to offer shares to workers is a political intervention."⁷⁰

~~Thus the share participation scheme moves beyond the issue of remuneration, towards a struggle on an ideological terrain.~~ *pay for services rendered* *trail of*

This in a sense is the most clear statement by management to workers that it wishes to retain a market system, albeit a *literary flourish* modified and more participative one, in post-apartheid South Africa.

Criticism of shareholding schemes is not limited to unions however. Management theorists such as Lawler⁷¹ argue that participation is a continuum ranging from participation in the immediate workplace through to co-determination and financial co-ownership. E.S.O.P.s are thus at a more advanced point on the continuum, and it may be argued have been introduced prematurely in gold mining. Management in its haste to counteract the perceived threat of nationalisation⁷² has moved too swiftly towards implementing its employee shareholding scheme. Thus the N.U.M.'s argument

that the scheme is a political intervention and not in line with the development of current management practice is, in the context in which the scheme has been initiated, possibly an accurate observation.

In summary, participation in gold mining is "consultative - upward communication" in terms of Lawler's model (Figure 5). Both quality circles and consultation involves worker input into their own immediate work environment, and therefore may be described as lower level participation. Participation with the unions is higher level participation, as it in some cases involves policy issues. However, at this point, management still retains the final decision-making authority, unlike for example, co-determination, where decision-making is made jointly by both parties. Financial participation in the form of E.S.O.P.S. cannot really be described as employee participation, as the decision to introduce these schemes was made unilaterally by management. It would appear therefore that participation in gold mining is only limited to consultation, and does not alter in any way the locus of power between management and workers.

6. NOTES

1. Edwards, R. Contested Terrain Heineman, London, 1979
2. Ibid, p17.
3. Pateman, C. Participation and Democratic Theory Cambridge University Press, 1970.
4. Guest, D. and Knight, K. Putting Participation into Practice Gower, 1979.
5. Ibid.
6. Lawler, E. High Involvement Management Josey-Bass, California, 1986.
7. Streek, W. "Co-determination : The Fourth Decade" in International Perspectives in Organisational Democracy 1984.
8. Robinson, B. "Worker Participation : Trends in West Germany" in Anstey, M. (ed) Worker Participation Juta, 1990.
9. Tegtmeier, B. and Streek, W. "Co-determination : The Fourth Decade" International Perspectives in Organisational Democracy, 1984.
10. Ibid.
11. Ibid.
12. Ibid.
13. Ibid.
14. Fullagar, C. "Organisational Behaviour in South Africa : a Historical Overview" in Behaviour in Organisations : S.A. Perspectives : Barling, J. (ed) McGraw-Hill, Johannesburg, 1986.

15. Arbrose, J.R. "Quality Control Circles : The West Adopts a Japanese Concept" in International Management, vol.35 No. 12, 1980.
16. Lawler, E. and Mohrman, S. cited in King, J.R. and Tan, K.H. "Quality Circles" Omega vol.14 No. 4, 1986, p307-315.
17. Riddell, J.G. "Introduction" to N.A.P.R.O.Q.C.S.A. National Convention, C.S.I.R. Pretoria, 1987.
18. For example A.E.C.I., NASCHEM, ISCOR, V.W.S.A., ESKOM, Middleberg Steel and Alloys.
19. Arbrose, J. "Quality Controls Circles: The West Adopts a Japanese Concept" in International Management, vol.35, 1980.
20. Hill, J. "Getting Going" in Bank of America 1980.
21. King, J.R. and Tan, K.H. "Quality Circles" in O.M.E.G.A. vol.14 No.4 U.K. 1986, p307-315.
22. Ibid, p314.
23. Thorsud, B. in Bieseuwel, G. Work Motivation and Compensation MacGraw-Hill, Johannesburg, 1984.
24. Ibid, p125.
25. Ichiro, G. cited in "The Circle Game" notes by Webster, E. Course on Industrial Sociology University of Witwatersrand, 1987, p30.
26. Goshi, A. "Development of the Quality of the Workforce" paper presented at the N.A.P.R.O.Q.S.A. National Convention, C.S.I.R. Pretoria, 1987.
27. Ibid, p85.
28. In 1980, Japan's per capita of G.M.P. was \$8 870, compared with Brazil \$1 780 and Argentina \$2 230 : Chalmers, J. "Political Institutions and Economic

Performance : the Government-Business Relationship in Japan, South Korea and Taiwan" in Deyo, F. The Political Economy of the new Asian Industrialisation Cornell, 1987.

29. Godsell, R. "The Importance of Workstation Participation" an outline of the address at the I.P.M. Convention Sun City, 5-8 October 1982.
30. Camay, P. "Productivity, Productivity and Quality Circles and Trade Unions" panel session at N.A.P.R.O.Q.S.A. National Convention Pretoria, 1986.
31. Clegg, H. A New Approach to Industrial Democracy Oxford, 1979.
32. Ibid, p131.
33. Ibid, p21.
34. Blumberg, P. Industrial Democracy : The Sociology of Participation Schochen Books, New York, 1969.
35. Ibid, p159.
36. This argument is presented by Schuitema, E. "Factors Influencing the Climate of Black Employee Opinion on Mines" Unpublished Chamber of Mines Research Report Johannesburg, October 1987.
37. Dewar, S. "Total Worker Involvement at Toyota" in Anstey, M. (ed) Worker Participation Juta & Co. Johannesburg, 1990.
38. van den Bergh, T. "Participative Management - The Toyota Experience" in I.P.M. Journal September 1987, p4-7.
39. Ibid, p251.
40. Natrass, N. "No Co-operation At Toyota", S.A. Labour Bulletin vol. 16, No. 2, 1991.
41. Viljoen, J. "Worker Participation in a South African Context" in S.A. Journal of Labour Relations vol.10 No.1 March 1986.

42. Koopman, A. Nasser, M. and Nel, J. The Corporate Crusaders Lexicon Publishers, Johannesburg, 1988.
43. Cashbuild, since initiating their participation system, have reduced shrinkage, labour turnover, and they have had very little labour unrest.
44. Jones, G. and Maree, J. "Worker Participation and Industrial Democracy" Industrial Relations Journal of South Africa vol.9 No.2, 1989.
45. Smith, B. "Volkswagen's Holistic Approach to Worker Participation" in Anstey, M. (ed) Worker Participation Juta & Co. Johannesburg, 1990.
46. Industrial conflict in the motor manufacturing industry is amongst the highest in industry in South Africa in general.
47. McNamara, J.K. "Social Life, Ethnicity and Conflict in a Gold Mine Hostel" Unpublished M.A. University of Witwatersrand, Johannesburg, 1978,
48. Ibid, p38.
49. Ibid, p41.
50. Western Deep levels attempted to introduce worker elected hostel police on two shafts in 1987.
51. These observations were made whilst acting as a consultant for various groups between 1985 and 1989.
52. Worker councils were introduced on Anglo American gold mines (notably Vaal Reefs). They are committees which comprise N.U.M., M.W.U. and management representatives.
53. Webster, E. "A New Frontier of Control?" in Industrial Relations Journal of South Africa 1st Quarter, 1986.
54. Ibid, p6.
55. Ibid, p6.

56. See worker perceptions of committees, Chapter 4.
57. The recognised trade unions are:
 - Amalgamated Engineering Union of South Africa
 - Amalgamated Society of Woodworkers of S.A.
 - Amalgamated Union of Building Trade Workers of S.A.
 - Ironmoulders Society of South Africa
 - South African Boilermakers, Iron and Steel Workers Shipbuilders and Welders Society
 - South African Electrical Workers Association
 - South African Engine Drivers, Firemans and Operators Association
 - National Union of Mine Workers
 - Mine Workers Union
58. The three officials associations are:
 - Mine Surface Officials Association
 - The Underground Officials Association of South Africa
 - South African Technical Officials Association
59. The biggest unofficial union is U.W.U.S.A.
60. The job colour bar was ended with the repeal of the "Schedules Persons" definition in the Mines and Works Act in 1987.
61. Arnott, A.J. "The August 1987 Strike at Randfontein Estates Gold Mine : A case study in Trade Union Democracy" BA(Hons) diss. University of Witwatersrand 1987.
62. Note Maxwell's statements in chapter 1 about the need for participation in transferring new technology.
63. Mine B reported in the empirical study (chapter 4) used a full-time facilitator to run participation groups.
64. Value Circles was originated in the U.S.A. by Don Beck. It uses the same techniques as Quality Circles, but has a different methodological base.
65. Godsell, B. "The Importance of Work Station Participation in the 1980's" address to the I.P.M. Convention Sun City, 1982.
66. Ibid, p1.

67. Fletcher, C. "The Anglo American Group's Employee Shareholding Scheme" in Anstey, M. (ed) Worker Participation, Juta & Co., 1990.
68. Ibid, p267.
69. The Free Market Foundation runs courses on the nature of market systems. These courses have been used extensively by the mining houses, particularly to train workers.
70. Ramaphosa, S. "It's Sheer Political Blackmail" reported in The Weekly Mail, No.27 - Dec.3, 1987.
71. op. cit.
72. See Mandela's statements on nationalisation, Chapter 5.

CHAPTER 4: ATTITUDES TO PARTICIPATION : FINDINGS FROM AN EMPIRICAL STUDY

1. INTRODUCTION

In 1988, I conducted an empirical study into the attitudes of managers, supervisors and workers towards a more participative style of management on gold mines. This exercise was conducted across four selected gold mines, and culminated in a presentation and report to the industry at the end of that year.¹

The rationale for the study was to try and isolate the attitudinal and structural variables on gold mines that would impede, or alternatively enhance, the development of a greater degree of participation of employees, particularly at the lower end of the organisation. The reasons that management had initiated this request have already been dealt with in Chapter 1, and therefore will not be elaborated on further here.

The selection of four mines was made in order to compare attitudes to participation both vertically and horizontally: that is, the attitudinal differences between different job categories on the same mine and similar job categories on different mines.

This work was carried out under the auspices of the research division of the Chamber of Mines, thus the identity of the mines will be kept anonymous. Mines will be denoted as Mines A, B, C and D.

2. RESEARCH DESIGN

In order to study the attitude to participation at all levels

in the organisation, a three-tiered approach was adopted. This approach is illustrated diagrammatically in Figure 9.

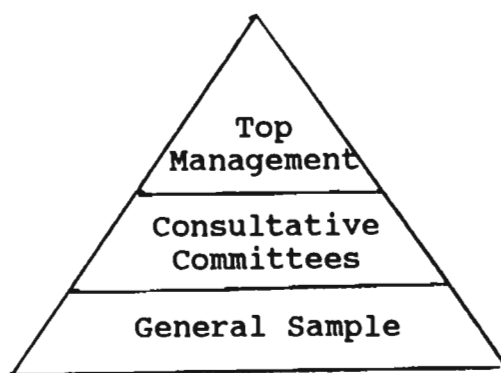


Figure 9: PARTICIPATION RESEARCH DESIGN

Top management is studied because this is where management strategy is formulated. This usually occurs at Head Office level, but is given direction and formulation at mine level (senior management and departmental managers).

Committees are studied, because this is where most management initiated participation occurs on mines - participation in the production area (Quality Circles) is a relatively recent development in mining, and the opportunity therefore did not arise to evaluate this process.

Participation via the trade unions was also excluded. This was largely for the sake of keeping a manageable data base, but also related to the fact that the N.U.M. had a fairly low profile on all the mines surveyed.² Similarly, safety committees (also a recent development) were excluded for the sake of brevity and also because the mechanics of consultative committee functioning tends to be similar for all committees. For these reasons, consultative committees in the domestic and industrial relations arenas form the basis for this part of the study.

Finally, general employees (both black and white) are studied in order to understand the "climate" regarding job satisfaction and the desire for a greater level of decision-

making in the work processes. Of particular interest is the differences in attitudes between different job categories on each mine and between different mines. Similarly, differences between various groups, eg. black versus white, union member versus non-union member, also provide interesting insights into the way participation is perceived on gold mines by the various actors involved.

Using the above three approaches, a picture emerges of how management initiated participation functions specifically at mine level. Thus, top management policy may be compared with the general samples attitude to participation, authority and control. Similarly, committee members tell us their views of the consultative system, both as participants and as observers of the process as a whole. General employees, both black and white and at different strata in the organisational hierarchy, give us a feel for the perceptions, both positive and negative, towards the delegation of authority and control down to the lower levels in the enterprise.

3. DETAILS OF THE SAMPLE AND METHOD USED IN THE STUDY

The sample for the barriers to participation audit from one shaft on each of the four gold mines is given in Table 1.

Table 1 indicates that the sample for the barriers to participation audit consists of a total of 620 employees. While all top managers who were readily available at the time of the study on each mine were interviewed, the samples for the other categories of workers as far as possible were selected randomly from computerised personnel files of employees working on the selected shafts. The samples were stratified to include the main job categories of both white and black workers. Finally, shafts were selected for the study on the basis of their representativeness on the mines concerned in consultation with assigned mine contact persons.

Table 1: THE SAMPLE BY TARGET GROUP AND MINE

Target Group	Mine Codes				
	A	B	C	D	Total
Top management	6	11	13	15	45
White participative committee members	19	11	22	11	63
Black participative committee members	37	16	35	15	103
White general employees	8	11	11	27	57
Black general employees	78	65	76	133	352
TOTALS	148	114	157	201	620

Questionnaires (see Annexure Two), interview schedules and a participant observation approach were used to collect the data.³ Table 2 outlines the target groups involved and the corresponding methods and techniques used.

4. SUMMARY OF THE FINDINGS

The findings are presented in three sub-sections which correspond to the tiers/modules used in the study:

- Top management sub-section which outlines the findings regarding top management on the four gold mines;
- A participative committee sub-section which summarises the findings related to committee members on the four gold mines;
- A general employee sub-section which delineates the findings concerning general employees.

Table 2: THE METHODS AND TECHNIQUES USED FOR EACH TIER

Tier	Methods	Techniques
Top management	Group interviews using pre-formulated interview schedule	
Participative committee members	1. Individual interviews using a pre-formulated interview schedule (black committee members) 2. Self-completion questionnaires (white committee members) 3. Participant observation of committee functioning	1. Propensity to participate scale 2. Perceptions of the effectiveness of committees scale 3. Perceptions of the organisational climate scales 4. Training needs analysis on the basis of observation of committee functioning
General employees	1. Individual interviews using pre-formulated interview schedules (black general employees) 2. Self-completion questionnaires (white general employees)	1. Propensity to participate scale 2. Perception of the organisational climate scales

4.1 Top Management : Survey Findings

Each manager was interviewed for an hour by a panel of researchers from the Human Resources laboratory. The questionnaire content is given in Appendix II and included the following areas:

- i) Rationale for Participation;
- ii) Systems of Participation;
- iii) Policy Statement for Participation;

- iv) Trade Union Involvement in Participation;
- v) Training for Participation;
- vi) Barriers to Participation;
- vii) Participation Attitude Scale.

The findings for each of these issues are now discussed.

4.1.1 Rationale for Participation

The findings are summarised in Table 3.

Table 3: MANAGEMENT'S RATIONALE FOR PARTICIPATION

Mine Sample	A N=6	B N=11	C N=13	D N=15
Rank 1	Devolution of decision making N=4	Devolution of decision making within constraints N=6	Devolution of decision making within constraints N=7	Devolution of decision making N=12
Rank 2	Devolution of decision making within constraints N=2	Devolution of decision making N=3	Devolution of decision making N=5	Devolution of decision making within constraints N=2
Rank 3		Head Office initiative N=2	Reduce union N=1	No rationale N=1

The two most important categories to emerge are the devolution of decision-making in the organisation, and the devolution of decision-making within constraints. By constraints, was meant the organisational and attitudinal restrictions on the downward delegation of authority. This is best summarised in two open-ended comments by managers who fell into this category.

"Something which must be applied by managers but is difficult because of our autocratic tradition. Our culture is not that susceptible to change."

"Understand the concepts, see the advantages. Difficult to implement. Upper management committed, mine captain down resistance."

"We are positive towards participation, however the responsibility for decision-making still lies with management."

What was noticeable in conducting the interviews, was that the production personnel were generally more conservative in advocating more decision-making be given to personnel at the point of production. The service departments, i.e. engineering and personnel, were generally more favourable towards participation, and this was reflected in the responses.

4.1.2 Systems for Participation

The type of systems operating on the four mines are given in tabular form in Table 4.

Table 4: PARTICIPATIVE SYSTEMS ACROSS FOUR MINES

Mine A	Mine B	Mine C	Mine D
Consultative Councils	Consultative Councils	Consultative Councils	Consultative Councils
Hostel Committees	Hostel Committees	Hostel Committees	Hostel Committees
	Safety Committees		Safety Committees
			Development Committees
			Stoping Committees

As table 4 reveals, the systems do not deviate from the established consultation/liaison committees which were described in chapter 3. What is different, however, is the emergence of separate safety committees on mines B and D. Safety committees are in direct response to new safety legislation which has been promulgated.⁴ It is also in response to the N.U.M's call for safety stewards in the workplace, and management's counter development of using elected safety "officials".

Mine D had also started developing "development committees" and "stoping committees", which are basically quality circles type groups in the production area. As these are recent developments, they were excluded from the investigation.

4.1.3 Policy Statement for Participation

Distribution of responses are given in table 5.

Table 5: POLICY STATEMENT FOR PARTICIPATION

Mine A	Mine B	Mine C	Mine D
Yes N=4 No N=2	Yes N=9 No N=2	Yes N=7 No N=6	Yes N=9 No N=6

Managers are not clear as to whether a "mission" statement had been made to the organisation as a whole, calling for the "new participative" management approach. This is in contrast to some of the public statements made by management officials at the head office, which clearly spoke about the "new managerialism" and the movement of the organisation towards "more participation".

4.1.4 Trade Union Involvement in Participation

Distribution of responses is given below.

Table 6: TRADE UNION INVOLVEMENT IN PARTICIPATION

Mine A	Mine B	Mine C	Mine D
No (N=6)	No (N=11)	No (N=13)	No (N=15)

None of the mines surveyed had a high N.U.M. presence, although all mines had signed recognition agreements. However, it is significant that neither the N.U.M. nor the "white" unions were drawn into management's participative approach. This is in contrast to what is indicated in the literature⁵, which suggests that trade union involvement is essential if participation is to succeed.

4.1.5 Training For Participation

Table 7: THE EXTENT OF TRAINING IN PARTICIPATION GIVEN ACROSS FOUR MINES

	A		B		C		D	
	yes	no	yes	no	yes	no	yes	no
Top mang.	✓		✓		✓		✓	
Mld mang.	✓				✓		✓	
Lower mang.							✓	
White rank & file.								
Black sup.								
Black rank & file								
Comm. reps	✓		✓		✓		✓	

Table 7 indicates the "levels" to which training in participation has occurred across the four gold mines. All senior managers were exposed to Albert Koopman's⁶ seminar, whilst top management (defined as departmental head and above) had been through a course known as "Models for

Management".⁷ "Models for Management" had been taken down to the lower levels on Mine D (down to shift boss level), which would suggest that this particular mine was the most serious in introducing the participative approach to the mine as a whole. All the committee representatives (both black and white) were trained in committee procedure and group facilitation skills.

4.1.6 Barriers to Participation

Table 8: PERCEIVED BARRIERS TO PARTICIPATION
(TOP MANAGEMENT)

Distribution of responses (item means) are indicated below:

	Mine A	Mine B	Mine C	Mine D
Legal	1,6	2,1	1,7	2,5
Management policy	2,8	2,3	2,2	1,8
Structures	3,3	2,7	2,0	1,8
Attitudes	2,3	2,5	2,6	2,8
Lack of competence	2,5	2,1	2,5	2,4

Table 8 displays the responses to perceived barriers (management were asked to rank, in order of importance, how they perceived the above items to be barriers. A score of 2,5 and above represents a perceived barrier). Structures and attitudes emerge as the two greatest perceived barriers to participation. Structures in gold mining, we have noted, are long and vertical, thus do not facilitate a great degree of participation (in Japan for example, the number of layers between supervisor and manager is considerably less than is found on gold mines in South Africa, see Dore⁸). Communication across structures, i.e. between departments, were also seen as a structural barrier, and clearly do not help in assisting with the devolution of decision-making.

Attitudes were also seen to be a major problem. Of particular mention was the attitude of some right wing whites at the supervisory level (miner, shift boss) as well as the non-assertiveness of unskilled black workers - a prerequisite for a more participative system.

Attitudes and structures may be viewed as being inter-related. Clearly, if structures are cumbersome and non-responsive, this in turn will affect attitudes towards those structures. Thus the autocratic nature of control in gold mines is continually reinforced by the long hierarchical organisational structures.

Some of the open-ended responses given by management illustrate in specific form these sentiments.

Illustrative examples are:

Legal:

- "Does not act as a barrier' people hide behind the law".
- "Almost every activity concerned with the Mines and Works Act"

Management Policy:

- "If policy is anti-participatory, this will have a dramatic effect"
- "Lack of consensus amongst top management can act as a barrier"

Structures:

- "Structures are difficult to change in the mining industry. Gold mines have big formal structures which are necessary to keep things going. It takes a long time to reach everybody within these structures"
- "Interface between mining/engineering is a problem"

Attitudes:

- "Completely (a barrier) for whites. Blacks are prepared to participate" "Miner/team leader interface"
- "Major problem is with shiftboss level and below"

Lack of competence:

- "You can participate with someone who knows very little, however contribution increases with skills and knowledge"
- "Workers have not been given the chance to participate and therefore have not developed competence. A chicken and egg situation"
- "Some of the best suggestions come from people with little education"

4.1.7 Attitudes to Participation

The average scores for top management on each of the four mines indicate a very positive attitude towards participation. These are: 30,8; 29,9; 31,5; and 31,0 for Mines A, B, C and D respectively. A comparison of the managements' attitudes towards participation may be made with other job categories by viewing Table 12.

What is apparent is that management in general are more positive towards the devolution of decision-making than most other job categories, which would suggest that their greater level of education, exposure to seminars on the subject, coupled with their "wider vision" as to where the organisation stands in the long term, orientates them more towards the participative model with its promise of greater productivity and industrial harmony. Personnel further down the hierarchy (i.e. supervisors) who are more negatively disposed towards participation possibly do not see the same potential benefits that the managerial group do.

We will now move to the findings from the consultative committee section of the research.

4.2 CONSULTATIVE COMMITTEES : SURVEY FINDINGS

4.2.1 Introduction

It was decided to evaluate the functioning and perceived effectiveness of consultative committees on the four gold mines as an example of management initiated participation. As has been noted earlier (chapter 3), senior management has concentrated its major thrust into the committee arena, which covers work and domestic issues. Safety committees were not reviewed, neither were the various productivity committees, as both of these participative systems are a fairly recent thrust in gold mining. Also, consultative committees are taken as an example of a participative group: thus generalisations are able to be made which would be applicable to other participative groups on gold mines.

Consultative committees are traditionally segregated with separate black and white committees. Whilst both of them feed into managerial structures, there are some important differences between them.

Firstly, white committees are primarily concerned with work related issues. Although white mine personnel live in mine houses, domestic issues are hardly ever discussed under the committee system.

Black committees on the other hand, are divided between work section committees and domestic or hostel committees. Work section committees deal, like their white counterparts, with production issues; handling of materials, production bonuses, safety, loss control, shift procedures, to list a few examples. Domestic committees, on the other hand, are made up of representatives from the hostels, and work in

conjunction with the Izibonda or room prefect system. Izibondas, we have seen, are built on tribal structures and traditionally they have formed a control pillar for management authority in the hostels. It therefore follows that the hostel committees not only address the day to day problems related to food and accommodation, but also act as a "ear" for management. Prior to the growth of the N.U.M., these committees formed the only channel through which worker grievances could be conveyed to management. Moodie⁹, for example, has argued that the izibondas were the forerunners of the shaft stewards: however, even on highly unionised mines, management still relies very much on the izibonda and committee system as a form of upward communication.

The second area where black and white consultative committees differ, is in terms of the union presence on these committees. We have noted in chapter 3 that white committees tend to be made up of white union members (Mine Workers Union or craft unions) or Officials Association members. Thus, management negotiates directly with these various bodies in the course of committee proceedings. The case with black committees is different. Most mine managements (including the four mines under review) have kept the N.U.M. out of the committee system, formally at least, thus attempting to reduce the influence of the N.U.M. on the mine. This factor will obviously affect the way whites perceive white committees, and the way blacks perceive the black committee system.

4.2.2 Research Findings and Evaluation of Research Findings

As indicated on Table 2, two research methods were employed to evaluate the perceived effectiveness of consultative committees:

- i) Pre-formulated interview schedules; and
- ii) Participant observation.

Each research method corresponds to a specific interest. Point (i) was used to evaluate the perception of committee members towards the system as a whole, whilst point (ii) was used to gain insight into the mechanics of group interaction.

The findings tend to indicate that committees were fairly similar across Mines A, B, C and D. Therefore, with regards to point (i), only the data from Mine C will be employed. The major area of interest here will be to highlight the difference that black and white workers have towards the committee system. The attitudinal component (figure 12) will however compare the differences in attitudes to participation between committee and non-committee members across all four mines.

As regards point (ii), the major area of interest will be in the field of group interaction, particularly with black/white, Chairman/group interface. The findings from both points (i) and (ii) are now presented.

4.2.3 Perception of Consultative Committee Members towards Participation : Quantitative and Qualitative Findings

Figure 10 indicates that quantitative analysis of black committee representatives' responses to the questionnaire on Mine C identified three problem areas.

- i) Management not being open to ideas and suggestions;
- ii) A failure to prepare important information prior to committee meetings;
- iii) Too much time being spent discussing unimportant issues.

Qualitative analysis of black committee representatives on Mine identified three problem areas. More notable however, was the large number of representatives who indicated that there were no major problems with the consultative committees on this mine (Table 9).

PROBLEM AREA

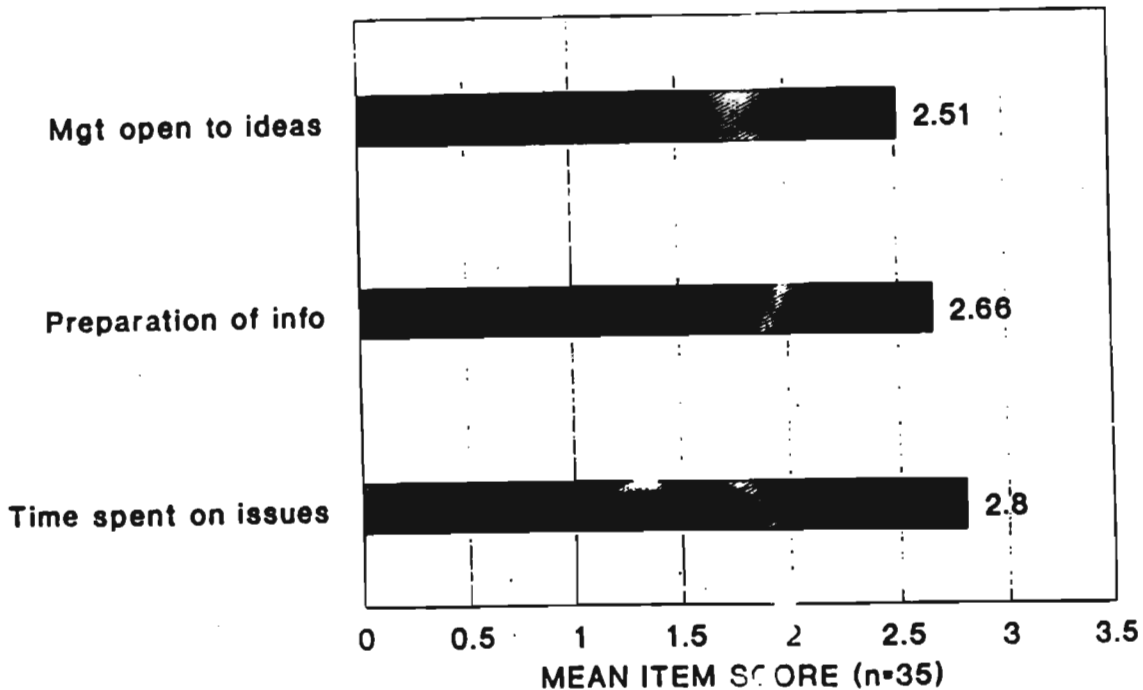


Figure 10: COMMITTEE EFFECTIVENESS (BLACKS) PROBLEM AREAS - MINE C

Table 9: MAJOR PROBLEM AREAS : MINE C (BLACKS)

- Management delays in solving problem issues	(7)
- Committee representatives are powerless, and are seen by workers as being ineffective	(6)
- Employees do not trust committees - representatives are seen as management puppets	(3)
- There are no major problems with the committees	(17)

Quantitative analysis of white committee representatives' responses to the questionnaire on Mine C identified four problem areas (Figure 11):

- i) The failure of management to act on committee recommendations;

PROBLEM AREA

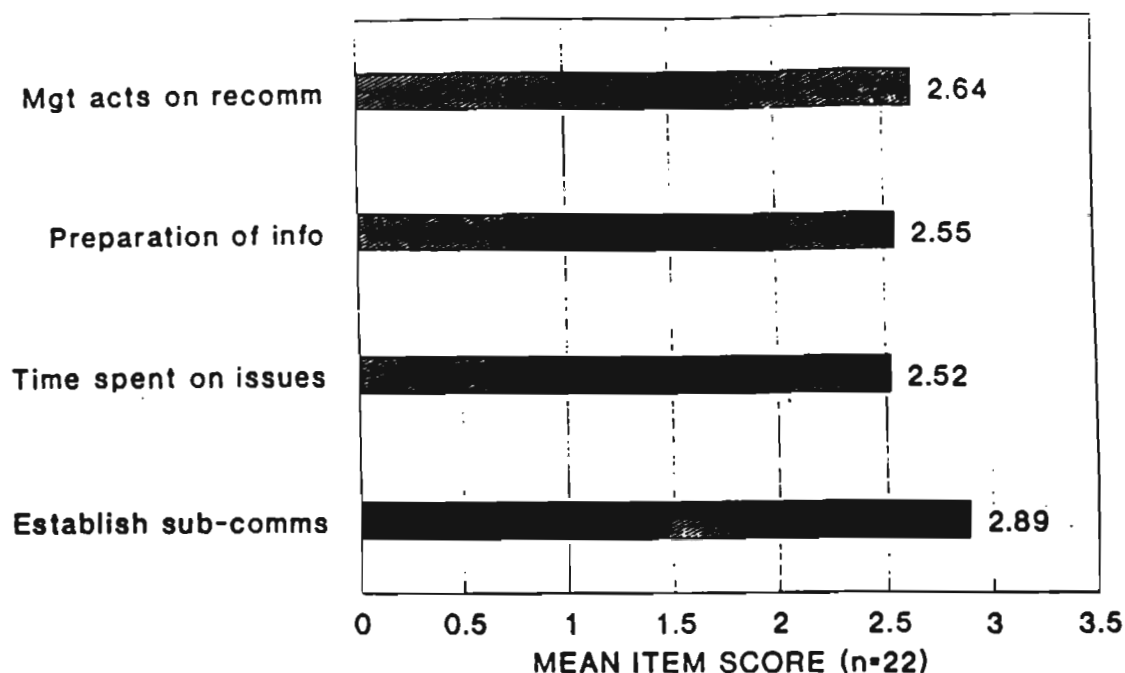


Figure 11: COMMITTEE EFFECTIVENESS (WHITES) PROBLEM AREAS - MINE C

- ii) The failure to prepare important information prior to committee meetings;
- iii) Too much time being spent discussing unimportant issues;
- iv) The failure to establish sub-committees to investigate and provide feedback on important issues.

Qualitative analysis of white committee representatives on Mine C identified four problem areas (Table 10).

Table 10: MAJOR PROBLEM AREAS : MINE C (WHITES)

Committees have little influence over management; committee ideas are too easily disregarded	(8)
Committee representatives are afraid to get on the wrong side of management; there is no challenge to management decisions	(2)

To summarise, the perception of black and white committee members show a lot of similarities in terms of perception towards the committee system (both with the quantitative and qualitative analysis).

Both black and white committee members ranked lack of attention by management to committee suggestions as the major problem with the committee system. Thus, the committee system was seen by both groups as being powerless and lacking any form of legitimacy. Whilst the data did not explore the issues of unionism, one may deduce from the above that trade unions are viewed both by black and white committee representatives as providing a more effective "pressure group" to management. One must however temper the above statement by noting that a big percentage of black committee representatives saw nothing wrong in the system (Table 9), i.e. it was viewed as being reasonably effective.

4.2.4 Attitudes towards Participation : A Comparison between Committee and Non-Committee Members across Mines

This section compares attitudes towards participation of committee and non-committee members (black and white employees together) for each mine.

The data suggests a fairly positive view of committees by the general sample (both black and white), whilst committee members themselves on mines A and B are negative towards participation, but more positive on Mines C and D.

Some background on these mines might help in interpreting this data. Mines A and B are considered to be "marginal mines"; that is, due to low productivity, workers are under threat of retrenchment. The personal function in particular has suffered from budget restraints, and this has obviously affected the degree of commitment to the mine in general and the committee system in particular.

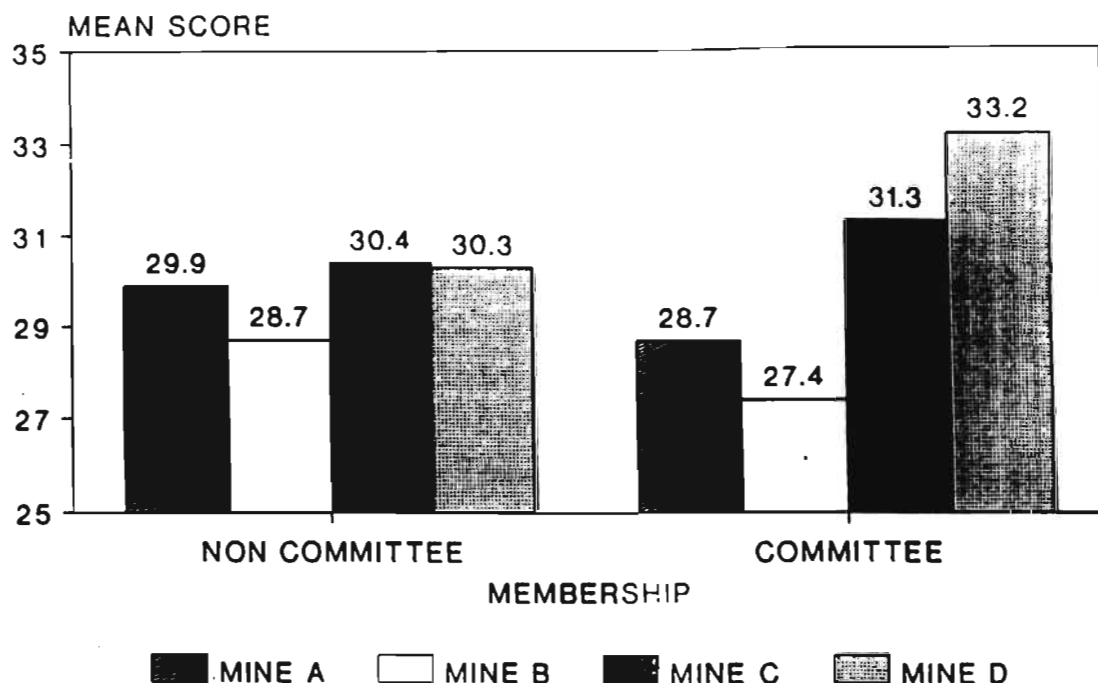


Figure 12: COMMITTEE AND NON-COMMITTEE REPRESENTATIVES' ATTITUDES TOWARDS PARTICIPATION

Mines C and D present a different picture. Productivity is good, and Mine D in particular has a very well developed committee system. Each year, the General Manager chairs an "indaba" lasting three days, and made up of the chairmen of all the committees on the mine. Here, policy issues that have not been addressed during the year are presented and solutions, where possible, implemented. The General Manager is considered to be a "man of action" - Mine D has one of the best safety records in the industry. Thus his demonstration of taking effective action on important issues raised in the consultative committee system is reflected in the high score achieved for attitudes to participation of committee representatives on this mine (Table 13).

The difference between committee members and non-committee members perception of participation also raises another issue. The profile one would expect is that of Mines C and D; that is, an involvement in committees would suggest a

greater degree of commitment to participation (as suggested in the data). Mines A and B present a reverse picture. Committee representatives on these mines are less positive to participation than the general sample on these mines, which suggests disillusionment with the committee system. The danger, therefore, in an ineffective system is that employees may withdraw from any active involvement in the enterprise.

4.2.5 Participant Observation Findings

Two training officers were placed as observers in committee meetings, and recorded their observation of the barriers to effective communications that occurred in these meetings. These barriers are recorded in Table 11.

Table 11: BARRIERS TO EFFECTIVE PARTICIPATION : FINDINGS OF PARTICIPANT OBSERVATIONS ACROSS MINES

BARRIERS	MINES			
	A	B	C	D
Environmental	Un-Satisfactory	Satisfactory	Satisfactory	Un-Satisfactory
Verbal	Bad	Good	Good	Bad
Interpersonal	Bad	Bad	Fair	Good
Procedural	Lacking	Good	Good	Lacking

An explanation of the term "barrier" is given below.

Environmental barriers to effective participation include physical discomfort (too hot, too cold), visual distractions, interruptions, noise and other external factors.

Verbal barriers arise when one person does not clearly explain something or does not know exactly how to say it effectively, eg. talking too fast, using jargon or technical terms which stop a message getting through. Words with unclear or conflicting definitions can also cause problems.

Poor listening is another kind of verbal barrier. One obviously cannot get the message across effectively if the receiver is not paying attention.

Interpersonal barriers occur when the receiver of a message has strong pre-conceptions and stereotypes regarding the sender. Negative stereotypes spuriously reduce the credibility of the sender's message and impede the free flow of communications.

Procedural barriers involve a lack of protocol in meetings. Impartiality and giving each member a fair chance of self-expression are most important in eliminating this type of barrier.

The distribution of barriers is indicated in table 11. What is apparent is that Mine A scores badly on all points, whereas Mines B, C and D are reasonably on most of the criteria. Rather than detail the differences between these four mines, a few general comments will be made on the nature of barriers within the context of committees.

All of the committees reviewed here are black committees. In terms of environmental barriers, it was clear that meetings were not held in suitable surroundings, which suggests initially that management had not afforded them the priority they deserve. In addition, the physical layout of these meetings does not lend itself to equal participation by all members. The chairman, who in most cases is white and a management representative, is usually seated in the centre of the room. Committee representatives are seated a row in front of him. On the one side sits an interpreter (who assists with difficult translations into Fanakalo), whilst on the other side are seated representatives from management together with observers¹⁰. The authority of management is thus reinforced by the nature of this physical layout. The relationships from the line are transferred directly into the

committee structures. This of course impacts interpersonal relationships in the group. Racial stereotyping is reinforced. White representatives, embodied in the chairmen, are viewed as the problem-solving component within the unit. Black representatives merely present grievances to the chairman.

Faced with these interpersonal barriers, it is hardly surprising that black committee representatives are reluctant to contravene these laid-down managerial procedures. Not only are they restrained by group norms¹¹, but also by the very real threat of management retribution if they raise controversial issues, particularly regarding personalities within management ranks¹².

Verbal barriers are also a significant factor in committees. The use of Fanakalo creates enormous difficulties for both the sender and the receiver. Whilst all management representatives in black committees (eg. chairmen) are fluent in Fanakalo, the inaccuracy of the language itself poses limitations on the nature of discussions that occur in these groups. In most cases, discussion involves committee representatives bringing grievances to management; very little in the way of problem-solving or "brain storming" occurs.

The inadequacy of committee procedures also has been noted (Figure 10). Whilst this was reported only on Mines A and C, the inadequacy of pre-preparation of information for use in meetings (Figures 10 and 11) suggests that an agenda is not set out clearly for each meeting. It also suggests that items on the agenda for forthcoming meetings have not been tabled and circulated in advance.

In conclusion, it appears from the data that both black and white committee representatives regard the system as inefficient. The reasons given are that interaction within

the group itself does not allow for the free facilitation of ideas, whilst managements' lack of attention to the issues raised in meetings suggests that the system lacks credibility, both in the eyes of the representatives and the general sample surveyed.

4.3 GENERAL EMPLOYEES : SURVEY FINDINGS

4.3.1 Introduction

The purpose of this segment of the research was to evaluate, using attitudinal scales, the participation "climate". By climate is meant the attitudes of both black and white workers at various levels in the organisation towards participation. Using four point Likert scales (see Annexure 2), workers were probed on areas that covered:

- management's commitment;
- workers' commitment to their jobs;
- perceived power;
- social need satisfaction;
- job satisfaction;
- job security;
- job pressure;
- attitudes to participation.

These scales are elaborated on below:

- i) Management commitment indicates the motivation levels of managers.
- ii) Workers' commitment to their jobs indicates the work motivation of employees.
- iii) Perceived power relates to the degree of control employees perceive themselves to have over their work situation.
- iv) Social climate/social need satisfaction refers to the perceived importance placed on and satisfaction with

interaction between employees in the mine environment.

- v) Job satisfaction refers to the degree to which people like/dislike their work and work conditions.
- vi) Job security refers to the degree of economic security or insecurity which workers feel in the work situation.
- vii) Job pressure described the amount of workload which employees feel is placed upon them.
- viii) Attitudes to participation evaluates propensity to participate.

Using these scales as a basis for probing the participation climate on the four mines, four variables were able to be identified and used as a basis for conceptualising the data.

The four variables are:

- i) Inter-mine, and intergroup comparisons.
- ii) The effects of trade unions.
- iii) The effects of job structure.
- iv) The effects of racial factors.

We will now examine each of these variables and their effect on the participation climate.

4.3.2 Inter-Mine and Inter-Group Comparisons : Attitudes towards Participation

Table 12 indicates top managements', committee members' and general employees' scores on the propensity to participate scale.

Table 12 shows that top management are in favour of participation, as are general black employees. White employees were less in favour of participation, and in particular, white committee members expressed a hesitancy to participate, as evidenced by their markedly lower score on the participation scale.

Table 12: ATTITUDES TOWARDS PARTICIPATION (COMBINED MINES)

Top Management 30,8 N = 42	
Committee Whites 26,8 N = 49	Committee Blacks 30,3 N = 78
General Whites 28,1 N = 57	General Blacks 31,1 N = 352

Table 13: ATTITUDES TOWARDS PARTICIPATION (SEPARATE MINES)

	Mine			
	A	B	C	D
Top Management	30,8	29,9	31,5	31,0
Committee Whites	25,9	25,3	29,3	28,1
Committee Blacks	30,3	29,8	32,6	31,8
General Whites	30,1	27,2	27,4	28,0
General Blacks	29,9	29,0	30,8	30,8
Overall Mean	29,5	28,4	30,7	30,2

Table 13 reveals that top management on Mine C and Mine D are most in favour of participation as is demonstrated by the fact that they obtain the highest scores on the participation scale. This is also reflected in scores of lower ranking groups. Mine B management are least in favour of

participation, and this is also reflected in less favourable attitudes towards participation expressed by lower ranked employees on this mine.

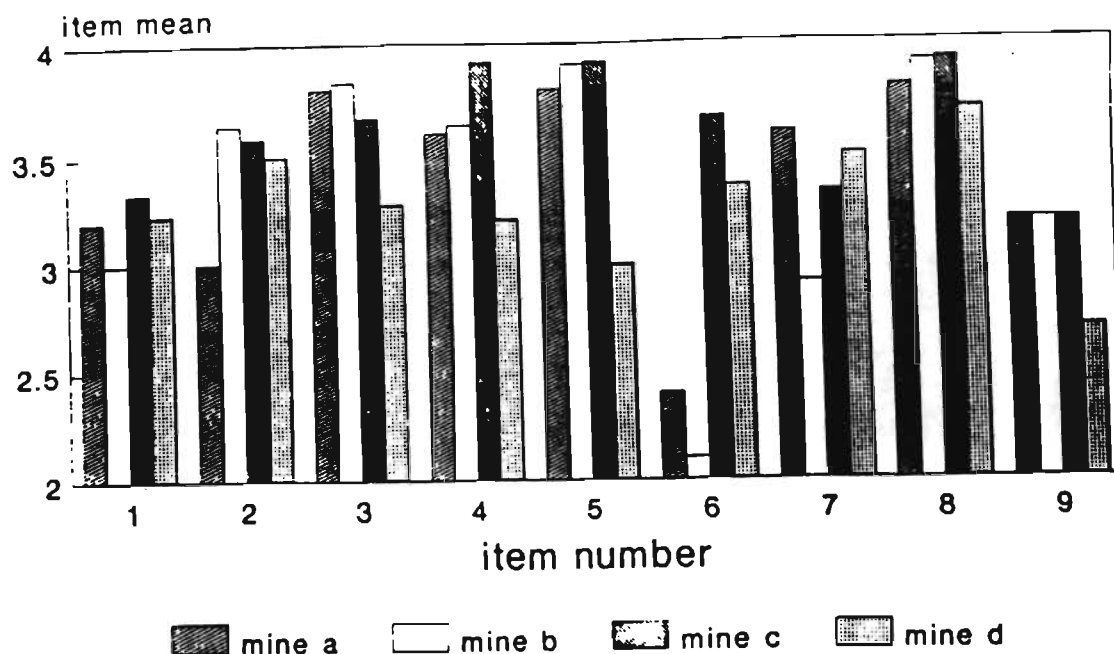


Figure 13: ATTITUDES TOWARDS PARTICIPATION : TOP MANAGEMENT ACROSS MINES

An item by item analysis of top management's responses on the participation scale across mines suggests that item 6 is responsible for decreasing the average scores of Mines A and B. This item relates to management's right to impose their own solutions to problems on the mine. Managers on Mines C and D were fairly flexible about this issue, whereas managers on Mines A and B felt more strongly that they had the right to impose decisions on employees. Generally, however, it could be said that top management across mines were in favour of participation.

4.3.3 Trade Unions : the Influence of Trade Unions in Participative Programme Success

Figure 14 indicates that unionised and non-unionised black

employees perceived general workers' commitment to their jobs to be stronger than did white employees (unionised plus non-unionised). Unionised black employees scored marginally higher than the other groups.

Table 14: SAMPLE SIZES FOR THE UNION/NON-UNION GROUPS

Group	Sample Size
Non-unionised black employees	319
Unionised black employees	102
General white employees (Unionised and non-unionised)	91

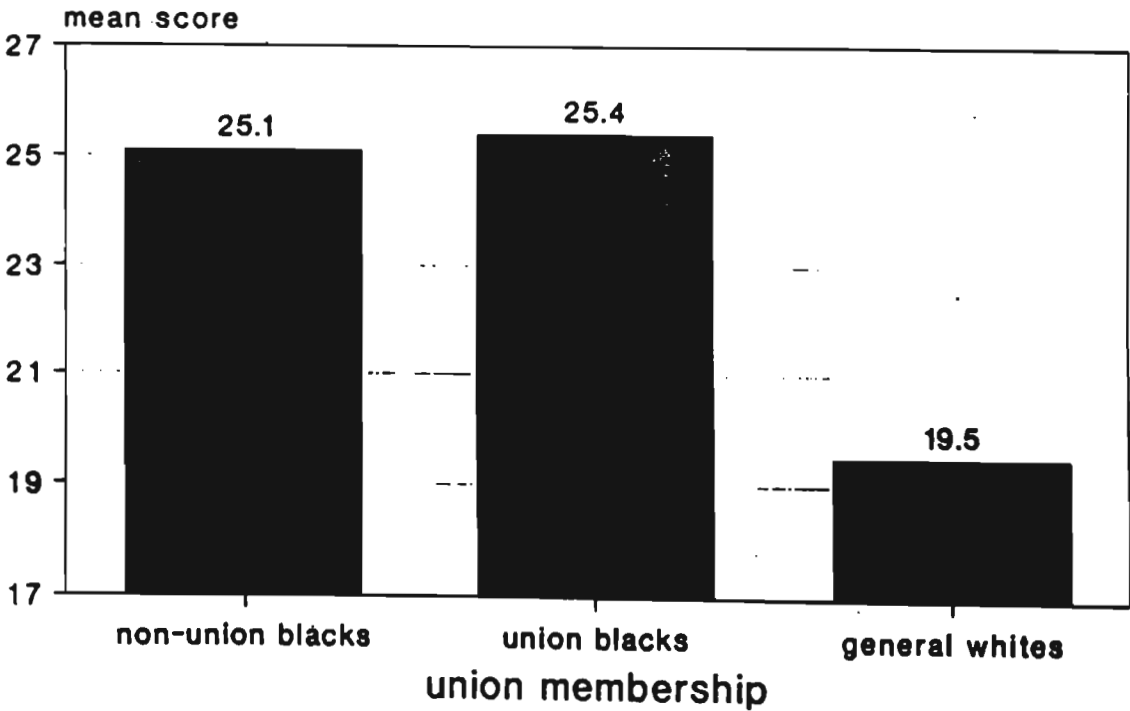


Figure 14: WORKERS COMMITMENT TO THEIR WORK: UNION/NON-UNION PERCEPTIONS

Unionised and non-unionised black employees expressed a stronger desire for a good social climate than did white employees. Unionised black employees scored the highest of the three groups on this scale (Figure 15).

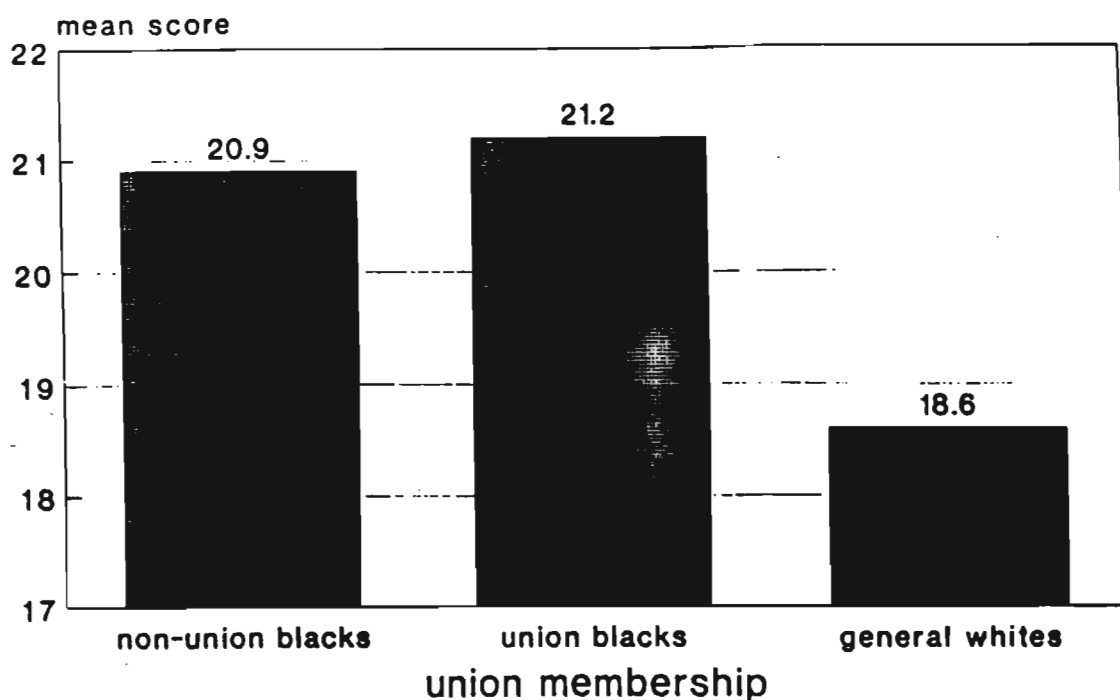


Figure 15: SOCIAL NEED SATISFACTION: UNION/NON-UNION EMPLOYEES

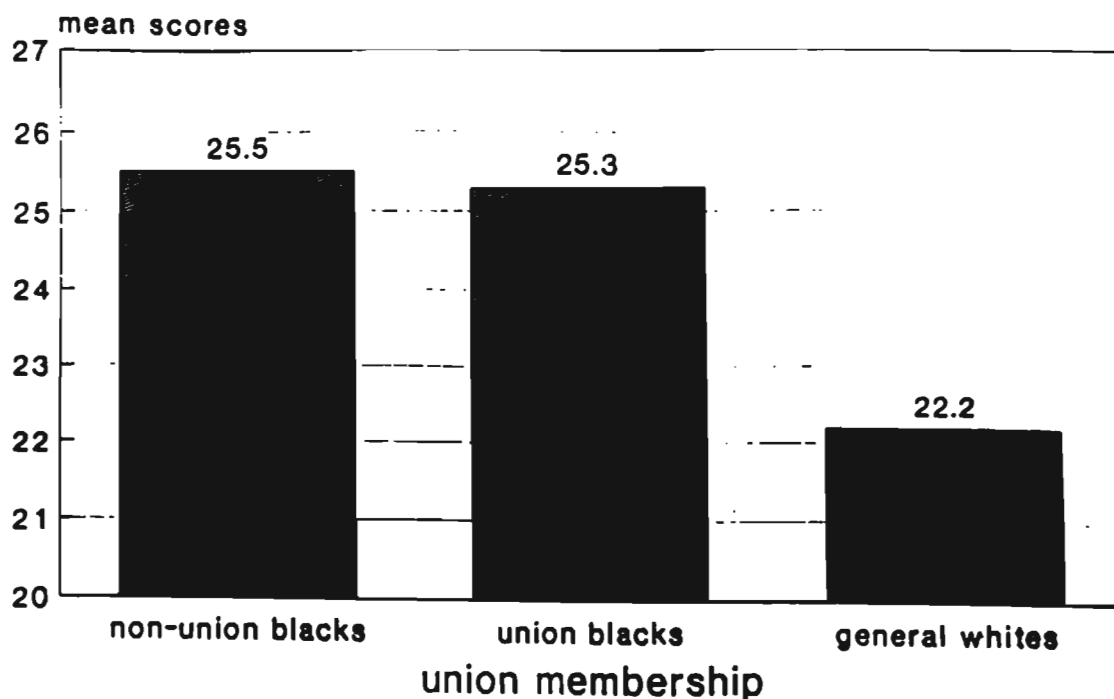


Figure 16: ECONOMIC INSECURITY : UNION/NON-UNION EMPLOYEES

Unionised and non-unionised black employees expressed a

greater degree of economic insecurity than did white employees (Figure 16)

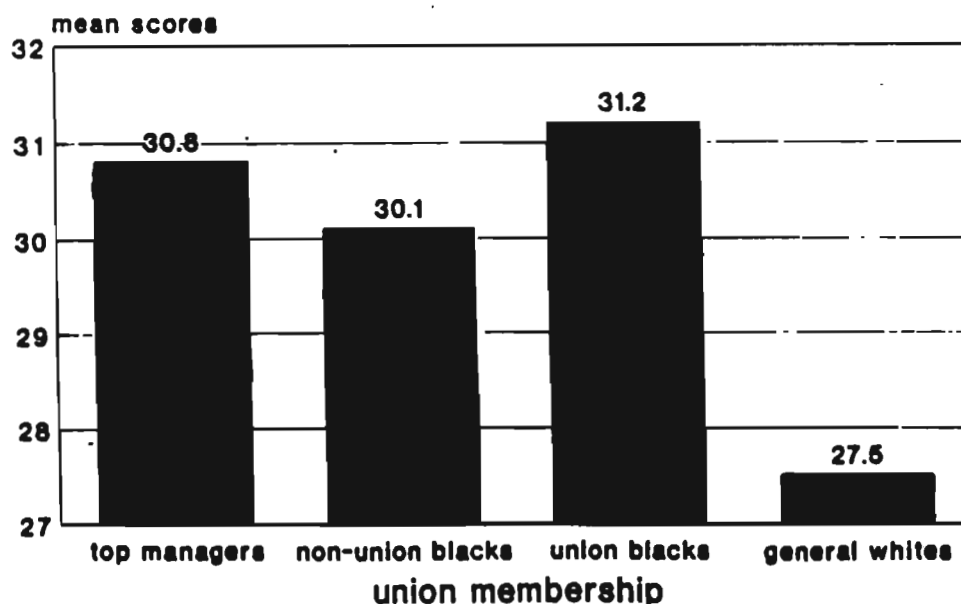


Figure 17: ATTITUDES TOWARDS PARTICIPATION: UNION/NON-UNION EMPLOYEES

Figure 17 indicates that unionised black employees in particular expressed a strong desire to have a greater say in decision-making. White employees, however, were more cautious about participation.

To summarise, a number of different groups exist in the mining situation, eg. top management, unionised/non-unionised employees, blacks and whites, etc. Clearly, the different perceptions of these groups relates to their relative positions in the hierarchy and the potential benefits or disadvantages participation will have for them.

4.3.4 Job Structure : the Effects of Job Structure on Participation

Table 15 gives job categories, abbreviations (codes) and their respective sample sizes.

Table 15: JOB CATEGORY SAMPLE SIZES AND CODES

JOB CATEGORY	CODE	SAMPLE SIZE
Mine overseer	MO	7
Shiftboss	SB	45
Miner	MI	14
Artisan	ART	22
Team leader	T.L	95
Artisan aide	A.A	30
Mechanical workers (eg. drillers, winch operators, loco crews)	MW	147
Unskilled workers (eg. lashers, general labourers)	US	149
White clerical workers	CLW	3
Black clerical workers	CLB	3

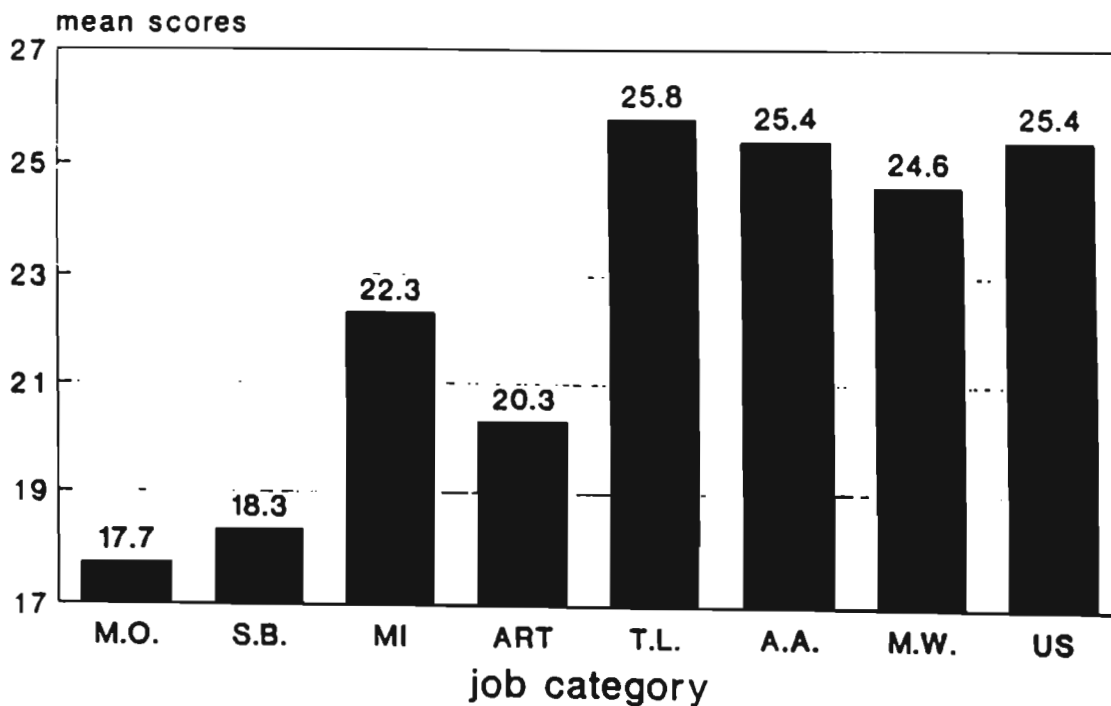
Figure 18: WORKERS COMMITMENT TO THEIR WORK: PERCEPTIONS ACROSS JOBS

Figure 18 shows that mine overseers, shiftbosses and artisans perceived employees on their respective mines as being the least committed or motivated, while black employees were much more positive in their assessment in this regard.

Figure 19 indicates that mine overseers, shiftbosses and artisans scored lowest on the social need satisfaction scale, while black workers across all categories expressed a strong desire for a good social climate.

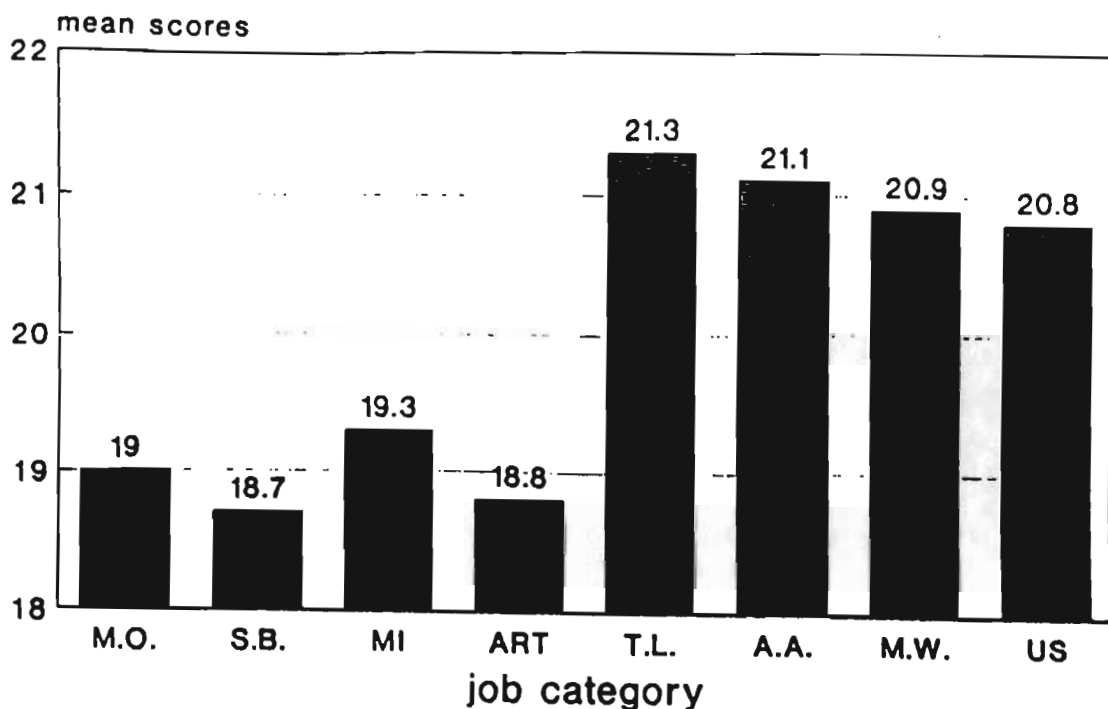


Figure 19: SOCIAL NEED SATISFACTION: PERCEPTIONS ACROSS JOBS

Shiftbosses, miners and artisans were relatively cautious about participation, while both black and white clerical workers had particularly positive attitudes towards participation. Black employees in general had positive attitudes towards participation.

To summarise, lower management/white supervisors are negatively disposed towards participation, while top management and black employees in general are positive towards it. This suggests a "bottle neck" situation, where

the drive by management towards participation could be sabotaged by the white lower level management group.

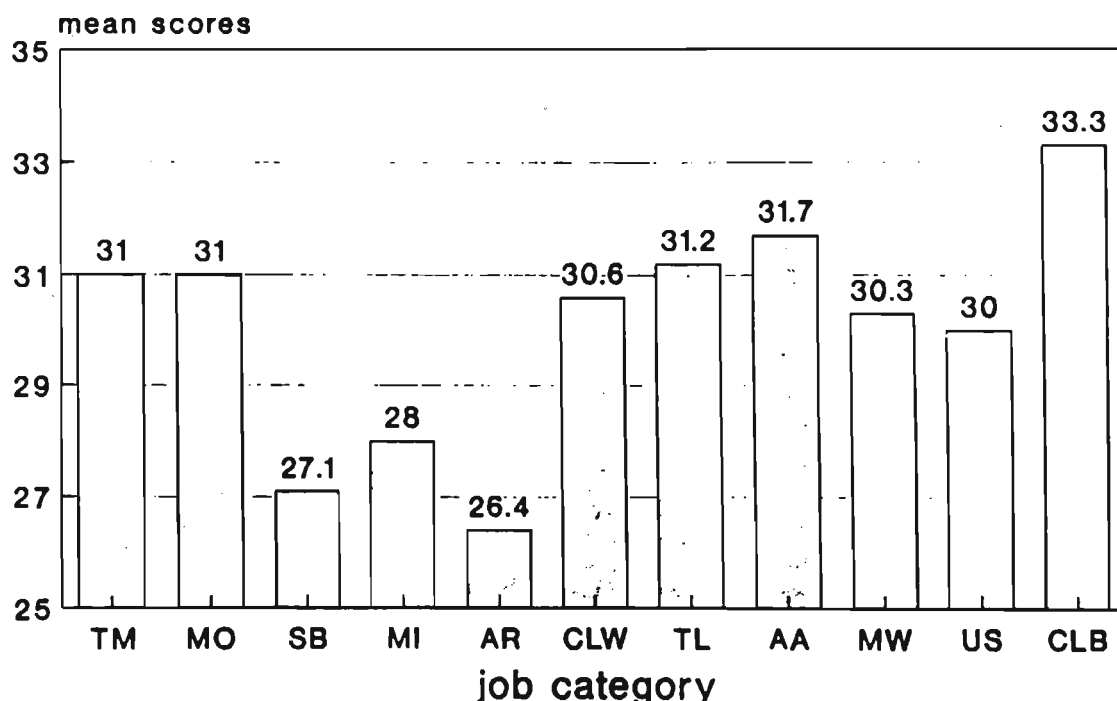


Figure 20: ATTITUDES TOWARDS PARTICIPATION: PERCEPTIONS ACROSS JOBS

4.3.5 Racial Factors: Inter-racial factors influencing the success of participation

Black employees perceived employees on their respective mines to be more committed than did white employees across all the mines surveyed. Mines C and D scored higher than Mines A and B for both groups (Figure 21).

An item breakdown of the worker commitment scale across race groups showed the white employees scored less than black employees on all items (Figure 22).

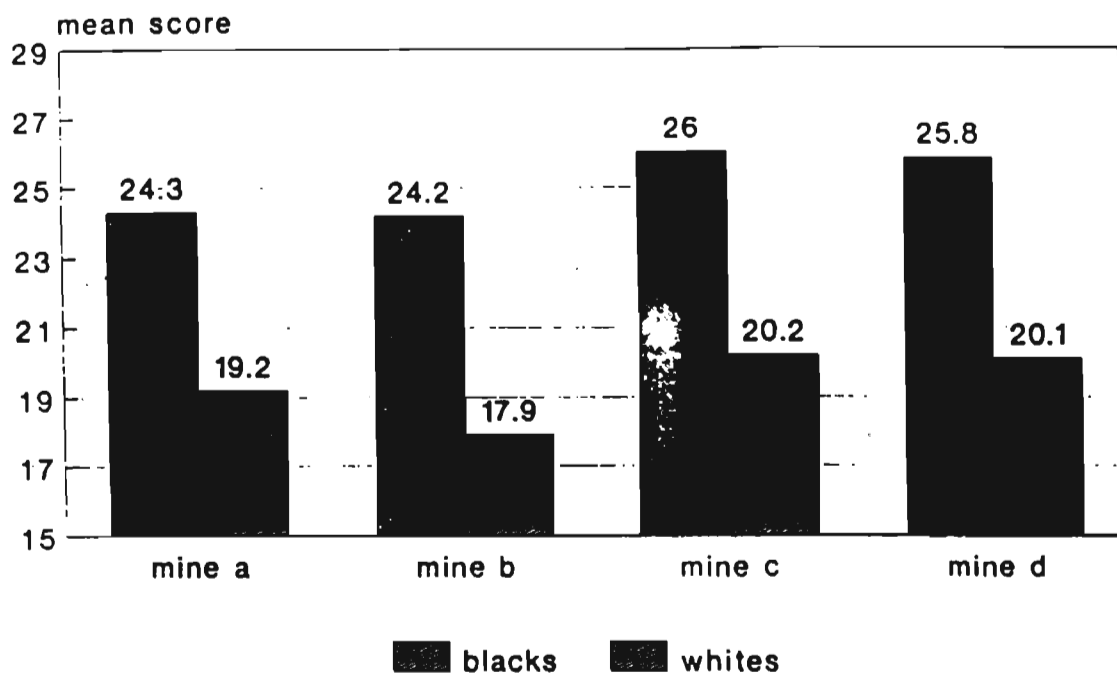


Figure 21: WORKERS COMMITMENT TO THEIR WORK: PERCEPTIONS ACROSS RACE GROUPS

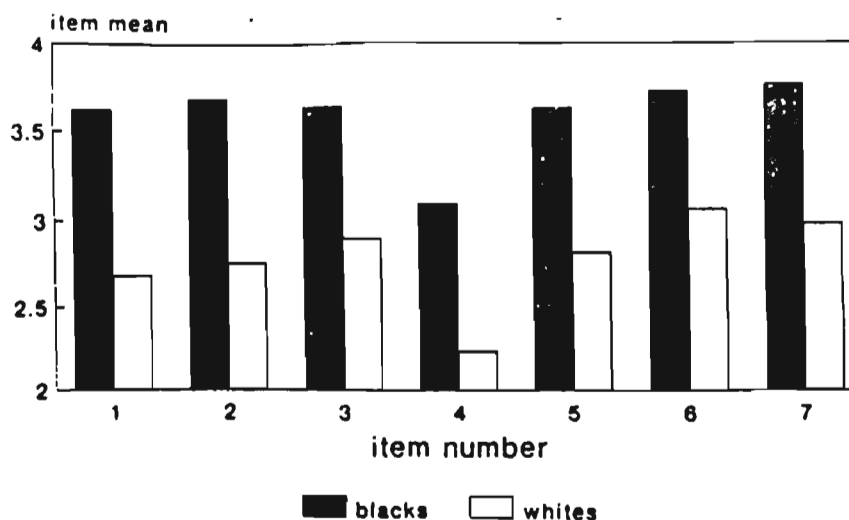


Figure 22: WORKERS COMMITMENT TO THEIR WORK: PERCEPTIONS ACROSS RACE GROUPS (ITEM BREAKDOWN)

Black employees expressed a stronger desire for a good social climate than did white employees across all mines (Figure 23).

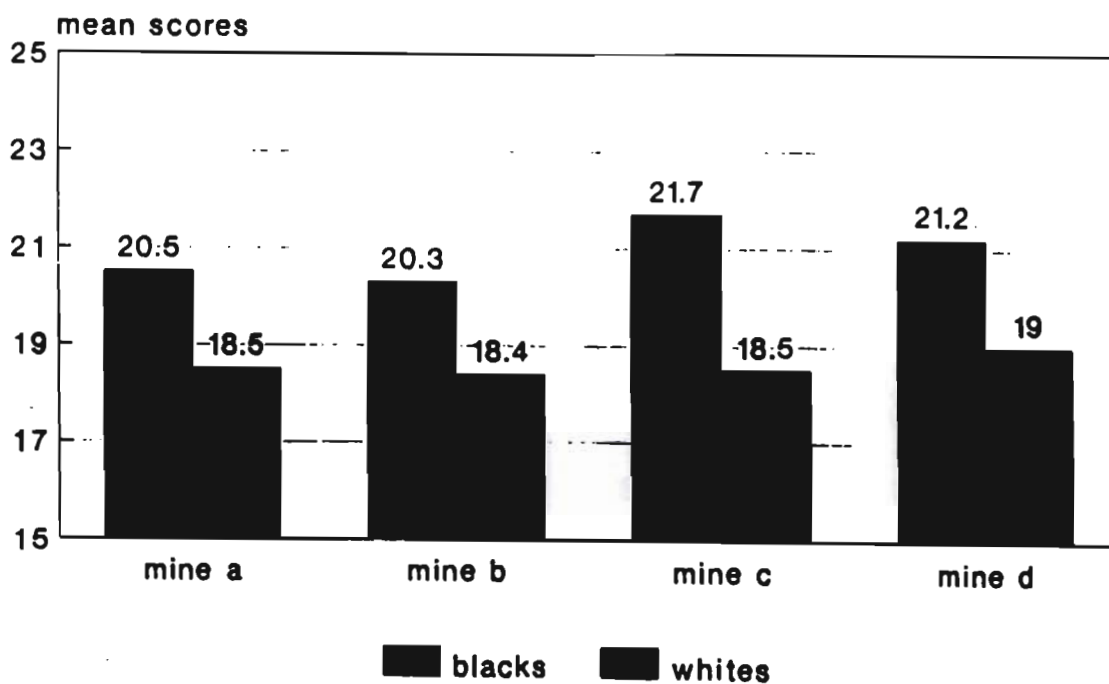


Figure 23: SATISFACTION OF SOCIAL NEEDS: PERCEPTIONS ACROSS RACE GROUPS

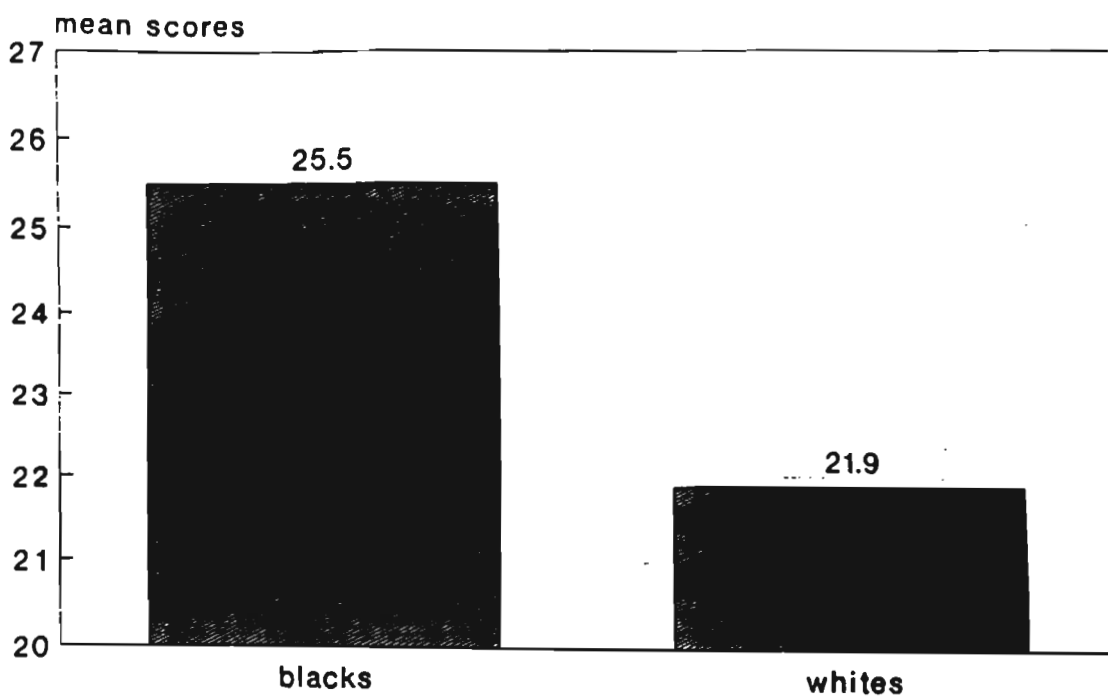


Figure 24: ECONOMIC INSECURITY: PERCEPTIONS ACROSS RACE GROUPS

Black employees felt a higher level of job insecurity than did white employees (Figure 24).

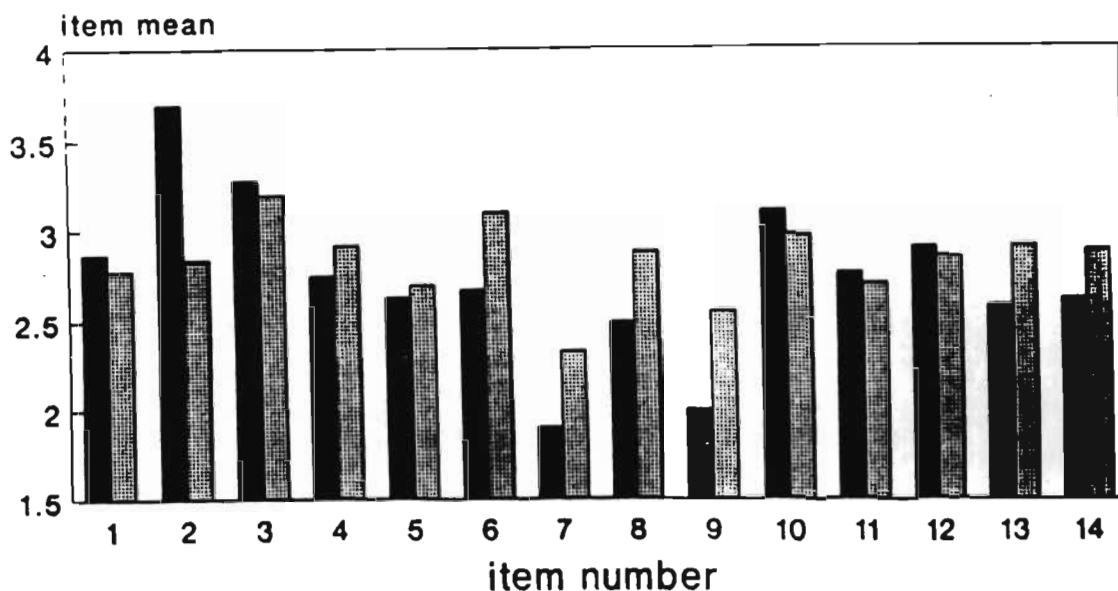


Figure 25: JOB SATISFACTION: PERCEPTIONS ACROSS RACE GROUPS

Figure 25 shows an item breakdown of the job satisfaction scale across race groups. This reveals that black employees are less satisfied than white employees with the amount of responsibility given to them (item 6); with their rate of pay (item 7); with promotion opportunities (item 9); and with the amount of variety (item 13), and security (item 14) in their jobs.

Black employees had favourable attitudes towards participation on all mines surveyed. However, black and white employees on Mine B were least favourably disposed towards participation (Figure 26).

An item breakdown of the participation scale shows that black and white employees differ most on item 6 (management's right to impose their own solutions to problems on the mines). White employees were in favour of this, while black employees were against it (Figure 27).

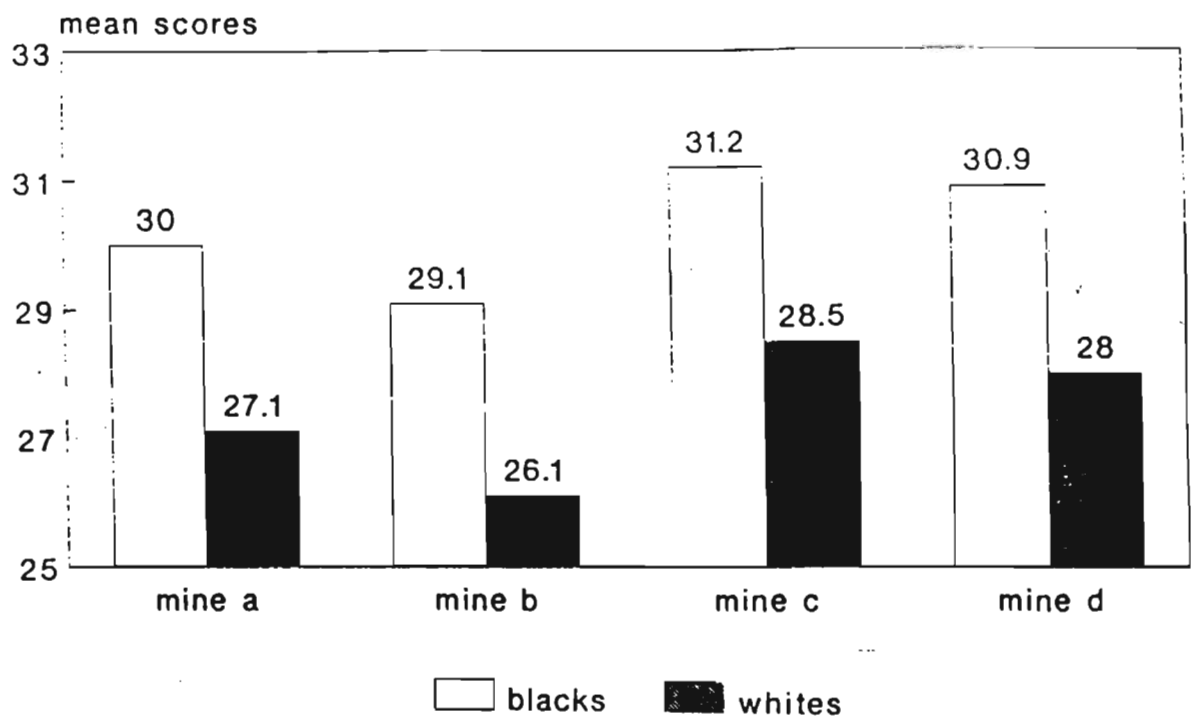


Figure 26: ATTITUDES TOWARDS PARTICIPATION: PERCEPTIONS ACROSS GROUPS

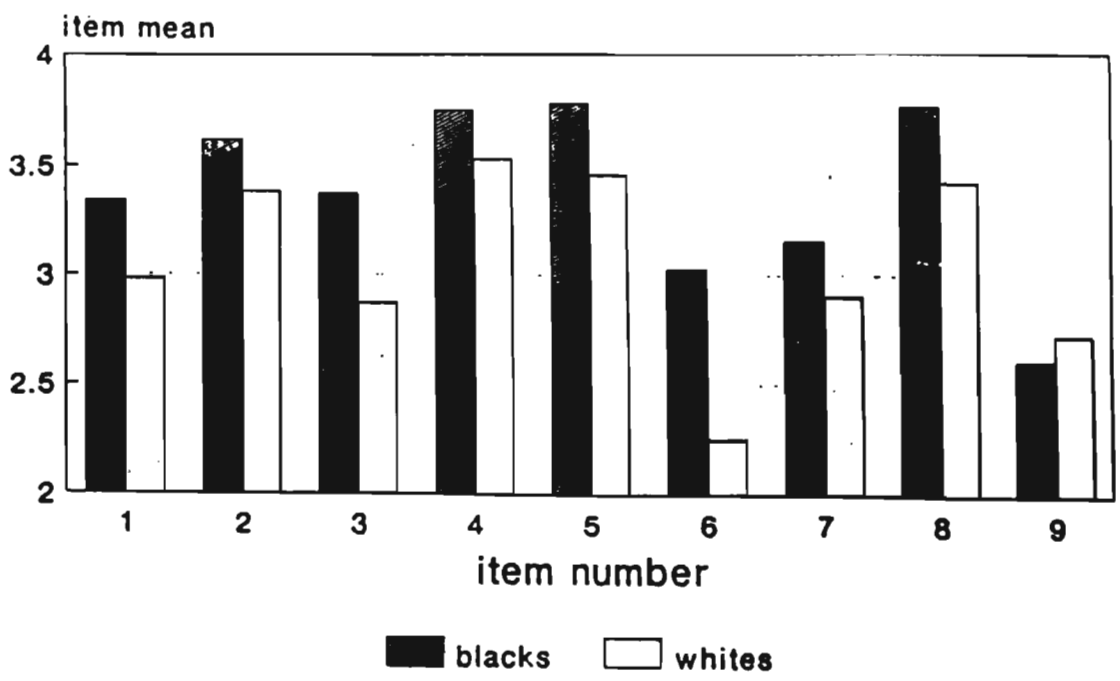


Figure 27: ATTITUDES TOWARDS PARTICIPATION: PERCEPTIONS ACROSS RACE GROUPS (ITEM BREAKDOWN)

To summarise the findings of section 4.3.5, black employees were favourably disposed towards participation. In particular, they felt that they did not have enough responsibility, variety, pay and promotion opportunities, and wanted to have more say in decision-making.

5. SUMMARY

The major findings from the top management, consultative committees and general employees will now be discussed.

5.1 Top Management

Regarding the rationale for participation, managers almost universally gave as their primary reason, the need to engage employees more in the decision-making process. This was, however, offset against a caution of the rigidity of the structures found on gold mines. There were noticeable differences between departments. Production managers tended to be more conservative in their views than service departments. These results are not surprising. Engineering departments saw participation as inherent to their work practices (the apprentice system is an example), whilst personnel and administrative departments tended to be the most participative. An explanation given for the latter was that educational levels tend to be higher in personnel than for both production and engineering. In addition, the nature of personnel work allowed for more meetings and exchange of ideas than does the underground work environment.

In terms of perceived "barriers to participation", the two that emerged were "attitudes" and "organisational structures". These findings suggest something of a chicken and egg scenario. Do attitudes influence structures, or is it the other way around? We have noted that organisational structures on gold mines are long and cumbersome, and the

long winded, bureaucratic nature of communications within these structures reinforces the autocratic, non-participative traditions in the line. But equally important are the attitudes of the white, lower level management. The inherently conservative nature of this group could potentially block participation in decision-making by rank and file workers. Senior management are aware of this problem, and these findings were expressed in the open-ended responses.

Training in participative techniques, we noted, were inadequate, however the fact that all senior, and some middle and lower level managers, were exposed to the seminars by Koopman, as well as the "Models for Management" course, show that at head office level there is a clear signal for the development of a more participative approach on gold mines. The problem however, as perceived by managers on the mines surveyed, is that an effective participative model for gold mining has yet to be found.

5.2 Consultative Committees

Consultative committees are regarded by the participants themselves, as well as the general sample, as an inadequate forum for participation. However, where committees were operating in a more effective way (such as Mine D), the perceptions were slightly more positive. It would appear therefore, that the criteria employees in general hold for evaluating these committees, is the degree to which they can be seen to be solving problems and taking action on issues raised. This appears to be the strongest reason given by employee evaluation of these committees.

This view has further been strengthened by other research findings (Mitchell & Daynes¹³, McNamara¹⁴). The reasons why committees fail to meet these criteria would appear to be; lack of management action on issues brought up by committee

members, poor interpersonal communications in the group due to: the use of Fanakalo as a language medium, poorly formulated agendas, lack of assertiveness of black committee representatives, and the excessive amount of authority vested in the chairman (who in all cases was a white representative of management).

Thus, the credibility of the committee system would appear to be unaffected by external issues (such as strong trade union presence on the mine), but rather by inadequacies within the mechanics of the system itself.

5.3 The General Sample

The data in this section was analysed by using four variables, viz.

- i) Inter-mine comparison;
- ii) The effect of trade unions;
- iii) The effect of job structure;
- iv) The effect of racial factors.

In terms of inter-mine comparisons, the most noteworthy findings are on attitudes to participation. Thus, the marginally higher scores on the participation scale for managers on Mines C and D reflect lower down the hierarchy. This is consistent with the literature¹⁵, which suggests that for participation to be effective, top management support is vital.

The effects of trade union membership for black employees does not have a significant effect on scores on the scales used. Thus, both union and non-union black employees receive similar scores for commitment to their work, social needs satisfaction, and economic insecurity. However, black union members are slightly more positive towards participation than non-unionised employees. This would suggest that

unionisation gives raised expectations for control in the workplace. It is also in line with the more democratic processes found within the unions themselves¹⁶.

Job structure has a marked impact on all the scales used. In terms of commitment to their work, all the skilled and semi-skilled job categories show a strong degree of commitment (team leaders, mechanical workers, artisan aides), whilst the converse is true for the supervisory group (mine overseers, shiftbosses and miners). These differences are repeated with the social needs satisfaction scale. However, with attitudes towards participation, there is some variation in the above pattern. Lower level supervisors (miners and shiftbosses) are less positive towards participation than team leaders, shiftbosses, semi-skilled underground workers and clerical workers.

These findings once again suggest that the semi-skilled and unskilled black group are positive towards participation, whilst the lower level white supervisory group are negative towards participation. Whilst the scales examine job categories, one cannot help but notice that racial factors are apparent in all the scores. Thus, on all the scales used, and with all job categories, whites consistently score differently to blacks.

It is therefore self evident that racial differences are evident on the results of all the scales used. Black employees are more committed to their work, have a greater need for satisfaction of social needs (a need to belong), experience greater economic insecurity, and are more positive towards participation. These results reflect the position black employees occupy in gold mining. As migrants, their position is economically insecure, their need for belongingness stems from a life of isolation in single sex hostels removed from family and friends, and their desire to participate stems from a system which, until recently, has

shut them out of any active involvement in the decision-making process of the organisation.

It is however noteworthy that senior management are aware of this phenomenon, and are beginning to pay attention to the incorporation of black rank and file workers into the decision-making process on mines.

6. NOTES

1. Mitchell, G., Coldwell, D.A.L., Barnes, N.R., White, J.A.R., Khoza, E.H. and Seleka, F. "Barriers to Participation" Unpublished Chamber of Mines Research Report Johannesburg, 1988.
2. All of the mines under review had signed recognition agreements with the N.U.M., however membership at that stage was small.
3. The particular research methods were chosen for the following reasons. With such a large sample, it was necessary to gain an insight into both the "climate" of opinion of a stratified sample from each mine, as well as to explore in-depth aspects of particular populations: viz. top management and consultative committee members. It was with this in mind that the research methods were developed.

Top management was researched by using a structured questionnaire (see Annexure 2) which contained both open and closed ended items. Each manager was interviewed by a panel of researchers for one hour's duration. The emphasis with top management was to explore the qualitative aspect of the data. Each of the researchers involved wrote notes during the interview and these were correlated in the research findings. The top management sample covered the entire senior management on each mine (departmental head and above).

The general sample was selected on each mine from computer records in the personnel division. This was a randomised/stratified sample. In practical terms, this was achieved by randomly selecting employees within each job category by computer (Company) number. Each selected individual was therefore brought forward to be interviewed at the appropriate time.

Interviews for black employees were conducted by a team of experienced interviewers from C.O.M.R.O. who were all fluent in the languages spoken by the interviewees. Each interview was conducted in private on each of the mines under review. The questionnaire developed for the project comprised scales (see Annexure 2) which, aside from the Participation scale, had all been used on previous studies for C.O.M.R.O. and had therefore been subject to tests for reliability and validity (see Barns, N. "Factors Affecting the Safety Climate on Gold Mines", unpublished Phd thesis U.N.I.S.A. 1989). Statistical analysis of the data obtained from the study included frequency distributions, one-way analysis of

variance and significance tests.

In the case of the white general sample, data was obtained by self completion. This method is less reliable than the interview, however practical restraints precluded the use of interviews.

The use of scales raises the issue of epistemology. It is not my intention to enter into the debates around the "positivist-phenomenological" continuum regarding method; this has been covered extensively in the literature (see Bulmer, M, Sociological Research Methods MacMillan, 1984), however the choice to use this quantitative method was made in order to compare opinions across a large population and a qualitative method in the case of the general sample would have been inappropriate.

Participant observation was used as one of the methods to observe participative group processes. This part of the research was carried out by an experienced black training officer, who had previously worked for ten years in a training capacity and was therefore ideally suited to assess the effectiveness of this small group interaction.

During the research project, all of the researchers involved were resident on the four gold mines in total for six weeks, and data such as Company records, etc. were scrutinised in detail as background material.

To summarise, the research method included structured interviews, self completion interview schedules, participant observation and access to Company material (historical data). In addition, underground visits were arranged and many informal contacts above ground added to the richness of the data.

Whilst I was responsible for co-ordinating the project, the contribution of the other research team members must be acknowledged; David Coldwell for advice and support, Neil Barnes for interpreting the statistical data in the general questionnaire, Chalky White for interpreting the committee effectiveness questionnaire, Edwin Khoza for conducting the participant observation study, and finally, the interviewing team for conducting the interviews.

4. Finnemore, M. and Pallit, L. "Recent Developments in health and Safety Agreements at the Workplace in South Africa" in Industrial Relations Journal (S.A.) 2nd Quarter, 1987.
5. See Marchington, M. "The Four Faces of Employee

- Consultation" in Personnel Management U.K. May 1989, and Sell, R. "Employee Involvement - a Strategy for British Success?" in Personnel Management U.K. June, 1986.
6. Albert Koopman had recommended to the industry that they restructure the mining hierarchies. This proposal had been considered impractical by mine management (personal communication with Mine Management).
 7. "Models for Management" is an American developed training course in participation. Developed by Hall, J.
 8. Dore, R. British Factory - Japanese Factory George Allen and Unwin, London, 1973.
 9. Moodie, T.D. "The Moral Economy of the Black Mine Workers Strike of 1946" Journal of Southern African Studies Vol.13, No.1, 1986.
 10. I attended two consultative committee meetings and made these observations.
 11. Group norms have been studied extensively for the effect that they have on individual consensus within the group. see Argyle, M. The Social Psychology of Work Pelican books, U.K., 1972 (p130-133).
 12. In conversation with a mine overseer, who chaired black committee meetings, I was told that representatives often disguised the nature of the problem raised if it involved a representative of management. This was obviously out of fear of reprisals from management.
 13. Mitchell, G. and Daynes, M. "Participation audit on one Gold Mine" Unpublished Chamber of Mines Report C.O.M.R.O. Johannesburg, 1987.
 14. McNamara, J.K. "Social Life, Ethnicity and Conflict in a Gold Mine Hostel" M.A. University of Witwatersrand, Johannesburg, 1978.
 15. see: Walton R. "From Control to Commitment in the Workplace" Harvard Business Review, U.S.A. 1985 (March-April).

16. Arnott, A. "The August 1987 Strike at Randfontein Estates Gold Mine. A Case Study in Trade Union Democracy" B.A.(hons) dissertation, University of Witwatersrand, 1987.

CHAPTER 5: QUO VADIS?

1. SUMMARY AND OVERVIEW

Managerial control in the South African Gold Mining Industry has developed in a distinct manner, shaped by both the needs inherent in the industry as well as by intellectual and managerial traditions borrowed and adapted from the major industrial powers.

The early part of the century saw the period of "primitive accumulation" characterised by the three objectives of obtaining capital to finance mining, the importation of technology needed to engage in deep level mining, and the control of the supply of labour to the mines by such measures as the Land Act and later the Pass Laws. Although the mining houses and the State were often at loggerheads, in regards to the supply of labour, most evidence points to a collusion of interests (Webster¹, Callinicos², Bozzoli³).

In the nineteen thirties and forties, management attempted to place the control of labour on a more rational footing, thus introducing the principles of scientific management. For a period of time, scientific management proved to be suitable for the control of the labour process in gold mines. The reasons for this were threefold: firstly, the mining process itself went through very few adaptations in the first part of this century (the process of ore recovery is still much the same today as it was at the turn of the century); secondly, the unchanging nature of the technology used did not disturb the organisation of work; thirdly, the bulk of the labour complement was made up of unskilled workers who were allocated repetitive tasks that hardly changed from year to year. These factors allowed scientific management to become entrenched in both the organisation of the work process and the managerial and supervisory style.

The human relations movement and the sociotechnical traditions are more recent innovations in gold mining. The human relations movement grew out of the personnel departments, which prior to the nineteen sixties had largely performed an administrative function. The human relations movement, which has greatly been strengthened by increasing conflict on gold mines in the 1970's (and hence the need for industrial relations departments) together with the formation of the N.U.M. in the 1980's, had focused its attention on the inter-personal and motivational aspects of the labour process: this has largely been in response to a realisation on the part of management of the growing polarisation between labour and capital. The organisational aspects of the labour process have however remained determined mainly by the technology employed, hence the dominance of work arrangements that approximate the scientific management principles; low level skills, rigid vertical structures, and little interchangeability of tasks amongst work group members.

The introduction of new and upgraded technology into the labour process has challenged, to some extent, the scientific management paradigm, especially regarding the organisation of work. Upgraded technology (hydraulic rock drill, backfill system) has forced management into including rank and file workers more into the labour process, as technology transfer has proved to be a far more difficult goal to achieve than was initially anticipated by senior management in the industry. Thus, new work organisation around technology, such as the backfill system, has been proposed⁴. Such new models emphasised multi-skilled teams as opposed to narrow specialisms, which has been a feature of organisational design of the industry in the past. Similarly, new technology, such as trackless mining, has completely changed the nature of the labour process. Not only has new technology affected job design (the replacement of the miner, team leaders and gang with skilled machine operators), but the motivational nature of supervision has also undergone

major changes. The supervision of skilled machine operators under trackless mining is substantially different to the supervision of a gang of unskilled workers under traditional mining methods. These difficulties have already been encountered by mining groups that have begun moving over to trackless mining systems⁵.

In its search for new models of labour process control, senior management in the industry in the 1970's turned towards the United States and Europe for models which might be applicable to the South African situation. Participation as a concept therefore emerged, borrowed in part around the quality circles movement, which addressed the issue of productivity, and some form of consultation which was thought appropriate in the industrial relations arena. The adaptation of quality circles on gold mines took the form of value circles, whilst consultation emerged in the form of consultative councils and worker councils.

An examination of participation in chapter 4 revealed that attempts at adapting these models to the industry was a difficult goal to achieve. In particular, the set traditions in gold mining have had many years to become "frozen" in, and it is only the crisis that faces management today in the form of diminished productivity, escalating industrial conflict and the transfer of new technology, which is paving the way for a new model of industrial relations and labour process control in the industry.

2.1 THE "NEW SOUTH AFRICA" : ECONOMIC AND SOCIAL PARAMETERS

This dissertation has focused its attention on the internal forces of the organisation as agents of social change, with particular reference to the "moral economy" as defined by Barrington-Moore⁶. However, the dramatic events that have occurred since February 1989 when President de Klerk unbanned all opposition movements in the country, thus "normalising"

the political process, cannot be ignored when identifying the new forms of managerial control that are likely to emerge in the 1990's and beyond. The new economic and political order is certainly going to impinge on managerialism in South Africa and in gold mining in particular. It therefore seems pertinent to define in broad terms the parameters of economic and social policy that are likely to present in the next decade, and attempt to see how these parameters are likely to affect social and economic policy, and ultimately the nature of managerial control. A model (Figure 28) is presented which categorises economic models from the "left" to the "right" ends of the spectrum.

Centrally Planned Economies	Mixed Economies	Free Market Economies
A	B	C

Figure 28: A FRAMEWORK FOR IDENTIFYING SOCIAL AND ECONOMIC POLICIES

At the left hand axis are the centrally planned or "command" economies (A). Such systems reject free market principles, and operate all social and economic planning centrally through a political party: the Soviet and Eastern European systems are classic examples of this model. Thus central planning on all issues, both economic and social, occurs via local, regional and national committees. Without detailing the complexity of this system, the State becomes accountable for all activity in the community. Centrally planned economies are at present undergoing a crisis and revision, although it is not clear whether the new systems that emerge will approximate the free market models or not⁷.

The mixed economies (B), on the other hand, advocate a combination of "planned" and "free market" principles. Typically, mixed economies advocate free market principles in

the manufacturing and industrial sectors, with a State infrastructure covering social services such as education, health, housing, etc. Mixed economies differ considerably, however, in the ratio between market forces and State intervention, and range from Welfare State models, used in Western Europe, to more conservative models found in Canada or Australia for example. All free market economies are, however, mixed to some extent: it really is a question of the degree to which market forces are able to operate within the mix.

Finally, free market economies (C) advocate market forces as the most efficient form of production and distribution of resources. Thus, State intervention, be it in the form of providing essential services or setting parameters for economic activity, is kept to a minimum. The United States of America is usually held to be an example of a free market society, particularly with the influence of Milton Friedman⁸ in the last decade. However, like centrally planned economies, free market societies are undergoing revision and tending to move more towards the "mixed" market philosophy - the demise of Regan and Thatcher in the U.S.A. and the U.K. has influenced this process.

This brief overview covers the major forms of social and economic policy as practised within the world economic order, and may be used as a framework to analyse statements made on the "new" South Africa by the Government, the business community and major opposition groupings.

2.2 THE NEW ECONOMIC ORDER : PERCEPTIONS OF THE STATE, CAPITAL AND OPPOSITION GROUPINGS

With the release of Nelson Mandela and the unbanning of the A.N.C., P.A.C. and S.A.C.P. in February 1990⁹, the stage was set for a public battle of ideologies over the shape of social and economic policy that is likely to emerge in South

Africa. Initially, the positions adopted by the State and corporate capitalism on the one hand, and the opposition groupings on the other, were at the extremes of the model suggested in Figure 28. The A.N.C., for example, re-affirmed its commitment to nationalisation of the banks, mines and "other key industries", thus positioning itself close to the old command economies (A).¹⁰ The business community, in contrast, emphasised the creation of wealth as a means to upliftment of the masses. Typical of such sentiments, emphasising the need for a free market economy, was this statement by Oppenheimer, past chairman of Anglo American:

"So-called 'African Socialism' combines the fundamental flaws which have destroyed socialism in Eastern Europe, with the administrative inefficiency which too often results from the inferior education system that was available to blacks under the colonial system.

South Africa reacted to these developments by launching the apartheid policy, a system which, while ostensibly opposed to socialism, involved in practice a substantial measure of centralised control of the economy. And so for the last 30 or 40 years, Southern Africa as a whole has been wasting its national resources in an attempt to realise social and political objectives which were just a mirage apartheid and Marxism are both in a state of terminal decay, and there seems a chance of building democracy, freedom and prosperity in Southern Africa."¹¹

Whilst Oppenheimer side-steps the point of collusion between capital and the State under apartheid¹², he clearly argues for a market economy as a means of counteracting all forms of "social engineering", be that apartheid policy or nationalisation. This places him to the far right hand side of the "mixed economy" point on the continuum.

The A.N.C.'s response to a future economic and social system, in contrast, was initiated by Mandela's statement in his first public appearance upon his release from prison at the beginning of 1990. As indicated, he declared that the A.N.C.

had "not abandoned its policy of nationalisation". Flowing from this, the A.N.C. released a policy document setting out its future economic policy. Some of the issues that are raised:

"1. Using redistribution to satisfy basic needs and create new patterns of demand.

2. Husbanding mineral resources to maximise benefits. Proposals include the setting up of an agency to market minerals to foreign governments, investigating ownership patterns in the mining industry, and, in view of the sector's strategic importance for the achievement of the national development objectives, consideration would be given to the nature and extent of State intervention and ownership.

3. Promoting agricultural development and land reforms."¹³

These examples (an extract from the report) show a strong interventionist role envisaged for government, particularly in its objective to attempt to gain control over the mining houses. Such a position, coupled with income distribution policies, place the A.N.C. to the far left of the "mixed economy" point on the scale - however, still not quite a command economy.

Predictably, State and private sector criticism of the document has been severe, generally argued along the lines that the ideology approximates too closely the socialist position of Eastern Europe in the sixties and seventies. The A.N.C., through its various spokespeople, has both defended its position and in some case softened its approach. For example, in defence of the A.N.C., Vella Pillay¹⁴ has argued that economic growth cannot occur until there has been economic empowerment of the people.

"Our overall approach is based on the fact that most of our people are too poor to acquire and consume the fruits of their labours. We believe

that as long as this persists, there is no hope of meaningful recovery in the economy."¹⁵

Thabo Mbeki has moved slightly away from the "official" A.N.C. position and called for foreign investment to "bridge the gulf between the two worlds by uplifting the Third World and transforming it to the First World."¹⁶ However, this statement is in contrast to most statements from the A.N.C., which emphasise the distribution of, rather than the creation of, wealth.

In summary, it appears that the position adopted by all three actors - the State, industry and the opposition groupings (notably the A.N.C.) approximate the mixed economy position, however, the degree of mix is subject to intense and ongoing debate. Put simply, the private sector wants minimal State intervention, the importation of foreign capital, and the upliftment of the masses through education and training. The A.N.C. sees the immediate priority as the re-distribution of wealth via direct State intervention, the control of key industries (eg. mining) to raise revenue, and the ultimate goal of attracting foreign investment as a result of achieving political stability.

Both approaches, it must be noted, have the same goal: a non-racial democratic system ensuring both the creation and re-distribution of wealth. However, the means to achieve this goal remain, for the time being, far apart.

3. INDUSTRIAL CITIZENSHIP IN GOLD MINING

The changes and ensuing debates that are occurring publicly between the Government, industry and the A.N.C. is setting the stage for a new economic and political order. The implications for industry are that managements are going to be operating in an environment that is vastly different to

that which existed under the apartheid era. The extension of civil rights under a democratically elected government are likely to extend to rights in the workplace. Legislation by Central Government will possibly enshrine such rights as: a minimum wage, extended rights for Trade Unions, health and safety legislation, non-discrimination on the grounds of race or gender, to name a few areas. Thus, the rights of "citizenship" as outlined by Titmus¹⁷ will extend to the rights of "industrial citizenship".

Douwes-Dekker defines industrial citizenship as

"Industrial citizenship is more collective than political citizenship, and hence the complementary of both in maintaining a balance between conflicting interests of capital (primarily economic policy concerns) and labour (primarily social policy concerns)."¹⁸

He goes on to identify the industrial citizenship rights promoted in mixed economies as

- "1. Procedures to regulate employment relations (eg. recognition agreement procedures);
2. Collective bargaining;
3. Forms of worker participation;
4. Social and health insurance:
 - a) Pension or Provident entitlements;
 - b) Workmens Compensation;
 - c) Unemployment benefits;
5. Education and continual training;
6. Public housing and public transport;
7. Environmental concerns;
8. Other dimensions."¹⁹

In South African industry, and particularly regarding gold mining, some of the above provisions have been met, notably 1 and 2 fully, while 3, 4 and 5 have been met partially, with 6, 7 and 8 underdeveloped.²⁰ Thus industrial citizenship rights, if we take points 1 to 8 as a yardstick, are still relatively underdeveloped in South Africa, along with rights of citizenship in comparison with Western Europe. However, the emergence of citizenship rights in South Africa under a

new dispensation are likely to affect industrial citizenship rights, and by definition, techniques of managerial control.

Throughout the dissertation, the focus has been on factors impacting on management that have provided the impetus for a search for new methods for the control and co-ordination of labour. The outcome of the search is that a new social contract between capital and labour is beginning to crystalise. This social contract will eventually give rise to industrial citizenship rights for mine workers. An important component of industrial citizenship rights is the extent or level of worker participation in management. Some comments on the current extent of worker participation now follow.

Participation may be depicted graphically (see Figure 29). This model provides a framework comprising a number of "levels" at which participation occurs.

Level 1, or mine level, would include participation via consultative committees, hostel committees, informal negotiation and contact with the various trade union bodies, quality circles and value circles groups, and safety committees. At mine level however, most participation concerns the individual workers' own immediate work environment, and thus may be referred to as Lower Level Participation.

Level 2, or group level, at present tends to be associated with collective bargaining between unions and management. The relationship between management and the various unions obviously depends on the history of involvement with the union concerned. Whilst the M.W.U. and management enjoy a close participative relationship at mine level via the committee system (although not all M.W.U. members are supportive of the committee system as the empirical survey shows), the relationship at a collective bargaining level is

often a conflictual one (the M.W.U's resistance to the repeal of the "Schedule Persons" definition in the Mines and Works Act is an example of this). The Groups' relationship with the N.U.M., on the other hand, has tended to date to show conflict at all levels. At collective bargaining level (the Groups represented by the Chamber, the Unions by their National Executive Committees), most negotiations have tended to be protracted, with little give and take on either side.²¹ This is, however, a result of the relative youth of the N.U.M. and the relative "immaturity" of the relationship between N.U.M., the Groups and the Chamber of Mines. However, there is evidence, especially at conglomerate level, as we will now examine, that the position is changing.

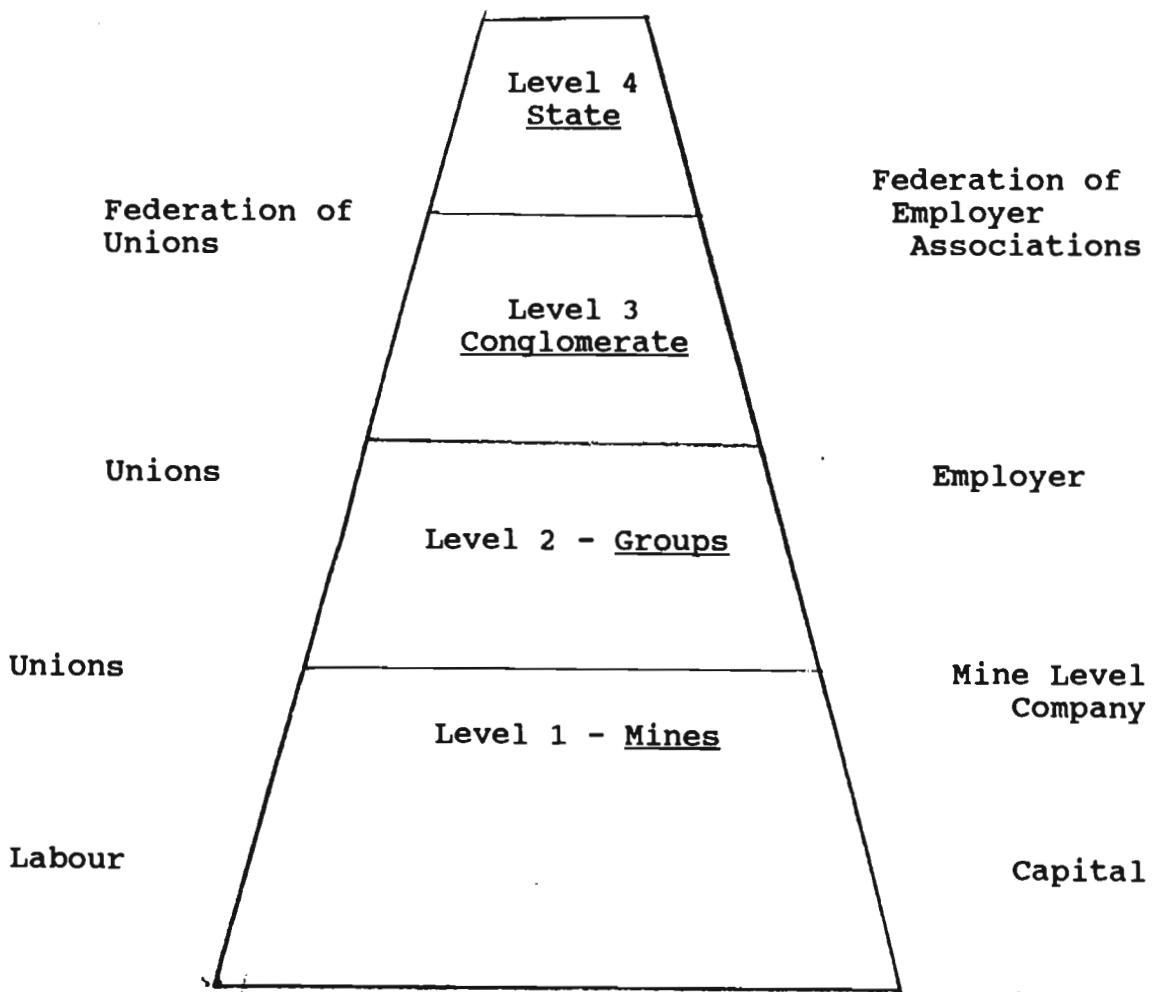


Figure 29:

A FRAMEWORK FOR REGULATING MANAGEMENT/LABOUR
RELATIONS IN THE GOLD MINING INDUSTRY
(Adapted from Douwes-Dekker)

Level 3, or conglomerate level, comprises consultation between Federation of Trade Unions (C.O.S.A.T.U.) and Federation of Employers Associations (S.A.C.C.O.L.A.). Generally, issues discussed are at a national level and are concerned with the overall relationship between employers and employees in South Africa. Examples are the discussions that led to amendments in the Labour Relations Act, which were agreed to at conglomerate level and enacted as law shortly afterwards²². A second example which shows a softening stance by the N.U.M. towards management is the pending meeting between the Chamber, the Department of Mineral and Energy Affairs and the N.U.M. to discuss the long term viability of the industry²³.

Level 4 comprises a tripartite relationship between the Federation of Employers, Federation of Employees and the State. Thus, agreements reached at Level 3 may be enacted as law at Level 4. Again, this will depend upon the overall relationship between these three bodies and the extent to which the State is prepared to endorse the decisions made at Level 3 in our model.

The above represents a brief synopsis of the level and extent to which participation is occurring between management and labour in the industry. What follows in the conclusions is a summary of the forces of change towards participation and the forces of resistance against it.

4. CONCLUSIONS

This dissertation has focused its attention on the forces of change that have precipitated the search by management for a new model of industrial relations and labour process control. In Chapter 1 we identified the forces impacting on the mining environment as the following.

The drive to increase the cost effectiveness of mining operations has led to the initiation of productivity drives. This has led to the initiation of quality circles and value circles, which in turn act as a vehicle to increase employee decision-making and hence increase the efficiency of the labour process as a whole.

The need to transfer new and upgraded technology has led to the greater involvement of rank and file employees involved in that technology, in the form of employee problem-solving groups along the lines of the quality circles model.

The increased levels of conflict on gold mines from the 1970's onward between management and labour also points in the direction of a greater degree of employee decision-making in the enterprise. We noted that grievances identified at an early stage were less likely to break into open conflict, and one technique to identify grievances is via participative groups.

The rise of the N.U.M. has challenged managerial control and hegemony over the labour process. The move towards the incorporation of the N.U.M. into managerial initiated participative structures (such as has occurred in worker councils) is a pointer in the direction of closer co-operation between the N.U.M. and management at mine level.

Evidence of increased levels of skills, and in some cases education, of some categories of workers has also challenged the tradition of autocratic supervision which has been a feature of the industry to date. The greater stabilisation of the workforce (contracts, we noted, are now renewed over longer periods) together with a slow process of urbanisation of selected categories of workers has contributed to the stabilisation of the workforce as a whole. This also acts as a challenge to a "top down" style of supervision.

Black mine workers, for their part, we have seen in the empirical study, show a need for more responsibility, variety, job security and opportunities for advancement. Clearly, the mining environment is not at present providing these needs.

The demise of the "Scheduled Persons" definition in the Mines and Works Act will open the doors for "black advancement" within mining, and meet to some extent, some of these needs expressed by black mine workers.

Finally, changes that have occurred in the external political environment since 1990 are going to affect the overall relationship between management and labour. In particular, the extension of industrial citizenship rights will increase the bargaining position of mine workers in general. Worker participation is likely to be part of this agenda.

In parallel with the "forces of change" towards a new model for the co-ordination of labour, are "forces of resistance" acting against this process. This dissertation has highlighted some of the pockets of resistance.

Senior management, we have seen, are not all fully committed to the devolution of decision-making within mining. Many cite the conservative nature of mining organisation together with the long and cumbersome organisational structures as restraints on more worker participation in decision-making.

White supervisors, we have seen, are particularly negative towards participation. This may be due in part to a fear of the loss of authority, coupled with the adjustments that have to be made in moving across to a new form of supervision and control.

Consultative committees are at present an ineffective vehicle for participation to occur, and this has inevitably disposed

many employees negatively towards the concept of worker participation.

The N.U.M. has shown itself willing in some cases to co-operate in management initiated participative drives (such as worker councils for example), however the union does remain cautious of moving too close to management. This position is really typical of mass-based unions at an early stage of development. Poole²⁴, for example, notes that the strongest resistance to participative practices comes from unions which are still developing and have strongly positive views about the instrumental and ideological benefits of union membership. A strong powerful trade union movement is less likely to see these managerial approaches as potentially undermining their traditional role. Douwes-Dekker²⁵ has also echoed this view.

"The black trade unions have shown a healthy caution and ability to resist co-option. Some examples include: their refusal to accept works and liaison committees in the 1970's; their rejection of State imposed pension preservation Bill; their refusal to accept the commuter (migrant) distinction regarding union membership; their refusal to accept improved codes of conduct, in particular the Sullivan Code, which initially made no mention of unionism; their refusal to use the Industrial count without clarity on its scope and impartiality; their refusal to accept the 1988 amendment to the Labour Relations Act."²⁶

The position that the independent trade unions have adopted on the above issues, it may be argued, has occurred for two reasons. Firstly, these unions were newly emerged and therefore had to establish autonomy and credibility amongst their members. Secondly, they were operating in an environment of severe State repression, and therefore felt it necessary to resist incorporation into any managerial structures which were perceived to be part of the State apparatus. The position between the State, capital and the unions is somewhat different in the 1990's however. There is

evidence at all three levels (work station, group and conglomerate) that the N.U.M. is prepared, given the right parameters, to co-operate within managerial structures. This will, of course, be dependent on the "climate" of participation between the N.U.M. and management on each particular mine and within each group. As we have noted, employer and employee attitudes are crucial in the evolution of this process.

To conclude, the search for a new model of control is an ongoing and chaotic process. The relationship between capital and labour is held together by many component parts, and a change in one component leads to changes in other areas. Both management and the labour movement are moving cautiously towards a new model, a model that will be typified by greater participation at both the work station and in employee representation in management and above. However, because of the particular nature of the activity of gold mining, because of the historical dependence of the industry on migrant labour, and because of the inherent conservative elements within the white supervisor class, the process is slower in gold mining than it has been elsewhere in the manufacturing sector in South Africa. Thus, in terms of Lawler's model (p68), participation remains little more than "consultative". However, with the crises facing the industry at present in the form of low productivity and a depressed gold price, it is likely that the degree of consultation will increase, thus bringing gold mining more into line with the manufacturing sector in South Africa. Thus, the model will move from what is now essentially the control, towards the co-ordination of labour.

NOTES

1. Webster, E. "Background to the Supply and Control of Labour in the Gold Mines" in South African Labour History Ravan Press, Johannesburg, 1981.
2. Callinicos, L. Gold and Workers Ravan Press, Johannesburg, 1980.
3. Bozzoli, B. "Managerialism and the Mode of Production in South Africa" in S.A. Labour Bulletin 3(8) S.A., 1977.
4. White, J. and van Oudsthoorn, S.V.R. "Suggested Organisational Arrangements for the Underground Backfill System" C.O.M.R.O. Report Johannesburg, 1987.
5. J.C.I. introduced trackless mining in Randfontein Estates Gold Mine in 1988. They encountered problems, particularly in the transferability of skills in personnel from conventional mining. The new organisational structures also necessitated re-selection of key personnel.
6. Smith, D. Barrington-Moore Jnr. : Violence, Morality and Political Change MacMillan Press, Hong Kong, 1983.
7. See Joffe, A. "'Fordism', 'Post Fordism' in Hungary" in South African Sociological Review vol.2, no.2, Johannesburg, 1990.
8. Friedman, M. Free to Choose Penguin Books, U.K. 1980.
9. President de Klerk released Mandela and other political prisoners on the opening of Parliament on February 10 1990.
10. "Nationalisation Key to Growth say A.N.C." Sunday Times October 7, 1990.
11. Oppenheimer, H. reported in Sunday Times September 30 1990.
12. Commentators such as Webster, E. (op. cit.) have argued that legislation for some of the component parts of the

apartheid system (Pass Laws, Group Areas Act) were formulated in response to the need to maintain a supply of labour to the mines during the early formation of the industry.

13. "Nationalisation is the Key to Growth say A.N.C." reported in Sunday Times Johannesburg, October 7, 1990.
14. Pillay, V. "Keeping the Poor, Poor" reported in Sunday Times Johannesburg, December 16, 1990.
15. Ibid.
16. Mbeki, T. "Foreign Investment Crucial to S.A." reported in The Natal Mercury Durban, November, 1990.
17. Titmus, R. The Gift Relationship Penguin Books, U.K. 1973.
18. Douwes-Dekker, L. Industrial Relations for a Changing South Africa Lex Patria Publishers, Johannesburg, 1990.
19. Ibid.
20. In Gold Mining, points 1 to 5 have been covered to some extent, although the N.U.M. argues that accident compensation is inadequate, as is the level of industrial training. Interview with Marcel Golding, S.A. Labour Bulletin, vol.16, No.2, 1991.
21. The national wage strike in 1987 initiated by the N.U.M. is an example of the adversarial relationship between the Union and management, which typified the relationship between the two parties in the 80's.
22. S.A.C.C.O.L.A. and C.O.S.A.T.U. reached agreement to changes in the amendment to the Labour Relations Act, and then made successful representation to the State to have these changes enacted as law. Reported in the Sunday Times October 7, 1990.
23. At the request of the N.U.M., a meeting is to be convened between the Chamber of Mines, the Ministry of Mineral and Energy Affairs and the N.U.M. to discuss the long-term prospects for the industry.

24. Poole, M. Industrial Relations : Origins and Patterns of National Diversity Routledge & Kegan Paul, London, 1988.
25. Douwes-Dekker, L. "Organised Employers and Labour at Social Policy Levels" in Anstey, M. (ed) Worker Participation, Juta & Co. Johannesburg, 1990.
26. Ibid, p161.

ANNEXURE 1 : MINING HOUSES IN THE R.S.A. : 1989

MAJOR HOLDING COMPANIES AND TECHNICAL ADVISERS TO GOLD MINES IN THE REPUBLIC OF SOUTH AFRICA

I66

(ALPHABETICAL ORDER)



Anglo American Corporation of South Africa Limited

Incorporated in the Republic of South Africa Registration No. 01/05309/08

45 Main Street, Johannesburg 2001
PO Box 61587 Marshalltown 2107
Telex 4-87167 SA Telegraph Anmercosa
Facsimile 638-3221
Telephones:
Switchboard 638-9111
Direct line 638-

GOLD AND URANIUM DIVISION

Directors: G.W.H. Reilly (Chairman), J. Ogden Thompson (Deputy Chairman), H.F. Oppenheimer (Deputy Chairman), W.G. Bousfield (Deputy Chairman), L. Boyd, T.M. Chisham, J.N. Clarke (British), A.E. Donner, Dr E.M.A.P. Ferreira (Portuguese), J.C. Fletcher, M.C. E.P. Gush, R.N. Harbord (British), M.B. Harwood, J.A. Hughes (British), M.W. King, P.J.R. Leveson (British), A.B. McKerron, O.G. Nicholson (British), M.C. O'Donnell, Sir Philip Oppenheimer (British), F.L. Pretorius, C. Rankin, C.J. Saunders, R.R. Stacey (American), The Hon. J.M. Steyn, C.L. Surber (British), Dr A.L. Vlasoff (American), G.S. Young
Honorary Directors: S.E. Sumner (British), R.M. Crawford, J.M.P. Desmond, A.O. Deucher (Austrian), A.B. Giesman, J.F. Girdlestone (British), Dr H.B. Over, J.A. Gower, R.A. Harbord (British), J.B. Harwood, M.J. Hendry, L. Hendry, R.P. Langer (Zimbabwean), J.C. Matheis, J.M. Rait, D.F. Rogers (British), J.L. Tinsdale, A.J. Toner, T.A. Woodson (British), V.I. Woodson, C.B.E. (British)

Witwatersrand triad - Elandsrand Gold Mining Company Limited, Free State Consolidated Gold Mines Limited (Freegold), The Afrikander Lease Limited, Vaal Reefs Exploration and Mining Company Limited, Western Deep Levels Limited

Gold Recovery Plants - East Rand Gold and Uranium Company Limited (ERGO), Free State Consolidated Gold Mines Limited (Metallurgical Scheme), The South African Land and Exploration Company Limited

Outside Witwatersrand triad - African Gold Mine

Temporary address:
77 Fox Street, Johannesburg 2001



ANGLOVAAL LIMITED

(Incorporated in the Republic of South Africa)
Reg. No. 05/04560/06

Anglovaal House 56 Main Street
Johannesburg 2001
PO Box 62379 Marshalltown 2107
Transvaal
Telephone (011) 634-9111
Telefax (011) 634-0038
Telegraphic address "Anglovaal"
Telex 4-86087A-SA 4-86087B-SA

DIRECTORS: S.E. HENSON, O.M.S., HON. U.D. (CHAIRMAN), C.W.E. S. HENELL (DEPUTY CHAIRMAN), S.L. BERNSTEIN, HON. U.D., D.J. CROWE, C.M. FOX, W.W. WALAN, J.C. ROBERTS, R.T. SWENNER (BRITISH)

Witwatersrand triad - Hartebeestfontein Gold Mining Company, Loraine Gold Mines Limited

Gold Recovery Plants - Village Main Reef Gold Mining Company (1934) Limited

Outside Witwatersrand triad - Eastern Transvaal Consolidated Mines Limited (Agnes, New Consort and Sheba Gold Mines)

Gold as By-product - Prieska Copper Mines (Pty) Limited

74-78 Marshall Street, Johannesburg 2001
P.O. Box 81820, Marshalltown 2107
Republic of South Africa
Telephone: (011) 376 9111
Telex: 4-85630 S.A.
Telegrams: UNICORPOA Johannesburg

I67
Gencor
General Mining Union Corporation Limited
Reg. No. 01/01232/061

DIRECTORS: D.L. Keri, M.H. Dang, T.L. de Beer, Dr. F.J. du Plessis, S.P. Esterhuysen, Fouché, B.P. Gidderon, N.C. Officer, B.A. Smuts, T.J. Steenkamp, G.S. Thomas, E. van Aalst
ALTERNATE DIRECTOR: D.N.A. Hunt-Davis

Witwatersrand triad - Beatrix Mines Limited, Bracken Mines Limited, Buffelsfontein Gold Mining Company Limited, Kinross Mines Limited, Leslie Gold Mines Limited, Marievale Limited, St Helena Gold Mines Limited, Stilfontein Gold Mining Company Limited, The Grootvlei Proprietary Mines Limited, Unisel Gold Mines Limited, West Rand Consolidated Mines Limited, Winkelhaak Mines Limited

Gold Recovery Plant - Chemwes Limited

Outside Witwatersrand triad - Barberton Myne Beperk (Fairview Mine)

GOLD FIELDS OF SOUTH AFRICA LIMITED

Registration No. 05/04181/06

75 Fox Street, Johannesburg, 2001
☎ 1167, Johannesburg, 2000
Fax: (011) 639-2101/2
☎ (011) 639-9111
✓ (9) 450043/4

Directors: *R.A. Plumridge (Chairman), *C.T. Fenton (Deputy Chairman and Managing Director), L.G. Abramson, R.I.J. Agnew (British), M.P. de Villiers, *M.B. Forsyth, E.P. Guan, *A.M. Munro, J.A. Siegmann, *B.R. van Rooyen, J.H.A. Wood (British), *A.J. Wright
*Members of the Executive Committee.

Witwatersrand triad - Deelkraal Gold Mining Company Limited, Doornfontein Gold Mining Company Limited, Driefontein Consolidated Limited, Kloof Gold Mining Company Limited, Libanon Gold Mining Company Limited, Venterspost Gold Mining Company Limited

Gold Recovery Plants - Vlakfontein Gold Mining Company Limited

Gold as By-product - O'okiep Copper Mining Company Limited

Johannesburg Consolidated Investment Company, Limited

(Incorporated in the Republic of South Africa) Registration No. 01 00429 06



Consolidated Building
Corner Fox and
Harrison Streets
2001 Johannesburg

P.O. Box 590
2000 Johannesburg

Telephone: (011) 373-9111
Telegrams: "Consois" Johannesburg
International Telex: 483787 JC: SA

Directors: M. B. Hofmeyr (Chairman), P. F. Retief (Managing Director), V. G. Bray, B. E. Davison, M. W. Hawarden, J. M. Kahn, M. W. King,
D. M. MacGillivray, K. W. Maxwell, J. J. Nel, H. Scott-Russell

Alternates: J. A. Holmes (British), G. M. Holford

Witwatersrand triad - H J Joel Mining Company Limited,
The Randfontein Estates Gold Mining Company
Witwatersrand Limited, Western Areas Gold Mining
Company Limited
Gold as By-product - Consolidated Murchison Limited,
Labowa Platinum Mines Limited, Rustenburg Platinum
Holdings

Rand Mines (Mining & Services) Limited

15th Floor
The Corner House
63 Fox Street
Johannesburg 2001
Telephone (011) 491-2911

P.O. Box 62370
Marshalltown 2107
Telex 4-89571 SA
Telefax No (011) 634-5936
Ca Reg. No 62/11656/06



Directors: D.T. Watt (Chairman and Managing Director), A.A. Sealey (Deputy Chairman), D. Ashworth (British), D.S.L. Bosstick, R.L. Bradshaw,
G.H. Buiterman, W.A.M. Clawson, A.B. Cook, E.B. Crocker, I.R. Forbes, J.N. Gallie, A.B. Hall, D.T.S. King, C.G. Knoops, W.P. Krieger, R.P. Morring,
H.G. Mosenthal, G.H. Park (Zimbabwean), F.K. Purcell, E.H.J. Sloveil, I.P.S. Turner, M.A. Watson, J.C. Willems, N. Zolten
Alternate Directors: L.C. Gouws, J.C. Jooste-Jacobs, V.M. Munton, I.G. Stevens

Witwatersrand triad - Blyvooruitzicht Gold Mining
Company Limited, Durban Roodepoort Deep Limited, East
Rand Proprietary Mines Limited, Harmony Gold Mining
Company Limited
Gold Recovery Plant - Rand Mines Milling and Mining
Company Limited (Crown Mines and City Deep Plants)
Outside Witwatersrand triad - Barbrook Mines Limited
Gold Recovery Plant - Transvaal Gold Mining Estates
Limited

ANNEXURE 2 : SURVEY QUESTIONNAIRES

TOP MANAGEMENT QUESTIONNAIRE

TOP MANAGEMENT QUESTIONNAIRE

1. Managerial Position.
2. What is management's rationale for moving towards a Participative System?
3. What systems for Participation exist on your gold mine?
4. Was a Policy Statement issued informing employees of the new forms of Participation?

Yes	No
<input type="text"/>	<input type="text"/>
5. Are the various Trade Unions involved in Participation on this mine?

Yes	No
<input type="text"/>	<input type="text"/>
6. What training occurred in Participation?

7. Which of the following do you regard as barriers to Participation?

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Legal Barrier				
2. Management Policy				
3. Structures in the Organisation				
4. Employer Attitudes				
5. Lack of Employer Confidence				

8. Any other Comments?

GENERAL SAMPLE QUESIONNAIRE

BIOGRAPHICAL INFORMATIONFor office
use only

Please complete the following questions:

1. Name of the mine: _____

		1
--	--	---

2. Your age (in years): _____

2

3. Number of years of education (for example: matric plus 3 year diploma equals 15 years education altogether) _____

3

4. Marital status (Please tick appropriate block):

4.1 Unmarried

	1
--	---

4.2 Married

	2
--	---

4.3 Widowed/Divorced

	3
--	---

4

5. How many children do you have? _____

5

6. Total number of people you are responsible for (number of dependents)?

6

7. Home language: _____

		7
--	--	---

8. Full job title and rank: _____

	8
--	---

9. Department: _____

	9
--	---

10. How much of the working day do you spend underground? (Please tick appropriate block).

10

All	Some	Little	None
-----	------	--------	------

1 2 3 4

11. Experience in mining industry (years): _____

11

For office
use only

12. Months on this mine: _____ 12

13. Do you belong to a trade union?/officials association? (Tick appropriate block)

Yes	1
No	2

13

14. What union/officials association are you a member of?

☐

14

15. How long have you been a union member?/member of an official's organization? _____

15

The following section deals with your views of management. Answer it just as you have done in the previous section.

<u>MC SCALE</u>					For office use only
1. Management shows that they are committed to making this a safe mine.	Definitely false	Mostly false	Mostly true	Definitely true	46
2. Management is interested in suggestions made by people at your level.	Definitely false	Mostly false	Mostly true	Definitely true	47
3. Employees are given a clear idea as to how well they are doing in their jobs.	Definitely false	Mostly false	Mostly true	Definitely true	48
4. The quality of management on this mine is good.	Definitely false	Mostly false	Mostly true	Definitely true	49
5. Management is sympathetic to the problems of workers.	Definitely false	Mostly false	Mostly true	Definitely true	50
6. This mine often attempts to find new ways of doing things.	Definitely false	Mostly false	Mostly true	Definitely true	51
7. Supervisors are often absent from their jobs.	Definitely false	Mostly false	Mostly true	Definitely true	52
8. Supervisors are often transferred.	Definitely false	Mostly false	Mostly true	Definitely true	53
9. Supervisors resign often.	Definitely false	Mostly false	Mostly true	Definitely true	54

This section deals with your views of the employees on the mine. Again answer it in the same way.

<u>WC SCALE</u>					
1. Employees care about the quality of their work on this mine.	Definitely false	Mostly false	Mostly true	Definitely true	55
2. Employees help each other on this mine.	Definitely false	Mostly false	Mostly true	Definitely true	56
3. A friendly atmosphere exists among employees.	Definitely false	Mostly false	Mostly true	Definitely true	57
4. Employees are eager to attend meetings.	Definitely false	Mostly false	Mostly true	Definitely true	58
5. Employees warn co-workers about hazards.	Definitely false	Mostly false	Mostly true	Definitely true	59
6. Employees are safety conscious on this mine.	Definitely false	Mostly false	Mostly true	Definitely true	60
7. Employees on this mine respect people who behave safely.	Definitely false	Mostly false	Mostly true	Definitely true	61

The next questions deal specifically with your experience in your job.

For office
use only

JSE SCALE

1. My job requires me to work very hard.	Definitely false	Mostly false	Mostly true	Definitely true	62
2. There is a great deal to be done in my job.	Definitely false	Mostly false	Mostly true	Definitely true	63
3. My job requires me to work very fast.	Definitely false	Mostly false	Mostly true	Definitely true	64
4. I frequently experience a large increase in my work load.	Definitely false	Mostly false	Mostly true	Definitely true	65
5. I have little time to get things done in my job.	Definitely false	Mostly false	Mostly true	Definitely true	66
6. I feel satisfied with my job.	Definitely false	Mostly false	Mostly true	Definitely true	67
7. I feel irritated and impatient when rules and regulations delay me in getting my job done.	Definitely false	Mostly false	Mostly true	Definitely true	68
8. I feel worried about what my boss will say if I can't complete a job on time.	Definitely false	Mostly false	Mostly true	Definitely true	69

The next questions are about your position on the mine.

P SCALE

1. My life is largely controlled by people with power over me.	Definitely false	Mostly false	Mostly true	Definitely true	70
2. I feel like what happens in my life is mostly determined by those people in a higher position than me.	Definitely false	Mostly false	Mostly true	Definitely true	71
3. People like myself have very little chance of protecting our personal interest when they conflict with powerful people.	Definitely false	Mostly false	Mostly true	Definitely true	72
4. Getting what I want means I have to please those above me.	Definitely false	Mostly false	Mostly true	Definitely true	73
5. I can determine what will happen in my life to a large extent.	Definitely false	Mostly false	Mostly true	Definitely true	74
6. When I get what I want, it's usually because I have worked hard for it.	Definitely false	Mostly false	Mostly true	Definitely true	75
7. People in my position have no say on this mine.	Definitely false	Mostly false	Mostly true	Definitely true	76

The following section deals with your feelings of economic security. Again answer whether you 'strongly agree', 'agree', 'disagree', or 'strongly disagree' with the statements.

ES SCALE

For office
use only

1. Sometimes I have to take risks to get the job done in time.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

88

2. It is impossible to work safely and to work productively at the same time.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

89

3. My family would starve if I lost my job here.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

90

4. I often worry about being made redundant.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

91

5. People who don't perform well in their jobs here are likely to be dismissed.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

92

6. Only the hardest workers will be kept if things get really tough here.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

93

7. Fear of being dismissed puts pressure on me to work hard.

☐

strongly
agree

☐

agree

☐

disagree

☐

strongly
disagree

☐

Don't
know

94

8. There is little I can do to keep my job here.

☐

strongly

☐

agree

☐

disagree

☐

strongly

☐

disagree

95

The following statements deal with the challenges you see in your job.

For office
use only

JC SCALE

1. Employees often discuss management policy.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

118

2. People here hope to achieve recognition and advancement.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

119

3. People here are provided with opportunities to develop skills and talents.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

120

4. There is plenty of scope and encouragement for new and interesting activities.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

121

5. Good work is recognised here.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

122

6. Not many people want to become supervisors here.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

123

7. Most work activities present a challenge.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

124

8. People here want interesting work.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

125

The next questions focus on the relationship between workers.

For office
use only

S R SCALE

1. There are many close friendships amongst employees on this mine.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
definitely true	mostly true	mostly false	definitely false

126

2. A new employee finds it difficult to make friends on this mine.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
definitely true	mostly true	mostly false	definitely false

127

3. There is little 'off the job' social contact between employees on this mine.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
definitely true	mostly true	mostly false	definitely false

128

4. It is very important to have friends at work.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
definitely true	mostly true	mostly false	definitely false

129

5. People work best when they feel they belong to a team.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
definitely true	mostly true	mostly false	definitely false

130

6. A man cannot work well when he has no feeling of belonging to or being part of a company.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
definitely true	mostly true	mostly false	definitely false

131

The next section looks at your satisfaction with various aspects of your job. For each statement, indicate whether you are 'very satisfied', 'fairly satisfied', 'fairly dissatisfied' or 'very dissatisfied'.

For office
use only

JS SCALE

1. The physical work conditions

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

132

2. Your fellow workers.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

133

3. Your immediate boss.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

134

4. The freedom to choose your own method of working.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

135

5. The recognition you get for good work.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

136

6. The amount of responsibility you are given.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

137

7. Your rate of pay.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

138

8. The opportunity to use your abilities.

For office
use only

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

139

9. Your chance of promotion.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

140

10. The way you are supervised.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

141

11. The attention paid to the suggestions you make.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

142

12. Your hours of work.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

143

13. The amount of variety in your job.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

144

14. Your job security.

☐

Very
satisfied

☐

Fairly
satisfied

☐

Fairly
dissatisfied

☐

Very
dissatisfied

145

We would like to know your views of employee involvement in decision making in the next few questions. Please indicate as in the past, whether you consider each statement to be 'true', 'definitely true', 'mostly true', 'mostly false', or 'definitely false'.

For office
use only

EP SCALE

1. Employees should only have a limited say in decision-making on this mine.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

146

2. Formal channels should exist on this mine for employees to make suggestions.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

147

3. The ideas of employees on ways to improve conditions on this mine should not be actively sought.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

148

4. Management should actively seek out the views of employees in order to identify the real problems of employees.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

149

5. Employee involvement in problem solving should be actively encouraged by management.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

150

6. Management has the right to impose on employees management's own solutions to problems on the mine.

For office
use only

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

151

7. Decision-making should be the sole right of management on this mine.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

152

8. Suggestions made by employees to improve conditions on the mine should be put into practice when appropriate.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

153

9. Only employees with the necessary knowledge and expertise should be allowed to participate in decision-making.

☐

definitely
true

☐

mostly
true

☐

mostly
false

☐

definitely
false

154

Please turn over and continue.

Please rate how well your committee works in terms of the following statements and, by putting a cross in one of the four boxes provided, indicate whether you regard each statement as "Definitely true", or "Mostly true" or "Mostly false" or "Definitely false". There are no right or wrong answers so please indicate what you really feel.

	Defi- nitely True	Mostly True	Mostly False	Defi- nitely False	For Office Use only
1.Goals are clearly under- stood by the Committee.					155
2.Management gives good support to the Committee.					156
3.The Chairman of the Committee does his job properly.					157
4.Members of the Committee and Managers feel that accidents can be prevented.					158
5.Management acts on the Committee's recommen- dations.					159
6.The place where the Committee meets is a suitable place.					160
7.An agenda is drawn up and is followed at the meeting.					161
8.Action is completed on an item before moving to the next item.					162
9.The goals of the Com- mittee are designed to get results.					163
10.Important information, ie. visual aids are pre- pared for the meeting.					164

	Defi- nitely True	Mostly True	Mostly False	Defi- nitely False	For Office Use only
11. Committee members have a good attendance record.					165
12. Management are given information which helps them plan their safety programme.					166
13. Meetings do not go beyond their time.					167
14. Less than half of the meetings (50%) are spent talking about existing physical hazards.					168
15. Specific topics are discussed rather than general issues.					169
16. Unimportant or unrelated items are rejected by the Committee.					170
17. New safety procedures are discussed by the Committee before they are implemented.					171
18. Sub-Committees are established to discuss special issues.					172
19. Target dates are set for actions which have been decided upon.					173
20. Management is open to good suggestions.					174
21. Each member of the Committee has an opportunity to indicate his views.					175
22. When voting, care is taken that everyone understands the issue.					176
23. Individual members are assigned additional responsibilities.					177

				For Office Use only				
	Defi- nitely True	Mostly True	Mostly False	Defi- nitely False				
24. Minutes are accurate, and distributed well before the meeting.					178			
25. Committee members parti- cipate in safety acti- vities outside the Committee room.					179			
26. Employees have a posi- tive perception of the Committee.					180			
27. Give an example of when management has acted on your committee's suggestion.					181			
28. Has your committee ever challenged management decisions arising out of your committee's suggestions?					182			
<table border="1"> <tr> <td>Yes</td> <td>No</td> </tr> </table>					Yes	No		
Yes	No							
29. If yes, give an example.					183			
30. What kind of perception do you think employees have of committees on the mine?					184			
<table border="1"> <tr> <td>Favourable</td> <td>Unfavourable</td> <td>Neutral</td> </tr> </table>					Favourable	Unfavourable	Neutral	
Favourable	Unfavourable	Neutral						
31. Why do you think this is?					185			
32. What, in your opinion, is the major problem with committees on this mine?					186			

ANNEXURE 3 :
ABBREVIATIONS OF SCALES USED IN QUESTIONNAIRES

The notations on the scales are:

1. M.C. Scale: (Management Commitment scale)
2. W.C. Scale: (Worker Commitment scale)
3. E.P. Scale: (Employee Participation scale)

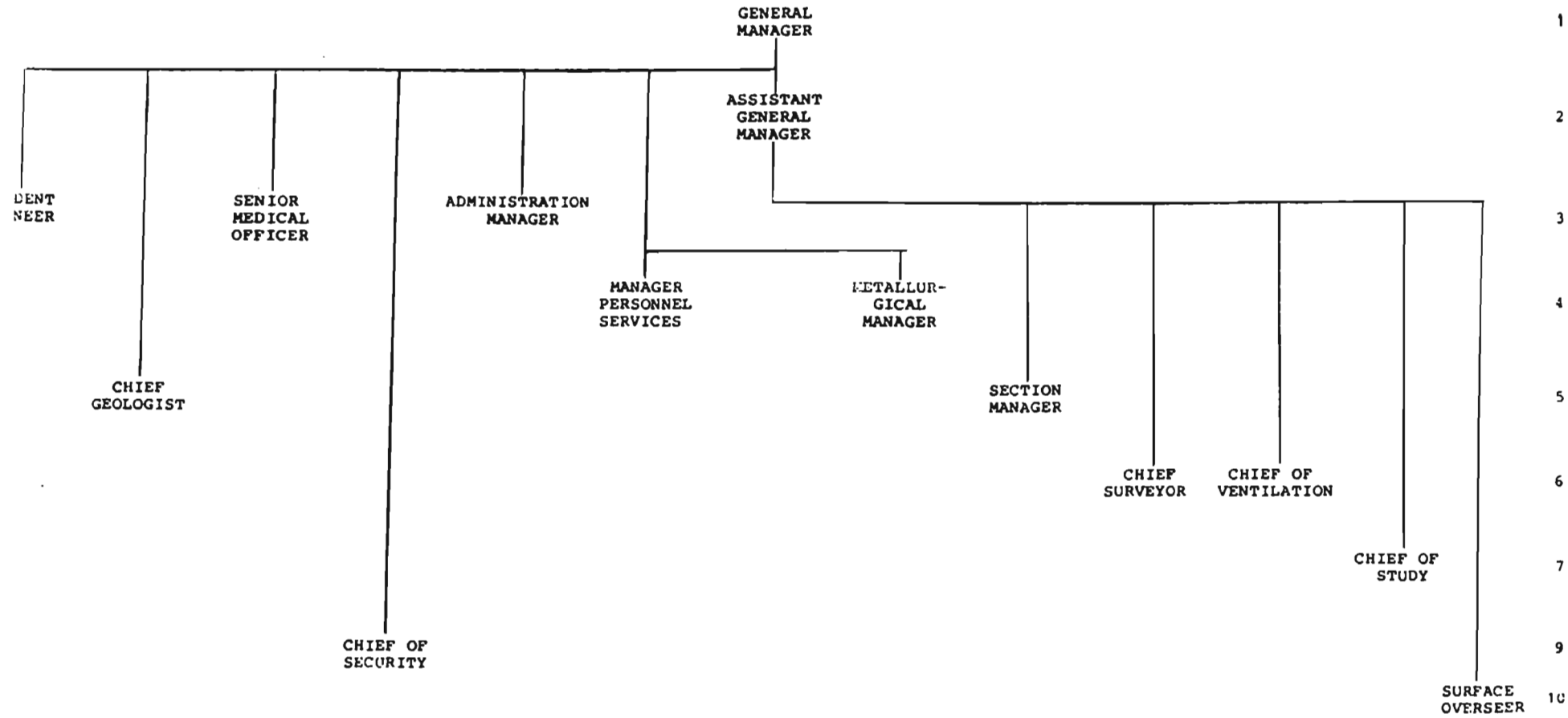
The above Scales were Developed at the Chamber of Mines Research Organisation

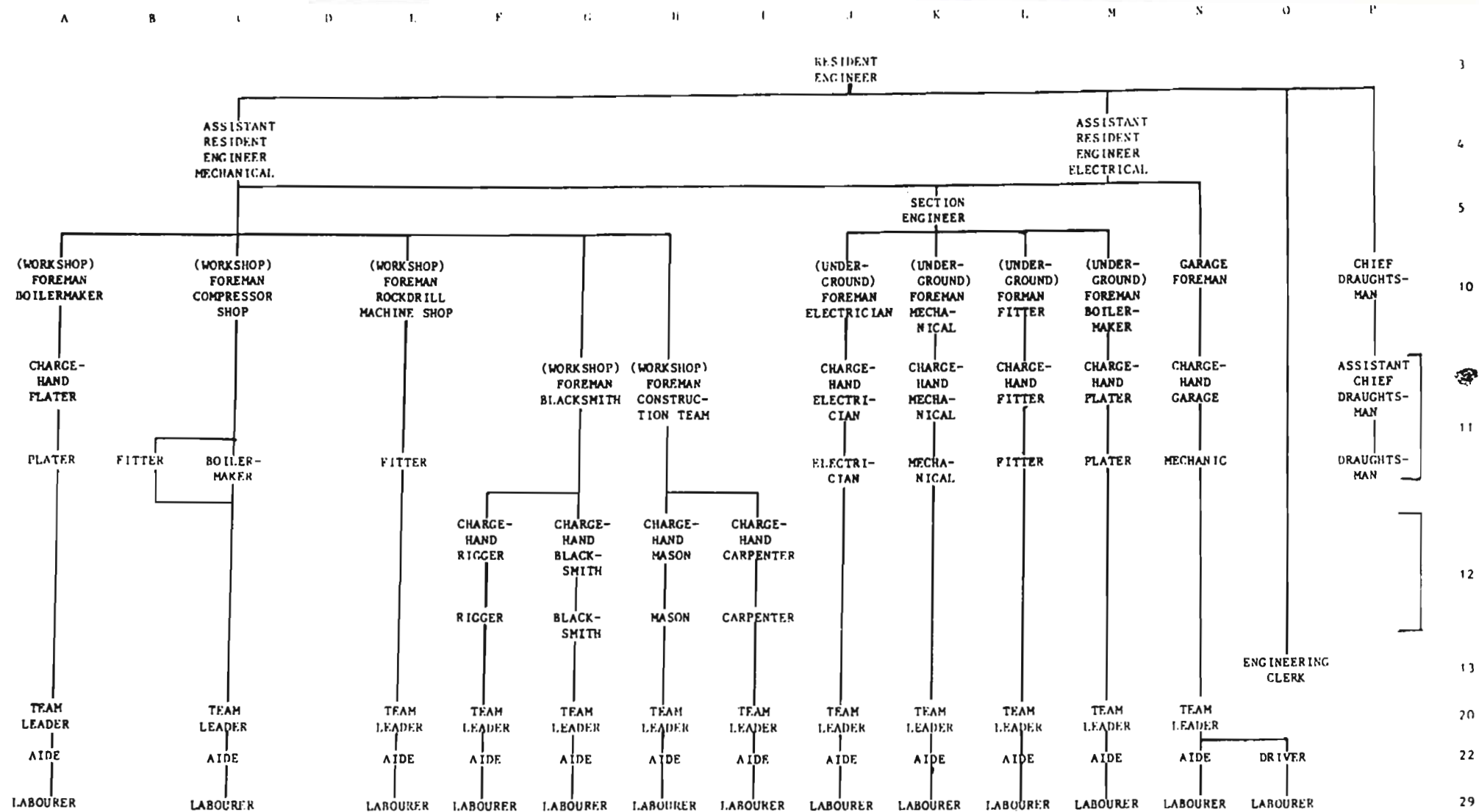
4. J.S.E. Scale: (Job Pressure scale)
5. P. Scale: (Perceived Power scale)
6. E.S. Scale: (Economic Security scale)
7. J.C. Scale: (Job Challenge scale)
8. S.R. Scale: (Social Relations scale)
9. J.S. Scale: (Job Satisfaction scale)

The above Scales were Taken from Survey Item Bank, British Telecom M.C.13 University Press, vol.12, 1979.

**ANNEXURE 4 :
ORGANISATIONAL STRUCTURES ON GOLD MINES**

A B C D E F G H I J K L M





REFERENCES

BOOKS AND ARTICLES

- Abrams, P. Historical Sociology Cornell University Press, New York, 1982.
- Anstey, M. Worker Participation Juta, Johannesburg, 1990.
- Arbrose, J.R. "Quality Controls Circles : The West Adopts a Japanese Concept" in International Management vol.35, no.12, 1980.
- Argyle, M. The Social Psychology of Work Pelican, UK, 1972.
- Barrington-Moore, Jnr. Injustice : The Social Basis of Obedience and Revolt MacMillan, 1978.
- Barling, J. (ed) Behaviour in Organisations : S.A. Perspectives McGraw-Hill, Johannesburg, 1986.
- Bendix, R. Work and Authority in Industry John Wiley and Sons, New York, 1956.
- Bieseuwel, S. Work Motivation and Compensation McGraw-Hill, Johannesburg, 1984.
- Blumberg, P. Industrial Democracy : The Sociology of Participation Schochen Books, New York, 1969.
- Bozzoli, B. "Managerialism and the Mode of Production in South Africa" in S.A. Labour Bulletin 3(8), South Africa, 1977.
- Brown, R. Social Psychology MacMillan, United States, 1967.
- Bulmer, M. Sociological Research Methods, MacMillan, 1984.
- Burawoy, M. Manufacturing Consent Chicago University Press, 1979.

Clegg, H. A New Approach to Industrial Democracy Oxford University Press, U.K., 1979.

Coldwell, D. "Patterns of Turbulence and Stability : Towards a Dynamic Sociotechnical Model of Technological Change" in S.A. Journal of Business Management 16, S.A., 1985, p31-34.

Callinicos, L. Gold and Workers Ravan Press, Johannesburg, 1980.

Deo, F. The Political Economy of the New Asian Industrialisation, Cornell, 1987.

Dore, R. British Factory - Japanese Factory George Allen and Unwin, London, 1973.

Douwes-Dekker, L. Industrial Relations for a Changing South Africa Lex Patria Publishers, Johannesburg, 1980.

Edwards, R. Contested Terrain Heineman, London, 1979.

Finnemore, M. and Pallit, L. "Recent Developments in Health and Safety Agreements at the Workplace in South Africa" in Industrial Relations Journal (S.A.) 2nd Quarter, Johannesburg, 1987.

Friedman, M. Free to Choose Penguin, U.K., 1980.

Galvin, A. "Industrial Conflict and Workers Participation in Management" in S.A. Journal of Labour Relations 5(4), 1981.

Godsell, B. "The Importance of Work Station Participation in the 1990's" Institute of Personnel Management Convention Sun City, October, 1982.

Goldstein, G. and Sorcher, M. Changing Supervisor Behaviour Pergamon International Library, New York, 1974.

Gordon, R.J. Mines, Masters and Migrants Ravan Press, Johannesburg, 1977.

Hertzberg, F. Mauser, B. Snyderman, B. The Motivation to Work Wiley, U.S.A. 1959.

Hill, J. "Getting Going" in Bank of America U.S.A., 1980.

Joffee, A. "Fordism and Post Fordism in Hungary" in South African Sociological Review vol.2, no.2, Johannesburg, 1990.

Johnstone, F. Class, Race and Gold Routledge Keegan Paul, London, 1976.

Jones, G. and Maree, J. "Worker Participation and Industrial Democracy" Industrial Relations Journal of South Africa vol.9, no.2, 1989.

King, J.R. and Tan, K.H. "Quality Circles" in O.M.E.G.A. vol.14, no.4, U.K., 1986.

Koopman, A. Nasser, M.R. and Nel, J. The Corporate Crusaders Lexicon Publishers, Johannesburg, 1987.

Lawler, E. "Education, Management Style and Organisational Effectiveness" in Personal Psychology No.38, 1985.

Lawler, E. High Involvement Management Josey-Bass, California, 1986.

Leger, J. "Towards Safer Underground Gold Mining" Department of Sociology University of Witwatersrand, Johannesburg, 1985.

"Safety and the Organisation of Work in S.A. Gold Mines: a Crisis of Control?" in International Labour Review, vol.125, October 1986.

Littler, C.R. The Experience of Work St. Martins Press, New York, 1985.

MacGregor, R. "The Implications of Urbanisation for the South African Mining Industry" Seminar Paper in Urbanisation C.O.M.R.O., Johannesburg, 1988.

Maller, J. "Employee Share Ownership : Co-option on Co-operation?" in South African Review Ravan Press, Johannesburg, 1990.

Marchington, M. "The Four Faces of Employee Consultation" in Personnel Management U.K., May, 1988.

Maslow, A. The Human Problems of Industrial Civilisation Graduate School of Business Administration, Harvard, 1946.

McGregor, D. The Human Side of Enterprise McGraw-Hill, New York, 1960.

Moodie, D. "The Moral Economy of the Black Mineworkers Strike of 1946" Journal of South African Studies No.1, vol.13, October, 1986.

Natrass, J. The South African Economy Oxford University Press, 1981.

Natrass, N. "No Co-operation at Toyota" S.A. Labour Bulletin, vol.16, No.2, 1991.

Pateman, C. Participation and Democratic Theory Cambridge University Press, 1970.

Poole, M. Industrial Relations : Origins and Patterns of National Diversity Routledge, Keegan and Paul, London, 1988.

Rose, M. Industrial Behaviour Pelican, U.K., 1985.

Sayles, L.R. The Behaviour of Industrial Work Groups : Prediction and Control Wiley, New York, 1958.

Sell, R. "Employee Involvement - A Strategy for British Success?" in Personnel Management U.K., June 1986.

Smith, D. Barrington-Moore Junior : Violence, Morality and Political Change MacMillan Press, Hong Kong, 1983.

Streek, W. "Co-Determination : The Fourth Decade" in International Perspectives in Organisational Democracy 1984.

Tausky, C. Work Organisations F.E. Peacock Publishers, U.S.A., 1978.

Taylor, F. Scientific Management New York, Harper and Row, 1947.

Titmus, R. The Gift Relationship Penguin Books, 1973.

Trist, E.L. and Bamforth "Some Social and Psychological Consequences of the Longwall Method of Coal Getting" in Human Relations U.K., 1951.

van den Bergh, T. "Participative Management - The Toyota Experience" in Institute of Personnel Management Journal S.A., September 1987.

van Onselen, C. Chibaro Pluto Press, London, 1976.

Viljoen, J. "Worker Participation in a South African Context" in S.A. Journal of Labour Relations vol.10, no.1, March 1986.

Walton, R. "From Control to Commitment in the Workplace" Harvard Business Review March, 1985.

Webster, E. (ed) South African Labour History Ravan Press, Johannesburg, 1978.

"A New Frontier of Control?" in Industrial Relations Journal of South Africa 1st. Quarter, 1986.

Cast in a Racial Mould : Labour Process and Trade Unionism in the Foundries, Ravan, 1985.

THESES AND DISSERTATIONS

Arnott, A. "The August 1987 Strike at Randfontein Estates Gold Mine. A Case Study in Trade Union Democracy" B.A.(Hons) Dissertation University of Witwatersrand, 1987.

Barnes, N.R. "Factors Affecting the Safety Climate on Gold Mines" Phd. Thesis U.N.I.S.A. Pretoria, 1989.

De Vries, P. "Change to the Quality of Life of Black Mine Workers in South Africa" Phd. Thesis University of Natal, 1983.

McNamara, J.K. "Social Life, Ethnicity and Conflict in a Gold Mine Hostel" M.A. Dissertation University of Witwatersrand, Johannesburg, 1978.

"Black Worker Conflicts on Gold Mines" Phd. Thesis University of Witwatersrand, Johannesburg, 1985.

Moroney, S. "Industrial Conflict in a Labour Repressive Economy : Black Labour on the Transvaal Gold Mines 1901 - 1912" B.A.(Hons) Dissertation University of Witwatersrand, Johannesburg, 1976.

Parson, J. "An Integrative Model for Analysing the Skilled Manpower Shortage in South Africa" M.A. Dissertation University of Witwatersrand, Johannesburg, 1986.

UNPUBLISHED CHAMBER OF MINES RESEARCH REPORTS

Mitchell, G. Coldwell, D.A.C. Barnes, N.R. White, J.A.K. Khoza, E.H. and Seleka, F. "Barriers to Participation" C.O.M.R.O. Johannesburg, 1988.

Mitchell, G. and Daynes, M. "Participation Audit on one Gold Mine" C.O.M.R.O. Johannesburg, 1987.

Moore, R.G. "Instructions for a Training Manual for Jobs Created by the Introduction of New Technology" C.O.M.R.O. Johannesburg, 1983.

Schuitema, E.O.F. "Improving the Industrial Relations Climate on Mines" C.O.M.R.O. Johannesburg, 1987.

White, J. and van Oudtshoorn, S. "Suggested Organisational Arrangements for the Underground Backfill System" C.O.M.R.O. Johannesburg, 1987.

COMMISSIONS/GOVERNMENT REPORTS

Franzsen, D.G. "Commission of Inquiry into the Possibility of a Five Day Working Week in the Republic of South Africa S.A. (Rep) 1977.

Chamber of Mines Research Organisation Annual Policy Review, 1988.

CONFERENCE PAPERS

National Convention of The Association of Productivity and Quality Circles of South Africa 1985, 1987.

NEWSPAPER/MAGAZINE SOURCES

The Daily News
The Financial Mail
The Natal Mercury
Finance Week
The Star
The Sunday Times
The Sunday Tribune
The Weekly Mail

SECONDARY GENERAL LITERATURE

Argyris, C. Integrating the Individual and the Organisation Wiley, New York, 1964.

Aron, R. Main Currents in Sociological Thought vol.1 and vol.2, Penguin, Middlesex, 1967,

Baker, S. and Hansen, R. "Job Design and Worker Satisfaction " A challenge to Assumptions" in Journal of Occupational Psychology U.S.A., 1975, (48) (79-91).

Barrett, R. Rhodes, E. and Beishou, J. (ed) Industrial Relations and Wider Society Collier & MacMillan, London, 1975.

Bendix, D.W. "Parity Co-Determination : The German Model of Industrial Democracy" in S.A. Journal of Labour Relations 1978 (June).

Blauner, R. Alienation and Freedom Chicago University press, 1964.

Boshoff, T.R. "Labour Issues in the Mining Industry in the R.S.A. in the 1980's" in Industrial Relations Journal (S.A.) 3rd Quarter, 1987.

Braverman, H. Labour and Monopoly Capitalism Monthly Review Press, 1974.

Cangessi, J.P. "Participative Management - What is it? Does it Work?" in Organisation Development Journal Oklahoma, 1984.

Fitzroy, F.R. and Kraft, K. "Co-Operation, Productivity and Profit Sharing" in Quarterly Journal of Economics February 1987.

Fox, A. Man Management Hutchenson, 1985.

Galvin, A. "Industrial Conflict and Workers' Participation in Management" in South African Journal of Labour Relations 1981, 5(4).

Hackman, J.R. and Oldham, G.R. Work Redesign Addison-Wesley, 1986.

Herbst, P.G. Sociotechnical Designs London, Tavistock, 1974.

Kauter, R.M. "Dilemmas of Managing Participation" in Organisational Dynamics 1982, (11), 1(p5-12).

Lamprecht, A. "Industrial Justice and Industrial Democracy: Factors Impacting on Its Evolution" in Institute of Personnel Management Journal May, 1987.

Liebenberg, J. "South African Gold Mining " A Review of the Labour Situation" in South African Journal of Labour Relations vol.9, no.2, June 1985.

Likert, R. The Human Organisation : Its Management and Value McGraw-Hill, New York, 1967.

Littler, C. The Development of the Labour Process in Capitalist Societies Heineman, 1982.

Marx, K. The Economic and Philosophic Manuscripts of 1844 International Publishers, New York, 1964.

McConkey, D. "Participative Management : What it Means in Practice" in Business Horizons U.S.A., October, 1980 (p67-77).

Metzgar, J. (ed) "Workers as Owners" in Midwest Centre for Labour Research Chicago, 1984.

Ramsay, H. and Haworth, N. "Worker Capitalists? Profit Sharing, Capital Sharing and Judicial Forms of Socialism" in Economic and Industrial Democracy London, vol.5, 1984 (p295-324)

Turner, R. The Eye of the Needle Ravan Press, Johannesburg, 1980.

Sashkin, M. "Participative Management is an Ethical Imperative" in Organisational Dynamics Spring, 1984.

Smalley, L.J. and Bocher, H.J. "Quality Circles - A Managerial Response to the Productivity Problem" in S.A. Journal of Business Management 13, 1982, (p10-12).