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Carnegie, Jaques and Requisite Organisation:
A meeting of minds at Conzinc Riotinto Australia
1977 - 1993

Organisational Change Management in the Australian Mining Industry

Thesis submitted by

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Order and Format of Contents

ii   Statement of Access

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iii   **Extended Abstract**

Carnegie, Jaques and Requisite Organisation:
A meeting of minds at Conzinc RioTinto Australia
1977 - 1993

This thesis, *Carnegie, Jaques and Requisite Organisation: A meeting of minds at Conzinc Riotinto Australia, 1977 - 1993* endorses the OD intervention at CRA as a unique journey undertaken between two extraordinarily intelligent individuals, at a specific intersection of their working lives that, over time, resulted in a restructured global mining house and the subsequent birth of Requisite Organisation in 1989. The study aim melded the core parameters of Carnegie, Jaques, Organisation Development and Kotter into a meaningful research challenge, to analyse the Carnegie/Jaques Organisation Development intervention at Conzinc Riotinto Australia through the lens of Kotter's eight step Organisational Change Process.

Working in and researching organisational change management in the Australian mining industry remains a personal journey that spans three decades. Engagement during this era consisted of firstly CRA/Comalco (in staff operational and support roles) and the Queensland energy sector (interfacing with the sugar and mining sectors) in Queensland. Lastly with a climate change management consultancy consulting to Australia's largest mining companies on climate change strategies, carbon pricing, emissions intensive trade exposed (EITE) energy models and electrical, fuel and carbon mitigation strategies in Queensland, Northern Territory and Western Australia.

This thesis builds on mining industry research undertaken by Swain (1995), Ludeke (1996) and Hearn Mackinnon (2004). It converges on organisational change management as a business imperative over an extended period within the CRA group. Swain's PhD compared and contrasted Industrial Relations Strategy within CRA, BHP and Robe River Associates in Western Australia. Ludeke researched Comalco in Queensland, Tasmania and New Zealand, based around a legalistic perspective relating to the offer of salaried staff employment. Hearn

Mackinnon's PhD on CRA researched Strategic Management and Employee Relations principally focusing on the concept of managerial prerogative.

The primary research methodology employed is a single qualitative case study. The case study is buttressed by triangulation of interviews and focus groups, analysis of documentation, stakeholder analysis and participant observation. Love's (2002) seven aspect model is introduced as an anchor point for the methodological analysis and selection of a study hypothesis. Theories scrutinised were ontological perspective(s), epistemological perspective(s), methodological perspectives, research methodologies, research methods, data-gathering and analysis techniques. Ontological and epistemological assumptions are identified as a key intersection in determining choices available from which to select a methodology. Qualitative and quantitative templates were compared and contrasted, with qualitative chosen as the companion to a core case study model of inquiry because of the adeptness of qualitative research to embrace a case study model with a study narrative.

The literature review undertaken in Chapter 2 is described as the first among equals within a trilogy of chapters informing both the research question and methodology. Outcomes of the literature review steered the development of the study aim buttressed by six enabling questions. The methodology chosen is elaborated on in Chapter 3. The core chapters of the study, four through to eight, are identified as the early years, trials of the process, the five stratum business unit model, systems leadership development, award restructuring and the offer of salaried staff employment to the award employees. Chapter 9 correlated the enabling objectives with the study aim to produce the research outcomes and suggestions for additional research. Literature disparities were identified relevant to the OD intervention and these omissions established the knowledge gap fundamental to any rigorous academic endeavour.

Organisational change management was chosen as the intellectual hypothesis umbrella under which the study parameters were opened. The philosophy and necessity to radically change the strategic direction of companies by a significant change management intervention is noted with the 1970s being a watershed in international economic development in Australia ACIRRT 1999). Greiner and Cummings (2004) described OD as a model of change management that applies behavioural science knowledge to the planned change and development of an organisation. Change management on this scale can involve strategy realignment, structural and organisational transformation, process redesign, culture realignment, organisational behaviour and leadership development. An OD change management intervention may be predicated on enhancing the efficiency and effectiveness of the business to deliver superior goods and services to its internal and external customers.

The period under research was pinpointed within a background of ongoing and relentless organisational change occurring throughout the company between 1970 and 2008. An exploratory literature search identified 1977 - 1986 as the organisational development intervention period within the company. This beginning of the change phase was initiated by the Chief Executive Officer Sir Roderick Carnegie. Professor Elliott Jaques from the Brunel Institute of Social Sciences (BIOSS) in the United Kingdom was invited to contribute to theory development within the project after Carnegie had read Jaques' book, *A General Theory of Bureaucracy*. Carnegie has often remarked that his 'crossing of the Rubicon' or 'Ah-ha moment' occurred when reading this book. Carnegie's intellect was aroused by Figure 10.7, growth of individual capacity, on p. 173. This was the beginning of the Carnegie/Jaques professional, intellectual and personal relationship that endured the passage of time up until Jaques passed away in 2003.

Jaques was a psychoanalyst, organisational theorist and management consultant, and was retained by Carnegie on behalf of CRA to test Stratified Systems Theory within the company. The timeframe of 1987 - 1993 involved a multiplicity of corporate initiated projects following the OD phase. Projects included integration of Stratified Systems Theory within business units and the executive group, systems leadership training and development, continuous improvement and investigating options for a futuristic model of remunerating the award workforce.

The study's aim for the OD intervention at CRA is achieved within an overarching framework of Kotter's theories on organisational change processes. The theoretical approach firstly engaged the eight steps to transforming your organisation, and secondly investigated the generic change management theories advocated in leading change in organisational development within CRA. Kotter notes that successful change begins when individuals look at a company's competitive situation, market position, technological trends and financial performance. Companies also change by moving through a phase or steps that usually require a considerable period of time. This focus on successful change management strategies is consistent with CRA's nine year transition to a RO structured organisation.

Six enabling objectives underpinned the research aim: (i) identify significant factors contributing to the establishment of the OD intervention project in 1979, (ii) analyse the linkages between the OD trials at three CRA mine and process plants and the go/no-go decision trigger for the project, (iii) analyse a typical OD implementation at the Raw Materials Business Unit (the world's largest bauxite mine) at Comalco Weipa, (iv) appraise the implementation of system leadership training and development (T & D) following on from the Carnegie/Jaques'

OD intervention, (v) expand on stage seven of Kotter's model (producing still more change) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations, (vi) develop a model for organisational change intervention in the Australian mining industry based around Requisite Organisation (RO) principles, and Kotter's eight step change model.

The outcomes of the research built from the six enabling objectives engendered conclusive outcomes. A three stage change management model based on Requisite Organisation principles, unique facets of the initial OD intervention template, Kotter's eight step change process, combined with learnings from this study and RioTinto's 'Mine of the Future'[TM] was developed. An expanded six stage prerequisite template melds Kotter's eight step change management process with five additional pre-conditions, embedded within a modified Swiss cheese prototype. Ongoing learning and development, combined with systems leadership structured courses, highlighted an essential embedded element. The criticality of melding structure, organisation process and people at work together is integrated seamlessly into the process.

The significant factors contributing to the establishment of the OD intervention project in 1979 were noted as a business imperative from the office of the CEO. Carnegie believed the corporation was in danger of a takeover, owned and operated a number of sites that were basket cases, and had fallen behind the Canadians in undertaking benchmarking trials. The linkages between the OD trials at three CRA mine and process plants and the go/no-go decision trigger for the project were identified from initial work undertaken at Woodlawn in New South Wales. Outcomes highlighted the importance of conducting one or more pertinent trials to test a change management intervention before implementing companywide change. The organisation change trial model allows a business to assess the impacts and outcomes of a change process under a controlled situation.

Analysing a typical OD implementation at the Raw Materials Business Unit mine site at Weipa showcased the theories being implemented at a world class mineral deposit. Carnegie frequently raised the issue of the 'Broken Hill Mine Managers' Club' being an impediment to moving forward with new ideas at the executive level. In Weipa the equivalent was the 'Superintendents' Group'. The Supervisor's role evolved into an on-going debate between site management and the OD project team as well as consuming an inordinate amount of project and management time. Strong leadership carried the day and the restructure was perceived to be successful. The implementation of system leadership training and development, following

from the Carnegie/Jaques' OD intervention, was generally known as stage two of the process. Leadership development continued through to 2004.

The study expanded on stage seven of Kotter's change management process (producing still more change) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations. This was a two stage process and disclosed that the failure of the award restructuring process led directly to the option of looking at alternative methods of remunerating the award workforce. The workforce was offered salaried staff employment in late 1993.

The thesis is not an end in itself. Researching organisation change management relating to CRA/Comalco, now known as RioTinto, and the mining industry generally is ongoing. The wrapping up of this study opens the door to complementary inquiry based around the Australian mining industry.

Finally, this work remains my own. The interpretation given to events and outcomes combined with the emphasis placed on particular aspects, individuals, timeframes and conclusions is mine alone, and accordingly I assume full responsibility and accountability for the final thesis as written.

v   Statement of Prior Employment with Comalco at Weipa

This is to state that the author of this thesis Ronald Paul Lynch was a salaried staff employee of Comalco Minerals and Alumina at the Weipa mine site between December 1981 and September 1994.

………………………………   ……………………..
Signature   Date

Ronald Paul Lynch

viii   List of Tables

ix   Signed Statement of Sources

I declare that this thesis is my own work and has not been submitted in any form for another Degree or Diploma at any University or other institution of Tertiary Education.

Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references provided

…………………………………   ……………………..

Signature   **Date**

Ronald Paul Lynch

x   Declaration on Ethics

The research presented and reported in this thesis was conducted within the guidelines for research ethics outlined in the *National Statement on Ethics Conduct in Research Involving Human (1999)* the Joint *NHMRC/AVCC Statement and Guidelines on Research Practice (1997),* the *James Cook University Policy on Experimentation Ethics. Standard Practices and Guidelines (2001)* and *the James Cook University Statement and Guidelines on Research Practice (2001).*

The proposed research methodology received clearance from the James Cook University Experimentation Ethics Review Committee:

Approval number: H1162

Signature:

Name: Ronald Paul Lynch

Date:

Chapter One

Introduction

Outline of Chapter

1.0   **Chapter content**

Provides an overview to the subject matter

1.1   **Rationale for the study**

Introduces the research questions

1.2   **Background to the study**

The study is anchored within ongoing organisational change over three decades at Conzinc Riotinto.

1.3   **Organisational change and the theories of Kotter**

Positions the study within the broad academic discipline of organisational change within the specific fields of management development and organisational behaviour

1.4   **Conzinc Riotinto Australia (CRA) background**

Specifies the background to the company being researched and positions Comalco Weipa as the primary research site

     1.4.1   CRA and Comalco history

1.5   **Elliott Jaques' background**

Introduces the scholarship and science of Elliott Jaques research

1.6   **Australian Research on Conzinc Riotinto Australia and Elliott Jaques**

Introduces the academic research undertaken on Requisite Organisation

1.7   **Methodology**

Notes the methodology utilised - case study

1.8   **Organisation of the study**

Identifies the study as being a nine chapter dissertation

1.9   **Scope of the Study**

Delineates the scope and boundaries of the study

1.10   **Chapter summary**

Summarises the key points and introduces Chapter 2 - the Literature Review

1.0 Chapter content

Chapter 1 constructs the foundation for researching the implementation of Organisation Development (OD) throughout Conzinc Riotinto Australia (CRA). Section 1.1 introduces the research aims of the study. Section 1.2 establishes organisational change management as the academic discipline underpinning the enquiry. Section 1.3 provides the background to CRA. Section 1.4 provides an introduction to the research of Elliott Jaques and Requisite Organisation (RO). Section 1.5 identifies the linkages between Australian OD change management and international RO activity. Section 1.6 identifies reasons for CRA's chief executive initiating a full scale implementation of OD in 1979. Section 1.7 notes the methodology as case study. Section 1.8 introduces the organisation of the study within a nine chapter framework. Section 1.9 outlines the key assumptions and scope of the thesis. Section 1.10 summarises chapter one and leads into the Literature Review - chapter 2.

1.1 Rationale for the study

This study enhances the academic literature relating to organisational change management generally and in particular to the global mining group Conzinc RioTinto Australia (CRA). The decade-long implementation of a holistic organisational development (OD) intervention within the global mining group CRA was momentous within Australian corporate annals, yet little understood or disseminated outside the company. Understanding of the OD intervention and how Jaques' Stratified Systems Theory (SST) metamorphosed through the CRA project to emerge globally as Requisite Organisation (RO) has been, for the most part, inaccessible to outsiders. CRA's OD project is fleetingly referred to in the literature but with minimal detail (or analysis) in its own right. In 1993 as a consequence of the offer of salaried staff employment to CRA's award workforce at its aluminium and iron ore business units, scholars converged on CRA. However a decade earlier, the OD intervention engendered minimal academic interest.

Sir Roderick Carnegie (hereon known as Carnegie) and Professor Elliott Jaques (hereon known as Jaques, decd March 8th 2003) were responsible in that order for the introduction of OD to CRA. The decade long implementation of a companywide (OD) intervention within the global mining group was significant, yet little understood. Outside a small group of senior staff and consultants, little is known about how the outcomes of the OD intervention evolved into what is now known globally as Requisite Organisation or RO. Greiner and Cummings (2004 p. 384) describe OD as a 'system wide process of applying behaviour science knowledge to the planned change and development of an organisation'. The OD intervention can embrace strategy realignment, structural changes, process redesign, culture, organisational behaviour and leadership. The intent of the CRA OD intervention was predicated on improving the

efficiency and effectiveness of the company in the manner it provided goods and services to customers.

The aim of the study is:

To assess the Carnegie/Jaques Organisation Development (OD) intervention at Conzinc Riotinto Australia through the lens of Kotter's eight step organisational change process

In achieving the study aim, six enabling objectives were investigated. The objectives evolved from the literature review to inform the intent of the fundamental purpose of the study and are documented as:

i. identification of the significant factors contributing to the establishment of the OD intervention project in 1979

ii. analyse the linkages between the OD trials at three CRA mine and process plants and the go/no-go decision trigger for the project

iii. analyse a typical OD implementation at the Raw Materials Business Unit (the world's largest bauxite mine) at Comalco Weipa

iv. appraise the implementation of system leadership training and development (T & D) following on from the Carnegie/Jaques' OD intervention

v. expand on Stage seven of Kotter's model (*producing still more change*) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations

vi. develop a model for organisational change intervention in the Australian mining industry based around Requisite Organisation (RO) principles and Kotter's eight step change model

The foundation theme of the study is presented in Figure 1.2. The study is positioned subsequent to the initial research carried out by Jaques on development of the theories and noted as: 'evolution of the theories into a generic organisation structure model'. Figure 1.2 evolved from the research of (Brown 1960, 2003; Brown 2011, 2011a; Brown & Jaques 1965; Ivanov 2003; Jaques 1989).
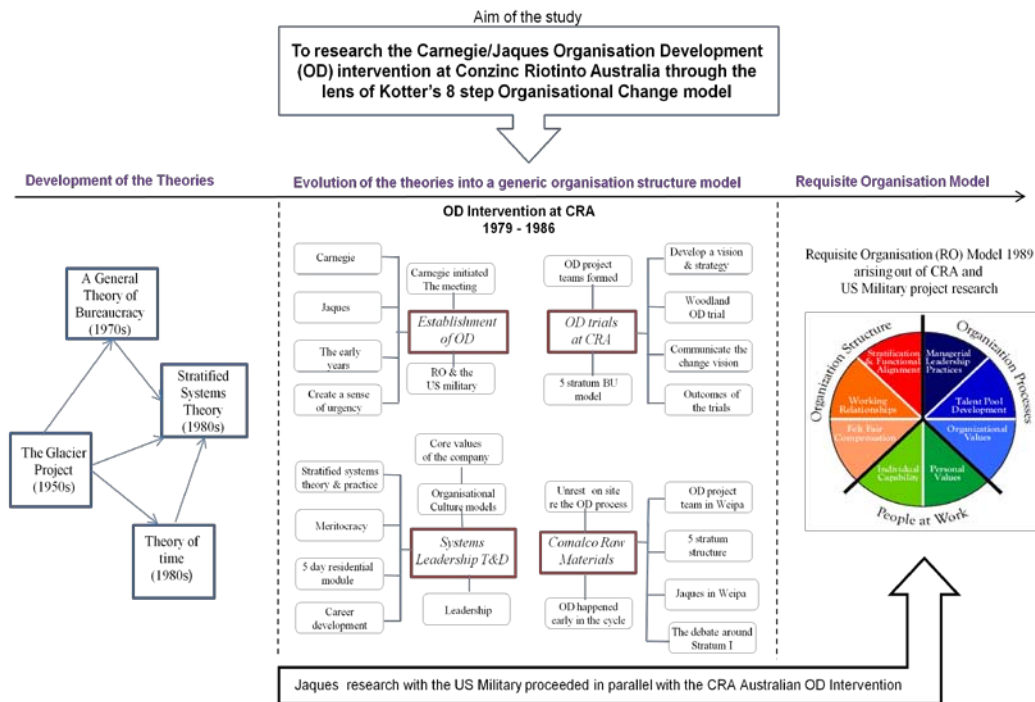
Figure 1.1: Positioning of the study between theory development and the RO model

Study aims i through iv inclusive are embedded within Figure 1.2 under the overarching aim of the study. They are: (i) establishment of OD, (ii) OD trials at CRA, (iii) Comalco Raw Materials and (iv) System Leadership T&D. Study aims (v) expands on Stage seven of Kotter's model (*producing still more change*) and (vi) develops a model for organisational change intervention. These two study aims are expanded on in Figure 1.4: linking study aims (and outcomes) to Kotter's (1996) transformational change process.

Early development of the theories was undertaken at the Glacier Metals Company and the Brunel Institute of Social Studies (BIOSS) during the three decades preceding the late 1970s (Jaques 1989, background & acknowledgments; Ivanov 2003, p. 3). The RO model evolved out of the initial theories in the period 1979 to 1986 within the CRA group of companies and was an unequivocal consequence of the OD intervention combined with concurrent action-based research within the United States Military establishment (Macdonald, Burke & Stewart 2006, p. 242; Jaques 1989, background & acknowledgments).

Carnegie (2005, p. 341) articulated the time horizon in the journey leading to the development of RO from the perspective of a CEO engaging a consultant:

> I didn't, and CRA didn't adopt Jaques' theory in 1978. He did not have a developed theory. What Elliott had was deeply held hypotheses. He didn't really have a worked-out theory. After

the eight or 10 years' work with us, and with the parallel work with the US Army, these hypotheses have been solidified into Jaques' practical theory titled - *Requisite Organisation.*

Figure 1.3 notes, that the Brunel University Senate established memorials commemorating over two decades of commitment by Jaques and Brown to scholastic enquiry within British industry and the University sector (Brunel University 2009).
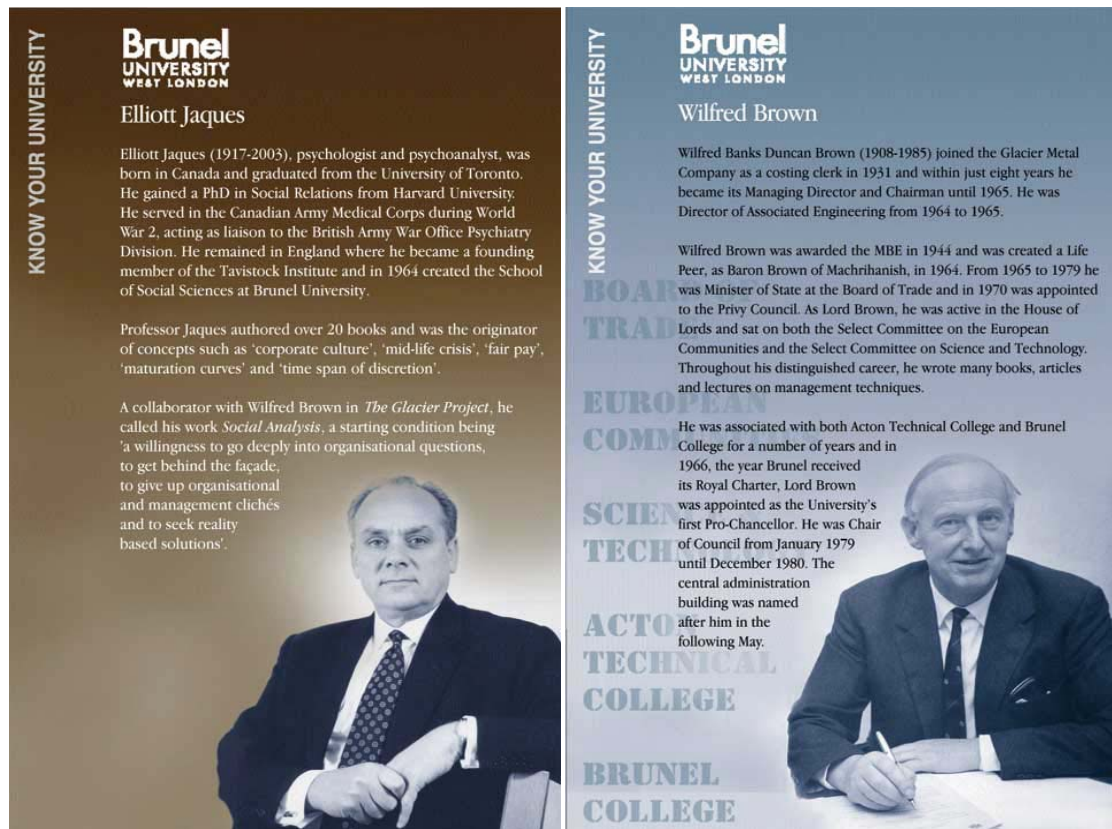
Figure 1.2: Brunel University: Memorials to Jaques and Brown

The Brunel University Central Administration building is named after Brown and its School of Social Sciences building is named after Jaques (Brunel University 2009). Jaques' theories were influenced by the contributions of Lord Wilfred Brown during the gestation period of his early research (Brown 1960, 2003; Brown & Jaques 1965). Brown joined the Glacier Metal Company in 1931 and was appointed Managing Director and Chairman in 1939. He remained Chairman until 1965. During the post war period through to 1965 Jaques, in collaboration with Brown, developed and refined the original RO hypothesis (E Jaques 2001, pers. comm.).

1.2   Background of the study

In the late 1970s Carnegie decided to change '*the way we operate across all facets of our business*' (R Carnegie 2000, pers. comm; Stewart 1995, p. 163; Thorne 1997, p. 1). Carnegie believed CRA was 'vulnerable to take-over because it had a fragmented structure'. Carnegie

was determined to 'unite' CRA into a powerful and strong corporation that would become a world class mining entity (R Carnegie 2000, pers. comm).

From late 1979 to early 1980, Carnegie initiated a raft of studies centred on 'corporate needs for the next twenty years'. He identified the necessity to develop common goals that would align the company with its employee objectives (Butlin 1995; Gorman 1996; Johnson 1996; Kohler 1995, p. 43; Ludeke 1996, p. iv; McLeod 1996a, p. 3; Palmer 1997; Thorne 1997). As CEO, Carnegie instituted top-down organisational change across CRA. In 1979 Jaques, as a psychoanalyst, organisational theorist and management consultant, was commissioned to test the Stratified Systems Theory at CRA in Australia. Jaques was also commissioned by the United States government to test the theory within the United States military (R Carnegie 2000, pers. comm.; E Jaques 2001, pers. comm; Carnegie 1992; Jacobs, 1992).

Carnegie's top-down, CEO-directional leadership, combined with CRA's effective executive leadership allowed Carnegie to transform CRA as a company. CRA, over time, became the global benchmark for organisational renewal utilising the RO model (Chaney 1988; Copeman 1987; Corrigan 1998; Dunphy & Stace 1990; Guest 1962; Kanter 1985, 1999; Kanter, Stein, & Jick, 1992; Kotter 1996, 1998). Carnegie and Brady from CRA in conjunction with Jaques implemented *'Requisite organisation: A total system for effective managerial organisation and managerial leadership'* throughout the business (Brady 1992; Carnegie 1992; Jaques 1989). This work continued well into the 1980s encompassing Australian and New Zealand mine and process plants and Commonwealth Aluminium Corporation (in Kentucky).

Carnegie's outspoken views on majority Australian ownership of CRA overtime ensured his position as CEO of CRA Australia became untenable to the Rio Tinto Board in the United Kingdom. During 1986 Carnegie resigned from the company. The personal involvement between Jaques, Carnegie and CRA ceased with the appointment of a new CEO, who transitioned the business in the direction of a continuous improvement methodology (R Carnegie 2000, E Jaques 2001, pers. comm).

Figure 1.7 portrays the CRA time-line milestones between 1970 and 2008 Adapted from (Anon Rio Tinto Alcan, 2001). During this time CRA underwent continual change, while maintaining an international and strategic focus.
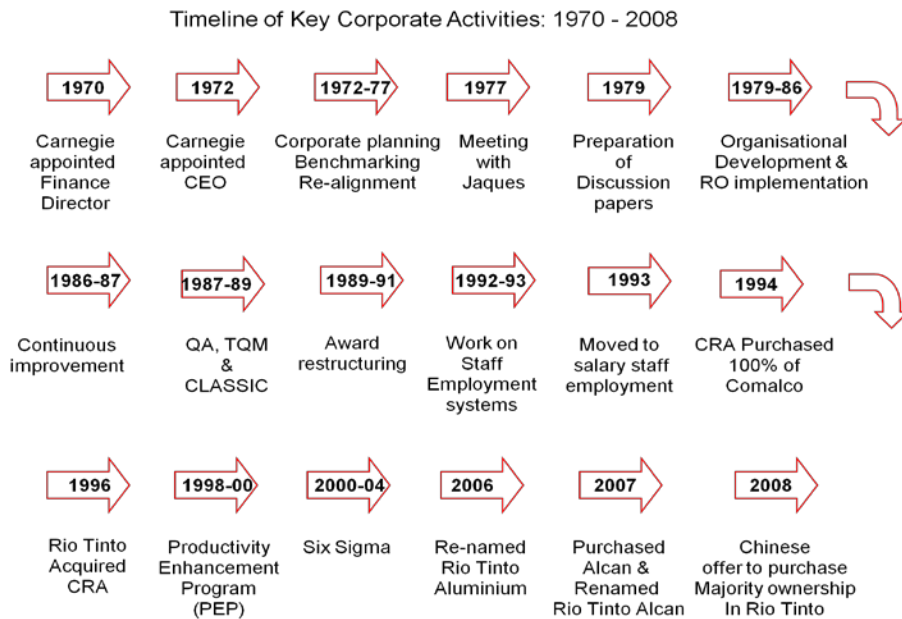
Figure 1.3: CRA corporate activities timeline 1970 - 2008.

The literature identified the period of the OD intervention nominally between 1977 and 1986. This period tied in with Carnegie and Jaques major involvement in the process. When Carnegie parted company with CRA in 1986 this marked the end of Jaques' personal involvement in the project. John Ralph was appointed CEO and moved the business on from the OD period into continuous improvement (CI) from 1986 onwards (Global Business Leaders 2007). Hunger and Wheelen (2011) have analysed corporate strategy in companies analogous to the CRA timeline in Figure 1.7. They suggest large companies display 'punctuated equilibrium' in that they evolve through a 'particular strategic orientation' for about 15 to 20 years (equilibrium periods) punctured by 'short bursts of fundamental change' (revolutionary periods).

The company continued to improve operational efficiencies whilst constraining labour and product unit-costs. Over the recent decade, the mining industry globally has again remained resilient and shifted focus from internal efficiencies and green field developments to growth - particularly by acquisitions and mergers. The legacy of RO has endured the passage of time relatively intact at Rio Tinto - particularly in a typical business unit within the company.

1.3 Organisational Change and the theories of Kotter

As a consequence of the literature review on change management models, the study's aims for the OD intervention at CRA are achieved within a framework of Kotter's theories on organisational change management. Kotter espoused his change management philosophy following research into why organisational transformations failed in the early 1990s. This research was followed by the publication of 'Leading Change' in the March - April issue of

HBR' (Kotter 1996, p. ix). The theoretical approach utilised in this study will firstly engage the 'eight steps to transforming your organisation' and secondly investigate the generic change management theories advocated in leading change in organisational development within the CRA group of companies. Kotter's (1996) organisational change process is tabulated in Table 1.1.

Table 1.1: Kotter's eight step process to transforming the organisation

Step	Area Considered	Specific Areas Evaluated
1	**Establishing a sense of urgency**	Examining market and competitive realities Identify and discussing crisis, potential crises or major opportunities
2	**Forming a powerful guiding coalition**	Assembling a group with enough power to lead the change effort Encouraging the group to work together as a team
3	**Creating a vision**	Creating a vision to direct the change effort Developing the strategies for achieving that vision
4	**Communicating the vision**	Using every vehicle possible to communicate the new vision and Teaching new behaviours by the example of the guiding coalition
5	**Empowering others to act on the vision**	Getting rid of obstacles to change Changing systems or structures that seriously undermine the vision Encourage risk taking and non-traditional ideas, activities and actions
6	**Planning for and creating short term wins**	Planning for visible performance improvements Creating those improvements Recognizing and rewarding employees involved in the improvements
7	**Consolidating improvements and producing still more change**	Using increased credibility to change systems, structures and policies Hiring, promoting and developing employees who can implement the Reinvigorating the process with new products, themes and change
8	**Institutionalising new approaches**	Articulating the connections between the new behaviours and corporate Developing the means to ensure leadership development and succession

Kotter (1996, p. 3) established that 'most successful change efforts begin when some individuals start to look hard at a company's competitive situation, market position, technological trends and financial performance'. Companies also change by moving through a 'series of phases' or steps that usually 'require a considerable period of time'. This focus on successful change management strategies is consistent with CRA's nine year transition to a RO structured organisation.

Organisational change within CRA was top-down and directed from the office of the CEO. This CEO change leadership and direction when combined with effective leadership at a senior level, in general delivered a successful organisational outcome (Chaney 1988; Copeman 1987; Corrigan 1998; Darbishire & Katz 1997; Dunphy & Stace 1990; Gardini, Giuliani & Marricchi 2011; Guest 1962; Kanter 1985; 1999). Ongoing change continued within the company after the initial restructuring. Business units and corporate staff delivered applicable training and

development modules throughout the organisation. These ongoing activities allowed the company to anchor the change processes into the culture and operational activities of the business (R Carnegie 2000, pers. comm).

Jaques analysed the links between 'individual capability, work roles, organisation structure and change management'. Jaques referred to the period of adaptation of the CRA instituted change process as the 'seven year test' (Jaques 1976, p. viii):

> I have come to apply what I think of as the seven year test. That is to say, I have little confidence in the validity of any new development until it has been in force for seven years. I have seen - in various institutions - too many new methods tried, such as the introduction of piecework, or a job evaluation scheme, or of co-operative systems, or of group methods, for which claims are made on the basis of follow up studies carried out for months or perhaps a year or two. The consequential effects and difficulties associated with any one change or with any shortcomings in the change itself may not necessarily begin to show for some years. They take time to work into the system.

The study captures the seven year timeframe and establishes the linkage between the study aims the eight steps to transforming your organisation and research outcomes in Figure 1.4. The study engages Kotter's model as a lens through which the veracity of the OD intervention undertaken within CRA is screened and evaluated.
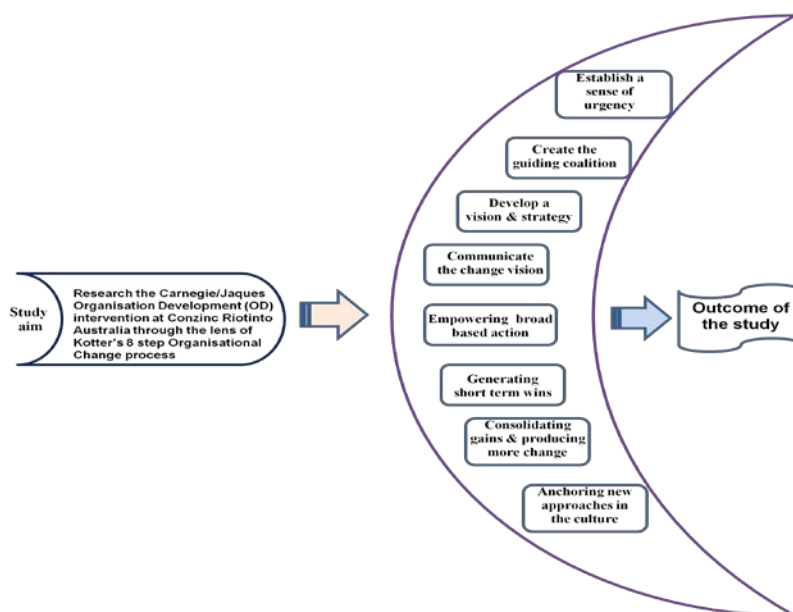
Figure 1.4: Linking study aims and outcomes to Kotter's (1996) change process

This study elucidates the aspects of the RO organisational change management process at CRA that achieved the standards of Kotter's model, and which elements did not. The study authenticates those components which pass through the lens and mesh with Kotter's model criteria. Conversely those process elements which the lens reflects back are analysed to identify rejection reasons. Passing the study aims across the Kotter lens presents an approach to validate the usefulness of this eight point transformational process when directly applied to a significant Australian organisational change management process within the mining industry.

Study aims (i) through to (iv) inclusive were noted as being embedded in Figure 1.2. Study aims (v) and (vi) are embraced by Figure 1.4 and expand on the Kotter eight step process applicability to the Australian mining industry. Study aim (v) expands on Stage seven of Kotter's model (*producing still more change*) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations in chapter 7 and 8. Study aim (vi) develops a model for organisational change intervention in the Australian mining industry based around Requisite Organisation (RO) principles and Kotter's eight step change model in chapter 9.

1.4 Conzinc Riotinto Australia (CRA) background

The research primarily focuses on the Comalco mining operation located at Weipa in North Queensland which is a standalone business unit within CRA. The Weipa bauxite mine was one of the three 'jewels' in the mining crown of CRA'. The other two jewels were Hamersley Iron and Bougainville Copper (R Carnegie 2000, pers. comm). The study researches the implementation of OD instigated by Sir Roderick Carnegie, the Chief Executive Officer (CEO) of Conzinc Riotinto Australia (CRA) in 1979.

1.4.1 CRA and Comalco history

Commonwealth Aluminium Corporation Pty Ltd began developing the Weipa North Queensland bauxite deposits in 1956. Weipa is identified in Figure 1.5 as being on the north west coast of Queensland. In the same year, the aluminium business unit Commonwealth Aluminium Corporation Pty Ltd was subsequently shortened to Comalco. This business unit was initially part of Consolidated Zinc Pty Ltd (anon Rio Tinto Alcan 2007).

Figure 1.5: Comalco operations at Weipa in Queensland, Australia

CRA was established in 1962 after an amalgamation between Consolidated Zinc Pty Ltd of Broken Hill and the Rio Tinto Company. In 1995, the Australian and British Rio Tinto companies were unified under a single management. In 1997, CRA became Rio Tinto Limited. Rio Tinto Limited purchased Comalco in 2000, and in late 2006 the company was renamed Rio Tinto Aluminium. Ownership changes continued through 2007 with Alcan and Rio Tinto Aluminium joining forces to create Rio Tinto Alcan (anon Rio Tinto Alcan 2007).

1.5   Elliott Jaques background

The literature examination for Jaques' research output was clustered thematically for ease of analysis. A flying wedge business development model adapted from Golsby-Smith & Associates (1993) was constructed as noted in Figure 1:
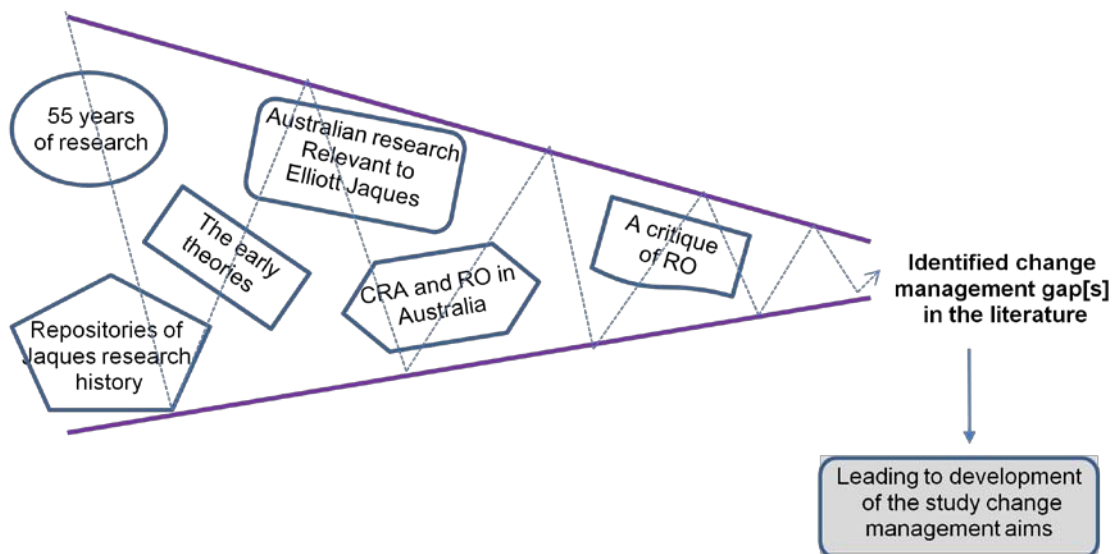
Figure 1.6: Flying wedge model used to identify gaps in the Jaques literature

To identify discrete literature nodes applicable to the study, thematic clusters such as research timeframe, repositories of data, early theories, Australian research, CRA and RO and a critique of RO were bundled in individual clusters. The model facilitates funnelling down the wedge to highlight gaps in the literature. The process allowed filtering of information leading to milestones applicable to the development and consequent evolution of the RO model in CRA. The model/process moved from theory to working model over time as a consequence of the Jaques consultancy with Carnegie at CRA - Carnegie, Jaques and RO, a meeting of minds (Brady 1994; Carnegie 1994; Jaques 1989).

Jaques developed a number of organisational concepts and theories in association with Lord Wilfred Brown and Glacier Metals. Commencing in 1947, Jaques worked with the Glacier Metal Co for more than thirty years. The company was his laboratory, a living microcosm of organisational behaviour and the test bed for his original theories (Brady 1992; Creelman 1999a, 2000a, 2000b, 2000c, 2000d, 2000e; Jaques 1998a; Kleiner 2001). During this period Jaques established the Brunel Institute of Social Sciences (BIOSS), and was a founding member of the Tavistock Institute of Human Relations (Brown 1960, 2003; Brown & Jaques 1965; Jaques 1952; Kirsner 2005a; Macdonald, Burke & Stewart 2006, p. 6; Stamp 1992; 2000).

Jaques was a social analyst and psychoanalyst, and wrote a General Theory of Bureaucracy in 1976. This was followed by research around Stratified Systems Theory (SST) and Time Span of Discretion (TSD) hypothesis which focused on the importance of the targeted completion time of the longest task in a role. Jaques wrote and published in excess of 20 books and a multiplicity of articles during his lifetime. Kirsner (2005a, p. 323) observed that Jaques' major contribution to the literature included: The changing culture of the factory (1951); Social systems as defence against persecutory anxiety (1955); Death and the mid-life crisis (1965a); A general theory of bureaucracy; Creativity and Work; Executive Leadership; Requisite Organization (1989). Social Power and the CEO (2002a) and The Life and Behaviour of Living Organisms were the last publications before his death.

Figure 1.6 captures the inter-relationships and time-sequencing of divergent theories that has led to the development of RO theory adapted from (Ivanov 2003, p. 3; Jaques 2001).
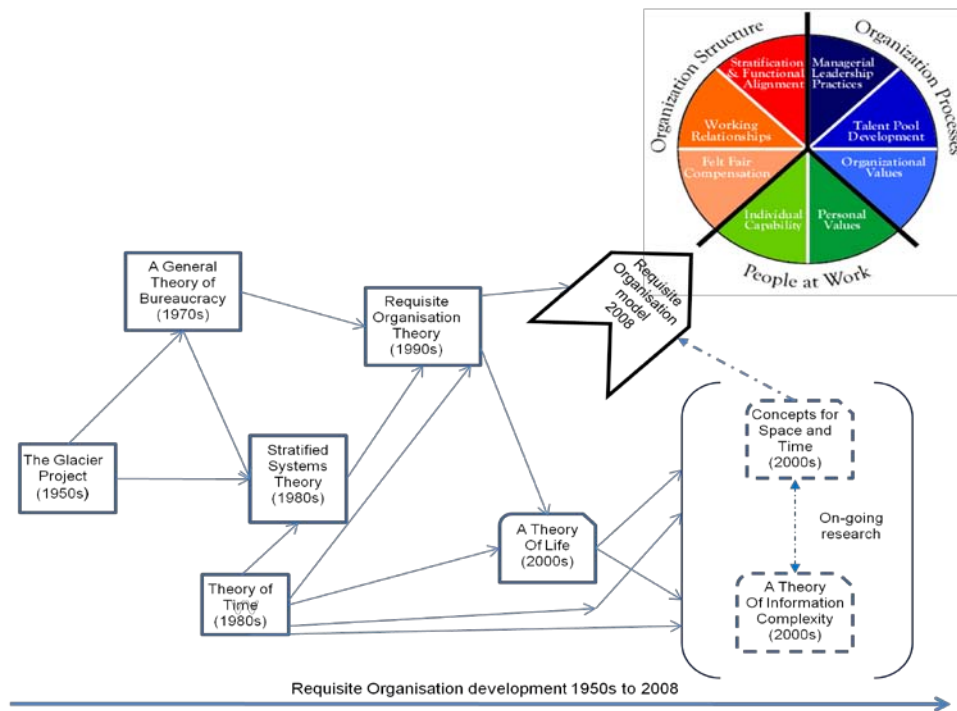
Figure 1.7: RO model development over time.

RO theory comprises an eight segment approach linking the organisational structure, the workplace participants and the organisational processes. Alignment of these eight sectors and specifically targeting levels within the organisation is paramount the successful delivery of RO theory in the workplace. Figure 1.6 is evaluated in depth in later chapters. Jaques continually 're-thought, re-worked his early theories' into a revised theory. This revised theory has been in place since the 1980s and is known as Requisite Organization (Ivanov 2003, p. 2-3; Ovretveit 1992). Jaques proposed that an organisation should be 'requisitely structured' so that there were 'distinct managerial roles', and that the 'task complexity' 'at each level' was 'correctly aligned' with the 'individual's personal capability' (E Jaques 2001, pers. comm.). Prior to his death in 2003 Jaques had further combined his time and space concepts with the theory of information complexity (Brady 1992; Brown 1960; Ivanov 2003; Kleiner 2001).

1.6   Australian Research on Conzinc Riotinto Australia and Elliott Jaques

Although RO was applied across Australia's largest mining company in the 1980s, only one Australian PhD dissertation has alluded to RO to any extent. Hearn Mackinnon (2003) investigated: *Strategic Management and Employee Relations: CRA/Rio Tinto's De-Unionisation Campaign 1991 - 2001*. The study focused on industrial relations and the influence of RO on managerial prerogative. Thus, this major mining industry business model incorporating the principles of RO at CRA, (now Rio Tinto) warrants detailed investigation.

Australian academic researchers have typically concentrated on the aluminium, coal and iron ore business units. Many have followed a line of investigation based around generic industrial relations, and in CRA's case, have investigated the CRA offer of 'salaried staff employment' to their existing 'award' workforce (Hearn Mackinnon 1997a, 1997b, 1999, 2001, 2003, 2004; Quinlan 1996a, 1996b; Timo 1989, 1997, 1998, 2001). A cursory examination of the articles reveals only a fleeting mention of RO. Craddick (2002, 2009) has identified globally-focused RO publications, research papers and books, particularly those focused around Jaques and his research.

1.7 Methodology

The primary research methodology employed in this study is a case study. Case study methodology is increasingly being utilised as a rigorous academic research model and is supported by numerous authors, e.g: (Blain & Plowman 1987, p. 19; Cassell & Symon 1994; Connell, Lynch & Waring 2000, pp. 1-8; Creswell 1998, pp. 36-37; Patton 1990, p. 102; Perry 1994; Stake 1995; Tellis 1997; Yin 1994, 2003). Cassell and Symon (1994, p. 209) imply 'a case study approach is not a method as such, but rather a research strategy, within this broad strategy, a number of methods may be used. The emphasis will generally focus on qualitative complimenting a case study. Yin (1994, p 23) defines case study research as an 'empirical inquiry that investigates a contemporary phenomenon' within its real-life context'. Multiple and diverse sources of enquiry are often utilised in case study research as is the case with the Australian mining industry and in particular - CRA.

Swain (1995, p. 4) considers a case study research methodology when rigorous, coherent, and displaying sound philosophical basis to be an appropriate alternative to surveys and experiments for postgraduate researchers at Masters and PhD level. Additionally, case study methodology is applicable to studies of organisational behaviour - especially where the understanding of organisational innovation and change is shaped by internal forces and by the external environment (Kelly 1991, p. 44; Swain 1995, p. 4; Yin 1994, 2003).

Case study analysis allows historical forces, contextual pressures and the dynamics of various stakeholder groups in proposing or opposing change to be tracked over time. Furthermore, case study methodologies are sometimes able to adapt and to probe areas of original and/or emergent theory. In essence, case studies may be tailor-made for exploring new processes or for assessing behaviours or investigating situations/processes that are little understood (Cassell & Symon 1994, p. 221; Yin 1994, 2003).

Thus this research applies a case study approach primarily across CRA's Comalco Weipa operation. Organisational structure, innovation, culture and change was shaped by Carnegie and Jaques as the new RO five stratum business model was deployed. This case study approach employed interviews, participant observation, review of documentation and stakeholder analysis. Comprehensive and wide-ranging interviews were conducted with the individuals who occupied leadership roles within CRA and Comalco between 1979 and 1993. The transient nature of employment within the Australian mining industry necessitated expanding the parameters of the study to encompass the broader CRA metalliferous mining and process sites throughout Australia, New Zealand and the Comalco owned aluminium rolling mill complex in Kentucky in the United States.

Interviews were conducted in Australia, the United States, and the United Kingdom. The data accessed consisted of personal recollection and diary notes, internal memos, presentations, briefing documents, training and development material on stratified systems theory, leadership and employment system changes. This data was then combined with recollections and diary notes from numerous staff who were directly involved with the rollout of RO from 1979. Stakeholder interviews were conducted face-to-face, phone, fax and/or by e-mail. Direct personal interviews were preferred, with phone contact used in a small number of cases where face-to-face contact was not viable. E-mail was utilised to complement and clarify personal and/or phone contact (also served as a data storage medium). Interviews with individuals directly involved with the organisational development intervention constituted a rich vein of information.

Interviews and stakeholder engagement as shown in Figure 1.8 constituted a core aspect of the research strategy. A two group interview approach was employed to capture the diversity of participants. Employees internal to the company constituted one group, and individuals external to the business constituted the remainder. In addition, key timeframes were covered with interviews discussing the initial period of RO and pre and post 1993 situation where staff conditions of employment were offered to the award workforce.
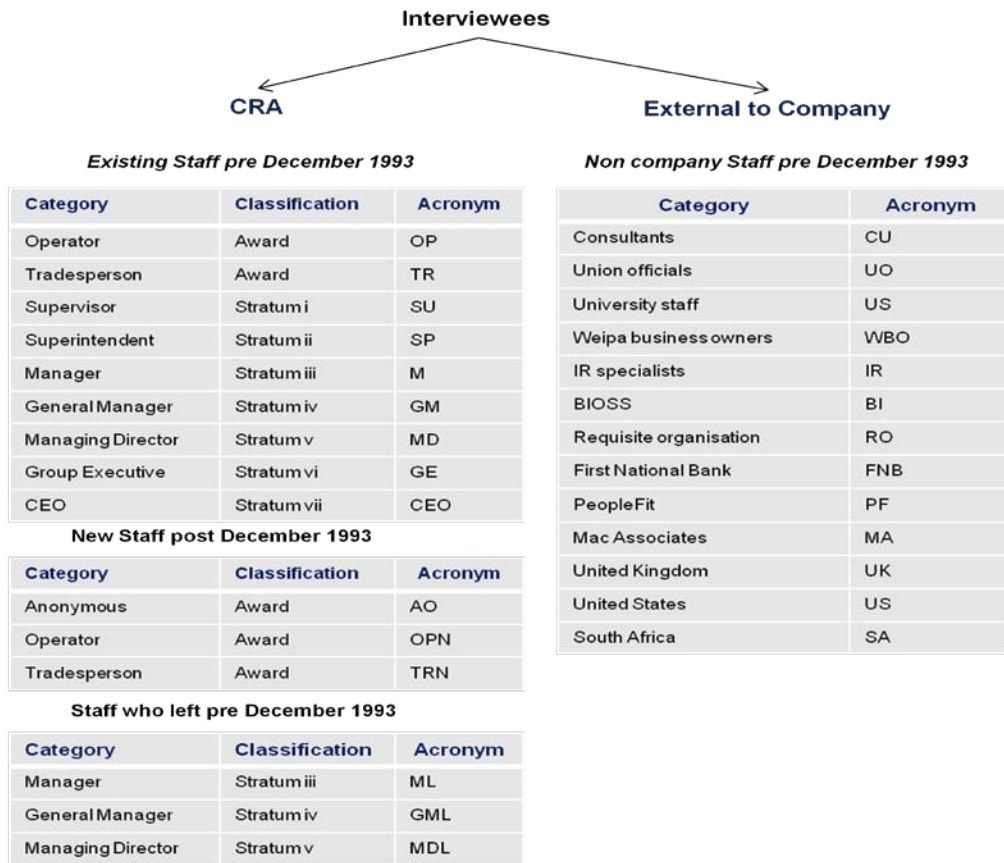
Figure 1.8: Breakdown of interview study categories and acronyms applied for anonymity

Interviews were conducted within discrete groupings and clusters contained by the two target groups. This allowed closer understanding concerning the sequencing of events and the interactions that occurred between discrete groups and across each focus group. The identity of the majority of participants was kept confidential by the use of acronyms (by place and name) within the body of the thesis. These acronyms came from the individual's role within the organisational structure. For individuals external to the company the first letter of their occupation was used.

Figure 1.9 outlines the triangulated research model adapted from Levy and Grewal (2007, p. 248) for the study. They propose a three domain process consisting of: Substantive, Conceptual and Methodological informing the researcher's unique perspective.
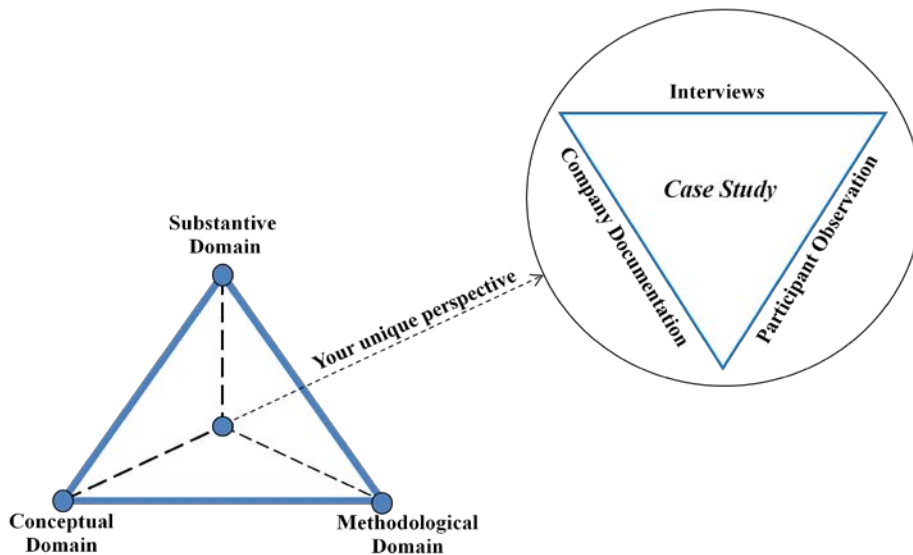
Figure 1.9: triangulated research model

Elements of the Substantive Domain converge around levels of the social unit; individuals, groups, organisations and cultures (Levy & Grewal 2007). This unites the themes of organisational change management at CRA based around employees and business units and embedding the new structure, culture and learnings within both individual business units and at a corporate stratum. The approach taken with the substantive domain aligns the study with the eight step change management process utilised as the academic foundation for the study (Kotter 1996).

The Conceptual Domain comprises patterns of logical, causal or chronological associations between states and actions of the entities. These can be employees, management, union movement, stakeholders or the physical environment in which the entity operates. This study encompasses all of the patterns mentioned, particularly in regards to isolated mine sites where the physical environment they operate in informs the conceptual domain hypothesis (Levy & Grewal (2007).

The Methodological Domain refers to strategies or 'settings within which research' is carried out (Brinberg & McGrath 1985, pp. 32 - 39). The tridimensional domains form the foundation from which the researcher's 'unique perspective' is based, interviews, company documentation and participant observation as described in detail in the methodology chapter.

Over time a convergence around the interview and focus groups emerged and this yielded additional knowledge from personal and firsthand account, regarding the sequence of events at CRA. In particular, individuals within the company who were engaged with RO from the

beginning were identified and contacted. The literature describes this research validation as 'multi-method approach' and 'common sense' (Buchanan 1999, p. 151). Internal and external interviewees and focus group participants, were sourced from a cross section of the people directly involved with various aspects of the RO roll-out. Analysis of documentation included company documentation and memos, as well as personal diary notes and internally produced conference papers. These provided information that was derived internally and external to individual business units.

Stakeholder analysis focused on employees within the various business units; the union movement and union employees in the company, Weipa business owners, contractors, academics within Australia, the United Kingdom, the United States and Argentina, RO staff and external consultants. Participant observation was added via the author as a past employee at Comalco.

Restrictors or limitations around the study were for the main part imposed by the researcher. A range of self-imposed boundaries were erected to ensure the research aim and associated enabling objectives were addressed within a logical structure and within a timely manner. The business units researched consisted of Mining and Refining (bauxite, alumina and aluminium) and to a lesser extent, Iron Ore. The longitudinal horizon for the study was based on two discrete timelines that enabled the Kotter eight step change processes to be comprehensively evaluated within an Australian mining change management intervention. Timeline 1 was based around the Carnegie/Jaques association beginning in 1979 and ending in 1986. Timeline 2 encompassed the lead up to, and the offer of, staff employment between 1989 and 1993.

1.8   Organisation of the study

This thesis evaluates the objectives, deliverance and assessment of RO as an organisation model of change management. The thesis firstly constructs three concept chapters in Figure 1.10. The trilogy of chapters one, two and three are contained within an interlocking framework, which, when taken together, inform the research question.
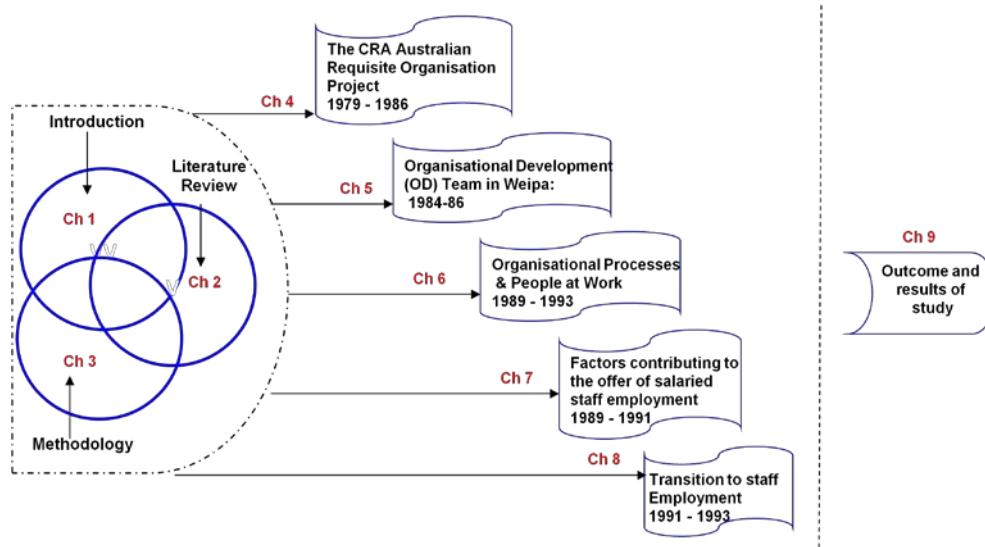
Figure 1.10: Nine chapter study outline

This approach ensures a solid theoretical foundation underpins the academic credentials of the thesis, contained in chapters four through to eight. Chapter nine draws the study aim and six enabling objectives to a conclusion. Of note in enabling objective six, is the development a generic model for organisational change in the Australian mining industry underpinned by Kotter's eight step change model and Requisite Organisation principles

Chapter four introduces the initial strategy promulgated by Carnegie at CRA and the preliminary meeting of Carnegie and Jaques in 1979, the organisational development pilot study at Woodlawn mine near Goulburn NSW and the outcomes from the pilot studies.

Chapter five examines the work of a typical Organisational Development team during the period under research that travelled to Weipa and Brisbane Corporate Office in 1984/85 to restructure the raw materials business unit.

Chapter six researches the basis of system leadership which followed on from the structural work of Jaques in chapters four and five.

Chapter seven researches the background to the award restructuring process which was the catalyst for the offer of salaried staff employment

Chapter eight researches the offering of salaried staff employment to the award workforce in Weipa.

Chapter nine draws the research together, proposes additional areas for RO research. Considers limitations, and concludes the study on organisational change management in the Australian mining industry by developing an organisational change model for the industry based around RO principals and Kotter's eight step change process.

1.9   Scope of the Study

The scope of the thesis is outlined in Table 1.2. After initially focusing on the CRA Comalco Weipa operation, the study scope was broadened to include additional metalliferous mine (Hamersley Iron) and process sites (Comalco Smelters), thereby enabling further comparisons to be included (G Thorne, 2001 pers. comm).

Table 1.2: Scope of study

	Scope Considerations
1	Researches CRA the mining company Australia
2	Researches the only major RO implementation that has occurred in Australia to date
3	Primarily centred on raw materials business unit at Comalco Weipa
4	Primarily researches implementation of RO structure, principles, and longevity of the CRA intervention
5	Researches managerial and employment relationship within CRA
6	Timeframe of study is notionally between 1979 and 1994

1.10   Chapter Summary

The chapter grounds the study from an RO theoretical perspective as well as identifying the company under analysis. The origins of the RO theory at CRA delivered one of the two major projects undertaken by Jaques during the 1980s. Previous research, publications and books provide a background to the study. The implementation of RO is just one of a range of initiatives and change management activities that CRA has deployed over a number of decades, but it remains the focus of this ten chapter case-based study. It should be noted that the author of this study was employed by CRA's aluminium business unit being between 1981 through to 2004. Chapter two leads into the literature review.

Chapter Two

Review of the Literature: Theoretical Foundations

Outline of Chapter

2.0   Chapter content

Introduces the chapter

2.1   Overview

Introduces linkages between the literature review, research question and the

methodology

2.2   The Literature Review

2.3   Organisational Change Management

Establishes a research foundation for the study based around organisational change

management

2.3.1   Identify Suitable Organisational change models

2.3.2   Evaluation of change models

2.4   The Research of Elliott Jaques: an overview

Establishes a base line of Jaques' research pertaining the development of his theories

and their relevance to the CRA organisational development intervention

2.4.1   Elliott Jaques fifty five years of Organisational research

2.4.2   Repository of Jaques' research

2.4.3   The early theories

2.4.4   Australian Research relevant to Elliott Jaques

2.4.5   Critique of Requisite Organisation

2.4.6   Discussion

2.5   Chapter summary

Summaries the key points to come out of the chapter and introduces chapter three –

methodology

2.0   Chapter content

Chapter two scrutinises the literature to identify themes for the study and examine gaps in the literature (Afolabi 1992; Jose 1999; Mulvey 1997; Perry 1994; Phillips & Pugh 1994). The literature review identifies gaps in the knowledge base of organisation change management applicable to CRA and the role of Elliott Jaques and Requisite Organisation. The literature applicable to organisational change management is examined with a view to finding a suitable model to evaluate the Organisation Development (OD) intervention at CRA. The research output of Elliott Jaques is identified for applicability to the CRA project.

Section 2.1 positions the literature review within a trilogy of chapters 1, 2 and 3. Section 2.2 introduces change management. Section 2.3 examines literature relevant to Elliott Jaques and Requisite Organisation. Section 2.4 introduces Australian research on Elliott Jaques. Section 2.5 completes the chapter, summarises the outcomes and leads into chapter three - methodology.

2.1   Overview

Figure 2.1 positions the literature review within a trilogy of chapters contained within an interlocking framework which informs the research questions, the literature review and the methodology.
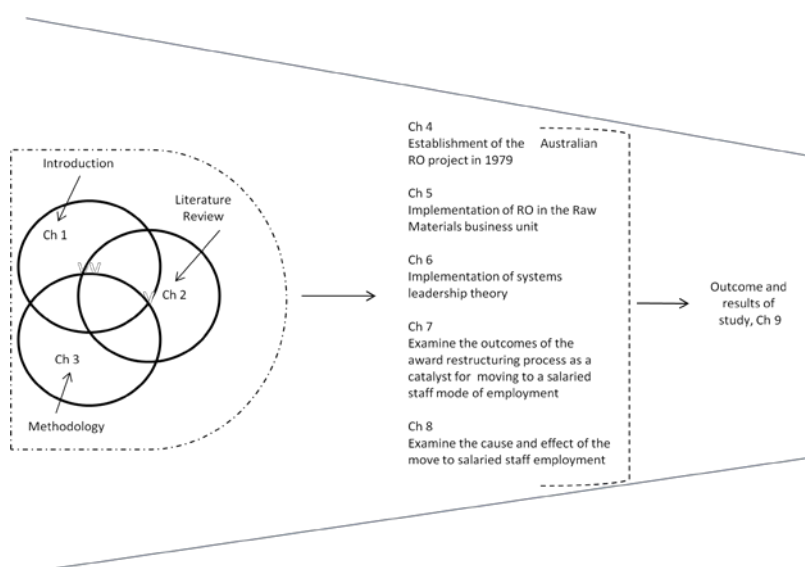
Figure 2.1: Trilogy of preliminary chapters - introduction, literature review and methodology.

A literature review is the first amongst equals within the trilogy of initial chapters of a dissertation. The literature review identifies gaps in the literature and establishes the knowledge foundation underpinning the study. This leads to framing the study questions in chapter one, followed by the methodology (chapter 3) chosen in answering the study aims. The route of the

study, chapters four through to eight, is identified leading on to outcomes and results (chapter 9).

2.2   The Literature review

The objectives of a literature review must be identified before leaving on a difficult and uncharted journey hoping to find a compass along the away (adapted from Lowell 1998).

Macauley (2000) notes a literature review seeks to describe, summarise, evaluate, clarify and integrate the findings into a coherent document that is used to inform the research questions and the methodology. Muskal (2001) describes the process of a literature review as organising and evaluating a body of literature in a manner which yields some conceptual insight to the reader. Rudestam & Newton (1992, p. 47) see the literature review as '…not a compilation of facts and feelings but a coherent argument that leads to the description of a proposed study'.

Becker (1986, p. 32) considers clarity developed from the 'contributions of other scholars', while Ivanov (2006, p. 2-6) considers that to separate scientific critiques from speculative opinions, one must define exactly what constitutes a scientific critique. Perry (1994, p. 15) notes that a researcher should concentrate 'on building a theoretical foundation'. That is, the literature review is not an end in itself, but is a means to the end of identifying research issues (Jose 1999; Muskal 2001; Perry & Coote 1994; Rudestam & Newton 1992; Taylor 2000).

Roderick and Peterson (2001) in Figure 2.2 identify nine steps as personal challenges to overcome and work through. This literature review embraces Figure 2.2 as a guiding template.
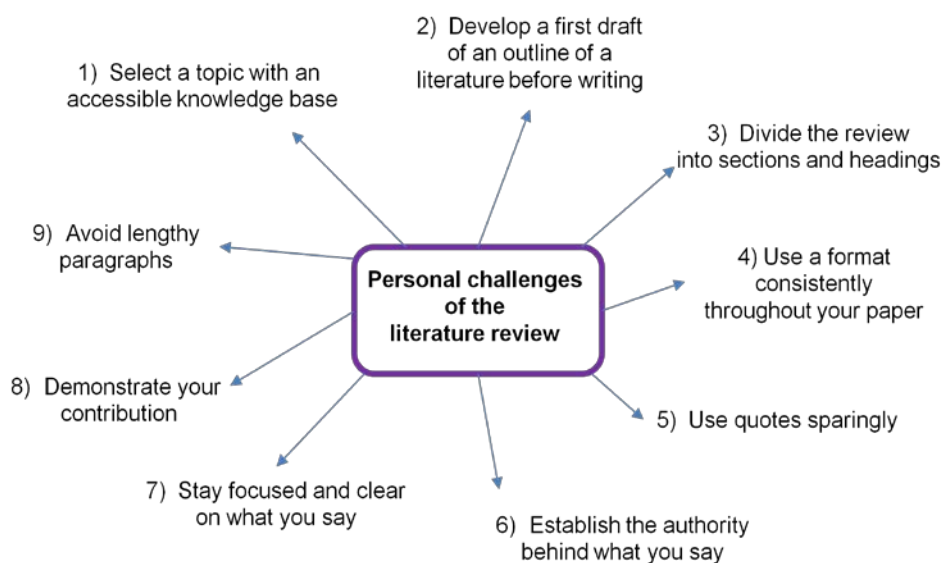
Figure 2.2: Literature review personal challenges.

Roderick and Peterson (2001) nine step model funnels the analysis of the literature through a logical process to ensure relevant themes have been captured and gaps in the knowledge base identified. Of particular note are the sections: select a topic with an accessible knowledge base (1), establish the authority behind what you say (6) and demonstrate your contribution (8). Adherence to these three steps ensures a rigorous foundation is constructed for the literature review to be constructed around (Perry 1994). This literature review embraces the content of Figure 2.2 as a guiding template.

2.3   Organisational Change

The philosophy and need to radically change the strategic direction of companies by a significant change management intervention is noted by researchers. The 1970s was a major watershed in international economic development both in Australia and globally. The period necessitated significant change management interventions by Australian companies to focus on the emerging deregulation of markets, goods and services (ACIRRT 1991, 1999; Bray, et al 2000; Dunphy & Stace 1990; Jenkins Lansbury & Wescott 1991; Kanter 1999; Kleiner 1994; Kochan, Katz & McKersie 1984; Kotter 1995, 1996; Legge 1995; Wright 1995).

Change management as a discipline is well represented in the literature. Organisational change literature has a propensity to divide into one of two main categories, firstly, a direction that emphasises organisational efficiency, and secondly one which emphasises social change (Poole & Van De Ven 1995). The organisational change model required for this study has aspects of organisational efficiency and social change combined with a leadership dimension (Darbishire & Katz 1997; Dunphy & Stace 1990; Guest 1962; Kanter 1985, 1997, 1999; Kotter 1995, 1996).

The literature review surrounding organisational change management methodology is aimed at selecting a suitable model for insertion in this study's lens (Figure 2.3) through which the Organisation Development intervention at CRA is evaluated. Organisation Development or (OD) is described as the planned change of organisational strategies, structures and processes (Macdonald, Burke & Stewart 2006; Waddell, Cummings & Worsley 2011). Organisations evolve through periods of incremental or evolutionary change punctuated by discontinuous or revolutionary change. The challenge for managers is to adapt the culture and strategy of their organisations to the current environment, but to do so in a way that does not undermine an organisation's capacity to adjust to market forces. An organisation needs to be created that is capable of engaging in both incremental and discontinuous change (Hunger & Wheelen 2011; O'Reilly III & Tushman 1996).

Figure 2.3 establishes the linkage between the study aims, the organisational change model selected, methodology and the outcomes of the study. This model informs and populates the trilogy of chapters underpinning the academic foundation of the study - chapter 1 (introduction), chapter 2 (literature review) and chapter 3 (methodology).
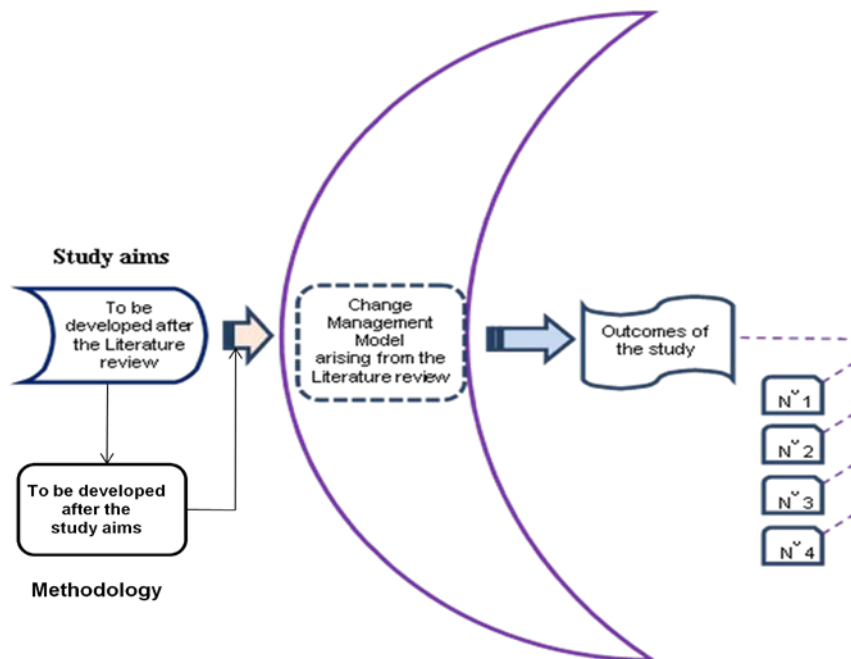
Figure 2.3:   Change management lens model, study aims, methodology and study outcomes

The change management lens model focuses the key components from chapters 1, 2 and 3. The model coalesces the veracity of the RO process undertaken within CRA. The study aims, pertaining to Jaques research and interaction with CRA, are developed in sections 2.3 to 2.6. The methodology selected is delineated in chapter 3. The outcomes of the study are promulgated in chapter 9.

This study elucidates which aspects of the RO process at CRA achieved the benchmarks of the selected change management model, and which elements did not. The study authenticates those components which pass through the lens and mesh with the model. Conversely, those elements which the lens reflects back are analysed to identify rejection reasons. Passing the study aims through a change management lens introduces a methodology to validate the relevance of Jaques' RO model when applied to a significant Australian change management intervention at CRA.

2.3.1 Identify Suitable Organisational Change Models

Organisational change is most successful when it is directed from the office of the CEO or at board level (Dunphy & Stace 1990). In all change programs there is usually a number of crucial timeframes, as well as individuals, who, through their leadership, strength of personality, moral courage and sheer perseverance see the program through (Dunphy & Stace 1990). Change management driven by the CEO and combined with effective leadership at a senior level, will have a high probability of achieving successful outcomes (Chaney 1988; Copeman 1987; Corrigan 1998; Darbishire & Katz 1997; Dunphy & Stace 1990; Gardini, Giuliani & Marricchi 2011; Guest 1962; Kanter 1985, 1997, 1999; Kotter 1996).

A range of organisational change management models were evaluated for their suitability in the study consisting of:

> - change strategies of sample organisations: (Dunphy & Stace 1990)
> - 7-S model: (Waterman, Peters & Phillips 1980).
> - types of organisational change models: (Nadler, Shaw & Walton 1995)
> - eight steps to transforming your organisation: (Kotter 1996)
> - enduring skills of change leaders: (Kanter 1999)
> - three horizons change model: (Coley 2009)
> - organisational hologram design process: (Mackenzie 1991)
> - three step change process: (Lewin 1951)

Dunphy and Stace (1990) applied a high level differentiator to their model, which they researched and developed for organisational change around Australian companies in Table 2.1.

Table 2.1: Change strategies of sample organisations

Style of Change Management	fine tuning	Incremental Adjustment	Modular Transformation	Corporate Transformation	
Collaborative	-	-	-	-	0%
Consultative	8%	12%	12%	-	32%
Directive	4%	8%	26%	22%	60%
Coercive	-	4%	-	4%	8%
	12%	24%	38%	26%	100%

This research originated from interviews across businesses in both the private and public sector within Australia during the mid to late 1980s. Throughout the period, research within these companies on the change process indicated that corporate and modular transformation, coupled with a directive style of change management, were the most effective (Dunphy & Stace 1990).

Dunphy and Stace (1990) note change does not just occur and cannot be left to happen. They confirm successful organisational change does not just happen of its own accord, but is managed through to fruition by strong and effective leadership at different stratums within an organisation**.**

The 7-S model in Figure 2.4 was designed was designed by McKinsey consulting staff to analyse and understand key organisational structures within a company in order to assess its potential for effective change (Waterman Peters & Phillips 1980).
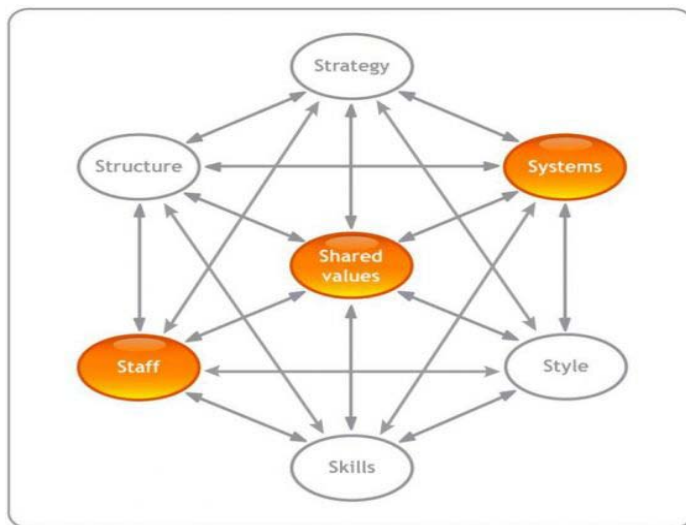
Figure 2.4: Mckinsey 7-S model

The central theme of the 7-S model is that all elements of the model are interconnected as well as being interdependent with each other. Strategy is the corporate plan to enhance the competitive nature of the business. Structure refers to how the people resources of the company are organized and utilised. Systems are the day-to-day processes and procedures that build on the structural skeleton. Shared Values relate to the core values and culture of the company. Style is the leadership model displaced at each level of the organisation. Staff refers to employees whether they are award, salaried staff, apprentices or graduates. Skills are competencies brought to the business by employees or developed within the company through formalised learning and development activities. By examining each of the elements individually, inconsistencies are uncovered which can then be aligned with the other elements before change is effectively implemented (Waterman, Peters & Phillips 1980).

Nadler, Shaw and Walton (1995) developed a model of organisational change shown in figure 2.5. Their underlying hypothesis is that all 'significant change in organisations ultimately originates from the environment' within which the company is operating (Nadler, Shaw & Walton 1995, p. 24).

Figure 2.5: Types of environmental organisational change

Reorientation is comparable to incremental, modular and corporate transformation identified by Dunphy and Stace (1990) in Table 2.1. Nadler, Shaw and Walton (1995) note that reorientation can be discontinuous and involve fundamental reassessment of the business. Factors to consider include identity, vision, strategy, culture, structure and values. Operations undergoing significant change will transform the manner work is allocated, the capabilities and attitudes of its people, formal structures, processes and the organisation culture.

Nadler, Shaw and Walton (1995) identify the anticipatory nature that allows time for relatively gradual change to occur. Holistic organisational change programs can take anywhere from three to seven years which is consistent with the timeframes alluded to by Jaques (1989) and Kotter (1996). Successful change efforts begin when some individuals start to look hard at a company's competitive situation, market position, technological trends and financial performance. Adapted from the work of Kotter (1996), Table 2.2 highlights a simple dissection of the eight steps.

Kotter contends that companies change by moving through eight distinct steps that taken together, require a significant amount of company time and resources. Change management is noted by numerous authors to have an extended time horizon (Dunphy & Stace 1990; Jaques 1989; Kanter 1999; Kotter 1996). Jaques stipulates a minimum seven year timeframe for significant change interventions to be both institutionalised and evolve into the organisation ethos (Jaques 1989; Kanter 1999; Kotter 1996). The broad direction outlined in Kotter's model from engendering a sense of urgency through to institutionalising new approaches, is consistent with the organisational transformation undertaken at CRA between 1979 and 1993.

Table 2.2: Kotter's eight step process for organisational transformation

1	**Establishing a sense of urgency**
	Examining market and competitive realities
	Identify and discussing crisis, potential crises or major opportunities
2	**Forming a powerful guiding coalition**
	Assembling a group with enough power to lead the change effort
	Encouraging the group to work together as a team
3	**Creating a vision**
	Creating a vision to direct the change effort
	Developing the strategies for achieving that vision
4	**Communicating the vision**
	Using every vehicle possible to communicate the new vision and strategies
	Teaching new behaviours by the example of the guiding coalition
5	**Empowering others to act on the vision**
	Getting rid of obstacles to change
	Changing systems or structures that seriously undermine the vision
	Encourage risk taking and non-traditional ideas, activities and actions
6	**Planning for and creating short term wins**
	Planning for visible performance improvements
	Creating those improvements
	Recognising and rewarding employees involved in the improvements
7	**Consolidating improvements and producing still more change**
	Using increased credibility to change systems, structures and policies
	Hiring, promoting and developing employees who can implement the vision
	Reinvigorating the process with new products, themes and change agents
8	**Institutionalising new approaches**
	Articulating the connections between the new behaviours and corporate success
	Developing the means to ensure leadership development and succession

Kotter's model coalesces with Kanter's enduring skills of change leaders shown in Figure 2.6 (Kanter 1999).
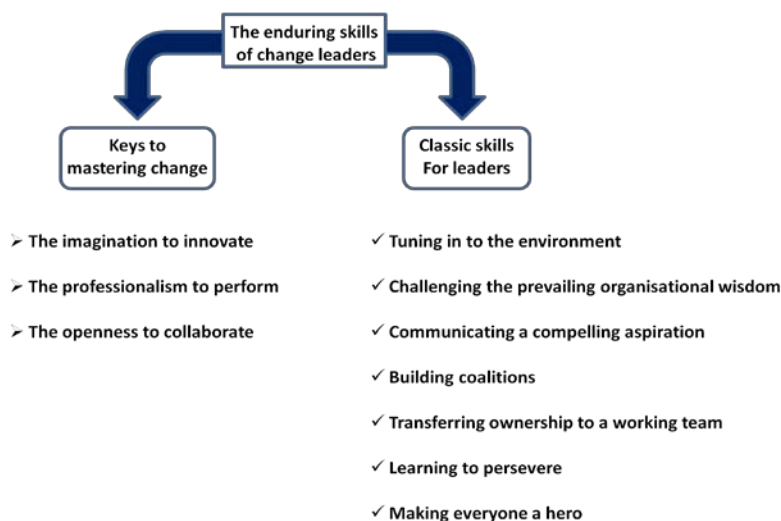
Figure 2.6: Enduring skills of change manager's model

Kanter's model blends parallel streams of mastering change and classic skills for leaders into a generic skills template for change leaders. The cross over between Kotter's and Kanter's models shows a strong emphasis on leadership skills required and the perseverance to see change through. Mastering change requires innovation, performance and collaboration over time. These sustainable change drivers are not bold strokes but long marches. The leadership skills model highlighted by Kanter fit together with Kotter's generic change process to produce an holistic model (Kanter 1999; Kotter 1996).

The three horizons framework of Figure 2.7 introduces a tripartite model for companies to assess potential opportunities for expediting growth going forward without neglecting current operations and existing markets (Baghai, Coley & White 1999; Coley 2009).

The Three Horizons
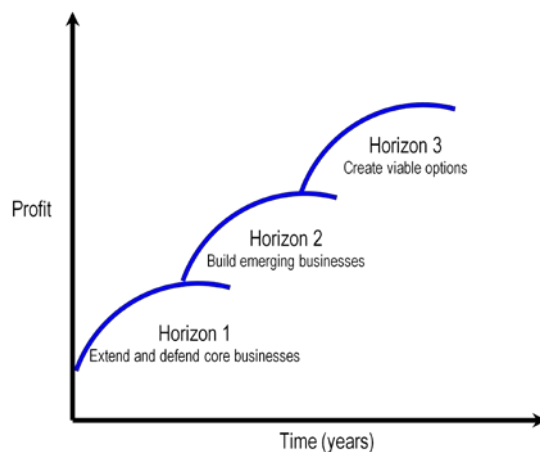
Figure 2.7: Three horizons change model

As companies mature, they can confront waning growth over time. The horizontal axis shows timeframe in years while the vertical axis describes profitability (Coley 2009). In order to achieve consistent levels of growth throughout their corporate lifetimes, companies continue to focus on current businesses opportunities while still contemplating growth strategies grow for the future. The timeframe in years is based around periods of phased change similar to Jaques' time span of discretion model (Jaques 1996).

Horizon 1 represents core business activity most readily identified with the company name and those that provide the greatest profits and cash flow. The focus is on improving performance to maximize the remaining value in the short term. Horizon 2 encompasses emerging opportunities, including rising entrepreneurial ventures likely to generate substantial profits in the future but that could require considerable investment. This is considered medium to

midterm strategy. Horizon 3 focuses on profitable growth in the future - research projects, pilot programs or minority stakes in new businesses. This is considered a strategic timeframe (Baghai Coley & White 1999; Coley 2009).

Figure 2.8 outlines an organisation hologram for the effective management of organisational change. The processes of change are anchored within a foundation of values and with a clear strategic direction for the business (Mackenzie 1991: Fig 2.2).
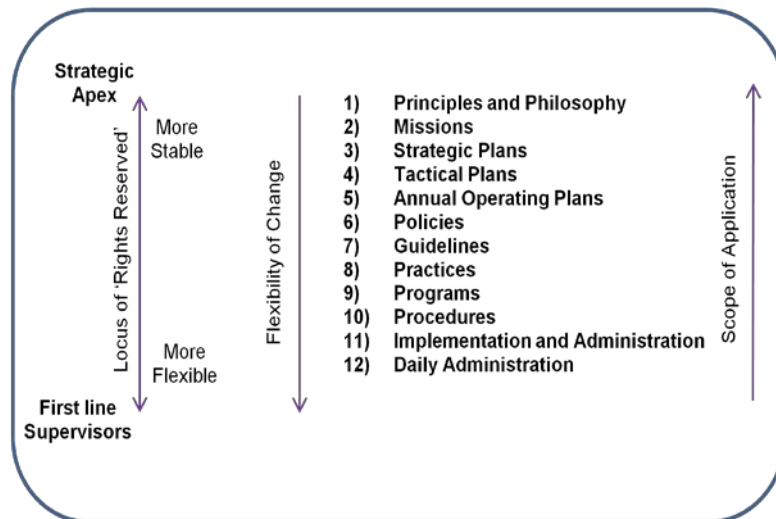
Figure 2.8: The organisational hologram design process

This organisational hologram design process allows both change and stability to be matched to any large scale organisational development intervention. The hologram identifies the principles and philosophy of the organisation and encompasses its values, culture and history. The philosophy cascades down through the mission, strategic and tactical plans to the day-to-day administration function.

The scope of application is based on a continuum model from executives at the apex of the company down to supervisors overseeing implementation of the strategy (Mackenzie 1991). 'Flexibility of Change' notes the time differential in a change management intervention. The process towards the bottom of the model can be more readily changed in comparison to the mission and strategic direction at the top of the organisation. This is noted as more flexible and more stable especially in the schematic (Mackenzie 1991, Fig 2.2).

'Locus of Rights Deserved' identifies the differentiation between executive of an organisation and the front line employees (Mackenzie 1991, Fig 2.2). Senior management normally has ownership and carriage of change management strategy and of the budgetary control process. Middle management has control over programs and procedures and is a vital link between

senior management and front line team leaders - supervisors. Implementation of policies and procedures is undertaken at a lower level of management in the organisation - the supervisor (Mackenzie 1991).

The organisation hologram offers management a framework to think through the issues in changing an organisation - both structure and people, strategic and operational. The model introduces the concept of systematic thinking in a period of rapid change (Covin & Associates 1988; Drucker 1985; Harris 1985; Kilmann Covin & Associates 1988; Mackenzie 1991)

Lewin (1951) establishes a different three step change program (Figure 2.9). The model consisted of unfreezing the status quo during the early years, changing the direction of the company during the middle years and refreezing the company as part of the end phase (LMC anon 2008; Lewin 1951, 1953; Marrow 1969).

Phase	Action
① Unfreeze	Create initial motivation to change by convincing people that current state is undesirable.
② Change	Identify new behaviours and norms. Communicate. Adopt new attitudes and Culture.
③ Refreeze	Reinforce new behaviour through reward systems, communications, structures etc.

Figure 2.9: Field Theory in Social Science

Bennis (2010) expands this three stage change model by further defining each segment. During unfreezing the old ideals and processes must be tossed aside so that new ones may be learned. Often, getting rid of the old processes is just as difficult as learning new ones due to the power of habits. During changing the steps to the new ideals are learned by practising: What I hear, I forget. What I see, I remember. What I do, I understand. During refreezing the new processes are now intellectually and emotionally accepted. (Lewin 1951; Marrow 1969).

2.3.2   Evaluation of change models

A variety of organisational change management models were cited and their characteristics noted in section 2.3.1 (Coley 2009; Dunphy & Stace 1990; Kanter 1985, 1999; Kotter 1996, 1996a; Lewin 1951; Mackenzie 1991; Nadler, Shaw & Walton 1995; Waterman Peters & Phillips 1980). An evaluation process was undertaken using the Kepner-Tregoe (KT) decision making process to analyse and rate the usefulness of the various change models as being

suitable for this study (Kepner & Tregoe 1981; Kepner-Tregoe 2010). A rigorous and objective evaluation based on a solid theoretical foundation was deemed necessary to enable a suitable change model to emerge. Such an approach negated an expedient approach to just select one randomly, or pick what seemed the best or most suitable option. Kepner Treger was chosen as the evaluation tool as the author was familiar with it application in the mining industry.

The Kepner-Tregoe (1981) decision making process in Table 2.3 evaluates change management models to ensure a suitable model is selected through a simplified six step closed loop process of establish objectives, classify objectives, generate alternatives, evaluate alternatives, identify adverse consequences and make the final choice. The model incorporates a numerical system based on a 10 point evaluation structure.

Table 2.3: Kepner-Tregoe decision analysis

Change Models	Establish objectives	Classify objectives	Generate alternatives	Evaluate alternatives	Identify adverse consequences	Make the final choice
Dunphy & Stace 1990	10	8	6	6	6	
Waterman Peters & Phillips 1980	10	10	8	6	8	
Nadler, Shaw & Walton 1995	10	8	6	6	6	
Kotter 1996	10	10	8	8	10	✓
Kanter 1999	10	6	6	6	8	
Coley 2009	10	8	8	8	6	
Mackenzie 1991	10	10	8	8	10	✓
Lewin 1951	10	8	8	6	8	

Kepner and Tregoe (1981) state that every decision we make requires us to think in terms of objectives, alternatives and potential risks. The objective is to select a change management methodology to be used as the basis through which the Organisation Development intervention at CRA can be analysed and verified against. Some alternatives include change management models as noted in Section 2.3.1.

After applying the KT decision making process all models were eliminated except for two. The organisational hologram Mackenzie (1991) and the eight steps to transforming an organisation Kotter (1996) remained. A supplementary closed loop decision making process was applied to the two change models and the organisational hologram Mackenzie (1991) was eliminated.

Kotter's (1996) eight steps to transforming your organisation was ultimately chosen as the most appropriate to assess the CRA intervention.

Figure 2.10 illustrates the eight step change model of Kotter (1996) encapsulated within this study's change management assessment lens.
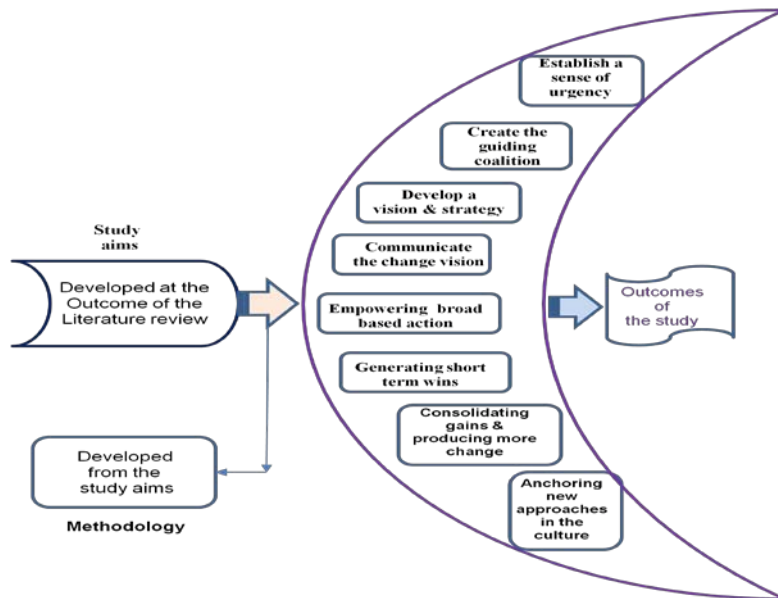
Figure 2.10: Adaption of Kotter's eight step change model implanted in the change management lens

The study elucidates which aspects of the RO organisational change management process at CRA achieve the standards of Kotter's model, and which elements do not. The process authenticates those components which enter the lens, mesh with Kotter's change management framework, and further focus the change management solution for CRA. Passing the study aims through the Kotter process also presents an opportunity to validate the usefulness of Kotter's model when applied to a significant Australian mining organisational change management process.

The change management lens model identifies the key components arising from the trilogy of chapters 1, 2 and 3. It coalesces and assesses the RO process undertaken within CRA. The study aims are developed from the literature review outcomes in sections 2.3 to 2.6 pertaining to Jaques' research and interaction with CRA.

2.4   The research of Elliott Jaques: an overview

The literature review pertaining to Jaques' research was clustered thematically for ease of analysis utilising a flying wedge business development model in Figure 2.11 adapted from (Golsby-Smith & Associates 1993).
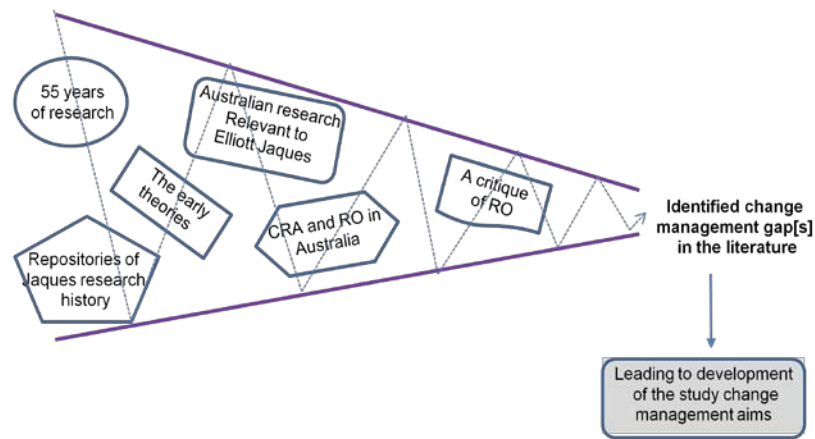
Figure 2.11: Flying wedge model employed to identify gaps in the Jaques literature

To identify discrete literature nodes applicable to the study, thematic clusters such as research timeframe, repositories of data, early theories, Australian research, CRA and RO and a critique of RO were developed. The model facilitates funnelling down the wedge to highlight gaps in the literature. The process allowed filtering of information leading to highlights in respect to the development of the RO model in Australia. The model/process moved from theory to working model over time as a consequence of the Jaques' consultancy with Carnegie at CRA - Carnegie, Jaques and RO; a meeting of minds (Brady 1994; Carnegie 1994; Jaques 1989).

2.4.1   Repositories of Jaques' fifty five years of organisational research

Free (2006) exemplifies the emerging trend around education and research content, traditionally in hard copy, becoming available to scholars and teachers on-line. The Requisite Organisation International Institute (ROII) is domiciled in the United States under the stewardship of Kathryn Cason, Jaques' widow and lifelong research colleague (Cason 1997). The early papers on Jaques' work are not readily available to scholars and have not as yet been transferred to an archive open to public scrutiny and appraisal. This is unlikely to occur in the foreseeable future. The papers of Lord Wilfred Brown reside at the Churchill Archives Centre, the Janus Repository located on the grounds of Cambridge University in the United Kingdom (Brown 2003). These two sites contain all the early research material that formed the basis for the theories of Jaques that evolved out of collaboration with Brown at Glacier Metals (Brown 1960, 2003; Mant 2008).

Appendix A1 and A2 contain two documents obtained from the Requisite Organisation International Institute (ROII). Appendix A1 provides a detailed bibliography to the work of Elliott Jaques. Appendix A2 notes Jaques' research from 1947 to the present.

Table 2.4 highlights the principal locations, access protocols and availability of Jaques research papers and publications.

Table 2.4: Principal locations for Jaques research papers access

Designation	Name	Repository	Public Access	On Line
ROII	Requisite Organisation International Institute (ROII)	Held by ROII	Not available to the public	No. Website for the society is at: http://www.requisite.org/
LWB	Lord Wilfred Brown	Churchill Archives Centre, the Janus Repository	Yes	Yes http://janus.lib.cam.ac.uk/
GO Society	Global Organisation Design Society (GO Society)	Web site based	Via a log in process	Yes http://www.globalro.org/
Tavistock	Tavistock Institute	Gradually being relocated to the (GO Society)	Via a log in process	Yes http://www.globalro.org/
Craddick	Craddick	(GO Society)	Via a log in process	Yes http://www.globalro.org/
BIOSS	Brunel Institute of Social Sciences (BIOSS)	Held by the ROII	Limited public access via BIOSS	Limited http://www.bioss.com/
US Government	United States Government	National Technical Information Service	Not available to the public. Some held by (GO Society)	No.

The Global Organisation Design Society (GO Society) established in 2003, is facilitating the development of an emerging repository of Jaques' and Browns research papers as well as contributions from practitioners, consultants, university researchers and CEOs in print, audio and video (Shepard 2010). GO Society is evolving as the primary source for literature relevant to the life and research output of Elliott Jaques and Lord Wilfred Brown. Marjorie and Richard Brown donated all of Lord Wilfred Brown's books to the society, as did many of Jaques' early colleagues from Brunel University.

Jaques' early research papers from the Tavistock Institute are progressively being catalogued (Shepard 2010). Jaques' early affiliation with the Tavistock Institute and its magazine, Human Relations, afforded him a channel for publishing many articles over the years. Heinemann Educational Books in London was affiliated with Tavistock and published many of Jaques' books (Craddock 2002, 2009; Jaques 1998a; Timo 2001).

Craddick (2002, 2009) has gathered more than 50 years of studies on Requisite Organisation theory and application. This work is to be found at the Global Organisation Design Society. The documents include over 2,400 research studies relevant to the theory and practice of RO. There 'have been 90 PhD dissertations and thesis on Jaques' organisation theory and 63 masters internationally between 1942 and 2009 (Craddick 2009, pp. 70-1). The research has spanned five continents; Australia, Israel, Argentina, USA and the UK. Fifteen of these doctorates were earned at prestigious universities; Berkeley, Cambridge, Cornell, Harvard, London, Michigan, Oxford and Yale (Brause 2000; Craddock 2002).

Beginning around 1970, the United States Government became a significant publisher of Jaques' related research applicable to the military. The first round was sponsored by the Office of Naval Research. Most of the early studies were conducted at Berkeley's Industrial Engineering Department in the late 1960s and early 1970s and published by the National Technical Information Service (Craddock 2002). The second round of research was sponsored by the US Army Research Institute for the Behavioural and Social Sciences from 1983 to 1995, also issued through the National Technical Information Service (Craddock 2002; Jacobs, 1992).

The literature search uncovered a number of sustained research efforts on the foundation of the SST model. At Glacier Metals in the United Kingdom from the late 1940s through the 1970s, at Berkeley in the United States (with the Office of Naval Research) in the late 1960s into the 1970s under Professor E.R.F.W. (Ted) Crossman. Research carried out at Brunel Institute of Social Sciences (BIOSS) in the United Kingdom was mostly from 1965 into the 1980s and at the Army Research Institute in the 1980s and into the early 1990s (Jacobs, 1992; Stamp 2000).

Although the research has spanned five continents - Australia being one of them - the outputs of Jaques' change management work in Australia with CRA in the 1980s is lacking in both academic rigor and quantity of output. The majority of papers on Jaques work at CRA has predominately been written by senior staff from CRA/Comalco or consultants involved in the organisational change process and the subsequent move to salaried staff employment. The paucity of academic literature available to scholars pertaining to Jaques' Australian phase is not so much a gap in the available academic literature, as a chasm (Angwin 1998; Butlin 1995;

Grimmond 1991, 1993, 1994; Johnson 1996; Ludeke 1996; Palmer 1997; Stewart 1996; Thorne 1997).

2.4.2   The Early Theories

Jaques' early change management theories are illustrated in Figure 2.12 as a cluster of the glacier project, a general theory of bureaucracy, theory of time and stratified systems theory adapted from Ivanov (2006).

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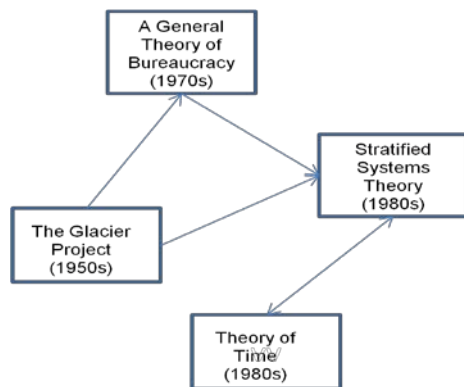
Figure 2.12: Cluster of Jaques' early theories

Jaques' early research is grounded by the Glacier project in collaboration with Lord Wilfred Brown. The research outcomes evolved over time into a general theory of bureaucracy and broad research into the theory of time. This early research crystallised into what become known as stratified systems theory (Brown 1960, 2003; Brown & Jaques 1965; Jaques 1952, 1956, 1967). Within stratified systems theory, there exist four major sets of interrelated factors that have become standards in Jaques' work (Creelman 1999a; Jaques 1989; Kleiner 2001; Ross 1992a, 1992b; Stamp 2000; Timo 2001). King, Solomon & Cason (1997) allude to the four factors as:
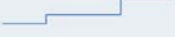
(1) the capability of the individual, in terms of modes, mature throughout life at a series of higher and higher levels of capability;

(2) a series of higher and higher levels of inherent complexity in work which corresponds to the levels of capability (PC) in individuals;

(3) a series of higher and higher levels of organisational structure which reflects both levels of work complexity and of individual capability;

(4) a wide range of processes, including managerial leadership practices, to be applied with accountability and consistency

Jaques' theory has had several names as it developed and matured through the different stages of development. In the United Kingdom where Jaques began his research, the theory was variously known as time-span of discretion (TSD), equitable payment, levels of work (LoW) and the Glacier Project (Brown 1960, 2003; Brown & Jaques 1965). The theory was later known in Australia, United States, Canada and Argentina as Stratified Systems Theory (SST) and Requisite Organisation (RO) (Craddock 2002; Ivanov 2003; Jaques 1989a; Jaques 1999; Hearn Mackinnon, 1999; Timo 2001).

Time-span of discretion is described as the targeted completion time of the longest task or task sequence in a role (Brady 1992; Creelman 1999, 2000; Ivanov 2006; Jaques 1998; Kleiner 2000; Lee 2003). Jaques believed that time-span measurements revealed the underlying building blocks of organisational strata for all managerial accountability hierarchies. The managerial time-span of discretion is widely used as a measure of role complexity and was a key dimension of the five stratum business unit model at CRA (Jaques 1996).

The research was applied through the systemic seven stratum Management Accountability Hierarchy (MAH) adapted from Jaques (1996), Ivanov (2006), McMorland (2005) in Table 2.5. This holistic table merges organisational levels and roles that imply inherent time span boundaries contained within a managerial hierarchy.

Table 2.5: Seven stratum expanded management accountability hierarchy.

Levels	Stratum of role	Designation of role	Time span of discretion	Objectives	Outcomes
7	stratum vii	Chief executive officer	20 years to 50 years	New forms of social political and economic institutions	Prosperity
6	stratum vi	Group executive	10 years to 20 years	Vision, building strong national and world wide presence	Stakeholder value
5	stratum v	Managing director	5 years to 10 years	Direction. Purposeful, challenging and maximising assets	ROI
4	stratum vi	General manager	2 years to 5 years	Innovation, change and continuity	Discontinuous change
3	stratum iii	Manager	1 year to 2 years	Effective work practices, systems and productivity	Breakthrough changes
2	stratum ii	Superintendent	3 months to 1 year	Effective coordination, collective improvement and efficiency	Increased efficiencies
1	stratum i	Supervisor	1 day to 3 months	Excellence of task	Continuous improvement

The key dimensions consist of levels, stratum of roles, designation of roles, time span of discretion, objectives and outcomes is noted in Table 2.5. Stratified systems theory is based around a managerial organisational system with a hierarchical system of managerial layers - nominally seven (Jaques 1996). Jaques observed that at each managerial level there is a progression of complexity from one level to the next higher. This progression is marked notionally by increasing time-span of discretion (Jaques 1998; Lee 2003). Jaques asserts he has discovered a series of higher and higher levels of inherent complexity in work at different managerial layers which also corresponds to the levels of capability in individuals. These assumptions were tested initially at the Woodlawn mine site OD trials in New South Wales (Brady 1992; Creelman 1999, 2000; Jaques 1996; King, Solomon & Cason; Kleiner 1997).

The Management Accountability Hierarchy (MAH) is a way of organizing where managers reside in a hierarchy of accountability pertaining to the work done beneath them. A Manager is a person who is held accountable for the output of others, for sustaining a team capable of producing those outputs and for giving effective leadership to that team (Jaques 1996; Macdonald, Burke & Stewart 2006; King, Solomon & Cason 1997; Lee 2003).

Jaques found a universal underlying pattern of stratification in managerial hierarchies. A Manager must be able to add value to the work of immediate subordinates (Jaques 1996). The number of managerial layers required for an organisation is based on role complexity and the number of business functions that must be delegated (Brady 1992; Carnegie 1992; Creelman 1999; Jaques 1991; King, Solomon & Cason 1997; Kleiner 2001; Macdonald, Burke & Stewart 2006).

Role complexity is defined as the level of difficulty of the required tasks. Jaques states that the true source of difficulty in any problem lies in its complexity. The complexity in a task lies not in the goal but in what you have to do in order to get there (Creelman 2000b; Jaques 1998; Kleiner 2001). Complexity may be defined in terms of the number of variables that have to be dealt with in a given time in a situation, the clarity and precision with which they can be identified, and their rate of change. Jaques found the manager's time-span of discretion (TSD) within the role, is the key measurable attribute of role complexity (Brady 1992; Carnegie 1992; Macdonald, Burke & Stewart 2006).

Jaques (1996) expresses mental processing as the individual's mental working processes by which an individual can take information, analyse it, put it together, reorganise it, judge and reason it, make conclusions, plans and decisions, leading to actions and outcomes (Creelman 2000c; Jaques 1996; Macdonald, Burke & Stewart 2006). Jaques (1989) notes an individual

will use one of four types of mental processing, each of which has distinctive phrases or processes, when solving problems:

> **Declarative** (or, or): I think that so and so could be true because of this, or this, or this other reason,
>
> **Cumulative** (and, and): I think that so and so is true because of this, and this, and this other reason taken together.
>
> **Serial** (If then): I think that so and so is true because if we do it, it will lead to X, and that will then lead to Y, and that will then cause Z.
>
> **Parallel** (If, and only if): I know that if we do X it will lead to Y, and then to Z but we have to consider that if we do not do X but rather do A, that will lead to B, and then to C. So we have to consider both possibilities and relate them.

Jaques found the four methods of mental processing can be observed in each of two different orders of information, (symbolic and abstract). When used by adult subjects, they are recursive and maintain their hierarchy of complexity (Bruse 2000; Cason & Jaques 1994; Creelman 1999c, 2000; Macdonald, Burke & Stewart 2006; King, Solomon & Cason 1997). An individual's personal capacity to perform work is determined by his or her level of complexity of mental processing. Complexity of mental processing is thought of as the type of mental process together with the level of information complexity that an individual uses when solving problems (King, Solomon & Cason; Kleiner 1997; Macdonald, Burke & Stewart 2006).

2.4.3   Australian Research relevant to Elliott Jaques

Figure 2.13 sets a study framework by anchoring significant corporate activity undertaken at CRA between 1970 through to 2008.
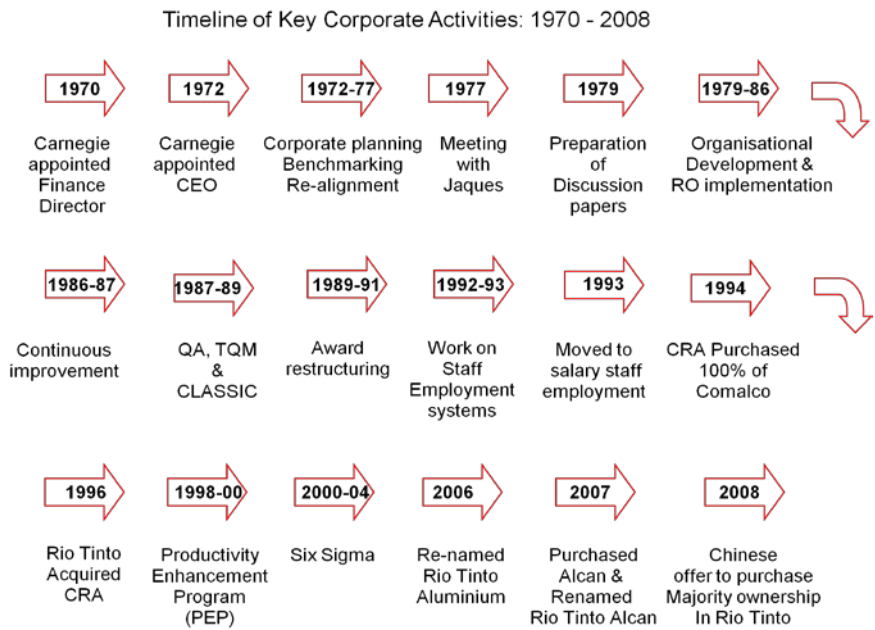
Figure 2.13: Timeline of key corporate activities

The timeline of corporate activities establishes a timeframe of Jaques' involvement with CRA beginning in 1977 and finalising in 1986. Carnegie was removed as CEO and Jaques' consultancy with CRA phased out during 1986. The incoming CEO moved the business on from Carnegie and Jaques with an emphasis on continuous improvement (CI) leading into the quality assurance (QA) and total quality management (TQM) period in the company. The timeframe of the OD intervention was just one of a range of significant organisational change interventions occurring within the corporate footprint of a multinational business.

Within Australia, the major work involving Jaques' theories was carried out in the 1980s with CRA involving a complete organisational review, re-alignment and restructure into business units with a small head office function (Brady 1992; Carnegie 1992; Ludeke 1996; Hearn Mackinnon 1999; Thorne 1997; Timo 2001). This research work involving the CRA group of companies in metalliferous mining, and accompanied by work carried out in parallel with the United States military, was directly responsible for the publication - Requisite Organisation in 1989 (Brady 1992; Burke & Stewart 1992; Carnegie 1992; Jaques, 1989; Ludeke 1996; Macdonald, Burke & Stewart 2006; Thorne 1997).

In the background and acknowledgments to the second edition of Requisite Organisation, Jaques notes two substantial projects (the US military and a mining company) that 'provided magnificent test beds for these new ideas' (Jaques, 1998 background and acknowledgments).

The mining corporation was CRA whose CEO until the middle of 1986 was *Sir Roderick Carnegie*. Sir Roderick initiated a full scale implementation of SST in conjunction with a total re-organisation of the corporation, and a complete revamping of the company's planning, information and human resources sub systems. In collaboration with him and with Mr Jack Brady and his staff a wide range of concepts has been developed and clarified, practical implementation and training procedures established and the systematic conceptualisation of high level corporate organisation begun.

Hearn Mackinnon (1997a, 1997b, 1999, 2001, 2003, 2004) and Timo (1997, 1998, 2001) are prolific researchers on the staff employment strategy introduced by the CRA group of companies in 1993. They view the transition to staff employment as a consequence of the CRA organisation development intervention and the influence of Jaques on organisation structure and management systems. CRA is viewed by Australian researchers as being out of touch with mainstream industrial relations in Australia by attempting to move their employees to staff (Palmer 1997). Fetter (2002) identifies three studies published on the CRA Weipa case and reveals that these studies vary in their interpretation of CRA's primary motivation in rejecting collective industrial relations in place of individualised contracts:

> Hearn Mackinnon and Timo have argued that CRA had the narrow objective of removing 'unwanted third parties' from the employment relationship, in other words a desire to contract directly with its employees without the interference of trade unions or industrial tribunals. In contrast Mackinnon has argued that a 'strategic choice' was taken to reintroduce managerial prerogative so as to maximise the exploration of labour. A third approach was taken by Moir, who argued that CRA's management was trying to effect a cultural shift towards a neo-liberal human resource management ideology of bilateralism, in which it had an almost obsessive 'teleological belief'.

Hearn Mackinnon has produced conference papers on the de-unionisation of CRA and concentrates on strategic choice in relation to industrial relations and the concept of restoring management prerogative. In earlier articles he identifies this as a vehicle for de-unionising the workforce and introducing individual work contracts and annualised salaries (Hearn Mackinnon 1997a, 1997b, 1999, 2001, 2003, 2004). Hearn Mackinnon and Timo favour the status quo in their writings rather than embracing a new direction in the management of employees and the way they are remunerated. Together, Hearn Mackinnon and in particular Timo, expend an inordinate amount of their time endeavouring to associate the work that Jaques carried out for the company in the 1980s with individual contracts in the 1990s (Hearn Mackinnon 1999; Timo 1998, 2001).

Hearn Mackinnon and Timo perceive a correlation between stratified systems theory (the pre-cursor to RO) and the move to staff in 1993. This is a difficult to comprehend given the evidence to the contrary. Jaques' efforts were concentrated on setting up the structure of the company - business units in the early 1980s - while salaried staff employment was not offered until 1993. Jaques had effectively finished his work in 1986, not 2000 as has been widely reported and written about. Both Jaques and Carnegie separated from CRA in 1986. Hearn Mackinnon (1999, p. 6) eventually brings some resemblance of order to the debate:

> A reading of Jaques' major works (1951, 1961, 1976, 1988, 1991) reveals no mention at all of staff systems of employment and yet in Australia at least, it has been the use by CRA/Rio Tinto of staff contracts with its de-unionisation effect, which has aroused the most hostility towards Jaques' analysis and SST in particular. Is such criticism valid?

Barbash and Meltz (1997) caution on attempting to assign a direct relationship between changes in the strategic position of a company and the redesign of its industrial relations function. They extrapolate the idea that industrial relations reform does not necessary lead to strategic alignment within an industrial or labour framework. Hilmer and Donaldson (1997, p. 14) concur, and comment on why some companies survive and prosper.

> Firms such as General Electric, Motorola and Proctor & Gamble in the United States and CRA in Australia are consistently pursuing a few simple themes that fit the way they need to be managed in their particular competitive situations. And they stick with these themes for long periods …for CRA the Australian mining leader, the development of a unique organisational structure and management processes that drive continuous improvement in often remote and diverse locations has been under way since the late 1970s.

Gorman (1996) and Ludeke (1996) encapsulate from a company and union perspective the sequence of events during the 1995 Weipa dispute and the direction Comalco took with staff employment. The richness of the work of Gorman and Ludeke was underpinned by their close association with the two protagonists - the CFMEU union with Gorman, and Comalco with Ludeke. The human side of disputes is rarely shown in any detail and combined with pertinent photos. Both publications are a fertile source of information for the researcher on the offer of salaried staff employment and the ongoing industrial unrest at Weipa from 1993-1995.

Papers by Quinlan (1996a) and Angwin (1996) are examples of the systemic nature of the literature that has been written around Jaques and the offer of salaried staff employment by CRA/Comalco. Quinlan produced a critique based around the reform of Australian industrial relations (Quinlan 1996a). Quinlan's article was wide ranging and accessing a broad array of

reference material to do justice to an annual review of industrial relations in 1995 with reference to the CRA de-unionisation being just one theme of the review. Angwin took exception to the segment on de-unionisation by CRA and conveniently sidestepped those parts of Quinlan's paper that did not suit the argument he was mounting against Quinlan's article (Angwin 1996). Early in his rejoinder Quinlan refutes the claim that he is pro-union and anti-management particularly as no mention is made of those sections of the paper which criticise union strategies and their consequences (Quinlan 1996). Moreover Angwin sees the use of union documents as negative to CRA while nowhere in the article does Quinlan utilise CRA reference material which would provide a balance in the reference material.

Ellem (2001, 2002, 2003a 2003b, 2004) introduces an emerging perspective to large mining companies operating mines and townships in isolated parts of Australia. He draws together opposing threads under the broad umbrella of communities, geography and unions. The papers draw on industrial relations scholarship and emerging work in the field of human geography to ask how unions can renew themselves and recover command of spaces in which they were once powerful. Ellem concentrates on the Pilbara iron ore region of Western Australia (CRA and BHP for the main part) as an example to demonstrate the relative mobility of capital and labour and the effects this can have on isolated mining communities around the country - the typical company town (Ellem 2001, 2002).

Ellem anchors his research from the 1960s through to early 2002 and traces the development of the mining towns in the region through to their peak of the 1980s - early 1990s to the decline in township numbers today (Ellem 2003a). Declining rural and isolated community numbers are not new to Australia, however the Pilbara region is suffering because of more efficient mining methods, the move to staff, outsourcing work, downsizing and fly in-fly out shift arrangements. Ellems' research focuses not just on the relationship between employer and employee in a work setting but rather the equally important consideration of family, community and the geographical isolation of remote mining communities denied the support of relatives - parents, siblings and grandparents. A little known fact in these communities is the requirement to fly out for child birth and the inability to be buried in a mining town due to most of them not having a cemetery. The research is similar to Goreman (1996) and complements research on the reasons why employees would accept an offer of salaried staff employment.

Kirsner (2005a, 2005b) authored a tribute to Elliott Jaques in the International Journal of Applied Psychoanalytic Studies in recognition of Jaques' wife attending a RO themed conference at Deakin University in Melbourne in late 2005. The papers consisted of articles submitted by practitioners in their subject area of Jaques' work (Kirsner 2005a, 2005b). Only

one was CRA specific, and tended to re-work previous material from earlier papers (Brady 1992; Carnegie 1992). The articles were of minimal relevance to the CRA organisational development intervention and concentrated more on Jaques' research generally over a 50 year timeframe.

2.4.4 CRA and RO in Australia

An indicative cross section of CRA/Comalco conference papers presented by senior company management over the preceding two decades was perused: Angwin (1998), Butlin (1995), Clifford (2000), Davis (1998), Grimmond (1993, 1994), Johnson (1996), Karpin (1995, 1996), McLeod (1996a, 1996b), Palmer (1997), Stewart (1996), Thorne (1997), Uhrig (1993), Walsh (2001, 2002). These documents portray a process and outcomes that have delivered what they were intended to deliver. That is, a management and organisation structure based on the RO model of Jaques combined with a de-regulated flexible workforce that is now among the best in the mining industry.

Johnson (1996) in a widely quoted paper to the annual Australian Human Resource Institute Conference sets out the linkage between stratified systems theory in 1977 evolving into Requisite Organisation in the 1980s through to the move to salaried staff employment in 1993. Johnson describes the processes undertaken and reiterates a statement that has been made on numerous times but tends to be overlooked by researchers. This paragraph is fundamental to understanding the organisational change process undertaken at CRA

> Clearly the move to staff was not an objective when we started the change program some seventeen years ago with Carnegie and Jaques. That it was an outcome is, with hindsight, hardly surprising. We have no fixed or absolute requirement for all people to join staff. What we seek is a workforce that works as staff, not necessarily one where all belong to staff.

Palmer (1997), Stewart (1996), and Thorne (1997) outline an evolving change process of moving to staff from an operating business unit perspective - Thorne (General Manager at Weipa), Stewart (Managing Director at Smelting) and Palmer (Managing Director at Hamersley Iron). These individuals made change happen by providing the leadership required as a prerequisite for successful change interventions (Kotter 1998; Kanter 1999). Grimmond from Hamersley reviews the process leading up to the offer of staff employment from a site General Manager's perspective working in the IR field (stratum IV) at Hamersley Iron (Grimmond 1993, 1994).

Angwin, Clifford, Davis, Uhrig and Walsh all describe the outcomes from a business wide perspective incorporating their time horizon as, senior industrial relations adviser, CEO of

CRA, Chairperson of CRA and CEO of Comalco. These individuals see the positive effect on the bottom line by having a committed workforce striving to continuously improve the business of mining and refining. Comalco executives in particular believe they have been able to remove inefficiencies from their operations by having in place a salaried staff workforce committed to the business goals of the company (Angwin 1998; Clifford 2000, 2005a, 2005b; Davis 1998; Macdonald, Burke & Stewart 2006; Uhrig; 1993; Walsh 2001, 2002).

2.4.5   Critique of Requisite Organisation

> *Requisite Organisation* is probably best described as a deeply flawed masterpiece that contains some insights of universal application, which risk being buried or discredited by association with a mass of dogma based on a Taylorist command and control world view and an obsession that human affairs should be reduced to 'scientific' principles (Godfrey 1997).

Various authors have embraced a divergent stance on the work of Jaques and the ideas and methodology imbedded in Stratified Systems Theory (Beadle 1996; Fabian 1996; Fessenden 1996; Godfrey 1997; Hearn Mackinnon 1999; Timo 2001; Trinca 2002). Fabian (1996) notes that Jaques has been involved at the firm for which he works. His presentation style is off putting. Nothing is explained. Nothing is justified. Fabian (1996) singles out three broad areas in relation to Jaques' methodology that he takes exception with:

> 1. He is concerned with Accountability Hierarchies and not at all with what he calls associations. Many people in many organisations depend on others who do not fall neatly within organisational boundaries.
> 2. Jaques does not separately justify any of the points he makes, clearly not in Requisite Organisation. It is impossible from within Elliott's published framework to selectively adopt any of his recommendations.
> 3. I'm in profound disagreement with his one dimensional view of man. All of my experience says that peoples (sic) abilities will vary depending on the task and the content of the role.

Beadle (1996) adopts a more neutral position in relation to Jaques. Refer also (Dyer-Smith 1994; Evans 1979; Pugh 1989; Stamp 2000). Few knowing observers are neutral about Jaques the (last?) great advocate of organisational hierarchy while some devotees see Jaques' most important work centring on epistemology and psycho-analysis (Beadle 1996). Solaas (2003) adopts a more positive stance in relation to Jaques work even though there is an acknowledgment from the author that as a theory of action, Requisite Organisation certainly makes an ambitious claim while at the same time being difficult to understand and read.

Solaas (2003) acknowledges that RO theory is considered by some to be an out-dated authoritarian model. It has been labelled neo-tayloristic and even neo-fascist, while Jaques has been called omnipotent and big brother. Jaques' work and the concept of the theory and Requisite Organisation has been around for over five decades, beginning with the early reports out of the Glacier Metals Company through to the publication of his latest book in 2002 (Beadle 1996; Solaas 1996; Stamp 2000).

Timo (2000) regards Jaques as an enigma. Until the move by Rio Tinto towards individual contracts in the early 1990s, Jaques was unknown even though he had been working with the company since 1979. Jaques' ideas are seen as involving a complex connection of psychoanalysis, social and behavioural psychology. Timo (2000) believes Jaques rejects collective bargaining which has been described as collusive and over time devalues the worth of employees labour (Timo 2000). Trinca (2003) observes that unions in the Australian mining industry remain wary of his theories. However, Jaques was not against unions, arguing there should be a single union in each workplace. Despite the resurgence around the Requisite Organisation and the theories of Jaques, there is not a post graduate course on management or organisational design within the University sector in Australia which teaches the theories of Jaques (D Kirsner 2004, pers. comms.).

Hearn Mackinnon (1999) interpretation is that over time SST has lost most of its democratic features from the initial work with Glacier Metals. All that remains is a theory based around justifying and maintaining managerial prerogative. Trinca (2002) comments on the use of unemotional language in his book makes him contentious and at times he has been called rigid, mechanistic, a fascist, a Taylorist. Solaas (2003) notes that as a basis for a scientific theory, RO theory is refutable, and may one day be proved wrong or replaced by a better one. This is not unusual, as theories develop and refine over time as fresh ideas are cultivated and additional research is undertaken.

Hearn Mackinnon and Timo are in agreement on one point. That at no time was Jaques an advocate for staff employment or individual contracts either in an Australian or international context. They note that a reading of Jaques' major works (1951, 1961, 1976, 1988, 1991) reveals no mention of staff systems of employment. His work is not synonymous with individualism (Hearn Mackinnon 1999; Timo 2000).

2.4.6 Discussion: gap in the literature

The major gap identified in the literature is in relation to the collaborate work between Jaques and Carnegie in developing and leading the OD intervention at CRA. Jaques (2001, pers.

comm) noted in relation to his time spent consulting to CRA in Australia that we had an embargo placed on us from our time with CRA in the 1980s by Carnegie. He saw the structural work as giving the company a competitive advantage in the global mining industry. The embargo, linked with an organisation restructure that did not include the award workforce - only staff. The restructure had the effect of slipping under the radar of Australian researchers as it did not impact on the award workforce at the time.

The outputs of Jaques change management work in Australia with CRA in the 1980s is lacking in both academic rigor and quantity of output. The majority of papers on Jaques work at CRA have predominately been written by senior staff from CRA/Comalco or consultants involved in the organisational change process and the subsequent move to salaried staff employment. The paucity of academic literature available to scholars pertaining to Jaques' period in Australia is not so much a gap in the available academic literature, as a chasm (Angwin 1996; Butlin 1995; Grimmond 1991, 1993, 1994; Johnson 1996; Ludeke 1996; Palmer 1997; Stewart 1996; Thorne 1997).

The early theories are grounded by the Glacier project which led into a general theory of bureaucracy and broad research into the theory of time. This research evolved over time into stratified systems theory (Brown 1960, 2003; Brown & Jaques 1965; Jaques 1952, 1956, 1967, 1976, 1982, 1985, 1986, 1999). Craddick (2009) gathered more than 50 years of studies on Requisite Organisation theory and application including over 2,400 research studies directly on the theory of RO. There have been 90 PhD dissertations and thesis on Jaques organisation theory and 63 masters internationally between 1942 and 2009 (Brause 2000; Craddock 2002, 2009).

Figure 2.14 brings together the disparate components in the study adapted from Figure 2.10. Kotter's eight step change process feeds into the individual chapters. The enabling objectives are focused into each applicable study chapter applicable study chapter.
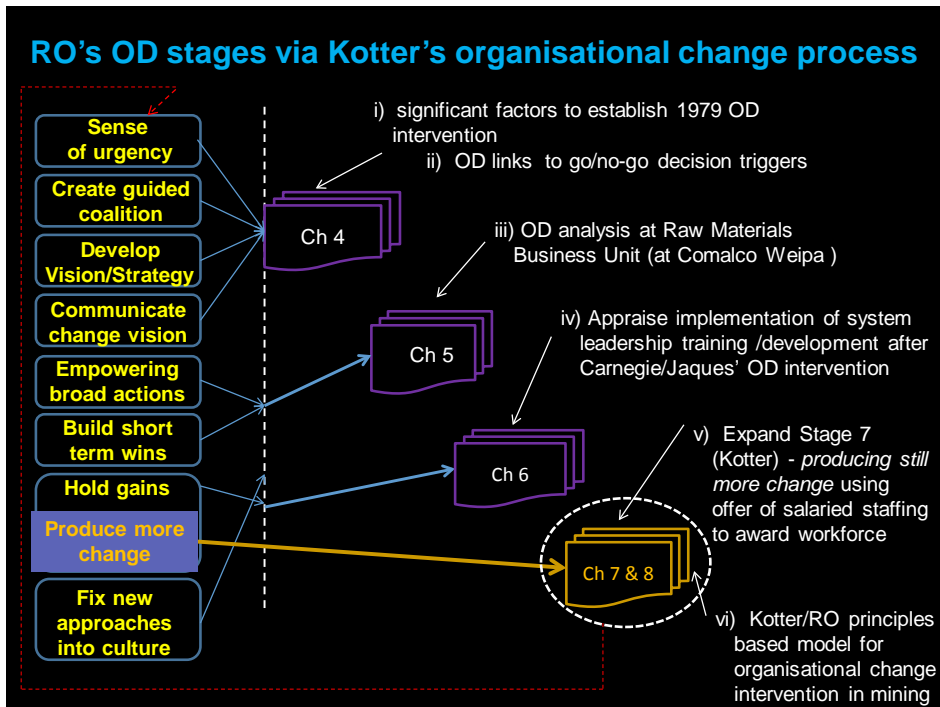
Figure 2.14: Objectives leading to outcomes

2.5 Chapter review

The literature review considers the theory of organisational change management and the research outcomes of Elliott Jaques. It scrutinises the work of Jaques and Requisite Organisation researchers and considers works of the Australian researchers who have written articles about around CRA. The literature outcomes lead into chapter 3, the methodology for the study.

Appendix A1 and A2 contains two documents obtained from the Requisite Organisation International Institute (ROII). Appendix A1 provides a detailed bibliography to the work of Elliott Jaques. Appendix A2 notes Jaques' research from 1947 to the present.

Chapter Three

Methodology

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Outline of Chapter

3.0   **Chapter content**

Provides an overview to the methodology

3.1   **Relationship to previous chapters**

Identifies linkages between the literature, research question and the methodology

3.2   **Theoretical Perspectives**

Introduces ontology, epistemology and methodology

3.2.1   Ontology

3.2.2   Epistemology

3.2.3   Methodology

3.3   **Theoretical framework underpinning this study**

3.4   **Case Study**

Introduces case study as the primary methodology employed

3.5   **Qualitative and Quantitative**

Introduces qualitative and quantitative

3.5.1   Qualitative

3.6   **Methods**

Introduces the methods employed and the inter-relationship between methods and the

study

3.6.1   Triangulation

3.6.2   Stakeholder analysis

3.6.3   Analysis of documentation

3.6.4   Interviews

3.6.5   Participant observation

3.6.6   Recording and interpretation of data

3.7   **Outcomes**

Places the outcomes within an holistic framework

3.7.1   Credibility

3.7.2   Transferability

3.7.3   Dependability

3.7.4   Confirmability

3.7.5   Bias

3.8   **Chapter summary**

Summarises the key points to come out of the chapter and introduces chapter four the

Embryonic Phase

3.0   Chapter content

'There is nothing more practical than a good theory' (Kritsotakis 2000, p.1).

Section 3.1 identifies the relationship connecting the literature on change management, Jaques and CRA. Section 3.2 introduces the theoretical foundation around which the research is undertaken - ontology, epistemology, methodology. Section 3.3 presents the theoretical perspective underpinning the study. Section 3.4 establishes a case study focus. Section 3.5 compares quantitative and qualitative. Section 3.6 introduces the inquiry method selected. Section 3.7 describes outcomes. Section 3.8 summaries the chapter.

3.1   Relationship to previous chapters

The literature shows a pronounced relationship between organisational change management and the evolution of Jaques' theories into what has become known as Requisite Organisation. The adaptation from theory to working model occurred in the course of the Conzinc Riotinto Australia organisational development (OD) intervention during the 1980s. Relevant literature identified a range of change management literature from company, conference, practitioner, books and university papers.

3.2   Theoretical Perspectives

Theoretical perspectives elucidate paradigms of ontology, epistemology and methodology. Collectively they underpin the academic and methodological foundation for research. Ontology raises questions about the 'notion of reality'. Epistemology asks how we know the world and what the relationship between the inquirer and the known is. Methodology focuses on how we gain knowledge about the world (Becker 1995; Denzin & Lincoln 1994, p. 11, 1998; Gruber 1993; Guba & Lincoln 1994; Perry 1994). Love (2002, pp. 410-411) advocates an expanded 'seven aspect model' of theoretical perspectives for PhD inquiry in Figure 3.1.

Figure 3.1: theoretical perspectives

The seven aspect model comprises ontological perspective(s), epistemological perspective(s), theories, methodological perspectives, research methodologies, research methods, data-gathering and analysis techniques. Love's model embraces Popper's three worlds (subjective, theory and external). The research compliments and builds on Perry (1994, 1998) and the evolution over time of the generic five chapters PhD model. Love (2002) advocates a renewed emphasis on the theoretical perspectives underpinning a robust dissertation. He further notes '…the overall validity of each PhD candidate's research thesis depends to a large extent on the candidate maintaining a personal over-arching theoretical perspective throughout their thesis writing' (Love 2000, 2002, p. 412). This thesis adopts the standpoint as promulgated, with a single over-arching theoretical perspective outlined ahead in Section 3.3 *Theoretical framework underpinning this study.*

3.2.1   Ontology

Ontological assumptions relate to the nature of reality and is a branch of study 'concerned with the nature and relations of being, or things which exist' - the reality under investigation (Roberts 1995, p.2). Burrell and Morgan (1979) add a fourth dimension under what they describe as the four key paradigms. This refers to the dichotomy of free will and determination:- are we the master or servant of our destiny; do we control or are we controlled by our environment? Jaques' view is that we are controlled by our environment as noted in the stratified systems theory that is based around movement from one stratum to the next (Jaques 2001, pers. Comm.; Jaques 1976, p. 173).

3.2.2   Epistemology

Epistemology is 'derived from the Greek word *episteme* which signifies knowledge and *logos'*, denoting theory, and is the branch of philosophy concentrating on philosophical issues surrounding the theory of knowledge. Epistemology is assumed to be present between the 'knower and what aspects are known' or being investigated or researched. Epistemological investigation answers many questions concerning 'the basis of knowledge, and how information is obtained' (Clough & Nutbrown 2007, p. 30; Floyd 1996; Maynard 1994, p. 10; Perry 1994; Rudestam & Newton 1992, p. 21).

Willig (2001, p.2) describes epistemology as a branch of philosophy concerned with the 'theory of knowledge' in that it attempts to provide answers to the question, 'how, and what can we know'? Heylighen (1993, p. 1) consider epistemology to be that branch of philosophy that studies knowledge as well as attempting to answer the basic question: 'What distinguishes true (adequate) knowledge from false (inadequate) knowledge?' Stanford Encyclopaedia of Philosophy (2005, p.1) interprets epistemology as 'the study of knowledge and justified belief'.

What are the conditions of knowledge? What are its sources? What is its structure? What are its limits? Heylighen (1993, p. 2) describes epistemology as '…the branch of philosophy that studies knowledge while attempting to answer the basic question: what distinguishes true (adequate) knowledge from false (inadequate) knowledge'?

Beadle (1996, p. 1) makes the statement that 'according to some devotees, Jaques' most important work centres on epistemology'. This refers to his initial theories that led to the development of the Requisite Organisation model illustrated in Figure 3.2 Adapted from Ivanov (2006) is a cluster of: the glacier project, a general theory of bureaucracy, theory of time and stratified systems theory.
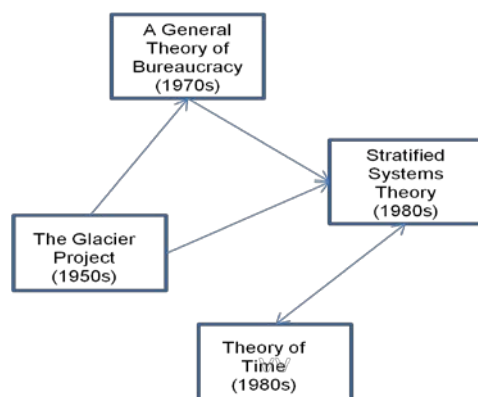
Figure 3.2: Cluster of Jaques early theories

Jaques early research is grounded by the Glacier project in collaboration with Lord Wilfred Brown. This early research crystallised into what become known as stratified systems theory (Brown 1960, 2003; Brown & Jaques 1965; Jaques 1952, 1956, 1967).

3.2.3 Methodology

Research methodologies 'are the theories or general research paradigms' that justify in the mind of the researcher the particular research method chosen for a study (Ezzy 2006, pp. 31-51). Guba and Lincoln (1989, pp. 83-88) and Burrell and Morgan (1979, pp. 1-2) provide frameworks for decision making based around the choice of a methodology. Jointly they concur that 'surfacing ontological and epistemological assumptions' are primary steps in determining the choices available from which to select a methodology for use in inquiry. The authors suggest two main ontological possibilities useful in decision making about methodologies in inquiry. Firstly 'there is one reality' and it is observable by a researcher who has little impact on the object being researched. Secondly 'reality consists of an individual's mental constructs of the objects of which they engage' (Roberts 1995, pp. 1-14).

Within the literature there exists a range of research approaches or methodologies available for inquiry in social situations (Becker 1995; Burrell & Morgan 1979; Clough & Nutbrown 2007; Graziano & Raulin 1993; Patton 1990; Roberts 1995, sect 2.1.1). Clough and Nutbrown (2007, p. 30) describe epistemology and ontology as 'the twins of methodology in understanding the "knowing and being" respectively' (McLaughlin 2002, p. 4).

Connell, Lynch and Waring (2000, p. 1) note that 'interdisciplinary fields of study such as employment relations and management draw on a broad and eclectic set of epistemological assumptions'. These conclusions are consistent with the theoretical perspective adopted in this study. Roberts (1995, p. 4) draws together the theoretical perspectives around the ontological and epistemological threads 'allowing one the opportunity to state their own perspective'. The researcher is able to make clear their choice of methodology selected. Similarly, Aram and Salipante (2003 pp. 189-205) identify a starting point to identify the choice of methodology selected in the field of management. They note that:

> If the relevance gap in management research is to be narrowed, management scholars must identify and adopt processes of inquiry that simultaneously achieve high rigour and high relevance. Research approaches that strive for relevance emphasise the particular at the expense of the general. Approaches that strive for rigour emphasise the general over the particular. Inquiry that attains both rigour and relevance can be found in approaches to knowledge that involve a reasoned relationship between the particular and the general

3.3 Theoretical framework underpinning this study

Table 3.1 anchors the philosophical paradigms of Ontology, Epistemology and Methodology within a subset of Positivism, Post Positivism (realism) Interpretive (constructivism) and Critical Theory (Robson 2002 p. 85). Interpretive (constructivism) was chosen as the theoretical model underpinning the research methodology and methods used in this study. Developing 'a single overarching theoretical perspective' contributes significantly to the validity of one's research thesis (Love (2002, p. 412; Perry 1994).

Perry (1994, p. 22) summarises research methodologies by noting '…within the time and other resource constraints of a PhD thesis, I consider that there will usually be only one major methodology which suits the research problem and associated research gaps. Other methodologies would be used in a secondary role'. The theoretical foundations underpinning this study align with Perry's observation of one major methodology. Adapted from (Guba & Lincoln 1994; Denzin & Lincoln 1998).

Table 3.1: Philosophical paradigms used for the research

Paradigm	Positivism	Post-positivism (realism)	Interpretive (constructivism)	Critical Theory
Ontology - the 'reality' that the researcher investigates. asks - What is 'reality'? What is it that we know?	Realist/native realism Reality is real - is knowable, the true nature can be discovered - governed by unchangeable natural laws	Critical realism Reality is real - imperfectly knowable through probabilities - triangulation of sources is required to try to know it	Relativist/critical relativism Reality is relative (multiple subjective realities co-exist) - is constructed in people's minds - locally and specifically constructed according to what people believe it to be	Critical realist Virtual reality (multiple realities co-exist) - can be known - shaped by social, economic, ethnic, political, cultural and gender values. Crystallised over time in real and created historical structures
Epistemology - the relationship between reality and the researcher. asks - what constitutes knowledge/science?	Objectivist Findings are true	Modified objectivist (subjective knower and objective world) - findings are probably true	Subjectivist - findings are created	Subjectivist - findings are mediated by values
Methodology - the technique used by the researcher to investigate that reality. asks - how do we gain knowledge	Primarily quantitative	Triangulation of quantitative and qualitative	Primarily qualitative	Any with a critical stance

Constructivism ontology is both relevant and subjective and can co-exist in the mind of the researcher and the subject. Constructivism is able to accommodate the diverse range of intellectual challenges contained within the research questions (Robson 2002). Reality is constructed according to what people believe it to be from their individual experience over time. As the time span of CRA organisation development inquiry is 30 years, the reality in an individual's mind can vary considerably to the written accounts from the period under investigation (Denzin & Lincoln 1998; Guba & Lincoln 1994; Robson 2002, p. 48). Stakeholders will have their own ontological interpretation of what is 'reality' for them. Individual reality may not be able to be substantiated with certainty (triangulated) by other sources - individuals, written documentation, recollections and diary notes from the period.

Constructivism epistemology connects the investigator and the object of the investigation so they become 'interactively' linked and the findings are literally 'created as the study' progresses (Robson 2002, p. 48). The themes under investigation are subjective in the minds of the individuals as is the written correspondence from company sources and personal dairy notes

from the period. Due to the timeframe of the research, the majority of dairy notes are hand written and consequently their verification and timeframe is straightforward in most instances.

Constructivism methodology is primarily qualitative and is the method employed by the researcher to investigate the reality of the subject under investigation (Denzin & Lincoln 1998; Guba & Lincoln 1994). Qualitative research has the aim of understanding experience as close as possible to the participants (Sherman & Webb 1988). Wainwright (1997) notes qualitative research is enjoying a new found respectability from the past when this method of inquiry tended to be viewed with ambivalence and a degree of trepidation by researchers. Ratner (2002) states there is subjectivity in qualitative research due to the researcher being personally engaged from the choice of topic, formulating hypotheses to selecting methodologies and interpreting data.

Ratner (2002, p. 1) '…recognises that the subjectivity of the researcher is intimately involved in scientific research'. This subjectivity 'guides everything from the choice of topic that one studies, to formulating, to selecting methodologies, and interpreting data'. Roberts (1995, sect 2.1.1) rationalises his thinking with an example of how, through the utilisation of 'ontologically and epistemologically, I was able to identify the features of a methodology that suited my inquiry'.

> Ontologically I assumed while not denying an external reality, that the reality of inquiring into facilitating experimental learning with pastoralists will be the product of our various consciousnesses. This means each person's interpretation of what is occurring will be the 'reality' of the situation for them. Epistemologically I assumed that while some information acquisition can come from others it is only by experiencing the learning in person that valuable knowledge is generated at a personal level. At the start of my project I made the assumption explicitly about the learning of the pastoralists.

Robert's (1995, sect 2.1.1) adaptation of ontologically - 'each person's interpretation of what is occurring will be the 'reality' of the situation for them'. Epistemologically - 'it is only by experiencing the learning in person that valuable knowledge is generated at a personal level'. These two definitions have, under the umbrella of Interpretive Constructivism, facilitated the development of the theoretical foundations around which this study evolved. The personalisation of Ontology and Epistemology in this mining industry study is based around a theoretical foundation of Ontology being a way of knowing and Epistemology being a way of doing. Until we are willing to learn how we 'know what we know' we will continue repeating

the errors of the past that we have observed in applying 'systemic approaches' to organisations (Youngman 2007/09).

The ontological position taken is based on the Interpretive Constructivism model where multiple realities can exit in unison. Reality is constructed in the minds of the interviewees and can be derived from individual and localised experiences and events. The epistemological stance taken consists of reflection around the nature, source and limits of knowledge as noted in Table 3.1. This study acknowledges the limitations of knowledge gathered, interpreted and disseminated throughout mining organisations (in particular isolated and remote mining communities) and the individuals who live and work in these communities. The multiple sources of information that confront the researcher are noted and triangulated to identify accurate and precise sources of knowledge pertaining to the study from mere hearsay.

3.4   Case study

The primary research methodology employed in this study is a case study. Case study methodology is increasingly being utilised as a rigorous academic research model and is supported by numerous authors, e.g. (Blain & Plowman 1987, p. 19; Cassell & Symon 1994; Connell, Lynch & Waring 2000, pp. 1-8; Creswell 1994, 1998, pp. 36-37; Patton 1990, p. 102; Perry 1994, 1998; Stake 1995; Tellis 1997; Yin 1994, 2003). Cassell and Symon (1994, p. 209) imply 'a case study approach is not a method as such, but rather a research strategy, where a number of methods may be used. The emphasis will generally focus on a qualitative model complimenting a case study. Yin (1994, p 23) defines case study research as an 'empirical inquiry that investigates a contemporary phenomenon' within its real-life context'. Multiple and diverse sources of enquiry are often utilised in case study research as is the case with the Australian mining industry and in particular CRA.

Swan (1995) produced a mining industry thesis centred on the Western Australian Pilbara region and iron ore mining. The author described the case study research methodology utilised as being 'a rigorous, coherent one with sound philosophical basis and is an appropriate alternative to surveys and experiments for postgraduate researchers at Masters and PhD level' (Swain 1995, p. 4). Additionally, case study methodology is also suitable for 'studies of organisational behaviour, especially in understanding organisational innovation and change as shaped by both internal forces and the external environment' (Swain 1995, p. 4). This study dovetails with the research of Swain based around the iron ore mines and shifts the focus primarily to the bauxite, alumina and aluminium operations of the CRA subsidiary Comalco.

Davey (1991, p. 2) portrays case studies as '…a method of learning about a complex instance through extensive contextual analysis'. Cassell and Symon (1994, p. 221) observe that case study analysis allows the 'tracking of change over time, as a response both to historical forces, contextual pressures and the dynamics of various stakeholder groups' in proposing or opposing change. Case study methodologies are likely to be better able to adapt to and probe areas of original but emergent theory. In essence, case studies are tailor made for exploring new processes or behaviours or ones that are little understood within an organisational setting. The study provides one such case model of original but emerging theory and behaviour within a mining industry environment (Johansson 2003; McAdam 2000).

Creswell (1994, p. 94) suggest that a case study may also be distinguished by its approach to theory building which tends generally (but not exclusively) to be inductive (refer Figure 3.2). The opportunity to explore issues in depth, in their context, means that theory development can occur through the systematic piecing together of detailed evidence to generate (or perhaps replicate) theories of more general interest. Plowman (1999, p. 35) highlights that 'inductive thinking attempts to establish general laws - premises - on the basis of testable observations. It begins, not with a premise, but rather with observation'. Hence it makes sense that a case study approach is used in this study to track organisational change over time within the Australian mining industry.

Mitchell (1983, p. 192) considers case studies as 'being a detailed examination of an event - or series of related events - which the analyst believes exhibits the operation of some identified general theoretical principles'. Case study analysis has allowed the tracking of change over time, as a response both to historical forces, contextual pressures and the dynamics of various stakeholder groups in proposing or opposing change'. Furthermore, case study methodologies are likely to be better able 'to adapt to and probe areas of original but emergent theory. In essence, case studies are tailor made for exploring new processes or behaviours or ones that are little understood' (Cassell & Symon 1994). Creswell (1998, p. 61) supports the contention that a case study is '…an exploration of a bounded system or a case (or multiple cases) over time through detailed in-depth data collection involving multiple sources of information rich in context'. A case study can be delineated by time, place, an event, an activity, individuals or an individual company.

Table 3.2 places a case study within the bounds of 'observations and reflections' Stake (1995, pp. 133-136). The five observations noted are applicable to this research and the direction taken in implementing a case study enquiry based on the mining industry.

Table 3.2: Observations and reflections on a case study

	We try to observe the case in its ordinary activities and places while minimising our intrusion
	Qualitative case study is a highly personal research
Stake formed a number of observations of case studies under what he describes as reflections	Persons studied are studied in depth
	Each researcher's style and curiosity will be unique in some way
	The way the case and the researcher interact is unique and not necessary reproducible

Minimising one's intrusion while at the same time observing the normal day-to-day activities of the subject of the research activity, is always an on-going work in progress. Minimising intrusion in this case study was achieved by blending in with the normal cyclic flow of shift patterns around a mine or process plant in outback Queensland, Western Australia and the Northern Territory. Ensuring one is dressed in similar attire to the work force, eating in the same mess and sleeping in the same donga accommodation as the operation workforce is essential. Observation in a head office environment in Brisbane, Sydney, Melbourne, Austin Texas and Omaha Nebraska required one to dress in a formal business suit to blend into the environment and gain credibility.

3.5   Qualitative and Quantitative

The classic methodological divide is between quantitative and qualitative approaches '…with industrial relations and management research in Australia dominated by qualitative techniques, and in particular, case studies' (Gardner 1999, p. 53; Kritsotakis 2000, p. 4; Laudel 1996, p. 1; Love 2002; McLaughlin 2002; Oakley 2000; Olson 1995, p. 1; Rudestam & Newton 1992, p. 20; Trochim 2000, p. 1).

Oakley (2000) observed that the quantitative-qualitative debate started in the early 1960s and the debate still rages with the boundaries between the two traditions still not dissolved. Olsen (1995) believes the quantitative-qualitative subject is clouded by two problems firstly - a lack of coherent definitions and secondly, the focus of most discussions on methods instead of the basic assumptions around the perspectives. Sherman and Webb (1988) however approach the issue of qualitative-qualitative as implying a direct concern with experience as it is 'lived' or 'felt' or 'undergone' (Kritsotakis 2000, p.4).

Laudel (1996, p. 1) is concerned that 'the methodology of social sciences has been distorted by the struggle between quantitative and qualitative paradigms'. The author elaborates that 'this is dangerous nonsense because the two approaches mark the end of a continuum which rarely occur '. While the quantitative design strives to control bias so that facts can be understood in

an objective way, the qualitative approach is 'striving to understand the perspective of the program stakeholders, looking to first-hand experience to provide meaningful data' (Bowen 1996, p. 2).

Trochim (2000, p.1) states '…there has probably been more energy expanded on debating the differences between the relative advantages of qualitative and quantitative methods than any other metrological topic in social research'. Likewise Bavelas (1995, p. 6) Sels Smith & Sprenkle (1995, p. 201) concur that 'antagonism between proponents of qualitative and quantitative methods is preventing recognition of the benefits' to be gained by employing both methods in a single research design. Oakley (2000, p. 27) is of the opinion that 'the warfare proceeds on a number of levels'. Researchers presenting the results of their research often feel it necessary to claim their 'adherence to one camp or the other as part of establishing their academic and potential credentials'. This is an accurate portrayal of this study. Despite some disagreements about method, both 'qualitative and quantitative researchers agree that the primary issue is making sense of the data' (Rudestam & Newton 1992, p. 113).

3.5.1 Qualitative

Qualitative research methods were developed to enable researchers to 'study social and cultural phenomena'. This can include 'observation and participant observation, (fieldwork), interviews and questionnaires, documents and texts' combined with the researcher's impressions and reactions (Trochim 2000, p. 2).

Steiner (2002, p. 1) contends '…qualitative research holds the promise of an escape from smug, exploitive, scientistic, reductionist research. It has the potential to restore respect for ontological integrity and to bring worldly engagement back into knowing'. Conversely, Steiner then qualifies those remarks by posing a question 'but does qualitative research deliver on its promise; does it achieve its potential? In too many instances it does not (Steiner 2002, p. 1). Too often qualitative research places the emphasis on research. This can have the effect of undermining reflection and outcomes due to excessive concentration on process.

Rudestam and Newton (1992, p. 5) in Figure 3.3 put forward the concept of a 'research wheel' highlighting interactions between an inductive and deductive approach. The research wheel metaphor 'suggests that research is not linear but a recursive cycle of steps that are repeated over time' (Rudestam & Newton 1992, pp. 5-6).
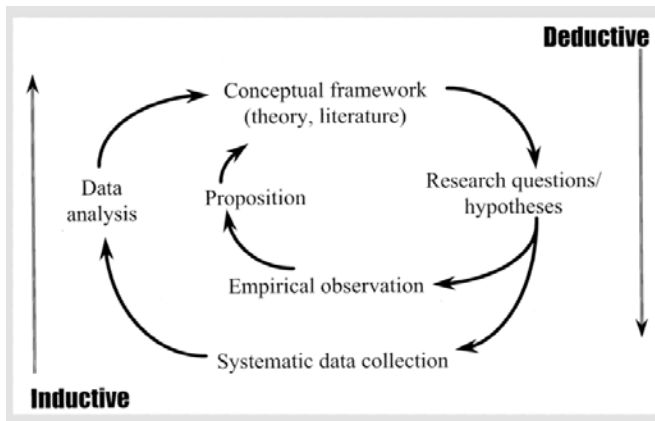
Figure 3.3: Inductive and deductive as a recursive cycle of steps

Rudestam and Newton (1992, p. 38) note:

> In an inductive approach, qualitative research begins with specific observations and moves towards the development of specific patterns that emerge from the case under study. The researcher does not impose much of an organisation structure or make assumptions about the interrelations about the data prior to making the observations.

Rudestam and Newton (1992, p. 37) assert that 'the distinctiveness of qualitative research has implications for the writing up of the research proposal and dissertation. Qualitative research designs are typically not intended to prove or test a theory. It is more likely that the theory will emerge once the data is collected' that is, an inductive approach to scholarship rather than a deductive approach. Numerous researchers contend induction is based on observation of the real world and induction involves a scientist developing propositions from facts or a set of data (Creswell 1994, p.94; Dabscheck 1995, 1999, p.18; Kelly 1991, pp. 10 -11; Mason 1996, p.142). An inductive direction is consistent with the direction undertaken in answering the research questions pertaining to the change management intervention at CRA.

3.6   Methods

Figure 3.4 shows the core research strategy for this thesis as being a case study approach supported by a quadrilateral of methods comprising: interviews and focus groups, analysis of documentation, stakeholder analysis and participant observation. Other terminology used in the literature to describe this mode of research validation is 'multi-method approach' and 'common sense' (Buchanan 1999, p. 151).
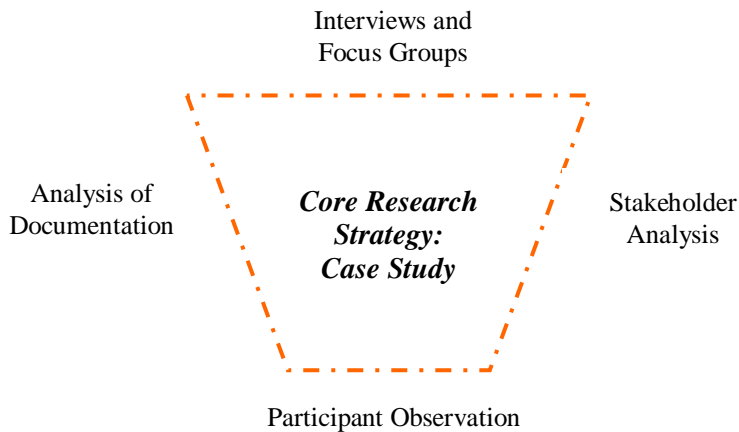
Figure 3.4: Research strategy based around a Case Study Core

Methods utilised consisted of interviews and focus groups, analysis of documentation, participant observation and stakeholder analysis. Interviews were undertaken with individuals both internal and external to the company. Focus groups were developed in Australia and attended by current employees, past employees and consultants involved with the OD process at the time. The opportunity to develop international focus groups was utilised in in the United States while the attending RO workshops and practitioners conferences based on the RO model and the Requisite organisation International Institute (ROII).

Analysis of documentation within this study refers predominately to company specific and staff documentation. The documentation comprised a rich vein of raw research material that proved invaluable in triangulation of data in conjunction with personal interviews. Additional documentation with a Jaques' focus from the early development days during and post Glacier metals was accessed in the United States.

Stakeholder analysis focused on the employees, the Weipa community, the union movement and the executive management team of CRA Australia. Stakeholder analysis consisted of both interviews and analysis of individual and company documentation as well as diary notes

Participant observation was undertaken by the author in three discrete stages:
1) Stage one while a long term employee of Comalco
2) Stage two while attending RO workshops, site visits and executive development seminars and senior development courses in the United States
3) Stage three while working for a management consulting group consulting the mining industry

Interviews were utilised with respect to individuals both internal and external to the company. Focus groups were developed in Cairns and Brisbane and attended by current employees and past employees who had been employed during the company OD intervention. A focus group was formed during the first public (as distinct from a closed company event) RO conference held in Australia at Deakin University in Melbourne in December 2004. Participants included RO consultants and practitioners in Australia, South Africa, Sweden and the United States.

3.6.1   Triangulation

A useful, some researchers would argue essential, research design is to use research strategies in different stages of a research project. Such an approach is generally described in the methodology literature as triangulation. Cassell and Symon (1994, p. 4) note '…triangulation of data by multi method approaches is essential to answer many of the most important questions'. Utilising multiple sources and methods, of inquiry has the effect of ensuring the data you have gathered is tested against a range of sources for validity. Comments from an interview can be cross checked against data gather from other interviewees, internal company documentation, annual reports and papers presented at conferences to corroborate evidence.

Stake (1995, p. 107) asserts that '…we need discipline, we need protocols. In qualitative research these protocols come under the name of triangulation'. Jick (1979) notes 'triangulation can be as basic as utilising both qualitative and quantitative methodology to complement each other'. In this study, triangulation is utilised to validate interview documentation across different stratums as well as written company documentation and individuals' recollections. Stake (1995, p. 112) in Table 3.3 makes the point '…If it is central to making the case then we will want to be extra sure that we have it right' in respect to triangulation..

Table 3.3: Data situation and the need for triangulation

Data Situation	Need for Triangulation
incontestable description	need little effort towards confirmation
dubious and contested description	need confirmation
data critical to an assertion	need extra effort towards confirmation
key interpretations	need extra effort towards confirmation
author's persuasion, so identified	needs little effort towards confirmation

Repeatedly, instances occurred when the public record and the comments originating from an interview environment were in conflict. In all instances 'triangulation' as described in Table 3.4 was utilised to separate fact from fiction and to ensure that the interviewee was not trying to re-write corporate or personal recollections to their point of view. This is especially the case with

internal company documentation when the documents produced are intended to portray the company position on an issue at a specific point in time.

If the documentation could not be verified then it was not used. This triangulation concept and perspective is supported by numerous authors in the field, i.e. (Bowen 1996, p. 4; Chenail 1997, p. 1; Connell, Lynch & Waring 2000; Deacon 2000, p. 2; Robson 2002, p. 174 & 371; Seale 1999, pp. 52-61; Thomsen McCoy & Williams 2000, p. 4; Whitfield & Strauss 1998, p. 82; Yin 1994, p. 91, 2003).

3.6.2 Stakeholder analysis

Table 3.2 introduces the issue from a theoretical point of view, that stakeholders are of interest because their needs, wants, desires, perceptions and conceptualisations are different' (Cassell & Symon 1994, p. 187). Stakeholder analysis can be fundamentally described as a research approach founded on the principle that any phenomenon of interest in organisation psychology has a number of 'stakeholders' or 'interested parties', who affect, are affected by, experience and conceptualise it.

Table 3.4, stakeholder analysis, identifies interested parties and collects data about their actions, perceptions, behaviours, experience and thoughts in relation to the phenomenon. Stakeholders are 'actors, agents, interested parties, interests, and interest groups' (Cassell & Symon 1994, pp. 187-193).

Table 3.4: Stakeholder analysis research investigation

A sequence of steps undertaken in stakeholder analysis research	To identify the phenomenon of interest, the theoretical and or practical/applied research question, and the general research approach (inductive, deductive, comparative)
	To deduce a likely initial set of stakeholders, collect initial data, identify other stakeholders
	To collect fuller data, construct a multi-dimensional database, and fill it out until complete enough for the intended analysis;
	To analysis data to address the research question(s)
	To write up, present, publish and disseminate conclusions – a process which itself poses stakeholder questions of audience, in the sense of why and how to reach and address them

The stakeholder group in Weipa consisted of two broad groupings, the employee and the employer. This 'limited or narrow view' of the stakeholders is consistent with the stance taken by Dabscheck (1999, p. 15). The makeup of Weipa during this period was one of a company controlled town, constructed on a mining lease with no locally elected officials or a town council. The overwhelming available accommodation was owned and allocated by the company.

Most of the working age population was employed by, or contracted services to, the mining operation and this was their primary source of income. An argument could be mounted that there are interested third parties in the outcome - the union movement, the government, the business community in Weipa to name just a few. Within the township, interviews carried out among business people in relation to the offer of salaried staff employment to Comalco employees, for the most part elicited a 'constructive and positive response'. The comments were related to the pay structure moving to a monthly arrangement and hence a consistent remuneration coming into the employee's bank account on the twenty-sixth day of each month. A monthly salary removed the uncertainty of overtime and the resultant cyclic nature of purchases other than normal living essentials for locals.

3.6.3   Analysis of documentation

Ellem (1999, p. 73) approaches the dissection of documents within a context of, 'at the very outset, it must be forcefully stated that practically every document which the researcher encounters is a socially constructed piece in itself, bearing certain values and assumption'. Taylor (1998) considers 'unbiased' scientific research with the observation '…the truth is that no author is free from outside influences or personal views'.

An analysis of company documentation takes as its starting point Goffman's (1971) contention as highlighted in Cassell and Symon (1994, p. 150) that 'all human interaction is based on meaning-laden, negotiated interaction involving self-preservation, secretary, political gamesmanship and so on'. It follows on that the meanings that people attribute to these situations rather than 'causal variables' become the basic units of research. This aspect of research is essential to enable outcomes that are accurate and conclusions based on data and information underpinned by official documentation from the various stakeholders**.**

Records and documents are for the most part primary documentation derived from multiple sources within and external to the company. Primary materials are '…created by the participants themselves, while secondary materials are the accounts or written discussions produced by others after the event' (Ellem 1999, pp. 73-74). Moreover documentation cited and integrated into the thesis was triangulated and verified by interviews in all cases with the actual individual who wrote or signed the particular memo, letter or document. This process, once embraced, allowed the author to stand back from the occasionally subjective nature of qualitative research and apply independent scholarship to the undertaking.

Primary material harvested in this thesis consisted of a range of sources; firstly, official documentation from CRA and Comalco. Material was not confined to internal correspondence

but includes company position and information papers presented to various national and international conferences; secondly, official documentation sourced from relevant union officials; thirdly, documentation from senior and executive staff involved with different phases of the process between 1979 and 1993. This documentation included personal correspondence, diary notes, files and videos.

Cassell and Symon (1994, pp. 21-26) observe that documentary records '…constitute a rich source of insights into different employee and group interpretations of organisational life. This fertile source of information is often more comprehensive than the kind of material that a researcher who is new to the organisation could obtain from interviews or questionnaires'. They are often contemporaneous records of events in organisations that can assist researchers to look more closely at historical processes and developments in organisations and can help in interpreting informants' 'rewriting' of history in latter verbal accounts. This was the case with documentary records from in cluster groups particularly when discussion of a time period or event was opened up to further debate and discussion within the group.

3.6.4   Interviews

Personal interviews played a central role in substantiating or disputing certain assertions concerning the move to staff employment in Weipa that are 'contentious' or have been reported in the media and now have engendered a certain 'credibility' about their validity ((2001, pers. Comm, GM2). The initial questions had a generic skeletal foundation of inquiry based around the RO intervention at CRA designed to identify those individuals for clustering into groups for more detail. Both structured and unstructured interview formats were utilised with the majority of interviews commencing via a small formal set of questions before progressing into a more semi-structured style.

Connell, Lynch and Waring (2000, p. 4) support the use of semi-structured interviewing techniques within a case study methodology '…examining contemporary trends to individualise employment relations within the Australian coal industry':

> Semi-structured interviews were chosen as the most appropriate data gathering technique. This is because the research strategy required information concerning interviewee's personal beliefs, considered opinions and insights. The semi-structured interview technique builds into questioning, sufficient flexibility to capture insights that may otherwise be lost to the imposition of the 'next' structured question.

The semi-structured interviews had a range of initial themes to flesh out the knowledge of individuals to enable a tighter clustering for ongoing inquiry. The initial themes consisted of: CRA, Comalco, consultant, staff, award, and knowledge of Jaques period with the company from 1979. McLaughlin (2002, p. 8) notes that a researcher must be capable of 'explaining and justifying who, why and how' in relation to the choice of 'representativeness or appropriateness' of the individuals chosen for interviews. The study involves extensive interviews with stakeholders (face to face, phone as well as e-mail) within, and external to the company. The principal interview method in all cases, where possible, was face to face to enable the total person to be interviewed and not just the words coming out. That is, one was able to holistically observe body language, eye contact and written collaborate documentation brought along to the interview that was produced to back up a particular discussion theme.

Table 3.5 outlines the 'diverse range' of individuals contacted as part of the exploration of facts and data gathering phase. Individual interviews were conducted both within and across these groupings to 'better understand the sequence of events and the interaction between the various groupings' (Benney & Hughes 2001, pp. 3-10; Robson 2002, pp. 269-291).

Table 3.5: Cross section of typical interviews undertaken

Comalco and CRA employees		External to Company
Workforce and team leaders	stratum i	Union officials
Superintendent	stratum ii	University staff
Manager	stratum iii	Weipa business owners
General Manager	stratum iv	Consultants to CRA/Comalco
Managing Director	stratum v	Industrial relation practitioners
Group Executive	stratum vi	Industrial relations columnists
Chief Executive	stratum vii	Requisite organisation membership

As a primary data resource, interviews with the stakeholders have contributed to producing evidence that, in a number of instances, would appear to be at odds with what has been accepted as fact. Follow-up interviews, combined with supplementary interviews with a disparate range of participants, were utilised to follow up on a particular issue, or to pursue a line of inquiry that arose from discussions with another person, or a specific document that had come to light.

A number of cluster groups was used to understand and clarify the initial structure and employment systems work carried out between 1979 and 1985. The cluster groups comprised staff at stratum III, IV as well as external consultants involved with the initial OD intervention and the subsequent work on employee systems, human resource information systems and aligning the OD outcomes with all employees. In one case in point, a number of interviews

with an individual developed into a 'longitudinal focus' through a series of mind mapping exercises over two full days due to this individual covering all the aspects of the process within CRA that were under investigation .

Morse, Barrett, Mayan, Olson and Spiers (2002, p. 7) consider 'not bringing new participants into the study until the data set is complete and the data replicates a sound strategy'. That is, avoid only using follow up interviews with existing respondents. Sutcliffe (1999, p. 146) raises the concern that 'unstructured interviews are not always easy to record as the interviewer has the dual role of questioner and recorder'. It is important to maintain eye contact as well as be aware of 'body language'. Combine all of these requirements with writing down accurately the responses and one can readily see that errors will appear. This was an issue with the study and was alleviated by follow up interviews and phone calls in a number of instances.

Sutcliffe (1999, p. 146; Townson & Pice 2005) provide solutions to minimise these issues: '…have two people involved in the interview process - one reporter and one interviewer. The second suggestion is to utilise a tape or video recorder'. The problem with a recording device is that '…some respondents do not feel comfortable with this approach'. Additionally there is normally a 'very large cost involved in transcribing text as well'. The use of any form of recording device was not employed in this study due to the confidentiality nature of some of the issues raised during the interview process. In addition there was a manifest reluctance from the majority of interviews to speak frankly if a recording device was being used.

The transient nature of employment in relation to senior employees within a global mining company such as CRA with mine sites and processing plants in Western Australia, New Guinea, Indonesia, the United States of America, the United Kingdom and Africa, eliminated face to face interviews to some extent. The use of video conferencing was not an option due to the cost and localised availability. The ability to tape or record conversations over the telephone line was not contemplated due to illegality of such a course of action. Sutcliffe (1999, p. 147) remarks 'apart from these types of operational problems, interviews are subject to the same types of metrological and observational techniques'. In addition:

> Ethics (will you be honest about the purpose of the survey or about the confidentiality and can you afford to be without biasing the responses?), artificiality (will the respondent modify their responses for some reason?), observer bias (in an unstructured interview, there is a mass of verbal and nonverbal data that can be misinterpreted), and finally, would another interviewer elicit the same responses to the same questions? That is, is the study able to be replicated?

Individuals to be interviewed either face to face or by phone were clustered as shown in Table 3.6. This clustering was the outcome of initial brainstorming early on with the study supervisor which identified the broad parameters for clusters to be based around. In all instances face to face contact was the preferred interview model, followed by phone, then email.

Table 3.6: Interview cluster grouping for study

Existing staff	Staff employed by the CRA/Comalco pre December 1993
Existing staff	Staff employed by CRA/Comalco post December 1993
New staff	Award employees who took up the offer staff employment
Award employees	The 75 employees in the 'Weipa Dispute' The 5 remaining on the award in 2007
Weipa business people	Owners of small business enterprises in Weipa
Ex Comalco employees	Employees who have left CRA/Comalco
Consultants	Consultants involved with the OD intervention
CEO/GEHR/Jaques	Initial work in setting up the OD intervention and the Woodlawn Trials
Stratum IV/V	Site general managers level and business unit managing directors
First National Bank of Omaha	A significant US banking group going through a major requisite organisation restructure
Requisite Organisation International Institute	The repository of Elliott Jaques' 50 years of research. Staff and office bearers of the institute
Union movement	Union officials representative of the unions that were respondent to the divisive CRA/Comalco industrial awards

The transient nature of employment in the global mining industry is noted and this aspect of a global company highlights the issues with interviewing employees face to face. One individual noted commenced work with CRA as a graduate at Broken Hill and progressed upwards through the company in a range of increasing higher level roles both within Australia and overseas before retiring in a stratum vi role in recent years.

3.6.5 Participant observation

Direct or participant observation differs from interviewing in that the observer 'does not actively query the respondent'. It can include everything from 'field research for short periods to actually living in the environment for extended periods' (Kellehear 1993, pp. 115-137; Robson 2002, pp. 309-344; Trochim 2000). Participant observation was undertaken by the author in three discrete stages:

Stage one: participant observation enabled the research to understand the interaction of the process that had been undertaken and the names of the people involved. Participant observation is bounded by the period 1981 through to and including 1994. This timeframe is the length of employment with Comalco in Weipa for the author and encapsulates the significant milestones from the initial OD intervention through to the offer of staff employment. This allowed a

minimised set up research period to be undertaken as key individuals were easily identified and a pro forma of the process was already understood. This led to the formation of focus groups and an understanding of how the individual makeup of the group would lead into the formation of possible additional focus groups for a particular aspect of the change intervention

Stage Two: At a range of Australia operations of CRA in Queensland, New South Wales and the Northern Territory. Two other Australian mine sites were visited as part of the study that had implemented the RO model via senior executives that had previously work with either CRA or Comalco. Additional individual participation was undertaken during two separate stages of employment. Between 2001 - 2007 while employed with energy companies working with the mining industry in Queensland. Between 2007 - 2009 while employed to carry out consultancies on energy efficiency opportunities, carbon footprint, climate change strategies and readying companies for the emerging emissions trading process across Queensland, New South Wales and the Northern Territory.

Stage Three: In the United States, during a number of visits to a large banking group assisting with senior and executive development around the principles of the RO models for executive staff. Focus groups were utilised in a small way while the author was attending Requisite Organisation workshops centred on senior and midlevel staff development. The group participants were members of the executive project team plus two external consultants overseeing the implementation of a Requisite Organisation re-modelling of the organisation structure.

3.6.6   Recording and interpretation of data

Research data combined with contact details of interviewees has been entered in long hand into a research notebook and then transferred into a range of software packages (Word, NVivo). The software was used to assist in the breakdown and scrutiny of raw data into manageable and meaningful information that was then entered into the relevant chapters, figures and tables. Such an approach negates to an extent the issue of pieces of paper with notes, phone numbers and reference information that clutter up a desk as well as becoming lost or consigned to the waste paper basket inadvertently. Paper documents that were deemed essential for inclusion into the finished thesis were scanned and stored electronically. Back-up of data was carried out by the installation of an additional hard drive - mirror system - on the computer as well as a weekly back-up to an external server combined with an external disc drive located off site**.**

3.7   Outcomes

'Without rigour, research is worthless, becomes fiction and loses its utility. Hence a great deal of attention is applied to reliability and validity in all research methods' (Creswell & Miller 2000; Morse., Barrett., Mayan., Olson & Spiers 2002; Seale 1999, pp. 37- 42; Trochim 2002). Trochim (2002, p. 1) characterises validity as 'the best available approximation to the truth of a given proposition, inference, or conclusion'. Trochim (2002, pp. 2-3) discusses the inter-relationship between, conclusion, internal, construct and external validity as four interrelated concepts that meld together to enhance the validity of the study and inform the outcomes with a high degree of confidence:

> **Conclusion validity**: In this study is there a *relationship* between the two variables?
>
> **Internal validity**: Assuming there is a relationship in this study, is the relationship a causal one?
>
> **Construct validity:** Assuming that there is a causal relationship in this study; can we claim that the program reflected well our **construct** of the program and that our measure reflected well our idea of the **construct** of the measure?
>
> **External validity**: Assuming that there is a causal relationship in this study between the constructs of the cause and the effect, can we **generalise** this effect to other persons, places or times?

Ratcliffe (1983, pp. 147-167) suggests there are five broad strategies that when utilised correctly, will enhance validity in qualitative research. These five diverse strategies are noted below and were utilised to enhance the authenticity of the study under investigation. Validity verification checks were initiated by phone conversations and then followed up with documentation applicable to the issue being discussed.

1.   Divergence from initial expectations: see personal notes kept from the beginning to see how the data has pushed you from initial assumptions

2.   Convergence with other sources of data: using variation kinds of triangulation and comparisons with the literature

3.   Extensive quotations from field notes, transcripts of interviews, other notes

4.   Other research data: such as archival data, recordings (video or audio)

5.   Independent checks/multiple researchers - more than one person involved in the research of those studied, team research approach or other sources of verification.

Conversely some qualitative researchers have rejected the notion of 'validity' in any form, as entirely inappropriate to their work (Winter 2000). This is a position completely at odds with this study. Validity is positioned front and centre around the aims and outcomes of the research.

Denzin & Lincoln (1994, p. 100) in Table 3.7 proposed '…four criteria for judging the soundness of qualitative research and explicitly offered these as an alternative to more quantitatively oriented criteria'.

Table 3.7: Methods of validity in Qualitative Inquiry

Traditional Criteria for Judging Quantitative Research	Alternative Criteria for Judging Qualitative Research
Internal validity	Credibility
External validity	Transferability
Reliability	Dependability
Objectivity	Conformability

3.7.1   Credibility

Credibility criteria involved establishing results emanating from qualitative research was credible and believable from the perspective of the participant in the research. Since from this perspective, the purpose of qualitative research is to describe or understand the phenomena of interest from the participant's eyes, the participants are the only ones who can legitimately judge the credibility of the results (Guba & Lincoln 1981). Credibility within this study was tested and re-tested by the major participants themselves in that they were the recipients of numerous rough copies of thesis sections that were relevant to their involvement in the theory, methodology, project teams and roll out of the program from the executive level down to the individual operating mine site and consultant level.

3.7.2   Transferability

Transferability refers to the degree to which the results of qualitative research can be generalised or transferred to other contexts or settings. From a qualitative perspective, transferability is primarily the responsibility of the one doing the generalising (Guba & Lincoln 1981). The qualitative researcher can enhance transferability by carrying out a meticulous job of describing the research context and the assumptions that were central to the research.

The person who wishes to transfer the results to a different context is then responsible for making the judgment of how sensible the transfer is (Guba & Lincoln 1981). A key outcome of this study is the development of an organisational change model that is applicable to major government or private sector organisations worldwide who are contemplating utilising the Requisite Organisation model of organisational change. The embedding of an organisational change model for the mining industry in the outcomes of the study validates transferability of the outcomes.

3.7.3   Dependability

The idea of qualitative dependability emphasises the need for a researcher to account for the ever-changing context within which research occurs (Guba & Lincoln 1981). The research is responsible for describing the changes that occur in the setting and how these changes affected the way the research approached the study. The dependability of the outcomes of research was influenced by the triangulation of the findings being channelled into workable hypotheses. Within this study, organisational change management was evolving over time inside parameters put in place by Carnegie back in 1979. That is, the long term strategy was in place at an executive level and consistently pushed down through the business units to the individual operating sites.

3.7.4   Conformability

Qualitative research tends to assume that each researcher brings a unique perspective to the study. Conformability refers to the degree to which the results could be confirmed or corroborated by others. There are a number of strategies for enhancing confirmability. The researcher can document the procedures for checking and rechecking the data throughout the study. Another researcher can take a 'devil's advocate' role with respect to the results, and this process can be documented. The researcher can actively search for and describe any *negative instances* that contradict prior observations (Guba & Lincoln 1981).

3.7.5   Bias

High reliability may suggest a systematic bias at work in data, a bias shared by multiple researchers or across observations by the same researcher. This is why many qualitative researchers emphasise 'validity rather than reliability', documenting what occurs in an accurate manner may reveal inconsistencies (Denzin & Lincoln 1998, p. 282). Qualitative researchers often remark, 'you never cross the same river twice' (because it's never the exact same water, the banks of the river are never exactly the same because of erosion, etc.). Reality is dynamic and changes constantly (Denzin & Lincoln 1998, p. 282; Robson 2002, pp. 172-174; Winter 2000).

One must recognise and acknowledge the intrinsic bias that individuals bring to a project (Winter 2000). Examples are: gender, age, ethnic or national identification, religion or philosophy of life, political party or orientation, management or union perspective, public or private sector background, etc., (Boeree 2000, Ch. 15). The author recognises the intrinsic bias inherent in this study given previous employment within a business unit of the company under enquiry. Such intrinsic bias was mitigated to an extent by the author not commencing this study

until a couple of years after cessation of employment and moving away from the mining group operations.

Intrinsic bias has the potential to skew the research results and consequently strategies need to be implemented to minimise damage to the credibility of the final report. Boeree (2000, Ch. 15) reflects on 'inherent bias within researchers' and remarks that' by being hard on yourself, by working with others, you will become sensitive to the intrusion of biases' into your research and descriptions. Actions taken to minimise bias in this study included rigorous attention to triangulation of all data and interview sources. The use of external peer review, within and external to the university sector, in respect to all chapters was rigorously undertaken.

3.8   Chapter review

Love's (2002) seven aspect model was used as a starting point for the methodology chapter. The model comprised: ontological perspective(s), epistemological perspective(s), theories, methodological perspectives, research methodologies, research methods, data-gathering and analysis techniques. A range of research approaches available for inquiry in social situations. Ontological and epistemological assumptions were shown to be the primary steps in determining the choices available from which to select a methodology for use in inquiry. Ontology was noted as a way of knowing while epistemology was defined as a way of doing. Qualitative and quantitative systems were compared and contrasted. Qualitative was chosen and underpinned by a case study methodology integrated within four supporting strategies of interviews, stakeholder analysis, participant observation and analysis of company documentation.

Particular attention was paid to the area of personal interviewing and the need to retain confidences as well as the ability to provide a 'Chinese Wall' between those interviewed and their comments that have been written up in the study. This was achieved by the use of acronyms to ensure the identity of individuals remained obscure. Outcomes, credibility, transferability, dependability, confirmability, inherent researcher bias, relevant documentation and interviews were discussed. Triangulation was discussed and noted as a key requisite for ensuring data rigor when undertaking qualitative research.

The methodology chapter leads on to chapter four which introduces the embryonic phase and early years of the CRA organisational intervention and the meeting between Jaques and Carnegie - 'a meeting of minds'.

Chapter Four

<div align="center">

The Embryonic Phase:

CRA Australian Requisite Organisation Project

Outline of Chapter

</div>

4.0   Chapter overview

Provides an overview to the subject matter of Chapter Four

4.1   The early years: Carnegie and McKinsey

Introduces Carnegie and his background in consulting

4.2   The merger

Notes the merger of the Consolidated Zinc Corporation and Riotinto

4.3   CRA: 1970 - 1977

Carnegie's initial employment with CRA

4.4   Establish a sense of urgency

Embark on long-term re-alignment and corporate strategic planning in four critical areas.

Benchmarking on a worldwide basis

4.4.1   Preparation of discussion papers

4.5   Create a guiding coalition

Introduces the research of Jaques and the initial meeting between Carnegie and Jaques in the

United Kingdom. The creation of OD executive and project teams

4.5.1   Introduction to Jaques

4.5.2   Carnegie initiated the meeting

4.5.3   From theory to emerging model

4.5.4   Forming the OD Executive team

4.6   Develop a vision and strategy

Details of the OD trials and the project teams formed as a result of the trial outcomes

4.6.1   The Woodlawn trial

4.6.2   Outcomes from Woodlawn

4.6.3   OD teams formed

4.7   Communicating the change vision

Details the communication strategy employed

4.8   Implications of research

Identifies issues for further research and analysis

4.8.1   Theoretical implications

4.8.2   Practical implications

4.9   Chapter summary

Summarises the key points developed within the chapter and introduces Chapter Five - the restructure of the Comalco Weipa Bauxite operation

4.0   Chapter Overview

The period 1979 to 1982 is acknowledged as the Embryonic Phase of the organisational development transformation within CRA (Macdonald, Burke & Stewart 2006; Hilmer & Donaldson 1996, p. xi; Johnson 1996). This timeframe of reflection and debate at the executive level is consistent with the first four steps in Kotter's model in Figure 4.1
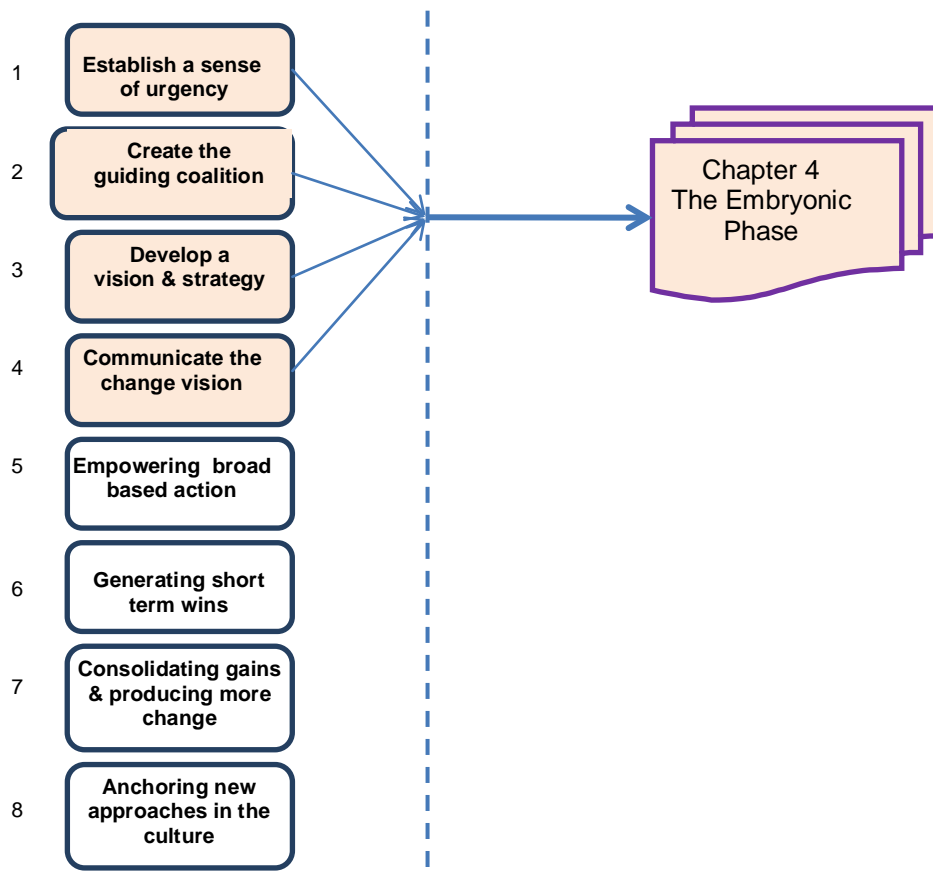
Figure 4.1: Integration of Kotter's first four steps with the embryonic phase

These steps consisted of: establish a sense of urgency, create the guiding coalition, develop a vision and strategy and communicate the change vision. Although not necessarily in sequential order, the building blocks of Kotter's model outlined correlate with activity undertaken at CEO level during this period (Kotter 1996). Preliminary work embarked on appeared to validate the authenticity of Jaques' theories when trialled across three mine sites in the CRA group. Foundation work was undertaken around the Organisational Development (OD) transformation in CRA. This occurred before the decision was taken to embark on a business wide implementation of OD.

Working with McKinsey exposed Carnegie to organisational change management in the United States and the United Kingdom. The year 1979 is often quoted as launching the 'whole of

business' organisational change process within CRA. Research from this study suggests the period 1979 through to 1982 as being more appropriate to laying the groundwork for organisational change management. The completion of the initial strategy development throughout the company was undertaken. The holistic organisational change process within CRA began in 1982 after the successful operational trials of Jaques theories initially at Woodlawn (Hearn Mackinnon 2008, 2009; Hilmer & Donaldson 1997, p. xi; Johnson 1996; Kohler 1995, p. 43; Ludeke 1996; Macdonald, Zeffane & Green 1998; Stewart 1996, p. 163; Thorne 1997, p. 1).

4.1   Carnegie and the McKinsey Years

A year after his graduation from Oxford in 1957, Carnegie was at the top of his MBA class at the Harvard Business School, but he was bored and thinking about dropping out. The Dean introduced him to Marvin Bower from McKinsey, who gave young Rod the same advice Marvin had received 25 years earlier: if he dropped out of HBS he'd spend the rest of his life explaining that he hadn't flunked out. Bower - known as 'the soul of McKinsey'- offered the young Australian a job as the firm's first summer associate. Rod remembers, "I knew I should take Marvin's advice, and I did. I took the summer job, too. The following June, after graduating with Honours from HBS, Rod joined the Firm as an associate (Alumni News 2003).

Carnegie was introduced to the concept of 'strategic business units' during consulting work with General Electric (GE). He came to the view that executives and senior management should focus overall on corporate performance across all aspects of the business (Carnegie 1992, 2005). The GE model of strategic business units remained in Carnegie's thinking and developed over time into the prototype for the autonomous five level business unit Requisite Organisation (RO) model. Carnegie (2005, pp. 332-344) in reviewing this period made the observation:

> I had spent 12 years working with McKinsey, seeing how the best enterprises in the world operated. But when I became CEO of CRA in 1972, and later, in1977 when the Group overcame the foreign ownership hurdle, CRA had to rethink its strategy and structure. My time with McKinsey showed me that having sound objectives, well-executed personnel practices, and well-implemented management practices could motivate high talent people. During my work with McKinsey I consulted to Fred Borsch, then the Chief Executive of General Electric (GE). During this work we recommended, established and implemented strategic business units in GE. This was the first time that this organisational logic had ever been introduced to such a large company. All this work showed that simplified management structures were possible and would lead to a big improvement in managerial effectiveness.

Carnegie consulted to Imperial Chemical Industries Plc, and developed a seven level strategic business unit structure based around 15,000 employees. A flat organisational structure with only seven levels was at the forefront of organisational theory and ahead of its time for the 1960s (R Carnegie 2000, pers. comm; Gorman 1996, p. ix). The RO structure developed at CRA was also a seven level model - five levels within the business units supported by a head office function at levels six and seven. The similarity is not an accident, as Carnegie already had in his mind a vision of a 1980s model of organisational structure for large enterprises (R Carnegie 2000, pers. comm).

Carnegie moved back to Australia in 1962 to establish the Australasian office of McKinsey & Co in Melbourne. He concentrated on cultivating the consulting business as a branch of the United States parent (R Carnegie 2000, pers. comm). As a consequence of the business development activity, Carnegie was approached by Rio Tinto in London to carry out corporate consulting for their operations in Australia. During 1967 Carnegie returned to the United States with McKinsey and after three years of additional consulting work with the company, was offered the position of finance Director of CRA in Melbourne during 1970.

4.2 The Merger

This expansion period for McKinsey into the Australian market coincided with the merger of the Consolidated Zinc Corporation at Broken Hill and Rio Tinto domiciled in London. The merger resulted in the formation of Conzinz Riotinto Australia (CRA) with the head office located in Melbourne. Walk & Ellis (1980, pp. 17-18) describe this period as a 'crucial time in the development of what become known as CRA'

> The year 1962 was a crucial one. CZC merged with the powerful Rio Tinto Company Limited of London, a company with worldwide ramifications, to form The Rio Tinto-Zinc Corporation Limited (RTZ). Val Duncan of Rio Tinto became Managing Director, and Mawby who was CEO of CZC became a director. At the same time Conzinc Riotinto of Australia Limited (CRA) was formed by merging the large CZP with the smaller Rio Tinto Mining Company of Australia Limited. In Mawby's picturesque language, CZC 'had lots of deposits, lots of work ahead, lots of development and limited money, and they [Rio Tinto] had lots of money and no projects'. RTZ regarded CRA as an operating company concerned with the technical problems of mining and exploration.

Lang Hancock and his partner, Peter Wright, were encouraging participation of Australian mining companies in the Australian Iron Ore development in their home state of Western Australia. Hancock and Wright communicated their message about the mining potential of the Pilbara region to Rio Tinto in Melbourne. An agreement aimed at developing these mineral

resources was tabled by Hancock and Wright and signed by Rio Tinto. This agreement was the foundation of what is now Hamersley Iron and had much to do with the subsequent merger of Rio Tinto and Consolidated Zinc into CRA Australia (Walk & Ellis 1980).

4.3   CRA: 1970 - 1977

CRA made structural adjustments in the 1960s when it merged with Consolidated Zinc. The company continued to operate profitably after the merger. The union of the businesses was a friendly and rational arrangement that 'contained synergies for both groups and in no way could be described as a hostile takeover' (R Carnegie 2000, pers. comm). Walk & Ellis (1980, p. 10) note that mergers can occasionally experience teething troubles in the early stages:

> Mergers are not without difficulties, but by 1964 the whole organisation cemented into place and the individuals were becoming welded into a well-integrated and effective team. At the outset CRA had to rely heavily on the business experience, financial acumen, and marketing ability of RTZ to supplement the technical expertise, exploration skill and enterprise of the Australian group.

CRA remained in a sound financial state due to the quality of its staff and considerable mineral asset base which was under development in Australia and Papua New Guinea. Commercial agreements were in place between RTZ in London and CRA in Australia that allowed CRA to process iron ore from the Pilbara region in Western Australia and bauxite from Weipa in Queensland locally (Carnegie 1992, 1995). Comalco, previously known as the *Commonwealth Aluminium Corporation*, benefited from these agreements. Australia is now home to a vertically integrated aluminium industry. This vertical integration comprises raw materials from the Weipa bauxite deposits being value added into alumina, and then aluminium at Gladstone in Queensland, Bell Bay in Tasmania and Invercargill in New Zealand.

Carnegie followed in the footsteps of the immortals of the Australian mining industry when he became CEO and Chairman of CRA. One notable individual from this era was Maurice Alan Edgar Mawby 1904-1977 (Walk and Ellis 1980). He was a giant in the Australian mining industry and instrumental in the growth and development of CRA. After the Second World War, visionaries like Mawby put Australia on the map in exploration, development and operation of world class ore bodies (2000, pers. comm., C1, C2, CEO1).

The challenge for CRA at this stage was to develop world class operations of local mineral deposits and to add value to the raw material before exporting a refined product. This strategy within CRA was stage one of a two-stage process, with the second stage focusing on the issue of foreign ownership. That is, have majority ownership residing locally in Australia rather than

in the United Kingdom. Carnegie had agreements in place with RTZ in London that would deliver majority ownership in excess of fifty per cent to CRA in Australia over time.

When CRA became a prime target for criticism as one of the largest 'foreign' companies, Mawby was forced into 'the position of spokesman' for the industry. Although a dedicated Australian, he was convinced that a large amount of overseas capital was needed to develop world-scale deposits of lead, zinc, copper, bauxite, and iron ore (Walk & Ellis 1980, p. 14). 'We have to set about fitting them into the world pattern of markets and usage, because no foreseeable growth in domestic markets would alone have provided an adequate base for developing such large resources.' Foreign money was just as important in mining as it had been in constructing railways and building up manufacturing industries (Walk & Ellis 1980, p. 14).

Mawby had a long term personal goal of increasing Australian ownership of its mineral resources (Walk & Ellis 1980). Carnegie shared this vision and re-affirmed CRA's commitment to majority Australian ownership. He tasked a four person executive group with developing options for increasing Australian equity and decreasing RTZ ownership to forty nine per cent over time (R Carnegie 2000, pers. comm). Local ownership was eventually to be the issue that 'precipitated Carnegie's early departure from CRA in 1986' (R Carnegie 2000, pers. comm). The tension around the issue of increased Australian ownership and Carnegie's part in the debate was noted at the time by Moody (1992):

> Certainly, it has not always been an easy relationship: it is sometimes possible to detect a conflict between CRA management or executives on their home ground, and the partners in London. When CRA's chief architect, Sir Roderick Carnegie, finally left the company in 1986, handing over to John Uhrig as non-executive chair, and John Ralph as Managing Director, it was speculated that he had argued with RTZ. Carnegie had wanted CRA to bid for Australia's biggest company, BHP, and Big Daddy of St. James's Square had opposed it.

4.4 Establish a sense of urgency

Carnegie embarked on a long-term re-alignment and corporate strategic planning in four critical areas consistent with the Kotter as shown in Figure 4.2 (R Carnegie 2000, pers. comm: adapted from Kotter 1996).
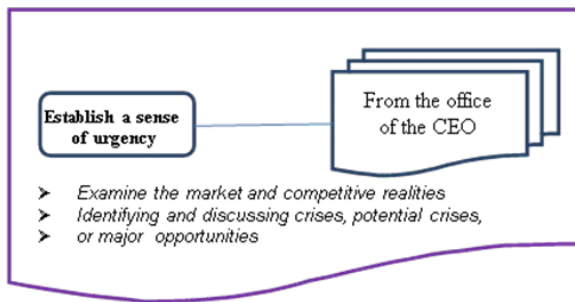
Figure 4.2: Establish a sense of urgency

The objectives out of the review and disseminated within the executive group were:

1. CRA must establish a framework that de-centralises the business
2. Be internationally competitive
3. New technology must be discovered to value add to the raw minerals produced at the mine sites
4. Be a commodity business of CRA with volume capacity

Carnegie believed that CRA was vulnerable to take-over with its existing fragmented structure and he was determined to unite CRA as a corporation (R Carnegie 2000, pers. comm). The competitive global minerals market for CRAs product was examined and potential crises and major opportunities were identified. Carnegie instigated benchmarking in the lead and zinc business at Broken Hill that 'compared and contrasted' the Australian operations with the best in the United States (R Carnegie 2000, pers. comm). All the CRA subsidiaries in Australia were considered in relation to value adding; we had to change.

In 1972 CRA was rated between twelfth and fourteenth in the global mining industry, whereas to be competitive, we need 'to be in the top three' as a minimum. Australian labour costs in particular were a major impost being one and a half times greater than the leading mining companies in the United States (CEO1, 2000, pers. comm; Macdonald Burke & Stewart 2006; Carnegie 1992).

During the early period of tenure within CRA, Carnegie identified specific aspects of the business that would require the expenditure of executive and corporate resources to accomplish the necessary changes (CEO1, 2000, pers. comm). This phrase 'necessary changes' was not employed in the sense that there was a 'clear and present danger' or that restructuring was 'a response to a hostile challenge' or takeover (Donaldson 1994, p. 43).

Dunphy and Stace (1990, p.145) provide evidence that change does not just occur and it can't be left to happen. '...successful organisational change does not just happen; it is managed through to success'. Kotter (1996) believes the majority of successful change efforts occur when individuals or groups start to look hard at a company's competitive situation. Change, by definition, requires creating a new system which always demands leadership of which the CEO is the key. Kanter (1997, pp. 4-5) describes 'managing change' as a three part process consisting of:

1. change projects that are discrete, specific streams of action designed to address a particular problem or need
2. change programs that are interrelated projects designed to have major cumulative organisational impact.
3. change projects that create the capability for continuous innovation and improvement over time

Part two and three of Kanter (1996) was consistent with the future market place Carnegie was positioning CRA for. Carnegie embarked on a process to develop and nurture the leadership required to take CRA to the next stage of its journey. Melding together the leadership team that will guide the organisation and promulgate the vision for the future is a daunting task for any new CEO. Managers regardless of their position in an organisation are dependent to a great extent on subordinates, peers and superiors for their unit's performance. This was the case with CRA as the change process cascaded down the organisation structure to the individual business units and mine sites.

As the incumbent CEO, Carnegie was positioning the organisation for the route he believed the global mining industry would take over the next decade. Interviews with executive staff of the company during this period reinforced the statement that CRA was not under and imminent threat of bankruptcy, loss of product, loss of markets or takeover. The process undertaken was a longitudinal incremental and transformational change management process through the 1980s (2000, pers. comm., C1, C2, GEHR1, MD1, MD2). Kotter (1996, p. 19 exhibit 1) identified four significant economic and social factors driving the need for major change in global organisations:

1. Technological change
2. International economic integration
3. Maturation of markets in developed countries
4. Fall of communist and socialist regimes

Together these four economic and social factors led into the globalisation of markets and competition. CRA was being positioned strategically to withstand market forces and hostile takeovers in the future. Both Carnegie and Kotter clearly understood the opportunities globalisation of world markets over time would bring to organisations - Carnegie with his background at McKinsey & Company, Kotter as an emerging research Professor in organisational change management.

Substantial company resources - staff and budgetary - were assigned to the OD project for the duration of the project. Carnegie 'allocated five per cent of the payroll' annually to sponsor the whole of business organisational restructure from the office of the CEO. At the beginning of the OD project, the CRA Group had 'consolidated revenues of $338.7 million and approximately 18 000 employees'. The allocation of funding lasted 'some five years' until the group project was completed once the outcomes were embedded within the corporation. (CEO1, 2000, pers. comm; Brady 1992, p. 20; Macdonald Burke & Stewart 2006, p. 243; Carnegie, 1992, 1995 p. 333).

Allocating an appropriate budget to sponsor major change interventions is essential to allow project teams to be formed with staff seconded for up to two years from their normal company roles. Outside consultants need to be appointed for different stages of the project. Project teams were established from senior staff - stratum IV and above - combined with company leaders of the future - at stratum III.

Having a significant budget allocation from the office of the CEO will allow change management interventions to continue unabated across the yearly budgetary process as well as contribute to arresting issues that can de-rail a change process over time. Kotter (1996 pp. 4-16) identified 'eight mistakes' that contributed to change interventions failing, or not being as successful, as expected. Although inadequate project funding is not listed as one of the mistakes identified by Kotter, corporate funding was the glue that held the OD project together and contributed to a successful outcome at CRA:

1. Allowing too much complacency
2. Failing to create a sufficiently powerful guiding coalition
3. Under estimating the power of vision
4. Under communicating the vision by a factor of 10 (or 100 or even 1000)
5. Permitting obstacles to block the new vision
6. Failing to create short term wins
7. Declaring victory to soon
8. Neglecting to anchor changes firmly in the corporate culture

Mintzberg, Ahlstrand & Lampel (1998, p. 5) anchor corporate strategy formation into 'ten distinct schools' that 'capture the points of view reflected in management practice'. Carnegie was positioning CRA strategically for the future around concepts described in the 'positioning school'. This model viewed strategy predominantly as 'an analytical process' combining the best of both the 'design and planning' schools. The positioning school focused on the proposition that only a 'few key strategies are desirable in any industry'. Four strategies were promulgated by Carnegie to the executive group comprising: decentralisation, international competitiveness, new technology and volume capacity.

Strategies of this kind can 'defend the organisation against existing and future competitors or takeovers' (Mintzberg, Ahlstrand & Lampel 1998, p. 83). The positioning school was consistent with Carnegie's vision of concentrating executive staff time on just four significant areas. Although the four strategies were comprehensive, they did enunciate a business focus to secure increased market share. The generic nature of the four strategies ensured they would be embraced by executive and senior management. The only strategy that was ahead of its time was decentralisation. Large companies at that time still tended to centralise the decision making process at head office (2000, pers. comm., GEHR1, MD2).

Carnegie's corporate direction and vision for CRA aligned with Andrews (1980, p. 12) in that 'probably the skill most nearly unique to general management is the intellectual capacity to conceptualise corporate purpose'. Howe (1986, p. 16) concurs with the general tenor of Andrews' focus and remarks 'there is an old Greek saying that if the master of the ship doesn't know which port he is making for then no wind is the right one for him'. Carnegie, as CEO, was 'master of the ship' and understood that a major structural reorganisation was required to position the business for future opportunities and challenges. Throughout the OD process there was never any doubt that the course of action was driven from the office of the CEO (2000, pers. comm., GEHR1, MD1, MD2).

There remains a distinction between what is 'strategic' and what is 'corporate' planning. Businesses can implement strategic plans for any particular section or business unit of a company. However a business has only 'one corporate plan' and that plan is for the 'corporation as a whole' (Argenti 1989, p. 4; Mintzberg 1994). CRA was seen as a single business and consequently had only one corporate plan. This plan was promulgated widely within the business. During this period mining contacts for raw material exported were written in US dollars and had to contend with the vagrancies of currency fluctuations via hedging (R Carnegie 2000, pers. comm).

4.4.1 Preparation of discussion papers

Carnegie presided over the preparation of a 'series of discussion papers' covering all the aspects that the project group had identified as requiring executive time (2000, pers. comm, CEO1; GEHR1; GM2; Ludeke 1996, p. 7). The discussion papers were strategic and conceptual in nature with minimal specific detail. They were produced for analysis and debate at executive and senior staff level. Jaques was not mentioned, nor was the concept of a salaried staff workforce. However, topics like strategic business units, organisational structure, international labour competitiveness, upstream investment, downstream value adding and foreign ownership were tabled for debate (R Carnegie 2000, pers. comm).

Mintzberg, Ahlstrand & Lampel (1998, p. 302) note 'strategy itself is not about change but rather continuity'. Carnegie appeared to be 'changing or transforming' CRA. In reality he was putting in place the long term processes to ensure continuity of the business. This approach is consistent with Montgomery & Porter (1991, p. xii) as they considered strategy as a 'unifying idea that links simultaneously the functional ideas in a company and activities undertaken to service the external environment'. Kotter (1996 p. 19) notes the external environment as 'the globalisation of markets and competition' which aligns with Carnegie and the re-positioning of CRA to ward off take-overs in the future and ensure the longevity of the business.

An emerging hypothesis during the late 1970s, was the realisation by Carnegie that 'we have to change the way we are doing things to become and remain internationally competitive in the marketplace' over the coming decades (R Carnegie 2000, pers. comm). ACIRRT (1999, pp. 10-31 & 157-158) consider that setting in motion strategy to become 'internationally competitive' in an environment where globalisation is discussed as 'the answer to Australia's problems' is only part of the solution. The 1970s heralded in the 'unravelling of the Australian social settlement because of economic factors' at that time. This period, combined with the rise of 'neo-liberalism', took the concept of market forces into 'all aspects of social life' ACIRRT (1999, p. 10).

Campling & Gollan (1999, p. 3) identify this period in Australia as the 'dismantling of settlement' and the end of the post war golden age 'of full employment and economic prosperity'. The mid 1980s saw the publication of *Enterprise Based Bargaining Units: A Better Way of Working* by the Business Council of Australia. The research outcomes make the case for a 'more decentralised wage fixing system' and targeted 'multi-employer unions and awards as major obstacles in deregulation the labour market' (ACIRRT 1999, p.25).

Donaldson (1994, pp. 17-21) considers the period as one of a 'social and legal' climate that 'encouraged management to adopt a pluralistic view of their responsibility'. These managers had 'come out of the great depression' and the second world war and were not risk takers. Conservative by nature, they tended to shun unnecessary financial risk in their businesses (Donaldson 1994, p. 23). Cappelli, Bassi, Katz, Knoke, Osterman and Useem (1997, p. 23) portray the early 1980s as 'how the world began to change'. This view was at the forefront of Carnegie's thinking based on his experience consulting in the United States. He could see that the ordered and tariff protected approach of doing business in Australia had a limited life, given the global exposure of the mining industry to globalised external market forces (R Carnegie 2000, pers. comm).

The unravelling of traditional structures in Australia during the 1970s turned rapidly into an active dismantling of the systems and structure in the 1980s. This direction paralleled the pathway the CEO set in place to 'establish a framework that decentralises the business to enable CRA to become internationally competitive' (CEO1, 2000, pers. comm; Broomhill 1995, pp. 45-46). Carnegie's strategic vision and future direction for CRA dovetailed into a broader context that was occurring during this period in the structure and systems that had historically underpinned 'collective social values' in the Australian 'post war settlement' (ACIRRT 1999, pp. 10-30).

The prominence of the group's employees in this wide ranging study was always in his mind. '…CRA's competitiveness, internationally and domestically will be assured if we organise and manage in a way that encourages and allows each person in the group to give of his or her best' (Ludeke 1996, pp. 7-8). The focus on employees was not a one-off issue that was being pursued in the early 1980s within the company. Mawby, as CEO of the company in the 1960s and 1970s, believed people are the basis of the mining industry, the technical part is secondary (Stephens 2001). Focusing on the development of staff within the organisation has been an ongoing centre of attention for the business. Where possible, recruitment for senior positions has been internal before positions were advertised for externally (CEO1, 2000, pers. comm).

Section 4.4 confirms that the initial organisation change management direction from the office of the CEO aligns with step one of Kotter's (1996) eight point change management model in Figure 4.2. The global market for CRA's minerals was examined and potential crises and major opportunities were identified. Market and competitive realities were noted and potential cries and major opportunities acknowledged. Section 4.5 extends into step two of Kotter's eight point change management model, creating the guiding coalition (Kotter 1996).

4.5 Creating the Guiding Coalition

The leadership role in creating the guiding coalition taken by Carnegie provides linkages with Kotter (1996, pp. 51-66). Carnegie instigated a process to put in place a guiding coalition that would oversee the OD transformation within CRA. From the outset Carnegie believed that the office of the CEO must provide the ownership and leadership of the change management project. Having the CEO involved as project manager sends a powerful signal to the organisation that this project is significant from a business perspective.

Carnegie assembled an executive group tasked with leading the OD process and ensuring the group worked together as an effective team. This directional leadership displayed is in concert with the view that change driven by the CEO combined with effective leadership at an executive level will in most cases have a higher probability of achieving a successful outcome (Chaney 1988; Copeman 1987; Corrigan 1998; Darbishire & Katz 1997; Dunphy & Stace 1990; Guest 1962; Kanter 1985, 1997, 1999; Kotter 1996).

It is essential 'that the vision becomes embodied within the organisation with an effective team below the CEO'. A major reason organisational change management programs were not moving forward was 'key individuals at corporate level, including the CEO, were not sufficiently part of the guiding coalition' (Kotter 1996, p. 23). This was not the case with CRA as the guiding coalition had the CEO as the sponsor of the project. Carnegie directed and promulgated the OD change process throughout the organisation from board room to workforce. Organisational change of this magnitude does not just occur and cannot be left to happen by itself. Dunphy & Stace (1990, p.145) are adamant that change will not just occur due to market forces, competition, technology or Government directives for increased efficiency and productivity. People must be comprehensively involved in the day to day activities of a leadership role as noted:

> Successful organisational change does not just happen; it is managed through to success. Great organisations do not just happen; they are managed through to greatness and managed through major transitions which represent crises of identity and often survival. Such transitions are **led**, and **led** by **people**.

4.5.1 Introduction to Jaques: 1977

"This [requisite organisation] is ... a system." (Deming's highest compliment)
W. Edwards Deming, letter to Elliott Jaques, December 8, 1990 (E Jaques 2000, pers. comm)

Conjecture and conspiracy theories about the origins of Jaques and Carnegie working together at CRA and the influence that Jaques exhibited over Carnegie's thinking are widely spread (C1, 2000, pers. comm; CEO1, GEHR1; Gorman 1996, p. ix; Hearn Mackinnon 1999, 2008; Ludeke 1996, p. 6; Timo 2001). Nothing could be further from the truth '…occasionally you can find a consultant who can be a friend as well as being objective despite having a business involvement; It is a rare luxury'. Their encounter was a true **'meeting of minds'** (Carnegie 1992, p. 4).

Whilst being interviewed on Meet the Masterminds, Kotter was asked 'What's your sense of the most effective way to use outside help - consultants and other service providers - to facilitate change'. Kotter replied: 'Number 1, pick competent outside help, which is to say they are good at whatever issue you are facing. If you are working on change, find someone who really understands that. Second, listen to their advice' (McLaughlin, n.d.). Although Kotter and Carnegie have never met, Carnegie followed Kotter's advice to the letter when he employed Jaques as an external consultant on organisational change management. The professional and personal relation between CEO and consultant developed over time: '...Elliott had stopped working with CRA by 1986'. Carnegie and Jaques talked on the phone each month until Jaques' death in 2003, (Carnegie 2005, p. 334).

Carnegie had a challenge and he was searching for a structural solution to use as a framework for restructuring the company in line with strategic goals and direction (Carnegie 2005). When reflecting on this period of his stewardship of CRA, Carnegie (2005, p. 336) noted:

> What I did was to try and review the work of all the organisational theorists and the major consulting firms to see where CRA could get help. The major consulting firms were employed on specific projects as trials, but the group was not making a lot of progress. Members of the CRA management all felt they could do better. In the mid-1970s the group started international benchmarking. CRA benchmarked itself against Canada. The comparisons showed that CRA was behind the Canadian productivity, and that was worrying. The group was worse than the Canadians - so something had to be done better. Now, CRA was pretty sceptical of professional consultants and all the comments made about consultants in these symposium sessions are going to add to that scepticism. Unfortunately, I can echo it.

Jaques at this time had developed the genesis of Stratified Systems Theory (SST) that he saw as a solution for organisational structural realignment. Jaques' ideas were ahead of McKinsey at that time and that is why Carnegie picked him (Carnegie 1995). There was a lot of pressure from McKinsey to 'go with their view of the world' at that particular time (R Carnegie 2000, pers. comm., GM2). The business unit model that was part of Jaques' theories appealed to

Carnegie as the concept of discrete business units in SST aligned with his consulting experience with General Electric in the United States.

Carnegie's background and involvement with Jaques from the United Kingdom in the early 1980s is noted by Forster and Brown (1996, p. 25). '...in the international trade of management ideas and practice, Australia has always been a net importer'. Australian management thinking and practice was for the most part based around the American view in the 1980s with little local input from consultants or the University sector that was original. Carnegie's management and organisational theories were incubated in an academic atmosphere during his MBA study at Harvard and practised and refined with McKinsey in the business world.

Most 'of the large scale enterprises were foreign owned structures in place from their parent companies' (Forster & Brown 1996, pp. 24-26). This unquestionably applied to CRA with the company's close association over time with Conzinc Rio domiciled in the United Kingdom. Foreign ownership of the large mining companies in Australia remains to this day, BHP Billiton and Rio Tinto (dual listed in the UK and Australia), Vale, Anglo American, BMA, Xstrata, Alcoa, Alcan and Newcrest are examples. These companies import management structures and processes into the Australian mining industry from their home bases offshore.

4.5.2   Carnegie initiated the meeting

Carnegie was widely read and knowledgeable in the management, leadership and organisational development field of his profession. 'I read widely and would have perused books and journal articles written by over two hundred authors' (Carnegie 1992, 1995). After 'reading one of Jaques' books that had been released in 1976, *A General Theory of Bureaucracy'*, Carnegie was impressed with the diagram shown in Figure 4.3 (Jaques 1976, p. 173).
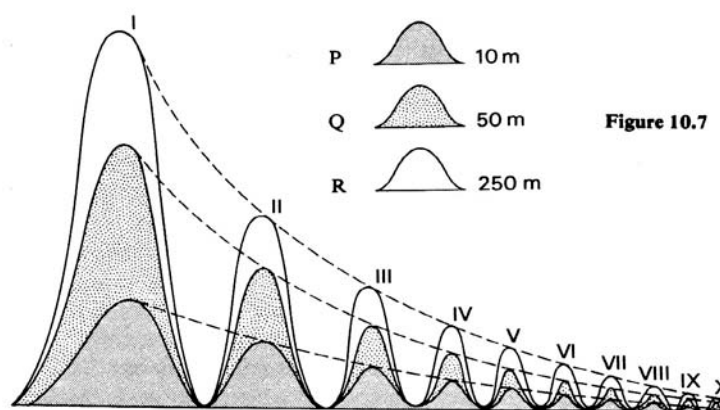
Figure 4.3: Original diagram on available capacity levels

At this point in time Jaques was not known to Carnegie and was 'just the name of another author whose book I had read' (Carnegie 1993, p. 3; Carnegie & Brady 2008).

> In 1977, when I started on the task of rebuilding the management of our group into a leading position in the world I read and interviewed widely, social science and business organisation professors and practitioners. This effort included help from consultants (included amongst others, my old firm McKinsey) and from the best practise in the leading companies worldwide. I regularly visited Japan and found much of their work and practice very interesting and rewarding. In one very hard to read book *A General Theory of Bureaucracy* written by Elliott Jaques, I saw a graph which because of my physics training trigged my thinking. It was a brilliant insight by Jaques.

The diagram on available capacity levels which Carnegie alluded to formed part of the initial research carried out by Jaques on Stratified Systems Theory. A ten stratum organisation with a decreasing range of ability at each stratum from I through to X. Representative stratum levels for populations of 10, 50 and 250 million people are highlighted in the shaded areas. Research revealed that the distribution of stratums was consistent within both stratums and sample populations in the United States (R) and the United Kingdom (Q) (E Jaques 2001, pers. comm.; Carnegie & Brady 2008; Jaques1976, 1986, 1989).

Figure 4.3 on available capacity levels, was the starting point for the Carnegie and Jaques' **Meeting of Minds.** Carnegie intuitively understood, from his MBA at Harvard and consulting background with McKinsey, that Jaques was building an embryonic theory around human capability levels in organisations. The theory development commenced at the Tavistock Institute and continued on through collaboration with Wilfred Brown at Glacier Metals (Brown 1960, 2003; Carnegie & Brady 2008; Janus 2003, Jaques 1998a).

The available capability levels diagram become Carnegie's 'aha moment', that moment in time 'when one has a sudden understanding, recognition or resolution of a problem - an instant, at which the solution to a problem becomes clear' (Dictionary.com nd). This insight into Jaques' discovery turned out to be Carnegies' 'Crossing of the Rubicon'. Crossing the Rubicon means 'to pass a point of no return, and refers to Julius Caesar's crossing of the river in 49 BC' (Julius Caesar Crosses the Rubicon, 2002; Duruy 1883). Bowden & Jung-Beeman (2003) have quantified the concept of the 'aha' moment' in a recent study into the theory behind breakthrough moments:

> A new study shows that solving a problem that requires creative insight prompts distinct changes in brain activity that don't occur under normal problem-solving conditions. Surge of brain activity accompanies 'aha!' moments**.** For thousands of years people have said that insight

feels different from more straightforward problem solving. We believe this is the first research showing that distinct computational and neural mechanisms lead to these breakthrough moments.

If Carnegie had not sighted Figure 4.3 of Jaques' publication, *A General Theory of Bureaucracy*, the collaboration between Jaques and Carnegie would not have been established. CRA would not have been one of the two organisations in the 1980s where the theories were tested, modified, evaluated and evolved into firstly, a working hypothesis and secondly, an operational structural model that worked. The comprehension of the relevance of the available capability levels diagram to organisational restructuring was a pivotal point in the history of both CRA and Carnegie as an individual. The outcome of the work at CRA and the US Military through the 1980s was to become known as Requisite Organisation or RO (Jaques 1976, 1989).

'...Mark Turner, a friend and colleague from RTZ in the United Kingdom, knew Wilfred Brown and Elliott Jaques professionally'. Sir Mark Turner was at this stage, Chair of RTZ while Lord Wilfred Brown was an adviser to the company and a member of the Government of the day in the United Kingdom. He gave an introduction and we engaged Jaques to help our organisation efforts (Carnegie 1992, p. 3). His input was exceptionally useful in building our organisation and the best practice of our Managers into a codified approach for the whole group. His theory is a 'fundamental advance in management' (2000, pers. comm, C1, CEO1; Carnegie 1992; Carnegie & Brady 2008).

At the first meeting between Carnegie and Jaques there was a third person in attendance, Fred Hilmer, who had taken over the running of the McKinsey practice in Australia when Carnegie left. Hilmer, through McKinsey become part of the team tasked with the OD implementation. Hilmer had to obtain a clearance from McKinsey in the United States for the Australian practice to work on the Jaques' project with CRA (2000, pers. comm., C1, CEO1).

Jaques in background and acknowledgments to the second edition of Requisite Organisation supports Carnegie's version of their initial meeting that 'CRA approached me' (Jaques 1986, background & acknowledgments).

> By 1979 enough of my work on stratified systems theory had been published to arouse the interest of, in particular, a large mining corporation in Australia …The mining company was CRA, whose CEO was until mid-1986, *Sir Roderick Carnegie*, Sir Roderick initiated a full scale implementation of SST in conjunction with a total reorganisation of the corporation and a complete revamping of the company's planning, information and human resource sub systems.

Jaques and Carnegie discussed the present situation with CRA and Jaques commented that you 'clean up the structure first' (CEO1, 2000, pers. comm). CRA had three jewels in its crown during this period - Hamersley Iron in the Pilbara region of Western Australia, These consisted of the world's largest Bauxite mine at Weipa in North Queensland and the Bougainville Copper mine on Bougainville island in PNG. Of these, Hamersley Iron was the initial focus. The assorted smaller and diverse mining assets of the group were described as 'basket cases' at the time (C2, 2000, pers. comm, MD1; Carnegie & Brady 2008).

The initial meeting between Carnegie and Jaques in London culminated in the commencement of consulting work by Jaques with CRA and its associated subsidiaries (M1, 2000, pers. comm, GM3, GM6; Carnegie & Brady 2008; Ludeke 1996, P. 6). Jaques brought to the OD project, five core beliefs that were acknowledged as fundamental to the process (Carnegie 2005). The core beliefs formed the nucleus of all activities in the evolution from a SST theory to a working OD model as outlined in this chapter. The five core beliefs consisted of:

First, the belief that management practices were like the state of medicine in the fifteenth century, a vast opportunity for improvement.

Second, the belief that he had discovered the equivalent of the basic measuring device in medicine, namely, the thermometer. Elliott's use of time-span was, he believed, an equivalent measuring device for assessing objectively the size of a job. He thought that was a necessary first step in developing a more scientific approach to management and organisation - namely, having a tool to determine the size of a job. Jaques believed that this would be the start of the introduction of real scientific methods into the management of large-scale organisations. Time-span was his key belief.

Third, that in the period of 100 or 200 years, a set of universal principles would be discovered. In his work with Glacier, Jaques believed he had made a start towards that discovery (Brown & Jaques, 1965).

Fourth, that the people who had to make it happen were line managers from the CEO down. Managers must take the actions needed to make better working arrangements happen.

Fifth, a commitment to getting the work done better had to be the basis for improvement. Jaques was passionately against adopting any "feel-good" public relations short-cuts that were not soundly based and would not stand the test of time.

4.5.3   From theory to emerging model

Jaques travelled to Australia four times each year from his base in the United States and worked out of the Melbourne headquarters of CRA. Jaques conducted what he calls 'major studies' throughout the 1980s with both CRA in Australia and the US Army in the US (Cason Hall 1998, p. 4). The CRA section of the study led to a range of outcomes that formed the foundation of the RO model consisting of:

1) Development of Organisational Design at **Higher Corporate Levels** (str V-VII) [Sociology]
2) Development of **Talent Pool Analysis Process** [Psychology]
3) **Personal Effectiveness Appraisal** [Economics]
4) **Merit Compensation Recognition** [Economics]
5) Clarified concepts of **Managerial Leadership** as **Individual Accountability** for use of Specified Practices [Psychology] and [Sociology]
6) **Cross Functional Process Control** without unfocused cross-functional teams [Sociology]
7) **Lateral Working Relationships** analysis completed [Sociology]

Table 4.1 displays a summary of RO research undertaken in concert with the US military during the period of the CRA Organisational Development intervention (Adapted from the (Global Organisation Design Society 2005).

Table 4.1: RO research in the US Military from 1978-1988

1978 - 83 - Monitor Elliot Jaques' basic research at the Army Research Institute

1982 - Development of Army Goals using RO concepts (Human & Leadership Goals)

1983 - Application of CPA to selected Army General Officers

1984- Study of capability of Army senior leaders (Generals and Civilians)

1984 - Developed Vice Chief of Staff briefing on strategic leadership (Army War College)

1984 - Workshop with Sir Roderick Carnegie for Gen. Max Thurman & Army staff (RO principles)

1985 -Participated in HQDA Reorganisation Study

1988 - HQ Training & Doctrine Command (TRADOC) organisational study

Of note is the close professional and personal relationship that developed between Carnegie and the senior levels of the US military establishment during the 1980s (R Carnegie & E Jaques 2001, pers. comm.). The rapport between General Thurman and Sir Roderick Carnegie has been noted by the (Global Organisation Design Society 2005):

> General Thurman was the most notable of the US Army's senior leadership who supported the research and subsequent application of requisite organisational design principles to the US Army. In his role as Vice Chief of Staff of the Army, he developed a close working relationship with Sir Roderick Carnegie, then Chairman of CRA. He brought Sir Roderick to the United States to address the senior generals on the Army staff on the nature of work at the executive level.

Jaques' research at Glacier identified three basic steps to having a Requisite Organisation consisting of Organisational Structure, Organisational Processes and People at Work (Jaques 1989). Within CRA, 'organisational structure and organisational processes' were interrelated and the areas that Carnegie and Jaques' concentrated on initially' (R Carnegie 2000, pers. comm., AP1, C1, C2, CEO1, GEHR1, MD1).

Senge (1996) notes the direction of Jaques' research and agrees that in a hierarchy structured organisation, staff will have various time horizons depending on where they within the structure. Structure then Processes were trialled at three operational sites before being rolled out across the group. The order was clearly structure first, followed by processes. People at Work' was stage two and followed on from structure and processes in the late 1980s under the umbrella of systems leadership training and development. The direction taken at CRA is aligned with Jaques' three basic steps to Requisite Organisation (E Jaques 2000, pers. comm):

1. Get the right structure
2. Get the right people for the right roles
3. Teach the right managerial practices

Jaques visited individual mine sites and process operations fleetingly in Australia. The majority of his consultancy time was taken up with executive and project staff, managing directors and leaders of the initial OD teams (E Jacques 2000, pers. comm., C1, GEHR1, GM2, MD1). Jaques was closely involved with the Woodlawn mine project (E Jaques 2000, pers. comm., CEO1, GEHR1, GM1). He was discouraged from visiting individual sites as considerable thinking was required around the principles of the model as applied to a head office function at stratum VI and VII. The five stratum business unit structure was more advanced in thinking than the higher stratum definitions.

4.5.4 Developing the senior management team

Dunphy and Stace (1990, p. 145) provide evidence that change does not just occur and it can't be left to happen: 'Successful organisational change does not just happen; it is managed through to success'. Kotter (1996, p. 3) notes 'most successful change efforts begin when some individuals or some groups start to look hard at a company's competitive situation'. Furthermore 'change, by definition, requires creating a new system which always demands leadership' of which the 'CEO is the key'. Kanter (1997, pp. 4-5) describes 'managing change' as a three part process consisting of:

1. change projects that are discrete, specific streams of action designed to address a particular problem or need
2. change programs that are interrelated projects designed to have major cumulative organisational impact.
3. change projects that create the capability for continuous innovation and improvement over time

Part two and three of the three stage process was in line with the direction Carnegie was taking CRA. Carnegie now set out to cultivate and nurture the leadership characteristics required to elevate CRA to the next stage of its executive development. Kanter (1997) noted that bringing together the leadership that will run the organisation and promulgating the vision for the future is a daunting task for any new CEO. Management in organisations are dependent to on subordinates, peers and superiors for their unit's performance. This dependence is especially important at senior levels within the company due to the CEO not being an expert in all the functions reporting to them, hence the importance of a competent executive team positioned between the CEO and business unit managing directors.

The CEO developed an organisational philosophy model in Figure 4.4 that evolved into the 'CEOs organisation philosophy' (Brady 1992).
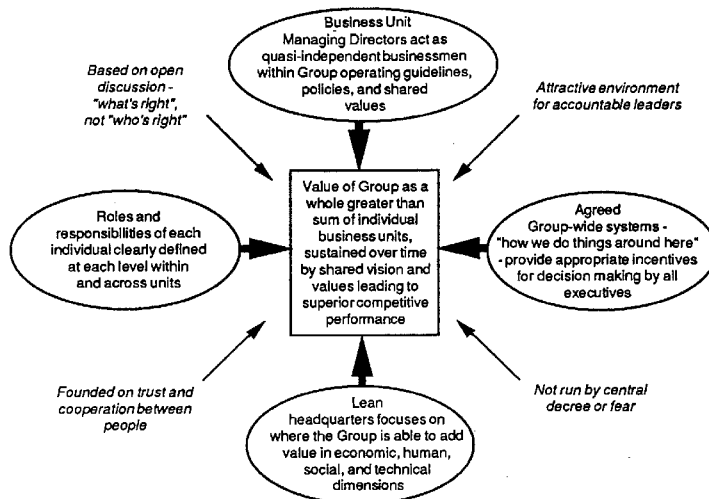
Figure 1: The CEO's organization philosophy

Figure 4.4:   Organisation philosophy model developed by Carnegie

The core of the diagram set the overall direction: 'value of the group as a whole greater than sum of individual business units' (the what). This stated very clearly that we are part of a team, a single organisation regardless of whether you were employed in a head office function or part of a remote business unit. The satellites feeding in to the core philosophy of the business focused on how this would be achieved (Brady 1992, p. 44). The model contributed to the debate as a guiding set of values rather than a prescriptive must do within the organisation. The model was integrated in the OD trials to pull together various views and opinions around the role of corporate headquarters versus the relationship to an operating business unit (Brady 1992).

The structure in Figure 4.5 consists of a five level operating business unit structure supported by a sixth and seventh executive level at corporate headquarters, in this case in Melbourne (Brady 1992, p. 20; Carnegie 1992, p. 9; Pratt 1994, p. 141).
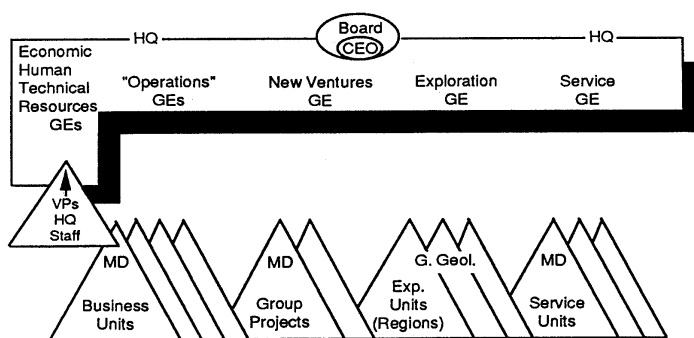
Figure 2: Oganising to fulfil the corporate mission

Figure 4.5:   Group executive structure reporting to the CEO

The Managing Director as the senior member of the business unit is responsible for all aspects of the operation and revenue enhancement of the unit. The linkage between the Managing Directors is by a number of Group Executives responsible for various aspects and mineral groups of the organisation reporting to the CEO. Group executive positions within the head office structure reporting directly to the CEO as shown in Figure 4.7 (Brady 1992, p. 21). Spheres of responsibility for these positions covered line, staff and support accountabilities for key subordinates. Carnegie believed it is important for your colleagues to 'participate in the whole group' rather than just their area of accountability and subsequently become a close knit team (R Carnegie 2000, pers. comm., CEO1). This meant apportioning responsibility for the whole group as well as for a part.

Consistent with setting up the senior team is the opportunity to trim down the size of corporate headquarters. One must ensure that resources are where they are best utilised and this is not always in a head office (Brady 1992). A rule of thumb in place during this period was if you visit site more than 13 times in any one year then there is a case to be made for the individual to re-locate to that operating site permanently (GEHR1, 2001 pers. comm).

Carnegie's move to have group executives 'participate in the whole group' rather than just their area of accountability agrees with the findings of Steers, Porter and Bigley (1996, p. 701) in 'broadening senior management'. A CEO must expand the leadership of the organisation from just the executive group to the next level within the organisation. In CRA this is the Managing Director at stratum V in charge of a business unit. Carnegie devolved leadership down the organisation, as well as across the senior levels by removing barriers to empowerment and the imperative that 'major internal transformation rarely happens unless many people assist' (Kotter 1996, p. 102). In the CRA example, Carnegie led by example and expected, and received the same, from the executive group.

Section 4.5 confirms that creating the guiding coalition in Figure 4.3 aligns with step two of Kotter's eight point change management model Kotter (1996). Firstly Carnegie assembled an executive group tasked with leading the OD trial process at three operational sites and secondly, worked hard at ensuring the group worked together as an effective team. Section 4.6 focuses attention on step four of Kotter's eight point change management model - develop a vision and strategy (Kotter 1996).

4.6   Develop a Vision and Strategy

Aligned with the intent of Figure 4.6, Carnegie instigated three operational site based trials to test and analyse the validity of the OD change model (adapted from Kotter 1996).
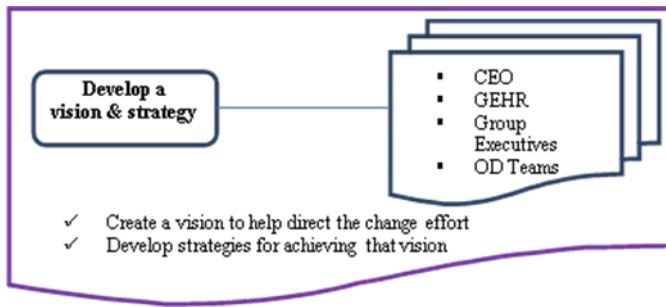
Figure 4.6: Developing a vision and strategy

Johnson (1996, p. 7) pointed out that 'It sounds relatively straightforward now, but back then it wasn't. In the early 1980s organisational development was tested in two of our mines and a smelter and then developed into a system which could be replicated throughout CRA'. This was a practical demonstration of creating a vision followed by strategies to achieve the vision. The vision was created through using an amalgam of the office of the CEO, the Group Executive level, OD teams and a newly appointed role of Group Executive Human Resources that came out of the Woodlawn mine site OD trail. Out of this trail came the strategy and direction for two additional trials before rolling out the process across the CRA group firstly at Hamersley Iron and then other mine and process operations.

4.6.1 Woodlawn mine: the first pilot study

The original OD pilot project was undertaken at Woodlawn mine, on the shores of Lake George midway between Canberra and Goulburn in southern New South Wales. Project work undertaken at Woodlawn was the pre-cursor to additional pilots in a process environment at Broken Hill and Sulphide Corporation at Newcastle. Woodlawn was the testing ground that provided the foundations which the OD teams would build on during their work in business units throughout the early 1980s (Carnegie & Brady 2008).

Woodlawn was considered a greenfield mining operation, commissioned in 1978. The mine was chosen for the OD pilot project as there were all new employees in place and the culture was seen as being positive to new and diverse methods of working (2000, pers. comm., C1, CEO1, GEHR1). Carnegie was impressed with the General Manager of the site and made the decision to run the pilot at that site.

A schematic describing the project management outline of the Woodlawn mine site OD trial project is displayed in Figure 4.7. Key individuals involved on the undertaking as well as their principal responsibilities are made known.
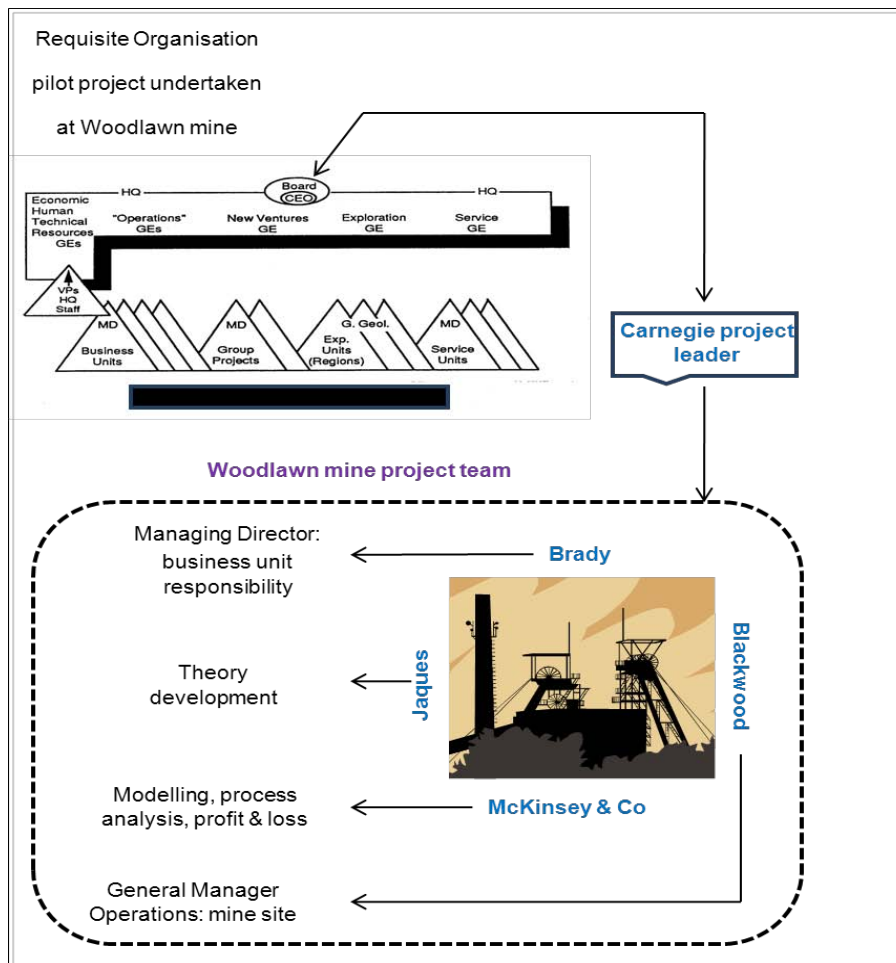
Figure 4.7: Woodlawn mine project team structure

Carnegie stressed the point that this 'was about having an ideal mix of ability and talent to carry out a pilot project' (R Carnegie 2000, pers. comm; Carnegie & Brady 2008). The project team composition formed the basis for the three preliminary trials undertaken to ensure continuity across sites and minimise process errors. Woodlawn was the first one and formed the basics of the emerging model from the cocoon of stratified systems theory developed by Jaques. The individuals and their role in the Woodlawn trial were:

Brady was Managing Director of the AM&S mining business unit under which the Woodlawn operation reported. The Managing Director was directly accountable for the outcomes in the business unit and by default a key member of the project team. He ensured the project work being carried out added value to the site operation specifically and the business unit generally. As an experienced Mining Engineer, Brady ensured that the results of the project were transferrable to other mainstream mine sites and process plants within his business units. An outcome from this pilot was that the business unit Managing Director Jack Brady, took a keen interest in the emerging OD project work (Carnegie 1992, p. 12; Carnegie & Brady 2008):

> Working directly with Jack on a part time basis on this project for three years gave me confidence in his practical good judgement on matters of human beings working together in the organisation. Firstly, in his interest in the project and ability to contribute to its application on a wider basis throughout the entire group. Secondly, in our ability to work together, with him saying 'no' when either he did not agree or he did not understand or he did not see the practical benefits we would get from the making the change suggested.

Jaques concentrated on evolving the theory development of his research from SST into a working business unit model based around five discrete stratums. Jaques was a codifier, a clarifier, a questioner. He was the theory specialist, the research scientist (Carnegie 2005).

McKinsey consulting staff were utilised on modelling, process and profit and loss analysis around operational changes emanating from the pilot project. They provided independent analysis on the bottom line effect of the changes put in place and ensuring clear documentation. 'Fred Hilmer, Helen Nugent, and others worked on the project. They were not asked to make independent recommendations in their normal way, but to contribute to the work of the team and to make certain that nothing had been missed' (Carnegie 2005).

 As the mine was a relatively new operation, the consultants had open access to the original documentation justifying the capital expenditure outlay for the construction of the mine. The consultants also had access to operational data from the beginning of the operation in 1978. They established and worked out of an onsite data room. The information coming out of the data room was utilised in benchmarking changes to the operation arising from the project trial (Brady 1992; Carnegie 1992). The McKinsey business consulting relationship with CRA - now Rio Tinto - has continued through the decades (Javetski 2010).

Blackwood, the General Manager Operations Woodlawn, was a Rhodes scholar and very much a people person first and foremost with the belief that his people could achieve any task put in front of them (Carnegie 1992). The individual site General Management within the CRA organisation has the positional authority to veto any changes to the operation which in their opinion would affect the operation or profitability of the operation.

Carnegie sat over the top as project manager and sponsor. Carnegie as the CEO was engrossed in this pilot study as the basis for the roll out of organisational development teams through the group (CEO1, 2000, pers. comm).

Once the pilot at the Woodlawn mine site started to develop from theory to an emerging usable model, additional project teams commenced work at the Sulphide Corporation near Newcastle and at the mining operations at Broken Hill. The work carried out across the three sites was similar in nature to ensure there was consistency when applying the theory to an open cut mine, an underground mine and a process plant.

A few months into the project, the site GM got very ill and subsequently died prematurely. This was 'a tragic loss and the project had to proceed without him' (Carnegie 1992, p.12). Carnegie remarked:

> The head of the mine site where we started our work was a very able and idealistic man called Mike. In the late 1970s, he reacted against the too hierarchical view of how management should work which was then prevalent. He focussed hard on building better relationships between people at all levels. The mine became a very good place in which to work but productivity levels did not rise. The mine employed some 400 people. Because Mike was ready to look for something new and because he was exceptionably able, we started our pilot work at this site.

4.6.2 Outcomes from Woodlawn

The outcome of the initial OD project work undertaken at Woodlawn was acknowledgement by the project team that a five stratum business unit structure was achievable. Stratum V was at Managing Director level of the business unit off site while a site based structure under the leadership of a General Manager at Stratum IV was identified (Brady 1992). The stratum level testing found that criteria for determining organisation levels can be utilised. Brady (1992, p. 23) noted that the incumbent of a role at a specific organisation level must be able to 'handle the complexity of work at that level, understand the nature of work at the next highest level and set and articulate the context of work at the next lowest level'.

Brady (1992) noted the outcomes of the testing of the theories at Woodlawn yielded the following strata levels applicable to CRA at the time in Table 4.2:

Table 4.2:   Suggested stratum levels within a CRA autonomous business unit

Stratum	Time Span	General Title
I	Up to 3 months	Supervisor
II	3 months to 1 year	Superintendent
III	1 year to 2 years	Manager
IV	2 years to 5 years	General Manager
V	5 years to 10 years	Managing Director

The five levels of stratum evolved into the skeleton of what was to eventually form the basic building blocks of a CRA business unit. There were exceptions and anomalies to these rules that came forward as part of the model testing and evaluation. These variances for the most part were nearly always readily explainable by site based staff or the project team members (Brady 1992; Carnegie & Brady 2008). The five stratum model remains in place within Rio Tinto (2009) and is the basis of business units utilising a Requisite Organisation model.

When the results of these pilot sites were analysed and fine-tuned, the work began in earnest with the first organisational development team moving on site to Hamersley Iron in Western Australia. The final business unit model developed and refined out of the stratum levels is shown in Figure 4.8. The example is the standard five stratum business unit. This model is expounded in chapter five in respect to the Comalco Weipa bauxite mine OD project (Brady 1992).
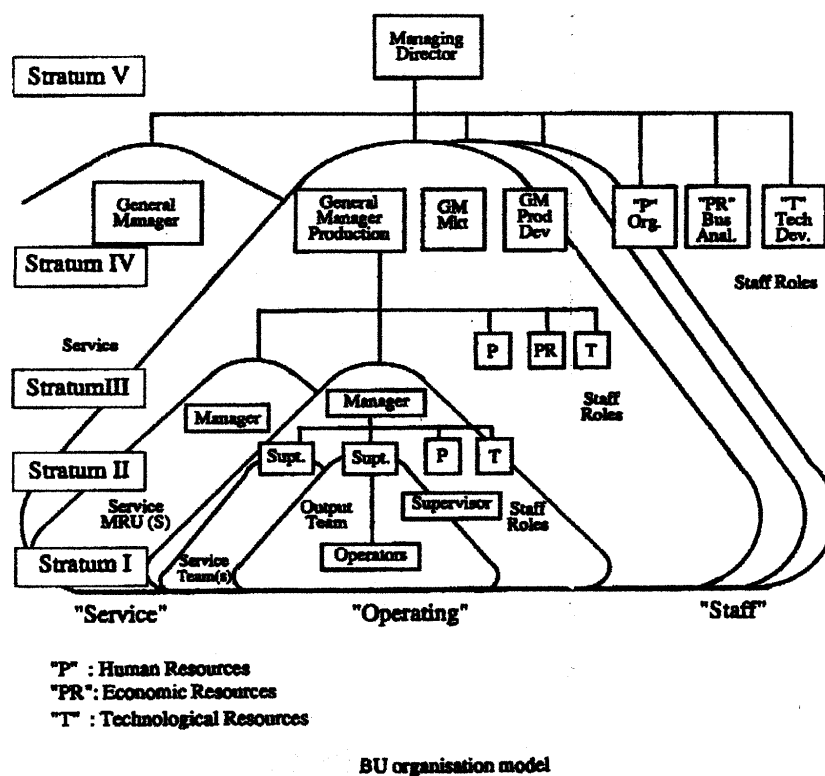
Figure 4.8: Typical business unit model rolled out across CRA

4.6.3   OD teams formed

OD teams were activating placements on mine sites within the group and a ground swell impetus for action was beginning to take hold. In the business unit under Brady was a number of high-class, younger executives, such as Leigh Clifford and Terry Palmer. Staff identified as

capable of working at a higher stratum within the company were rotated through the OD project as a two-year broadening step in their careers. This group consisted of experienced mining staff from across all divisions of the mining group (Carnegie 1995, p. 332; Clifford 2005a). Over time, Clifford was to become the CEO of Rio Tinto and Palmer the CEO of Comalco.

At the completion of the initial trials at Woodlawn, Sulphide Corporation and Broken Hill, the first big test came with an organisational development team formed in Melbourne and dispatched to Hamersley Iron in 1983 (CEO1, 2000, pers. comm; GEHR1). Hamersley Iron had the distinction of 'three major firsts' with the CRA group:

1. The first operational site in CRA to have Jaques visit in 1976
2. The first operational site to have an OD team in 1983
3. The first operational site to go to salaried staff employment in 1993

McKinsey consulting staff integrated into the Hamersley Iron OD team with one of the company's consultants leader of the team. This first OD team into Hamersley 'was a disaster and the team had to make a strategic retreat' back to Melbourne in December 1983 (2000, pers. comm., C2, GM2, MD2). Numerous interviews were undertaken to ascertain the reasons for the failure without much success as people from that era have moved on, or were not talking.

Those individuals who will discuss this period have an upbeat viewpoint on the endeavour by stating 'this was merely the first of a number of OD teams that would rotate through HI' over the years. The consensus appears to be that the team was 'simply not prepared enough' for the major work of restructuring the largest mine site in the CRA group (2000, pers. comm., C1, C2, CEO1, GEHR1, MD1, MD2, GM1, GM2). Johnson (1996, p .7) summed up this period as '...the OD teams suffered resistance in some business units, and indeed, it was forced to conduct a number of tactical retreats'.

Stewart led a second organisational development team into Hamersley in 1984 to continue from where the first team left off. Stewart, previously the General Manager Operations in Weipa, was an experienced mining General Manager who was very much at ease among the workforce. Stewart was different to the leader of the original team into Hamersley in that he was an experienced, practical and no nonsense individual with a keen intellect (2000, pers. comm., AP1, C1, C2, CEO1, GM2; Burke & Stewart 1992).

Section 4.6 confirms that developing a vision and strategy aligns with step three of Kotter's eight point change management model in Figure 4.9. Carnegie instigated three operational site

based trials to test the validity of the OD change model being developed from the theories of Jaques. This was a practical demonstration of creating a vision followed by strategies to achieve the vision - in this example the OD project teams. Section 4.7 introduces step four of Kotter's eight point change management model, communicating the change vision (Kotter 1996).

4.7   Communicating the change vision

Aligned with the intent of Figure 4.9, Carnegie instigated three operational site based trials to test the validity of the OD change model. Johnson (1996, p. 7) pointed out that 'It sounds relatively straightforward now, but back then it wasn't. In the early 1980s organisational development was tested in two of our mines and a smelter and then developed into a system which could be replicated throughout CRA'. This was a practical demonstration of creating a vision followed by strategies to achieve the vision Adapted from (Kotter 1996).
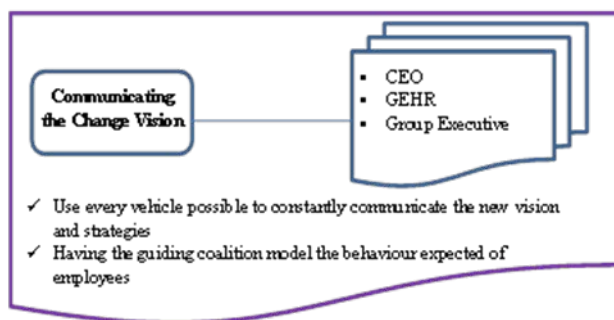
Figure 4.9: Communicating the change vision

Now that a companywide change process was underway, effective communication strategies to promulgate the strategy, vision and future direction of the company were essential. Graetz, Rimmer, Lawrence and Smith (2002, p. 217) determined that 'senior management is fundamental to the success of any transformational change' and communication by senior management is a powerful medium for the company to get its message across to the workforce. They further elaborate in verifying 'communication is about informing the workforce' of what is occurring by 'providing a platform for the distillation of meaningful information both ways'. In addition the 'ability of a leader to influence from both personal and positional power' is increased by 'establishing rapport'. An integral duty of building a relationship with a work group is 'having the ability to communicate effectively with the group in a manner that allows them to feel comfortable' (Hersey & Blanchard 1988, p. 310).

Jackson (2004, pp. 1-4) in Figure 4.10 demonstrate 'effective communication is not a one way or even a two way street - it is interactive and dynamic.
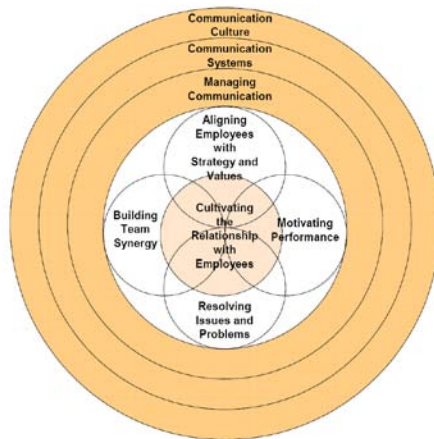
Figure 4.10: Interlocking aspects of executive communication

Interactive communication systems which foster downward, upward and lateral communication, deliver information, solicit feedback, demonstrate management responsiveness and encourage involvement. A variety of communication systems and channels are needed to address differing learning styles and access issues'. Systems have to be in position to facilitate effective communication as an enlightening message to the workforce does not just occur on its own (Jackson 2004).

Process is required around the six points itemised below. These points were targeted from within the business units and the executive group. This focus formed the basis around which an effective communication system within and external the business unit evolved.

1) Identifying employee communication needs
2) Facilitating downward, upward and lateral communication
3) Engaging managers as communicators
4) Promoting interactive communication
5) Evaluating communication effectiveness
6) Tracking employee reaction and morale

An organisation is full of 'clan type' links which bind together individuals. They arise from shared experiences in the past and are supported by current working relationships. '… When I began my tenure as CEO the company was run by the "Broken Hill Mafia". Managers who went through Broken Hill together had close links and moving them to international competitiveness was not easy. I reckoned it took me five years to get them working positively with me' (CEO1, 2001 pers comm; Carnegie 1992, p. 9). Interviewees from the largest equipment supplier to the Iron Ore Mining Operations in Western Australia described clan type links within the industry they were involved with as 'the Purple Circle' (2000, pers. comm., IR,

CU). Urban Dictionary (2010) describes the Purple Circle as: 'an elitist group of people that congregate to the exclusion of others in a workplace or institution'. Carnegie decided that formal meetings of the executive should occur on a monthly basis and this group would be informally designated as the 'Office of the Chief Executive'.

In building a team at the top one needs to be aware of, and utilise, various informal channels in addition to the formalised channels of communication. Craig and Hussey (1982, pp. 73-75) refer to an internal company (CRA) employee communication survey from 1979 that highlights the effectiveness of 'Managers and Supervisors as poor communicators'. The results overall in the survey indicate that the 'notice board is the preferred method' of communicating information. However Craig & Hussey (1982, p. 74) observed when only the 'most important scores are analysed the order of preference becomes grapevine (21%), Manager (17%) and plant paper (16%).

It is important to understand the effect that incorrect or poorly chosen words could have on the recipient. Hersey & Blanchard (1988, p. 308) spotlight this aspect of the communication process with their belief that 'words can insult, injure or exalt. They can lead to false hopes or disillusion. They can evoke pride, loyalty, action or silence'. Ensuring the manager or communicator is trained and briefed in relation to material being imparted is essential for effective outcomes with personal communications to the workforce (Craig and Hussey 1982).

The method of communicating with the workforce that was instigated by Carnegie is consistent with Graetz, Rimmer, Lawrence and Smith (2002, p. 217) as their findings establish that 'senior management is fundamental to the success of any transformational change' and communication by senior management is a powerful medium for the company to get its message across to the workforce. They further elaborate in verifying 'communication is about informing the workforce' of what is occurring by 'providing a platform for the distillation of meaningful information both ways'.

The 'ability of a leader to influence from both personal and positional power' is increased by 'establishing rapport'. Part of building relationships with your peers and subordinates is 'having the ability to communicate effectively with the group in a manner that allows them to feel comfortable' (Hersey & Blanchard 1988, p. 310). Conversely, Goldhaber, Dennis, Richetto and Wiio (1979: pp. 180-186) support the adoption of a more holistic approach to 'formal and informal (emergent) communications' within an organisation. They have introduced to their research the concept of a structure that has 'six variations of human networks found in

organisations'. The six networks are shown in Figure 4.11 (Goldhaber, Dennis, Richetto & Wiio 1979)
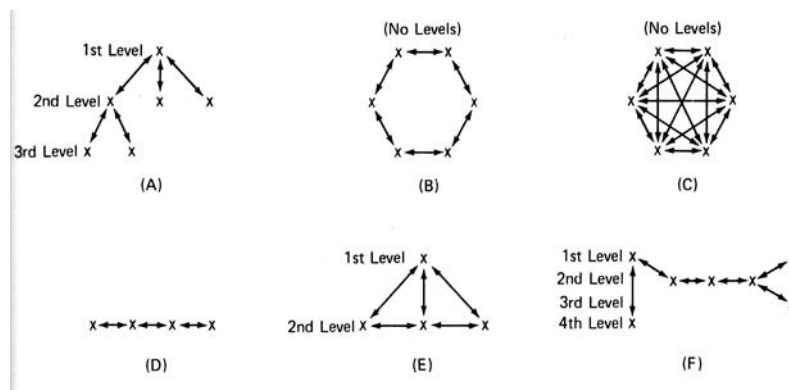
Figure 4.11: Six variations of human networks found in organisations

The essential characteristics of the model are: (A) represents a typical hierarchical relationship found in most organisations, characteristically depicted on an organisational chart. This is typical of the formalised communication systems in place in a business the size of CRA. (B) represents an informal communication network in an organisation or a combination of both formal and informal. The informal network for communicating has been mentioned earlier as the 'Broken Hill Mafia'. This informal network flourished throughout the business. (C) represents perhaps the ideal emergent or informal type of organisational structure and can offer maximum accessibility to information.

The remaining three communication mediums were not indicative of communication strategies within CRA at that time. (D), represents a simple chain in which informational sources are unevenly distributed. If this model was placed vertically then it would resemble a typical managerial communication medium. (E), represents 'A' with the addition of a horizontal or sideways communication channel. (F), represents a mutation of the preceding five structures but retains both formal and informal flows.

Section 4.7 confirms that communicating the change vision aligns with step four of Kotter's (1996) eight point change management model. Communication strategies to disseminate the changes being undertaken across the company were discussed. This was a practical demonstration of creating a vision followed by strategies to achieve the vision.

4.8   Implications of research

A number of issues for additional research was uncovered as a result of an enquiry undertaken in chapter four. These issues are addressed under Theoretical Implications and Practical Implications.

4.8.1   Theoretical implications

Additional research on the issue of funding major change management interventions in Australia may have merit. Kotter does not specifically mention or dwell on the significant on-going budget allocation and support that is required for extensive change management interventions over time. Change management in large Australian companies such as CRA in the 1980s and Woolworths from 1999 can carry on for up to a decade. CRA allocated five per cent of their payroll to the OD intervention while Sharma (2009) revels the Woolworths logistics change management project has 'spent about $1billion on the initiative since 1999'. Known as 'project refresh' the project was based around the Wal-Mart retail model in the United States.

The authority of the CEO to successfully anchor change management outcomes merits further investigation. Both Carnegie at CRA and Corbett at Woolworths have similar backgrounds with their respective organisations. They were in senior roles within their organisations for a number of years before attaining the CEO role. They ran the organisational change management project as the sponsor in their respective companies. Both CEOs were leaders - not managers. Both organisations underwent change management interventions to reflect future (strategic) challenges, rather than an existing predicament that required immediate action. Both change management interventions had a strategic, rather than a short term or just an operational emphasis.

There may be academic merit in further testing of the Kotter eight step organisational change management model in an Australian environment with sectors other than mining. In retail, businesses such as Woolworths, David Jones and Myer have an Australian wide presence and size to be relevant. In banking, any of the four major banks would be suitable. The recent amalgamation and on-going integration of St George bank into the Westpac banking group would be a recommended first choice for the banking sector. In Mining, one would include BHP Billiton which is of a similar size and market share to CRA - now known as Rio Tinto. The on-going minerals expansion and export has highlighted the significance of Rio Tinto and BHP Billiton to the trade balance and tax regime of the Australian economy.

4.8.2 Practical implications

The two year timeframe highlighted in this chapter would be unacceptable in today's business environment. CRA's organisational development interventions were undertaken almost 30 years ago in a different period and in a more regulated, tariff enabled and inward looking economy and country. The two year time frame to test the SST theory of Jaques across three diverse operating sites utilising steps one to four from Kotter's (1996) change management model would appear disproportionate to outcomes in today's business environment. Organisations in 2010 do not have the resources available or a two year lead time buffer, to begin to turn their organisation around in response to a perceived future, or current threat to the sustainability of their business.

Aligned with the timeframe issue is the question of being able to release the number and quality of 'future leaders of tomorrow' for a two year period away from the core business of the operation to test a theory. As organisations cut back on permanent employees, there is an increase towards part time, fixed term, casual and sessional staff. These modes of employment where not widespread in the 1980s and consequently full time staff were more plentiful in the mining industry for dedicated projects during the period under research.

An outcome from chapter four will be a timeframe model developed in Chapter 9 as an element as part of the conclusion of the thesis. The model will allocate a realistic timeframe for each of steps one to four of Kotter's eight step organisational change model within an Australian business context. The model will holistically coalesce time, funding, future leaders of tomorrow involvement, consultants and the role of the CEO in organisational change management interventions applicable to large Australian organisations in 2010.

4.9 Chapter review

Chapter Four researched the integration of the Kotter's first four steps in organisational change management in Figure 4.12.
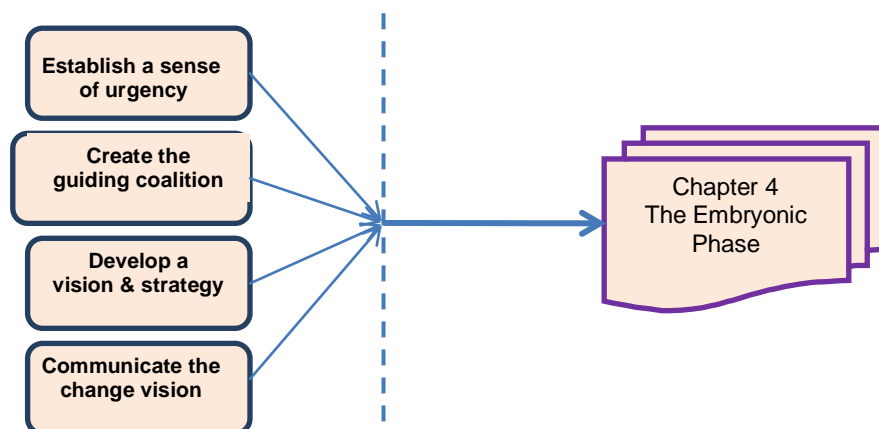
Figure 4.12: Integration of Kotter's first four steps with the embryonic phase at CRA

The early years of Carnegie's involvement with CRA from 1960 through to 1979 are examined. Employment with CRA initially as Financial Director and subsequently CEO in 1974 was preceded by consulting assignments with McKinsey in the United States and Australia. Consulting work helped cultivate Carnegie's management philosophy in the areas of strategic business units, structure, local ownership and the imperative of being competitive on a global basis.

The relationship with the parent company Conzinc Riotinto in London is noted as is the pivotal role Turner and Brown had in introducing Jaques to Carnegie. The 1979 timeframe most often quoted as launching the whole of business organisational change process within CRA is not correct. This chapter provided evidence that it is more appropriate to define 1979 as the completion of the initial thinking carried out by Carnegie.

Bringing together the team that will run the organisation and promulgate the vision and future leaders of the company in 1981 is mentioned. Hamersley Iron has the distinction of three major firsts with the CRA group: the first operational site in CRA to have Jaques visit in 1976, the first business unit to have an organisational development team in 1983 and the first operational site to go to salaried staff employment in 1993.

Chapter five researches the role of the OD team that relocated to Comalco Weipa in June 1984 and continued work unabated through to early 1986. Upon completion, the project team re-located to Raw Materials Head Office in Brisbane to finalise the process of restructuring the business unit. Two months were allocated to Brisbane for restructuring head office as well as service and support activities.

Chapter Five

Organisational Development (OD) Team in Weipa: 1984-86

Outline of Chapter

5.0   Chapter Overview

Chapter four introduced the first four steps of Kotter's organisational change model (Kotter 1996). The timeframe of reflection and debate at the executive level of CRA was found to be consistent with Kotter's theoretical framework established in Figure 5.1. Step one, establish a sense of urgency. Step two, create the guiding coalition. Step three, develop a vision and strategy and Step four, communicate the change vision. The philosophy and validity underpinning the model was verified by applying Jaques' principles of stratified systems theory (SST) through the lens of Kotter's change model (Jaques 1989; Macdonald Burke & Stewart 2006, pp. 189-201; Kotter 1996).
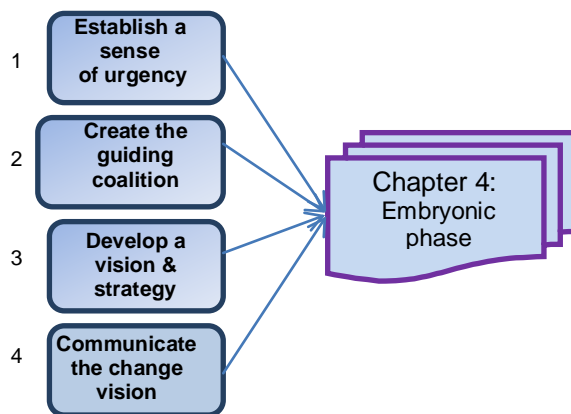
Figure 5.1:   Stage 1 to 4 of Kotter's change management model

Chapter five builds on the foundations constructed in chapter four by analysing a typical business unit OD intervention within CRA during this period. 'Organisational Development or OD' had gained common usage throughout the company to describe the process being undertaken throughout the group in the 1980s (Johnson 1996, p. 1; Ludeke 1996, p. 7). The expression 'OD' was used to describe both the process and that period in time (2000, pers. comm; CWO1, GEHR, GM1, MD1, MD2; Butlin 1995, p. 4; Swain 1995, pp. 106-107). Johnson (1996, p. 1) noted the 'magnitude' of the OD project undertaken by CRA in a paper presented at the annual conference of the Australian Human Resources Institute in 1996:

> …remedial action, which went under the name of organisational development, began with the move to bring the insights of Elliott Jaques to the CRA Group. With Jaques advising, the first organisation development team was formed. The current CEO of CRA Leigh Clifford was one of the first generation of talented young Managers placed in this team. With others, Leigh was taken out of the line for one or two years full time for this priority work. In nearly seventy years since our original business at Broken Hill was founded nothing like this had ever taken place. The magnitude of the task of lifting CRA to world-class standards demanded unprecedented action.

Comalco Raw Materials business unit (CRM) was chosen for analysis in this chapter. The Weipa bauxite mine provides bauxite to the Queensland Alumina Limited refinery (QAL) and Comalco Aluminium Limited refinery (CAL) at Yarwun, both located in Gladstone, Queensland. A successful OD outcome in Comalco Raw Materials was viewed as essential due to the associated downstream operations that depended on a secure supply of raw material feedstock (2000, pers. comm; CEO1, GEHR, GM1, MD1).

The OD intervention at Comalco Weipa interlocks with step five and six of Kotter's change management model in Figure 5.2 (Kotter 1996). Step five, empowering broad based action and step six, generating short term wins.
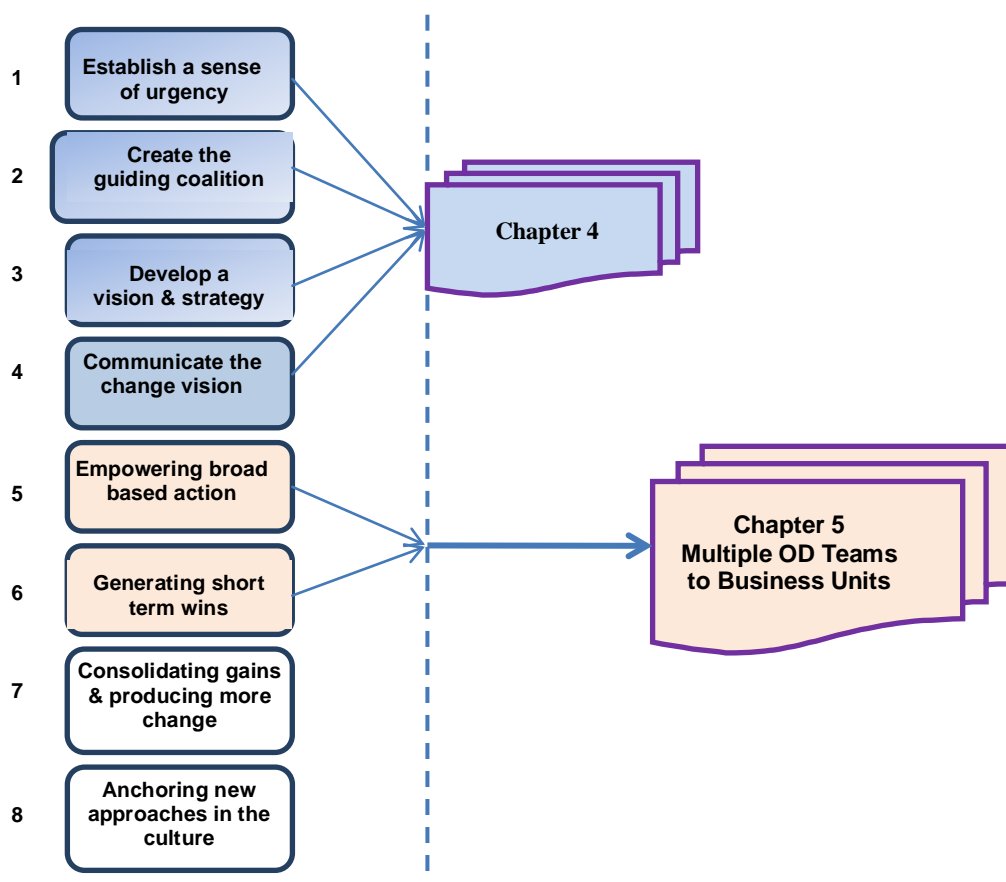
Figure 5.2: Integration of Kotter's fifth and sixth steps with the OD intervention

Empowering broad based action was achieved by dispatching OD project teams from the CRA head office in Melbourne to mine and process sites across Australia and New Zealand. Multiple OD teams operated within the group concurrently and there was a constant movement of staff rotated through the project teams as one facet of a strategic employee development strategy. Kotter (1996) regards broad based action as removing or by-passing obstacles and impediments

to changing systems or structures. This was an enduring focus of the OD project teams as they moved through business units restructuring operations into a five stratum organisational model.

Kotter considers that although the term empowerment is used widely (perhaps overused), the concept of empowerment cannot be overlooked when implementing change. Encouragement to eliminate barriers that hinder change can enable even the lowest level employees to participate in the change effort. Managers must be proactive in removing barriers to change by ensuring that the existing structure does not obstruct the company vision and inhibit change (Kotter 1995, 1996; McLaughlin (n.d.). Many use the term empowerment without understanding what it really means. A brief literature search resulted in no clear definition of the concept, especially one that was cross disciplinary and relevant to an OD project team (Huber & Glick 1995; Page & Czuba 1999; Quinn & Spreitzer 1997).

Long (1996) provides working definitions of both empowerment and corporate culture and sets down key essentials to success. The importance of senior management as well as middle management involvement in empowerment to achieved shared outcomes is stressed. If organisational boundaries are well-defined 'people feel empowered' to perform and to give their best (Macdonald Burke & Stewart 2006, pp. 126-127). True personal empowerment comes from a clear task assignment that states purpose and sets distinct boundaries. These concepts on empowerment are clearly displayed in the OD intervention in Weipa. The OD project team had a clear directive from the CEO in respect to the role of OD teams. The site management team had clear boundaries in relation to the work of the OD team on site from the GMO. The ground work was in place for the empowerment of the OD and management teams to work together towards a shared business unit outcome (Macdonald Burke & Stewart 2006)

Step six, generating short term wins across the CRA group was achieved by dispatching OD project teams to the smaller operating sites that could be restructured in months rather than years. Kembla Coke & Coal in New South Wales (KCC) is such an example and was restructured along OD guidelines over a period of months. KCC is not analysed in this chapter but is mentioned to make the point that within step six of OD there existed a multiplicity of OD intervention strategies contained within the intent of step six.

The stratum V role of Managing Director in Brisbane and the stratum IV role of General Manager Operations at Weipa were restructured as a response to the change effort. Both positions are relevant examples of short term wins apart from minor realignment with the only additional noticeable change being designations. The two senior positions within CRM were single entity roles with existing incumbents in place that evidenced a real and unambiguous

commitment by CRA to improvements (2000, pers. comm., GM2). Kotter (1996, p. 121) notes in relation to step six that short term wins have three broad interrelated characteristics that are people and outcome related. These are:

1. A short term win is visible. People can see for themselves whether the result is real or just hype
2. It's unambiguous. There can be little argument over the call
3. It's clearly related to the change effort

Weick (1984) believes there are two types of small wins, the little victory and the small but steadily applied advantage. Both of these are applicable to CRM. The first creates a clear win but leads people to draw the wrong lessons about how to sustain change. Having achieved a small win they might be inclined to believe that is all there is to the change process. The second improves the percentages of winning by helping people make small changes to a key constraint on change. Improvements are small but steady, and people draw the right lessons about why change was difficult. This is the lesson to be learnt from Weipa. Change can be difficult, it can be continuous and long term (2000, pers. comm., GM2; Angwin 1998; Gollan & Davis 1999; Thorne 1997).

Achieving small wins at CRM and in particular the mine site at Weipa linked in with Kotter (1996) by utilising a parallel OD change management strategy in the Mine and Fixed Plant. The departments were broken down into their sub departments. The mine had subordinate sections consisting of Lorim point, East Weipa, Andoom, Mine Clearing, Regeneration, Technical Services, Laboratory and the Tyre Bay. Within Fixed Plant the breakdown was based around: the Beneficiation Plant, the Ship Loader and Calcination, Small wins were able to be achieved by targeting sub sections of the departmental structure to get runs on the board early (2000, pers. comm., GM2, MD1, MD2; Kotter 1996). In particular, the Ship Loader and the Tyre Bay workgroups.

Kotter (1996, p. 123) observed that short term wins had a role in change management beyond just a means to an end. Building momentum engages 'reluctant supporters' into active participants. Short wins allows change agents to be 'rewarded early' in the process. The process 'undermines cynics' and encourages bosses to 'remain on board' with the process. At CRA as individual OD interventions were completed, the vision and strategy for change management in introducing OD principals was 'fine-tuned' and results promulgated throughout the organisation (Thorne 1997). This chapter will establish that the OD intervention at Comalco Weipa is consistent with Kotter's step five and step six.

5.1 Why Comalco Weipa early in the OD cycle?

Weipa was not assessed by executive management to be an immediate priority to restructure. Hamersley Iron and the downstream businesses received the initial focus in the CRA restructuring timetable, (2000, pers. comm., MD1, GM2). A severe downturn in the global bauxite market early in 1984 was regarded as an emerging business threat by the Group General Manager of the Raw Materials Business Unit. The impending cyclic downturn was shaping up to be more pronounced in both depth and duration than previous occurrences. Consequently, the Group GM requested that an OD project team be dispatched early in the restructuring cycle to Weipa. The reasoning was based around wanting a new business unit structure in place for the expected upturn in the product demand cycle in 1986 (2000, pers. comm., C1, GM2). The directive from the Group General Manager had the effect of immediately 'removing structural barriers' to the imminent OD intervention (Kotter 1996, p. 103).

The belief emanating from the leadership team in Raw Materials that 'we need to restructure sooner rather than later' was not universally shared by senior management in Weipa (2000, pers. comm., GM2). The operations General Manager judged the mining operation was performing satisfactorily, hence, there was not a requirement for the 'considerable disruption' and 'uncertainty generated' within the operation by having an external OD team domiciled on site for an extended period of time (GM2, 2000, pers. comm). Site management was informed that the recommendation of the Business Unit leadership would take precedence and an earlier OD intervention in Comalco Mineral products was given by head office.

As the OD process on site gained momentum, the comment 'considerable disruption' was observed to be by some - in particular at the Superintendent and Supervisor level - as an understatement. Kotter (1996, p. 109) alludes to issues of this nature when discussing 'aligning systems to the vision'. Kotter documented an observation from a manager 'we have done everything' one manager tells me 'but they just keep resisting'. Superintendent and Supervisor issues persisted throughout the OD process and lingered after the project team had left site (2000, pers. comm., GM1, GM4).

Carnegie frequently raised the issue of the 'Broken Hill Mine Managers Club' being an impediment to moving forward with new ideas at the executive level. In Weipa the equivalent was the 'Superintendent Group', particularly within the Plant Mine and Engineering Departments (2000, pers. comm., C1, CEO1). Superintendents traditionally had managed the day-to-day operations of the site with control over the labour and material operating budgets within their departments. Kotter (1996) has noted the reluctance of certain stakeholders within

an organisation to become involved in significant change projects - particularly when the individuals are directly affected. One strategy is to 'confront' individuals in a supervisory role who are intent on 'undermining the processes (C1, 2000, pers. comm).

The statement of corporate intent throughout CRA during this period was clear; 'existing operations' will have an OD team rotate through (2000, pers. comm., GM2). Brady (1992, p. 20) described the corporate intent thus: '…the basic building block of our corporation will be the five stratum business unit'. Dissent was not an option. The OD approach consisted of re-aligning all business units into a five stratum model, codified from a working hypothesis based around Jaques' Stratified Systems Theory (Brady 1992, p. 45; Burke & Stewart 1992, p. 120; Jaques 1989, 1996, p. 12; Lee 2003; Ludeke 1996). Johnson (1996, p. 3) in a paper presented to the Australian Human Resources Institute (AHRI) yearly conference, made the point that the OD roll out throughout CRA was 'mandatory and not optional':

> During the 1980s we constituted about 25 business units as self-managed operations in CRA. From more than 25 pay bands in the organisation we introduced a mandatory flattened structure of four layers of strata, with one layer of Managing Director making up the fifth level for each business unit.

The GM in Weipa was undoubtedly influenced by rumours emanating out of the major OD intervention based around Hamersley Iron. The first project team into the Pilbara region of Western Australia had been abruptly withdrawn. The OD intervention 'was a disaster and after achieving minimal headway, the project team was forced to undertake an involuntary strategic retreat back to Melbourne' (2000, pers. comm., GM2, MD1). An explanation as to why the first organisational development team into Hamersley Iron (HI) faltered is not readily apparent 25 years on.

Several interviewees from that era placed most of the culpability 'on an OD team not prepared enough' to tackle the single biggest operating site within the CRA group. One individual was blunt and to the point by commenting 'they just stuffed it up' (2000, pers. comm., GEHR,). Another commented 'the team was led by a senior McKinsey consultant, not a CRA operational GM'. In contrast, other interviewees believed the question was more complex and was based around the entrenched remote mining community culture on site. Management on operating sites - particularly if they are isolated geographically - believed they knew the best way to run their operation (2000, pers. comm., C2, GM1, M1). Written documentation pertaining to this period twenty five years ago was unavailable to substantiate the personal

views expressed. Hence the views and opinions expressed around the reasons for withdrawing remain ensnared within a time warp of conjecture and supposition.

The perception of site based personnel being in the best position to judge what is best for their operation was not unusual on isolated mining sites supported by company run towns. Having external people come to site to tell management how best to organise and run their operation was by and large not well received (GM2, 2000, pers. comm). Off-site experts (consultants and/or head office staff) telling site how to run a mine operation was particularly galling for the site General Manager. To be placed in a GM role on a large mining site implied you were considered one of the top performers within the company at a stratum IV level. These types of roles were normally a precursor for advancement into a role overseeing the leadership of a business unit at Managing Director level (2000, pers. comm., GM1, MD1).

The lack of enthusiasm in becoming involved with the OD process by site based staff is not unusual. Individuals tend to be tolerant of change as long as the change process does not impact, or impinge on them to any great extent (Harvard Business Review 1991, 1998; Kanter 1985; Kanter; Kotter 1996; O'Toole 1995, pp. 159-164). Initial reluctance to embrace the change process soon escalated from just management unrest to a number of sections around the site as the OD change intervention gathered momentum. A stratum level in particular that become a major obstacle to overcome in Weipa was the role of the Supervisor - stratum I. This position was never resolved satisfactory despite Jaques travelling to Weipa from Melbourne specifically over this issue for discussions with the OD project team and site management. To this day, the stratum I level continues to be a contentious issue amongst staff familiar with that era (2000, pers. comm., GM2, GM3, M3).

The OD project team commenced work at Comalco Weipa in June 1984. Project work continued unabated through to early 1986. On completion of the Weipa phase, the team re-located to Raw Materials head office in Brisbane to finalise the process of restructuring the business unit. After wrapping up of the OD intervention, the team completed the project with 'findings and recommendations presented to the Managing Director in April 1986' (GM2, 2000, pers. comm).

5.2   OD Team Dispatched to Weipa

A decision was taken by the executive group in Melbourne to dispatch an OD project team to Comalco Mineral Products earlier in the CRA restructuring cycle. This request from a business unit was unusual in that head office was receiving a request to send in an OD team to site. The normal response from mining sites asked to have a major project domiciled on site for an extended period was 'can we just do all this stuff later' (GM2, 2000, pers. comm).

The project OD team leader was chosen from one of the General Managers recently returned to Melbourne from Hamersley Iron. The rationale at the time to send a GM from a failed OD intervention at Hamersley iron into Comalco was based on the 'falling off a horse analogy: You get back on as soon as possible' (GM2, 2000, pers. comm). A timeframe of 18 months was seen to be reasonable for the restructure process at Weipa and Brisbane. The permanent OD project team members would be seconded for the duration of the project from the Raw Materials Business Unit.

Full time project team membership would be supplemented by managers on a rotational staff development basis from other CRA business units (2000, pers. comm., GM2, MD1, M3). Secondment for short periods into OD project teams was instigated to expose managers to the OD process in addition to being utilised as a 'management development tool' (2000, pers. comm., GM2, MD1). In addition, OD secondment had the effect of institutionalising the progression of 'small wins' throughout the group (Kotter 1996).

Secondment to special projects across group operations was a normal aspect of managing potential talent within CRA. The OD project being progressively rolled out across CRA was recognised as a project to be involved in by career focused staff. Potential performance appraisals were undertaken on a three year cycle. Secondment to an OD project was seen as a way of being noticed as the projects were managed out of Head Office at the CEO and Group Executive level. Kotter (2006) notes the requirement for 'providing training' to employees engaged with substantial change management activities. Secondment to project teams was understood within the company to be a form of training and development for staff members directly involved in the OD intervention (2000, pers. comm., GM2, PM1; Gloe & Lee 2001; Howes 1990; Karpin 1996; Macdonald Burke & Stewart 2006; McLeod 1996a).

Project work required in the Raw Materials business unit was regarded as 'straight forward' as the foundations for re-aligning and building on the basic structure were in place from the previous GM (2000, pers. comm., GM2; Macdonald Burke and Stewart 2008). A commitment to have an OD team active throughout the business unit had been sanctioned by the Managing Director.

Figure 5.3 identifies the Raw Materials business unit sites within Queensland within a generic map of Australia to ground the position of the business unit within Queensland, Australia (adapted from Google maps 2009).
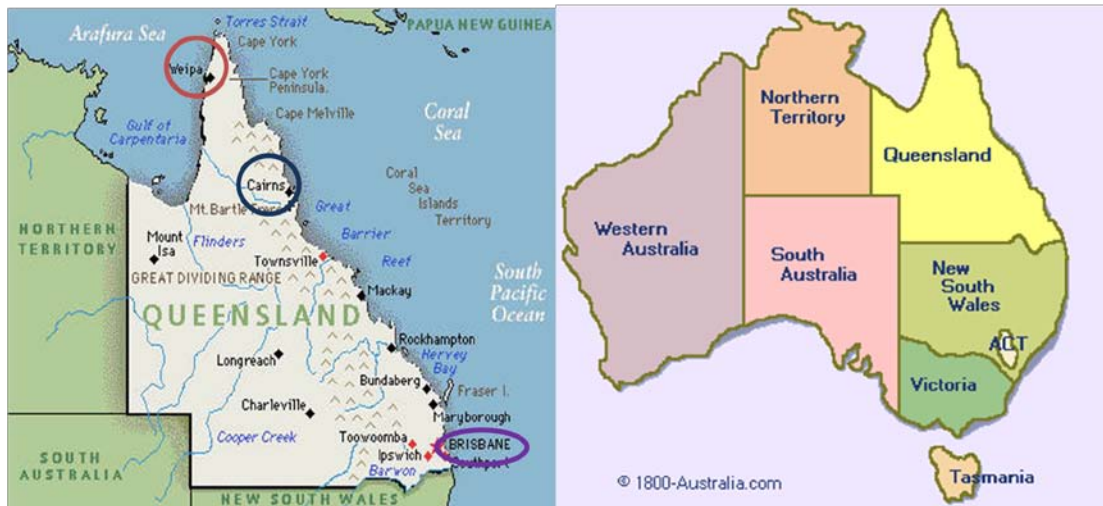
Figure 5.3: Minerals Products business unit locations at Brisbane, Cairns and Weipa

The head office function, domiciled in Brisbane, supported a remote mining site based around the Weipa Peninsula on the west coast of Queensland. The distance involved between site and the head office function was normal within the mining industry. A small freight forwarding operation in Cairns - two staff and a freight forwarding warehouse function in an industrial precinct in Brisbane - completed the trilogy of business unit sites within Queensland. The freight operations came under the stores and logistics department and were restructured as part of that group.

The structure prior to the arrival of the OD project team was established along the lines of the titles and structure shown in Table 5.1 (2000, pers. comm., GM1, GM2). Role descriptions in common usage were typical of the mining industry and not just CRA terminology. The departments on site had names that were similar to heavy industry or mining during the 1980s.

Table 5.1: Titles and department names in common usage in 1984

Titles in common usage	Departments on site
Assistant Foreman	Plant
Foreman	Mine
General Foreman	Stores and Logistics
General Manager	Engineering
Leading hand	Site and Construction
Manager	Payroll and Accounts
Managing Director or Group Manager	Personnel
Senior Foreman	Technical Services
Site Manager	Administration
Superintendent	Safety

The titles column in Table 5.1 presents examples of descriptors in place to describe a position or range of positions. Leading hand, assistant, general or senior foreman in particular were extensively utilised within the mining group to describe a range of positions directly involved with the workforce. Departmental names were indicative of heavy industry during the 1980s (2000, pers. comm., MD1, GM2).

Dunphy and Stace's (1990, p. 82) 'scale of change management' model, is shown in Figure 5.4. The work undertaken by the management team in Weipa was considered 'type 1 Participative evolution'.
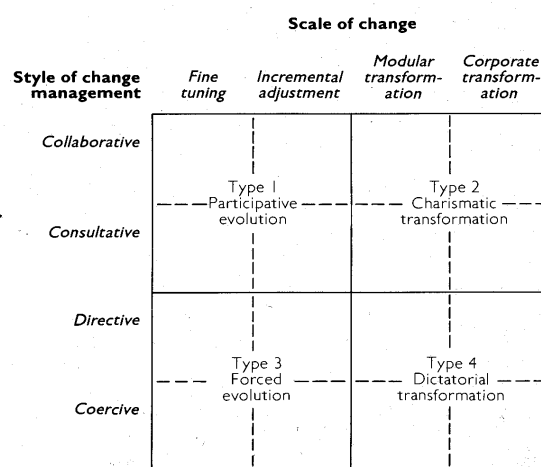
Figure 5.4: Scale of change management model

Type 1, Participate evolution in Figure 5.4, was the approach adopted by the OD project team. They understood the team needed to adopt a 'collaborative and consultative' leadership style with site personnel. Without the active support in Weipa of 'the GM and management group', the OD team would not be able to 'discharge its undertaking' (GM2, 2000, pers. comm). Type 3 and Type 4 was never considered as a suitable methodology to be applied within CRA. Charismatic transformation, Type 2, was not a typical management style within a mining environment although from time to time, individual managers did display characteristics of charismatic leadership (Thorne 1997).

The interaction between the OD project team and site based staff was not always harmonious. Conflict occurred particularly when difficult decisions around major changes to the organisation structure were recommended to site management by the project team. Both site management and the project team made every effort to establish a collegial atmosphere in their working relationship (GM2, 2000, pers. comm; Kotter 2006; Nadler 1998).

5.3   OD Charter

The OD project team spent two months in Brisbane developing a 'project blueprint'. When the blueprint was completed and signed off, the OD project team relocated to Weipa in June 1984. The project team's charter was firstly to carry out an in-depth analysis of the business unit and secondly, to recommend to the MD a range of options around improving the efficiency and effectiveness of the bauxite operation through the OD process. Inclusive of this project was the introduction of a five stratum structure for Raw Materials in line with CRA Corporate policy on OD (GM2, 2000, pers. comm; Brady 1992; Carnegie 1992; Ludeke 1996; McLeod 1996b; Miller & Jennings. 1986; Uhrig 1993).

During 1984 the OD process was 'still finding its feet' throughout the group and was often described as 'a work in progress'. Jaques' publication, *A General Theory of Bureaucracy*, was the unofficial 'bible' during these early phases (Jaques 1976; McLeod 1996b). The GM in charge of the OD project in Weipa had the book always with him during the project. Quotations from this book were regularly disseminated to those willing to listen and those employees described as a captive audience. The propagation of 'the thoughts of Elliott Jaques' was not always well received within the management group on site, or in the manner it was dispensed (2000, pers. comm., GM2, MDL, GEHR).

As each site was restructured, head office in Melbourne and the operating sites in particular, became more comfortable with the approach taken and the delivered outcomes. From an holistic CRA perspective, site based OD outcomes can be viewed as small wins in line with step six of the change management model (Kotter 1996) In addition, members of the early OD teams were moving back into operational roles within business units to 'bed the process in' across the company (2000, pers. comm; CEO1, GEHR1, GM2). The mine sites they moved into were both operations that had OD teams through and sites that had not as yet had OD teams on site. Preparatory work on sites that had not been restructured was carried out to prepare the site for the arrival of the OD project team effectively saving project time by capturing the learnings from other site interventions (2000, pers. comm, CEO1, GEHR1, GM2; Kotter 2006).

The pre OD structure of Figure 5.5 illustrates the existing operational levels within Raw Materials in 1984. The post OD structure displays the broad outline of structural adjustments at the completion of OD in 1996.

Pre organisational development 1984 Post organisational development 1986
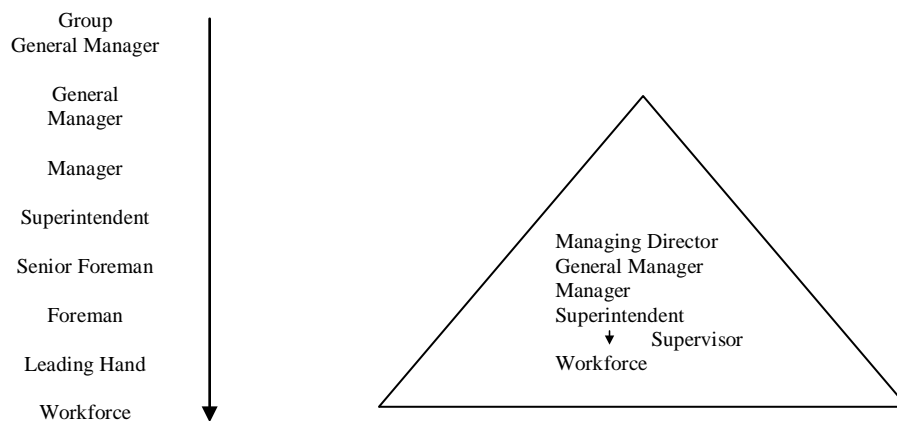
Figure 5.5: Comparison between structure pre and post OD intervention

The Group General Manager of the business unit was located in Brisbane supported by head office staff. Operational and mining roles were site based in Weipa (2000, pers. comm., GM2). The OD project team consisted of a General Manager (stratum IV) and three Managers (stratum III) seconded from Raw Materials - two from Weipa, one from Brisbane. The time frame for the secondment was expected to be between twelve and eighteen months. Project administration support was obtained on site from personnel.

Management staff were seconded from CRA business units for one - two month blocks. Secondments were negotiated on an individual basis between the OD project leader and the GM of sites who had not as yet had an OD project team through. This arrangement allowed business units to stage OD gradually as well as 'profiting from the experience' of those going before (GM2, 2000, pers. comm; Johnson 1996; Thorne 1997; Walsh 2001). Secondments were also a practical example of generating 'short term wins' by applying the OD project team learnings across the wide group - refer Figure 5.2 (Kotter 1996).

The Personnel and Engineering Managers were selected from site and a Marketing Manager from Brisbane. They were seconded into the OD project team for the duration of the business unit project. Within the company, rotation through project teams was traditionally utilised as a 'management development tool'. This was the case with the Weipa OD team with one notable exception - the Personnel Manager. On a remote mining site, the responsibility for operating a township as well as a significant mining operation defaults to the GMO with assistance from the management team. 'First among equals' in the management team is always the Personnel Manager (2000, pers. comm., GM2, PM1).

Personnel management at isolated mining sites with associated townships was about becoming involved with all aspects of life on the site and in the township twenty-four hours a day. The General Manager and the Personnel Manager must work diligently towards fostering an enduring working relationship (Boudreau 1996). Consequently, the personnel role at Weipa was never a traditional personnel role filled by a career practitioner in the discipline (PM1, 2000, pers. comm). The individual must have the full confidence of the GMO and would normally have rotated through line management roles developing a wide ranging practical and common sense approach to employee and staff issues prior to undertaking a site wide HR responsibility (2000, pers. comm., GM2, PM1). Any significant project having an enduring impact on the operation 'will always retain the services of the Personnel Manager as a team member' (2000, pers. comm., GM2, MD2, PM1).

The expression 'common sense' was frequently noted as one of the attributes an incumbent of an OD project team on an operating site must possess (2000, pers. comm., GM2, S1). Common sense as a hypothesis for action or being practical is not a recent occurrence and dates back to 1776 when Thomas Paine challenged the authority of the British government and the royal monarchy. The plain language that Paine used spoke to the common people of America' (Paine 1976). Within Australia the Macquarie Dictionary (1995) defines common sense as 'sound, practical perception or understanding' whilst Miller (1997) from Stanford University has put together the common sense problem page for researchers who are interested in logical formalisations of common sense reasoning.

Kritsotakis (2000, p. 3) identifies common sense as: '*ad hoc,* informal integration of evidence; selective search and differential assessment; capricious', while science is described as: 'complete and systematic search; rule based integration; use of objective weightings'. In addition 'common sense and science are described as "knowing work" in different ways, with science often refuting common sense'. Within the OD project at Weipa the 'common sense checks and balances' was understood to mean: 'Can we place the OD structural re-alignment work on the notice board of the shopping centre on a regular basis for all and sundry to have a look at'? Will we have 'ownership' from the wider workforce - not just staff (2000, pers. comm., GM2, PM1, WBO, OP, TR; Emery 1997).

Table 5.2 outlines the permanent membership for the duration of the OD project team activities. The team established possessed an extensive range of skills, knowledge and experience gained over time in the mining industry (2000, pers. comm., GM2, PM1; Fox 2002). The OD team membership was augmented by off-site rotations through the team for specific periods.

Table 5.2: Permanent membership of the OD Raw Materials project team

Team member	Discipline	Background
Team leader - GM level (S-IV)	Commerce	ex Hamersley OD team (CRA)
Personnel Manager (S-III)	Electrical Engineering	ex CRA Bougainville Copper manager
Engineering Manager (S-III)	Civil Engineering	ex Comalco manager
Marketing Manager (S-III)	Commerce	Marketing bauxite and calcine products

5.3.1 Interaction with site management

The relationship between the OD project team and site staff was professional on a work and personal basis. The project team was coming to restructure the operation 'according to the model of some bloke called Jaques from England' (2000, pers. comm., S2, S3; Harvey 1992; Hearn Mackinnon 1999; Helme 1992; Jaques 1976; Kanter Stein & Jick 1992; McLeod 1996b). Additionally, the project was 'run by CRA - not Comalco - out of head office in Melbourne'. There existed a 'them and us culture' between Comalco and CRA at the time. There was uncertainty on 'what would happen with positions and how much change each department would have imposed on it'. As was the case with work of this nature in the 1980s, communication to the workforce in general was not at the same standard that one takes for granted now. Minimal detail was released in the early stages on site about 'what was going on' below the management level (2000, pers. comm., GM2, S2, S3; Gillespie & Dober 2003; Kotter 1996; Macdonald 1992; O'Toole 1995, pp. 159-164).

The site General Manager was instrumental in introducing 'off-site' project members to company life in Weipa both from a work perspective as well as the social and sporting aspects of the township. Ellem (2001, 2002, 2003a 2003b, 2004) introduces an emerging perspective to the debate around remote mine sites with the concept of communities, geography and unions. His research draws on scholarship and emerging work in the field of human geography. Ellem's work does not just focus on the relationship between employer and employee in a work setting. His research considers issues of family, community and the geographical isolation of remote mining communities in Western Australia denied the support of relatives - parents, siblings and grandparents. Ellem's research has synergies with the Comalco bauxite operation at Weipa.

OD project members were welcomed into the 'Weipa management team' and attended weekly management meetings and functions. Information was disseminated in a collegial style at management meetings from a site perspective, as well as from the OD project team's viewpoint (2000, pers. comm., GM2, PM1). Two of the site manager group were full time on the OD project and understood the culture of the weekly management meetings (Jones 1998). Issues that were likely to be contentious were resolved out of the public eye of an open management

forum at the Tuesday meeting. The engineering manager in particular 'managed the interaction' between site management and the OD project team at weekly and project specific meetings (2000 pers. comm, GM2; Irwin & More 1994).

During the interview process for the study, the GM in charge of the OD project team commended on the professional way that the GMO integrated the project team into every facet of site operations. This individual 'endeavoured to be impartial and neutral' and related 'professionally towards us' at all times (GM2, 2000, pers. comm). Although the Weipa management team was not 'always in agreement concerning aspects of the project', at all times 'professional courtesy was shown' to the OD team (2000, pers. comm., GM2; Kessler & Purcell 1996).

The behaviour of the GMO was in line with Kotter in that there exists a clear divide between management and leadership. Management is a 'set a processes that can keep a system of people and technology operating' successfully. Leadership 'maps out the future' and aligns their people with 'the vision' and motivates them to make it happen (Guest 1962; Graetz Lawrence Rimmer & Smith 2002; Kotter 1996, p. 25; Macdonald, I. Macdonald, R. & Stewart 1989; Macdonald Burke & Stewart 2006; O'Toole 1995, p. 87).

5.3.2   Work of the team

The OD team arrived in Weipa with a clear directive from the Executive group and a commitment from the business unit leadership to restructure the business unit in line with corporate policy. The team had minimal resources and would have to establish a project presence on site. The task ahead was not to be underestimated. As discussed earlier in the chapter, the first OD team into Hamersley Iron had to make a strategic retreat back to Melbourne. To repeat the Hamersley Iron mistakes at Weipa and be asked to leave the site by the General Manager Operations was unthinkable, 'particularly as the Weipa OD team leader was a member of the abortive Hamersley Iron OD team. They had to succeed (2000, pers. comm., M2, M3, M4, GM2; Kochan & Dyer 1992; Markham & Mazzeo 2001).

The CRA mining group was acknowledged to have 'three jewels in the crown'. The Bougainville Copper mine in Papua New Guinea, the emerging Iron Ore deposits in the Kimberly region of Western Australia based around Hamersley Iron and the world class Bauxite deposits on Cape York based on Weipa in Queensland. One could debate that 'it was unfortunate to drop the ball' on the first Hamersley Iron OD intervention (the final number of OD teams into HI ended up being three). However, to also be unsuccessful at Weipa 'would be

unforgivable and heads would roll'. Failure was not an option (2000, pers. comm., GM2, MD1).

The major task, once settled in, was putting together a presentation that would be 'promulgated site wide to groups of about twenty people'. The aim at this early stage was to 'achieve ownership' of the process by 'influential stakeholders at Manager and Superintendent level'. On site, the Superintendent level in particular had been identified as crucial to a site based outcome. This comment proved to be accurate as this group became 'a thorn in the side of the OD team' during their time on site (2000, pers. comm., M2, M3, M4, GM2, S2, S3).

Considerable time, effort and resources was expended on getting the base position presentation 'just right' as the prevailing view within CRA at the time was that 'you could not change the corporate culture overnight' (GM2, 2000, pers. comm; Macdonald Burke & Stewart 2006; Schein 1985, pp. 245-245). Anchoring 'change within a culture' is a long term journey and 'alterations to norms and shared values' tend to be observed at the end of a transformation (GM2, 2000, pers. comm; Kotter 2006, p. 157).

Carnegie (1992, pp. 9-11) supported the contention within the group during this period that 'cultural change was a long term undertaking'. CRA was not in any financial crises, therefore gradual change equivalent to 'Type 1 Participative evolution' of scale of change management shown in Figure 5.4 was acceptable (Dunphy & Stace 1990, p. 82). The OD process across the group will take years to complete and the view was held that time was on their side with moving culture change into the OD model (GM2, 2000, pers. comm; Martin 1992).

Carnegie noted that Managers who began their career at Broken Hill retained close ties with each other as they moved around through the ranks at CRA'. Such informal 'clan type links' which bind together individuals often disseminate information throughout an organisation within a framework of 'organisational values, heroes, rites, rituals and a cultural network'. In this sense cultures tend to be 'dynamic', combined with a belief that changed circumstances along the lines that Carnegie was proposing, could lead to the 'incorporation of new patterns of behaviour' (Carnegie 1992, p. 9; Goodstein, Nolan & Pfeiffer 1993, ch. 7; Hampden-Turner 1990, pp. 12-23; Schein 1985, pp. 3-8).

Several writers position organisational culture 'from the manager's position' rather than 'the worker's and often 'emphasise the role of leadership'. This assertion provides a linkage with Carnegie and the direction he took in altering the dominant culture within CRA over time. Carnegie believed time was on his side to change the culture within the Broken Hill

management group (Goodstein, Nolan & Pfeiffer 1993, ch. 7; Hampden-Turner 1990, pp. 12-23; Macdonald Burke & Stewart 2006; Willcoxson & Millett 2002; Schein 1985, pp. 3-8).

Jones (1998) adopts an historical approach to culture in Table 5.3 by referring to the early approaches on organisation culture citing five distinct periods from the Hawthorne studies through to Peters and Waterman (1982).

Table 5.3: Five distinct cultural periods

The Hawthorne studies	Examined how ideological relations impacted on work performance
Philip Selznick	Looked at how organisations responded to changing circumstances
The Tavistock Institute	Organisations as 'cultural systems'
Henry Mintzberg	Identified cultural elements of the Managers role and popularised the use of qualitative research methods
1980s 'pop' management authors	Peters and Waterman's *In search of excellence* and Ouchi's *Theory Z*

Carnegie (1992) is in agreement with Jones (1998) as he identified the work of Peters and Waterman (1982) as giving useful thoughts on bringing together an executive group. Adopting a position on culture change being 'time dependent' is consistent with the research findings of Martin (1992, p. 4). '…Organisational culture researchers disagree vehemently about fundamental issue' such as culture being a 'source of harmony or conflict', what are 'the boundaries' of culture and 'how do cultures change'? Martin (1992, p. 170) elaborates '…Organisational culture studies have produced contradictory results'. Culture change within CRA remained a medium to long term endeavour during the period of the OD intervention. This was the dominant view within the executive management group at the time (2001, pers. comm., GEHR1).

The skeleton of the draft working model in Figure 5.6 was now in place within CRA (Brady 1992). Work on site commenced around installing the five stratum business unit structure into the mine site at Weipa.
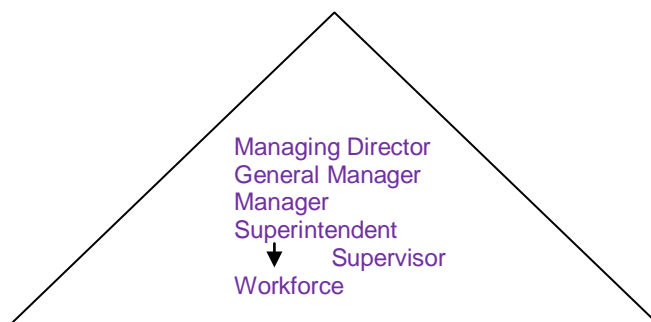
Figure 5.6: Five stratum business unit structure

Negotiations between the OD project team and site management allowed stakeholders to endorse the direction that 'all interviews on site would be conducted with the relevant departmental manager present' (2000, pers. comm., GM 2). This protocol ensured that staff members unfamiliar with the OD process were shielded by their immediate supervisor from any leading, aggressive or irrelevant questioning. An expected outcome of any site wide restructure historically denoted a reduction in employment at the completion of the process.

If an individual was selected to be interviewed, then that role was obviously of interest to the OD team. An outcome could be that the role might be rearranged, amalgamated or removed completely. Occasionally complications surfaced by way of 'having the boss' in the same room listening to responses being given by a subordinate (2000, pers. comm, GM 2, S1, S2). This was worked through at the time by the individuals involved in the interview at the time (2000, pers. comm, GM 2, S1, S2).

Although not flawless, one must take into account that the 'process of interviews' was a 'negotiated outcome between site management and the OD team'. Negotiated outcomes invariably mean a solution that both parties can live with and may not always be the optimum solution. An alternative would have been an initial site wide questionnaire that was administered in a confidential manner by a neutral third party, followed up by random interviews based on an analysis of the data collected previously. Structured and unstructured interview formats were utilised with the semi-structured model producing the most useful responses (2000, pers. comm., GM 2, GM3).

Connell, Lynch and Waring (2000, p. 4) support the use of semi-structured interviewing techniques from their experience in an Australian coal mining context. The methodology applied has similarities to the bauxite metalliferous mining sector in Weipa in that both were predominately open cut operations and CRA had a stake in both mineral deposits. They noted from their research that:

> Semi-structured interviews were chosen as the most appropriate data gathering technique. This is because the research strategy required information concerning interviewee's personal beliefs, considered opinions and insights. These are difficult to obtain through structured interviews where rigid questioning prevents opportunity to pursue an interesting angle or call for elaboration. The semi-structured interview technique builds into questioning, sufficient flexibility to capture insights that may otherwise be lost to the imposition of the 'next' structured question.

The protocol involving the inclusion of the departmental manager/superintendent in the room with staff being interviewed in a process was not an unusual occurrence. Interviews were planned to last on average two hours. The shortest turned out to be three quarters of an hour while the longest lasted a day and a half (a Superintendent). Interviews were used to 'flesh out in detail' the work of the individual being questioned. The 'overwhelming response from the workforce was positive' with the majority agreeing that 'yes, you could do the task with less people if you structured our group as suggested' by members of the OD project team (2000, pers. comm., GM 2, GMO1).

Documentation and interview transcripts from the period were unavailable as the interview transcripts were routinely destroyed at the completion of each OD project. Consequently, it has not been possible to verify the word 'overwhelming' in connection with responses. Given the comments made by the GMO on reasons why the OD team was not required in Weipa, one can assume that this opinion would have filtered down through the management group to staff in general. The descriptor 'overwhelming' would appear optimistic within this context.

The site based negotiated outcome on the interview process is consistent with Step 5 - empowering others to act on the vision (Kotter 2006). Kotter believes there are three broad actions that can be undertaken to 'empower others to act on the vision'. Firstly, get rid of obstacles to change, secondly, change systems or structures that seriously undermine the vision, thirdly, encourage risk taking and non-traditional ideas, activities and actions (Kotter 2006).

The CRA project structure and autonomy given to the OD intervention from the CEO empowered the site management team and the OD project team to negotiate an outcome that also passed the common sense test. The site wide interview process was signed off by all parties as a workable way forward (2000, pers. comm., GM1, GM 2). The concept of a staff workforce on CRA sites was understood to mean: Supervisor, Superintendent, Manager and General Manager (Brady 1992; Carnegie 1992). Only staff employees were selected to be interviewed - not award employees. During the OD project there were approximately 1320 employees in Weipa (2000, pers. comm.; PM2, S1, S7). Staff employment was not unique to CRA and had been the established method of employment for Supervisor /Superintendent and above in the mining industry. Staff numbers at Weipa fluctuated with average numbers during the OD intervention in the order of 250 as highlighted in Table 5.4.

Table 5.4: Weipa staff numbers by stratum

stratum I	Supervisor/support/staff	121
stratum II	Superintendent	47
stratum III	Manager	9
stratum IV	General Manager	1
stratum I, II	Support or service	62
	Total	**250**

Staff employment in CRA was based on a 'collaborative or associative relationship between management and the individual member of staff' (2000, pers. comm., PM1, MD2, PM2; Macdonald Burke & Stewart 2006; Walsh 2001, 2002). Staff employment is not time specific or hourly based, but is described as 'carrying out a job of work'. Staff employees were not part of a collective agreement and were employed and remunerated individually on a salaried monthly basis (Gorman 1996; Ludeke 1996; Macdonald Burke & Stewart 2006). The union movement and site membership was not interested in the OD process. This lack of interest was consistent across site for the duration of OD as the process did not affect the award workforce in any noticeable manner (2000, pers. comm, CEO1, GEHR1, GM1, PM1).

5.4   Weipa business unit structure

The outcome of the OD intervention in Weipa was a restructured site based on the 'business unit model in Figure 5.7 (Brady 1992, pp. 45-46; Macdonald Burke & Stewart 2006).
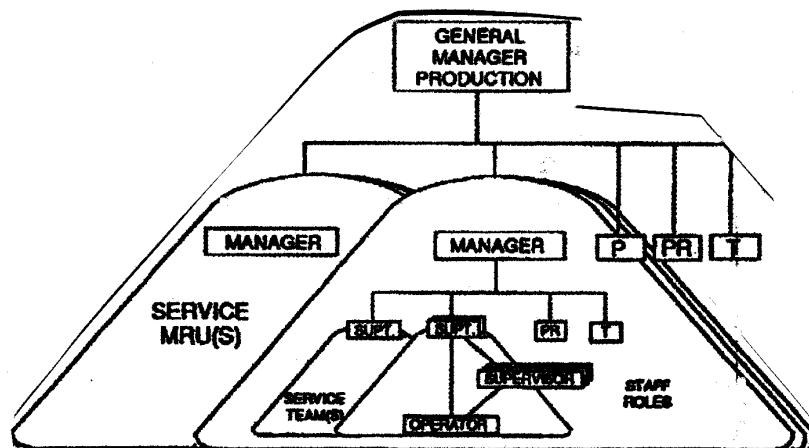
Figure 5.7: Weipa OD structure

Weipa was a CRA operation with the senior staff person assuming a stratum IV role supported by 'staff and service functions'. This structure has the site operation leadership role designated as General Manager Production. The position was always referred to as General Manager Operations (GMO) rather than the more 'generic term' of General Manager Production. The

GMO designation remained after OD as 'operations' described a more 'holistic' role description than the more specific title of 'production' (2000, pers. comm., GM2, GM4; Jaques 1989).

The business unit model was consistent with complementary business units in CRA. The mine site senior management role was defined as stratum IV, General Manager. 'Service and Support' stratum III roles were both site and Brisbane based. The stratum V role of Managing Director and remaining General Managers were located in a capital city head office - in this case Brisbane. This outcome was consistent with work carried out by project teams on other sites restructured (GM2, 2000, pers. comm; Brady 1992, p. 45; Burke & Stewart 1992, p. 120; Jaques 1989, 1996, p. 12; Johnson 1996, p. 3; Ludeke 1996; Macdonald 1987).

5.4.1   Operating role

Under the umbrella of operating roles there were three distinctive stratums - General Manager, Manager and Superintendent, with the fourth non managerial stratum being Supervisor. The top three levels of management remained relatively unscathed apart from variations to their accountabilities. A realignment of accountability and responsibility occurred from the Superintendent to the Manager role (2000, pers. comm., S1, M1, PM1, GM2).

The Superintendent group was an influential leadership grouping and 'ran the day-to-day operation' (2000, pers. comm., S1, S2, S3, M1, PM1, GM2). Post OD, the positional power base moved upwards to the Manager level at stratum III which was in line with other operating site interventions. The re-alignment of power from Superintendents to Managers was not well received by 'some members' of the Superintendent group. This issue was on-going long after the OD project team had left the site (2000, pers. comm., S1, S2, S3, M1, PM1, GM2).

5.4.2   General Manager

Staff occupying a stratum IV role was considered corporate staff belonging to CRA. While staff at stratum III and below this level were employees of an individual business unit. The individual is under the control of CRA corporate and performance and potential performance appraisal are undertaken out of the office of the Group Executive Human Resources. A GM will exercise discretion in 'disparate areas' that can be outside their core discipline Brady (1992, p. 35). Moreover they must make decisions in fields 'beyond their expertise base by using theoretical principles and concepts' (Brady 1992, pp. 33-36). Brady elaborates on the complexity of work being carried out at this stratum.

We have found that the transition from unit Manager to General Manager is experienced as being very difficult even by persons who quite rapidly prove capable of handling the complexity of work at this stratum. This seems to be the inevitable result of having to stand back from the immediate operations except in 'times of crises', in order to see the current process within, and interaction between, the subordinate mutual recognition units.

Table 5.5 identifies the relationship between a GM and a Manager. These were guidelines were used as a basis for developing a functional working relationship between stratum III and IV.

Table 5.5:   Relationship between GM and Manager

Relationship between Managers and GM's
G.M's. expects Manager to:
• achieve set tasks • contribute to management team • represent the interests of M.R. U. • be an agent of change
Manager expects GM to
• set tasks clearly • set authority clearly • appraise Manager's personal effectiveness • develop Manager's skills • provide exposure to M.D. • actively build Manager team

Nominally there resides one GM role and up to eight manager roles on a typical mine site. When the GM is absent then a manager would assume the acting GM role for that period. The GM/Management group was known as the 'management team'. The OD work in respect to the GM position was minimal due to only one incumbent and the understanding from Corporate that there would be a single leadership role on mining sites and this role would be filled at a stratum IV level (GM2, 2000, pers. comm; Brady 1992). The GMO position is never domiciled off site, or part of a fly-in-fly out (FIFO) roster. The position is always residential.

5.4.3   Manager

The grouping of output teams under a manager accountable for integration of the work had been designated a 'Mutual Recognition Unit' (MRU). An MRU will often have service and support staff reporting directly to the manager. Managers in charge of an MRU have the key operating role on site. Figure 5.8 of a MRU is adapted from the work of (Brady 1992; Comalco

Mineral Products 1986; Jaques 1998, P. 53; Macdonald Burke & Stewart 2006).
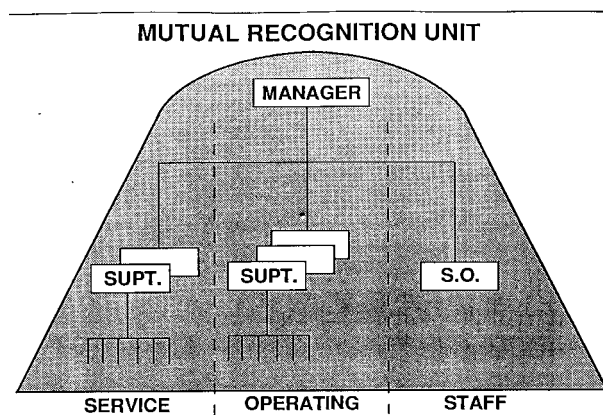
Figure 5.8: Mutual recognition unit (MRU)

The MRU is the primary organisational structure at stratum III. The MRU consists of Superintendents, Supervisors and the workforce supported by service and staff personnel. Brady (1992, p. 29) elaborates on the idiom MRU, the theory behind its development and the comment that a three stratum level is around 250 employees maximum:

> …this terminology arises from our requirement that all members of such a unit know each other to a greater or lesser degree. The aim is to have all the operators, their Supervisors, the output team Superintendents and their unit Manager to at least recognise each other by features, name and role. This holds true for any 'three stratum team'. We have found that this requirement imposes an upper limit of some 200 to 250 people in a mutual recognition unit.

When roles are too close, both the Manager and direct report are likely operating at the same level of comfort with complexity and both process information the same way. When this is the case, the Manager cannot build a context for the subordinate that goes beyond the thinking of the subordinate. Therefore, the Manager does not add value to the subordinate's work, which is frustrating for the subordinate. The subordinate will invariably make inquiries to which the Manager cannot satisfactorily respond. This can lead the Manager to view the subordinate as a threat (2000, pers. comm., C1, GM2; Brady 1992; Fox 1966; Kingston & Rowbottom 1989; Macdonald Burke & Stewart 2006; McMorland 2005; Mehltretter 2009).

When roles are too far and a layer is missing, communication will suffer. The subordinate will experience the situation as insufficient direction or detail in directions given by the Manager. The Manager will feel that the subordinate is slow and wanting too much hand-holding (Macdonald Burke & Stewart 2006). Because the direct report will be incapable of handling the work in the stratum above him, the Manager will be forced to cover the work that falls in the

layer separating them. This will leave the Manager with less time to do the work appropriate to his or her stratum level and some form of coping method will need to be applied by the Manager (C1, 2000, pers. comm; Brady 1992; Fox 1966; Mehltretter 2009).

The stratum III Manager role was the differentiating stratum within the business unit between those who have a 'tertiary qualification' and those 'who do not'. Only a small percentage of employees from the workforce reached stratum III without being degree qualified (2001, pers. comm., M1, A1). The manager level at stratum III was seen as 'a culling or gateway' level within CRA on the way to stratum IV (GM).

5.4.4 Superintendent

Superintendents led output teams were responsible for managing the day-to-day work of the operation. Experience has shown that the ideal output team numbers, given their geographical dispersion and shift work, is in the order of fifty people. Superintendents had a key role in the mining operation in Weipa as they were at the organisational level that 'made things happen' on the site. (2000, pers. comm., GM2, M2, PM2, S2, S3, M2; Jaques 1996, p. 66).

Table 5.6 illustrates accountability authority between stratum 11 Superintendents and the Stratum 1 Supervisors reporting to them (adapted from Brady 1992, p. 28).

Table 5.6: Accountability and authority levels for Superintendents and Supervisors

	Accountability Authority		*Supervisors*		*Superintendent*
1.	Veto selection to output team	1.	Recommends	1.	Decides
2.	Assign tasks to team members	2.	Decides within limits set by Superintendent	2.	Decides
3.	Judge effectiveness of task performance, reward and/or coach	3.	Decides within limits set by Superintendent and then reports	3.	Decides personal effectiveness and outcome
4.	Initiate removal from team	4.	Recommends	4.	Decides

The difference between the authority levels of these two groups was the greatest between any two stratums in a business unit. This occurred because the stratum II role was the first level of management. Typically Superintendents moved into a stratum 11 role via promotion and advancement through the award workforce and after working at stratum I as a Supervisor (Jaques 1998 pp. 107-111). A small number of suitable staff rotated through the position as part of the Comalco University graduate program. Graduates progressed through a range of stratum

II development roles for a fixed six month or nine month period. The roles were both relevant to their core discipline and of an operational nature outside their comfort zone.

The OD project identified a stratum II role that was assessed as being beyond the scope for inclusion at that stratum. This awareness triggered a migration of the stratum II superintendent role to a stratum III manager role. The role was involved with aspects of the company's involvement with the local Aboriginal community at Napranum (2000, pers. comm., GM1).

5.4.5   Service role
The OD service role provides a service facility to an output team run by a Superintendent as described in Figure 5.9 (Brady 1992; Macdonald Burke & Stewart 2006):

SERVICE/OUTPUT TEAM RELATIONSHIPS
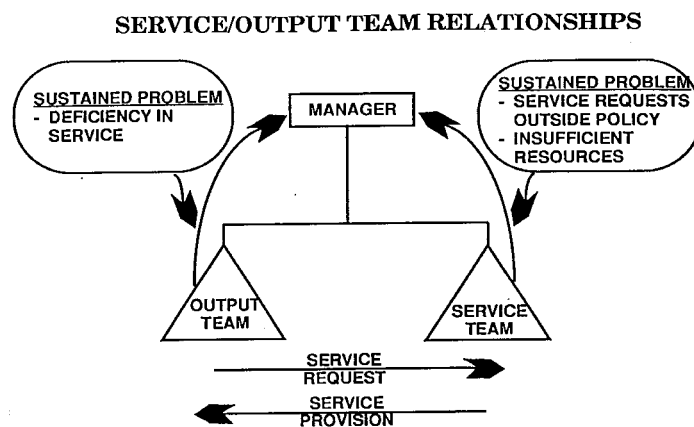
Figure 5.9: Service role in respect of output team relationships

A typical example is the engineering service team providing an engineering service to the process beneficiation plant output team in the area of long term viability of the Weipa Aquifer for process water (2000, pers. comm., M3, S2, S3). The service consists of engineering staff working on water usage calculations based around shift usage, a workshop facility for overhaul and maintenance of equipment and strategic water forecasting for site water usage. Issues that were not able to be dealt with at stratum II would be referred to the MOU manager at stratum III.

The major service provider was the engineering MRU which delivered an engineering and workshop service to the operation. In the mid 1980s only a small amount of engineering work was outsourced with the majority of tasks worked through in-house. Capital based engineering activity was undertaken by contractors external to the Company and project managed via a Weipa based 'Site and Construction' MOU (2000, pers. comm., M3, S2, S3).

5.4.6   Staff role

Figure 5.10 depicts relationships between staff and services functions. Staff roles tended to be stand alone or with a small number having people reporting to them (Brady 1992; Macdonald Burke & Stewart 2006).
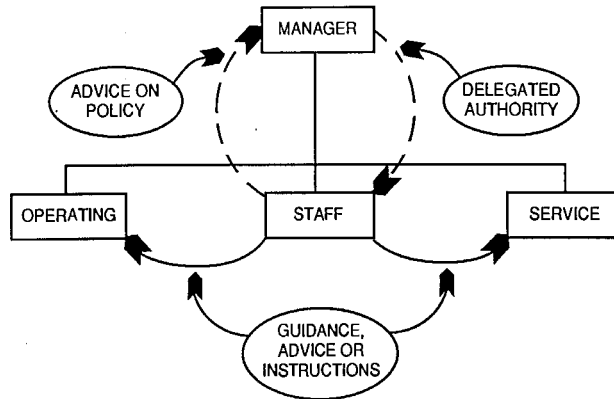
Figure 5.10: Staff role displaying interaction between operating and service functions

The fundamental work of a staff role is analysis and discovery, improvement work, supporting their Manager, developing systems and monitoring and evaluating systems (Brady 1992; Jaques 1998 pp. 56-57). Staff support occurs in three primary areas supporting the organisation from the Managing Director stratum V down to Superintendent at stratum 11. The primary areas for staff support are human resources, technological resources and economic resources (PM2, 2000, pers. comm; Brady 1992; Macdonald 1996).

5.5   Jaques in Weipa

At the request of the GMO Weipa, Jaques travelled to the mine site for a week in early 1985. He came to confer with site management and support the OD project team in their deliberations on the 'role, place and accountability' of the supervisor at stratum I (2000, pers. comm., C1, GM1). The visit was 'under the radar' as the Executive in Melbourne did not want Jaques 'mixing with operating site personnel' (2000, pers. comm., GM2). Accompanying Jaques to Weipa in a professional capacity was Dr Gillian Stamp, a colleague from Brunel University (now Professor Gillian Stamp, BIOSS), who had been a PhD student of Jaques. Visiting an operating site was infrequent and not encouraged as Jaques was at that stage of the project working at head office in Melbourne. He was concentrating on structural issues at stratum V, VI and VII shown in Figure 5.11 (Brady 1992, p. 44).
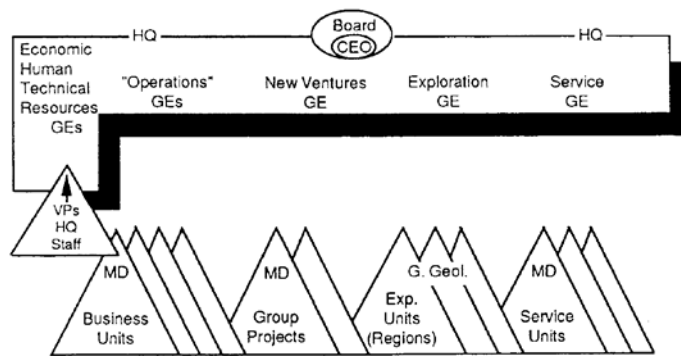
Figure 5.11: Stratum VI interacting with head office structure at stratum VI and VII

Jaques' visit had a number of ramifications for the site that transcended the OD process. Firstly, travelling from Melbourne head office to an operating site was not normally undertaken. Secondly, the visit enabled members of the OD project team and Weipa site management the opportunity to question the individual who 'researched and developed stratified systems theory' (2000, pers. comm., C1, GM2). Jaques, having spent twenty seven years involved with the 'Glacier Project' in the United Kingdom was 'very much at ease' around the Weipa management group and site personnel. Thirdly, management recognised they were part of 'on-going workplace based research' to build on and refine concepts, that would enhance the useability of the model within CRA business units; not the least being Weipa (2000, pers. comm., C1, GM, S2, S3).

5.5.1   Supervisor's role at stratum I

The Supervisor's role evolved into an on-going debate between site management and the OD project team. The issue of where the Supervisor fits into the structure was consuming an inordinate amount of project and management time. There was heightened discussion around site among the workforce about the supervisor role. The interface between staff and the award workforce was deemed by local staff as absolutely essential, as the stratum I role was the only staff position that was at work over a 24 hour shift roster (2000, pers. comm., GM2, S1, S2, A1, U1; Jaques 1996, p. 65; Macdonald Burke & Stewart 2006).

Early in the OD project, it became evident that the interface between management and the award workforce - foreman, assistant foreman and to a lesser extent, the leading hand position, was going to be restructured. The roles would be merged into a new position called 'Supervisor at stratum I'. The transformation meant that the 'feeder roles' into management from the award workforce were being eliminated (2000, pers. comm., U1). Historically the leading hand would become the assistant foreman and over time, the assistant foreman would

move up the foreman's position. There was considerable disquiet engendered on site over this issue (2000, pers. comm., S1, S2, A1, U1).

Schlesinger and Klein (1987, p. 371) provide an historical perspective on the history and role of 'the foreman':

> The word 'foreman' is a very old one. As far as I know it originated in the trade guilds of Europe. In those days when the men wanted to talk to management there was always someone of mature judgement, probably a little older, a well skilled man, who could talk a little on his feet. When the men got together they referred to 'John Anderson fore' and he became the foreman. He was the man who came to the fore, therefore he was a foreman.

Schlesinger & Klein (1987, p. 370) contend that as 'new technology is introduced', combined with worker participation programs 'most of the burdens for successful implementation will fall primarily on the first line Supervisor'. The changing status of the Supervisor continues 'both in the literature and in practice as to whether first line Supervisors identify more with workers than with management' (Dawson 1991, p. 45; Peitz & Moherek 1993; Schlesinger & Klein 1987, p. 380). On balance they were seen to be closer to management than the workforce - although not always the case. This was mainly due to the supervisor position being a salaried staff, rather than an award, role. They were not members of the award workforce or the union.

Figure 5.12 outlines the competing pressures on the role of the Supervisor within the constraints of work and a unionised workforce (Schlesinger & Klein 1987). Although the supervisor level was not unionised, the workforce reporting to the role was.
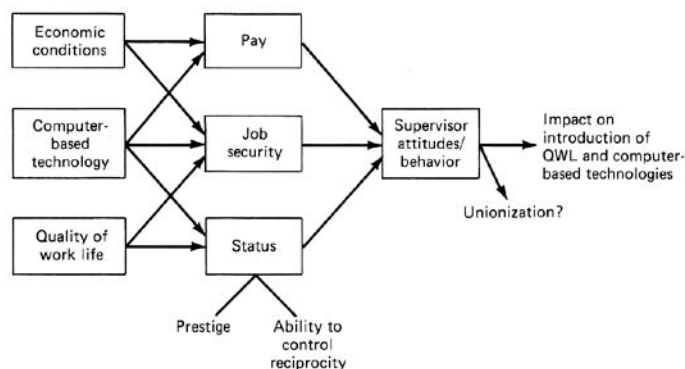
Figure 5.12: Summary of the pressures surrounding the front line Supervisor role

The connectivity between a diverse issues that were prevalent between the workplace and the supervisor role that resided at the intersection of the workforce and management are noted.

'Without the support of Supervisor unionism, little progress has been made on these issues over the past four decades' (Schlesinger & Klein 1987, p. 382). Of particular note was the issue of job security, pay and status at this interface between staff and award employees. Supervisors had the status and security and their staff annualised salary was normally around five per cent above the workforce they supervised. This took into account overtime and shift allowance (2000, pers. comm., S1, S2, A1, U1).
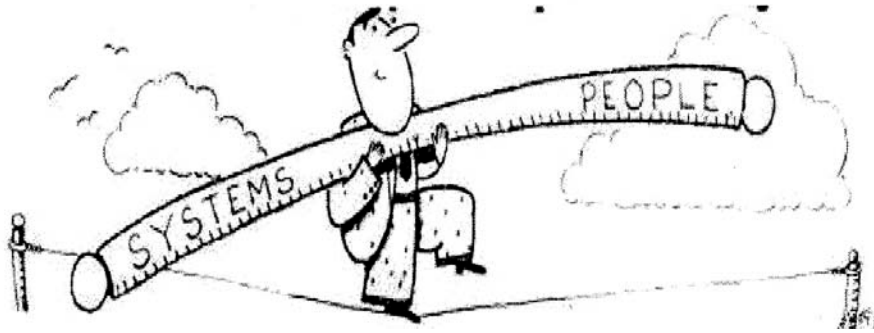
Figure 5.13: Supervisor's balancing act between systems and people in the workplace

Peitz & Moherek (1993, p. 1) regard front line leaders are responsible and accountable for 'getting the best out of the systems and people'. They are often caught in a tug of war between the 'interests of the employees versus the interests of the employer'. This can develop into a never ending conflict between a manager's need for control and at the same time care for their employees. The supervisor at stratum I has always existed as the first level of staff. Jaques' attitude is clear on this issue; 'stratum 11 is the first level of management - the Superintendent'. Brady made the point repeatedly that 'during the OD interviewing process the majority of employees identified the Superintendent - not the Supervisor - as their real boss' (2000, pers. comm., GEHR1). This statement is in line with the minimum accountabilities a manager must possess (2000, pers. comm., C1, C2, CEO1, GEHR1, MD2, PM2; Brady 1992, p. 25; Jaques 1998, p. 36; Lee 2003; Macdonald 1992; Macdonald Burke & Stewart 2006; Ziemak, Dugan, Rigby, Jacobs & Simutis 1994). The four accountabilities of a manager remain in place within the company to this day:

1. Veto on selection
2. Assignment of task
3. Judge personal effectiveness and set any merit awards
4. Initiate removal from the role

Jaques' visit to Weipa was a judged a success by site personnel. The same could not be said for the ongoing debate surrounding the role of supervisor (2000, pers. comm., A1, GM2, S2, S3).

After the project team completed their assignment in Weipa there continued debate on site around where the Supervisor fitted in the organisation. Over time the role of leading hand was phased out, as were 'assistant to' and 'assistant' and 'senior foreman' roles. In 2002 the issue of the supervisor - now called 'team leader' - was raised with the incumbent General Manager of Weipa. The answer from site personnel had not changed in seventeen years. 'In Weipa we see this role as our first line of management. I know this does not fit the model, however this is reality' (GM3, 2000, pers. comm). The comment emanated from a Rhodes Scholar and Comalco Weipa GMO with extensive operational and OD project experience and a PhD in mining.

Macdonald Burke & Stewart (2006, pp. 137-140) note that 'the role of the supervisor is often contentious'. They have come across people' who are deeply offended by Jaques' categorisation that they are seen as not real bosses'. In their model for the stratum I supervisor, they display the role in a more supportive way. The supervisor is located between the workforce and stratum II in a slight off-set - parallel - rather than off to the side as is the normal order in Jaques' model (Macdonald Burke & Stewart (2006, p. 138). The parallel representation of stratum I will not solve the concerns introduced. The representation is seen as less divisive than the Jaques' view off to the side.

At the 2001 Requisite Organisation International Institute (ROII) conference in Texas the author (Lynch) discussed with Jaques the OD intervention at Comalco (Weipa). The positioning of the first level of management being stratum II was discussed and debated. Jaques was adamant that the first level of managerial accountability rests at stratum II. In recognition of Jaques, 1986 visit to the Australian Weipa Peninsula (and for his contributions to Comalco Weipa), the author also presented Jaques with a traditional land owners' (Wik people) Aboriginal art gift from the current General Manager Operations at the Weipa bauxite operations.

The current terminology for the position today that used to be designated a supervisor and before that a foreman, is 'team leader' or 'front line manager' (Lee 2004, chi 4). The role is viewed as essential in those sections of the operation that are not merely day work and operate under a shift roster system. That is, the workgroup has a 'team leader' in place during the afternoon, night shifts and weekends in sections of the operation that a Superintendent would not be able to cover (2000, pers. comm, CEO1, GM3).

This philosophy is in line with Dawson (1991, p. 35) who makes the observation that the Supervisor is 'neither an "Industrial Dinosaur" nor simply a "Lost Manager" but a key

organisational player whose position should be realigned to meet current organisational needs'. Lee (2003 pp. 13-18) concurs on the requirement of this role in organisations with a proviso that 'the three common problems found in organisations that have front line managers (FLMs) are addressed'. These are:

1. First line employees do not have <u>one</u> clearly designated Manager
2. Lack of accountability for the results of the work and the working behaviour of first line employees
3. There are no clearly specified managerial practices for first line Managers to carry out in working with their subordinates

This incumbent General Manager in Weipa has an ally in Schlesinger & Klein (1987, pp. 370-382) who are adamant that 'this role of the first line Supervisor', or team leader as is the current terminology within Comalco, 'is essential'. Despite the deliberations surrounding this role and where it sat in relation to the five stratum business unit structure, the Supervisor position continued to be the first rung of salaried staff employment within the organisation at stratum I. In addition, stratum I occupied the level within the organisation where the award workforce moved to when the offer of salaried staff employment was offered in 1993.

Although the role of a Supervisor was the single most contentious and ongoing concern during the OD Weipa intervention, discussion on the role was by no means isolated to site. Carnegie (1992, p. 10) elaborates on the 'time it takes to have a senior executive group working together' and uses the example of 'work of a Supervisor' to make the point:

There was a long argument among the members of the office of the Chief Executive and between the members of the senior management group about the work to be done in the first management level. One senior executive who was trained as a chemical engineer got impatient one day and said 'what does it matter if the Supervisor is the boss or not'?

Carnegie (1992, p. 10) went on to explain '…the eruption forced me to do three things':

1. To define clearly the authority of a boss over a subordinate. For me the four essential powers are:
   a) To select into his team (i.e. to hire)
   b) To remove from his team (i.e. to fire)
   c) To assign the work to be done (i.e. 'to say do, and he doeth')
   d) To give higher or lesser pay or benefits for work done better or worse than others (i.e. to differentially reward)

2.   To clarify what the Supervisor does in our company, namely to act as the deputy to an individual who is at the first line of management carrying out his commands when, because of shift hours or distance, the manager cannot make the decision because he is not present. The decision made by the Supervisor (i.e. the Manager's assistant) is always made on behalf of the Manager and under his guidelines and policy.

3.   To establish clear language so that everyone knows the difference between a 'Manager' and an 'executive assistant to a Manager' in decision making.

'… As a result of defining a common language quite precisely, no one asks "does it matter"? It took a year to get all of this clear but the improvement of front line effectiveness was immediately apparent to all' (Carnegie 1992, p. 10). In line with the thinking of Carnegie, Dawson (1991, p. 45) takes to task the comment that 'the front line Supervisor/Manager is often viewed as a problem'. This is not the case as the Supervisor should be viewed as a 'key change catalyst and facilitator'. This was the view of the majority of Superintendents in Weipa (2000, pers. comm., SP1, SP2)

Kotter (1996, pp. 101-103) has suggested that the role of the supervisor can be an impediment to change along with 'three other obstacles - structures, skills and systems'. The impediments identified by Kotter were addressed in the Weipa OD intervention. The structure on site was re-organised in line with the CRA five stratum OD model. The skills required were imported from the early trials at Woodlawn and other OD interventions. The role of Supervisor was identified early in the Weipa OD intervention as an emerging issue in the five stratum business unit model being rolled out.

The change in the systems was undertaken initially as part of the OD intervention and followed up with stage two of the on-going continuous improvement program. Within CRA, 'organisational structure and organisational processes' were two areas that Jaques and Carnegie concentrated on initially' (R Carnegie 2000, pers. comm., AP1, C1, C2, CEO1, GEHR1, MD1). The order was clearly structure first, followed by processes. 'People at work' was stage two and followed on from structure and process in the late 1980s as systems leadership training and development. The direction taken at CRA is aligned with Jaques' three basic steps to Requisite Organisation (E Jaques 2000, pers. comm):

1)   Get the right structure
2)   Get the right people for the right roles
3)   Teach the right managerial practices

5.6 Managing Director

Figure 5.14 outlines the accountabilities of the role of Managing Director role at stratum V. The accountabilities arose from the OD project in relation to customers, employees and the business in general (Brady 1992, p. 47):
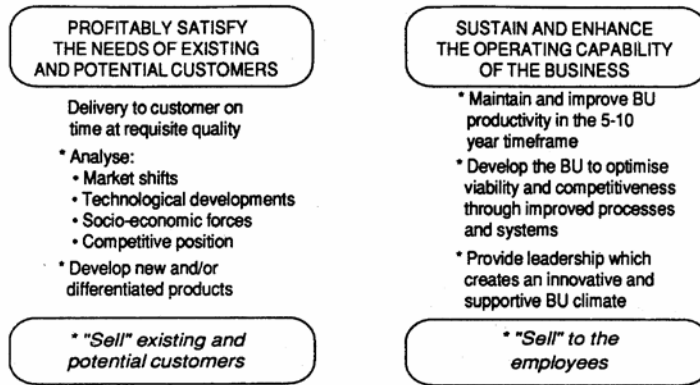
Figure 5.14: Outline of stratum versus accountabilities

The focus is on profitability and satisfying both existing and new customers. Mineral exports are normally long term contracts with only a small amount of product sold on the spot market. The focus was initially on existing customers. Growing the business over a ten year period and selling the customer focus to employees followed. This direction was augmented by quality assurance (QA), total quality management TQM, continuous improvement programs (CI), productivity enhancement programs (PEP) and six sigma (2001 pers. comm., AP1, C1, C2).

Stratum V emerged after OD as the senior leadership position within the Raw Materials business unit and remained based in Brisbane. There was debate during the project on moving the head office of the business unit to Cairns so it was closer to Weipa. In spite of a logistics advantage, the line of reasoning prevailed that remaining in Brisbane was essential due to the prominent role Comalco had in the business life of Queensland. Accordingly, the project team decided there was an on-going requirement to have a head office function situated in the capital city of the state Comalco operated within, in this instance Queensland. With the development of an iron ore industry in Western Australia the same logic applied - a head office function was located in the capital - Perth rather than further north (2001 pers. comm., AP1, C1, C2,).

Figure 5.15.introduces the business unit functional model which encompasses all the sections of the Weipa OD intervention for the Raw Material Business Unit (Brady 1992, p. 46; Jaques 1998):

Buy-in external assistance

Aid to M.D.

Technological Resources
Economic Resources
Human Resources
Improving

Managing Director

P PR T

Staff support

Studies and/or projects (as required)

MD's delegated DO (via tasks & resources)

Sustaining | Mainstream

M.D.'s Direct Output

To Market & Shareholders

Services — P R T

Product Devept — P R T

Production — P R T

Market & Sales — P R T

Specialist Imput

"D", "P" & "S" Work

"D" Work

"P" Work

"S" Work

Outputs

To M.D.

To operations & staff

Buy-in external services

Outputs

To Market

Oganization — P
Bus. Analysis — PR
Tech. Devept — T

"Service"   "Operations"   "Staff"

Profitably satisfy the needs of CUSTOMERS

Figure 5.15: Business unit functional model

The business unit functional model was produced to give a holistic overview of a CRA five stratum business unit. This diagram was not in use on site during the Weipa OD project as the model was developed as part of corporate headquarters restructuring. The diagram is included in this study only to show the depth of development of modelling undertaken for stratum V the executive. A detailed analysis of Figure 5.14 is outside the scope of this study.

5.7 MRUs replace departments

Once the OD project was completed it became necessary to re-align the existing departments into the new MRU model. A number of existing departments retained their department name and the majority of their output teams. These were: Personnel, Administration, Mine, Fixed Plant and Engineering. New departments formed were Town Services, Materials Management and Human Resources (GEHR1, 2005, pers. comm).

The MRUs with existing names had only a minimal reorganisation of their output team across the MRUs. The one major exception was the diesel powerstation. The powerstation output team was initially attached to the Mine MRU. It was then re-located to the Fixed Plant MRU as the argument was mounted that it is a fixed plant asset rather than 'mobile equipment' which is predominately in the mine. After a short period it moved back under the Mine MRU and when the site had a new GMO this person moved the powerstation to the Engineering MRU as a site service responsibility (GM2, 2005, pers. comm). The majority of output teams was placed in an MRU with few issues.

Town Services had responsibility for the Weipa Township. The MRU was modelled around a typical town council with a population around 3500 residents. Materials Management evolved from the Stores department and was re-badged to take a more holistic and strategic approach to consumable materials coming to site by road, sea and air. Human Resources was formed to bring together individual output teams that had carriage of activities related to the local indigenous communities that interfaced with the Weipa mining activities (GM2, 2005, pers. comm). Personnel remained the generic MRU involved with employee issues on site. Although it might seem strange to have both a Personnel and HR department on the one site, this was not the case in Weipa. The separation of accountability and responsibilities was clear cut.

It is difficult to argue with the logic of the final MRU names and accountabilities at the completion of the Weipa OD intervention. The majority had designations that signified their relationship to major activities on a mine site. The example of the powerstation being moved around was not untypical in the bedding in process of a new structure. There was a number of similar examples that had output teams moved around between the Mine, Fixed Plant and Engineering as it was not always clear where the best fit was. The default MRU tended to be Engineering for output teams that could reside in numerous MRUs depending on the thinking at a particular time (GM2, 2005, pers. comm).

5.8 Final Raw Materials business unit structure

The business unit structure shown in Figure 5.16 is typical of 'around twenty five business unit structures' put in place throughout the CRA group of companies in the early to mid-1980s (Brady 1992, p. 46; Johnson 1996, p. 3; Jaques 1998; Macdonald, Burke & Stewart 2006).

"P" : Human Resources
"PR": Economic Resources
"T" : Technological Resources
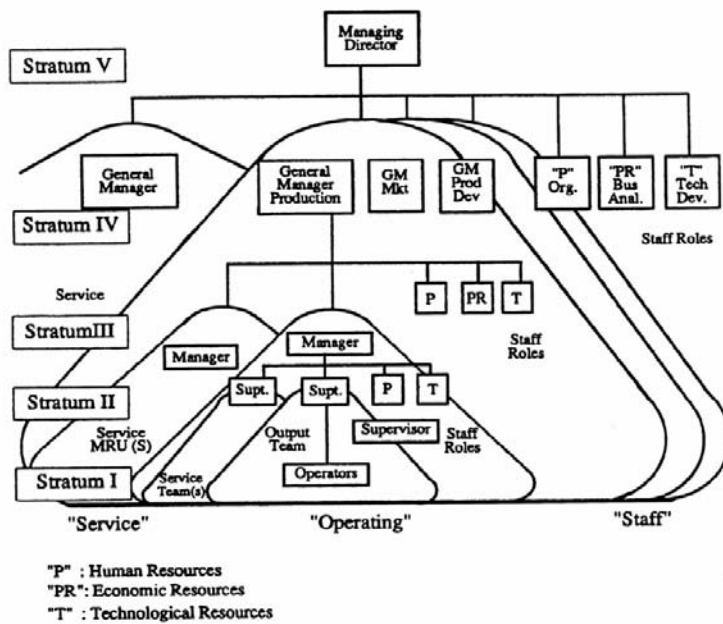
Fig

The Managing Director in Brisbane has staff support in the areas of people, programming and technical (P, PR, T). The MRUs shown have been expanded horizontally to incorporate both service and support activities to the main stream or line MRUs that produce the final product. Market and sales supported by new product development are included within this grouping. At the time of OD in Weipa the new products MRU had been working for a number of years on the development of a Kaolin opportunity for the Weipa site which came into full time production in 1985. Kaolin was led by a stratum III manager reporting to the site GMO. Specific technical support for Kaolin was carried out in Brisbane (2005, pers. comm., GM2, MD2).

The workforce or operators had a direct managerial relationship with the Superintendent while the role of Supervisor is off to the side in a supporting or planning role. The Manager was the leader of a mutual recognition unit (MRU) which would have been called a department in the old structure. The Managers of the MRUs reported directly to the General Manager Operations who was a stratum IV position and occupied the senior leadership role on site (2005, pers. comm., GM2, MD2).

At the base of the diagram is the operations component tasked with mining bauxite that was shipped directly out of Weipa to a customer in Australia or overseas (2000, pers. comm., C1, C2, CEO1, GM1, GM2, M1; Brady 1992, pp. 28-36; CRA 1992; Jaques 1996, pp. 43-58). For an holistic view of the individual building blocks and the theory underpinning the complete interactions of a five stratum business unit refer Jaques (1989). Additional analysis of the

individual building blocks and the theory underpinning the concept of a five stratum business unit can be found at (Burke & Stewart 1992; Creelman 1997a, 1999a, 1999b, 2000a, 2000b, 2000c; Jacobs 1992; Jaques 1989, 1990, 1998, 1999; Lee 2003; Macdonald Burke & Stewart 2006).

5.9   Individual contracts and Jaques

At no time during the OD intervention in Weipa was the issue of a 'salaried staff workforce' canvassed. Moreover the structure, with the exception of the leading hand position, did not involve the award workforce, and by association, the union movement. Jaques' contribution to the deliberations at the Weipa site - as had been the case with other CRA sites - was 'structure based only' and to a limited extent, discussions on the positioning of the Supervisor role took place (2000, pers. comm, CEO1, GEHR1, C1, GM2; Brown 2003).

This 'statement of fact' is at odds with a perception held within the union movement and some writers. They believed that offering 'staff conditions' (dubbed 'individual contracts' by the union) to the CRA workforce at their metalliferous mine sites was a 'an anti- union' strategy introduced in the early 1980s with Jaques' assistance (Petzall, Timo & Abbott 2000, p. 283-291; Timo 1997; Timo 1998; Timo 2001). Maitland, the General President of the CFMEU mining and energy division and National President of the CFMEU writing the foreword in Gorman (1996, p. ix) asserts:

> The company's anti trade union paternalistic corporate strategy was pioneered by former Chief Executive Officer, Sir Roderick Carnegie. …Carnegie came under the influence of the controversial theories developed by Canadian-born management consultant, psychotherapist and author Elliott Jaques. Jaques, some of whose management theories have been adopted by the US Army, worked with CRA from 1979 for 12 years. Jaques' model is entirely based on a subjective management appraisal of how 'effective' or 'valued' a worker is. It is in essence, a return to the 'master and servant' approach to industrial relations.

Numerous interviews face to face, by phone, as well as e-mail correspondence, with Carnegie, Jaques and Brady over a period of years strongly corroborate the assertion that Jaques' work within CRA was structure based only and did not encompass employment systems (2000, pers. comm, CEO1, GEHR1, C1). Carnegie, Brady and Jaques support the concept of 'maintaining a sense of balance' in the workplace between management and employees, capital and labour. Hearn Mackinnon notes Jaques was not 'anti-union' or 'pro individual contracts' (Hearn Mackinnon 1999, p. 6-7). Hearn Mackinnon in an analysis on Jaques' major works comments:

…reading of Jaques' major works (1951, 1961, 1976, 1988, 1991) reveals no mention at all of 'staff systems' of employment'. Furthermore, this was consistent with the earlier experience at Glacier Metals where trade unionism continued to thrive in an organisation structured in line with the main precepts of what is now referred to as stratified systems theory'.

5.10   Implications for further research

A number of themes for additional research were uncovered as a result of enquiry undertaken in this chapter.

5.10.1   Theoretical implications from Chapter Five

The model for Requisite Organisation (RO) arising out of early Stratified Systems Theory (SST) research by Jaques is over 50 years old. Pure research on RO has not been carried out on the base model or the assumptions underpinning the theory since Jaques died in 2003. Requisite Organisation as promulgated in the first edition in 1989 remains substantially unaltered with only superficial revisions. The Requisite Organisation International Institute (Jaques) website is out of date. The main global source of Requisite Organisation information is emerging at the 'Global Organisation Design Society' in Canada whose membership base is predominately consultants (elderly), rather than researchers. This is predominately historic knowledge.

Two broad unanswered research implications remain unresolved from this chapter. Firstly, issues around the stratum I role and the concept that this role is not the first level of management as stated in Jaques model. Secondly, there is an argument for research to validate the premise or otherwise, that the five stratum business unit model is still applicable today within a rapidly expanding global Australian mining industry. This research has commenced. The author is collaborating with Ivanov at George Washington University on the future of the OD model (S Ivanov, 2010, pers. comm.)

5.10.2   Practical implications from Chapter Five

The Australian economy is now based around a strong mining sector exporting product to China. Carnegie and Jaques implemented a full scale OD restructure of CRA during the early 1980s. With the passing of time and numerous amalgamations and takeovers, the Australian mining industry has changed completely. Rio Tinto now owns CRA and Comalco and is a dual listed Company domiciled in London. Comalco is now part of Rio Tinto Alcan with the head office in Canada. BHP is now BHP Billiton also dual listed and domiciled in London. Rio Tinto has just emerged from a takeover attempt by Chinalco - a Chinese company. Rio Tinto and BHP Billiton are investigating options to merge their iron ore mining operations in Western Australia.

The Australian mining industry is now home to the four major global mining houses - VALE, Xstrata, Rio Tinto and BHP Billiton. The Chinese are aggressively positioning themselves to buy into mining companies who sell their raw material to China. The model for Stratified Systems Theory (SST) is now 30 years old - particularly the five stratum business unit model. The model needs to be re-evaluated for relevance within the Australian mining industry of 2010 as the base RO model described in Jaques (1989) is very much an Anglo Saxon product out of the British manufacturing sector in the 1950s after WW2. A suggested evaluation could be based around a trilogy model with organisational change management as the guiding foundation, firstly, within the Rio Tinto group of companies, secondly across the four global mining houses in Australia and thirdly verified for relevance in a multi-cultural global mining environment based around an emerging Chinese economy in the 21st century.

5.11 Chapter Review

Chapter five establishes the OD intervention at Comalco Weipa as being consistent with step five and six of Kotter's model shown in Figure 5.17 (Kotter 1996). Step five empowering broad based action and step six generating short term wins.
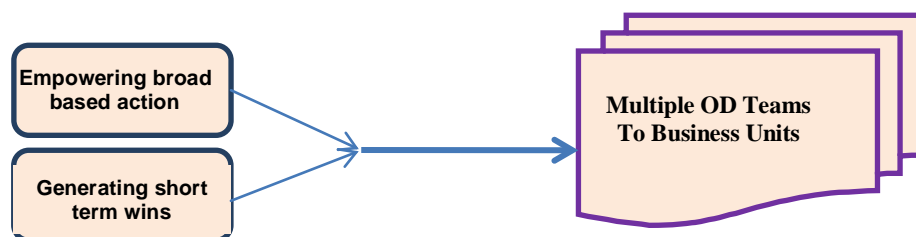
Figure 5.17:   Kotter's 5th and 6th step in the Weipa OD intervention

The work of the organisation development (OD) project team that restructured the Raw Materials business unit from mid-1994 to early 1996 was outlined. A commitment to have a project team work in the business unit was endorsed by the Managing Director. This directive ahead of the normal cycle of OD projects allowed Comalco Mineral products to be restructured ahead of an expected upturn in the global minerals cycle in late 1986. The resultant structure was revealed and each level of operations, staff and support was elaborated on.

Changes to the structure allowed Jaques' five stratum SST model to be implemented at the head office in Brisbane and the mine site at Weipa. The ongoing debate around the role of the first level of management - the supervisor at stratum I was noted, as was the tension between key stakeholder groups on site as their existing powerbases came under threat from the OD

intervention. The resultant structure was revealed and each level of operations, staff and support was examined in detail.

Chapter six focuses on the next stage of the OD intervention. People at work followed on from structure and process in the late 1980s via systems leadership training and development. The direction taken at CRA in Chapter six aligns with Jaques' three basic steps to Requisite Organisation: Get the right structure, get the right people for the right roles and teach the right managerial practices (E Jaques 2000, pers. comm; Jaques 1989). The integration between Jaques and Kotter continues with step seven - consolidating the gains, and step eight - anchoring new approaches in the culture (Kotter 1996).

Chapter Six

<div align="center">

Organisational Processes and People at Work

Outline of Chapter

</div>

6.0   Chapter overview

Provides an overview to the content of chapter six

6.1   Background to organisational processes and people at work

Establishes the period as stage two and notes the contribution of the Hamersley Iron OD team

6.1.1   Hamersley Iron OD teams' involvement in model development

6.2   Organisational processes and people at work

Outlines the process behind stage two

6.3   Example of a working together course at Comalco Weipa

Describes in detail a typical working together course

6.3.1   Stratified Systems Theory (SST)

6.3.1.1   Managerial Accountability Hierarchy (MAH)

6.3.1.2   Complexity

6.3.1.3   Time Span of Discretion (TSD)

6.3.1.4   Mental processing

6.3.1.5   Complexity of mental processing

6.3.1.6   Method of measuring potential capability

6.3.2   Meritocracy

6.3.3   Leadership

6.3.4   Cultural awareness

6.3.5   Open-air activities

6.3.5.1   Blindfolded ropes course on the ground

6.3.5.2   Building a logo model

6.3.5.3   Participating in an aerial ropes course

6.3.5.4   Building a raft and paddling across a lake

6.3.5.5   Participating in an orienteering route

6.3.5.6   Building a flying fox to transport team members over a creek

6.3.5.7   Analysis of the working together course

6.4   Career Development within a Business Unit

Career development and advancement through the five stratum business unit model

6.5   Implications of research

Identifies issues for further research and analysis

6.5.1   Theoretical implications

6.5.2   Practical implications

6.6   Chapter summary

Reviews the key points developed within the chapter and introduces Chapter seven - the offer of salaried staff employment to award employees

6.0   Chapter overview

Chapter five described research around step five and six of Kotter (1996) - Figure 6.1. Step five empowered broad based action while step six generated short term wins as part of Organisational Development (OD).
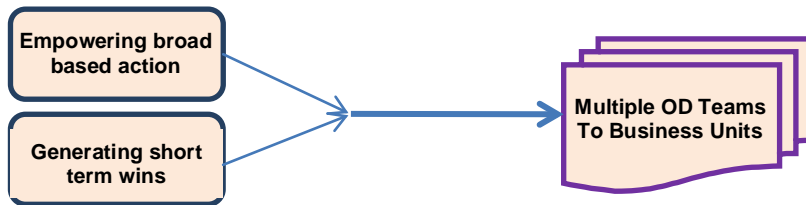
Figure 6.1:   Step five and step six researched in chapter five

Johnson (1996, p. 3) noted of the OD intervention '…during the 1980s, we constituted about 25 business units as self-managed operations in CRA. Comalco Raw Materials was chosen as a typical business unit for analysis. Comalco Weipa supplied bauxite to the Queensland Alumina Limited and Comalco Aluminium refinery at Gladstone Queensland (Atkinson 2009). A successful restructuring outcome in Comalco Raw Materials was viewed as essential due to the associated downstream operations that depended on a secure supply of raw material feedstock (2000, pers. comm, CEO1, GEHR, GM1, MD1).

Empowering broad based action was achieved by dispatching OD project teams from CRA Head Office in Melbourne to mine and process sites throughout Australia and New Zealand (Brady 1992; Gilbert 1998; Kotter 1996; Ludeke 1996). Short term wins in step six were highlighted by the minimal work required to restructure the stratum V role of Managing Director in Brisbane and the stratum IV role of General Manager Operations at Weipa.

Chapter six focuses on step seven and eight from Kotter's change management model (Kotter 1996). This timeframe of reflection and debate at the executive level is consistent with 50 per cent of step seven and all step eight of Kotter's (1996) model as adapted in Figure 6.2. During the period, a name change of the Raw Materials business unit to Comalco Minerals Products (CMP) occurred to better reflect the changing role of the bauxite operation within the aluminium industry.
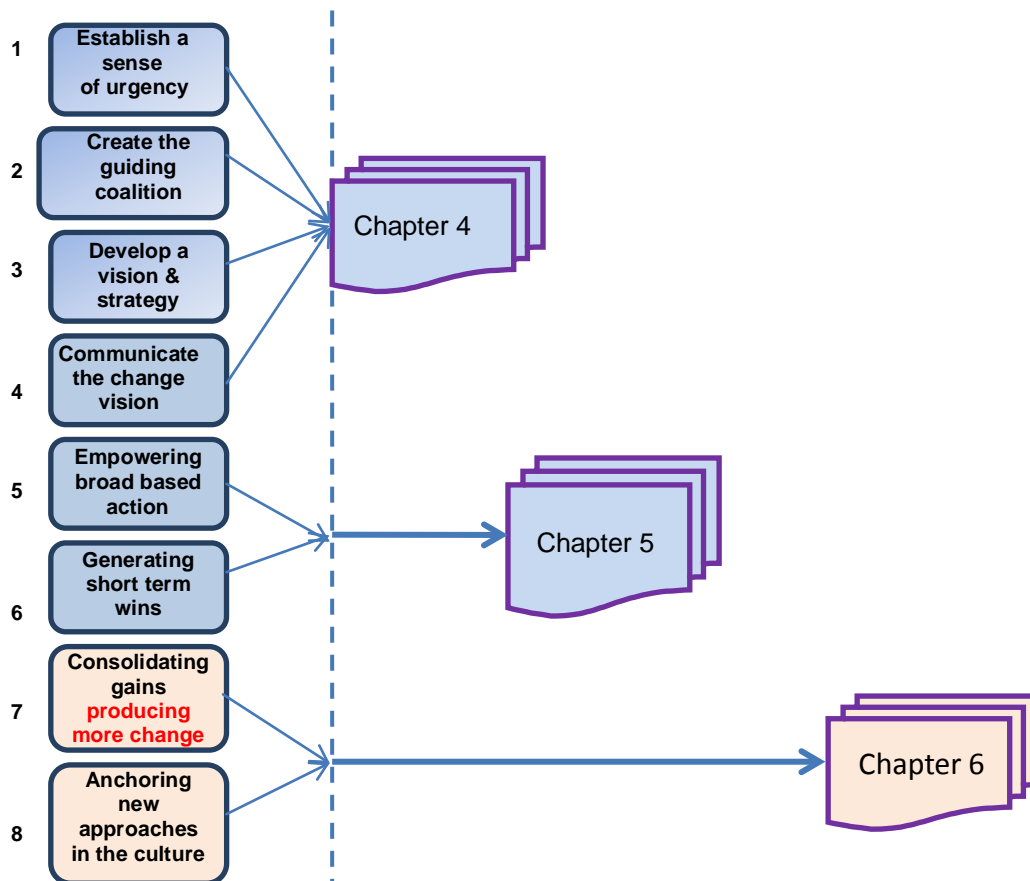
Figure 6.2: Integration of Kotter's step seven and eight

Step seven and step eight relate to the process undertaken in CMP. Step seven is split with consolidating gains - included in chapter six while producing more change is researched in chapter seven. Kotter (2006, p. 21) describes the consolidating gains themes as:

1. Using increased credibility to change all systems, structures and policies that didn't fit together and didn't fit the transformation vision
2. Hiring, promoting and developing people who can implement the change vision

Organisational structure (stage one) realignment in Figure 6.3 focused on developing and implementing the five stratum business unit model throughout CRA (R Carnegie 2000, pers. comm; Brady 1992). This included stratification and functional alignment, working relationships and felt-fair compensation (Cason 1997; Janus 2003; Jaques 1952, 1956, 1967, 1976, 1982, 1985, 1986, 1989, 1999; Ludeke 1996; Macdonald Burke & Stewart 2006).

Organisation Structure
- ➢ Felt-fair Compensation
- ➢ Working Relationships
- ➢ Stratification & Functional Alignment

Organisation Processes
- ➢ Managerial Leadership Practices
- ➢ Talent Pool Development
- ➢ Organisational Values

People at Work
- ❏ Personal Values & Individual Capability

Figure 6.3: Three step Requisite Organisation Model

Stage two, Organisational Process and People at Work, which commenced in late 1985 is the basis for this chapter. Organisational Process and People at Work was implemented throughout business units and head office through to 2004 (2000, pers. comm., C2, CEO1; Jaques 1994a, 1994b). The generic term organisational leadership was commonly used to describe this phase of consolidation of the theories (C1, 2000, pers. comm; Macdonald Burke & Stewart 2006).

6.1 Background to organisational processes and people at work

Team based organisational processes and people at work modules followed on after the OD structural intervention. These modules were consistent with step seven and eight of Kotter (1996) - consolidating gains and anchoring new approaches in the culture. The programs were described by management involved in the process during the period as 'putting the flesh around the five stratum business unit model' (2000, pers. comm., C1, C2, CEO1).

Organisational process and people at work within CRA had its gestation when Jaques was at Brunel University. Jaques led the Brunel Institute of Social Sciences (BIOSS) supported by Gillian Stamp, Ian Macdonald, David Billis and Keith Rowbottom. BIOSS was researching themes in the 'levels of work and human capabilities' (2000, pers. comm., C1, C2, MD3; Thelejane 2010). The methodology utilised was 'social analyses and 'action research'). The Social Analytical Learning Society (SALS) study group was formed to advance the development and dissemination of their research. This group came to the attention of the Group Executive Human Resources who had carriage of the RO change management project within CRA. Senior staff involved with the assimilation of OD into the company was dispatched to the annual SALS workshop/conference in Monterey California in early 1985.

Macdonald from BIOSS, Stewart from CRA and Burke from the University of Southern California were delegates and presenters at the workshop (2000, pers. comm., C1, MD2, US1; Macdonald, Burke & Stewart 2006, p. xi - xiii). Jaques is credited with the initial stage one structural work throughout CRA that culminated in the book, Requisite Organisation (1989). Macdonald, Burke & Stewart are credited with stage two putting the flesh around the five stratum business unit model which culminated in the publication System Leadership: Creating Positive Organisations (2006). Together these two publications convert the theory underpinning the OD intervention into practice (2001, pers. comm., C1, MA, MD2, US1; Brady 1992; Lynch 2001, 2002; Macdonald Burke & Stewart 2006; Palmer 1997).

CRA group executives travelled to the United Kingdom in April 1985 to interview BIOSS staff. They were looking for a staff member from the BIOSS organisation to undertake the next stage of Jaques' consultancy with the company. Jaques continued stage one research on instigating structure and working relationships at stratum V, VI, the executive and the Board. In June 1985, Dr Ian Macdonald was offered a contract by CRA to work on stage two of progressing Jaques theories - organisational processes and people at work - into practice. It made sense to engage a member of the BIOSS staff to continue the OD development in the workplace (2001, pers. comm., C1, MA, MD2).

Jaques, through BIOSS, introduced an international perspective to restructuring an emerging global mining business. Researchers had their own area[s] of expertise and interest focused around the emphasis of BIOSS at that time, general theory of bureaucracy, theories on the level of work and different people having different capabilities. BIOSS continues its research and links to industry from the Brunel University Campus in the United Kingdom. BIOSS is now a global consulting organisation under the leadership of Professor Gillian Stamp and the home for the UK National School of Government (C1, 2005, pers. comm).

6.1.1   Contribution from the Hamersley Iron OD team to model development

CRA staff returning from OD projects undertook the majority of model development work for Stage two. Karl Stewart and Terry Palmer who led the second and third OD teams respectively into Hamersley Iron were two foundation members with a Comalco background (C1, 2005, pers. comm). The trio of Macdonald from BIOSS with Stewart and Palmer initially working at stratum IV provided the leadership to establish rigor around the development and then implementation of the modules. This tripartite alliance continued unabated from late 1995 through to 2004 by which time Stewart and Palmer were Stratum V business unit leaders (C1, 2005, pers. comm; Macdonald, I, Macdonald, R. & Stewart 1989; Macdonald Burke & Stewart 2006; Palmer 1997; Stewart 1996).

Stage one, the OD intervention was clearly a CRA initiative organised and promulgated from the office of the Chief Executive. Stage two, organisational processes and people at work, was directed from a stratum six executive level within the company. It was described as a continuation of the initial OD work rather than a whole of business organisational change management initiative. There were two other broadly based groupings within the company - 'CRA people' and 'Comalco people'. Organisational processes and people at work was perceived within the company as being run by 'Comalco people' whereas the initial OD intervention was run by 'CRA people' (2001, pers. comm., CEO1, C1, MA, MD2).

The executive believed the right combination was in place for transforming Jaques' theories on organisational processes and people at work into practice. The direction chosen was to have BIOSS staff (theory) working with CRA's successful OD leadership team from Hamersley Iron (practice). The team was supplemented by the best of CRA's next generation of young managers being rotated through the model development process under a corporate secondment arrangement. Topics debated, refined, trialled and reworked across the business units consisted of leadership, career development, trust, organisation culture, working together, levels of work, system thinking, values, remuneration systems, employment systems, meritocracy and the principles underpinning stratified systems theory. There were other topics discussed, however the ones cited are representative of the period (Craddock 2002; Donaldson & Hilmer 1998; Drucker 1995a; Dunphy & Stace 1990; Ludeke 1996; Macdonald, I, Macdonald, R. & Stewart 1989; Macdonald Burke & Stewart 2006; Palmer 1997; Stewart 1996; Thorne 1997; Walsh 2001, 2002).

6.2   Organisational processes and people at work

Carnegie tasked the executive group responsible for the OD intervention with 'consolidating the gains' made to date and 'anchoring the new approaches in the culture'. Figure 6.4 outlines step seven and step eight of Kotter's eight step change model which forms the theoretical base underpinning this chapter (Kotter 1996).
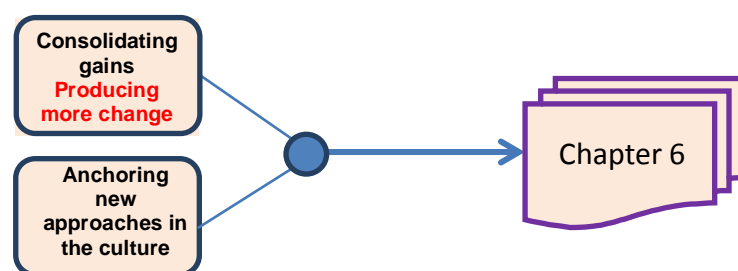
Figure 6.4: Steps seven and eight from Kotter

The two steps outlined were the focus of on-going training and development activity during the late 1980s through to the early 1990s. Over time the themes being developed under the umbrella of Organisational Process and People at Work evolved into a formal staff development course. A combined theory and practical module delivered on site was considered the ideal vehicle for encompassing the principals of organisational process and people at work. These courses were considered essential to the ongoing staff development of the company and were financially supported by on-going budgetary allocations from corporate (2001, pers. comm., CEO1, GEHR1; Brewer 1993; Burgess 1992; Cappelli 1997; Cappelli Bassi Karz Osterman & Useem 1997).

A generic structure of a typical module delivered is outlined in Table 6.1. The five day program was representative of Kotter's step seven and eight undertaken throughout CRA during the period 1985 - 2004 (2001, pers. comm., C2, GM4; Kotter 1996).

Table 6.1:   Structure of a typical one week course

Monday	Tuesday	Wednesday	Thursday	Friday
	0700 Syndicate theory work	0700 Syndicate theory work	0700 Syndicates A and B both present	0700 Syndicate theory work
0900 Task teams red and blue organised	0800 Task 1 (blind folded rope activity)	0800 Leadership value, myths, systems and cultures	0930 Travel to water activity	0900 Individual task presentations
1000 Introduction to Jaques' theories	0930 Levels of work, complexity, authorities and accountabilities	1200 Lunch	1000 Water activity (flying fox)	1200 lunch
1230 Lunch	1230 Lunch	1300 Task 4 (construct raft and paddle across lake)	1300 Lunch	1300 Discussion of application
1300 Business Unit structures, teams and leadership	1300 Tasks 2 (ropes course) and task 3 (radioactive island)	1630 Task 5 (Lego model) and debrief	1330 Review and task assignment	1530 Follow up work set by Manager
1700 Real work video	1600 Indian history video	1800 Dinner	1800 Dinner	1430 Wrap up of the week
1815 Dinner	1815 Dinner	1900 Manager's presentation and open session	1900 General Manager's presentation and open session	
2000 Begin theory syndicate work and/or practical activity planning	1845 Indigenous cross cultural issues and debate			

Attendance was mandatory for all staff - stratum I to stratum VI. The course was five days in duration, fully catered with a live-in arrangement for nominally 12 participants. All practical activities were videotaped and played back to assist in the learning application of the leadership skill being practised and for discussion by all participants. The theoretical and

practical results were placed on staff records and utilised in staff and potential performance appraisals (2001, pers. comm., C2, MD2; CRA 1992; Howes 1990)

Employees were streamed into two syndicates of six staff - red and blue - for the duration of the course (2000, pers. comm, M3, S1). Instructors, support staff, the site management team and General Manager Operations expanded the average numbers involved in each module to an average of eighteen at any one time. The first course to test the development of theory content and practical outdoor activities was conducted at Tannum Sands in Queensland. This was the residential hub that housed the employees of the nearby Comalco Boyne Smelters operation south of Gladstone. Comalco operated a training centre located in a bushland setting adjacent to the mouth of the Boyne River and the Pacific Ocean. Tannum Sands was identified as an ideal setting to trial the outdoor water and land based practical exercises due to the availability of resources and support services from Boyne Smelters. The Smelting Business Unit under the leadership of Karl Stewart is credited as being the business unit where 'the practice of the theory commenced' (2001, pers. comm., CEO1, C1, MA, MD1, MD2; Burke & Stewart 1992; Macdonald, Burke & Stewart 2006).

Participants selected for the trial course consisted of Stratum V (managing directors) and Stratum IV (general managers). During this early period, there was a number of name changes to better describe and market the stage two modules under development. The term 'organisational process and people at work' evolved into a structured program encompassing the intent of the terminology, systems theory. The original module run at Tannum Sands was known as the 'MAC' course - management analytical course (C1, 2001, pers. comm).

The MAC course changed over time into 'organisational leadership' as the program was perceived to be based around the 'organisation' and focused on 'leadership', not management. By 1990 the course evolved into the concept of 'working together'. Once the suite of modules was running successfully throughout the business units it was commonly referred to as 'the Rambo course' by site based personnel (2001, pers. comm., C1, MD1, U1; Macdonald, Palmer, Stewart & Woffenden 1987; Macdonald 1987, 1988, 1992, 1995; Macdonald, I, Macdonald, R, & Stewart 1989; Macdonald, Burke & Stewart 2006; Woffenden 1992).

6.3   Example of a working together course

Organisational structure and organisational processes were themes that Jaques and Carnegie concentrated on initially. Structure followed by processes. Table 6.2 highlights the makeup of a typical working together course (2001, pers. comm., C1, C2, MD1).

Table 6.2: Dissection of a typical working together course

Stratified Systems	Meritocracy	Leadership	Cultural Awareness
Revision of the theories SST, MAH TSD	Understanding my work	Team membership	Napranum Community
Distribution and complexity of tasks in a role	Staff relationship and meritocracy	Mythology	Napranum and Comalco
Work. What is it?	Individual judgement	Leadership	Indigenous culture
Work of General Manager complexity	Components of a staff relationship	Symbols	Indigenous history on the Cape
Work of Manager complexity	Equality of opportunity	Fundamental work of a leader	Working together
Work of Superintendent complexity		Systems and values	
Work of Supervisor complexity		Values continuum	
Authorities of the Manager once removed		Six core values: courage, dignity, honesty, trust fairness, love	
Definition of a task			
Work: P, PR & T			

The direction chosen by CRA's executive group for training and development was aligned with Jaques' three basic steps to Requisite Organisation (E Jaques 2000, pers. comm; Brady 1992; Carnegie 1992). The basic steps were:

1. Get the right structure
2. Get the right people for the right roles
3. Teach the right managerial practices

The working together course described in this example was number 11 and conducted at Comalco Weipa for stratum 1 and II staff from Engineering and Personnel (2001, pers. comm., C2, GM3, MD2; Macdonald, Burke & Stewart 2006; Thorne 1997). The course was based around four generic theoretical themes of stratified systems theory, meritocracy, leadership and cultural awareness. Practical exercises and a written assessment at the completion of the week's activity closed out the course (2001, pers. comm., C2, MD2; Argyris 1964).

From 1990 the working together courses were conducted almost full time across the business units - particularly iron ore and bauxite/aluminium. They were understood by staff to be an established component of staff training and development. Macdonald facilitated 12 courses at Comalco Weipa in 1991 with delivery and evaluation of modules shared by the General Manager Operations and relevant MRU Managers. The program was experiential based, had

a practical foundation and was domiciled at the Napranum Aboriginal community, fifteen minutes south of the Weipa operation.

The outdoor setting for the course contributed to the acronym 'Rambo course' becoming widespread when describing the activities. Participants included the Managing Director, all General Managers, all site Managers, most Superintendents, some Supervisors and selected members of the Weipa Industrial Site Committee. Attendees were from both kaolin and bauxite operations as well as head office Brisbane staff (2001, pers. comm., C2, MD2, PM2).

Attendees remained in their work groups, engineering staff remained in engineering, personnel staff remained in personnel. There were six individuals in each syndicate and six outdoor practical activities. Each group was allocated a score at the end of each exercise. The leadership of the group for each exercise was randomly selected on day one (2001, pers. comm., C2, GM6, M1; Macdonald, Burke & Stewart 2006).

The program was designed to involve all participants in theory, outdoor exercises and on-going projects as soon as possible from day one. Theory was in the morning, outdoor activities in the afternoon and discussion around the theoretical concepts facilitated by the site GMO in the evening. The agenda was designed to ensure participants were engaged from day one to minimise opportunities for 'calm polite cooperation' which often happens at training programs. Morgan (1997, p. 131) described a typical training program as:

> We sat in the same seats, like cows always go to the stall. It's a real waste of time. It's a situation where you can say just about anything and no one will refute it. People are very hesitant to speak up, afraid to say too much. They say what everyone else wants to here.

The staff development method adopted by CRA is consistent with Nadler (1998, p. 224) in that '…people need to be in structured training sessions'. Sessions of this nature are more attuned to group learning and development in 'making people aware of the need for change dimensions of the new culture and the specific behaviour expected of them'. Kotter (1996, pp. 620-627) describes leadership as distinct from 'just management' as leadership is all about 'coping with change while management is 'coping with complexity'. The working together modules stressed this concept further in that you manage objects - budgets, infrastructure, equipment - while you lead people (2001, pers. comm., MD2, PM2; Goodge 1998; Macdonald, Burke & Stewart 2006).

6.3.1   Stratified systems theory

Figure 6.5 illustrates graphically the inter-relationship between a representative five stratum CRA business unit model, the working together course and stratified systems theory (adapted from Brady 1992; Carnegie 1992).
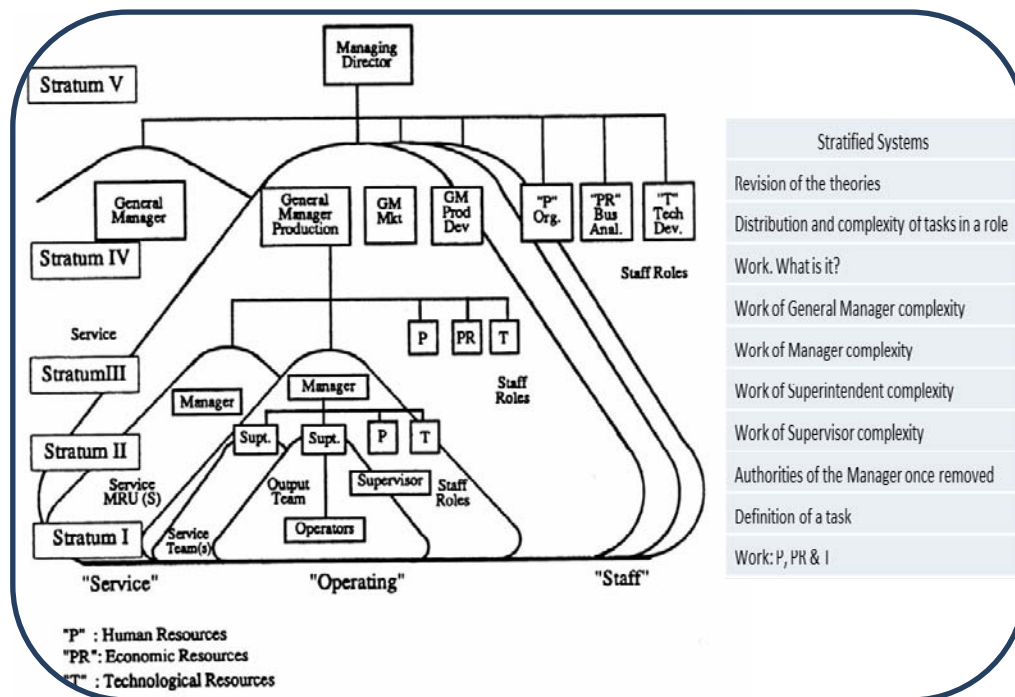
Figure 6.5:   Relationship between SST, working together course and a five stratum business unit model

Stratified systems theory, displays four major sets of factors that are interlocked with each other (Brady 1992; Creelman 1999a, 1999b; Jaques 1989; 1996; Jacobs 1992; Kleiner 2001; Ross 1992a, 1992b; Stamp 2000; Timo 2001). King, Solomon & Cason (1997, p. 5) allude to the four sets of factors as:

1) the capability of the individual, in terms of modes, mature throughout life at a series of higher and higher levels of capability;

2) a series of higher and higher levels of inherent complexity in work which corresponds to the levels of capability (PC) in individuals;

3) a series of higher and higher levels of organisational structure which reflects both levels of work complexity and of individual capability;

4) a wide range of processes, including managerial leadership practices, to be applied with accountability and consistency

The working together module encompassed theory modules constructed around stratified systems theory and their applicability to CRA business units. Jaques proposed that an

organisation must be requisitely structured so that there would be different managerial roles and task complexity at each level with an individual's personal capability correctly aligned (Bova 1992; Kleiner 2001; Lee 2003; Ross 1992a, 1992b; Shepard & Fowke 2001; Solaas 2003; Stamp 2000).

6.3.1.1 Managerial Accountability Hierarchy (MAH)

Stratified systems theory is based on a 'managerial organisational system' with a structure of a 'hierarchical system of managerial layers' (Jaques 1996, p. 2). The MAH is an organisational system in which to employ people and to deploy their talents to carry out work within an organisation (Jaques 1996; King, Solomon & Cason 1997; Lee 2003). A Manager can be described as an individual who is held accountable for the output of subordinates and for sustaining a team capable of producing those outputs (Brady 1992; Jaques 1996; Macdonald, Burke & Stewart 2006; King, Solomon & Cason 1997).

'…a Manager must be able to add value to the work of immediate subordinates' (Jaques 1996, p. 35). Jaques discovered from his research an underlying pattern of stratification in managerial hierarchies. The number of managerial layers required for an organisation is based around role complexity and the number of functions that must be delegated. In CRA the number of layers was seven - refer table 6.3 (Brady 1992; Creelman 1999, 2000; King, Solomon & Cason 1997; Lee 2003; Jaques 1991, 1996; Kleiner 2001). The working together course introduced concepts and discussion based around MAH, layers, stratums and the CRA model.

6.3.1.2 Complexity

Role complexity is the level of difficulty of the required tasks. Jaques noted that the source of difficulty in any problem 'lies in its complexity' and the ability of individuals working at different levels in the organisation (Jaques 1996, p. 64). The complexity in a task lies not in the goal but in what you have to do in order to get there. Complexity may be defined in terms of the number of variables that have to be dealt with in a given time in a situation, the clarity and precision with which they can be identified, and their rate of change. Jaques found the manager's time-span of discretion (TSD) to be the key measurable attribute of role complexity. The usability of the TSD model was validated at CRA (Brady 1992; Lee 2003; Creelman 1999, 2000; Jaques 1996; Kleiner 2001; Macdonald, Burke & Stewart 2006). The working together course introduced concepts and discussion based around role complexity at different stratums in a business unit.

6.3.1.3 Time-span of discretion

Jaques developed a system using a managerial time-span of discretion as a measure of role complexity. Table 6.3 illustrates the connectivity between time span of discretion, stratum, role designation and information process adapted from (Jaques 2002; Ivanov 2006).

Table 6.3: Expanded seven stratum managerial hierarchy definitions

Time span of discretion period	Stratum of role	Designation of operating role	Information processing
1 day to 3 months	stratum i	supervisor	declarative symbolic
3 months to 1 year	stratum ii	superintendent	cumulative symbolic
1 year to 2 years	stratum iii	manager	serial symbolic
2 years to 5 years	stratum iv	general manager	parallel symbolic
5 years to 10 years	stratum v	managing director	declarative conceptual abstract
10 years to 20 years	stratum vi	group executive	cumulative conceptual abstract
20 years to 50 years	stratum vii	chief executive officer	serial conceptual abstract

Time-span of discretion is 'the targeted completion time of the longest task or task sequence in a role' (Brady 1992; Brown 2003; Creelman 1999, 2000; Evan 1963; Fox 1966; Ivanov 2006; Jaques 1998, p. 132; Kleiner 2000; Lee 2003; Mahoney 1997; Schlicht 1980). Jaques hypothesised that 'time-span measurements reveal a universal basic structure of organisational strata for all managerial accountability hierarchies' (Jaques 1996, p. 38).

The progression was detected at each managerial stratum as a progression of complexity from one level to the next higher level. This progression is marked notionally by an increasing time-span (Jaques 1998; Lee 2003). Jaques asserts the research has revealed a series of higher and higher levels of inherent complexity in work at different vertical managerial layers. The levels correspond to the levels of capability in individuals as they progress through their working life. The hypothesis was tested during the OD trials at the CRA Woodlawn mine site and was found to satisfy the criteria of an increasing time span of discretion (Brady 1992; Creelman 1999, 2000; King, Solomon & Cason 1997; Kleiner 2000; Jaques 1996, p. 12; Kleiner 2001; Schlemeneson 1992; Schlicht 1980).

6.3.1.4 Mental processing

Mental processing describes the individual's 'mental working processes by which an individual processes information (Brause 2000; Creelman 1999, 2000; Jaques 1996, p. 18; Stamp 1981) Research undertaken by Jaques discovered individuals will consistently use one of four types of mental processing, each of which has distinctive phrases or processes when solving problems (Jaques 1989, pp. 22-24). The four types of processing were:

Declarative (or, or): I think that so and so could be true because of this, or this, or this other reason,

Cumulative (and, and): I think that so and so is true because of this, and this, and this other reason taken together.

Serial (If then): I think that so and so is true because if we do it, it will lead to X, and that will then lead to Y, and that will then cause Z.

Parallel (If, and only if): I know that if we do X it will lead to Y and then to Z but we have to consider that if we do not do X but rather do A, which will lead to B, and then to C. So we have to consider both possibilities and relate them.

6.3.1.5   Complexity of mental processing

An individual's personal capacity to perform work can be determined by their level of complexity of mental processing. Complexity of mental processing is thought of as the type of mental process together with the level of information complexity that an individual uses when solving problems (King, Solomon & Cason 1997; Kleiner 2000; Jaques 1994, p. 61). The process of identifying an individual's complexity of mental process is a two-part procedure. Firstly, the researcher observes the type of mental process used and secondly, the order of information complexity is noted (Jaques 1989; Macdonald, Burke & Stewart 2006).

6.3.1.6   Method of measuring potential capability

Cason and Jaques observed that when an individual was fully engrossed in discussing a problem that they value, their mental processing could be observed. Jaques' and Cason's hypothesis was that individuals will be effective managerial leaders when their complexity of mental processing matches the role complexity of the task required. That is, the stratum they are working at. The correlation between Cason's and Jaques' assessments of complexity of mental process was high (.95) and significant (Cason & Jaques 1994). In addition, the correlation between the average of the researchers' assessments of the subjects' complexity of mental process and the average of the Managers' and subjects' judgments of the subjects' personal capacity was high (.97) and significant (Cason & Jaques 1994, p. 41; Craddock 2002; King, Solomon & Cason 1997). The working together course introduced discussion based around measuring potential capability in employees and the current career development and potential performance appraisal system current used by CRA.

6.3.2   Meritocracy

Meritocracy is the basis of the staff relationship in a CRA business unit. Young (2001) coined the term in his 1958 publication that was a historical analysis of what had been happening to society for more than a century. The book's egalitarian critique of merit-based society deserved a wider readership, as up until that time status was generally ascribed by birth. Concepts of

meritocracy involve the belief that the achievements people attain throughout their lives are done on the basis of their individual merit (Brannen 2002; Brooks 2002; Chrisomalis 1997; Cooper 2000; Young 2001). The working together course introduced concepts and discussion based around understanding my work, meritocracy and the staff relationship, individual judgement, components of a staff relationship and equality of opportunity (2001, pers. comm., C2, GM3; Macdonald, Burke & Stewart 2006).

Nicholas (1999) subscribes to the hypothesis that the weight of sociological literature embraces meritocracy as an ideal concept and thus uses it as a yardstick against which to measure social change. Chrisomalis (1997) describes meritocracy as the rule of the most qualified while Lawson and Garrod (1996, p. 11) defined their perception of meritocracy within society as:

> A social system in which rewards and occupational positions are allocated justly on the basis of merit rather than ascriptive factors such as class, gender, ethnic grouping, or wealth. It is often claimed that modern industrial societies are more meritocratic than in the past, and that the educational systems in such societies are also meritocratic. However, there is much evidence to demonstrate that ascriptive factors such as those listed above exert a considerable influence on an individual's life chances.

The principle and practice of meritocracy is extensive and in common usage in both the public and private sectors, business, education and the social sciences (Bender & Leone 1995; Brooks 2002; Chrisomalis 1997; Cooper 2000; Delors 2002; Schechtman 2001; Wright 1995). Ghorpade (1999) notes merit pay is viewed by many managers as a remedy for all kinds of organisational and social problems. Nicholas (1999) disagrees with the purity of the methodology debate and suggests that education, marriage patterns and connections through the social pecking order remain a significant element in advancement through life. Kulkarni (1995) concurs and observes chance, not meritocracy, is a major determinate of success.

Macdonald (1985, 1995) is adamant that the practical application of meritocracy within a company is central to fostering a robust staff relationship. That is, any role in a company is filled by the person most capable of doing the work. It is the staff relationship in the context of a meritocracy that allows younger people or new employees 'to be promoted ahead of longer serving colleagues or people in apparently the same role'. Macdonald argues that meritocracy on its own does not produce a staff workforce, as other components need to be added. These are: trust, leadership, well designed people systems, individual feedback on progress, being fairly treated, implementing support systems and removing artificial barriers such as

demarcation and seniority (C2, 2001, pers. comm; Macdonald 1985; Macdonald, Burke & Stewart 2006).

6.3.3 Leadership

Within the generic framework of leadership, there was a range of topics discussed and debated which enabled participants to acquire an understanding of the thinking underpinning current leadership theory and practice within CRA (Ackoff 1999; Argyris 1964; Cappelli 1997; Connell 1997; Guest 1962; Guest Hersey & Blanchard 1977; Heller 1995; Hilmer & Donaldson 1997; Howard 1997; Macdonald 1995; Macdonald, Burke & Stewart 2006; O'Toole 1995: Ross 1992a, 1992b; Senge 1996; Steers Porter & Bigley 1996; Teasdale 2000; Woffenden 1992). The emphasis was on team leadership, mythology, leadership, symbols, fundamental work of a leader, systems and values, values continuum and core values of courage, dignity, honesty, trust fairness and love.

A noteworthy topic discussed was based on the systems in place for leadership change and particularly the concept of systems being divided into two broad categories within the company. The concept and reasoning behind the dual systems resonated with the group and was the centre of discussion long after the course finished (2001, pers. comm., GM1, M1, S2)

> *Systems that differentiate* include all those systems which demonstrate how members are different. The most powerful is pay. However there are many others. At what point do you receive privileges - company cars, larger officer, new grading, and promotion, uniforms, roles, different accountabilities all serve to show some people are different to others.

> *Systems that equalise* included are systems those which demonstrate how people are the same. Implementation varies with the organisation, but may include equal dining facilities, no special car parking arrangements, safety regulations.

The emphasis was directed towards establishing systems that demonstrated in a practical way that employees were treated the same regardless of whether they were employed as staff or award (Macdonald, Burke & Stewart 2006). Examples of this guiding principle included identical work clothing regardless of stratum occupied, equalising annual leave and accrued leisure days, ensuring housing allocation both in size and location was based on family or personal requirement and not the position you held in the company, company work vehicle allocated on work requirements. The concept of ensuring that systems in place 'equalised rather than differentiated' underpinned all human resource and employment systems developed as a result of the OD intervention. Equalisation of employment systems included the recruitment

function for new employees entering the system through recruitment and the first week of induction and assimilation into the workforce (2001, pers. comm., C2, GM1, GM2, MD1).

Macdonald (1995, p. 2) maintained there exists a 'common set of basic values which all human beings share and which is the foundation of social cohesion'. The basic set of values used in training and development courses within the group and as part of the working together courses is noted in Figure 6.6.
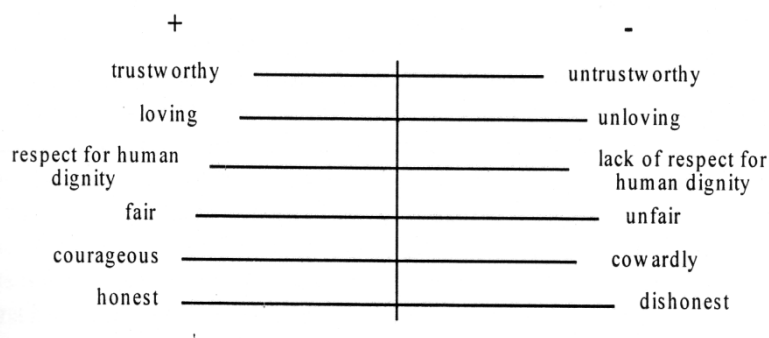
Figure 6.6: Core values model introduced during working together course

The work of Macdonald (1995) in this area of inquiry followed on from initial research undertaken by Jaques around 'trust, freedom, liberty and justice' as the 'foundation of Requisite Organisation' (Jaques 1998, pp. 133-134; Jaques 2002c). Jaques gives trust its meaning and usage within Requisite Organisation as: '…consolidation, help, protection, freedom, friendship, troth and betrothal' (Gillespie & Dober 2003). The Macdonald core values model was widely promulgated throughout the company as the basis for trust analysis within work groups and the leadership team (Macdonald, Burke & Stewart 2006).

Trust remains a cornerstone of the staff system. The concept of 'meritocracy' in a staff relationship is an association 'founded foursquare on trust'. When an individual 'chooses to enter a staff relationship, that person is making a statement of trust' (Macdonald 1995, p. 3; Macdonald, I, Macdonald, R & Stewart 1989, p. 2; Macdonald, Burke & Stewart 2006). Both Priest (2003, p. 7) and Fox (1974, pp. 362 & 251) concur and note 'in excellent workplaces the atmosphere of mutual trust and respect was overwhelming'.

Macdonald established that 'high trust relationships are characterised as one in which the participants share common values' (2001, pers. comm., C2). Fox (1974) has determined that firms located and operating in isolated locations without the option of 'alternative employment' often develop through their employees a 'common set of basic values', which 'align with management culture and values'. The 'dynamics of such high trust relationships' are such that

if 'management develops and implements high trust systems and process' then employees are more likely to respond in a positive manner and 'exhibit characteristics of a high trust' toward management (Fox 1974, p. 115; Macdonald, Burke & Stewart 2006). The core values model was widely discussed and debated during the courses

6.3.4 Cultural awareness

The Comalco operation at Weipa presented cultural challenges for the organisation with challenges comprising the Napranum community, Comalco and Napranum, Indigenous local history, Indigenous history on the cape and models for working together in the future. The term 'culture' was documented as emerging from 'social anthropology during the late nineteenth and early twentieth century studies of 'primitive societies' (Connell 1998; Hampden-Turner 1990; Kotter & Heskett 1992, p. 3). Christian (2004) remarked that Jaques authored a book titled *The Changing Culture of a Factory* (1951) and 'to my knowledge the first use of the word *culture* in the management literature'. The book describes Jaques' long-term involvement with the Glacier Metal Company as the catalyst for utilising the word culture in an industrial setting.

The relationship between systems, symbols and behaviour is shown through a mythological lens (culture) in Figure 6.7 coalescing within an organisational core values continuum (Macdonald, Burke & Stewart 2006).
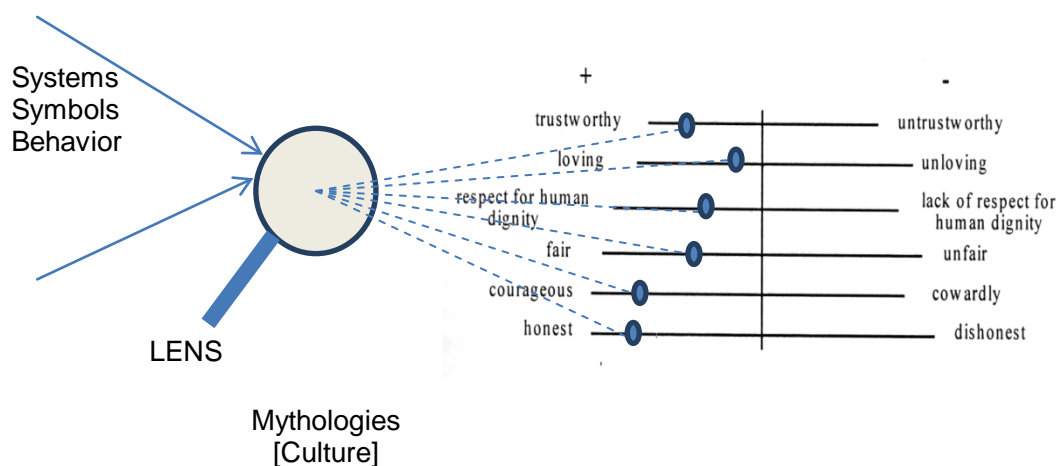
Figure 6.7: Making sense of culture through a mythological lens.

Macdonald, Burke & Stewart (2006, p. 22) developed a definition of culture that was utilised during the working together course '…a culture is a group of people who share mythologies'. Kotter and Heskett (1992, p. 5) describe culture in organisations as the relationship between 'shared values' and 'group behaviour norms'. A portrayal of culture based around shared

values and group behaviour norms is consistent with establishing a common set of basic values for all employees to ascribe to.

Systems, symbols and behaviour are transposed through a cultural lens onto the organisational core values scale. Shared values and culture were interwoven into the relationship between the local indigenous community at Napranum, the adjacent Comalco Weipa mining operation and the broader society in which both groups functioned. That is the world of work. Group behaviour was identified as being more visible and hence easier to alter. Shared values were not as noticeable and therefore more difficult to modify. The core values continuum was acknowledged as a useful on-going model for cultural assimilation across divergent workgroups (2001, pers. comm., C2, MD1; Willcoxson & Millett 2000).

Sessions based around the American Indian and their cultural heritage were introduced to provide linkages between cultural assimilation within the settlement of the western territories of the United States during the 1980s. Cultural integration on the Weipa Peninsula was regarded as an on-going commitment between the Napranum people and the Comalco management group. Employment schemes were initiated to train and develop indigenous youth to feed into traineeships and apprentices. A mine operators' course was developed to encourage employment in the Mine and Fixed Plant MRUs. The strategy was to meld the Comalco and local indigenous culture together to engender shared cultural values (2001, pers. comm., C2, GM3, MD1).

6.3.5   Open-air activities

The working together course was a practical outdoor team based course consisting of six outdoor activities. The number six was a result of each course having 12 participants - six in the red team and six in the blue team. Team based outdoor activities were competitive with the course co-ordinator scoring each leader on their knowledge, skills and ability in achieving the aims and objectives of each activity within the timeframe allocated. The number of activities corresponded to the number of participants, hence each individual rotated through the team leadership role. Activities were randomly allocated by the course coordinator at the commencement of each course (2001, pers. comm., C2, MD1). The timeframe for the activities has been described in Table 6.1.

Activities were characteristic of management 'team bonding' outdoor sessions of the late 1980s. With the exception of activity number six, activities were relatively straight forward and safe. Building a flying fox for activity number six required forward planning and allocation of resources. Additionally, there was an exposure to Workplace Health and Safety aspects as well

as risk management issues to work through. On an earlier course, a general manager had fallen out of the tree when he was attempting to attach a flying fox anchoring point to a branch well above the ground. He sustained a broken arm and bruised ego due in no small part to outdoor activities being filmed and dissected by the participants each night (2001, pers. comm., C2, GM3). The six generic outdoor activities of the Weipa course are described below:

6.3.5.1 Blindfolded rope outline course on the ground

Team members were individually blindfolded and each team leader given two lengths of coiled rope 20 metres in length. The task was to make a plus sign with each of the four arms 10 metres each from the crossover point in the middle. Time for successful completion of the exercise was 20 minutes. Instructions were given verbally to the leaders only. They were then required to lead their blindfolded team members successfully through the exercise (C2, 2001, pers. comm).

6.3.5.2 Constructing a Lego model

The teams were each given a large box of Lego. The instructions were given to the two leaders in writing. By utilising team resources, they were required to build a Lego helicopter within a 40 minute timeframe without a schematic diagram (2001, pers. comm., C2, GM3).

6.3.5.3 Completing an aerial ropes course

The designated team leader was required to lead their team through an aerial ropes course. The design of the course stages required team work to transfer team members through two particular stages. The instructions were given to the two leaders in writing. The exercise was allocated 20 minutes and incorporated a Workplace Health and safety component - both theoretical and practical (2001, pers. comm., C2, GM3).

6.3.5.4 Building a raft and paddling across the lake

The two syndicates were transported to a tailings dam. Each team was required to construct a raft from materials supplied at the site. The completed raft was required to be paddled across the lake (500 meters) to the other side within 90 minutes. The instructions were given to the two leaders in writing. The exercise incorporated a Workplace Health and safety component in addition to a safety boat being positioned on the tailings dam. Thirty per cent of the rafts did not complete the exercise due to sinking at various stages during the exercise. This indicated a failure to complete the exercise and zero points were allocated (2001, pers. comm., C2, GM3).

6.3.5.5   Navigating a major chemical spill process site

The two syndicates were required to navigate a major chemical spill accident in a process plant to gain access to the control room to isolate the spill. The site was set up with 'go and no go areas' and all team members had to go forward together at all times due to the locale behind them being designated a hazardous area as they passed through. The path through the chemical spill was only able to take five people at one time with the sixth individual being injured. The injured team member had to be carried by the rest of the team during the exercise (2001, pers. comm., C2, GM3).

The groups were led to the site of the spill and the instructor shouted 'major chemical spill, get your team to the control room and isolate the problem'. You have 20 minutes to complete this exercise and bring all your team safely into the process control room'. 'Any team members lost signifies your team has failed the exercise' (2001, pers. comm., C2, GM3).

6.3.5.6   Constructing a flying fox across a creek

The two syndicates were transported to a local creek. Each team was required to construct an aerial flying fox across the creek from materials supplied at the site. The flying fox was to transport all team members to the other side of the creek safely and dry. The exercise was allocated 120 minutes and incorporated a Workplace Health and Safety component - both theoretical and practical as well as a risk assessment. Any team members lost (fallen in the water) signifies your team has failed the exercise (2001, pers. comm., C2, GM3).

6.3.5.7   Analysis of the working together course

The working together course was generally viewed by interviewees as a positive experience from results of the questionnaires and staff feedback (2001, pers. comm., C2, GM1, GM2, MD1; Macdonald, Burke & Stewart (2006). The course was a competitive process. Both the theory and practical components were assessed and scored. The practical activities were videotaped and the two versions were played back to the full group for analysis, comments and feedback - normally in the evening after dinner. Analysis of the practical component was carried out in the presence of the applicable MRU manager. The practical component was related back to the theory component of the course by the working together coordinator. The Engineering and Personnel Manager and General Manager Operations were in attendance for the evening sessions. These sessions at times had quite a robust nature to them as the participants debated at length the visual images, body language and verbal interaction coming from the recordings (2001, pers. comm., C2, GM1, GM2, MD1).

The theory component was extensive and recent staff members found the information different to what they had been used to in previous employment settings. The focus was team leadership, mythology, leadership, symbols, and tasks within a business unit, systems and values, values continuum and core values of courage, dignity, honesty, trust, fairness and love. These were debated as to their relevance to everyday work - particularly the concept of stratified systems theory as applied to a CRA operating site (C2, 2001, pers. comm).

Participants understood that, as well as attending a staff development course, they were also being assessed for their leadership and working together style. There was nowhere to hide during these activities as your every movement and comment was seen and heard by all on playback in the evening. This information would have flowed into the potential appraisal system based around a three year timeframe. Video recordings made during each course were wiped clear at the completion of each series of working together courses on individual sites (2001, pers. comm., C2).

6.4   Career Development

CRA staff were nurtured and rotated through diverse business units as part of a structured development program (careers with Rio 2009). The company was not in the habit of importing CEOs or executive staff at stratum six and seven. CRA had a corporate training and development division in Melbourne responsible for staff training and development work for stratum III and above. The working together course was one of a suite of staff and career development activities undertaken on behalf of business units and head office (2001, pers. comm., C2, GEHR; Howes 1990; Karpin 1995; Lynch 2003; McLeod 1996a; Lynch 2003; Nunns 2003; Stamp 1986**).**

Stratum III and above attended four by two week modules conducted over a two year period at various locations within Australia and New Zealand. Management development courses were conducted at locations separate to the operating sites to enable participants to concentrate on the course material away from the pressure and distraction of the work environment (2001, pers. comm., M1, GM2, MD2; Schein (1985, pp. 155-157).

Selected stratum IV and V staff travelled to Europe and the United States to participate in executive leadership development courses. The courses were from two weeks to six months and at times required the staff member to relocate to another role. They were rotated through diverse business units to gain practical awareness and experience outside their primary discipline (2001, pers. comm., CEO1, GEHR1, MD2). Generic staff training and development modules were established for stratum III and IV to be run in-house over a two year rolling

timeframe. The strategy was devised to produce an internal pool of trained staff continually being nurtured and cultivated as they progressed through the company over time. The concept was based around a philosophy of developing and growing your own leadership cadre for the future.

Nadler (1998, p. 287) supports a formalised approach to management development that emphasises 'sustained activities of different kinds over a period of time rather than one off informational sessions'. Table 6.4 outlines the various phases that an individual passes through as they progress from an early stage of life through to retirement.

Table 6.4: Stages of career development

Stage 1: Growth, fantasy, exploration	The period when an occupation is merely thought about and a career has little meaning beyond occupational stereotypes
Stage 2: Education and training	Some occupations require minimal training while others require an elaborate process of learning and development
Stage 3: Entry into the world of work	For most people this is a time of 'reality shock' and major adjustment problems as they discover the realities of work
Stage 4: Basic training and socialisation	The length of this period will vary immensely by occupation or organisation and complexity of work
Stage 5: Gaining membership	At some stage individuals recognise through the kinds of assignments they have been given, that they have passed beyond the trainee stage and have been accepted as full contributors
Stage 6: Gaining of tenure, permanent membership	Somewhere in the first five to ten years of the career, most organisations and occupations make a tenure decision which tells the individual whether he or she can count on a long term future in the organisation
Stage 7: Career crises reassessment	There is mounting evidence that individuals go through some type of difficult self-assessment when they are well into their career
Stage 8: Maintaining momentum, regaining it or levelling off	A decision is made at this stage on how to pursue the remainder of a career
Stage 9: Disengagement	Eventually the person slows down, becomes less involved and begins to prepare for retirement
Stage 10: Retirement	There will come a time when the organisation or occupation no longer provides meaningful work

The ten stages segment a typical career from growth to retirement in staged increments. Within CRA, stage three through to stage seven was targeted by corporate development activities. Stage three was the customary entry point for graduates entering the company. Stage seven was the career point within the company when the majority of staff employees left the company. Stage eight and nine was normally achieved by downsizing and outsourcing activities from time to time as the mining industry managed downturns for their product. Consistent with trends in industry, a minority of employees moved through the company from stage three through to stage 10 (2001, pers. comm., C2, GEHR, GM1, MD1; Howes 1990; *Personal Effectiveness Review* 1994a).

There were a number of key decision points in a career where either the company or the individual made a decision on their potential promotion opportunities. These tended to be non-trade, trade, staff and stratum III (Manager). These points fit in with stage five, six, seven and to a lesser extent eight in Table 6.1 (Jaques 1998, pp. 107-111; Schein 1985, p. 156). A focus on long term development of employees has endured the test of time within the company (Rio Tinto 2009).

Ball (2004, p. 15) noted that developing leadership potential in senior staff at CRA is viewed positively by the stock market. When a managing director at stratum V in charge of the Australian Iron Ore business unit announced his retirement there was minimal reaction:

> Rio Tinto iron ore boss Chris Renwick will leave the company in December in the middle of the company's multi-billion dollar expansion program in the Pilbara region. But analysts were unperturbed yesterday noting the calibre of Rio Tinto's top level Managers. We knew he was going to be retiring, the moving around is in a sense typical Rio to ensure every one at that level has experience in all operational facets, BT Financial Group portfolio Manager Tim Barker said.

6.5   Implications for further research

Themes for additional research were uncovered as a result of enquiry undertaken in this chapter. The premises are categorised as theoretical and practical implications.

6.5.1   Theoretical implications from Chapter Six

The model for Requisite Organisation arising out of early Stratified Systems Theory (SST) by Jaques is now over 50 years old as noted in chapter five and six. Figure 6.8 - the Requisite Organisation model - requires additional research around some of the assumptions to anchor the model in a more multi-cultural global mining environment in 2010.

Organisation Structure
- ➢ Felt-fair Compensation
- ➢ Working Relationships
- ➢ Stratification & Functional Alignment

Organisation Processes
- ➢ Managerial Leadership Practices
- ➢ Talent Pool Development
- ➢ Organisational Values

People at Work
- ❑ Personal Values & Individual Capability

Figure 6.8: Requisite Organisation Model:

A requirement for an update is due. This action will lead to a revision of material utilised in the 'working together' course to ensure the course content remains current and aligned with intent of Jaques (1989) and Macdonald, Burke and Stewart (2006). The *Organisational Structure* segment requires research to validate the elements around stratification and functional alignment. There exists within the global RO community a growing awareness that RO may no longer exhibit the characteristics of an OD model suitable for a multi-cultural global mining entity in the future.

The *people at work* segment, requires work to integrate contemporary knowledge around personal values and individual capability. The segments under review would consist of women in the mining industry, cultural diversity at the interface with Australia's markets in China and the rapidly accelerating preference of the fly-in-fly out (FIFO) organisational model of the mining, oil and gas industry.

6.5.2   Practical implications from Chapter Six

Step seven - consolidating gains - and step eight - anchoring new approaches in the culture - of Kotter (1996) must not acquire a one off status. There is a requirement for on-going 'working together' courses to be utilised on a regular basis after an OD intervention has been completed. The example in chapter six of Kotter's step seven and eight supporting the OD intervention is sound. On the other hand the strategy is flawed as there is a requirement for on-going application of step seven and eight within an organisation - not just a moment in time as part of a change management intervention.

The timeframe for revision based around the RO model in Figure 6.8 and step seven and eight from Kotter in Figure 6.9 remains elusive. Interviewees have tended to play down the requirement for a structured re-visiting of the working together course. Their argument is that the basics are covered in the normal management development modules delivered to stratum III and above. These comments miss the point, as the majority of the business units of what was known as CRA/Comalco is now owned by Rio Tinto. The majority of Rio Tinto employees are engaged under salaried staff employment - not an industrial award.

The staff turnover of employees domiciled in, or on a FIFO rooster to remote locations is increasing. Therefore the case can be made for regular working together courses to be conducted at a time interval commensurate with employee turnover at a particular mine or process site. A rolling three to five year timeframe would be suitable for existing employees while new starters could be introduced to the concepts during the new employee induction course.

6.6 Chapter summary

The chapter content has validated the manner in which CRA aligned the introduction of Requisite Organisation theory and practice with Kotter's organisational change management model (Kotter 1996). Figure 6.9 outlines step seven and eight of Kotter's eight step change model which formed the theoretical base underpinning chapter six. Steps six and seven were the focus of on-going training and development activity during the late 1980s through to the early 1990s.
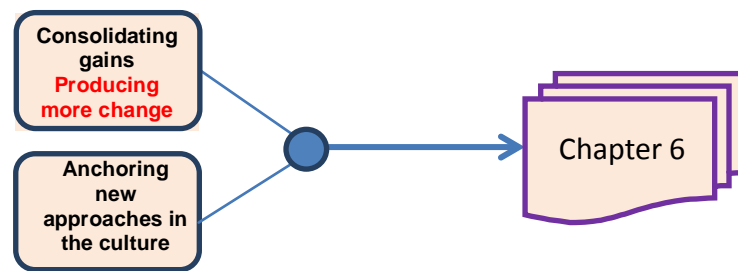
Figure 6.9: Steps seven and eight from Kotter

Topics developed under the umbrella of organisational process and people at work evolved into a formal staff development course - working together. A combined five day theory and practical module delivered on site was considered the ideal vehicle for encompassing the principals of organisational process and people at work. This approach had the effect of consolidating previous gains into the operating business units as outlined in stage seven of Kotter (1996). Step eight, anchoring new approaches in the culture was achieved through activating companywide training and development courses from stratum I through to stratum VII.

This chapter leads into Chapter seven which researches the offer of staff employment to the award workforce across metalliferous mining within CRA in both Australia and New Zealand. The offer of staff employment dovetails with step seven of Kotter (1996) - producing more change.

Chapter Seven

Factors contributing to the offer of salaried staff employment
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Outline of Chapter

7.0   Chapter overview

Provides an overview to the content of the chapter

7.1   Kotter's eight step organisational change model

Identifies step seven as the stage under research

7.2   Original CRA appointed General Manager at Weipa

Introduces Dr Grant Thorne the first non Comalco General Manager appointed to Weipa

7.3   Award restructuring not delivering

Details the disappointing outcomes for management of the award restructuring process

7.4   Communication transparency and effective models

Describes the communication strategies used to convey changes to the operation

7.5   Business unit review

Notes the operational efficiency review undertaken by consultants

7.6   Retrenchments

An historic period in the life of Comalco Weipa ushered in. The first retrenchments

7.7   New Zealand aluminium smelter visit

Senior Comalco staff visit New Zealand to gauge the effectiveness of their change program

7.8   Paid rates versus minimum rates

The key that open the door to offer staff conditions of employment

7.9   Abolition of the closed shop

Details the actions leading up to Comalco Weipa becoming a non-union site

7.10   Implications of research

Identifies issues for further research and analysis arising from this chapter

7.10.1   Theoretical implications

7.10.2   Practical implications

7.11   Chapter summary

Reviews the key points developed within the chapter and introduces Chapter 8 - the offer of salaried staff employment to award employees

7.0   Chapter overview

> …What we learned in the 1980s, and thankfully are continuing with, is to listen to those who
> work for us and then to act on what we have heard. It is the Australian worker who is leading
> the change process. The Australian worker today is better educated, more articulate and worldly
> than his or her counterpart of 20 or more years ago. It is to be expected that many would now
> wish to work differently and indeed are demanding to do so.
>
> (Johnson 1996, p. 1)

Chapter seven researches the company timeframe leading up to the offer of salaried staff
employment to the award workforce at the Comalco Weipa operation in December 1993.
Section 7.0 introduces the chapter overview. Section 7.1 introduces stage seven of Kotter's
eight stage organisational change model. Section 7.2 notes employment of the first non
Comalco General Manager Organisation (GMO) to Weipa. Section 7.3 provides details on the
failure of the award restructuring process. Section 7.4 underscores the fundamental role of
communication in organisational change. Section 7.5 introduces the business unit review
(BUR). Section 7.6 details the retrenchment strategy and fall out. Section 7.7 New Zealand
Aluminium Smelter (NZAS) visit by senior Comalco staff. Section 7.8 notes the central role of
the paid rates versus minimum rates award debate. Section 7.9 details the period leading to the
abolition of the closed shop. 7.10 outlines the implications of research arising from the chapter.
7.11 chapter summary. 7.12 bibliography.

Gunn (2002, pp. 14-16) observes that good companies have good fundamentals. Fundamentals
of a successful business in the marketplace can be characterized by a number of factors. These
include 'clear goals, accessible information, crisp decision making, robust follow-through,
straightforward plans, capable people, aligned rewards, and a strong customer focus'. Chapter
seven describes such a company - CRA - in the lead up to the offer of salaried staff
employment to the bauxite, aluminum and iron ore business units in Australia and New
Zealand. The company had the structure and associated policies and procedures in place that
aligned with the fundamentals that Gunn promulgated (Gunn 2002).

7.1   Katter's eight stage organisational change model

Chapter four articulated the process undertaken at corporate level comprising steps one through
to four of Kotter's change model. Chapter five described a broad based action strategy achieved
by dispatching OD project teams from Head Office to mine and process sites across Australia
and New Zealand. In addition, short term wins were achieved across CRA by dispatching OD
project teams to small operating sites that could be restructured in a short period. Chapter six
introduced the concept of consolidating gains and anchoring new approaches in the culture of
the organisation through leadership development and organisation wide staff training and

development. Chapter seven and eight research the second half of step seven - producing more change- in Kotter's model outlined in Figure 7.1.
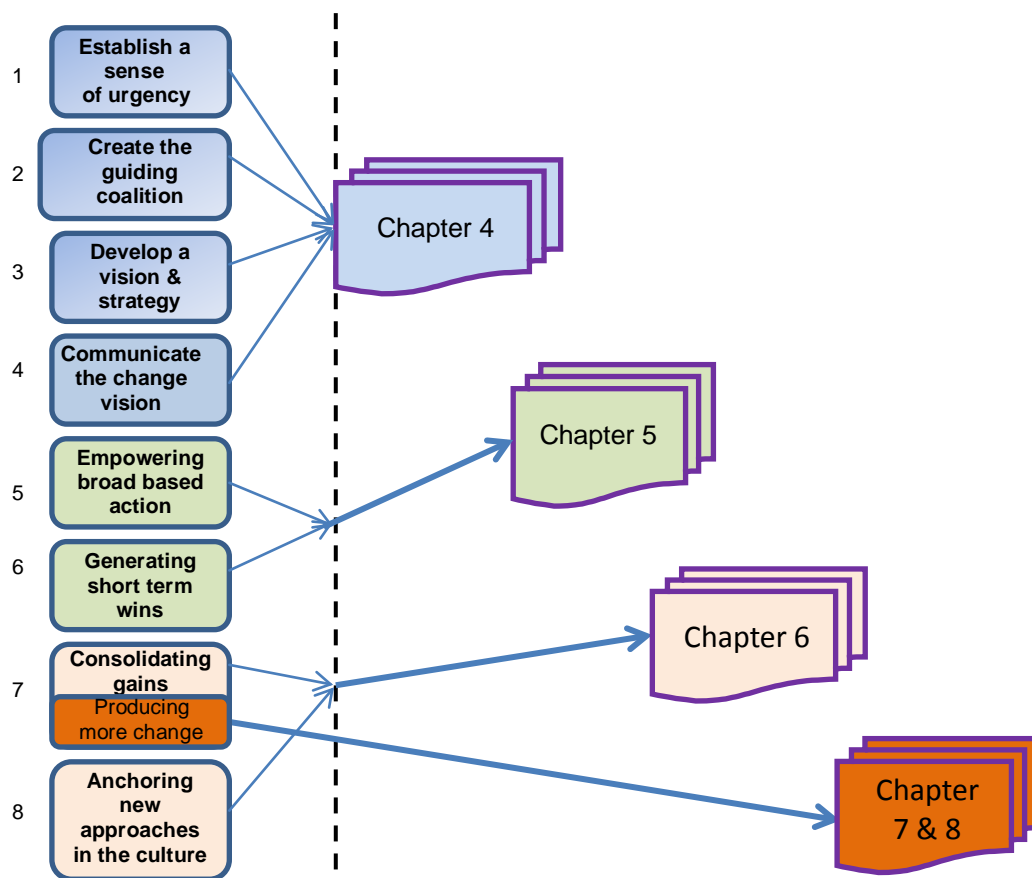
Figure 7.1: Kotter's eight stage organisational change model

The offer of salaried staff employment to award employees across CRA's metalliferous mine and process plants aligns with the second half of step seven (producing more change) in Kotter's model. The open-ended change process at CRA is encompassed in chapter seven and eight with the move to a salaried staff model for employee labour engagement. Chapter seven details the range of issues that precipitated the repositioning of the award workforce from a union based collective system towards a salaried staff employment template. The failure of the award restructuring process, the business unit review, retrenchments, the visit to the New Zealand Aluminium Smelter and legislative in New Zealand and Western Australia are covered are also covered in this chapter (2000, pers. comm., MD2, PM3; Ludeke 1996)

Chapter eight tracks the transformational change process from award based employment to salaried staff employment during Thorne's four year leadership of the mining operation. On-going change within organisations is at the core of step seven in Kotter's model. The focus on the change journey - rather than an end process in itself - ensures the change process is

continuous and mirrors the shifting external market environment over time. Kotter (1996, p. 143) identifies three factors contributing towards on-going change interventions when utilising his change management model:

1. *More change not less:* The guiding coalition uses the credibility afforded by short-term wins to tackle additional and bigger change projects
2. *More help:* Additional people are brought in, promoted and developed to help with change
3. *Leadership from senior management:* Senior people focus on maintaining clarity of shared purpose for the overall effort and keeping urgency levels up

7.2   The 1st CRA General Manager Operations Dr Grant Thorne

The arrival of Thorne in November 1990 at Weipa transformed the 'steady as she goes' strategy that previously had been adopted by internally promoted Comalco GMOs. The company negotiating team in place during the award restructuring project during the previous two years was committed to the company direction on organisation change promulgated at that time. The company direction was that 'incremental rather than transformational' change management was the dominant model during this period. This was the union view, the Weipa Industrial Site Committee view and the management team view (2000, pers. comm., MD2, PM3). The site and business union management direction for change up unto this period was incremental. This was noted by Thorne (Comalco Mineral Products 1990e, p. 3):

> Conclusions that can be drawn from these earlier studies on site point towards incremental change as being the appropriate mechanism to continue increasing the efficiency of the Weipa operation. Our operation should be fine-tuned not overhauled.

The outcomes of the award restructuring process were being implemented across site when Thorne was appointed. There were eight respondents to the Weipa Award and union membership remained a condition of employment. There had never been retrenchments and a job with Comalco Weipa in the late 1980s was seen as 'having security of employment' (2000, pers. comm., M3, S1, S2). Two years later circumstances had changed. Award restructuring was out, union membership was no longer a condition of employment, non-core work had been outsourced and the numbers of unions that were respondent to the Weipa Award had decreased to three.

The intransigence displayed by the union movement throughout the award restructuring process - 1998-90 - informed Thorne's strategy. The newly arrived GMO sought a fresh model for employee engagement with the company (2000, pers. comm., M3, S1, S2). Carnall (1995, p.

121, 2007) considers that to 'understand how organisations are managed and changed one must understand the politics of the organisation'. Furthermore, a 'straightforward approach' is a strategy focusing on the so called 'dominant coalition' which has the most 'influence over decisions'. The concept of 'dominant coalition' was utilised by Thorne in Weipa as the position he held of GMO was the first among equals within the General Manager stratum reporting to the Managing Director of the business unit. The majority of senior management determinations at stratum IV and V regarding employee relations options tended to be in Thorne's favour (Thorne 1995, para. 69).

The 1990s was a decade that ushered in 'massive changes at the workplace' as a result of substantial shifts in the workplace and global market environment. These emerging transformations around 'increased competition coupled with an economic climate' enabling Thorne and other managers like him to make 'far reaching changes' that were unthinkable just a few years previously (ACCIRT 1999, p. 56). The direction adopted for employee relations at Weipa is consistent with the move to salaried staff employment in the CRA Pilbara iron ore mines in Western Australia, Peak Gold in New South Wales and Comalco smelting operations in Queensland, Tasmania and New Zealand during this period (2000, pers. comm., C2, C4, GM2, GM4, GM6, MD1, MD2; Angwin 1998; Ludeke 1996).

Thorne was a staff member who had come up through the Broken Hill template of senior CRA operational staff (Carnegie called them the 'Broken Hill Mafia). He had been domiciled in the Brisbane office of Comalco as part of the senior management team working on Kaolin project work after the CRA Bougainville mine had been forced to shut down operations and evacuate expatriate personnel back to Australia and Port Moresby (Thorne 1995 paragraph 20). Thorne was an experienced GMO and was ideally situated to observe the award restructuring process and resultant outcomes at the Weipa operations from a distance (2000, pers. comm., GM2, IR1).

Staff in Weipa and Brisbane remarked during interviews that award employees in Weipa 'would have, in all probability, not been offered salaried staff employment in 1993' if Thorne had not been in place as the site General Manager (2000, pers. comm., M1, S1, S2, S3, PM1, U1). The reasoning behind this was that a 'newly promoted 'internal' General Manager would not have initiated the bold steps necessary to reshape the Weipa operation back to a core business model, offering of salaried staff conditions to the workforce and outsourcing of non-core activities (2000, pers. comm., GM2, GM3, IR1, MD1, M3, M4, S1).

Comalco staff were part of the 'culture and background on site' that believed the award restructuring process the operation had just concluded should be given the 'opportunity to deliver the negotiated outcomes' over the next couple of years. This was not the view of Thorne who believed that time was not an ally (2000, pers. comm., IR1, M3, S1, U1; Cappelli, Bassi, Karz, Osterman, & Useem, 1997; Flamholtz & Randle 2008; Kanter 1985, 1997, 1999; Kotter 1995, 1996, 1996a).

Kotter and Heskett (1992, p. 92) acknowledge the appointment of an outsider to implement significant organisational change is a correct decision. They establish that 'leadership from one or two people at the top of an organisation seems to be an absolutely essential ingredient when major cultural change occurs'. By any description, the move from a fully unionised operation with multiple unions as respondents to the Weipa award in 1991 to a predominately staff workforce in 1994 is significant change in a short timeframe. The normal company rotation for a GMO on an operational site within the CRA business units was typically four years (Johnson 1996; Ludeke 1996; Lynch 2001, 2002; Palmer 1997; Thorne 1992, 1995, 1997; Walsh 2006, 2007).

The considered opinion of the interviewees was that without Thorne in the leadership role, change towards a staff workforce would not have occurred when it did. This does not imply an offer of salaried staff conditions would not have been contemplated for the award workforce at some stage. The consensus of the interviewees was that after the Pilbara and aluminium smelters had been settled into this new form of award employment, Weipa would have moved over then (2000, pers. comm., GM2, GM3, IR1, MD1, M3, M4, S1; Cappelli, Bassi, Karz, Osterman, & Useem, 1997; Flamholtz & Randle 2008; Kanter 1985, 1997, 1999; Kotter 1995, 1996, 1996a).

Guest, Hersey and Blanchard (1977, pp. 2-3) investigated the question of 'longitudinal study of change' and the essential factor of leadership. They researched the behaviour of the new top manager who 'parachuted in' to carry out a change management intervention. This relates to Thorne and the employee relations challenges faced during his tenure. Hoare, as Human Resource Manager (HRM) was his right hand man. An analysis of the role Hoare filled in the move to staff employment would have Hoare with the title of Industrial Relations Manager rather than HRM. Guest, Hersey and Blanchard (1977, p. 3) found that 'during the entire period under the administration of a new Manager, five points remained relatively unchanged:

1   The incumbents of office in direct line authority above the plant '…remained the same
2   The plant itself operated with substantially the same personnel

3   The formal structure of organisation (number of levels, chain of command, span of control)
      remained unchanged

4   The plant continued to produce the same line of products under the same basic conditions
      of layout and technology

5   The plant was subject to the same annual product changes and to external market conditions
      that other similar plants had to face

Guest, Hersey and Blanchard (1977) research outcomes relating to a new Manager and their

role in the process of change is identical to the experience at Weipa between 1991 and 1994

under Thorne. Senior management at stratum VI and V - General Manager and Managing

Director level - located at the Brisbane headquarters of Comalco remained unaltered as did the

majority of the management team at stratum III in Weipa. The change focus on a day-to-day

basis was borne by the Superintendent group as the first line of management at stratum II.

Figure 7.2 shows the relationship between stratums at the Weipa operating site and Brisbane

head office (Brady 1992, pp. 45-46).
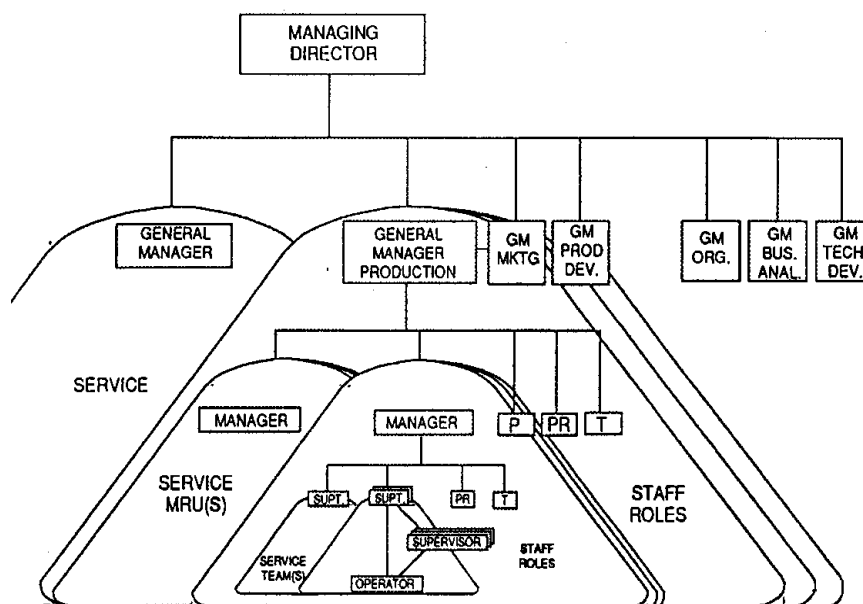
Figure 7.2: CRA Business unit organisational model 1991

Thorne's charter when appointed to Weipa by the Managing Director of Comalco Minerals and

Alumina in Brisbane was twofold: firstly, to 'increase the productivity of the operation' and

secondly 'move the company back to its core activities by implementing a withdrawal from the

traditionally intrusive role of the company' (Thorne 1995 para 30). The 'intrusive role' of the

company was based around activities external to a normal work environment. This consisted of the comprehensive involvement in the running and operation of a company township and associated infrastructure. To all intents and purposes, Comalco at Weipa carried out a typical local government function as well as operating the largest bauxite mine in the world.

Hoare (1995, p. 2) described the moving away from 'non-core' activities in relation to the township as '...town normalisation in the Weipa township'. The term 'town normalisation' remains in common usage. A straightforward description is 'the separation of work and out of work activities that is found in the majority of Australian communities'. That is, the residential suburb where you reside is run by a democratically elected local council, not by the company or business you are employed with (2000, pers. comm., GM2, GM3, IR1, MD1, M3, M4).

Thorne (1995 para 30) observed that '...people who are comfortable with the institutionalised lifestyle in a company town for years on end are unlikely to be capable or confident to use discretion at work'. Thorne was prepared to draw a line in the sand and back his judgement on the significant and far reaching changes to the operation that were required from a township perspective and in relation to the bauxite and kaolin operation. A theme that evolved throughout the interview process was that the award restructuring process preceding Thorne's arrival into Weipa had an enormous impact on his thinking when he arrived on site.

The failure of the award restructure process was seen as a catalyst for the hard line approach to not just industrial relations, but to all facets of operational and township issues adopted during his four year tenure. 'Through 1991 and early 1992, I came to the view that the job redesign process and the award restructuring exercise could not deliver sustainable value to the company. The wage increases could be written off to experience, we should honour our actual commitments to the grading structure, but no more' (Ludeke 1996, p. 75; Thorne 1995 para 26).

Australian researchers have identified a timeframe for the move to salaried staff employment within the CRA/Comalco group of companies as originating around 1979 and involving predominantly Carnegie and Jaques as the driving force (Hawke 1995, 1997; Hearn Mackinnon 1997a, 1997b, 1999, 2002, 2003; Maitland 1998; Timo 1997, 1998, 2001). This timeline is correct in a general sense only, in that Carnegie and Jaques did commence the OD intervention around this period. The OD structural work carried out over the preceding decade was based around structure and did not involve the award workforce - only staff. To use this timeframe to justify the contention that the move to staff employment began in 1979 and is based around an

'anti-union' or 'de-unionisation model' called Requisite Organisation fails the common sense test.

Johnson (1996, p. 3) presented a seminal paper at the annual conference of the Australian Human Resources Institute titled 'The road to staff employment and beyond'. Reflecting over this period Johnson noted 'clearly this move to staff was not an objective when we started the change process some seventeen years ago. That it was an outcome is with hindsight, hardly surprising'. The thrust of this conference paper by the incumbent Group Executive Human Resources is confirmed by Carnegie, Jaques and Brady to be the correct version of events that were to eventually unfold (2000, pers. comm., C1, CEO1, GEHR1).

A thorough analysis of company, union and personal records from this period, combined with an extensive interviewing process carried out in Australia, the United Kingdom and the United States, supports the contention that the initial work on structure and organisational development originated in 1979. Furthermore, at the company this direction was set in place by the CEO at the time - Carnegie. Johnson (1996, p. 3) noted in the paper on how salaried staff conditions of employment came about is reinforced by interviews, recollections combined with personal files and correspondence from that period (2001, pers. comm., AIRC1, AP1, C1, C2, C4, C6, CEO1, CEO4, CEO5, GM1, GM2,GM4, ROII3, S1, S2; Gorman 1996; Grimmond 1991, 1993, 1994; Ludeke 1996; Macdonald 1987, 1992, 1995; Palmer 1997; Stewart 1996; Thorne 1997; Walsh 2001, 2002).

Section 7.2 highlighted the implication of parachuting in an experienced CRA General Manager Operations rather than promote an internal Comalco appointee to run the operation. An external GMO from outside the business unit can appraise the productivity of an operation or process through an objective and business focused lens. Adopting this approach enabled Thorne to disregard the shackles of previous management decisions undertaken by the business unit site management group. Section 7.3 continues with the same theme by researching the outcomes of award restructuring - both process and outcomes that influenced and informed Thorne's decision making. Coming to an understanding that the Award Restructuring Process was flawed allowed Thorne to draw a line under the process and move on with changes to make the operation more productive and efficient.

7.3   Award restructuring not delivering

Through 1990 as a member of the CMA senior management team based in Brisbane, I had been aware of the industrial disputation which was surrounding attempts to agree and implement an Award Restructuring process at Weipa. …I was sceptical that the approach being taken was likely

to deliver much benefit to the company and my actual experience in the first eighteen months of my appointment at Weipa confirmed my fears.

(Thorne 1995 para 23)

Thorne's view of the process and outcomes was 'more of the same with little benefit for the company' (2001, pers. comm., MD2). Hoare (1995 para. 6-7) was also 'sceptical of real outcomes' rather than just 'processes'. Hoare described the process as 'acrimonious and complicated by the actions of the FEDFA' and meant that 'little value had been captured from the award restructuring exercise' with changes that proved 'more illusory than real'. Thorne (1995 para 25) outlined his misgivings as:

1) The plethora of committees and meetings sapped the resources of management. Insistence on complete compliance with the defined process guaranteed little change was achieved. Superintendents were constantly being drawn from demonstrating leadership in the activities that could make a difference, to the trivial. Employees were also being drawn from the real purpose of our business. A new class of significant non-value adding overhead had emerged.

2) Tradespersons had no real incentive to participate. They rose through the grading structure on the basis of approved training hours, with a guarantee of grade 7 and by appointment beyond this level up to grade 12.

3) The non-trades group was effectively written out of the script. Few roles existed at grade 5, a relatively small number at grade 4, and most were at grade 3. The grading structure as defined for non-trades personnel offered little opportunity for advancement and therefore little prospect for a real increase in earnings. This was of course unless we used 'smoke and mirrors' to make the work look more complex that it really was.

As a consequence of the comments by Thorne (1995 para 25), award restructuring as a process in Weipa was irretrievably 'abandoned' with the replacement of the incumbent Personnel Manager in May 1991 (PM2, 2001, pers. comm). The other three members of the restructuring group were reassigned to operational roles in Bauxite. Thorne noted: The present incumbent 'was not a Human Resources specialist but had invested much personal effort into the award restructuring exercise and therefore it would be unfair to expect him to embrace enthusiastically a complete shift in emphases' (Thorne 1995 para 43).

He was transferred to 'another senior role within the CRA group' (Dampier Salt in Western Australia). The site HR role was taken over by Mr Hoare, a human resources and industrial relations specialist from Broken Hill, Bougainville Copper and more recently Southern Aluminium Limited in Tasmania. Comalco had recently commissioned a wheel plant alongside the Bell Bay Smelter in Tasmania with a single union coverage negotiated at the time (Thorne

1995 para 44). Over time the majority of the workforce began to accept that Comalco was back in the business of 'managing its operations' at Weipa (2001, pers. comm., MD2, PM2).

Thorne's change management strategies during the period of his tenure at Weipa as GMO aligns with the research findings of Cappelli, Bassi, Katz, Knoke, Osterman and Useem (1997, p. 15). They commented that pressures for enterprises to change 'began in the 1980s and accelerated in the 1990s'. These changes were the result of pressures to the way organisations operated, external markets, as well as employment policies and procedures (ACIRRT 1999, pp. 1, 10-11; Kotter 1996). During this period there was 'increased competitiveness' in a global sense, 'changing world markets' for goods, financial restructuring, investor pressure, new management techniques, MIS systems, TQM, and a movement to return to core competencies within the workplace (Cappelli, Bassi, Katz, Knoke, Osterman & Useem 1997, pp. 27-42).

Kanter, Stein and Jick (1992, pp. 375-378) consider that change processes within organisations are 'best modelled as a three stage process' with each stage a discrete entity that must be worked through prior to moving to the next stage. The themes emerging consisted of:

Stage 1: The company must be awakened to a new reality and must disengage from the past, recognising that the old ways of doing things is no longer acceptable

Stage 2: The organisation creates and embraces a view of the future, uniting behind the steps necessary to achieve that vision

Stage 3: As new attitudes, practices and policies are put in place to change the corporation these must be "refrozen" (as Lewin put it) or solidified

By removing Cloake, the incumbent Personnel Manager and owner of the award restructuring process, Thorne was sending a strong message to the organisation that as a company we must 'disengage from the past' and move forward to 'embrace the future'. Similarly, the Business Unit Review carried out by McKinsey' at the instigation of Thorne, sent a strong and clear message to the organisation that Comalco was revisiting all aspects of its Weipa operation - including the award restructure process. These actions culminated in the removal of the closed shop arrangement that had been in place since the inception of bauxite mining in regards to the union movement and award employment on site (Kanter, Stein & Jick 1992, p. 375; Kotter 1996).

Section 7.3 identifies an award restructuring process fundamentally flawed in Thorne's view. The process was 'backwards looking in both outcomes and process.' The site required a vision for the future based around business unit outcomes rather than an industrial relations manifesto

from the past (2001, pers. comm., MD2, PM2). Section 7.4 identifies the communication model between management and the workforce as a priority for the management team. The site GMO has the ownership and delivery responsibility for content, process and timeliness of the information disseminated.

7.4   Communication transparency

Comalco had a history of trying to increase the effectiveness of communications with its workforce which over time had not been overly successful. Craig and Hussey (1982, pp. 73-75) refer to a Comalco employee communication survey from 1979 highlighting 'Managers and Supervisors as poor communicators'. The survey results indicated that the 'notice board is the preferred method' of communicating information on site. When only the 'most important scores are analysed, the order of preference become grapevine (21%), manager (17%) and plant paper (16%). Twelve years later in Weipa the grapevine and the manager were still an important source of information. Communication channels in Weipa were both formal and informal with an inherent transparency factor due to the closed nature of a company town and the majority of the residents being employees of Comalco (2001, pers. comm., TM1, GM2).

Remote settlement based mining communities such as Weipa are becoming the exception. Increasingly mining companies are taking a commercial decision to operate a fly-in, fly-out arrangement (FIFO) rather than build and maintain the infrastructure required for a normal township. Ellem (2002, 2003a, 2003b) examined issues similar to those found in Weipa that are centred around 'place, space, human geography and communication channels' in mining communities in the Pilbara region of Western Australia. Although located on the opposite side of the continent, enquiry of this nature is an important addition to scholarship and enables researchers to be aware of the human, family and community related issues of residing fulltime in remote company towns (Chanticleer 2004, p.60; Gorman 1996; Matthews 2004, p. 43).

Similarities between townships located at Weipa and in the Pilbara region are multi-national companies, head office in Melbourne, Brisbane or Perth. Commonality of staff employment or individual contracts, 12 hour shift rosters, downsizing and outsourcing is prevalent, township numbers decreasing and local government provided services are being downsized or removed completely. Services such as schooling, medical, employment opportunities for school leavers and access to post-secondary school education within company towns are severely limited. In Weipa you can't give birth in the town or be buried there. In the majority of the Pilbara iron ore towns you have to travel to the coast or Perth for child birth (2001, pers. comm., TM1, GM1, GM2, MD1; Chanticleer 2004, p. 60; Matthews 2004, p. 43).

The hypothesis of 'place, space, human geography and communication channels' in mining towns interlocks with the reality of 'the company' being all pervasive at work and home. This is due to the geographically isolated location of the communities and the reality of living and working in a company owned and managed town (2001, pers. comm., MD2, PM2). Communication channels in Weipa during the period under research were both multi-faceted and exhibiting characteristics of a duopoly between the company and the on-site union delegates. Union delegates elected by the union membership on site were seen as 'opinion leaders' by the workforce. Union officials can become an influential link in the communication process within remote mining communities, particularly to the award workforce an as the interface between the company and its employees (2001, pers. comm., MD2, PM2; Kotter 1996; Timm 1986, p. 112).

The duopoly on information transfer evolved over time because the principal sources of information about the company and township were initiated from Comalco and the union movement (2001, pers. comm., IR1, S2, U1). Weipa did not have a local newspaper and relied on the southern papers freighted in on the afternoon plane from Cairns. There was a small local news/information publication, the Bauxite Bulletin which was published each Friday afternoon. This publication was filled with local community and sporting information and was intentionally not the 'voice of Comalco', but focused on the community (2001, pers. comm., M4, T1). The two communication sources were formalised within the community and had their own newsletters. These consisted of Managers' meetings, the Weipa industrial site committee newsletter, union meetings, and regular formalised meetings between the company and union. It was incumbent upon both parties to ensure the information flow was both timely and accurate (2001, pers. comm., IR1, S2, U1).

When utilising communication channels, it is incumbent upon the initiator to understand the effect that incorrect or poorly chosen words could have on the recipients. Hersey and Blanchard (1988, p. 308) note that 'words can insult, injure or exalt their intended recipients. They can lead to false hopes or disillusion. They can evoke pride, loyalty, action or silence'. Craig and Hussey (1982, p. 149) assert that ensuring a manager is 'well trained and briefed' in relation to the material being imparted is essential for effective outcomes to the targeted audience. Having the ability to speak candidly with the workforce and answer any questions at a workshop or toolbox meeting, is the stamp of leadership. With few exceptions, this was the case up to the award restructuring process in the late 1980s.

When Thorne became site GMO he introduced systemic change to the information exchange process between management and the workforce. A new system was enacted around a weekly

and quarterly basis for a formal written (weekly) and verbal (quarterly) consultation. Thorne (1995 para 42) saw these changes as essential to establish a firm basis on which to better communicate personally and accurately with the workforce. The weekly and quarterly workforce briefings were described as:

1) The minutes of the weekly managers' meeting being compiled and circulated throughout the operation. They were the trigger for a cascaded system of face to face communication through the organisation.

2) A General Manager's quarterly briefing for the Comalco workforce and the community when any questions of concern could be raised directly

The method of communicating with the workforce instigated by Thorne resonates with Graetz, Rimmer, Lawrence and Smith (2002). Their findings establish that 'senior management is fundamental to the success of any transformational change' and communication by senior management is a powerful medium for the company to get its message across to the workforce. Verifying 'communication is about informing the workforce' of what is occurring by 'providing a platform for the distillation of meaningful information both ways' (Graetz, Rimmer, Lawrence & Smith 2002, pp. 217-218).

The 'ability of a leader to influence from both personal and positional power' is increased by 'establishing rapport'. An integral duty of building a relationship with a work group is 'having the ability to communicate effectively with the group in a manner that allows them to feel comfortable' (Hersey & Blanchard 1988, p. 310). Thorne adopted this inclusive model with the General Manager's quarterly briefings held in a neutral location in the town square away from a Comalco work environment. All employees and residents of the township - regardless if they worked for the company or not - were invited to listen and ask questions on any issues relating to the operation or Weipa in general. Establishing a regular meeting timeframe was a powerful signal that the Comalco leadership on site was instigating a two way dialog with the residents of the township, not just company employees.

In a political setting these meetings are often describes as a town hall meeting. The term is American in origin, with the Australian equivalent in a work environment being a tool box or community meeting (a town hall meeting 2010):

A town hall meeting is an informal public meeting. Everybody in a community is invited to attend, voice their opinions, and hear the responses from public figures and elected officials about shared subjects of interest

Multi-faceted communication channels are to be expected in large organisations. Table 7.1 describes the various informal and grapevine communication mediums and networks that existed in Weipa at the time (2001, pers. comm., IR1, S2, U1; Carnall 1995, p. 168; Hattersley & McJannet 2003, pp. 108-109; Timm 1986, p. 112).

Table 7.1: Multi-faceted communication channels in Weipa

Communication Medium	Description
Golf Club	Generally perceived as where 'the staffies go'
Bowls Club	Generally perceived as where 'the workers go'
Dongas	In excess of 450 people lived in the fully serviced single person quarters known as 'the dongas'. Communication via employees in the dongas was always active
Tree of knowledge	Consisted of a very large old mango tree at the mess end of the dongas, frequented each afternoon underneath its leafy canopy by an exclusive group of the long term residents of the camp. Between them, this group (max 20) knew what had happened, what was happening, and what might happen on site
Shift work	Shift work was an integral part of the operation. Employees working shift together tended to also socialise together and at times were similar to an extended family relationship
Living together	Numerous households had members who were both on the staff and award workforce. Therefore information that was left unsaid at work in a formal sense would be openly discussed at home. Unlike a normal household, Weipa people lived together and worked in the majority of cases for the same employer - Comalco.
Grapevine	Similar to the grapevine in any organisation. A lot of rumour's and innuendo but quite informative

The table was constructed from extended interviews around communicating the direction the company was going in the future in downsizing, outsourcing and moving towards a salaried staff workforce (2001, pers. comm., IR1, S2, U, P1, GM1, GM2, MD2). At the Weipa operation a strategy that was employed for releasing significant written news via the notice boards around site was for distribution to occur on a Friday afternoon. This allowed the distillation of the information and the often resulting debate to occur over the weekend via the various 'informal channels'. Although most small communities have multiple sources of communication the channels described in Table 7.1 were indicative of this period on the mine site. In 2011, primary communication channels now incorporate technology such as: sms, Facebook and twitter.

Jackson (2004, pp. 1-4) maintains that 'effective communication is not a one way or even a two way street - it is interactive and dynamic. Interactive communication systems, which foster downward, upward and lateral communication, deliver information, solicit feedback, demonstrate management responsiveness, and encourage involvement'. A variety of

communication systems and channels are needed to address differing learning styles and access issues. These systems and channels consisted of:

1)   Identifying employee communication needs
2)   Facilitating downward, upward and lateral communication
3)   Engaging managers as communicators
4)   Promoting interactive communication
5)   Evaluating communication effectiveness
6)   Tracking employee reaction and morale.

Thorne utilised a range of communication strategies that were consistent with Jackson (2004, pp. 1-4). Items 1-4 were on-going and refined on a regular basis - particularly item 3, engaging managers as communicators. Both stratum II (superintendent) and Stratum III (manager) within the business unit were actively involved relaying and clarifying messages delivered by the GMO and the workforce in both directions. Item 5 - 6 were utilised on a longer term basis via surveys to measure the effectiveness of the communication process over time (2001, pers. comm., GM2, IR1, S2, U1).

There exists a variety of communication channels available to large organisations, the public sector, the private sector and society in general (2001, pers. comm., S1, S2). Hattersley & McJannet (2003, P. 108). The channels highlighted in Table 7.1 focus on a remote mining site with the township as well as the mine being company owned and located on a dedicated mining site - not freehold land. These networks were the principal ones utilised within the town and mine. The concept of a communication grapevine was not limited to the award workforce as staff also utilised their own informal communication grapevine. Hattersley and McJannet (2003, P. 108) note managers ignore 'word of mouth or the grapevine at their peril' and the successful manager will always be aware of 'what is on the grapevine' and 'how to make it work for you'. This is especially relevant in communities where employees live and work together in a company town.

Within the informal communication groupings were the opinion makers and leaders who had the ability to influence either positive or negative perceptions on where the company or union movement was heading (2001, pers. comm., P1, U1). Opinion leaders were particularly active when the offer of salaried staff employment to the award workforce was formalised in writing to all employees (Timm 1986, p. 112). In practice good industrial relations 'does routinely involve a great deal of consultation' and in practice 'this is not always the case' at a workplace.

Multiple components of free speech, however informal, can only assist in the crystallisation of views and opinions in line with Campbell and Macklin (2003, p. 8).

A typical example that utilised the range of communication mediums was the memorandum from the GMO stating that compulsory unionism was no longer a condition of employment on the Weipa site. This issue had been 'brewing for a number of weeks and the workforce was waiting for a response and company direction from the GMO' (2001, pers. comm., MD2, P1, PM3). Releasing the memo on a Friday ensured that all the heat and angst was dissipated over the weekend at sporting venues, the golf and bowls club, during fishing and camping trips and at the shopping centre.

Outside the formalised system of communication there existed a plethora of informal employee interaction channels in place that ensured vigorous debate about what was occurring on site, and how it would affect 'my work group or myself' (2001, pers. comm., A1, MT1, S3, U1, U2). These channels co-exist in normal communities external to Weipa with the possible exception of the dongas. However, the importance of channels of this nature is the significance of information flows that occur. As an example, these communication mediums ensured that when salaried staff conditions were formally offered to the workforce by letter in late 1993 there were no surprises, as the information contained in the letters - with the exception of the exact dollar amount - was already general knowledge across the site.

Section 7.4 outlined the communication channels utilised within the business unit for the period under research in this chapter. The channels were multi-faceted and bidirectional. Section 7.5 investigates the business unit review which was instigated to re-position the business unit activities around a core mining process only and outsource those operations of a peripheral nature to the future direction of the operation.

7.5   Business Unit Review (BUR)

The concept of core and non-core work had been discussed in a general sense only during award restructuring. However no specifics and no action plan were put in place to ascertain the relationship between core and non-core activities at the mine site. The Comalco Weipa operation was predominantly run by Comalco with minimal work carried out by contractors external to the company. The majority of tasks and jobs were carried out 'in house' (2001, pers. comm., M4, M5, PM2, S1, S2, U1).

Within months of Thorne taking over the role of GMO the business unit embarked on a comprehensive BUR undertaken by McKinsey and Co to determine an appropriate

restructuring mechanism based around a core business methodology (2001, pers. comm., MD2; Thorne 1995 para 31). Thorne was managing the day-to-day operations while at the same time strategically positioning the operation to drive operating costs down (Cappelli, Bassi, Katz, Knoke, Osterman & Useem 1997, p. 43; Harvard Business Review 1991, pp. 271-273; Jaques 1996, p. 41; Kanter 1997, p. 3). Table 7.2 outlines the 'extent of downsizing' in their study during a compatible period to the CRA transformational change in the 1990s (Cappelli, Bassi, Katz, Knoke, Osterman & Useem 1997, p. 67 table 2.1).

Table 7.2: Nature, size and breadth of downsizing between 1990 and 1995

Percentage of firms during the past five years that:	%
A shut down some operations	64.3
B sold any business units	51.0
C imposed a hiring freeze	57.1
D laid off a substantial number of workers	47.3
E allowed workers to shift to part time schedules	10.1
F offered early retirement incentives	40.4
G reduced management staff significantly	38.4
H combined operating units	62.3

Thorne (1995 para 31-32) noted in relation to the downsizing exercise on site, that:

> …a large number of non-core activities were identified for discontinuation, relocation or placement with contractors. Approximately 155 employees - around twelve per cent of the operation - were no longer required to carry out work they had previously been responsible for. Some tasks were just not relevant anymore in the eyes of the company - the bus service in Weipa being a case in point. However, over time the majority of the tasks were outsourced to contractors predominantly within the Weipa area.

Cappelli, Bassi, Katz, Knoke, Osterman and Useem (1997, pp. 66-68) clarify downsizing with the statement 'Downsizing is not something that happens to organisations, but is something that organisations undertake purposely'. They further investigate the 'nature size and breadth of downsizing' similar to that period in time Thorne was tenured in Weipa. Table 7.3 delineates the breadth of corporate downsizing in Australia between 1990 and 1995. The Australian trend correlates with the period under research in this chapter (ACCIRT 1999, pp. 147-149, table 6.3).

Table 7.3: Jobs lost due to downsizing in Australian companies between 1990 and 1995

Company	Jobs Lost (Numbers)	As % of employees
Ford	7,160	50
Westpac	5,810	17
Nth Broken Hill	4,729	68
Coca-Cola Amatil	3,787	55
Metro meat	3,017	60
Australian National Industries	2,855	38
Pasminco	2,687	43
Fosseys	2,408	38
BHP (slab and plate products)	2,355	24
TNT	2,334	20
CRA	2,556	15
BHP (rod and bar products)	2,189	38
Amcor trading	2,175	95
Angliss group	2,104	82
Shell	1,987	40
BP	1,761	44
BHP (Utah)	1,648	83
BHP (long products division)	1,562	40
Hawker De Havilland	1,443	56
David Syme	1,289	46

Table 7.3 illustrates the downsizing project instigated by Thorne in Weipa was consistent and comparable to the direction taken in other large organisations around the same period. Expressions of interest were called for site based activities that were deemed to be 'non-core' from the BUR project. The list included some maintenance activities, small capital works, parks and gardens, building services, light equipment workshop and site phone system and office equipment maintenance. Various employees availed themselves of the company offer to bid for services that were being outsourced. Previous employees had now become small business owners providing a similar service to their previous employment back to Comalco.

Kanter, Stein and Jick (1992, pp. 324-333) use as an example, a company that 'believes once the non-essential work has been eliminated, they can rebuild the business using only those people necessary'. In the long run this could 'result in a workforce reduction of 11%' (Kanter, Stein and Jick 1992, p. 331). This number is consistent with the twelve per cent reduction that was recommended by the BUR. Since the early 1980s organisations have continued to focus on their core business via downsizing or retrenching to make their enterprise more competitive to react to market forces.

This period of significant change ushered in the concept of 'town normalisation' (Thorne 1995 para 30). The term town normalisation refers to a township or remote population centre that is operated under a state based local government system. This was not the case in Weipa at the time as the town was located on a mine site owned, operated and run by the company. 'Comalco is the local authority for the Weipa local authority area' and in November 1992 Thorne, on behalf of Comalco, 'first applied for a town commission for Weipa without result' (Weipa Town Commission 1998, p. 4). A further application was made in January 1995. Through to 1997 a number of surveys was carried out to ascertain the level of support from the community for the normalisation of the township. The results were not encouraging and caused Comalco in January 1997 to advise residents that it had decided not to proceed with its application to the State Government to establish a Weipa Town Commission (Weipa Town Commission 1998, p. 4).

A significant employee based consequence of the BUR was the replacement of building maintenance services with contractors. This outcome removed the on-going requirement of union coverage for three site based unions that were respondents to the Weipa Industrial Site Award. The unions were the Builders Workers' Industrial Union of Australia, Operative Painters' and Decorators' Union of Australia and the Plumbers' and the Gasfitters Employees' Union of Australia. Five unions remained on site - two nontrade, two trade and a clerical union (2001, pers. comm., S3, U1, U2).

Section 7.5 outlined the process of the BUR on site and the outcomes that impacted on the employees and the local community. Results of the BUR were noted to be consistent with similar downsizing activities across a range of industries in Australia during the period 1990 - 1995. Section 7.6 researches the impact and reasoning behind the first ever retrenchments carried out at Comalco Weipa.

7.6 Retrenchments

Thorne (1995 para 32-33) attributes the retrenchment process as a direct outcome of the BUR. 'Employee numbers were reduced on site. We carefully considered the means of achieving the reductions but, with the benefit of hindsight, made a poor decision'. What made the Weipa retrenchments unique was that they were all salaried staff or the so called 'white collar workers' without any award employees affected in this way. Award employees were transferred to other roles within the mine and to a lesser extent other Comalco sites. A number of employees choose the redundancy package that was made available on a voluntary basis. The retrenchments stigma resonated around site for years to come (Gorman 1996, p. XI).

Downsizing as a strategy to improve business has been practiced by US companies since the early 1970s. Downsizing acquired a bad name in the late 1980s and 1990s when it became synonymous with massive job cuts in recessionary times (CPD 2001). ACIRRT (1999, pp. 129 & 149) consider that 'job losses from retrenchments and lay-offs have always hit the blue collar workforce more severely' with 'white collar job losses occurring in the banking, insurance and government sectors'. This was not the case at Comalco Weipa.

ACIRRT (1999, p. 132) illustrate the response of management and unions to retrenchments in Australia that has mainly focused on 'a pay-out figure' rather than concentrated on the 'social outcomes' of the action. This illustration is consistent with the actions taken in Weipa by management and the long term ramifications on the workforce that remained; the so called survivors' syndrome. Survivor syndrome refers to 'declining commitment, morale and motivation and high levels of job insecurity experienced by the "survivors" of restructuring', i.e. those workers who remain employed by the restructuring organisation (Dawkins, Littler, Valenzuela & Jensen 2001, p. 2; Hickok 1999; Littler, Bramble & McDonald, 1994; Vinnicombe 1998).

Webber and Campbell (1996, p. 4) move past 'the initial shock and loss of earnings' to focus on the medium to long term consequences and the 'psychological problems'. Complications developing after involuntary retrenchments can consist of 'changes in relationships, loss of self-respect and social isolation'. Gorman (1996, p. xi) notes the outcome of the Weipa retrenchments as 'devastating to the local community' where some of the workers had lived for fifteen years. The human element is often overlooked in the frenzy of pursuing profit and cost cutting with an underestimation of the value of the employee to the business.

Cappelli, Bassi, Katz, Knoke, Osterman and Useem (1997, pp. 82-83) tend to agree when posing the question: 'does downsizing actually lead to improved performance'? They are not certain and state that the 'anecdotal evidence suggests a mixed picture'. Hidden costs to an organisation were identified as being 'low morale and overworked staff, a culture of wariness, high staff turnover and customer service being affected'. The retrenchment choice in 1991 has 'haunted the organisation periodically ever since' (2001, pers. comm., GM6, GM7, GH8, M1, M3, M7, PM2, PM3). The perception that 'the decision has hurt the organisation' is consistent with the findings of Buchanan and Campbell (1992, p. 73). They believe it is 'critically important to avoid damaging morale and productivity' of those employees remaining in employment after a round of retrenchments or redundancies in the workplace. Thorne's 'reflection on this period' as part of his statement to the Australian Industrial Relation Commission in September 1995, is reproduced in full due to the 'historical and ongoing

significance' this decision had on the thought process of the Weipa workforce (Thorne 1995 para 33):

> We selected about 35 salaried staff for retrenchment without seeking expressions of interest for voluntary separation. Some others were arranged transfers to other CRA group companies. For the approximately 120 non-salaried employees who needed to be shed however we sought to identify volunteers and make every effort to move employees between work groups and retrain as necessary to achieve the desired organisation. Most of the unfortunate salaried staff happened to be in the wrong role at the wrong time but some roles were redesigned to allow the release of poor performers so it was easy for many staff to draw the conclusion that senior Managers had badly misjudged the performance of many of those staff retrenched. The organisation was perceived as unfair.

> Another effect was that our preparedness to use voluntary redundancy as a first option with the award workforce was perceived as a fear of the influence of the unions. This perception was wrong, but it is a mythology which continues to lurk today at Weipa and was probably the most significant hurdle to jump for people considering offers of staff employment in late 1993 and early 1994. Notices urging employees to 'remember May 1991' struck a chord with many employees who did remember and who were considering the offer of salaried staff employment early in 1994.

Previous downtowns in the mining industry had been managed by utilising various strategies such as natural attrition and the reallocation of employees to other duties where possible to lower employee numbers, without the need for 'forced redundancies' (2001, pers. comm., MD1, PM2). Whilst interviewing long term employees in relation to the retrenchments of May 1991, the comment was made that 'If the retrenchments had been handled more sensitively - as in voluntary - then there well may have been considerably less than seventy five award employees who did not take up the offer of staff conditions of employment when offered by the company in 1993'. This reasoning was based on voluntary rather than forced redundancies producing a more balanced or neutral influence on an individual's perception of staff employment (2001, pers. comm., GM2, M1, M3, PM2, PM3).

Section 7.6 introduced the concept of retrenchment and downsizing as a change management tool utilised by senior management at Comalco under the broad umbrella of the BUR. Section 7.7 moves off shore to the New Zealand Aluminium Smelter (NZAS) on the south island. The change process allied to step seven of Kotter (1996) is assisted by far reaching changes to the Employment Contracts Act (ECA) (Grimmond 1991).

7.7 New Zealand Aluminium Smelter (NZAS)

Legislative changes in New Zealand allowed the opportunity for employers and employees to enter into alternative employment arrangements from May 15 1991 when the Employment Contracts Act (ECA) came into place in New Zealand. The change in legislation enabled the transformation of the Bluff Smelter to staff employment to commence. The National Government elected in 1990 committed the Government to reintroduce voluntary unionism, reform the law to allow employers and employees to jointly choose their own bargaining arrangements be they workplace, enterprise or industry arrangements. Employees would be free to choose their own bargaining agents, be it union or otherwise, to represent them in industrial negations (Bray & Walsh 1998; Grimmond 1991; Hallett 2000; Henning 1995; Hince & Harbridge 1994; Honeybone 1997; Jones 2000; Ludeke 1996; McAndrew 1993; Macdonald 1995; McGregor & Tremaine 1995; Smith & Mouly 1998; Stewart 1995, 1996).

Senior Business Unit Managers from Australian sites visited NZAS to see the results of the changes. In May 1992, Thorne, Hoare and the General Manager Organisation for CMA in Brisbane visited the NZAS at Invercargill (Ludeke 1996, pp. 23-26). NZAS management had transferred 940 out of 944 of the smelters award employees who were covered by a collective agreement over to a fully staffed workforce in 1991 (Ludeke 1996, p. 23). In the 1992 report to shareholders, Comalco (1992, p. 7) described the NZAS productivity gains with a fully staff workforce after twelve months as:

> The results are satisfying with labour hours per tonne of aluminium produced having been reduced by 31%. The number of pots producing 99.9% pure metal has almost doubled and work time spent on rebuilding cells for the smelting process was cut by 50%.

Thorne (1995 para 73) noted that he thought the 'NZAS approach to convert its workforce to salaried staff was unachievable for Comalco in its Weipa operations' at this time. However Thorne was resolute that 'one key system could be translated, the concept of differential reward based on the assessment of an employee's personal effectiveness at work by his or her Superintendent'. The personnel effectiveness review was already in place within Comalco and was a key component of the salaried staff system of employment in regards to performance review.

Hoare's recollection of the visit was similar to Thorne's although he was more positive in that a 'similar outcome was possible at Weipa', particularly in the kaolin operation if it was going to become a 'world class' supplier of product to the market place (Hoare 1995 para 28-31). This was the only contact that senior staff from Weipa had with NZAS, even though other business

units - in particular Hamersley - transferred staff and award personnel over to NZAS for periods of up to six months to gain a better longitudinal understanding of the changes and the process followed at the shop floor level. Hamersley Iron, in hindsight, was seen to have managed the transition to staff better than Weipa (2001, pers. comm., GM4, M1).

The catalyst that provided the impetus for the change process that occurred at NZAS was the amendment to the legislation in the form of the Employment Contracts Act (ECA) 1991. In itself, this legislation was not the 'cause of the move' but rather 'facilitated the move' (Ludeke 1996, p. 24). Staff learning and development based on the theories surrounding 'personal leadership behaviour and leadership systems design' had commenced in mid 1998 at the smelter (refer chapter six; Ludeke 1996, p. 23). Willcoxson and Millett (2000, p. 92) observed 'cultures are dynamic to the extent that changed circumstances can lead to the incorporation of different patterns of behaviour'. As a consequence of the initial development work on employment systems, leadership development was well advanced when the legislative changes occurred.

7.8   Paid rates versus minimum rates

The decision to offer salaried staff conditions of employment at Comalco Weipa was not waiting for 'legislative changes' to be enacted sometime in the future (2001, pers. comm., MD2, PM2; Ludeke 1996, pp. 25-26). The management team was able to offer the salaried staff conditions of employment under the existing Federal legislative conditions that were in place in 1993. The only legislative impediment to the offer of salaried staff conditions of employment was whether the award covering Weipa was a 'paid rates' or 'minimum rates' award (2001, pers. comm., MD2, PM2). Effectively a 'minimum rates' award allowed variations to the remuneration package of employees to occur while a 'paid rates' award did not. Hence the requirement to ensure that the award system operating in Weipa at the time was a minimum rates one industrially and in practice at the workplace.

A paid rates award refers to the actual standard hours earnings received by employees. In Australia the term denotes the rates that are actually paid to various occupational classifications, in contrast to those that are set down in minimum rates awards (Sutcliffe & Callus 1994). In a minimum rates award the terms and conditions prescribed are the minimum that can lawfully be provided by an employer. Employers may however pay more than the rates specified in the award or exceed the minimum conditions (Sutcliffe & Callus 1994). In 1995 the High Court reiterated their official position on minimum rates awards and employment contracts as referred to in O'Neill (1995/96, p. 1):

> …the High Court in 1995 reaffirmed the legal position held on awards and employment contracts established in the early part of the century (the Harvester judgement in 1907). That is, that awards known as minimum rates awards set minimum standards.

Comalco was seeking to set aside the existing paid single rates award in favour of two minimum rates awards; one for the kaolin operation and one for bauxite operation. This action was fundamental to the offering of salaried staff conditions of employment as 'if the award was deemed to be a paid rates award then the offer to move to staff employment would be in jeopardy' (PM2, 2001, pers. comm). The unions did not oppose the application as going to the commission was a decision that both the company and the union movement had earlier agreed on (2001, pers. comm., M1, MD2, PM2; Ludeke 1996; Hearn Mackinnon 1997, p. 59). In fact 'correspondence from the unions' solicitor states, inter alia' in exhibit C3 (*Comalco Aluminium Limited v The AWU - FIME Amalgamated Union '& anor'* (1994).

> There is no opposition to the "award (or awards)" being described as "minimum rates". This is a description which has apparently been accepted by the parties and the commission for some time.

Hearn Mackinnon (1997, p. 59) believes the position adopted by the union movement 'was a tactical mistake that opened the door to the recognition by the AIRC of individual contracts'. Industrial relations staff within Comalco disagree with this proposition and make the point that over the years the Weipa award had by default 'evolved into a minimum rates award due to all the extras that were incorporated into the award from time to time' (2001, pers. comm., M1, MD2, PM2; *Amalgamated Metal Workers Union v Comalco Aluminium Limited '& anor'* (1990) pp. 122-129, 151-155). The precedent had been set over a number of years and the decision of the commission could only be that the existing award as described in 1994 was, to all intents and purposes, a paid rates award (*Amalgamated Metal Workers Union v Comalco Aluminium Limited '& anor'* (1990) pp. 700-703 & 712-715).

For example, the removal of the bus service in Weipa was proof positive how all parties to the award turned a 'blind eye' in relation to monetary compensation offered by the company over a four year period to recompense employees for the removal of a free bus service to and from work (Thorne 1995 para 41). Connell C was asked by the company 'if the payment would be recognised by the AIRC'. Connell C, replied with words to the effect 'That really isn't necessary. I will just make a note to my files' (Thorne 1995 para 41). Compensation payments to employees for removal of a bus service were legitimate under the umbrella of a minimum

rates award structure but not feasible within the boundaries of a paid rates award (2001, pers. comm., MD2, PM2).

As a footnote to this period in 1998, 'a full bench of the Australian Industrial Relations Commission determined that "paid rates awards" should be converted to "minimum rates awards" forthwith' (Parsons 1998). He said 'this historical decision will in the long run consign paid rates awards to the bulging pages of industrial history' (Parsons 1998).

7.9 Abolition of the closed shop

Of all Thorne's management decisions during the first two years of his tenure, removing the 'closed shop arrangements' sent the clearest signal to site that the old way of managing was finished. The closed shop is an organisation in which persons are required to join a particular union as a precondition to employment and to remain union members for the duration of their employment (Dressler 1997, p. 548). This has now been legislated out however the concept was in place during the timeframe of this study. Refocusing a business unit is consistent with the findings of Kanter, Stein and Jick (1992, p. 378). Their research verified that 'change implementers must make it happen' by managing the 'day-to-day process' of change. This occurred in Weipa as the change was managed, directed and implemented on site - not from the business unit head office in Brisbane. Thorne's four year tenure as GMO in Weipa progressed through the three stages of the change process highlighted by Kanter, Stein and Jick (1992, pp. 375-378):

Stage 1: The company must be awakened to a new reality and must disengage from the past, recognising that the old ways of doing things is no longer acceptable

Stage 2: Next the organisation creates and embraces a view of the future, uniting behind the steps necessary to achieve that vision

Stage 3: Finally, as new attitudes, practices and policies are put in place to change the corporation these must be "refrozen" (as Lewin put it) or solidified

Towards the completion of the two year award restructuring processes, Comalco - in conjunction with the Australian Workers' Union - lodged an application under S118A of the Industrial Relations Act. The lodgement was a submission to remove the influence of the FEDFA from the site and their ability to be a respondent to the Weipa award. Reasons for the removal action being instigated were multifaceted and contained approximately 483 separate points documented by the company and the AWU in a combined submission (2001, pers. comm., PM1, S1, U1).

With a successful outcome in the court case the remaining non-trade respondent to the Weipa award was the Australia Workers' Union which had historically covered non-trade unionists in the metalliferous mining sector *Comalco Aluminium Limited and The Australian Workers Union '& anor'* (1991). On October twenty-five 1991, Munro J. ordered that with effect from the second of December 1991 the FEDFA would no longer have a legal entitlement to represent employees at the Comalco bauxite and kaolin mine in Weipa (2001, pers. comm., PM1, S1, U1; *Comalco Aluminium Limited and The Australian Workers Union '& anor'* 1991).

Transformation and on-going change at CRA in industrial relations was consistent with the findings of Zappala (1991, p. 13). Table 7.4 draws attention to the relative union density across a range of industries at two relevant points in time, 1981 and 1991.

Table 7.4: Percentage of employees in closed shop arrangements

Industry	Wright (1980) %	AWIRS (1991) %
Mining	87	81
Manufacturing	67	66
Elect, gas and water	42	61
Construction	71	64
Wholesale and retail	66	60
Transport and storage	69.5	70
Communication	60	60
Public administration	10	43
Finance	60	39
Community services	66	42
Entertainment	49	51

This research clearly articulates that the mining sector within Australia was the sector with the greatest union penetration in 1981 (87%) and ten years later in 1991 (81%). This union density was well ahead of the next sector manufacturing on 67 per cent. Union participation and associated membership at Weipa was in line with the results from Zappala's research both in numbers of unions and individual membership. Mining was a 'no ticket no start' employment sector during the 1980s (2001, pers. comm., PM1, S1, U1; Zappala 1991).

In early August 1992, the site management team was made aware 'that employees who were members of the FEDFA had decided to refuse to join the AWU' which was the only union authorised to represent non-trade employees in Weipa (2001, pers. comm., MD2, PM3; Hoare 1995 para 34; Thorne 1995 para 50). Individual members of the FEDFA on site refused to become official and paid up members of the 'appropriate union' when, in accordance with Munro J's orders, their de-facto AWU membership ended on twenty-nine June 1992. The rebuff to the outcomes of the court case hearing by disgruntled FEDFA members was to be the

trigger which caused the company's removal of compulsory union membership from the conditions of employment (2001, pers. comm., M2, M3, S1; Hoare 1995 para 34-38; Thorne 1995 para 37).

Tempers were starting to fray in a number of work groups due to non-union employees working alongside union members. The AWU site and State delegates were demanding that the company take action to compel the ex FEDFA members to join the AWU as this union had supported the S118A action in the Commission on behalf of Comalco. Additionally, after a number of years of intense award restructuring negotiations, relations within the 'rank and file' members of the AWU towards the FEDFA were less than cordial (2001, pers. comm., S1, S2, U1).

Removal of a union from the workplace, combined with their ability to represent members, is not without consequences. There is an element of loss in situations where individuals have been part of and proud to belong to a particular union and then they are told that union is no longer a respondent to the award. Site based interviews established that the two unions with a high loyalty factor displayed by members were the FEDFA (non-trade) and the ETU (trade). There was a real 'sense of belonging and an understanding that the union was there when needed' (2001, pers. comm., A1, A3, A4, S1, S2, T1, T2, U1).

Petzall, Timo and Abbott (2000, pp. 136-137) contend that individuals join unions for a variety of reasons including 'instrumental, utilitarian and ideological reasons, as well as being involuntary conscripts'. Apart from the 'practical benefits,' there can also be a 'sense of duty or commitment' to the principle of unionism. The reasons why the company decided to go to the AIRC with a S118A action in all probability had little to do with the rank and file members and their work performance, and more to do with the 'strategic direction and 'managerial ideologies' of Comalco in regards to industrial relations at this particular time. The ACIRRT (1990, p. 54) observe: 'More than ever before, the 1990s have witnessed massive changes and the changes have overwhelmingly been introduced by management without the input from external third parties such as the unions and the AIRC' (Gardner & Palmer 1997, pp. 8-9; Kennoy & Kelly 1996, pp. 117-120; Macdonald, Zeffane & Green 1998; Peetz 1990, 1997; Phillips 1995; Petzall, Timo & Abbott 2000, pp. 75-76; Swain 1985, p. 369).

The AWU remains Queensland's most successful and powerful union with a right wing political base in the Queensland and Federal Labour politics. The Union has in excess of sixty thousand members (Ludwick 2008). The AWU was the largest union on site with its members also being the lowest paid on site as most of their roles were in the newly created classification

structure to come out of award restructuring at level one through to level three. As was the case with metalliferous mines generally in Australia, the principal union in terms of membership on the Weipa site was the Australian Workers' Union (2001, pers. comm., S1, S2, T1, T2, U1).

Although small in membership, the other non-trade union affiliation on site the Federated Engine Drivers' and Fireman' Union (FEDFA), had their members in the higher paid bracket of the classification structure as shown in Table 7.5 (2001, pers. comm., M1) Higher classifications were, Loader, grader driver, ship loader operation and the majority of control room operators. These positions were graded at level four and five.

Table 7.5: Non-trade grading structure level one to five inclusive

Grade 5	100%	Base Trade
Grade 4	95%	
Grade 3	90%	
Grade 2	85%	
Grade 1	80%	

Table, 7.6 displays a 'snapshot' of the workforce in Weipa consisting of approximately 800 award or wage employees by union affiliation (2001, pers. comm., MD2, PM1; Thorne 1995).

Table 7.6: Workforce distribution by union affiliation at Weipa 1991

	AWU	423
	FEDFA	108
	AMWU	132
	ETU	63
Award Workforce	PGEU	8
	OPDU	5
	ASC&J	22
	FCU	30
		791

The AWU has almost four times as many members as the FEDFA. Petzall, Timo and Abbott (2000, pp. 283-284) suggest that 'historically the mining industry has been divided into two groupings with metalliferous (metal ore) dominated by the AWU'. The Australian Workers' Union is Australia's mining union. This Union is the nation's oldest and largest blue-collar trade union representing over 135,000 working men and women and their families No other organisation representing workers in the broader mining industry can claim the same diversity (Ludwick 2008).

The initial response to this action from the disenfranchised FEDFA members by the company was to 'stand down on full pay' the eight individuals who were the most vocal in not joining the AWU. This action was standard procedure in Weipa when a major dispute was developing as this tended to give all parties breathing space while at the same time not financially disadvantaging those who were seen to be directly involved. Standing down on full pay translated into 'go and sit in the crib room until we sort this out' (2001, pers. comm., S1, S7, T2). Effectively the FEDFA members were resisting the effect of orders of Munro J. who had disqualified the FEDFA from being a respondent to the Weipa award and as a consequence representing employees on site (*Comalco Aluminium Limited and The Australian Workers Union '& anor'* (1991).

Thorne (1995) believed there was a range of credible options available to the company. Others were not of the same view (2001, pers. comm., M1, U1). Alternative suggestions at the time were to 'ignore the FEDFA, have the AWU go on a recruitment drive of former FEDFA members and let the unions sort out their own problems'. The prevailing view from the workforce was 'just ignore them - who cares' (2001, pers. comm., M1, S5, S6, T1). The option to establish an additional non-trade union on site to cover the displaced FEDFA members was not canvassed or raised in discussions. The AWU believed that they now had the right to recruit previous members of the FEDFA. The AWU was effectively now the only non-trade union on site and traditionally the non-trade union that represented workers in the metalliferous mining sector (U1, 2001, pers. comm).

Thorne was not one to allow issues to just resolve themselves or go away over time he was used to making decisions (2001, pers. comm., M1, PM1, S5). The GMO in conjunction with the management team on site believed there was a range of possibilities to be worked through. Out of the discussions, three broad alternatives were proposed for further debate and resolution for promulgation to the site and union officials (Thorne 1995 para 51). The three options canvassed were:

1)   To ignore the behaviour of existing FEDFA members. This would perpetuate a site mythology that the FEDFA was a renegade union whose members lay beyond the influence of the management or the AIRC

2)   To continue with the existing Conditions of Employment nevertheless with new employees. This would be cowardly if we were not prepared to tackle the FEDFA members

3)   To delete insistence on membership of the appropriate union from the Conditions of Employment

The Personnel Manager was placed in a difficult position. When it became clear that a group of employees was not going to join the AWU, the northern organiser based in Cairns asked the company 'for assistance by requesting a list of employee names' be forwarded to the union office. The organiser 'asked the company what they were going to do about the FEDFA employees who refused to join the union' (Hoare 1995 para 34). Hoare elaborated on his thinking with the comment that he did not believe 'it would be conducive to the maintenance of a healthy workforce relationship if the company become embroiled in a potentially ugly dispute between the AWU and a group of its own employees' (2001, pers. comm., PM1; Hoare 1995 para 34).

Hoare (1995 para 35) made the observation 'I had no desire to become the recruiting agent of the AWU in circumstances where it could not attract members on its own merits'. Hoare (1995 para 37-38) describes the decision taken in relation to this issue '…we decided that in all circumstances our insistence on union membership as a condition of employment should be discontinued and in future the question of union membership would be a matter of individual choice'. On Friday twenty-eight August 1992, Comalco memorandum reference 2-70-57 titled 'Union Membership' was sent out under the signature of Dr Grant Thorne, GMO Weipa. The memorandum effectively ended the 'closed shop arrangement' that had been in place since the commencement of mining operations on the Weipa peninsula. This dated back to when the bauxite beneficiation plant and wharf facilities were completed at Weipa and the first commercial shipments of Bauxite shipped in 1963.

The one page memorandum evolved through numerous iterations in Weipa, Brisbane and Melbourne before it was signed off on site by Thorne (2001, pers. comm., GM4, GM6, GM7, GM8, M1). This was the first time a decision had been taken to remove a requirement of compulsory union membership for award employees from a CRA/Comalco operating site. A number of interviewees remarked that the 'wording was not that flash, however the intent was clear'. Until this time the conditions of employment had included the requirement '…join and remain a financial member of the appropriate trade union resonant to the award upon becoming an employee of Comalco Aluminium Limited at Weipa' (Thorne 1995 para 49). This was a pivotal moment in the relationship between management, the union movement and respondents to the Weipa award.

Thorne (1995 para 53) made a commitment on behalf of Comalco in relation to infrastructural support of the union movement 'that has continued unaltered to this day. The company continues to provide premises, leave for meetings and deduction of union dues for employees

who so request and who are not salaried staff of Comalco' (2001, pers. comm., MD2, PM3). This arrangement is not generally known or publicly acknowledged by the union movement.

Hoare flew out of Weipa to meet with officials of the relevant union officials on the day the decision was taken to end compulsory unionism on site. Unions respondent to the Weipa award were the Australian Workers' Union (AWU), Amalgamated Metal Workers' Union (AMWU), Federated Clerks' Union (FCU) and the Electrical Trades' Union (ETU). Hoare went to Cairns, Townsville and Brisbane to personally deliver a letter signalling the company's intention to end the 'closed shop' arrangement at Comalco Weipa. On returning to Weipa the next morning Hoare 'conveyed the decision to the Weipa Industrial Site Committee (2001, pers. comm., MD1, PM3, S2; Hoare 1995 para 38).

Section 7.9 has described the outcomes of the BUR which lead indirectly to the abolition of the closed shop arrangement. The closed shop arrangement had existed at the Comalco Weipa mine site since the operation commenced exporting Bauxite. Section 7.10 identifies issues for additional research emanating from research undertaken for this chapter.

7.10   Implications for research

A number of themes for additional research were uncovered as a result of enquiry undertaken in this chapter. They are under two broad headings of theoretical implications and practical implications.

7.10.1 Theoretical implications

For on-going change management in CRA - step 7, Kotter (1996) - to be successful, a number of human factors, legislative changes, leadership, organisational direction and failure of the award restructuring process were required to line up. The intersection of change management factors discussed in this chapter may be able to be displayed graphically via development of a model to incorporate factors essential to the continuation of change management within an organisation. Such a model would dovetail with step 7 of Kotter's eight step organisational change model. The logic underpinning the *Swiss Cheese Model*, Reason (1990) would be an appropriate starting point to develop a filter to Kotter's step 7.

7.10.2 Practical implications

There is a requirement for the union movement with multiple respondents to an industrial award on site to actively cooperate more with each other. The cooperation should be at both a site based - tactical level - and State and Federal level - strategic. During the award restructuring process the various respondents to the Weipa award were not coordinated

tactically or strategically in any meaningful way. The rift between the FEDFA and the AWU allowed the company to side with the AWU and have the FEDFA removed from the Weipa site.

The BUR outcomes meant three site based unions consisting of the Builders Workers' Industrial Union of Australia, Operative Painters' and Decorators' Union of Australia and the Plumbers' and the Gasfitters Employees' Union of Australia were removed as respondents to the Weipa Industrial Site Award. This was as a result of removing non- core work from the operation.

The issue of a paid rates award versus a minimum rates award is a good example of the union securing the tactical gains for their members over time but losing the strategic argument when it mattered. The commission's decision to hand down their judgement on the side of a minimum rates award, open the gate for the offer of staff conditions of employment to award employees of Comalco Weipa.

7.11 Chapter review

Chapter 7 presented the results of research carried out during the two year period 1990 and 1991 at Comalco Weipa immediately after Dr Thorne commenced his four year tenure as General Manager Operations. The period under review was an important precursor on the path to staff employment at Weipa as it identified as a major period when site management moved back from what they saw as too much union influence towards 'management directed leadership' of the operation. The realignment in management and labour relations at Weipa in just two short years is consistent with what was occurring in work environments generally around Australia during the early 1990s.

Thorne's influence as the first non-Comalco GM was highlighted, as was his disillusionment and frustration with the award restructuring process, which he abandoned after arriving on site. Communication channels and networks were examined and found to be multi-faceted based with a robust informal/grapevine activity in place. The Business Unit Review was emphasised as a turning point for industrial relations on site due to the forced redundancies of approximately thirty-five staff employees, combined with the outsourcing of the majority of non-core work.

The visit by senior management from Comalco to the New Zealand Aluminium Smelter was examined within a context of implementation at Weipa, although the consensus at the completion of the trip was that a mass move to staff at Weipa was not a viable option at this

stage. However, the NZAS model was seen as having promise in the greenfield Weipa kaolin operation. The union membership memorandum caused considerable angst on site with Comalco Weipa moving from a 'closed shop operation' to a 'membership of choice' site. This phase was described as a tense period for all involved.

Chapter seven leads into chapter eight. This is the penultimate thesis phase and researches the actual events that transpired in 1993 with the offer of salaried staff employment conditions to the award workforce in Weipa.

Chapter Eight

Transition to staff employment
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Outline of Chapter

8.0   Chapter overview

Section 8.1 acknowledges stage seven of Kotter's (1996) eight stage organisational change model and the continuation of this stage from chapter seven. Section 8.2 identifies progress across CRA business units towards staff employment, Section 8.3 introduces conditions of employment and the salaried staff pay band model. Section 8.4 notes the offer of staff conditions to members of the Federated Clerks Union on site. Section 8.5 presents the Weipa Kaolin operations. Section 8.6 reveals the bauxite operations were ring fenced. Section 8.7 describes the offer of salaried staff conditions to the Power and Electrical services MRU. Section 8.8 identifies the concept of free riders in an industrial relations sense. 8.9 lists options for complementary research arising out of chapter eight. Section 8.10 provides the chapter summary. Section 8.11 bibliography

8.1   Kotter's eight stage organisational change model

Previous chapters have outlined the Kotter eight point change management model in Figure 8.1 in relation to the Organisation Development (OD) undertaken at CRA.
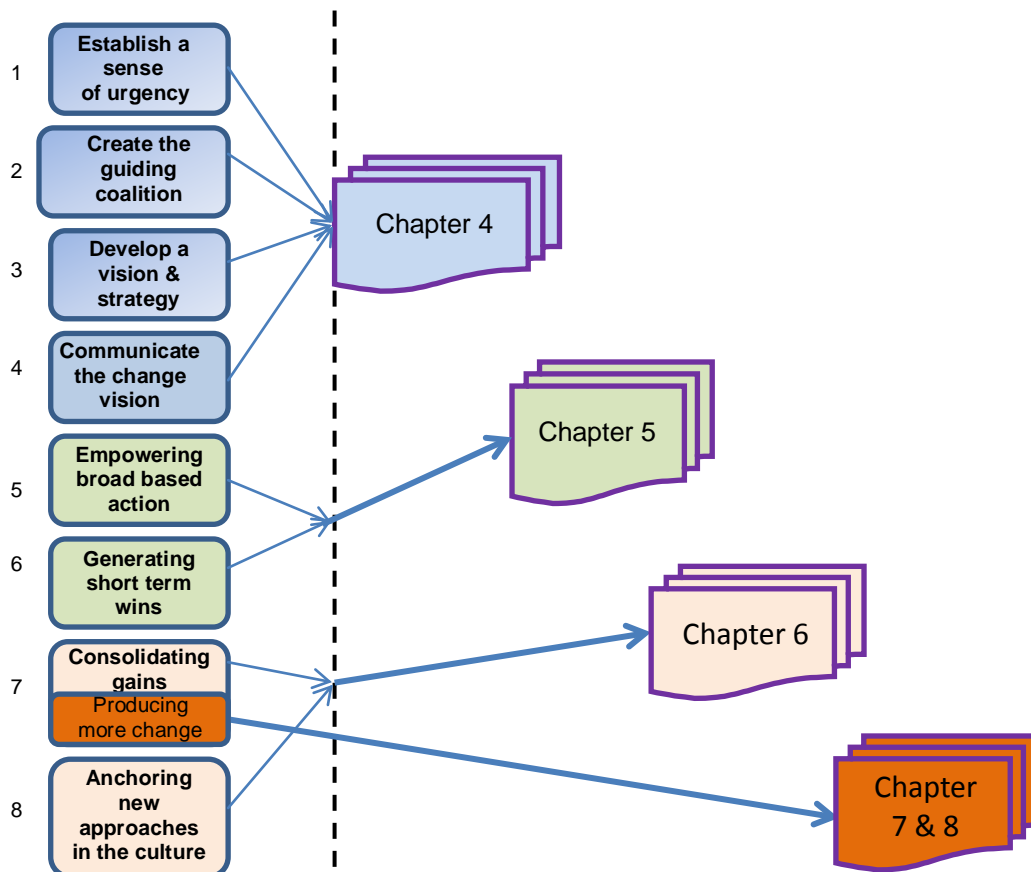
Figure 8.1: Kotter's eight stage organisational change model

The offer of salaried staff employment to award employees across CRA's metalliferous mine and process plants aligns with the second half of step seven in Kotter's model in Figure 8.1 (Kotter 1996). On-going change within organisations is at the core of step seven from Kotter's change management template. The focus on the change journey - rather than an end process in itself - ensures the change process is continuous and reflects the shifting external market environment over time. Change management applicable to Chapter 8 and CRA commenced in 1979 with Carnegie and Jaques. The theme of this chapter - ongoing change - is based around 1993, 14 years later.

Chapter four articulated the process undertaken at corporate level covering steps one through to four of Kotter's change model. Chapter five described broad based action applicable to step five from Kotter that was achieved by dispatching OD project teams from Head Office to mine and process sites across Australia and New Zealand. In addition, short term wins were achieved across CRA by dispatching OD project teams to small operating sites that could be restructured in a short period. Chapter six introduced the concept of consolidating gains and anchoring new approaches in the culture of the organisation through leadership development and organisation wide staff training and development. Chapter seven researched the period leading up to the offer of staff conditions and identified pre-requisites that need to be in place.

8.2   Background to the offer of salaried staff conditions of employment

Mintzberg's research on corporate strategy categorises the strategic direction undertaken by business unit management in regards to the offering of salaried staff employment conditions as an 'emergent strategy'. This strategy is distinct from a 'deliberate' and 'unrealised' strategic direction that has been created with a more formalised focus over time (Mintzberg 1994, pp. 24-25). An 'emergent strategy' is out of the ordinary in the sense that this strategy is not the outcome of a centralised policy decision from head office like a 'deliberate strategy' would be. Emergent strategies develop in response to 'internal or external' environmental occurrences (Mintzberg 1994, p. 26).

The industrial relations strategy direction undertaken in Weipa evolved for a number of reasons, but primarily in response to a perceived failure of the award restructuring process as noted in Chapter 7. Award restructuring failed to deliver on the undertakings given by the eight unions and their membership on site at the time (2000, pers. comm., GM3, MD1, MD2). Thorne and senior staff were adamant that the offer to employees in Weipa to transfer over into salaried staff employment was not influenced in any way by the work being carried out by Stewart in Smelting in Australia and New Zealand or Palmer at Hamersley Iron. There was no centralised grand plan emanating from head office within CRA or Comalco to transfer the

award work force over to salaried staff conditions of engagement. The concept of an autonomous five stratum business unit responsible for the profit and loss of the entity also included the capacity for each Managing Director to set their own course on labour relations reform, both directionally and timing.

Producing more change from Kotter (1996) in CRA was driven from Managing Director and General Manager stratums in individual business units. At no time was an edict passed down from head office on a particular course of action. At CEO level the decree was to improve productivity, the direction taken at a business unit level to achieve improved productivity was an individual decision based on their assessment at the time. This was a case of 'instruct the business units to increase productivity' as a generic objective or key performance indicator (KPI). How they go about achieving the objective is up to them (2000, pers. comm., GEHR1; C1; CEO1, MD1, MD2; Thorne 1996; Hoare 1995).

New Zealand Aluminium Smelter (NZAS) site management was able to offer salaried staff conditions to the workforce only after significant and far reaching industrial relations legislative changes in May 1991. Legislative changes allowed employers to negotiate directly with their workforce and offer individual salary packages based around the business needs. (Bray & Walsh 1998; Grimmond 1991, 1993; Hallett 2000; Henning 1995; Hince & Harbridge 1994; Honeybone 1997; Jones 2000; Ludeke 1996; McAndrew 1993; Macdonald 1995; McGregor & Tremaine 1995; Smith & Mouly 1998; Stewart 1995, 1996).

The offer of salaried staff employment at Hamersley Iron in Western Australia was precipitated by major state industrial relations legislative changes in 1993. The NZAS and WA Iron Ore change management examples were examples of an emergent strategy triggered by watershed legislative changes to key state (WA) and federal statutes (NZ) (Butlin 1995; Clifford 2000; Davis 1998; Grimmond 1991, 1993, 1994; Johns 1996; Karpin 1995; Ludeke 1996; Palmer 1997; Stewart 1996).

The Queensland State industrial relations legislation was irrelevant to the Comalco operation at Weipa as the mine had been covered by a federal award since inception. The route taken by CRA and Comalco business units in driving labour relations change predominately through senior management, is consistent with the research findings of Campling and Gollan (1999, p. 116). They assert that '…management was the main driver of change, often using changes in the employment relations legislation as a catalyst for workplace reform'. Change was driven from the stratum IV level (general manager) at Weipa. The NZAS and the Iron Ore operations

in Western Australia provided the leadership required for significant change to employee relations at stratum V (managing director).

Thorne (1996 para 69) comments at length about the unions' assertion that: '…CMA's approach to industrial relations at Weipa being part of a grand Comalco or CRA conspiracy to attack unions'. I alone was responsible for the direction of industrial affairs at Weipa. I took the counsel of my Managing Director and my colleague, the General Manager - Organisation, but every decision was mine', when refuting the allegation of Richardson that what occurred at Weipa was 'part of a carefully planned strategy,' Thorne (1996 para 70) notes:

> I categorically deny participation in any carefully prepared strategy. …Our objective at Weipa was to establish a relationship with our people that enabled them to contribute to the best of their ability, and then to be rewarded for it. In January 1994 when I had decided to extend offers of salaried staff employment to people in bauxite operations, I did seek advice from Hamersley Iron on the compilation of our document 'Transition to Salaried Staff - A Guide for Superintendents and Supervisors' (annexure to Clark of 15 February 1995). Neither my staff nor I had seen letters of salary offers to employees at other CRA sites before sighting annexure RR10 in September 1995. Similarities in form are not surprising [sic] however, because salaried staff conditions are broadly aligned from site to site and have been for many years.

> I note that salaried offers at Weipa preceded offers at Comalco (Bell Bay) by 3-6 months. Further I had not sighted Karl Stewart's paper attached as annexure RR11. I support the thesis it contains.

The outcome of offering salaried staff employment at the New Zealand Aluminium Smelter (NZAS) was well documented (Comalco 1992, p. 7; Ludeke 1996, pp. 23-26, 125-135). One could question the accurateness of the assertion by Thorne that 'I alone was responsible for the direction of industrial affairs at Weipa. I took the counsel of my Managing Director and my colleague, the General Manager - Organisation, but every decision was mine' Thorne (1996 para 69). Thorne's role at stratum IV was General Manager Operations for the bauxite mine that produced the feedstock for the QAL alumina plant at Gladstone and the Comalco smelters in Australia and New Zealand. At stratum in the organisation, company wide information would have routinely came across his desk on strategic and global matters relevant to CRA.

Thorne would have been aware of the encouraging results emanating from NZAS as a result of the transformation to salaried staff employment in 1991. He may well have been singularly 'responsible for the direction of industrial affairs at Weipa'. However, it defies logic that Thorne was not influenced in his decision making by the positive and conclusive nature of

events that had transpired in New Zealand two years previously. He would have been aware of the direction Hamersley Iron was taking in regards to salaried staff employment in their business unit. Thorne, as a senior operations general manager, would have had access to the findings in December 1992 of the CRA Employment Systems Taskforce on changes occurring at NZAS that had begun in 1988'. This highlighted the 'efficacy of the body of knowledge associated with the personal leadership behaviour and leadership systems design' (Ludeke 1996, p. 24-25). The taskforce reached three further conclusions:

1. The introduction of the New Zealand Employments Contracts Act was not the cause of the move to individual contracts, although it facilitated the move
2. The decision to offer contracts was made possible by the training programme in the years preceding 1991
3. No additional training was necessary

A paper presented to the Enterprise Bargaining Conference in December 1992 promotes gains achieved at NZAS after the move to staff employment in 1991 (Stump 1992). Thorne would have had access to this paper as Stump was the CEO of Comalco at the time. Stump states: 'In an otherwise status quo smelting operation I note the following improvements' (Ludeke 1996, pp. 131-132; Macdonald, Burke & Stewart 2006, pp. 248 - 258).

- ✓ All demarcation barriers are gone - both in word and deed
- ✓ Man hours required to produce one tonne of aluminium have reduced by 31%
- ✓ Kilowatt hours per tonne (or current efficiency) have increased 1.5%
- ✓ Equipment refitting is much faster - indeed in excess of 20% faster in the relining of pots
- ✓ Produce quality has improved - almost double the number of pots are producing 99.9% pure metal
- ✓ Labour cost has reduced 17% per tonne of aluminium produced
- ✓ Equipment is not damaged as often and is repaired much faster
- ✓ Downtime on pot line cranes has dropped 44%
- ✓ The time taken to manufacture vital inputs to the process (e.g carbon) has reduced by nearly 50%

Thorne's statement: 'our objective at Weipa was to establish a relationship with our people that enabled them to contribute to the best of their ability, and then to be rewarded for it' is consistent with material gained from extensive interviews with staff employees (CEO1, 2000, pers. comm, GEHR1, GM2, GM3, GM4, GM6, MD1, MD2; Thorne 1996 para 69). Notes distilled from personal interviews can be summarised as a direction that seeks to 'establish a

relationship that enables employees to contribute to the best of their ability. This relationship can be "collective or individual", the choice is with the employees' (2000, pers. comm, GEHR1, GM2, GM3, GM4, GM6, MD1, MD2).

Kohler (2003) interviewed Clifford, the incumbent CEO of Rio Tinto on the ABC's Inside Business and questioned Clifford about the companies IR direction. Clifford restated the company position ten years on that 'Rio Tinto does not have a fixation on any particular employment method of labour employment. Sometimes the employees are collectively represented, sometimes they are not' Clifford elaborated:

> We are not cutting out the unions. We are ensuring we have the relationship with our employees. Look Al, we are in business. How employees choose to be represented or the relationship they want with the company is their call. What we are about is being in business. And as I have said, in parts of the world we are heavily unionised, in other parts there is individual arrangements, in other parts there are non-unions, but that is the call of the employees.

Employee relations in CRA, Comalco and later Rio Tinto has been consistent from the early years of Carnegie, through the organisational development years, the award restructuring years and the move to salaried staff employment in the metalliferous sector of the business in 1993 and 1994 (Lenegan 2007; Rio Tinto 1998). It has been noted that:

> Wherever the Group works, key business and people systems have been introduced that encourage employee involvement, greater accountability for safety and a performance focused working environment. We respect the right of every employee to choose whether to join a union or not.
>
> We believe that employee relations are best dealt with between management and employees at individual work places, in accordance with local laws. We are comfortable with collective bargaining arrangements, individual arrangements or a mixture of both. Employees doing the same work to the same standards of flexibility and productivity will receive comparable remuneration and employment conditions, whether employed under collective or individual agreements.

8.3   Salaried staff conditions

The decision to offer staff conditions to award employees presented a range of challenges that required executive management input. During the previous two years, HR working parties at executive and managing director stratum had reviewed employment, recruitment, remuneration processes and HRIS systems and sub systems. The aim of the project team was to align and

simplify the company wide HRM processes across business units. The project was carried out in conjunction with the systems leadership training of Macdonald and the leadership and working together courses. Employee training was supported by external consultants with expertise in specific areas of Human Resource Management, recruitment, HRIS, performance management and potential performance evaluation. The charter of the working party was to 'maximise those employment systems that bring us closer together and minimise, or remove, employment systems that set us apart' (2000, pers. comm., C2, MD2, PM2; Comalco Mineral Products 1991a, 1993b, 1993c; Comalco Minerals and Alumina. 1994c).

The two factor theory (sometimes called motivation-hygiene theory) proposed by psychologist Fredrick Hersberg' and represented in Figure 8.2 meshes with the offer of salaried staff conditions (Robbins, Millett, Cacioppe & Waters-March 2001, pp. 200-203).
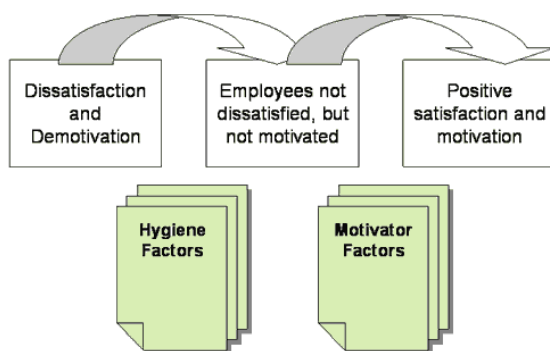
Figure 8.2: Hertzberg's two-factor theory

Hygiene factors are based on the need for a business to avoid unpleasantness at work. If these factors are considered inadequate by employees, then they can cause employee dissatisfaction with work and working conditions and surroundings. Hygiene factors include 'company policy and administration, wages, salaries and other financial remuneration, quality of supervision, quality of inter-personal relations, working conditions, WPH&S and feelings of job security' (Robbins, Millett, Cacioppe & Waters-March 2001, pp. 200-203). Attention to Hygiene factors was imperative in removing discrepancies between the award and staff models of labour engagement. Thorne was focused on maximising conditions of employment that were similar and minimising employment conditions that were different (2000, pers. comm., C2, MD2, PM2).

Motivator factors are based on an individual's need for personal growth. When they exist, 'motivator factors actively create job satisfaction'. If they are effective, then they can 'motivate an individual to achieve above-average performance' and effort. Motivator factors include

status, opportunity for advancement, gaining recognition, responsibility, challenging and stimulating work and a sense of personal achievement combined with personal growth in a job (Robbins, Millett, Cacioppe & Waters-March 2001, p. 200). There is 'some similarity between Herzberg's and Maslow's models'. They both suggest that needs have to be satisfied for the employee to be motivated. However, Herzberg argues that 'only the higher levels of the Maslow Hierarchy' (e.g. self-actualisation, esteem needs) act as a motivator. The remaining needs can only cause dissatisfaction if not addressed (Motivation in theory 2005).

Hygiene factors at Weipa were exemplified by the systems of leave entitlements - both accrued and annual leave. The working party made a recommendation to management that the leave entitlements for staff and award should be brought into line. The working parting took the view that having two models of leave entitlements based simply on whether you are staff or award is difficult to sustain. The working party recommendation was implemented over a two year period with staff leave moved in line with award employee entitlements (2000, pers. comm., M1, MD2, PM2).

The methodology utilised was firstly to communicate the changes under consideration to all staff ahead of any decision. Secondly, promulgate the decision to staff verbally via feedback at the weekly management and superintendent meetings and by an individual letter signed by the site GMO. Removing the discrepancies between the two systems consisted of incorporating fifty per cent of the difference into the employee salary as a dollar amount. The remaining fifty per cent of accrued leave entitlements had a sunset option attached that phased the discrepancy out over a two year period from the date of the decision. New staff employed automatically accessed the new single annual leave model (2000, pers. comm., M1, MD2, PM2).

The introduction of the CLASSIC safety program in 1992 (Continuous Learning Applied to Safety Systems in Comalco) based on the NOSA system was a powerful example of hygiene factors being applied to a mining site. The NOSA Five Star System of WPH&S 'is implemented by thousands of organisations across the world, providing them with a framework for managing occupational health and safety (NOSA 2006). NOSA was introduced into Weipa and other Comalco sites with a commitment from management to completely overhaul WPH&S procedures and process. The same principle was applied to all employment conditions and by the time salaried staff employment was offered in December 1993, issues that had the potential to develop into a problem because of inherent differences between staff and award remuneration packaging had been removed and blended into a single package for all employees (2000, pers. comm., M1, MD2, PM2, T1, U1).

Carrying out a job of work rather than working specific hours during the day or week was covered within the staff system by the concept of an area allowance - nominally 25 per cent. This was payable to staff employees at the company's remote mining sites as part of their monthly salary. An area allowance was not applicable in a head office or capital city environment as these work places do not operate a shift arrangement nor are they isolated from the 'normal range of goods and services' that are taken for granted in a normal community (2000, pers. comm., M1, PM1, PM2). Typically, if a staff employee was on a salary of $100 000 then the individual would have an area allowance of $25 000 attached which would augment the dollar component of the remuneration package to $100 000. The area allowance bundled discrete items together under a single umbrella structure that would normally be individual and separate allowances under an award structure (2000, pers. comm., M1, PM1).

An area allowance of twenty-five per cent was not a specific Weipa rate as the concept of an area allowance was a CRA group payment model applicable at all isolated mining operations for staff. A number of sites remained based on a thirty per cent allowance model, however a company norm was emerging around a twenty-five per cent model and sites were, over time, conforming to this percentage. Additional staff entitlements at the time consisted of two return airfares to Cairns each year, enhanced superannuation structure, annualised performance review and unlimited sick leave combined with access to the staff medical scheme operated by the company (2000, pers. comm.,M1, PM1; *Amalgamated Metal Workers Union v Comalco Aluminium Limited '& anor'* (1990); Grimmond 1994; Hoare 1995; Ludeke 1996).

There were no surprises in the staff conditions package as site employees were well aware of the conditions under which salaried staff were employed at the stratum I and II levels (Supervisor and Superintendent) in particular. Numerous award employees were married to, or lived with, staff employees (2000, pers. comm., MD2, PM1). As a result of the drawn out process involving the Kaolin operation and their enterprise agreement, all the components that made up the salaried staff suite of options had been aired on numerous occasions with the award workforce as 'options tabled for discussion'. As a rule when an award employee was offered a staff position, the dollar component of the initial package was in the region of ten per cent above the earnings of the individual over the last twenty four month period as outlined on their taxation group certificate (2000, pers. comm., M1, PM2; Grimmond 1994; Hoare 1995).

Remuneration incorporating an area allowance was a base amount and did not take into consideration shift allowances. Regardless of whether the individual worked under award or staff conditions on shift, a shift or roster payment was applicable. A tradesperson on continuous twenty-one day shift roaster was eligible for a $12 500 shift allowance. There were a range of

shift options employed with the 21 day model the most prevalent In the mining industry in recent times the 12 hour shift model has become the default shift roster (2000, pers. comm., M1, PM2, S2; Grimmond 1994; Hoare 1995).

Township based employee benefits were similar to shift allowances in that accommodation was allocated on the requirements of the individual or their family - not whether you were staff, apprentice or an award employee. Accommodation consisted of single accommodation at the single persons quarters (SPQ), flats and duplexes, three bedroom low and high set houses and four bedroom low and highset houses. Accommodation distribution after the offer of salaried staff employment in late 1993 early 1994 was not changed to reflect any change in employment status from award to staff. The offer of accommodation retained the individual or family requirement (2000, pers. comm., M1, PM2, S2 Grimmond 1994; Hoare 1995).

Table 8.1 describes the accommodation options available to employees depending on their domestic situation in Weipa during 1993 and the rules for accessing the different modes available (2000, pers. comm., PM2, S2 TM1).

Table 8.1: Accommodation styles in the Weipa township 1993

1	1960s	Single Person's Quarters	Single employees only
2	1960s	Single bedroom flat	Two employees living together
3	1970s	Two bedroom duplex	Two employees living together
4	1970s	Three bedroom low set housing (Rocky Point)	Employees with minimum two children
5	1980s	Three bedroom high set housing (Trunding)	Employees with minimum two children
6	1991	Four bedroom high set housing (Neighbourhood Two)	Employees with minimum three children
7	1993 under construction	Combination of 2 through to 5 in (Neighbourhood Three)	Mixture of modes

Subsidised accommodation, electricity and the normal local government services that would be typical in a normal community of three thousand people at the time were included in the housing package. Employees did not pay council rates as housing and furniture was owned by the company, not the individual. Employees rotated through the flats (option 2) before being offered duplex accommodation (option 3). Employees normally rotated through the low set housing at Rocky Point (option 4) before being offered the high set housing in Trunding (option 5). The waiting time for a married employee with children to move from option 4, a low level house to option 5, a high set house in the 1980s was two to four years on the housing list (2000, pers. comm., PM1, PM2, TM1).

8.3.1 Pay bands

Stratum I was the entrance level where award employees were placed into the five stratum business unit structure outlined in Figure 8.3.
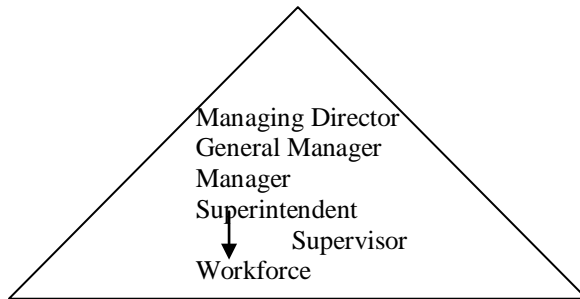
Figure 8.3: Simplified five stratum business unit model

Chapter five outlined the composition of the five stratum business unit template utilised throughout the company. The direct management relationship was noted between a superintendent and the workforce with the supervisor shown off to the side in a supporting role. The move to salaried staff employment was notable for seamlessly meshing into the structural changes to the operation put in place in the mid 1980s. Jaques' stratified systems theory model had stood the test of time and accommodated the transition of the award workforce into stratum I of the five stratum business unit model ten years later (2000, pers. comm., C, C2, PM1, PM2).

Figure 8.4 identifies three discrete and overlapping bands in stratum I. Stratum II through to V within a business unit had two bands within each stratum (Brady 1992, p. 38).
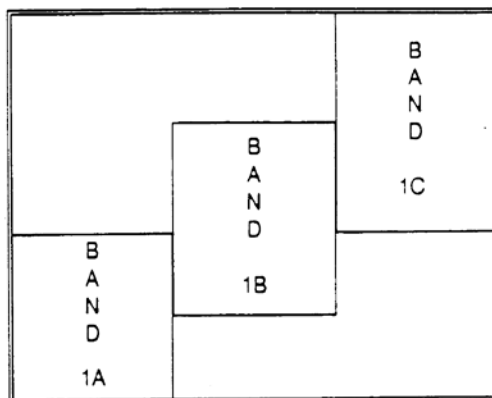
Figure 8.4: Overlapping thirty per cent pay bands at stratum I

Pay band 1C was normally where trade qualified supervisors were placed and pay band 1B was for non-trade qualified supervisors. Prior to the offer of salaried staff employment being made to the award workforce, pay band 1A was reserved for 'staff and support' roles (2000, pers.

comm., M2, PM1; Comalco Minerals and Alumina 1994b, p. 6). With the move to a fully staffed operation pay band A became the band that the award workforce moved into with some spillage of the award trade workforce above level nine into B. By 2003, the three pay bands in stratum I had expanded to five bands to facilitate a greater spread of employee salary structure and performance appraisal differentiation at the entry stratum (2000, pers. comm., GM4, M2).

Integration of the award workforce into pay band 1A was expedited due to the extensive work on the trade and non-trade grading structure during award restructuring. The process had reduced the original 208 classifications site wide into a twelve level broad banded structure. Award restructuring commenced throughout Australia and '…resulted in the modernisation of classification structures, the introduction of multi-skilling, the adjustment of pay relativities between and the more flexible application of key award provisions covering hours of work, shift work, meal breaks, annual leave and annual close down arrangements'(ACIRRT 1999, pp. 31-32; Australian Workers' Union and The Amalgamated Metal Workers' Union (1990); Davis & Lansbury 1996, pp. 5-6; Stone 1998, pp. 545-546; Sutcliffe & Callus 1994, p. 18).

Table 8.2 identifies the award classification structure in place for both trade and non-trade on site at the completion of the award restructuring process prior to the offer of salaried staff conditions. This was the award structure in place when the offer of staff conditions of employment was promulgated (2000, pers. comm., M2, PM1; Comalco Minerals and Alumina 1994b, p. 6; Comalco Mineral Products 1990e).

Table 8.2: Twelve level award classification structure

Grade12	145%	Associate Diploma
Grade11	130%	
Grade 10	125%	A/D 50% completed
Grade 9	120%	
Grade 8	115%	
Grade 7	110%	Special Class
Grade 6	105%	
Grade 5	100%	Base Trade
Grade 4	95%	
Grade 3	90%	
Grade 2	85%	
Grade 1	80%	

Non-Trade   **Trade**

The trade roles meshed without any problems due to the extensive trade training scheme on site and resultant levels that had been in place for over a decade. The working party had the task of removing any anomalies that had crept into the structure over time. Due to the recent award restructuring process the site had been through, the working party found that instances of this nature were few and far between (2000, pers. comm., M1, M2, M3). The non-trades assimilated into the salary bands with only a couple of minor issues, with most of the work involved ensuring that the relativities were correct, and resolving inconsistencies across and within bands due to extensive overtime by incumbents (2000, pers. comm., MD2, PM2, S2, S4, M1, M3; Comalco Mineral Products 1990e).

The depth of each pay band was approximately thirty per cent - low, mid and high as shown in Figure 8.5. This was to allow movement up through the band over time by staff (Brady 1992, p. 40; Jaques 1996, p. 108).
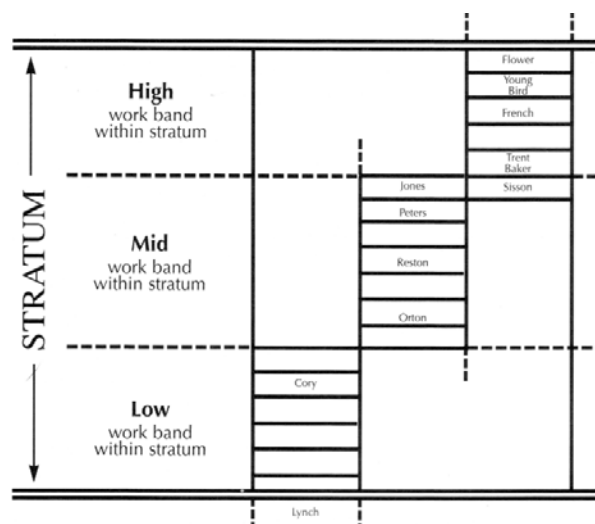
Figure 8.5: Individual salary band identifying scope for progression - low, mid and high

The distribution of award employees into stratum I was carried out by concurrent working parties - trade and non-trade - consisting of personnel staff supported by operations and maintenance superintendents. Working party staff who had considerable numbers of both trade and non-trade employees in their work group melded into both project teams (pers. comm., MD2, PM2, S2, S4, M1, M3; Butlin 1995; Hoare 1995; Thorne 1995).

Individual salary information remains confidential between the employer and the staff employee. The overall increase in moving from award to staff was minimal. During the interview process and the data gathering phase, the question around salary came up on numerous occasions. In all instances, the monetary value of the remuneration package was not

disclosed and remained confidential between the employee and the company (2000, pers. comm., M2, MD2, PM2; Butlin 1995; Comalco Minerals and Alumina 1994b; Hoare 1995; Thorne 1995).

The payroll run on the twenty fifth of each month increased between nine and eleven per cent after the seventy four per cent of award employees moved over to staff (2000, pers. comm., M1). This number was taken as the site average for statistical purposes. Only five individuals received less than the site average, due to the extensive overtime and double shifts they were in the habit of working when under award conditions (2000, pers. comm., MD2, PM2).

8.4   Staff employment offered to FCU members

Federated Clerks' Union (FCU) members in Weipa worked closely with staff in an office, clerical or administration role. A number of the managers' secretaries and the General Manager's secretary were on staff at this time. Thorne (1995 para 85) notes the 'sequence of events leading up to the transfer of clerical and secretarial staff to salaried employment beginning in April 1992. This was literally during a meeting with the northern area officials of the unions who had come to site on a regular visit. At this time there were 69 clerical employees working for Comalco - all female - and the FCU union delegate was male. Thorne (1995 para 86) was talking with the local Federated Clerks' Union delegate on site about the quality of the debate and how it was a bit of a waste of time. He further commented 'I can't understand why you bother with them' to which the Federated Clerks' Union delegate replied 'because no one has offered me a staff job'.

In November of the same year, a manager's secretary resigned and the vacancy was filled as a staff position. Thorne (1995 para 87) was approached by the federated Clerks union delegate to ask if the company 'was offering staff conditions to Federated Clerks' Union members'?

> …the delegate expressed disappointment. The delegate's view was that the overwhelming majority of secretarial and clerical staff would accept salaried employment if it were offered. The delegate said they were few in number and did not want to be 'tangled up in union strife' and 'worked like staff anyway'. Within a few weeks all federated clerks union members including current and past delegates had accepted offers of appointment to salaried staff.

The move to salaried staff employment by the Federated Clerks' Union members effectively removed another respondent from the Weipa award. Although the transition from award conditions to salaried staff was seamless and almost inevitable at the time, there remains an alternative view that 'staff employment' is just a tactic of management to 'weaken trade

unions' (ACIRRT 1999, p. 7). Recent changes in the industrial relations system have enabled employers 'to move people off the collective system and the award into more individual arrangements' that can have the effect of longer working hours for no 'increase in remuneration' (ACIRRT 1999, pp. 6-9). This is incorrect in a Weipa context as the initial enquiry and subsequent manoeuvrings was instigated by union membership of the FCU to site management asking why they were not being offered staff employment.

The Federated Clerks' Unions initiative in Weipa mirrored a similar transfer in 1987 when approximately twenty Federated Clerks' Union members at the Melbourne headquarters of Comalco Smelting moved across to salaried staff employment (2000, pers. comm., MD1). This is commonly accepted as the first move by award employees transferring to staff within Comalco. With the move to salaried staff employment by Federated Clerks' Union members there now remained only three unions that were respondent to the Weipa award (2000, pers. comm., MD1, MD2, PM2).

As part of each of the Working Together Course conducted in Weipa from 1991 through 1993, the GMO explained the model displayed in Figure 8.6 as one that 'I personally find useful in understanding management and union relationships' in the workforce at present(2000, pers. comm., MD2, PM2).
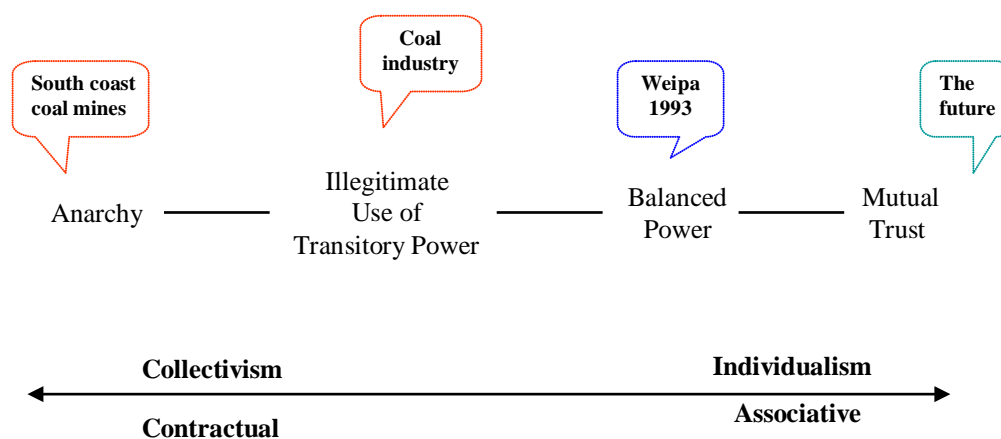
Figure 8.6: Continuum of anarchy through to mutual trust

This continuum of employer and employee relations showed the NSW coal mines at one end (anarchy) and the future highlighted by mutual trust at the opposing end of a continuum. Weipa - in Thorne's opinion - was described as currently being in a state of 'more or less balanced power'. Such a position can be 'compared to the union movement and the company clinging to each other like drowning individuals trying to keep afloat, with neither willing to let

go in case the other gains an advantage' (2000, pers. comm., MD2). Thorne was adamant that he would move the site from this state of flux towards a relationship between management and its employees that 'will be more associate and based on mutual trust'. To bring about the change required 'I am prepared to let go' (2000, pers. comm., MD2).

The content of this chapter reveals that not only was Thorne 'prepared to let go' he did 'let go' and transitioned the site to a predominately salaried staff model of employment based around an associate model of behaviour (2000, pers. comm., MD2).

8.5   Kaolin operations: 1985 - 1996

The Kaolin plant at Weipa commenced operations in 1985 after an extensive evaluation process was undertaken to quantify the ore reserve and the market segment this product would supply (MD2, 2000, pers. comm). Kaolin was always going to be an industrial relations challenge due to the greenfield nature of the plant. The plant was constructed adjacent to the bauxite operation in Weipa. Throughout the award restructuring process both bauxite and kaolin were discussed as a single site entity (PM1, 2000, pers. comm). The conventional wisdom within Comalco during the concept phase was that the plant would operate under a single union arrangement. The IR agreement would be modelled on the recently constructed wheel plant adjacent to the Bell Bay smelter in Tasmania. The union movement believed existing award coverage provisions in bauxite would prevail (PM1, 2000, pers. comm).

8.5.1   Offer of hybrid staff conditions

Senior staff visited the New Zealand Aluminium Smelter (NZAS) in May to observe the operation running under salaried staff conditions of employment. The management group returned to Weipa with the opinion that 'such a system would be unachievable in a Weipa context at the present time' (Thorne 1995, para. 73). During 1992, substantial project activity was undertaken by management in both Weipa and Brisbane to put together a draft Kaolin Enterprise Agreement. The agreement was supplemented by a raft of kaolin policies and procedural documentation for consideration by employees. A draft agreement was finalised and distributed to employees for consideration in August 1992.

During tool box meetings to introduce the document, a range of issues was raised for discussion by both the General Manager Operations and the incumbent Kaolin Manager (2000, pers. comm., MD2, PM2, U1; Hoare 1995; Thorne 1995):

a)   Accumulated cash investment in kaolin to date stood at one hundred and twenty million in 1992 dollars

b) Agreement on the Kaolin Enterprise agreement document would not guarantee Comalco Board approval for an expansion of the facility, but failure to agree would render Board approval most unlikely

c) Our proposal should not be treated as an ambit claim

d) There were some pivotal elements which were not open-ended. These were:
   I. annualise salary based on assessment of personal effectiveness by the employees' Superintendent
   II. broad salary bands
   III. guaranteed continuity of production
   IV. return to a minimum forty hour week

e) Some areas were grey and inevitably so. This would allow employees to ascertain whether management was treating them fairly of not

f) The systems that might look so different to employees were transferred from the salaried staff system on site and therefore should not cause unnecessary concern

g) The KEA would reward employees well relative to the existing award relative to time spent at work

h) The duration of the agreement was for one year only because of its quite distinctive nature

Frequent meetings were held during the year with members of the Kaolin Enterprise Bargaining unit and - at times - the President of the Weipa Industrial Site Committee. State and federal union officials were involved as were site based delegates to 'discuss the concept and IR direction of the proposal'. The proposal was the so called 'hybrid staff conditions document' that endeavoured to satisfy management, employee and union requirements and outcomes (2000, pers. comm., MD2, PM2, U1). The Weipa Industrial Site Committee 'wanted the same or a similar offer' made to employees in bauxite concurrently with the offer to kaolin. They were not against the Greenfield kaolin agreement outright, but wanted similar conditions available to the bauxite operation.

Management made their position clear to the union movement in regards to reciprocal conditions of employment being offered to the bauxite operation. An offer would not be forthcoming until the results of the kaolin offer were evaluated. The Bauxite operation was 'core business' - whereas kaolin was not (2000, pers. comm., MD2, PM2, U1; Thorne 1995). Weipa bauxite supplied the Queensland Alumina Limited plant in Gladstone Queensland which in turn provided the three Comalco smelters located at Boyne Island at Gladstone, Bell Bay in Tasmania and Tiwi Point in the south island of New Zealand. The bauxite mine at Weipa and its continued operation was absolutely essential in the downstream supply chain. Coyle, Bardi & Langley (1992, pp. 39-40) describe this process of bauxite to alumina to aluminium as 'form

utility', one of the 'four principal types of economic utility that add value to a product or service'. The world's largest bauxite operation was not one to trial untested IR options.

At the single bargaining unit meeting on the eighteenth December 1992', there appeared to be little resistance' to the direction and tenor of the document. By April 1993 the meeting back in December 'had become unacceptable to the unions'. Single bargaining meetings were held in late December, February and March by which time both parties had agreed to minor changes and clarifications of certain issues. The 'alterations were attended to and at a meeting held on April second by kaolin employees' a decision was taken to accept the Kaolin Enterprise Second Agreement. This decision was not taken lightly by the employees and was the result of a drawn out process over a number of months (2000, pers. comm., MD2, PM2, U1; Hoare 1995; Thorne 1995).

Depending on the source, the voting 'appeared to be in the region of eighty to eighty-three per cent' in favour of the agreement (Ludeke 1996; Hoare 1995; Thorne 1995). Thorne (1995) commented that on visiting the plant the following morning the atmosphere was palpably different to that which had prevailed in previous weeks. The 'different atmosphere' was attributed to the relief that is felt by all parties once a 'decision or outcome' has finally been agreed to and the pressure to come to an agreement has been lifted (2000, pers. comm., MD2, PM2, S2, S3).

Between 'April and the November frequent meetings' were carried out between the kaolin bargaining unit, union officials and the company. For the most part, the meetings from a union perspective were designed to 'move the kaolin employees back to the traditional method of bargaining' that is, between the union and the company and minimise or 'sideline direct employee involvement' in the process. The employees had over time, shifted ground towards the company position in early 1993 and the unions 'wanted them back in the fold' (2000, pers. comm., MD2, PM2, T1, U1).

During the second half of 1993 the kaolin plant employees 'went on strike in support of their union and the direction taken in negotiations with the company'. At the time, this strike by employees was seen as the result of 'built up frustrations at the progress of the negotiations and lack of an outcome over an extended period of time by both the company and the unions'. The strike action necessitated the kaolin operation being run by staff employees to 'ensure export orders and product delivery to customers in the United States were not jeopardised'. The kaolin plant operated normally utilising staff employees during this period (2000, pers. comm., MD2, PM2, T1, U1; Thorne 1995).

8.5.2   Offer of salaried staff conditions

On Wednesday eight December 'offers of full salaried staff employment were made to all employees in the kaolin operation' with a return date on their response to the letters by Tuesday fourteenth December (2000, pers. comm., MD2, PM2, T1, U1; Thorne 1995). The letters of offer were signed by the Kaolin Manager, personally distributed to each award employee by their respective operations or maintenance Superintendent. During the first week of the offer, the date 'was further moved back to Friday seventeenth December' to allow employees more time to weigh the merits of the offer and discuss options with family and friends. This offer of salaried staff employment conditions was 'the culmination of over a year of negotiations with unions and employees covering a diverse range of options for a KEA' (2000, pers. comm., MD2, PM1, PM2, T1, U1; Hoare 1996; Ludeke 1996, pp.73-96; Thorne 1996).

'All but twelve had taken up the offer of staff conditions' in the kaolin plant (2000, pers. comm., MD2, PM2, T1, U1; Thorne 1996). There occurred considerable activity during the period leading up to the offering of salaried staff conditions. Thorne (1995 para 141) described this period and the activity undertaken as an essential precursor:

> Because of the importance of the task and the fact that we would live with the consequences for a long time, I took the responsibility personally for ensuring the salary offers and role allowances proposed for the various patterns of work were calculated fairly and for ensuring appropriate relativities across the workforce. I was assisted by specialist staff from the personnel, payroll and administration sections.

The actual transfer of the majority of employees at the kaolin operation went ahead relatively smoothly with 'only minor questions being raised and worked through' (2000, pers. comm., MD2, PM2). The positive outcome was an outcome directly related to the length of time taken to achieve a resolution, combined with the transparency of information and communication flows to the kaolin workforce. With staff employment being prevalent on site, there were not any secrets on the staff aspects of what the kaolin package would contain. In an average year there was a number of staff offers of employment made to award members of the workforce to fill staff vacancies from employees leaving Weipa for other operations within the group or to a new employer (2000, pers. comm., MD2, PM1, S1, S2, S3).

The capacity of the kaolin operation was expanded by a capital injection in the order of thirty million dollars to lift the capacity by thirty per cent from 100 000 tonnes to 130 000 tonnes. Although product throughput did increase, the capital and operational augmentations failed to

prevent closure of the operation in 1996. Figure 8.7 show the plaque erected in the town centre at Weipa noting the passing of the kaolin operation.

Figure 8.7: Plaque in the town centre Weipa commemorating the history of kaolin

The closure brought a conclusion to the mining and processing of kaolin in Weipa. The majority of staff obtained transfers to other CRA and Comalco mining and refining sites within mainland Australia, Tasmania and South East Asia, while the remainder were placed in bauxite. A small number took the opportunity to take a voluntary redundancy package or early retirement (2000, pers. comm., MD2, M1, S1; Ludeke 1996; Thorne 1996).

8.6 Bauxite operations ring fenced

Bauxite operations were the main reason the Weipa mine site was in existence. However bauxite was sidelined while negotiations with employees at the kaolin operation were undertaken. The settling in of the award restructuring process was taking more management time in bauxite operations than over at kaolin, due mainly to the age of the mine and entrenched position of the people in bauxite. kaolin was a new operation started in 1985, while the bauxite operations commenced over two decades earlier in 1963 (Comalco Weipa 2004):

Bauxite was considerably larger than kaolin which had an award employment profile of around 60 compared to approximately 850 employees in the bauxite operations. Although the comment is made that 'bauxite was ignored until kaolin was offered salaried staff employment' one should not deduce from this statement that nothing was happening in regards to bauxite (2000, pers. comm., MD2, PM2; Thorne 1995). The influence of award restructuring was mostly felt in the bauxite operations and this work was continuing in parallel with work being carried out on an enterprise agreement that was based around the requirements of kaolin.

8.7   Power and electrical services

Power and electrical services was part of the Engineering MRU which, together with the Mine and Plant, constituted the three largest MRUs on site in employee numbers, physical resources and budget allocation. Figure 8.8 identifies power and electrical services reporting structure:
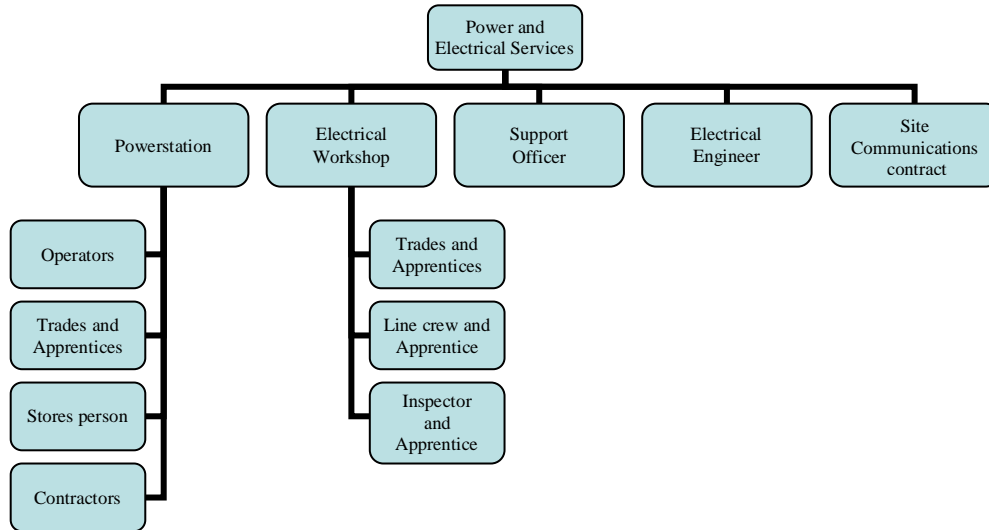
Figure 8.8: Power and electrical services department line diagram

This department had responsibility for the mine site and township. Work groups included the powerstation, electrical workshop and electrical line crew and site inspectors. A range of support and service staff made up the engineering complement. Power and Electrical Services had a personnel budget of forty nine employees, an operating budget of sixteen and a half million and capital allocation of two and a quarter million for 1993. Two site wide contracts reported to the power and electrical services superintendent - telecommunications and major powerstation engine overhauls (2000, pers. comm., M3, MD2, PM1, S1).

Table 8.3 indicates the organisational structure, their role and the union affiliation before the offering of staff employment (2000, pers. comm., M3, MD2, U1).

Table 8.3: Employment profile of power and electrical services department, June 1993

	Salaried Staff	Award Employees	Union Representation	Outsourced Work
Superintendent	1			
Supervisor	2			
Inspector	1			
Engineering Support		1	ETU	
Support Officer		1	AMWU	
Operators		15	FEDFA	
Electrical Trades		11	ETU	
Trades Assistant		3	AWU	
Mechanical Trades		4	AMWU	
Linepersons		3	ETU	
Stores person		1	AWU	
Apprentices		6		
Powerstation Contractors		Maximum 5		Major Powerstation Engine Overhauls
Telecommunications Contract		Maximum 2		Phone systems and data communications
Totals	**4**	**39**	Apprentices and contractors not included	

The structure is a typical flat stratum II put in place during organisational development on the site in 1986 (refer Chapter five). The Engineering MOU Manager is stratum III, the Power and Electrical Services Superintendent is stratum II while the powerstation and Electrical Workshop Supervisors are at stratum I. Employees within the department worked a range of different shift patterns with the powerstation on the traditional site twenty one day continuous-roster, eight to four, four to midnight, midnight to eight. The line crew worked a five day week with a call-out roster and the electrical workshop was on a five day week with overtime (2000, pers. comm., M3, T1,T2). Apprentices were not included as they had a direct contractual relationship with the company. Contractor employees were not considered as they were external to department numbers (2000, pers. comm., M3, MD2, U1).

Power and Electrical Services had three of the four site union delegates working within the department. The AMWU and the FEDFA delegates were a maintenance fitter and operator respectively in the powerhouse, while the assistant site delegate for the ETU was an instrumentation tradesperson. Salaried staff to award employee ratio at around nine per cent was lower than the site average of eighteen per cent. This anomaly was historically based, as the control room operator ran the powerhouse on shift and weekends without the need for a Supervisor in attendance on each shift. Day shift consisted of a Supervisor, support and maintenance personnel supported by a permanent night shift maintenance crew (2000, pers. comm., M1, S1, S2, T1, T2).

8.7.1   Powerstation

Figure 8.9 shows the powerstation as the core of the department with its site wide and township function.
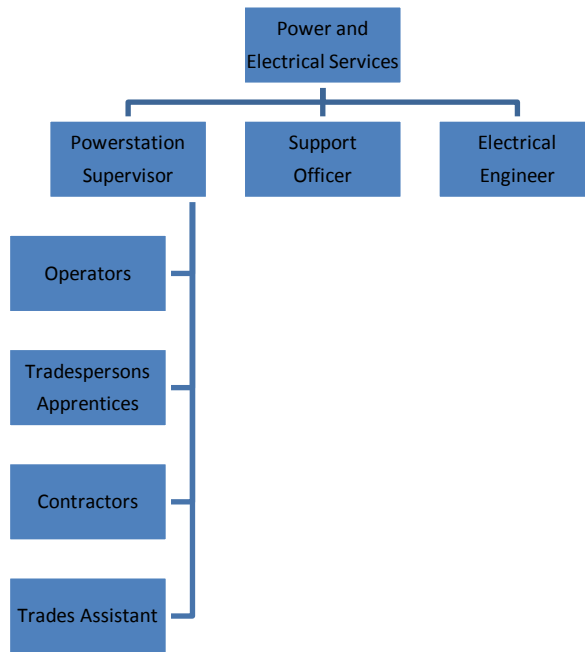
Figure 8.9: Weipa PowerStation organisation structure

The powerstation leadership at Superintendent (stratum II) is supported by three staff - a Supervisor, support office and electrical engineer. The station operators were mostly long term, single and in their mid to late fifties. This demographic situation was also the case with the four mechanical fitters. The electrical group tended to be younger and more educated as most had completed advanced trade modules in electronics and instrumentation after their trade studies. A number had commenced external study at Associate Diploma level in process control and instrumentation or electrical engineering (2000, pers. comm., T1, T2).

Introducing meaningful change to this group 'was always going to be a challenge due to the conservative nature and long term tenure of the majority of the operators and mechanical trades' in the workforce (2000, pers. comm., M2, S1, S2). The systems and process in place within the powerstation had survived and prospered over time. The employment profile had remained static. There were twenty-nine employees in the station for an electrical output of twenty-nine megawatts. Kotter (1996, p. 35) noted the issues with an aging demographic similar to the powerstation: 'ask anyone over thirty about the difficulty of creating major change in an organisation and the answer will probably include the equivalent of "very tough" to achieve.' This statement typified the powerstation personnel

The support officer and electrical engineer were standalone roles providing a service to the operations side of the department. The support officer was responsible for the scheduling and resourcing of major maintenance activities and overhauls, combined with the ordering of stores and equipment. The electrical engineer focused on improving operational efficiencies in the

station such as reducing parasitic load. The trades assistant worked closely with the tradespeople and apprentices in the maintenance activity around the station (2000, pers. comm., S1, S2, T1, T2).

8.7.2 Electrical workshop

The organisation structure for the electrical workshop is shown in Figure 8.10. This workshop had a site wide maintenance and repair focus with a site electrical inspector.
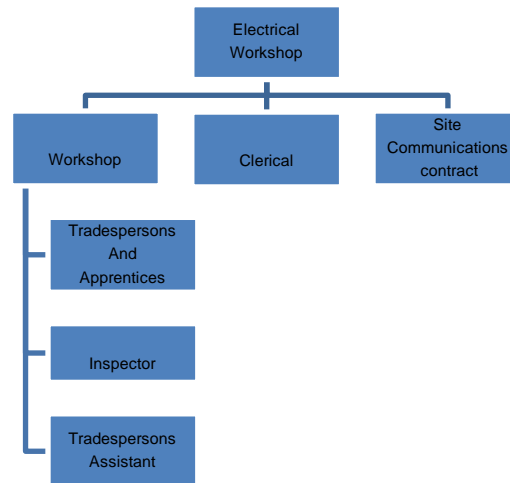
Figure 8.10: Electrical workshop organisation structure

In 1993 the greater part of the work of this group was still carried out on site with the only off site work being that which was too large to be carried out locally in Weipa - such as large motor rewinding and major switchgear refurbishment (2000, pers. comm., S1, S2, T1). New electrical tradespersons recruited to site were normally attached to the electrical workshop for a year or so before moving onto shift work in the plant or kaolin. Apprentices rotated for periods through the base electrical workshop as part of their training. The practice of employing new to site tradespersons in the workshop rather than directly on to the continuous shift operation at the plant or kaolin had proved effective over time. Consequently, the age of this workshop employees tended to be younger than some of the more settled workgroups that worked in other sections of the operations (2000, pers. comm., S1, S2, T1).

An ongoing issue with the electrical workshop group was the paucity of allowances compared to other sections. The workshop was a day operation without shift allowance and the additional week's leave allowance that was a condition of the continuous shift roster (2000, pers. comm., M3, M4, S1, S2, T2). Of the tradespeople on site, those working just the normal day shift in the electrical workshop were the lowest paid on a taxation group certificate basis over an average twelve month period.

8.7.3   Line crew

The line crew in Weipa was a small self-contained work unit consisting of nominally four employees tasked with the maintenance of the overhead and underground distribution power system at the mine site and the broader Weipa community. The reporting structure as shown in Figure 8.11 was straightforward with the group reporting directly to the electrical workshop Supervisor.
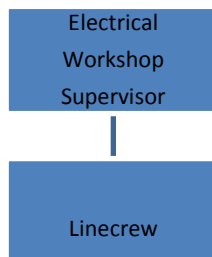
Figure 8.11: Electrical line crew reporting to the workshop Supervisor

Until 1993 the workgroup was physically located away from the main workshops and the powerstation that contained the bulk of the department assets. When the line crew was asked to move in to a section of the electrical workshop with the rest of the group, there developed considerable resistance to this planned relocation as they believed they would lose their autonomy. However by the middle of 1993 the line crew had relocated into the electrical workshop and the power and electrical services department people were now physically located adjacent to each other - powerstation, workshop and line crew (2000, pers. comm., S7, T3).

During the lead up to the offering of staff conditions in the engineering MRU it was generally accepted by management that the line crew in all probability, would not want to accept the offer of salaried staff conditions (2000, pers. comm., M3; Gorman 1996, p. 48). This belief was due to the strongly held views of the group and in particular the linesperson in charge who was known as 'the old fellow'. This individual was looked on as a competent linesperson who knew the work inside out. The leader of the group had less than five years remaining before retiring and 'could not see the need to change from the way things had always been done'.

The group was well remunerated on an annual basis as they worked substantial overtime combined with a year round call-out roster (2000, pers. comm., S7, S7, T3). As was the case with small workgroups in Weipa that had an overall site focus, the line crew tended to work isolated from the electrical workshop Supervisor on a day-to-day basis. This arrangement allowed the linesperson in charge to adopt a 'de-facto leadership role' within the group (2000, pers. comm., S7; Jaques 1996).

8.7.4 The offer of staff employment

As was the case with kaolin, all letters of offer for bauxite award employees were signed by the MRU Manager and personally handed out by the Superintendent to each employee (2000, pers. comm., M3, M4, S1, S2, T2; *Amalgamated Metal Workers Union v Comalco Aluminium Limited '& anor'* (1990) pp. 19-20). Table 8.4 was attached to the letter of offer and produced to assist employees with questions and answers concerning salaried staff employment titled: *Transition to the Salaried Staff Employment System - Questions and Answers: A Guide for Superintendents and Supervisors in Bauxite Operations* (Comalco Minerals & Alumina 1994b).

Table 8.4: Table of contents: Transition to the Salaried Staff Employment System

Page 2	Personal effectiveness review
Page 6	Salary structure and salary review
Page 12	The decision to join
Page 15	Conditions of Employment
Page 21	Employee obligations
Page 22	Union issues
Page 26	General
Page 28	Relationship between salaried staff and Supervisors
Page 33	Overtime hours
Page 36	Fair treatment process

Combined with the *Transition to the Salaried Staff Employment System - Questions and Answers,* a workshop manual was developed around the issue of the personal effectiveness review (PER) and its usage. This was called *Glancing back... Racing Forward: Personal Effectiveness Review and Learning in Comalco Minerals and Alumina* (Comalco Minerals and Alumina. 1994a). Table 8.5 outlines the main segments that this workshop covered:

Table 8.5: Outline of the PER process workshop

Introduction	Objectives Outline
What is review all about	Why do we review? Mistakes
Personal effectiveness review in CMA	What is PER? How does it work?
What is personal effectiveness	Elements of the PER Safety Improvement Team commitment Role responsibility Flexibility Task completion
The PER process	Introduction of the form Steps to developing an improvement plan Improvement plan format
Getting the most out of your PER	Keys to a good PER During the year Before your PER meeting At your PER meeting

The concept and implementation of a personal effectiveness review caused significant discussion two years on during the Weipa court case (*Amalgamated Metal Workers Union v Comalco Aluminium Limited '& anor'* (1990) pp. 139-143, 777, 572-573). However at the time the offer to change over to salaried staff employment was presented to the workforce, concern surrounding the concept of a PER was not one of the major issues that were discussed among employees or with their Superintendent (2000, pers. comm., M1, PM2).

The percentage of employees accepting salaried staff conditions of employment in Power and Electrical Services as noted in Table 8.6 came in at sixty six per cent. The site average in bauxite operations came in at seventy one per cent (2000, pers. comm., M1, M3, PM2; Hoare 1995; Thorne 1995).

Table 8.6: Profile of power and electrical services department early 1994

	Salaried Staff	Award Employees	Union Representation	Outsourced Work
Superintendent	1			
Supervisor	2			
Inspector	1			
Engineering Support	1		ETU	
Support Officer	1		AMWU	
Operators	12	3	FEDFA	
Electrical Trades	7	4	ETU	
Trades Assistant	1	2	AWU	
Mechanical Trades	4	1 retired	AMWU	
Linepersons		3	ETU	
Stores person		1	AWU	
Apprentices		6	N/a	
Powerstation Contractors		Maximum 5		Major Powerstation Engine Overhauls
Telecommunications Contract		Maximum 2		Telecom
Totals	**30**	**13**	Apprentices and contractors not included in award numbers	

The outcome for the department was viewed as outstanding. Firstly, the single largest union grouping of employees were the fifteen operators who had all been members of the FEDFA. Members of this union had predominately retained their membership of the union and rejected the offer of staff employment across site. The operators were crucial for the continued safe and ongoing operation of the powerstation. Secondly, the electricians on site 'were a bit of an unknown quantity' as they were 'well up the pay scale' now under the existing system and may not want to take up the offer. The ETU membership on site tended to be strong supporters of their union and its beliefs (2000, pers. comm., M1, M3, T1, T2).

Issues discussed with individuals as part of the letter of offer tended to focus on two points. Firstly, the remuneration package (actual dollars) and what this meant when extrapolated out over a year in comparison with normal or expected overtime and shift allowances. Secondly, superannuation, and how the existing system that the award workforce were part of would mesh into the enhanced staff superannuation scheme. The particulars of the staff system of remuneration were well known on site and individuals tended to focus their questions on issues that they saw as relevant to themselves personally. In most cases this was dollars and superannuation (2000, pers. comm., M1, M3, T1, T2; Comalco Minerals and Alumina 1994b; Hoare 1995; Thorne 1995).

8.7.5   Decline of the offer

An analysis of those employees within power and electrical services declining the offer revealed varying reasons for their non-acceptance of the offer of salaried staff employment.

Operators: two of the powerstation operators were close to retirement. One had always been a 'union man' and could not see any reason to move to a non-collective, individual agreement. 'The union' had protected his working conditions to date and he would continue as a proud ticket holder of the union. The second operator was the site delegate for the FEDFA and was committed to the ideals of trade unionism and the positive benefits that it had provided for the workforce and himself personally over time. This individual was not prepared to accept an offer of salaried staff employment and would not physically accept the letter of offer from the Manager of the MOU. Both were respected employees and their position was well known and accepted within their peer group and staff members (2000, pers. comm., M1, M3, T1, T2, U1, U2).

The remaining station operators divided into two groups: firstly the 'pragmatists' who believed their superannuation benefits would be enhanced and secondly, the 'opportunists', those who believed there would be the opportunity for moving to control room operator as some of the control room operators were close to retirement. The additional financial remuneration for this group was not great and reflected the site average as they were already well remunerated with a twenty-one day continuous shift roster in place, coupled with the opportunity to work double shifts (16 hours) and an existing ability to organise and manage their own leave and shift roster changes. They understood they we already working as de-facto staff as they had the ability to make most of their own decisions around station operations with minimum staff intervention (2000, pers. comm., M1, M3, T1, T2, U1, U2).

PowerStation Electrical: This group did better than the site average for the ETU which came in at exactly fifty per cent staying on the award and fifty per cent moving over (thirty-two staying, thirty-two moving over). Within the department of power and electrical services the four electricians in the powerstation were all previously Comalco apprentices who had come through the system. Apprentices always have been employed and remunerated at Weipa without the necessity of collective bargaining or being represented by a union official. As with staff employment, the relationship for the apprentice group has traditionally been between the company through the Technical Training Superintendent and the individual apprentice training supervisor. All four electricians accepted the company offer of staff employment. The Power and Electrical Superintendent at the time of the offer of staff employment had previously been in the role of Technical Training Superintendent (2000, pers. comm., M1, M3, T1, T2, U1, U2).

Electrical workshop: This group tended to follow the site average. This grouping was mainly younger employees with less than two years employment history in Weipa. The electrical workshop numbers moving to staff split down the middle with fifty per cent going over and fifty per cent staying put. As these employees were predominately short term at this stage they tended to remain within the ranks of the ETU. They did not want to be discriminated against when applying for jobs in other sectors of the mining industry - particularly coal - that remained 100 per cent unionised at this stage (2000, pers. comm., A2, S1, T1, T2).

Trades Assistant: The site average was followed with only one out of three moving over. Again it must be stated that the two who did not move over were long term employees, single, close to retirement and having a strong affiliation to the Australian Workers' Union in particular, and the union movement in general. One retired within six months and the other one remained as part of the work group.

Mechanical: This group moved over to salaried staff as a unit with the exception of one who was nearing retirement age and decided to take an early retirement option. The mechanical tradespersons were the oldest grouping within the powerhouse and included the AMWU site delegate, as well as having one of their number married to a salaried staff member. As a group, they discussed all the options and in the end the increased superannuation benefits effectively made their mind up for them. These were the 'pragmatists', who based their decision on financial gains for themselves and their family as individuals approaching retirement age (2000, pers. comm., S2, T2).

They did not arrive at their decision lightly. The AMWU site delegate in particular went through a lot of soul searching before finely coming to a decision to accept the offer. However

the improved superannuation benefits as mentioned previously made their choice, in the terminology that was in common use in Weipa at the time, 'a no brainer'. All three remained with the company and retired between 1998 and 2001 (2000, pers. comm., A1, S1, S2, T2).

Linepersons: Together as a group they rejected the offer from the company. This was not an unexpected outcome. The group was similar to any line crew in Queensland that worked for a distribution electricity supply authority and as such these corporations were government owned and completely unionised (Gilbert 1986, 1997). Hence the same situation applied to the line group in Weipa who had all been recruited, or carried out their training, within the electricity supply industry in Queensland. They had a strong attachment to the union movement in general and the Electrical Trades Union in particular. Overtime the dominant linesperson retired and the line crew moved over to staff employment as one (2000, pers. comm., A1, T2).

Stores person: This individual had a strong affiliation to the AWU and the union movement in general and was a driving force behind the Weipa Bowls Club (Gorman 1996, p. 11). The AWU had always been the union he belonged to and in previous years this person had held leadership positions with the union in Weipa. Prior to coming over to the Power and Electrical Services department he had worked in the main store in a range of activities from the wharf through to the dispatch counter, ensuring at all times the workshops had the equipment they needed when they needed it. This individual remained on the award and continued as a valued member of the power and electrical services group and President of the bowls club (2000, pers. comm., S1, S2, T2).

8.8   Free riders in an IR context

Moran (2002) describes the emerging feature of non-union employees working alongside union employees as freeloading in the workplace. This is a social injustice for non-unionists 'to sit back and enjoy, free of charge, the industrial outcomes achieved by their work colleagues who are in the union'. There will be many instances where only a portion of the workplace is unionised. In these workplaces where a portion is not union members, 'they are still represented by, and receive the benefits negotiated by the union without contributing to the costs' (CFMEU 2001; Moran 2002; Robertson 1999, pp. 1-2).

The freedom of association provisions of the Workplace Relations Act that was legislated in 1996 is seen as the precursor for the so called freeloaders in a work environment (Workplace Relations Act 1996).

The freedom of association provisions of the *Workplace Relations Act 1996* ensure that employees and independent contractors are free to join or not to join unions, and employers are free to join or not join employer organisations. The provisions also ensure that employers, employees and independent contractors are not prejudiced against or victimised because they are, or are not, members of such organisations.

This introduction of the freedom of association provisions of the *Workplace Relations Act 1996* was four years subsequent to Thorne effectively introducing freedom of association provisions in relation to union membership at the Weipa site. On Friday twenty-eight August 1992, memorandum reference: 2-70-57 titled 'Union Membership' was sent out under the signature of Grant Thorne, General Manager Operations, Weipa. The memorandum effectively ended the 'closed shop arrangement' that had been in place since the commencement of mining operations on the Weipa peninsula (Hoare 1995; Thorne 1995)**.**

The notion of free riders in an industrial relations context did not come into contention in Weipa during the period outlined in Chapters seven and eight. In the move to salaried staff employment, the separation between award and staff was clear in that any gains by the award workforce as part of collective bargaining were not passed along to staff employees (Hoare 1995; Thorne 1995)**.**

8.9 Implications of Research

Themes for additional research were uncovered as a result of enquiry undertaken in this chapter. The propositions are categorised as theoretical and practical implications.

8.9.1 Theoretical implications

A number of research possibilities are raised in Figure 8.12 for further analysis arising out of enquiry undertaken for this chapter. They concentrate on the employee, the employer and the union movement.

Eight stage change management model (Kotter 1996)

Employer

Comalco

1991 - 2011

NZAS

Hamersley Iron

Evaluate the change 20 years on

Employee

Union movement

The intersection at the workplace between the union movement, the employer and employees
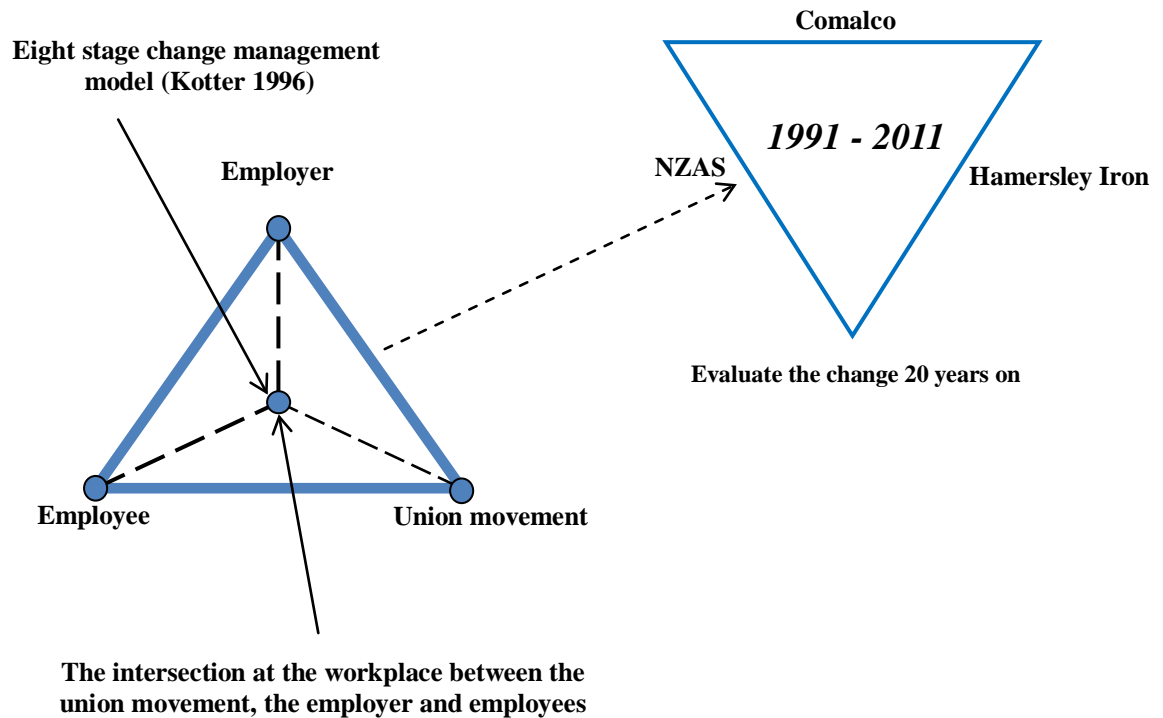
Figure 8.12: Theoretical implications for further research model

This three way intersection between employer, employee and the union movement has a timeless dimension of being as relevant today as to the period this study researches. Three broad areas are promulgated for additional research:

1) Twenty years have passed since the transition to staff occurred at NZAS/CRA/Comalco. The individuals responsible for leading the change with the exception of Terry Palmer are still alive. Consideration could be given to carrying out a 20 year analysis on the results of the transition from an award workforce to a salaried staff mode of employee engagement. What has been the learning's over the period? What is still in place? What has been jettisoned over time and why?

2) Can the change model of Kotter's (1996) 'Leading Change' be utilised as an Australian Union movement model for employee relations change. If management can use this model so effectively, why would not the Union movement embrace - or at least evaluate - Kotter's model in an effort to arrest declining membership.

3) Rio Tinto and BHP Billiton have an extensive Australian pedigree within the global mining sector and a comparable market focus. Rio Tinto embraced the Jaques' OD methodology of Stratified Systems Theory and the direction of a single status workforce. BHP Billiton did not. There is an opportunity to 'compare and contrast' the performance of these two companies over the last 20 years given their different management philosophies on structure and employee relations.

8.9.2   Practical implications

1) What effect has technology, outsourcing, fly-in fly-out (FIFO) and the casualisation of work had on management transition of employees to a non-union model of labour engagement

2) Should the Rio Tinto model of salaried staff employment for the metalliferous workforce acquire a share of Business School offerings in leadership, change management, strategy, HRM and employee relations?

3) Case studies could be developed on alternate methods of labour engagement within an Australian context to the traditional collectivism union paradigm, not as an aside, but on an equal footing

8.10   Chapter review

Chapter Eight has drawn the research threads together from previous chapters leading up to the offering of salaried staff employment in December 1993. Work carried out in the kaolin plant during 1993 that would contribute to the long term viability of the operation via expansion of the tonnage produced, was outlined. Both hybrid and full staff conditions of employment were offered to employees of kaolin. Mention was made that the bauxite operations in Weipa were ring fenced until salaried staff employment was sorted out in kaolin, due to the core nature of the bauxite side of the business to downstream operations in alumina and aluminium.

The content within the conditions of salaried staff employment such as accommodation, medical, superannuation, air fares and the concept of an area allowance has been laid out, as are the three levels of thirty per cent depth pay bands at stratum one, into which the award workforce moved. The main issue that employees discussed in regards to the offer was the remuneration aspect of the package combined with the superannuation benefits. The personal effectiveness review was discussed with the publication on 'transition to the salaried staff employment system'.

Chapter 8 focused on a typical department within the Comalco Weipa bauxite operations - Power and Electrical Services - and traced the individual decision making process in deciding whether to accept the company offer of salaried staff employment or not. Chapter 9 draws the thesis thread together with the summation of the research aim and enabling objectives.

Chapter Nine

Conclusions and Recommendations

Outline of Chapter

9.0   Chapter content

Provides an overview of the subject matter

9.1   Study aim and objectives

Reviews the study aim and six enabling objectives

9.2   The elephant in the room

An unintended outcome from the study

9.3   Outcomes of research enabling objective (i)

Identify the significant factors contributing to the establishment of the OD intervention project in 1979

9.4   Outcomes of research enabling objective (ii)

Associate the linkages between the OD trials at three CRA mine and process plants and the go/no-go decision trigger for the project

9.5   Outcomes of research enabling objective (iii)

Analyse a typical OD implementation at the Raw Materials Business Unit (the world's largest bauxite mine) at Comalco Weipa

9.6   Outcomes of research enabling objective (iv)

Appraise the implementation of system leadership training and development (T & D) following on from the Carnegie/Jaques' OD intervention

9.7   Outcomes of research enabling objective (v)

Expand on Stage 7 of Kotter's model (*producing still more change*) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations

9.8   Outcomes of research enabling objective (vi)

Develop a model for organisational change intervention in the Australian mining industry based around Requisite Organisation (RO) principles and Kotter's eight step change model

9.9   Identify linkages between the literature review, thesis aim and enabling objectives

Draws together the nexus between the thesis threads

9.10   Recommendations arising from the study

Identifies additional research enquiry arising out of the study within three spheres: tertiary education, books and journal/conference papers

9.11   Limitations of the study

Notes the limitations of the findings of the research

9.12   Chapter summary

Summarises the outcomes of the chapter

9.0   Chapter content

Chapter 9 harnesses the research outcomes of the OD intervention study at CRA into a coherent sequence of results. Section 9.0 provides an overview of content. Section 9.1 revisits the study aims and enabling objectives. Section 9.2 acknowledges the existence and criticality of the elephant in the room. Section 9.3 details the research outcomes of enabling objective (i). Section 9.4 details the research outcomes of enabling objective (ii). Section 9.5 details the research outcomes of enabling objective (iii). Section 9.6 details the research outcomes of enabling objective (iv). Section 9.7 details the research outcomes of enabling objective (v). Section 9.8 details the research outcomes of enabling objective (vi). Section 9.9 identifies linkages between the literature review, thesis aim and enabling objectives. Section 9.10 details research recommendations arising from the study. Section 9.11 notes the study limitations. Section 9.12 details the chapter summary.

9.1   Study aim and objectives

The fundamental aim of the study was to analyse the Carnegie/Jaques' Organisation Development (OD) intervention at Conzinc Riotinto Australia through the lens of Kotter's eight step Organisational Change process.

Six enabling objectives evolved from the study aim to inform the intent of the fundamental purpose of the study:

i.   identify the significant factors contributing to the establishment of the OD intervention project in 1979

ii.   associate the linkages between the OD trial at the Woodlawn CRA mine and the go/no-go decision trigger for the project

iii.   analyse a typical OD implementation at the Raw Materials Business Unit (the world's largest bauxite mine) at Comalco Weipa

iv.   appraise the implementation of system leadership training and development (T & D) following on from the Carnegie/Jaques' OD intervention

v.   expand on Stage 7 of Kotter's model (*producing still more change*) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations

vi.   develop a model for organisational change intervention in the Australian mining industry based around Requisite Organisation (RO) Principles and Kotter's eight step change process

Figure 9.1 refreshes our understanding of the focal point of the study. This thesis was positioned subsequent to the initial research carried out by Jaques on development of the

theories and before the Requisite Organisation model emerged in 1998. The gestation period was categorised within the study as 'evolution of the theories into a generic organisation structure model' Figure 9.1 provided a snapshot of the study adapted from the research of (Brown 1960, 2003; Brown 2011, 2011a; Brown & Jaques 1965; Ivanov 2003; Jaques 1989; ROII 2011).
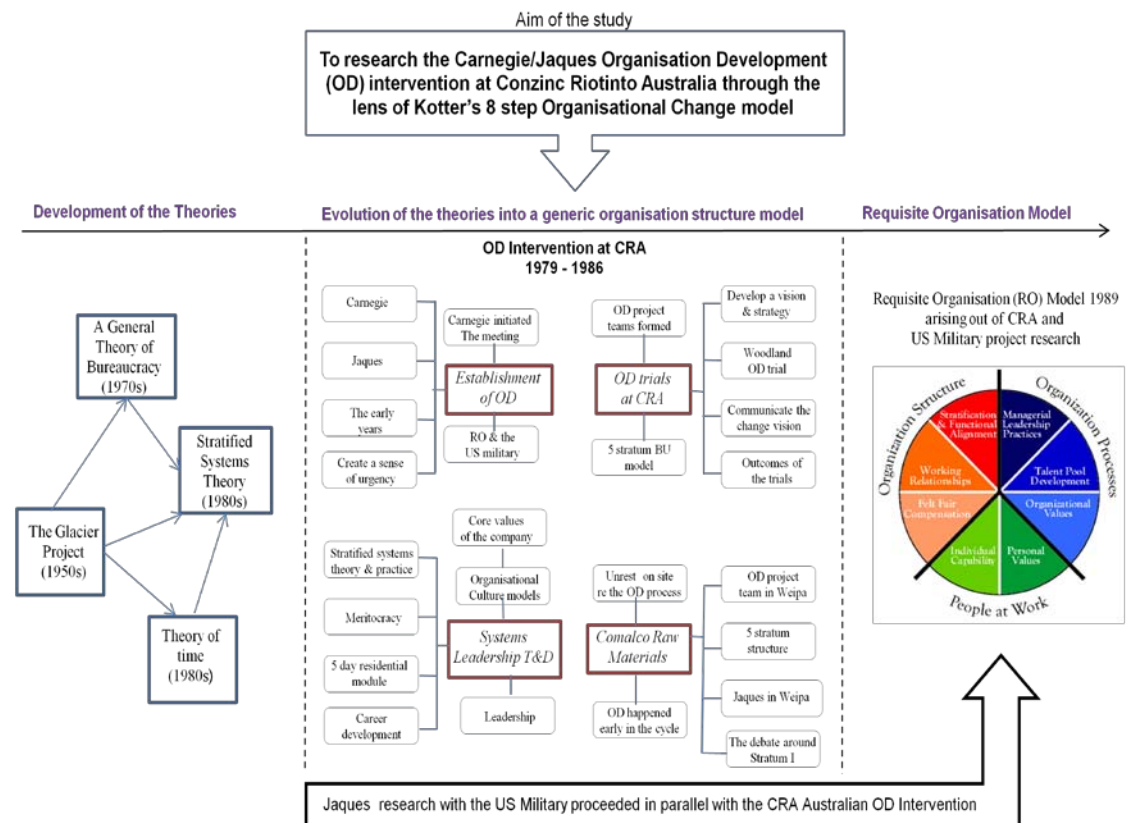
Figure 9.1: OD intervention positioning the study between theory development and the RO model

Enabling objectives (i) through (iv) inclusive were embedded within the core of the study and were identified as: (i) establishment of OD, (ii) OD trials at CRA, (iii) Comalco Raw Materials and (iv) System Leadership T&D.

Enabling objective (v) was the penultimate study objective that enlarged stage seven of Kotter's change process (*producing still more change*) to analyse the offer of salaried staff employment to the award workforce at CRA's metalliferous mine sites and process plants. Enabling objective (vi) tied the findings of the enabling objectives to an holistic organisational change model applicable to the Australian mining industry.

The study's academic credentials were achieved by utilising Kotter's organisational change process as noted in Table 9.1.

Table 9.1: Kotter's eight steps to transforming the organisation

Step	Area Considered	Specific Areas Evaluated
1	Establishing a sense of urgency	Examining market and competitive realities Identify and discussing crisis, potential crises or major opportunities
2	Forming a powerful guiding coalition	Assembling a group with enough power to lead the change effort Encouraging the group to work together as a team
3	Creating a vision	Creating a vision to direct the change effort Developing the strategies for achieving that vision
4	Communicating the vision	Using every vehicle possible to communicate the new vision and Teaching new behaviours by the example of the guiding coalition
5	Empowering others to act on the vision	Getting rid of obstacles to change Changing systems or structures that seriously undermine the vision Encourage risk taking and non-traditional ideas, activities and actions
6	Planning for and creating short term wins	Planning for visible performance improvements Creating those improvements Recognizing and rewarding employees involved in the improvements
7	Consolidating improvements and producing still more change	Using increased credibility to change systems, structures and policies Hiring, promoting and developing employees who can implement the Reinvigorating the process with new products, themes and change
8	Institutionalising new approaches	Articulating the connections between the new behaviours and corporate Developing the means to ensure leadership development and succession

The theoretical approach utilised in this study engaged the eight steps to transforming your organisation from Kotter (1996), and secondly linked the organisational change theories to the CRA organisational development (OD) intervention. Kotter noted that successful change begins when individuals look at a company's competitive situation, market position, technological trends and financial performance. Companies change by moving through phases or steps over a period of time. This focus on successful change management strategies is consistent with CRA's nine year transition to a RO structured organisation.

Figure 9.2 identifies the linkages between enabling objectives, thesis chapters and Kotter's eight step organisation change process:
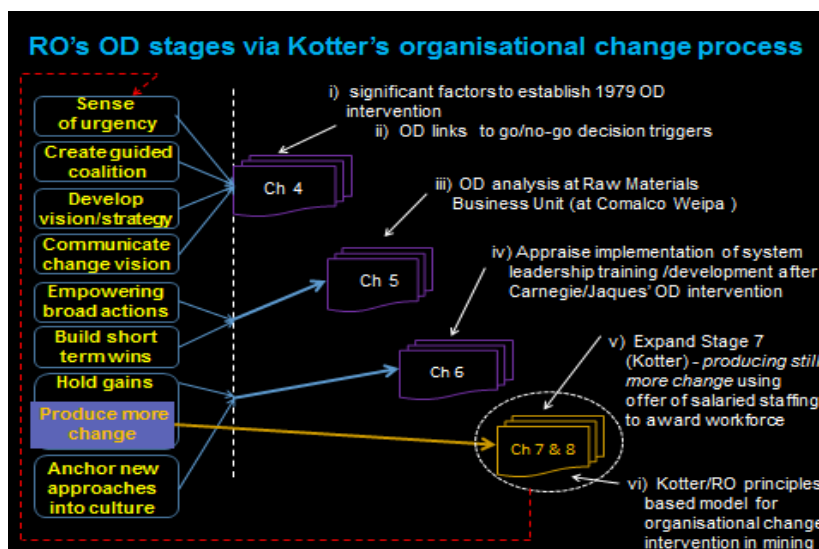
Figure 9.2: Linking study aims and outcomes to Kotter's (1996) change management process

The study elucidated which aspects of the RO organisational change management process at CRA achieved the benchmark of Kotter's process, and which elements did not. Objectives (v) and (vi) are embraced within Figure 9.2. Objective (v) expands on Kotter's process of *producing still more change* to analyse the offer of salaried staff employment on the award workforce. Objective (vi) was the catalyst for developing an organisational change model for the Australian mining industry.

9.2   The elephant in the room

As the study drew to its logical conclusion, the elephant in the room could no longer be ignored (an important and obvious topic 2010). The single most important research outcome to arise from this study was the hypothesis that if Carnegie had not read a *General Theory of Bureaucracy* he would not have initiated a meeting with Jaques in London. Furthermore the decade-long partnership leading to the concept of a requisite organisation model would not have eventuated. Also Figure 9.1 would not have at its core, '*evolution of the theories into a generic organisation structure*'. The Requisite Organisation model as it is known today would, in all probability, not exist - certainly not in the current configuration as an outcome of the work undertaken with CRA.

Carnegie (2005, p. 341) articulated the time horizon in the journey leading to the development of RO from the perspective of a CEO engaging a consultant. He noted that Jaques did not at that time have a developed theory or an organisation model. At no time in publications or interviews has Carnegie stated that he commissioned Jaques as a consultant at CRA because he had a model of structural organisational change or organisational development:

> I didn't, and CRA didn't adopt Jaques' theory in 1978. He did not have a developed theory. What Elliott had was deeply held hypotheses. He didn't really have a worked-out theory. After the eight or 10 years' work with us, and with the parallel work with the US Army, these hypotheses have been solidified into Jaques' practical theory titled - *Requisite Organisation.*

Section 9.2 does not set out to denigrate or minimise Jaques' research output. Instead the analysis seeks to link the Carnegie/Jaques partnership in the same research/industry collaboration chain as the earlier Brown/Jaques relationship. One cannot have Requisite Organisation without the links in the chain coupling together over time. If Carnegie, with his extensive consulting background with McKinsey, had not instigated a meeting in London with Jaques, then Carnegie would have selected an alternative organisational development model for implementation at CRA. The direction Jaques would then have taken with his theories is open to conjecture and hypotheticals that are outside the scope of this study. The indisputable fact

arising from this study is that Carnegie was fundamental to Jaques being commissioned by CRA and the rest, as they say, is history.

Figure 9.3 provides a suggested model depicting the linkage between Jaques' research, Glacier Metals, Conzinc Riotinto and Requisite Organisation:
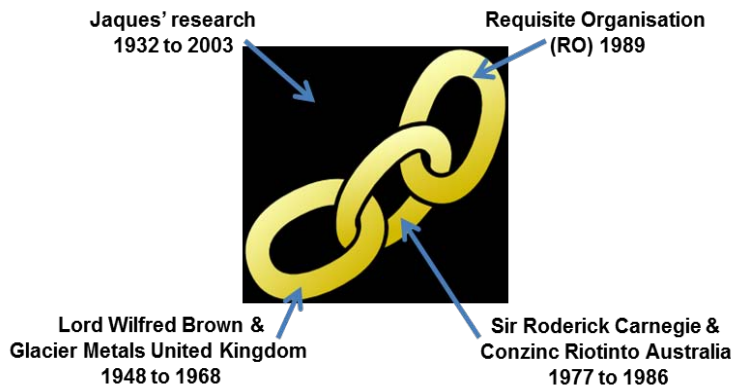
Figure 9.3: Linkages between Glacier Metals, Conzinc Riotinto and Requisite Organisation

Jaques' eminent and varied research output is identified as the black section of the model. The three key outcomes of Jaques' research journey are identified as a trilogy of links in a research chain spanning 1948 to 1986. The initial link in the chain evolved from the Brown/Jaques partnership at Glacier Metals between 1948 and1968. The second link in the chain developed from the Carnegie/Jaques association between 1977 and 1986. The third and concluding link in the chain was established with the publication of Requisite Organisation (RO) in 1989. The consensus of this study is that the birth of RO in 1989 is a direct result of decades of close and personal collaboration with both Brown in the United Kingdom and Carnegie in Australia. The linkage between the United Kingdom and Australia in developing RO is mirrored in the evolution of time between CRA/Rio Tinto in the United Kingdom and Australia.

Researching the impact of the pivotal moment of the Carnegie/Jaques meeting and ongoing collaboration was not a fundamental question canvassed at the activation of the study, or as an intended outcome arising from the literature review. As the study progressed, the notion that Jaques' research may have remained an hypothesis, if Carnegie had not read *A General Theory of Bureaucracy,* gained credence.

The pivotal moment of 'Carnegie, Jaques and Requisite Organisation' was the insight by Carnegie on the significance for organisational redesign from the diagram on available capacity levels in Figure 9.4. This illustration was a defining moment that elevated a routine meeting between a CEO and a potential consultant to a complex interrelationship over time between

peers. The embryonic intellectual **Meeting of Minds** journey had begun**.** Carnegie had a problem and was searching for a solution. Jaques had a solution and was searching for a problem. Although not known or understood at the initial meeting, the gestation period of what become known as Requisite Organisation had commenced.

Researchers and writers on Jaques and Requisite Organisation have acknowledged the significance of Carnegie and the OD intervention at CRA between 1997 and 1986 on the development of Requisite Organisation. Research undertaken as part of this study takes the notion of criticality a step further and positions Carnegie and CRA on a pedestal equivalent to that of Lord Wilfred Brown and Glacier Metals. Carnegie was not a mere collaborator or enabler, but a partner in his own right with Jaques, as Lord Wilfred Brown was with Jaques three decades earlier at Glacier Metals.

The study uncovered linkages in Jaques' journey to a Requisite Organisation model between Jaques, an industry of national significance and an engaged, hands-on MD/CEO. Initially there was Lord Wilfred Brown and Glacier Metals in the United Kingdom, followed by Sir Roderick Carnegie and Conzinc Riotinto in Australia. The common denominator was the MD/CEO and industry based research.

Lord Wilfred Brown and Glacier Metals in 1948 provided Jaques with an unparalleled industry research platform in the United Kingdom to carry out enquiry between 1948 and 1965. Jaques was a founding member of the Tavistock Institute of Human Relations in 1946 and was the leader of the Glacier Metals project that Tavistock embarked on. Sir Roderick Carnegie in 1977 provided Jaques once again with an unparalleled industry based research platform in Australia to progress the theories developed at Glacier Metals into a robust seven stratum organisation model.

Christian (nd) described the collaboration and relationship between Brown and Jaques over time at Glacier Metals as:

> …Wilfred Brown (1908-1985) was Chairman and Managing Director of Glacier Metal Company from 1939 to its sale in 1965. Brown oversaw several experimental efforts in empowerment, workplace democracy, compensation, pricing and organisational design that culminated in the almost two-decade long efforts (1948-1965) led by Dr. Elliot Jaques. This unique collaboration between a CEO and a researcher - which Peter Drucker called "the most extensive study of actual worker behaviour in large-scale industry" - resulted in one of the only true comprehensive systems

of management and led to ground-breaking discoveries and management methods that challenged almost every area of management and organisational design.

The contention of section 9.2 is that the Carnegie/Jaques collaboration and relationship between 1977 and 1986 is in the same category as that described by Christian (nd). Figure 9.3 notes Jaques' applied research journey in association with industry was a two stage process. Stage one was with Brown and Glacier Metals in the United Kingdom, followed by stage two with Carnegie and Conzinc Riotinto in Australia. The hypothesis of section 9.2 is if the Carnegie/Jaques collaboration had not occurred, then the Requisite Organisation model as we know it would not be in place today. Both the Brown/Jaques and Carnegie/Jaques partnerships in industry based research were essential prerequisites to the birth of Requisite Organisation in 1989. They were fundamental links in a longitudinal research chain. Section 9.10 notes supplementary evidential based research to be undertaken to further cement the CEO/Jaques linkages noted in Section 9.2

9.3   Outcomes of research objective (i)
Identify the significant factors contributing to the establishment of the 1979 OD intervention project

In the late 1970s Carnegie decided to change the way CRA operated across all facets of its business. He believed CRA was vulnerable to take-over due to its fragmented structure. Carnegie was determined to unite CRA into a powerful and strong corporation that would become a world class mining entity. Specific aspects of the business were identified that would require the expenditure of executive and corporate resources to accomplish the necessary changes. The business embarked on a long-term re-alignment and corporate strategic planning in four critical areas: CRA must establish a framework that de-centralises the business, CRA had to become internationally competitive, CRA must discover new technology to value-add to the raw minerals produced and CRA must decentralise into a commodity based business unit model with volume capacity.

Carnegie presided over the preparation of a series of discussion and analysis papers covering aspects that the project groups had identified as requiring executive time. The discussion papers were strategic and conceptual in nature with minimal specific detail at this time. CRA was seen to be vulnerable to take-over with its existing fragmented structure and he was determined to unite the business as a corporation. Carnegie had a challenge and he was searching for a structural solution to use as a framework for restructuring the company in line with strategic goals and direction. Carnegie reviewed the work of all the organisational theorists and the major consulting firms to see where CRA could get help. The major consulting firms -

including his old firm McKinsey - were employed on specific projects as trials, but the group was not making a lot of progress. Members of the management team felt they could do better than paying consultants to tell them something they already knew.

Carnegie perused one of Jaques' books published in 1976, *A General Theory of Bureaucracy*, and was transfixed with the diagram shown in Figure 9.4. Carnegie, because of his physics training, understood the significance of the graph and its applicability to developing employees based on a solid theoretical foundation (Jaques 1976, p. 173).
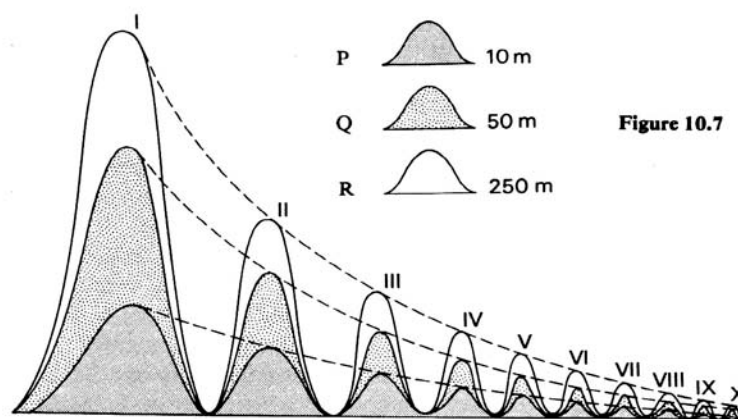
Figure 9.4: Diagram on available capacity levels

The diagram on available capacity levels was the starting point for the Carnegie and Jaques' **Meeting of Minds -** *Carnegie had a conundrum and was searching for a solution. Jaques had a solution and was searching for a conundrum.* Carnegie intuitively understood that Jaques was building an embryonic theory around human capability levels in organisations. The available capability levels diagram become Carnegie's 'aha moment' - that moment in time when one has a sudden understanding, recognition or resolution of a problem - an instant at which the solution to a problem becomes clear. This insight into Jaques' discovery turned out to be Carnegie's 'Crossing of the Rubicon' at CRA which led to a decade long holistic OD restructure.

The initial meeting between Carnegie and Jaques in London culminated in the commencement of consulting work by Jaques with CRA and its associated subsidiaries. Jaques brought to the OD project five core beliefs that were acknowledged as fundamental to the process. The core beliefs formed the nucleus of all activities in the evolution from stratified systems theory to a working OD model at CRA between 1979 and 1986. The core beliefs entailed:

1) A belief that management practices were like the state of medicine in the fifteenth century, a vast opportunity for improvement.

2) A belief that he had discovered the equivalent of the basic measuring device in medicine, namely, the thermometer. Elliott's use of time-span was, he believed, an equivalent measuring device for assessing objectively the size of a job - namely, having a tool to determine the size of a job.

3) In the period of 100 or 200 years, a set of universal principles would be discovered. In his work with Glacier, Jaques believed he had made a start towards that discovery.

4) People who had to make it happen were line managers from the CEO down. Managers must take the actions needed to make better working arrangements happen.

5) A commitment to getting the work done better had to be the basis for improvement.

Study objective (i) in conjunction with study objective (ii) noted the CRA organisational development intervention was consistent with the intent of the first four steps of Kotter's eight step organisational change process of establishing a sense of urgency, creating the guiding coalition, developing a vision and strategy and communicating the change vision.

9.4   Outcomes of study objective (ii)
Associate the linkages between the OD trials at three CRA mine and process plants and the go/no-go decision trigger for the project

Figure 9.5 highlights the project management model used for the Woodlawn mine site OD trial.
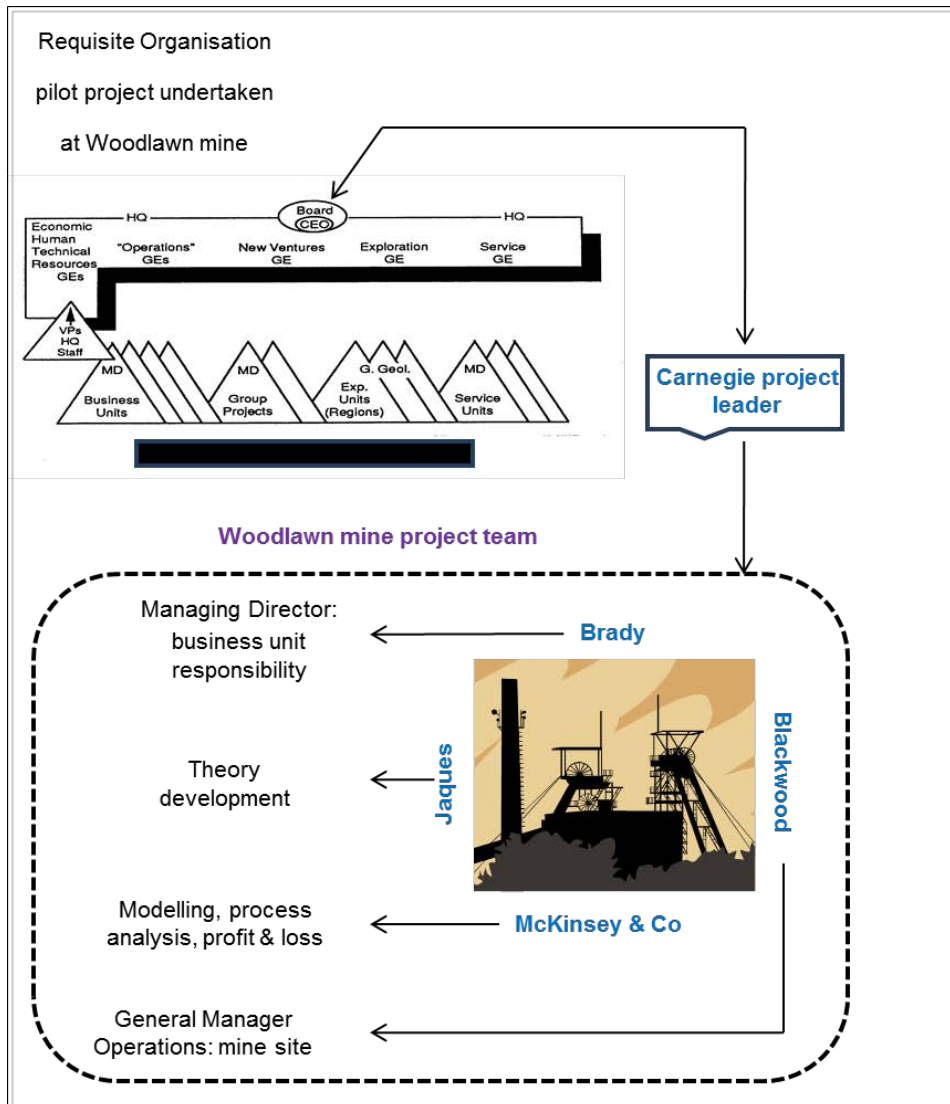
Figure 9.5: Woodlawn mine project team structure

Three trials undertaken were essential to ascertain the adaptability of Jaques' theories into a working model that would over time trigger a *'go decision'* for the organisational development project in CRA. Woodlawn was the first of three operational based trials undertaken to ascertain the viability of Jaques' theories when applied to a typical operating mine or process plant in CRA. Linkages essential to achieving successful outcomes were identified from the study as: CEO stewardship, leadership at a business unit (stratum V) and operating site (stratum IV) combined with a commitment by project team members to countenance alternative philosophies and ideologies on organisation structures applicable to mining.

Carnegie emphasised that Woodlawn was about having an ideal mix of ability and talent to carry out a pilot study. Project team composition was acknowledged as a key derivative of success due to the spread of skills, knowledge, project experience and an individual commitment to take ownership of the process and outcomes. The project team composition

formed the basis for the three preliminary trials undertaken to ensure continuity across sites and minimise process errors. Key individuals, their leadership role and contribution to the Woodlawn trial consisted of:

Brady: Managing Director of the AM&S mining business unit through which the Woodlawn operation reported. Brady was directly accountable for the ongoing commercial viability of the business unit, and by default a key member of the project team. Brady ensured the project added value to the operation specifically and the business unit financial viability generally.

Jaques: concentrated on evolving the theory development of his research from an SST into a working business unit model based around five discrete stratums. Jaques was a codifier, a clarifier, a questioner. He was the theory specialist, the research scientist.

McKinsey consulting staff: utilised on modelling, process and profit and loss analysis around operational changes emanating from the pilot project. They provided independent analysis on the bottom line effect of the changes put in place and ensured clear and concise project documentation.

Blackwood: the mine site GMO possessed the positional leadership authority to veto any changes which, in his opinion would negatively impact on the profitability of Woodlawn - his site.

Carnegie: Project Manager, Sponsor and the link between CRA operations and the Board. Carnegie personally allocated the project leadership role in the pilot study to the office of the CEO. His project leadership and sponsorship responsibility sent a powerful message through the organisation - the CEO was directly underwriting the series of OD trials.

Once the pilot at the Woodlawn mine site transitioned from theory maturity to an emerging usable model, additional project teams embarked on work at the Sulphide Corporation near Newcastle and at Broken Hill both in New South Wales. Project activity carried out across the three sites was similar in nature to ensure there was consistency when applying the theory to an open cut mine, an underground mine and a process plant. The outcome of the initial OD project work undertaken at Woodlawn gained recognition from the project team that a five stratum business unit structure was achievable within CRA. The rigorous stratum level analysis and testing on a working mine site established that criteria for determining organisation levels could be utilised.

Table 9.2 notes the investigation of the theories at Woodlawn yielded the following strata levels, time span and position designations for on-going operational based development:

Table 9.2: Recommended stratum levels within a CRA autonomous business unit

Stratum	Time Span	General Title
I	Up to 3 months	Supervisor
II	3 months to 1 year	Superintendent
III	1 year to 2 years	Manager
IV	2 years to 5 years	General Manager
V	5 years to 10 years	Managing Director

Study objective (ii) in conjunction with study objective (i) revealed that CRA organisational development intervention was consistent with the intent of the first four steps of Kotter's eight step organisational change process of establishing a sense of urgency, creating the guiding coalition, developing a vision and strategy and communicating the change vision.

The four change management steps were enmeshed throughout study enabling objective (i) and (ii). Kotter's initial steps were exemplified by project team members and the manner in which they carried out their duties. Although Carnegie created the initial guiding coalition, the sense of urgency, strategy and communication were quickly embraced and promulgated down through the business units by the executive membership of the Woodlawn trial.

The study outcomes note the entrenched linkages between the first four of Kotter's eight step change process in Figure 9.6.
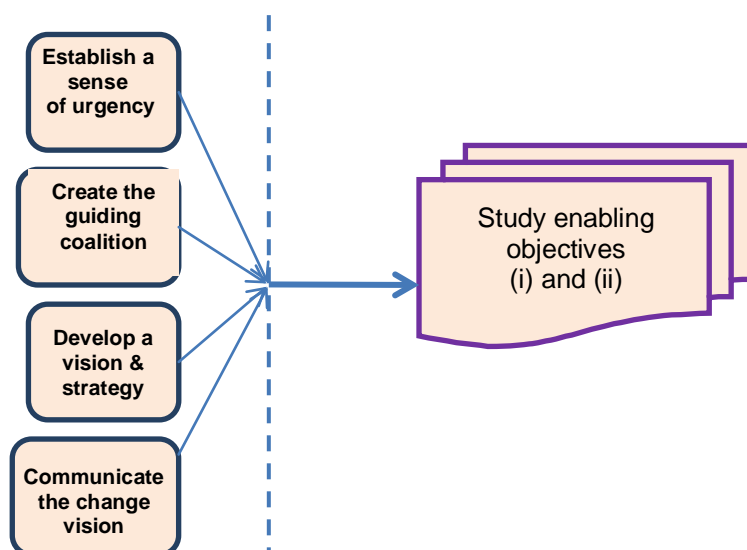
Figure 9.6: Integration of Kotter's first four steps with study objectives (i) and (ii)

The outcome of enabling objective (ii) has highlighted the importance of conducting one or more pertinent trials to test run a change management intervention before implementing companywide change. The organisation change trial model allows a business to assess the impacts and outcomes of a change process under a controlled setting.

9.5   Outcomes of research objective (iii)

Analyse a typical OD implementation at the Raw Materials Business Unit (the world's largest bauxite mine) at Comalco Weipa

Analysing a typical OD implementation at the Raw Materials Business Unit followed on from study objective (ii). This research objective aligned and meshed with step five and six of Kotter (1996) - 'empowering broad based action and build short term wins' as noted in Figure 9.2.

Weipa was not assessed by executive management to be an immediate priority to restructure. A severe downturn in the global bauxite market early in 1984 was regarded as a materialising business threat by the business unit Group General Manager (GGM). The impending cyclic downturn was shaping up to be more pronounced in both depth and duration than previous occurrences. Consequently, the GGM requested that an OD project team be dispatched early in the restructuring cycle to Weipa. This reasoning was based around wanting a new business unit structure in place for the expected upturn in the product demand cycle in 1986. The directive from the GGM had the effect of immediately removing managerial barriers on site to the imminent OD intervention.

Carnegie frequently raised the issue of the 'Broken Hill Mine Managers' Club' being an impediment to moving forward with new ideas at the executive level. In Weipa the equivalent was the 'Superintendent Group', particularly within Plant, Mine and Engineering. Superintendents traditionally had managed the day-to-day operations of the site with control over the labour and material operating budgets within their departments. The Superintendent level in particular had been identified as crucial to a site based outcome in the early trials. This comment proved to be accurate as this group became 'an intermittent thorn in the side of the OD team' during their time on site. Johnson (1996, p. 3) in a paper presented to the Australian Human Resources Institute (AHRI) yearly conference, made the point strongly that the OD roll out throughout CRA business units was 'mandatory and not optional':

> During the 1980s we constituted about 25 business units as self-managed operations in CRA. From more than 25 pay bands in the organisation we introduced a mandatory flattened structure

of four layers of strata, with one layer of Managing Director making up the fifth level for each business unit.

Hence the Superintendent based 'impediments' were brushed aside for the greater good of the project. The major task, once settled in, was putting together a presentation that would be promulgated site wide to groups of about twenty people. The aim at this early stage was to achieve ownership of the process by influential stakeholders. The site based negotiated outcome on the interview process is consistent with Step 5 - empowering others to act on the vision (Kotter 2006). Kotter identified three broad actions that can be undertaken to 'empower others to act on the vision' - firstly, get rid of obstacles to change, secondly, change systems or structures that seriously undermine the vision, and thirdly, encourage risk taking and non-traditional ideas, activities and actions.

The CRA project structure and autonomy given to the OD intervention from the CEO empowered the site management team and the OD project team to negotiate an outcome that also passed the common sense test. The site wide interview process was signed off by all parties as a workable way forward.

At the request of the GMO Weipa, Jaques travelled to the mine site for a week in early 1985. He came to confer with site management and support the OD project team in their deliberations on the role place and accountability of the supervisor at stratum I. Jaques' visit had a number of ramifications for the site that transcended the OD process. Firstly, the visit enabled members of the project team and Weipa site management the opportunity to question the individual who 'researched and developed stratified systems theory'. Secondly, management recognised they were part of 'on-going workplace based research' to build on and refine concepts that would enhance the useability of the model within CRA business units.

The Supervisor's role evolved into an on-going debate between site management and the OD project team as well as consuming an inordinate amount of project and management time. Early in the OD project, it became evident that the interface between management and the award workforce - foreman, assistant foreman and to a lesser extent, the leading hand position was going to be restructured out. The roles would be merged into a new position, called Supervisor at stratum I. The transformation meant that the feeder roles into management from the award workforce were being eliminated. Historically the leading hand would become the assistant foreman and over time, the assistant foreman would move up the foreman's position. There was considerable disquiet engendered on site over this issue and the newly created Supervisor role.

The business unit structure displayed in Figure 9.7 adapted from Brady (1992) was typical of the structure put in place at Weipa and other major CRA sites and process plants as a consequence of the OD project teams restructuring of individual business units.
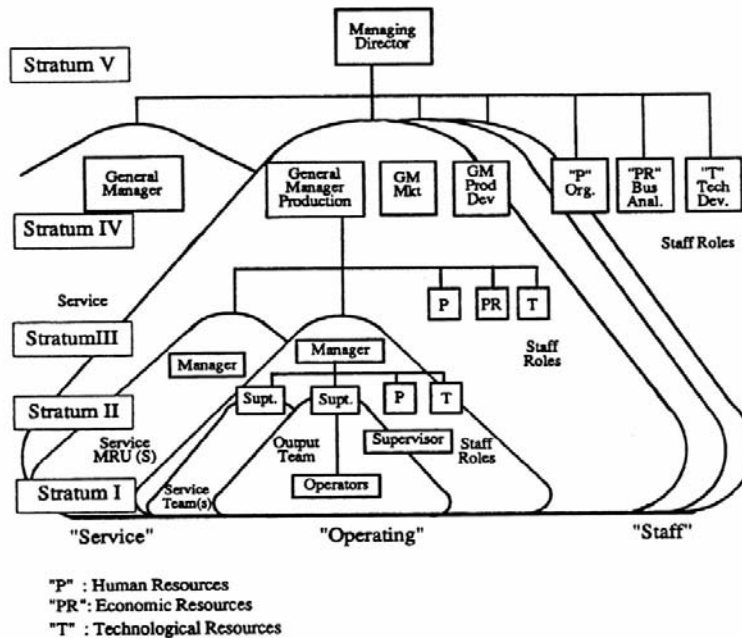
Figure 9.7: Raw Materials business unit structure

Research objective (iii) establishes the OD intervention at Comalco Weipa as being consistent with steps five and six of Kotter's model shown in Figure 9.8: empowering broad based action and step six, generating short term wins (Kotter 1996).
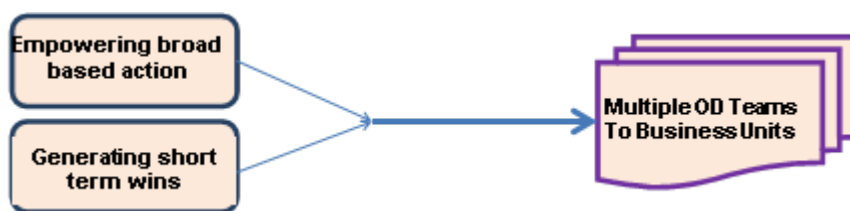
Figure 9.8: Kotter's 5th and 6th step in the Weipa OD intervention

9.6   Outcomes of research objective (iv)

Appraise the implementation of system leadership training and development (T & D) following on from the Carnegie/Jaques' OD intervention

Stage one, the OD intervention, was identified as a CRA initiative organised and promulgated from the office of the Chief Executive. Stage two, organisational processes and people at work, was described as a continuation of the initial OD work rather than a whole of business OD

change management initiative. The direction chosen by CRA's executive group for implementation of system leadership training and development was aligned with Jaques' three basic steps to Requisite Organisation. The basic steps are: get the right structure, get the right people for the right roles and teach the right managerial practices.

Organisational structure and organisational processes were themes that Jaques and Carnegie concentrated on initially - structure followed by processes. The system leadership processes were based around four broad themes: stratified systems theory, meritocracy, leadership and cultural awareness. Attendance at the systems leadership courses was mandatory for the majority of staff initially and selected award employees. System leadership processes and people at work modules followed on after the OD structural intervention. These modules were consistent with step seven and eight of Kotter (1996) - 'consolidating gains and anchoring new approaches in the culture' as noted in Figure 9.2.

The program was described by management as putting the flesh around the five stratum business unit model. Jaques is credited with the initial stage one structural work throughout CRA that culminated in the book, Requisite Organisation (1989). Macdonald, Stewart and Palmer are credited with stage two, putting the flesh around the five stratum business unit model which culminated in the publication System Leadership: Creating Positive Organisations in 2006. Together these two publications meld the theory underpinning the OD intervention at CRA into practice.

The first course to test the development of theory content and practical outdoor activities was conducted at Tannum Sands, adjacent to Gladstone in central Queensland. The Smelting Business Unit, under the leadership of Karl Stewart, is credited with being the business unit where the practice of the theory commenced. Over time there were a number of name changes to better describe and market the stage two modules and processes under development to business units. The term 'organisational process and people at work' evolved into a structured program encompassing the intent of the terminology, systems theory. The original module was known as the 'MAC' course - management analytical course.

The MAC course changed over time into 'organisational leadership' as the program was perceived to be based around the organisation and focused on leadership, not management. By 1990 the course evolved into the concept of working together. Once the suite of modules was running successfully throughout the business units it was commonly referred to as 'the Rambo course' by site based personnel. Table 9.3 highlights the breakup of a typical working together

course adapted from Macdonald (1992) that was based on a three/four day intensive mode from 8.00am through to 10.00pm daily.

Table 9.3: Breakdown of a typical working together course

Stratified Systems	Meritocracy	Leadership	Cultural Awareness
Revision of the theories SST, MAH, TSD	Understanding my work	Team membership	Napranum Community
Distribution and complexity of tasks in a role	Staff relationship and meritocracy	Mythology	Napranum and Comalco
Work. What is it?	Individual judgement	Leadership	Indigenous culture
Work of General Manager complexity	Components of a staff relationship	Symbols	Indigenous history on the Cape
Work of Manager complexity	Equality of opportunity	Fundamental work of a leader	Working together
Work of Superintendent complexity		Systems and values	
Work of Supervisor complexity		Values continuum	
Authorities of the Manager once removed		Six core values: courage, dignity, honesty, trust fairness, love	
Definition of a task			
Work: P, PR & T			

The study noted that the modules were widely utilised throughout the company and played a crucial role in bedding in the culture, the learnings and structural changes to the organisation. The content validated the manner in which CRA aligned the introduction of Requisite Organisation theory and practice with Kotter's organisational change management model.

Figure 9.9 outlines half of step seven and step eight of Kotter's eight step change model (Kotter 1996). The two steps outlined were the focus of on-going training and development activity during the late 1980s through to the early 1990s.
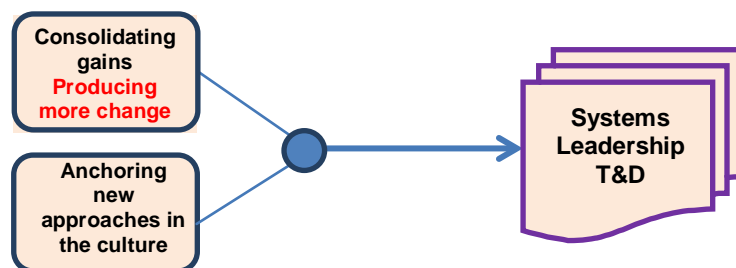
Figure 9.9: Steps seven and eight

9.7   Outcomes of research objective (v)

Expand on Stage 7 of Kotter's model (producing still more change) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations

The offer of salaried staff employment to award employees across CRA's metalliferous mine and process plants aligns with the second half of step seven in Kotter's change process - producing still more change. The range of issues that precipitated the repositioning of the award workforce from a union based collective system towards a salaried staff employment template is noted. Failure of the award restructuring process was followed by the business unit review, retrenchments, the visit to the New Zealand Aluminium Smelter and Industrial Relations legislative changes in New Zealand and Western Australia.

Open-ended change within organisations is at the core of step seven in Kotter's model. The focus on the change journey - rather than an end process in itself - ensures the change process is continuous and reflects the shifting external market environment within a business over time. Kotter (1996, p. 143) identified three main factors that contributed towards on-going change interventions when utilising his change management process:

1. *More change not less:* The guiding coalition uses the credibility afforded by short-term wins to tackle additional and bigger change projects
2. *More help:* Additional people are brought in, promoted and developed to help with change
3. *Leadership from senior management:* Senior people focus on maintaining clarity of shared purpose for the overall effort and keeping urgency levels up

The 1990s was a decade that ushered in massive changes at the workplace as a result of substantial shifts in the workplace and global market environment. These emerging transformations around increased competition coupled with an economic climate enabled Thorne and other managers like him to make far reaching changes that were unthinkable just a few years previously. The considered opinion of the majority of site based interviewees was that without Thorne in the leadership role, change towards a staff workforce from an award based system would not have occurred when it did.

Thorne's charter when appointed to Weipa by the Managing Director of Comalco Minerals and Alumina in Brisbane was twofold, firstly, 'increase the productivity of the operation' and secondly, 'move the company back to its core activities by implementing a withdrawal from the traditionally intrusive role of the company' in owning and operating the township (Thorne 1995 para 30). Realignment in management and labour relations at Weipa in just two short years is

consistent with what was occurring in work environments generally around Australia during the early 1990s.

The failure of the award restructure process was seen as a catalyst for the hard line approach to not just industrial relations, but to all facets of operational and township issues adopted during his four year tenure. 'Through 1991 and early 1992, I came to the view that the job redesign process and the award restructuring exercise could not deliver sustainable value to the company (Thorne 1995 para 26). Both hybrid and full staff conditions of employment were offered to employees of kaolin. Mention was made that the bauxite operations in Weipa were ring fenced until salaried staff employment was sorted out in kaolin, due to the core nature of the bauxite side of the business to downstream operations in alumina and aluminium. Ongoing change has been a cornerstone throughout CRA, Comalco and now Rio Tinto over the preceding 38 years is noted by adapting Hunger and Wheelen's (2011 p. 4) punctuated equilibrium model to CRA as described in Figure 9.10

Punctuated Equilibrium:
First, large corporates' strategically and stably evolve => equilibrium periods.
Second, the evolution is punctuated by short bursts of fundamental change => **"revolutionary periods"** (Hunger and Wheelen, 2011 p. 4).

Revolutionary CRA Corporate Activities: '70 – '08

Figure 9.10:   Punctuated Equilibrium at CRA from 1970 to 2008.

A range of strategic and operational company undertakings in the past had been significant and inflicted an across-the-board effect on the product mix, markets and ownership of CRA. The PEP process, Global Financial Crises and the purchase of the Alcan aluminium business were significant whole of business initiatives with wide ranging ramifications for individual business units. As an example, the purchase of Alcan resulted in redundancy offers or the transfer of

employees from Brisbane Australia to the new global headquarters of Rio Tinto Aluminium in Montreal Canada.

The PEP process was unsettling throughout the business as it ruthlessly attacked the cost structure of the organisation. Interviewees commented during their time with the company the PEP process was the most unnerving of change interventions they had been involved in. The Alcan purchase had the effect of relocating the head office of aluminium globally from Brisbane Australia to Montreal Canada and left the company exposed financially when the Global Financial Crises arrived. The Global Financial Crises and the resultant move by the Chinese to take a majority shareholder position within Rio Tinto shook the company and significant shareholders to the core within the UK and Australia.

9.8   Outcomes of research objective (vi)

Develop a model for organisational change intervention in the Australian mining industry underpinned by Kotter's eight step change process and Requisite Organisation (RO) principles

Figures 9.3, 9.4, 9.5 and 9.6 introduce a four stage holistic blueprint for change management based around the methodology of Kotter and Requisite Organisation. The mining and resources organisational change management model is predicated on outcomes from the study. The model is constructed around a theoretical base of Kotter's change process supported by RO principles established around Organisational Structure, Organisational Process and People at Work. Figure 9.3 identifies prerequisites for a major change intervention underpinned by Kotter's change process. Figure 9.4 expands the RO model into its three component parts and highlights Organisational Structure as the focal point. Figure 9.5 concentrates on the remaining two components of the RO model - Organisational Processes and People at Work. Figure 9.6 notes the future direction of Rio Tinto business units. '*Mine of the future™*' and affirms the nexus of Kotter and RO as a sustainable model for change management interventions in the mining industry.

Figure 9.11 introduces an expanded six stage prerequisite-based OD process. The preconditions evolved from the study findings and the earlier work of (Brady 1992; Carnegie 1992, 2005; Department of Aviation UNSW, 2010; Greiner and Cummings 2004; Jaques 1989; Kotter 1996; Lewin 1951; Macdonald 1992; Macdonald, Burke and Stewart 2006; Reason 1990, 1997).
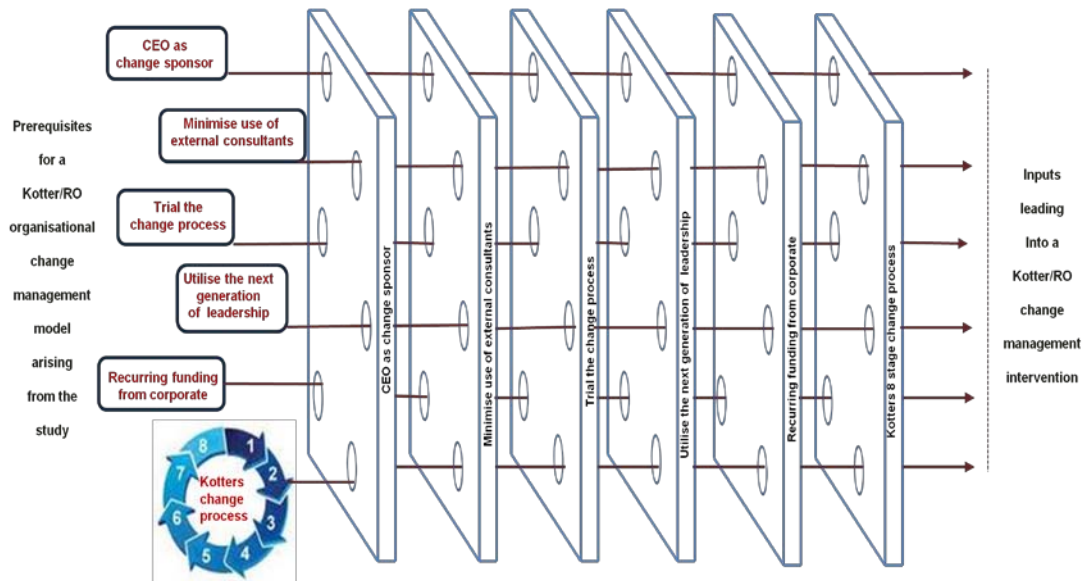
Figure 9.11: Prerequisites passing through six interrelated plates to emerge as inputs into stage two

The prerequisites are not prescriptive, but more accurately represent the underlying fundamentals for a change intervention that emerged during this research process. The model melds Kotter's change management process with five additional pre-conditions, embedded within a modified Swiss cheese model. The Swiss cheese model is typically utilised as a pass through model of component, or system failures, that contribute to a major accident of disaster. Each of the six processes identified from the study must line up with the holes in each of the six plates individually. In this model the Swiss cheese analogy is reversed in that prerequisites must all pass through the plates and become inputs to the change process.

CEO as change sponsor: The study identified the pivotal role of the CEO in the establishment and ongoing stewardship of the OD project. Having the CEO as sponsor ensures two coherent themes will emerge, firstly the project will be perceived by staff to be one that is strategic and significant to the business, secondly, a consistent message based around the tactical alignment of the project with company strategy will cascade throughout the organisation from board level through the business units down to the shop floor.

Minimise use of external consultants: The study emphasised the restricted but targeted use of consultants to assist with the objectives of the OD project - particularly the early Woodlawn trial.

Trial the change process: A comment repeatedly proffered during interviews was the essentiality of a trial/pilot process for any significant change to a mine or process plant. Trialling the change process at a typical operation makes sound business as well as common

sense. Minimisation of the financial and production downside is achieved by testing change hypotheses on a targeted operation. One would not carry out a head office trial. The trial must be undertaken at a primary operating facility that produces income streams for the business. The trial must have the unequivocal support of the site General Manager (stratum iv) and the business unit Managing Director (stratum v). Maximise the deployment of experienced business unit and wider company staff in the pilot to ensure ownership and outcomes stay within the organisation - both business unit and corporate is necessary.

Utilise the next generation of leadership: The study has clearly articulated the strategic imperative of utilising the future leadership cohort on strategic projects early in their careers. This group - normally at stratum iii - ultimately will occupy stratum iv and v while a competent and political attuned minority will migrate up through vi and vii roles over the next 30 years within the organisation.

In 2007, Lee Clifford, the CEO (stratum vii) at Rio Tinto retired from the company. In 2010, Dr Grant Thorne Group Executive (stratum vi) of Rio Tinto retired from the company. These two were the last of the *'next generation of leaders'* to emerge from the OD project in the early 1980s. Together with their peers from this period, they rotated through the company via operating, process, production, marketing, business development, secondments, emerging technologies, business unit leadership roles, staff, support, strategy, head office and mergers and acquisitions project teams.

The cohort worked and lived in Queensland, Victoria and Western Australia. They moved to the USA, UK, Indonesia, Hong Kong, South Africa and Europe. The 2011 generation of young leadership aspirants will add China, India, Mongolia, Russia, South America and Canada to the global localities they will reside and work in as they progress upwards through the stratums of international mining companies.

Establish recurring funding from corporate stratum: Ensure there is an adequate supply of project funding for the duration of the change program. Adequate capital project funding is essential, given the transient nature of incumbent at the CEO stratum within the current business climate. Longitudinal project funding should not be at the whim of annual budgetary discussions. Financial change support should be project based and similar to a significant capital project that may stretch over five years to complete. Ensuring a strong financial foundation is in place enhances the rigor of the change deliberations, and the work of the project teams continues through normal staff movements and iterations during a typical five year business cycle.

Kotter's eight stage change process: Kotter's change process is central to, and underpins inputs into the modified Swiss cheese model of prerequisites required before embarking on a RO change management intervention. The eight stages have been researched in depth in the thesis, and hence there is not a requirement for further analysis around their inclusion in the model.

Figure 9.12 expands the Requisite Organisation model into the first of its three interconnected components - Organisation Structure. The mining and resources organisational change management model evolved from the findings of the study and the preceding work of (Brady 1992; Carnegie 1992, 2005; Jaques 1989; Jaques 1996, Ivanov 2006; McMorland 2005; ROII 2011; Macdonald 1992; Macdonald Burke & Stewart 2006).
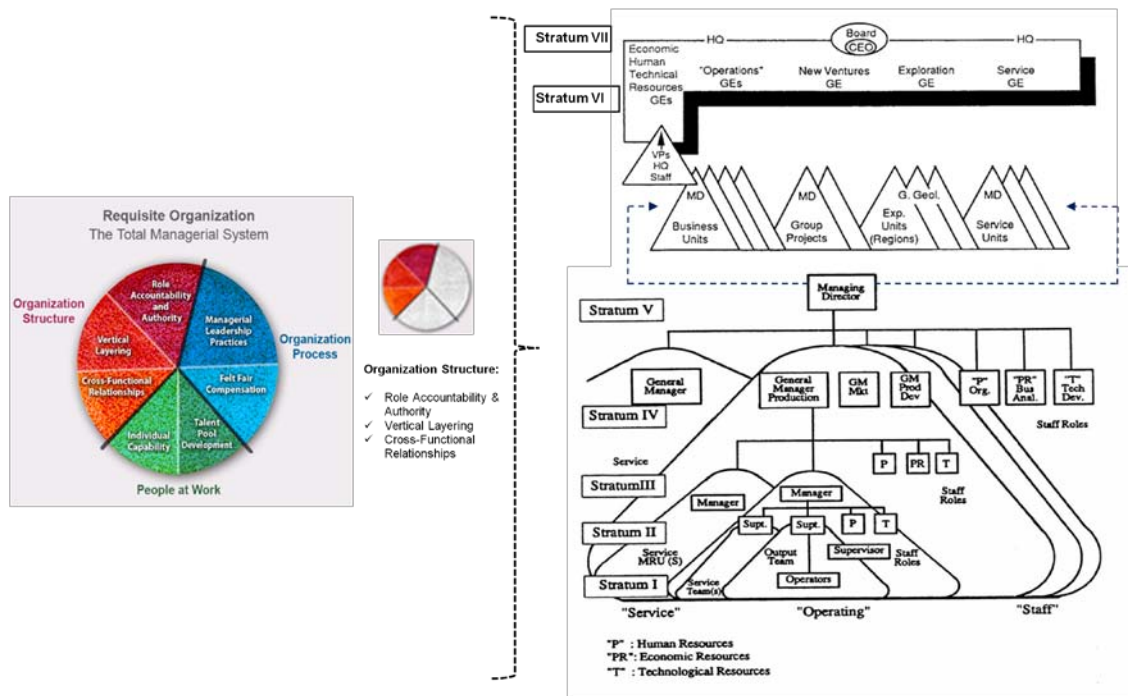
Figure 9.12: Epitomises 'Organisation Structure' as the first among equals in the RO model

Analysis around the history and development of the building blocks via the theory to a working hypothesis, to what become known as Requisite Organisation was undertaken in chapters 4 and 5. Consequently, the development process is not eluded to, or expanded on, in the final mining and refining organisational change model. The 2011 generic schematic is shown on the left. An extrapolated seven stratum working model from CRA is noted on the right.

Figure 9.13 interlocks the second and third parts of the RO trilogy together - Organisational Process and People at Work. Figure 9.13 evolved from the findings of this study and the work of (Brady 1992; Jaques 1989; Jaques 1996, Ivanov 2006 and McMorland 2005; ROII 2011;

Lynch 2001, 2003, 2004; Macdonald, Zeffane & Green 1998; Macdonald, I. Macdonald, R. & Stewart 1989; Macdonald 1987; Macdonald 1988; Macdonald 1992; Macdonald 1995; Macdonald 2002; Macdonald, Palmer, Stewart, & Woffenden 1987; Macdonald Burke & Stewart 2006).

Levels	Stratum of role	Designation of role	Time span of discretion	Objectives	Outcomes
7	stratum vii	Chief executive officer	20 years to 50 years	New forms of social political and economic institutions	Prosperity
6	stratum vi	Group executive	10 years to 20 years	Vision, building strong national and world wide presence	Stakeholder value
5	stratum v	Managing director	5 years to 10 years	Direction. Purposeful, challenging and maximising assets	ROI
4	stratum vi	General manager	2 years to 5 years	Innovation, change and continuity	Discontinuous change
3	stratum iii	Manager	1 year to 2 years	Effective work practices, systems and productivity	Breakthrough changes
2	stratum ii	Superintendent	3 months to 1 year	Effective coordination, collective improvement and efficiency	Increased efficiencies
1	stratum i	Supervisor	1 day to 3 months	Excellence of task	Continuous improvement

Figure 9.13: Melds 'Organisation Process' and 'People at Work' together

A three phase process to achieve the outcomes of this stage is envisaged. The first two phases are carried out via cloud computing and can be accessed 24 hours a day across a secure company communications network anywhere in the World. Phase one consists of Stratified Systems Theory revision. Phase two incorporates generic managerial and leadership theories with a company and business outcomes emphasis. Phase three institutionalises the theories via a skill based module that also introduces subject matter of a confidential nature such as salary and company finances, strategic plan, succession planning and major projects being planned. Stages I and 2 will be owned and operated at a Business Unit level. Stage 3 will be owned and operated at a corporate stratum.

> **Phase 1:** Introduces the concept of Stratified Systems Theory (SST) and dissects the component parts and their interrelationship within a five stratum business unit model. Work at the executive stratums of (vi) and (vii) would only become available when your log in details indicated you were currently working at stratum v or above. The makeup of the SST module is not prescriptive and allowance is made for additional topics to be added or removed over time.

Phase 2: Introduces generic management theories that are intended to be company focused and build on theories typically offered in Graduate Business School Executive and MBA programs. Components of this module would over time reflect general management theories supplemented with company specific topics. This model will not supplant placements at business schools in Europe and the United states for extended periods of time as part of on-going career development from stratum iv upwards.

Phase 3: Institutionalises the theory components of the program into a skills based outdoors module based on the study outcomes of Chapter 6. A combined theory and practical module delivered on site is considered the ideal vehicle for encompassing the principals of organisational process and people at work. Phase 3 would be financially supported by on-going budgetary allocations from a corporate stratum.

Attendance would be mandatory for all staff - stratum I to stratum VI. The course would be up to five days in duration, fully catered with a live-in arrangement for nominally 12 participants. All practical activities will be recorded and played back to assist in the learning application of the leadership skills being practised and for discussion by all participants. Staff would be streamed into two syndicates of six for the duration of the module.

Figure 9.14 gathers the threads of the model together, re-focusing on future based remote operation of the mine and associated infrastructure - the so call 'pit to port' concept. The concept of a mine of the future model in Figure 9.13 evolved from the findings of this study and the work of (Brady 1992; Jaques 1989; Jaques 1996, Ivanov 2006 and McMorland 2005; ROII 2011; Lynch 2001, 2003, 2004; Macdonald, Zeffane & Green 1998; Macdonald, I. Macdonald, R. & Stewart 1989; Macdonald 1987; Macdonald 1988; Macdonald 1992; Macdonald 1995; Macdonald 2002; Macdonald, Palmer, Stewart, & Woffenden 1987; Macdonald Burke & Stewart 2006).
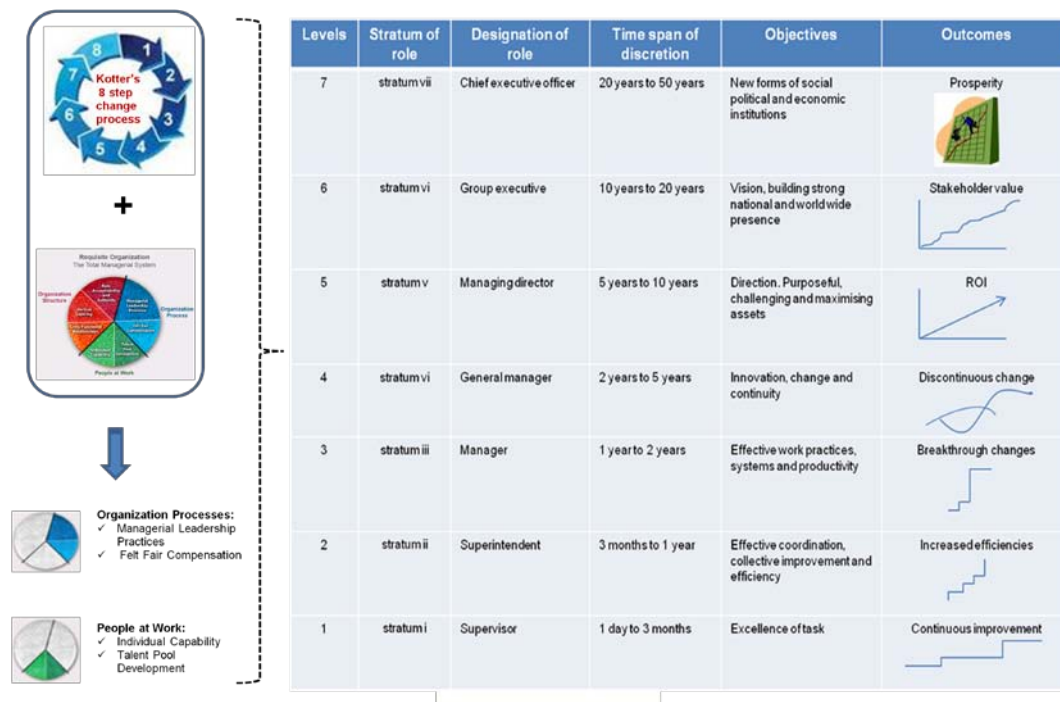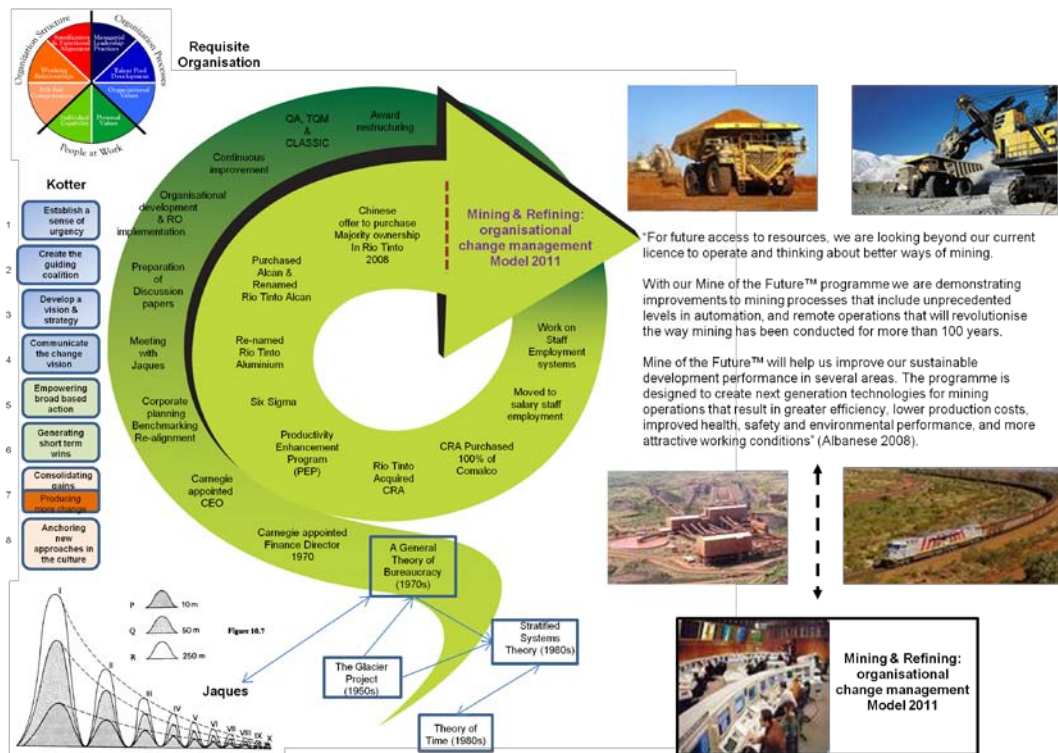
Figure 9.14: Introduces 'a mine of the future™' suggested model

To gain entrée into the future, one must comprehend and understand the milestones of the past and the journey undertaken to arrive at this intersection in a company's lifespan. The Rio Tinto trademarked *'Mine of the Future^{TM}'* provides the milieu for Stage 5 - the future. Developing the *'Mine of the Future^{TM}'* requires an organisation structure, process and people at work to support the concept. Stages 1 through to 4 have showcased the systemic nature of Kotter's change process when combined with the RO model for the Australian mining industry. The only information accessible in the public arena at this time pertaining to the *'Mine of the Future^{TM}'* is based on the company and newspaper articles based around technical and automation process. Trucks, loaders, drilling rigs, process plants and iron ore trains in the Pilbara region of Western Australia are being trialled to operate remotely from a newly developed control centre in Perth.

The contention of stage five of the model is that Rio Tinto's *'Mine of the Future^{TM}'* can be managed by refreshing the RO organisational model that has been in place with the company for the last 30 years. This is not a major rebuild but a refresh to take stock of the learnings of the preceding 30 years to be better positioned to meet the challenges of a global mining house. The international focus will initially converge on the Chinese market, followed by the emerging Indian market and leading into a third tier product market based on South Africa. By understanding the past and linking this comprehension to the future direction of the company, the Mining and Refining Organisational Change Management Model 2011 is a useful starting

point for an organisational framework that supports the strategic direction mining and refining into the future on a global scale.

9.9 Identify linkages between the literature review, thesis aim and enabling objectives.

Figure 9.15 positioned the literature review within an interlocking framework which informs the research question, thesis aim and supporting enabling objectives.
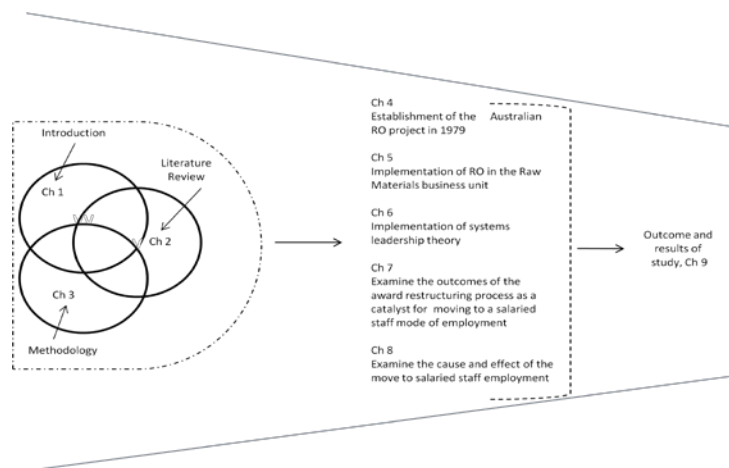
Figure 9.15: Trilogy of preliminary chapters - introduction, literature review and methodology.

The literature was scrutinised to identify themes for the study and identify gaps in the literature. The review dissected the current knowledge base of organisation change management models, CRA, Elliott Jaques and Requisite Organisation in three thematic stages. Stage 1, the literature applicable to organisational change management was examined with a view to finding a suitable model to evaluate the Organisation Development (OD) intervention at CRA. Stage 2, the research of Elliott Jaques was identified for applicability to the CRA project. Stage 3, the thesis aim arising out of the literature review and buttressed by six enabling objectives.

Stage 1 is shown in Figure 9.16 which illustrates the eight step change model of Kotter (1996) selected from the literature analysis. The model is presented encapsulated within the study's change management assessment lens.
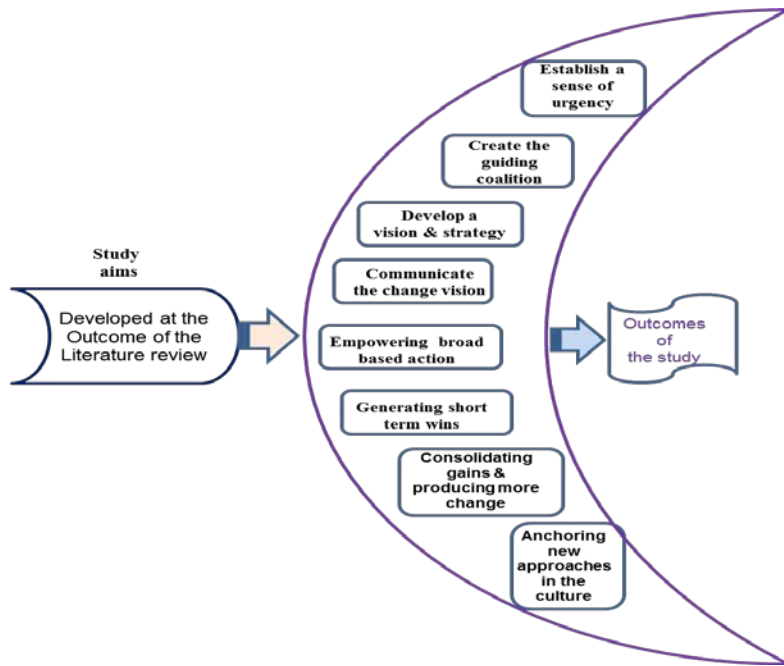
Figure 9.16: Adaption of Kotter's eight step change model implanted in the change management lens

The study elucidated which aspects of the RO organisational change management process at CRA achieve the standards of Kotter's model, and which elements do not. The process authenticated those components which entered the lens, meshed with Kotter's change management framework, and further focused the change management solution for CRA. Passing the study aims through the Kotter process also presented an opportunity to validate the usefulness of Kotter's model when applied to a significant Australian mining organisational change management process.

Stage 2 reviewed the literature available around the research of Elliott Jaques. The analysis was clustered thematically for ease of scrutiny utilising a flying wedge business development model in Figure 9.17 adapted from (Golsby-Smith & Associates 1993).
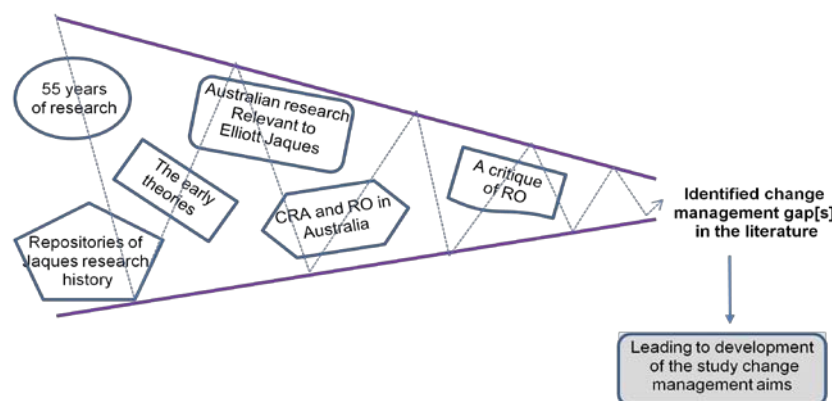
Figure 9.17: Flying wedge model used to identify gaps in the Jaques literature

The model assisted in identifying literature nodes applicable to the study, thematic clusters such as research timeframe, repositories of data, early theories, Australian research and literature applicable to CRA and RO. The model facilitates funnelling down the wedge to highlight gaps in the literature. The model/process moved from theory to working model over time as a consequence of the Jaques' consultancy with Carnegie at CRA. The conspicuous emission from the literature of the work undertaken by Carnegie and Jaques in the theories evolving to a full working model called Requisite Organisation (RO) was not so much a gap, but a chasm.

Stage 3 notes the interconnectivity between the study aim and six enabling objectives forming the foundation for the study in Figure 9.18:
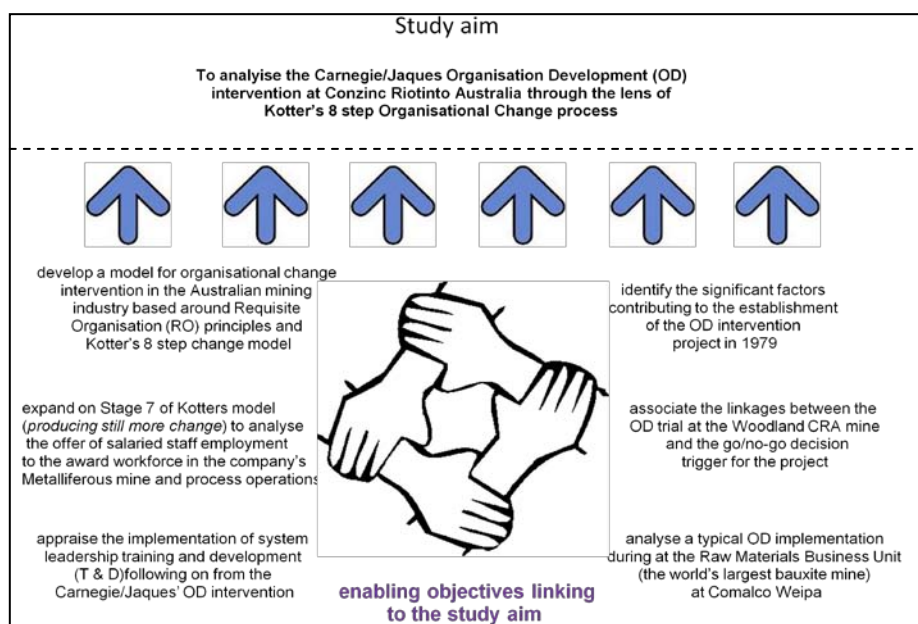
Figure 9.18: Thesis aim underpinned by six enabling objectives

Study aims (i) through to (iv) inclusive were noted as being embedded in Figure 1.2. Study aims (v) and (vi) were embraced by Figure 1.4 and expanded in the Kotter eight step process applicability to the Australian mining industry. Study aim (v) expanded on Stage seven of Kotter's model (*producing still more change*) to analyse the offer of salaried staff employment to the award workforce in the company's metalliferous mine and process operations in chapter 7 and 8. Study aim (vi) developed a model for organisational change intervention in the Australian mining industry based around Requisite Organisation (RO) principles and Kotter's eight step change model in this chapter.

The study aim to analyse the Carnegie/Jaques Organisation Development (OD) intervention at Conzinc Riotinto Australia through the lens of Kotter's eight step organisational change process has been accomplished as a consequence of the outcomes of the enabling objectives in sections 9.2 to 9.7 inclusive. Section 9.10 details recommendations arising from the study.

9.10 Recommendations arising from the study

Recommendations arising from the study correlate with the research questions and the outcomes of the study. A thematic approach to additional and complementary inquiry is noted with a range of themes designed around: books and/or evolving into an E-Book, conference papers and journal articles.

Books: Progress options towards writing an E-Book companion to the definitive publication of Jaques' work - Requisite Organisation (1989, 1996, 1998 & 2006). A working title could be: *Fifty Five Years of Research: The Legacy of Elliott Jaques.*

Journal/conference articles: a series of journal articles and/or conference themes arising from the study are noted as complimentary research themes to expand the theory dimensions and outcomes of this thesis:

1) Supplementary research surrounding the Brown/Jaques and Carnegie/Jaques partnerships is suggested. The relationship between a CEO and the change management entities they commission is worthy of further elaboration. Is the strategic rapport between CEOs and consultants, factual or myth?

2) The ongoing development of Rio Tinto's 'Mine of the Future'™ to control operational aspects of a remote mine site deserves to be treated as a research classification in its own right. What affect will this emerging initiative have on the current organisation structure in the Rio Tinto Iron Ore business in Western Australia?

3) The RO model as noted in this thesis is a Western society model. With the global mining industry advancing further into China, India, South America and South Africa, is there a cross cultural international version of RO. Is the basis of the RO model adaptable to a cross cultural environment as we move into the Asian Century

4) An enhanced critique of large scale change management models employed in the global mining sector could be useful. Kotter (1996) was selected for this study. Are there other models that could be just as effective and used in a complementary way with RO as we enter the Asian period of minerals development and refining?

5) The function of stratum (i) was identified as requiring additional research. A suggested starting point could be a 'compare and contrast' model overarching the theoretical base of stratum I in the RO literature and the reality in the workplace in 2011

6) In 2013, Requisite Organisation is 25 years old. It would be timely to revisit the model and its relevance to society and business over the next 25 years

9.11 Limitations of the study

Restrictors around the study were, for the main part, imposed by the researcher. A range of self-imposed boundaries was erected to ensure the research aim and associated enabling objectives were addressed within a logical structure, timeframe and within a timely manner. The business units researched consisted of Mining and Refining (bauxite, alumina and aluminium) and to a lesser extent, iron ore. The longitudinal horizon for the study was based on two discrete timelines that enabled the Kotter's change processes to be comprehensively evaluated within an Australian mining change management intervention. Timeline 1 was based around the Carnegie/Jaques association beginning in 1977 and ending in 1986. Timeline 2 encompassed the lead up to, and the offer of, staff employment between 1989 and 1993.

Jaques' research pertaining to the OD intervention at CRA was completed in 1986. This study has not pursued in any detail his research outcomes after this period as it was not relevant to the activities preceding the development of Requisite Organisation. Figure 9.19 places Jaques' research post 1986 within a holistic timeline of his overall research.
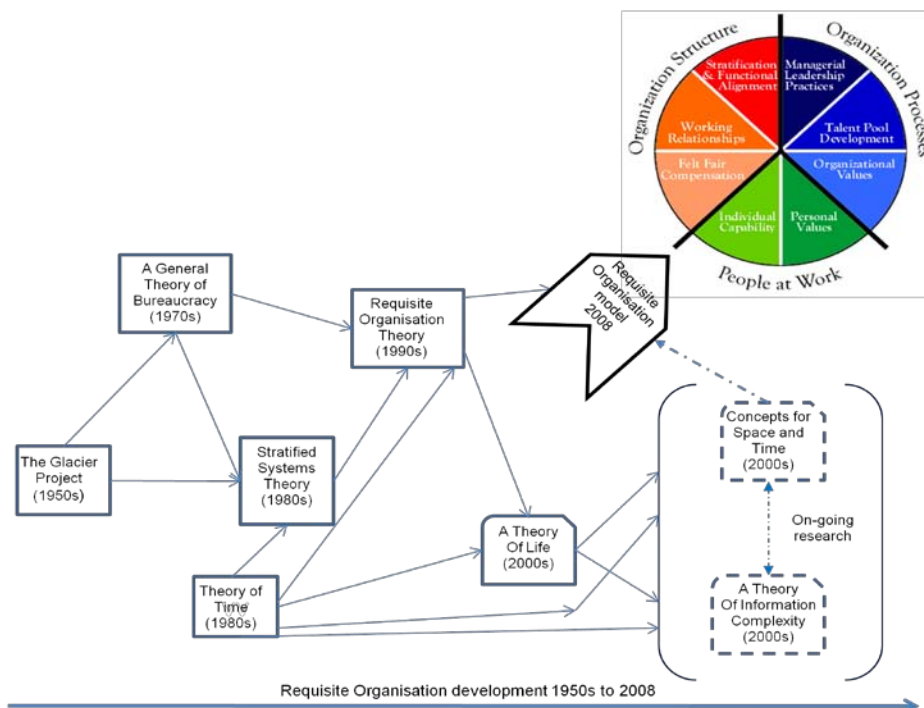
Figure 9.19: Schematic of Elliott Jaques' research output

'A theory of life' was published in 2000. On-going research comprising 'Concepts for Space and Time' and 'A Theory of Information Complexity' remained unfinished at the time of

Jaques' passing (ROII 2011). Item (3), from a series of journal articles and/or conference themes arising from the study in section 9.10, suggest a rich uncovered mother lode of research possibilities:

> The RO model as noted in this thesis is a Western society model. With the global mining industry advancing further into China, India, South America and South Africa, is there a cross cultural international version of RO. Is the basis of the RO model adaptable to a cross cultural environment as Australia's commercial, mining and social integration into the Asian Century gathers momentum?

This is not viewed so much as a limitation, but rather an entrée into what could be called stage two of the Requisite Organisation model as it evolves from an archetypal westernised version to a globalised prototype for structural organisational realignment .

9.12   Chapter summary

Chapter 9 has harvested the research outcomes of the study into the OD intervention at CRA. Section 9.1 revisits the study aims and enabling objectives. Section 9.2 overviews the study outcomes. Section 9.2 details the research outcomes of enabling objective (i). Section 9.3 details the research outcomes of enabling objective (ii). Section 9.4 details the research outcomes of enabling objective (iii). Section 9.5 details the research outcomes of enabling objective (iv). Section 9.6 details the research outcomes of enabling objective (v). Section 9.7 details the research outcomes of enabling objective (vi). Section 9.8 links the study aim to the literature review and the enabling objectives notes the study limitations. Section 9.9 details research recommendations arising from the study. Section 9.10 notes the study limitations. Section 9.11 brings the study to a conclusion.

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xiii   Appendix

Brause (1996) compiled the research outcome of Elliott Jaques into a single document as noted in A1.

Cason Hall & Co (nd) are publishers of the majority of the Elliott Jaques' Requisite Organisation library as noted in A2.

> **A1:   Bibliography in reference to the work of Elliott Jaques**
> **A2:   Timeline of Elliott Jaques' research: 1947 to present**

A1:   Bibliography in reference to the work of Elliott Jaques

A1:	Bibliography in reference to the work of Elliott Jaques

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Requisite Organization Timeline

The Evolution of Requisite Organization from 1947 to Today

The work behind Requisite Organization reaches back to the early 1950's when Dr. Elliott Jaques made the discovery that individual accountability was key in creating a system of accountable managerial leadership. The RO Timeline below shows the progression of Requisite Organization from inception to today, including key points relating to sociology, theory, psychology, economics and major studies. Click a year below to jump to information.

1950's | 1960's | 1970's | 1980's | 1990's | 21st Century

1950's	1960's	1970's
Sociology	**Sociology**	**Sociology**
Discovery of *INDIVIDUAL ACCOUNTABILITY* as key to individually accountable authoritative managerial leadership – as opposed to Group Dynamics or Personality. *(The Changing of a Factory*, 1951) Discovery of *UNIVERSAL OPTIMUM STRUCTURE OF MANAGERIAL LAYERS*. Led to method for eliminating the worst features of "bureaucracy".	Formulation of basic *BUSINESS UNIT* organization. Based on 1950s discoveries of Time-Span Measurement and Optimum Managerial Layering.	As Director, established BIOSS (Brunel Institute of Organization and Social Studies), with units in Health Services, Measurement of Capability, Social Services, Youth Services, Mental Handicap, and Policy Studies. This applied research institution reflected the P-S-E orientation. Major long-term engagements: · *BRITISH NATIONAL HEALTH SERVICE* organization *(Hospital Organization*, 1973, R. Rowbottom, and *Health Services*, 1978) · *CHURCH OF ENGLAND* organization of the clerical hierarchy.
Theory	**Theory**	**Sociology**
Systematic definition of a wide range of *FUNDAMENTAL CONCEPTS*: · *WORK, TASK and ROLE* · Manager and *MANAGERIAL ACCOUNTABILITY* and Authority; · Lateral working relationships [later called TIRRs]; · *STAFF SPECIALIST ROLES*. (See *Glacier Project Papers*, 1965, with W. Brown) Discovery of *TIME-SPAN* as objective measure of level of work. (Later published in *Time-Span Handbook*, 1964)	Preliminary Formulation of a *GENERAL THEORY OF HIERARCHICAL ORGANIZATION*. (*Glacier Project Papers*, ch. 7 & 8) (Led to publication of *A General Theory of Bureaucracy*, 1976) As Head of School of Social Sciences at Brunel University, developed the *FIRST INTER-DISCIPLINARY SCHOOL OF SOCIAL SCIENCES*. Jaques applied his unique P-S-E approach integrating Psychology, Sociology and Economics in a unified Social Sciences undergraduate degree.	*STRATIFIED SYSTEMS THEORY (SST)*—first formulation of a *TOTAL SYSTEM* of Organization of Managerial Hierarchical Systems. *(A General Theory of Bureaucracy*, 1976) Began to develop a theory of the underlying *NATURE OF HUMAN CAPABILITY*, which emerged in work with the US Army in the 1980's. (Preliminary ideas and research published in *Levels of Abstraction in Logic and Human Action*, 1978, with R.O. Gibson and D.J. Isaac.)
Psychology	**Psychology**	**Sociology**
Discovery of *PREDICTABLE LIFE-LONG MATURATION OF POTENTIAL CAPABILITY*. (Later published in *Progression Handbook*, 1968, which led to construction of potential capability maturation bands.)	Expanding areas of study in: · British *CIVIL SERVICE* · *PARTNERSHIPS* · *HEALTH SERVICES* Organization	Hypothesis about the predictable *MATURATION THROUGHOUT ADULTHOOD OF POTENTIAL CAPABILITY*, confirmed by researchers at Harvard Business School (doctoral thesis by E. Homa) and at UCLA (Tom Kohler, unpublished).

Establishment of the parameters in human childhood of the specific, step-wise maturation into the use of languaging, as compared to the development of other species. (*Life and Behavior of Living Organisms, A General Theory*, 2002)

Major Studies	Psychology	Psychology
Interactive CRA Project and US Army Project run throughout 1980s. CRA study led to: - Development of Organization Design at *HIGHER CORPORATE LEVELS* (i.e. Str V—VII). [Sociology] - Development of *TALENT POOL ANALYSIS* process. [Psychology] - *PERSONAL EFFECTIVENESS APPRAISAL* process clarified. [Psychology] - *MERIT COMPENSATION RECOGNITION.* [Economics] - Clarified concepts of *MANAGERIAL LEADERSHIP* as *INDIVIDUAL ACCOUNTABILITY* for use of Specified Practices. [Psychology and Sociology] - *CROSS-FUNCTIONAL PROCESS CONTROL* without unfocused cross-functional teams. [Sociology] - *LATERAL WORKING RELATIONSHIP* analysis completed. [Sociology] US Army Project led to: - Study of *INTER-SERVICES RELATIONSHIPS.* [Sociology] - Contribution to *RESTRUCTURING OF ROLE OF THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF.* [Sociology] - Study of *BATTLEFIELD COMPLEXITY* led to the study of complexity of mental processing. [Psychology]	A general analysis of the *NATURE OF INDIVIDUAL CAPABILITY*—Potential and Applied—and a report of the studies carried out for the US Army Research Institute. (*Human Capability*, 1994, with K. Cason)	Commencement of synthesizing a life's work under the working title, *"A GENERAL THEORY OF HUMAN BEHAVIOR AND THE NATURE OF SOCIETY."*
Dr. Jaques...	**Dr. Jaques...**	**Dr. Jaques...**
INTERACTIVE ON-GOING STUDIES AT CRA AND US ARMY throughout the 1980s Retired from Brunel Institute of Social Sciences (BIOSS). As an outcome of the discovery and use of Time-Span of Discretion, development of *THEORY OF THE NATURE OF TIME*, and its fundamental importance in the study of human behavior and social organization. Discovery of *FOUR RECURSIVE STEPS OF INCREASING COMPLEXITY OF MENTAL PROCESSING.* Confirmed hypothesis that MANAGERIAL HIERARCHY is an EXPRESSION of the STEP-WISE STRUCTURE OF HUMAN CAPABILITY in organization. *REQUISITE ORGANIZATION* – Full-scale elaboration of a TOTAL SYSTEM of managerial hierarchical organization and leadership. (1988)	Publication of a collection of articles including "Death and the Mid-Life Crisis." (*Creativity and Work*, 1990) Construction of a *GENERAL THEORY OF LEADERSHIP* and leadership practices. *1992 CERTIFICATE OF APPRECIATION* received from General Colin Powell and The Joint Chiefs of Staff. A general analysis of the *NATURE OF INDIVIDUAL CAPABILITY*—Potential and Applied—and a report of the studies carried out for the US Army Research Institute. *REQUISITE ORGANIZATION*— extensive development of a *TOTAL SYSTEM OF ORGANIZATION*, using recent findings. *CIVIL SERVICE TALENT POOL DEVELOPMENT* (with Ron Capelle). *PROVINCIAL HEALTH SERVICES* organization. Broadening of *REQUISITE ORGANIZATION STUDIES INTO ASIA.* Collaboration in project concerned with *ORGANIZATIONAL EFFECTIVENESS and LEADERSHIP in POLICE DEPARTMENTS (USA)*	Publication of his last two seminal works: *Social Power and the CEO, Leadership and Trust in a Sustainable Free Enterprise System*, 2002 (Quorum Books) and *Life and Behavior of Living Organisms, A General Theory*, 2002 (Praeger) Dr. Elliott Jaques passed away on March 8, 2003 at the age of 86. His legacy lives on through continuing study and application of his work which contributed greatly to our understanding of human nature and human industry—knowledge which enables us to take effective actions towards the creation of productive, trust-inducing social systems. *Thank you, Elliott!*

Access Supporting Books and Documents

Further, you may want to access information about Elliott Jaques, including his Biography, a Timeline of Research from 1947 to the present, and an extensive

A2: Timeline of Elliott Jaques' research: 1947 to present

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