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The Role of the Individual in Organisational Cultures: a Gravesian Integrated Approach.

John Edward Cook

A Thesis submitted in partial fulfilment of the
requirements of Sheffield Hallam University for the
Degree of Doctor of Philosophy

October 2008

Abstract

Title: The Role of the Individual in Organisational Cultures: a Gravesian Integrated Approach.

Purpose – The research aims to investigate the role individuals play in organisational cultures, specifically the role played by hidden, espoused and perceived values, beliefs and assumptions.

Design/methodology/approach – This research uses self-reporting questionnaires based on the psychological work of the late Professor Clare W Graves to reveal the hidden culture and preference for change within the individual. Graves' work is extended by applying his concepts to the espoused and the perceived individual's view of culture. This approach produces a gap model for use in action research case studies to effect change in a water company's supply chain.

Findings – The findings suggested that this approach produced change in the water company. Professor Clare W Graves' work, when used as a heuristic, revealed the hidden building blocks of organisational culture to support individual and organisational development.

Research limitations/implications – The framework is generalised as a philosophy for use in businesses and organisations. However, the interpretations of the results and the influence of the researcher are limitations. Graves' ideas become a classifying template for units of culture leading to a meta-theory integrating the ideas of memetics and heuristics.

Practical implications – The use of self-reporting questionnaires relies on the honesty of those participating. Interpretation relies on the experience and knowledge of the researcher.

Originality/value – This research shows that revealing 'hidden' Gravesian culture influences the way people interact and respond to an organisation's culture. This view of culture from within the individual has added another way of assisting change by suggesting the origin of values, beliefs and assumptions.

Key Words – action research, Clare W Graves, change, culture, heuristics, Maslow, memes, meta-memes, Mode 1, Mode 2, Oracle, organisational culture, organisational development, Spiral Dynamics, Water Utilities,

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Degree of Doctorate of Philosophy

Table of Contents

Abstract	ii
List of Figures	x
List of Tables	xiii
List of At a Glance Tables	xvi
Declaration	xvii
Acknowledgements	xviii
1. Introduction	1
1.0. Organisational culture – why this research?	1
1.1. Who was Clare W Graves?	3
1.2. The research method.	6
1.2.1. Literature Reviews	7
1.2.2. Understanding	8
1.2.3. Findings	10
1.3. Contribution to knowledge.	10
1.4. Summary	11
2. A Background to culture and change.	13
2.0. Introduction	13
2.1. A background to cultural research	14
2.2. The role of people in organisational culture and change.	18
2.3. The need for an integrated approach in organisational research.	22
2.4. Discussion on culture, change and behaviour	25
2.5. Closing arguments.	28
3. Clare. W. Graves ideas for evaluating culture	29
3.0. Introduction	29
3.1. Eight 'pathways in the mind'	31
3.1.1. AN	33
3.1.2. BO	33
3.1.3. CP	33
3.1.4. DQ	34
3.1.5. ER	34
3.1.6. FS	35
3.1.7. GT	38

3.1.8. HU	39
3.2. 'Pathways in the mind' another perspective	44
3.3. Types of change	48
3.3.1. 1 st order change	48
3.3.2. 2 nd order change	48
3.3.3. Order	48
3.3.4. Chaos	48
3.3.5. Alpha	48
3.3.6. Beta	48
3.3.7. Gamma	49
3.3.8. Delta	50
3.3.9. New Alpha	50
3.3.10. Flow	50
3.4. Transcend and include	53
3.5. Closing arguments.	56
4. Clare. W. Graves' idea and memetics	58
4.0. Introduction	58
4.1. Memetics	63
4.2. Memes the 'DNA' debate	66
4.3. Clusters of memes	72
4.4. Closing arguments	79
5. Clare. W. Graves and a heuristic component	81
5.0 Introduction	81
5.1. Heuristics	87
5.2. Graves' support for empirical and heuristic research	92
5.3. Closing arguments	93
6. Research methods	96
6.0. Introduction	96
6.0.1. Why action research as a template?	100
6.0.2. Principles of action research	103
6.0.3. Action Research	109
6.1. Research design	114
6.1.1. Area 1	116
6.1.2. Area 2	116

6.1.3. Area 3	117
6.2. Overview of the research process	118
6.3. Learning about Gravesian framework in practice	118
6.4. Gravesian analysis of the researcher	119
6.4.1. Communications	120
6.4.2. Motivation buttons	120
6.4.3. Learning styles	120
6.4.4. Change preferences	120
6.4.5. Digital and analogue thinking	120
6.5. Review the findings	122
6.6. Generalise the findings of the research	123
6.7 Closing arguments	123
 7. Oracle pilot study	 126
7.0. Introduction - Why a pilot study	126
7.1. Setting up the pilot – The roles	127
7.2. Methods and framework used at Oracle UK Ltd	129
7.3. Values & change questionnaires [the hidden]	130
7.4. Gravesian values [the hidden]	131
7.5. Gravesian change [the hidden]	134
7.6. Espoused business values questionnaires (Strategy & Marketing)	138
7.6.1. Strategy [the espoused]	138
7.6.2. Marketing [the espoused]	139
7.7. Semi-structured interviews	141
7.8. Analysis using Graves' framework	141
7.9. Background (establishing roles)	143
7.10. Gathering information	143
7.11. Analysis Form A [The Hidden]	145
7.12. Analysis change state indicator [The Hidden]	154
7.13. Analysis balance between hope & anxiety [The Espoused]	158
7.14. Analysis strategy development [The Espoused]	161
7.15. Closing arguments	165

8.1. Part One - UWC case study - Overview	170
8.1.0. Introduction and overview	170
8.1.1. The Case Study – a Utilities Water Company (UWC)	170
8.1.2. The concern	171
8.1.3. Concluding summary	176
8.2. Part Two – UWC case study – The Process	177
8.2.0. The Process	177
8.2.1. Setting up the UWC process - The roles	179
- Roles	180
8.2.2. Agreed method	180
8.2.3. Gathering data	181
8.2.4. What is Sense Making?	183
8.2.5. Data collected	185
8.2.6. Types of data	185
8.2.7. Values, Change & ProcessSCAN Questionnaires	188
- Gravesian Values [The Hidden]	188
- Gravesian Change [The Hidden]	191
- ProcessSCAN [The Hidden]	193
8.2.8. Ways of Working Questionnaire [The Espoused]	194
- Gravesian espoused values and change	196
8.2.9. Gathering of Perceptual Data	199
8.2.10. Feedback and Training for Participants	201
8.2.11. Comments on the Analysis Methods	202
- Quantitative analysis	202
- Qualitative analysis	203
- Analysis of Coded Data	204
- Handling of raw data	205
8.2.12. Concluding summary	206
8.3 Part Three – UWC case study – The Analysis	207
8.3.0. The analysis	207
- General note on analysis of Type 1 data [The Espoused]	207
8.3.1. Analysis of type 1 data – documents [The Espoused]	209
- Purpose	209
- Method sequence	209
- Analysis	210

8.3.2. Summary of analysis of type 1 data [The Espoused]	219
8.3.3. Analysis of type 2 data – questionnaires [The Hidden]	221
- Purpose	221
- Method sequence	221
- Analysis values test and change state indicator [The Hidden]	225
- Analysis and Overview	225
8.3.4. Analysis contractor company #1	229
- Contractor #1 needs from UWC	230
- Communications	230
- Motivation buttons (what motivates the group)	231
- UWC needs from contractor #1	231
- Communications	231
- Motivation buttons	231
- The tensions are between	232
- Change – incremental v step change	232
- Comments	232
8.3.5. Analysis contractor company #2	233
- Contractor #2 needs from UWC	234
- Communications	234
- Motivation buttons	234
- UWC needs from contractor #2	234
- Communications	234
- Motivation buttons	235
- The tensions are between	235
- Change – incremental v step change	235
- Comments	235
8.3.6. Analysis contractor company #3	237
- Contractor #3 needs from UWC	238
- Communications	238
- Motivation buttons	239
- UWC needs from contractor #3	239
- Communications	239
- Motivation buttons	239
- The tensions are between	240
- Change – incremental v step change	240
- Comments	240

8.3.7. Analysis contractor company #4	242
- Contractor #4 needs from UWC	243
- Communications	243
- Motivation buttons	243
- UWC needs from contractor #4	244
- Communications	244
- Motivation buttons	244
- The tensions are between	244
- Incremental change versus step change	245
- Comments	245
8.3.8. Summary of results of type 2 data [The Hidden}	246
8.3.9. Analysis of results of type 3 data - perceptions, stories and Impressions – the role of the individual [The Perceived]	253
- Purpose	253
- Method sequence	254
- Analysis	255
- Example stories from individual discussions	258
- Story of an engineer working for contractor #3	259
- Bob's relationship to management	266
- Bob's needs from the manager Jane	266
- Communications	266
- Motivation Buttons	267
- Learning Styles	267
- Manager (Jane - ID #177) needs from Bob	267
- Communications	267
- Motivation Buttons	267
- Learning Styles	267
- Management styles	268
- The tensions are between	268
- Change – incremental v step change	268
- Learning styles	269
- Management styles	269
- Further example of individual stories	273
8.3.10. Type 3 Data – Visual Perceptions	275
- Contractor #1	275
- Contractor #2	276
- Contractor #3	277

- Contractor #4	277
- UWC	280
8.3.11. Summary of the Hidden, the Espoused and the Perceived	280
- Purpose	280
- Method sequence	280
- The Data	281
8.3.12. Concluding summary	283
8.4 Part Four – UWC case Study – The UWC Feedback	284
8.4.0. Presentation to UWC and feedback from UWC	284
8.4.1. Feedback from the contractors about UWC	287
- Contractor #1	287
- Contractor #2	288
- Contractor #3	288
- Contractor #4	288
- Concluding feedback	288
8.4.2. Closing arguments	291
9. Research Review and Findings	294
9.0. Introduction	294
9.1. A Reflective review of the Literature	300
- Finding No 1	302
- Finding No 2	302
9.2 A Reflective view of Culture from a Memetic perspective	303
- Finding No 3	304
- Finding No 4	307
9.3. A Reflective view of Culture from a Heuristic perspective	307
- Finding No 5	307
- Finding No 6	308
- Finding No 7	309
9.4. Reflective Review of the Questionnaires	309
- Finding No 8	309
- Finding No 9	310
- Finding No 10	311
9.5. Reflective Review of the Oracle and UWC studies	312
9.5.1. Oracle Study	312
- Finding No 11	312

- Finding No 12	312
- Finding No 13	313
- Finding No 14	313
- Finding No 15	313
- Finding No 16	313
9.5.2. UWC Study	314
- Finding No 17	314
- Finding No 18	314
- Finding No 19	315
- Finding No 20	315
- Finding No 21	315
- Finding No 22	316
9.6. Reflective Review of the Role of the Researcher	316
- Finding No 23	317
- Finding No 24	317
9.7 Reflective review on use and analysis of espoused and perceived data	319
9.8. Concluding arguments on the research findings	320
10. Research Discussion	327
10.0. Introduction	327
10.1. Discussion Graves and Beck and Cowan	331
10.2. Is Graves' original research grounded and able to be reproduced?	331
10.3. Is Graves' framework an integrating approach to understanding culture	333
10.4. Closing debate	335

References	339
Glossary of Terms	362
Appendices	
Appendix 1. Chart for Self-Interpretation of Values Tests (VT)	368
Appendix 2. Chart for self-Interpretation of Change State Indicator (CSI)	370
Appendix 3. Questionnaires for Form A, Values Test, Change State Indicator, ProcessSCAN.	373
1. Form A	373
2. Values Test	380
3. Change State Indicator	385
4. ProcessSCAN	387
Appendix 4. UWC Case study 'Ways of Working' questionnaire	389
Appendix 5. Questionnaires used in pilot study	393
1. The Balance between hope & anxiety	393
2. Strategy Development Questionnaire	396
Appendix 6. Example comparison chart Loevinger & Graves	400
Appendix 7. Dr Don Beck permission to use Spiral Dynamics information	401
Appendix 8. Linscott (2001) vMeme development	402
Appendix 9. Support data for chapter 7 pilot study	403
Appendix 10. UWC Support Information	406
Appendix 11. Oracle (UK) Ltd letter of support for the pilot study	424

List of Figures

(The first number is the chapter reference)

Figure 1.0 The research process	9
Figure 3.0 Country core-value systems	36
Figure 4.0 Country Gravesian value systems	76
Figure 6.0 Action Research Process Flow	101
Figure 6.1 Action Research Template	102
Figure 6.2 The 'Social DNA' Gap Model Concept.	125
Figure 7.0 Oracle Pilot Study Gap Model	127
Figure 7.1 Action research process flow	128
Figure 7.2 Triangulation Pilot Oracle Study	129
Figure 7.3 Oracle 'Form A' Values Test Group Report	133/134
Figure 7.4 Oracle Change State Indicator (CSI) Group Report	136
Figure 7.5 Oracle Pilot Study Gap Model – where are we?	137
Figure 7.6 Marketing Oracle Pilot Study Questions	140
Figure 7.7 Oracle group results Form A	146
Figure 7.8 Oracle Pilot Study Gap Model – where we are with gaps – Values	149
Figure 7.9 Oracle Group Change State Indicator	155
Figure 7.10 Oracle Pilot Study Gap Model – where we are with gaps – Change	157
Figure 7.11 Hamel and Prahalad Oracle group and Joe (ID#47)	158
Figure 7.12 Oracle group strategy development	161
Figure 7.13 Oracle Pilot Study Gap Model – where we are with gaps – Espoused	164
Part 1	
Figure 8.0 AR Process Flow Location – Stage 4	171
Part 2	
Figure 8.1 UWC 'Social DNA' Gap Model	178 & 280
Figure 8.2 Action Research Process Flow	179
Figure 8.3 Triangulation UWC Study	178
Figure 8.4 Gap Model Location – sense-making	183
Figure 8.5 Gap Model Location – Values the hidden	188
Figure 8.6 UWC Values Test Group Report	190
Figure 8.7 Gap Model Location – Change the hidden	191

Figure 8.8 UWC Change State Indicator (CSI) Group Report	192
Figure 8.9 Gap Model Location – L&R Brain	193
Figure 8.10 Gap Model Location – WoW the espoused	195
Figure 8.11 Gap Model Location – Values & Change Espoused	196
Figure 8.12 Gap Model Location – Gather Perceptions	199
Part Three	
Figure 8.13 Gap Model Location – Comments	207
Figure 8.14 Gap Model Location – Documents	209
Figure 8.15 Gap Model Location – Values	215
Figure 8.16 Gap Model Location – Espoused hidden	219
Figure 8.17 Gap Model Location – Summary espoused	219
Figure 8.18 Gap Model Location – SD hidden	221
Figure 8.19 Gap Model Location – Integration	223
Figure 8.20 VT Refining of data down to the individual	225
Figure 8.21 Gap Model Location – Contractor #1	230
Figure 8.22 Gap Model Location – Contractor #2	234
Figure 8.23 Gap Model Location – Contractor #3	238
Figure 8.24 Gap Model Location – Contractor #4	243
Figure 8.25 Gap Model Location – Summary hidden espoused	246
Figure 8.26 VT gaps between contractors and UWC	248
Figure 8.27 Gap Model Location – Values gaps	248
Figure 8.28 CSI gaps between contractors and UWC	251
Figure 8.29 Gap Model Location – Change gaps	251
Figure 8.30 Gap Model Location – Perceived	253
Figure 8.31 Gap Model Location – WoW	256
Figure 8.32 Gap Model Location – Stories	258
Figure 8.33 Gap Model Location – Stories #2	259
Figure 8.34 CSI for Bob – ID#368	261
Figure 8.35 VT for Bob – ID#368	262
Figure 8.36 Break out of values for Bob – ID#368	264
Figure 8.37 Gap Model Location – Bob hidden	265
Figure 8.38 Gap Model Location – Bob relationships	266
Figure 8.39 Gap Model Location – Bob Tensions	268
Figure 8.40 Bob's Values Test ID#368	271
Figure 8.41 Gap Model Location – Other stories	273
Figure 8.42 Gap Model Location – Visual	275

Part Four

Figure 8.43 AR Process Location – stage 4 & 5	284
Figure 9.0 Action Research Process Flow – Reflection	294
Figure 9.1 'Social DNA' Gap Model	295
Figure 9.2 Action Research Template Addition of Literature Reflection	299
Figure 9.3 Transcend & Include nested classification system for memetics	305
Figure 9.4 Theoretical Research Model	323
Figure 9.5 Triangulation Part of the Research's Models	325

Appendix Figures

Figure A5.0 Strategy Development output graph	399
Figure A8.0 - Linscott (2001) vMeme Development – The Psychological Map	402

List of Tables

(The first number is the chapter reference)

Table 2.0 - A simplistic view of different approaches to culture and change	27
Table 3.0 Pathways in the mind	31 & 130 & 220
Table 3.1 Theory Y (McGregor, 1985 reprint of 1960 edition)	35
Table 3.2 Theory Z explanation (Ouchi, 1981)	35
Table 3.3 Schein summary of comparison to Graves	43
Table 3.4 Core-values – relationship definitions	46
Table 3.5 Types of Change	47 & 131 & 154 & 220
Table 4.0 Meme complex based on Fog (1999)	77/78
Table 6.0 Summary of research process	97
Table 6.1 Practical Phase – Summary of main areas	98
Table 7.0 Values Oracle Study Examples - Form A	132
Table 7.1 Change Oracle study Example - Change State Indicator	135
Table 7.2 Strategy Oracle Pilot Study Example Questions	138
Table 7.3 Strategy Oracle Pilot Study – Example of Table of Results	139
Table 7.4 Marketing Oracle Pilot Study Questions	140
Table 7.5 list of codes used for the Oracle Pilot	142
Table 7.6 Researchers Analysis before interview and Person Joe (ID# 47)	142
Table 7.7 Core-Values – Relationship Definitions - Oracle.	145
Table 7.8 Henry (ID# 55) comparison of Form A	147
Table 7.9 Researchers analysis before interview and person ID# 47 (Joe)	150/151
Table 7.10 Researchers analysis before interview and person ID# 55 (Rob)	152/153
Table 7.11 The balance between hope and anxiety Hamel and Prahalad	159
Table 7.12 The Strategy development questionnaire results	162
Table 7.13 Joe on planning (ID#47) strategy development	162
Table 7.14 Value systems – GT yellow (extract)	168
Part One	
Table 8.0 Pain/Gain commercial model	173
Table 8.1 Questions raised by the UWC steering group	175
Table 8.2 UWC edited internal report on perceived behaviour problems	175

Part Two

Table 8.3 A Briefing Note from the Researcher and Consultants to UWC.	180/181
Table 8.4 UWC study Example of Values Test questions	189
Table 8.5 Types of change	191
Table 8.6 ProcessSCAN UWC Study	193
Table 8.7 ProcessSCAN UWC Study example of results	194
Table 8.8 UWC Study – Ways of Working Questions	195
Table 8.9 UWC Study WoW Examples	196
Table 8.10 UWC List of documents	197
Table 8.11 UWC list of codes	198
Table 8.12 Example of perception analysis gathering	200
Table 8.13 Reminder of AR principles	201
Table 8.14 Journal of key dates and actions	201

Part Three

Table 8.15 Pathways in the Mind (UWC Highlighted)	208
Table 8.16 Types of change (UWC)	208
Table 8.17 UWC list of codes	210/211
Table 8.18 UWC Study WoW Examples	211
Table 8.19 Examples of statements for the top 3 codes for Contractor #1	212
Table 8.20 Audit trail of documents	213
Table 8.21 Definition of the top 20 UWC codes	214
Table 8.22 Researcher's Definitions of Gravesian values	215
Table 8.23 Type 1 data [Espoused] as Graves' value system codes	216
Table 8.24 Behaviour top codes	217
Table 8.25 HyperResearch hypothesis examples	218
Table 8.26 Questionnaire returns – VT and CSI	225
Table 8.27 Percentage Group VT scores	227
Table 8.28 Values test overview basic guide for administration and interpretation	227
Table 8.29 VT Contractor #1, UWC	229
Table 8.30 CSI Contractor #1, UWC	229
Table 8.31 VT Contractor #2, UWC	233
Table 8.32 CSI Contractor #2 UWC	233
Table 8.33 VT Contractor #3, UWC	237
Table 8.34 CSI Contractor #3 UWC	238
Table 8.35 VT Contractor #4, UWC	242
Table 8.36 CSI Contractor #4 UWC	242
Table 8.37 Ways of Working – Values Test	246

Table 8.38 Questionnaire Returns – Ways of Working	247
Table 8.39 VT results for UWC sponsor (ID# 408)	256
Table 8.40 CSI for UWC sponsor (ID# 408)	256
Table 8.41 CSI for Bob - ID# 368	260
Table 8.42 VT for Bob - ID# 368	262/263
Table 8.43 Bob - Values for Work, World and Personal - ID# 368	264
Table 8.44 Summary of Hidden, Espoused and Perceived Data	281
 Table 9.0 Assessment Validations	 310
Table 9.1 UWC Data Types Summary	314

Appendix Tables

Table A1.0 Value Systems – Profiling Global People Practical Application	368
Table A1.1 Key Concepts – Values Test Key Concepts	369
Table A2.0 CSI Test guide	370/372
Table A3.0 ProcessSCAN questions	387
Table A3.1 ProcessSCAN Analysis	388
Table A6.0 Loevinger compared with Graves	400
Table A9.0 Form A - Oracle Pilot Study Group	403
Table A9.1 CSI Summary of Oracle Pilot Group	404
Table A9.2 Person ID# 47 (Joe) Form A Values (meta-memes)	405
Table A9.3 Person ID# 47 (Joe) Change State Indicator (CSI)	405
Table A10.0 22/07/02 Note for UWC sponsor	406
Table A10.1 Examples of Values Statements – these have been edited to ensure confidentiality and are examples from the HyperResearch coding	407/409
Table A10.2 Review of Coding of questionnaires, documents, interviews etc the top 85% the top 20	410
Table A10.3 Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances	411/417
Table A10.4 UWC Case Study Results VT - Contractors 1, 2, 3, & 4, UWC, Auditor, Research Average	418
Table A10.5 Difference of Contractor #1 and UWC - Values Test Results	418
Table A10.6 Difference of Contractor #2 and UWC - Values Test Results	419
Table A10.7 Difference of Contractor #3 and UWC - Values Test Results	419
Table A10.8 Difference of Contractor #4 and UWC - Values Test Results	419
Table A10.9 Change State Indicator – Contractors #1, 2, 3, & 4	420

Table A10.10 Change State Indicator – Contractor #1	420
Table A10.11 Change State Indicator – Contractor #2	420
Table A10.12 Change State Indicator – Contractor #3	421
Table A10.13 Change State Indicator – Contractor #4	421
Table A10.14 Values Test (Total) results for ID# 368 working at Contractor #3	422
Table A10.15 Change State Indicator for ID# 368 working for contractor #3	422
Table A10.16 VT comparison of 1 st world average and research mean	423
Table A10.17 CSI comparison of 1 st world average and research mean	423

Declaration

I declare that this thesis has not been submitted for a comparable academic award.

John E Cook

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Acknowledgement is given to UWC for the opportunity to use the Gravesian framework to assist in producing change.

Finally a big thank you to my wife Rosemary, my companion on this journey and for keeping my feet on the ground.

1.0. Organisational Culture – why this research?

This research will look at the role of the individual in organisational culture. This is an action research¹ project to bring about change and produce a different model for looking at the role of the individual in culture. The research takes a particular view of understanding the hidden culture inside an individual that contributes to culture. Gaining this 'inside out' understanding is done by revisiting the work of Graves (1977) on the hidden building blocks of culture². This contributes to knowledge by helping understand the basic assumptions individuals make about culture and how they contribute to culture, then validating this model by producing change using methods based on action research. In management research on culture it has been argued that it is difficult to define basic assumptions, values and beliefs (Young, 2000). Are these building blocks (Schein, 1990) that are believed to form culture derived from something hidden in the individual or are they perceived and espoused? The Gravesian framework will be used to inform these arguments on organisational culture, pulling together some of the strands that make up organisational culture. The view being taken of organisational cultural research, Professor Graves' work, memetics and heuristics are the researcher's based on his 'mindset'³ and view of the world. Graves' framework is used in a practical setting to understand if it has a role in producing understanding and a change, therefore the use of an action research method was chosen.

As an international senior manager living and working in different cultures I started to question why certain innovation or management initiatives were taken up and became successful while others did not. This led to the study of change. During this study I

¹ This research is based on the values for Mode 2 researchers: "collaboration; desire to impact practice; closeness to practice and improvements to practice rather than distant or critical perspective on theory about practice." (Burgoyne and James, 2006. fig1, p313).

² Building blocks of culture or cultural building blocks is a device or frame that are the "underlying structures or organizing principles that bind and give coherence to diverse arrays of symbols and idea elements that make up . . . [culture and give] packages of meaning" (Creed *et al.*, 2002 p481) in Ghaziani and Ventresca. (2005 p534).

³ Mindset – approach or way of thinking. "The established set of attitudes held by someone" OED, 2001, p1176).

attended a lecture on culture given by Dr. Don Beck in 1997, this considered Graves' work. This triggered a 'eureka' moment for me in that Graves had produced a theory that reflected 'social DNA'⁴. His view appeared to answer why and how management decisions were taken and how individuals' social DNA affected these decisions. However there was no research available on the practical use of Graves' ideas. This research is about a journey to discover the usefulness of Graves' work in organisations. Graves showed a passion for his work and the more I understand his work the more I 'intuitively' feel it is useful for understanding organisational culture, producing another way of viewing culture.

Beck and Cowan (1996) who continued Graves' work have never developed a practical researched process for using Graves' work, leaving the breadth and depth of Graves' work untouched and outside academia. The work of Beck and Cowan (1996) is largely based on and reliant on Graves' work. To a large degree Graves' work is interchangeable with Beck and Cowan's (1996). Beck and Cowan's main contribution was to develop assessment questionnaires and to interpret them to measure the hidden values, beliefs, assumptions and change, that represent the hidden culture. These measurements are argued to reflect the hidden 'social DNA'⁵ in a person. Graves' work forms the academic core for this thesis and his work is linked with relevant research on culture. Therefore to understand Beck and Cowan's work I considered it necessary to start with Graves' work. Another consideration in starting with Graves' work was the bitter split⁶ between Beck and Cowan. This split started around 1998 (Beck, 2004a) where Cowan considered that Beck was not using Graves' work correctly, as he put too much emphasis on the spiritual side rather than management. It is hoped this research will rekindle an interest for others in Graves' work.

⁴ Social DNA is used as a metaphor; however there are arguments for a biological basis discussed later. (Social DNA based on Dawkins 1972, Distin, 2005).

⁵ Social DNA – a metaphor based on a biological analogy.

⁶ The split is so acrimonious that any training given by Beck is not recognised by Cowan, though Beck recognises Cowan's training. As I was trained by Beck I have not been able to purchase books on Graves' work directly from Cowan (Cowan, 2003a) as he fears that anyone associated with Beck will steal his ideas. The silly thing about this split is that both views of the use of Graves' work I found in this research, fit Graves' intent.

1.1 Who was Clare W Graves?

Clare W Graves was born in New Richmond, USA on the 21st December 1914. He graduated from Union College, Schenectady, N.Y. USA in 1940. He gained his PhD in psychology from Western Reserve University, Cleveland and returned to Union College in 1948, becoming a full professor in 1956 (Lee: 2001a). He retired in 1978 and died in 1986.

Graves knew Maslow (1968 'hierarchy of needs') and delivered a lecture for him when he was ill (Lee, 2002). Graves also had great respect for the work of Schein (1965). This has led to the use of Schein's 1990 three-dimensional model of culture throughout this research. Graves' first published paper was in the Harvard Review (1966) on the "Deterioration of Work Standards", about quality systems.

Dr Don Beck gave up his professorship in political science to join Graves in the 1970s and continue Graves' work. This resulted in the book "Spiral Dynamics - mastering values, leadership and change" in 1996. In the 1990s Beck worked with the philosopher Ken Wilber's integral psychology to combine their ideas. Wilber produced a book "A Theory of Everything" (Wilber, 2000) covering Graves and Spiral Dynamics.

From the research into Graves' work, his academic background, his respect for the work of Maslow and Schein and the basis of his framework suggest a person with passion and precision in his research. On the other hand, he recognised the weakness in his framework and the need to use his work not just as theory but as a practical learning method which is in essence what an heuristic is. A heuristic is a learning model and in this research's view is based on the culture from which the learning occurs.

The contribution to knowledge is the use of Graves (1977) and the later assessment work of Beck and Cowan (1996) to define an individual's internal social DNA. Then extend their ideas to measure the espoused and perceived social DNA of an organisation. Graves' work has not been researched in this way before. This allows for building a 'social' gap model⁷ between the hidden (within the person), the espoused

⁷ Gap Model – in this research a 'gap' model is produced by measuring the individual's Gravesian hidden culture and change profile and comparing against another individual or group.

(what the person says) and the perceived (the person's intuition). The usefulness of this model to organisations is then validated within a water company's supply chain to produce change.

This research will focus on the 'Gravesian framework', which is argued as a method of defining this metaphorical social DNA that is active in an individual with their preferences for different types of change. Graves argued that these values and change systems are embedded pathways within the brain. Activation of different systems is dependent on the prevailing life conditions and the brain's capacity to handle greater complexity. Measurement of these values and change is done by using Beck and Cowan's (1992) questionnaires whose questions are unconnected to the organisation and therefore argued as organisationally neutral (Beck and Cowan, 1996). 'Neutral' means that the questions asked are about the individual, rather than questions that ask for opinions about the individual's view of the organisation. Specifically, this research will seek to inform the following research questions to produce another point of view for understanding culture to improve business performance.

- 1) Does the Gravesian framework help in understanding culture in organisations?
- 2) Does the Gravesian framework help in understanding the influence and role of an individual's culture on an organisation's culture?
- 3) Does the Gravesian framework help to understand the mechanisms of cultural change?

The problems in addressing the research questions are discussed by referring to relevant cultural research. Empirical managerial research exploring the role of the individual in developing organisational culture has been lacking. Martin (2002a) in her review of cultural research, comments that an anthropologist getting inside a culture can take seven years or more because of the complexity and time needed to understand the individuals and the group. Current management research in this field starts with the organisation and studies the collective rather than the individual. This usually takes a descriptive approach which reduces time and complexity (ibid), meeting the needs of immediacy in fast-moving commercial settings. However, a further imposed research limit is to define the boundaries of a culture. Is the organisation or department the boundary or is it the local community or country in which they work?

The approach is also applied to the espoused and perceived using the Gravesian framework for interpretation.

Moving the boundary further outwards creates more complexity and the need for more time to do research. Therefore researchers place artificial boundaries around research into organisational culture (ibid). An individual brings to an organisation, knowledge and life experiences that are often different to those of the organisation. These experiences often become hidden and not revealed to the host organisation. This in turn leads to assumptions made by management on the observable, filtered through their cultural values and beliefs. It is the purpose of this research to evaluate the role of the individual in an organisation's culture. This research approach will use an integrated model that reveals the underlying or hidden values, beliefs and assumptions. Doing this makes it useful for managers and researchers to help them change and shape organisational culture. The basis of this research is to build on the unique integral psychological work of Graves (1964, 1965, 1966, 1974, and 1977) in revealing to individuals and organisations these hidden features of culture and change in a practical way.

The need to understand cultural diversity is important since organisations try to survive in a competitive global commercial climate. In the Western or first world countries the shortage of skilled workers, coupled with an ageing population, makes it necessary to employ skilled individuals from different and often alien cultures. However they need to be able to take advantage of the current experience and knowledge of existing individuals. For this integration to be effective, Western businesses need to absorb and understand these individual cultures without alienating current employees and clashing with their value and belief systems. This understanding contributes to the effectiveness of the host organisation's culture and performance. Schein (1990) argued that in the make-up of culture there are values, beliefs, assumptions and artefacts that are common to that organisation. However these are unlikely to be common to all employees.

This research seeks to explore the role of the individual's hidden⁸ values and beliefs in contributing to the organisation's culture and its subcultures. In this research a business organisation is a culture. The words 'culture' and 'organisation' are interchangeable (Martin, 2002a). Looking at the individual's culture helps in moving the

⁸ Hidden – the individual may not be aware of what their hidden values and beliefs are, as they are subconscious. Graves (1966, 1977) identified these beliefs as hidden [pathways] in the mind. Each system is argued by Graves to be produced by the interaction of life conditions and brain capacity.

boundaries of the research outward, allowing reflection of the wider community in the organisation's culture through the individual. It is not in the scope of this research to say how an organisation's culture comes about because this would involve other features of an organisation such as power, agency theory and so on. However if this approach reveals the culture of leadership teams, as individuals, and the hidden values and beliefs that shape the organisation, then it also reveals the cultural gaps between employees, customers, suppliers and the wider community. If this holds true then addressing these gaps helps to understand their value, belief and change systems. This in turn helps with personal and organisational change.

1.2. The Research Method

To explore the role between an individual's underlying values, beliefs and artefacts and the organisation, this research will revisit the 1950s work of Clare W Graves. The basis of this approach is to use biological, psychological, social and systems (BPSS) self-reporting assessment questionnaires (Beck and Cowan, 1992) to find an individual's underlying values, beliefs and change preferences. Then to extend the findings of these questionnaires, the research will use the Gravesian framework to analyse other sources of information including documents, interviews and perceptions and a work-related questionnaire. The idea of this approach adds to knowledge by building a social DNA gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition).

To help in validating this model is an exploration of two issues raised by Graves (1977) and by later researchers (Beck and Cowan, 1996). The first important issue is that of the learning (heuristic) part of a theory (the individual's use of intuition) and the second is an understanding of how units of culture reproduce (memes – Dawkins, 1976). Memes are related to Graves' hidden values and may suggest ways in which hidden values and change reproduce throughout a culture. Beck and Cowan (1996) argued that Graves' framework is a container that attracts memes⁹, forming meta-memes of values, beliefs and artefacts that reveal building blocks of culture (Hatch, 1996).

Graves' work is important as his approach to understanding values and beliefs and change is unique. His work is unique because it centres within the individual rather

⁹ A meme is a unit of culture such as values, beliefs, basic assumptions and artefacts that reproduce like a virus across an organisation or group.

than researching culture from an outside collective view. Many others have looked at value and belief systems¹⁰, but Graves' work appears to be comprehensive as his framework fits all other models, whereas other models do not encompass the scope of Graves' work (Payne, 2004). Graves (1966) originally applied his framework to quality management and value engineering. Only recently has his work been looked at seriously as a heuristic diagnostic tool for development of the individual, the organisation and management.

An outcome of this research is to produce a model for further research by validating the effective use of Graves' ideas in an organisation in producing change. Would Graves' framework for assessing individual's hidden culture and change when used with other research and management techniques affect an organisation's view of how to understand culture? If supported by further research, then it is expected that this will help organisations make needed cultural changes within managerial timescales. This research is split into three areas. Each area informs the research questions raised on page three. Area 1 looks at the academic underpinning of Graves' work to confirm it is a valid approach. Area 2 is to understand how to practically use Graves' framework and Area 3 brings the first two areas together to reflect on the outcomes and findings. The next section covers more detail on each of these areas.

1.2.1. Literature Reviews. The literature reviews are to discover the academic rigour of Graves' work and its usefulness in understanding some of the concerns in culture research. The reviews look at his work to confirm it is a credible framework for this research into organisational culture, by looking at the issues of how culture may be formed within the individual. To extend Graves' work, there is a review of how culture spreads by learning, from individual to individual, organisation to organisation. These are issues raised by Graves (1977) and Beck and Cowan (1996) in their own research but not developed. The culture of the individual being at the centre of this research, the relationship between the individual and learning and how we make assumptions¹¹ and the use of intuition in management decisions is explored. Taking a heuristic view is important from a managerial perspective as managers often decide by using intuition (Elbanna, 2005). These decisions are based on their individual values and belief systems. Reproducing these values and beliefs is important in forming the cultural basis for using intuition. The discussion on meme reproduction is carried out by

¹⁰ Examples – Maslow, Schein, Jung, Loevinger, Erikson (Graves, 1977, 2005)

¹¹ Assumptions are based on groups of values and beliefs.

reviewing the 'science' of memetics¹². Beck and Cowan (1996) argued that Graves' value systems were meta-meme systems. Memetics gives another point of view of how culture might form in an individual as opposed to Graves' view of culture being a chemical part of our brain. These two areas of heuristics and memetics add another viewpoint to the work of Graves. As Graves' work is complex, each area of the literature review is interwoven with Graves' research, arguing links to other researchers and debates. There are four areas covered in the literature reviews: culture, Graves' framework, the 'science' of memetics and heuristics. The literature is used to explore if Graves' framework are building blocks that can be used to form a metaphorical social or cultural 'DNA' gap model.

1.2.2. Understanding. This seeks to understand the use of Graves' framework in a practical setting to produce change. To achieve this understanding, two organisational studies were carried out. First, a pilot study is conducted with Oracle UK Limited, part of an international computer software company. Second is a case study within the UK water industry looking at the effect of culture on asset management in their supply chain. The basis of the method for the pilot and the case study is an action research process including the use of self-reporting questionnaires (Beck and Cowan, 1992) on hidden values, beliefs and types of change. The self-reporting questionnaires (hidden), an analysis of documents, interviews and feedback sessions (espoused), combined with perceptual data on the working environment¹³ (perceived) are used to build a model.

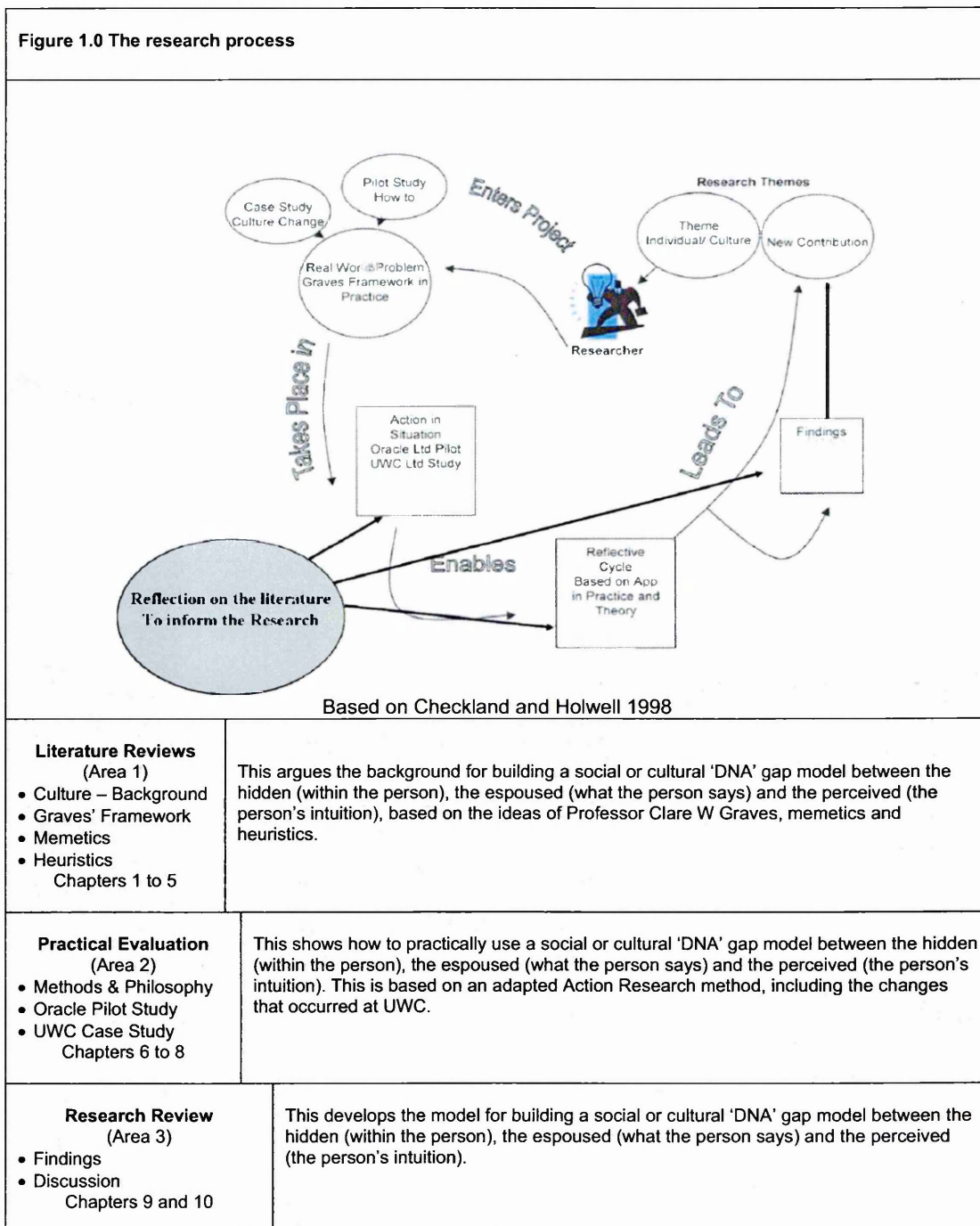
The analysis uses Graves' framework to reveal the espoused values, beliefs and assumptions hidden in documents, interviews and feedback sessions. Stories from the feedback sessions are used to support and inform the results from the analysis. It is not part of the research to validate the questionnaires as this has been done elsewhere (Hurlbut, 1979; Karsten, 2006). The research uses the questionnaires and qualitative

¹² The later work of Beck and Cowan (1996) on Graves introduced the concept of memes and meta-memes. Graves (1977) introduced the relevance of heuristics. Is memetics even a science? These questions are discussed in later chapters on heuristics and memetics to review social DNA and its scientific underpinnings.

¹³ Graves (1977) argued the environment or 'life conditions' activated different 'pathways in the mind' leading to the dominance of different values and beliefs systems.

analysis¹⁴ as tools to show the differences between the hidden and espoused and perceived values, beliefs, assumptions, artefacts and types of change.

The Following Figure 1.0 is an outline of the research process.



¹⁴ Qualitative analysis uses the Gravesian framework to analyze documents, interviews and perceptual data to compare with the ordinal data from the questionnaires.

1.2.3. Findings. The findings reflect on the research and discuss its heuristic value. The findings inform a possible practical template and model that develops the Gravesian framework. This then leads to a useful method for understanding the individual's role in culture for managers and researchers to consider. Included is a discussion on the effect of the researcher's hidden Gravesian value systems on the research. The findings also address the three research questions raised at the beginning of this chapter.

The final chapter discusses the further research required to explore the use of Graves' framework.

1.3. Contribution to Knowledge

The contribution to knowledge, from a (subjective) managerial perspective, comes from looking at the individual's role as a starting point to understanding the dynamics of a collective culture in an organisation. This approach produces a model of the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). These building blocks are defined as specific to this research as follows: -

- 'Hidden' – in the terms of this research this refers to values and change preferences that are argued by Graves (1977) to be embedded within the thinking of the person. These will be measured by Gravesian derived questionnaires.
- 'Espoused' - These are the espousal of the hidden for a given individual or organisation. What they actually say rather than what they think, the 'hidden'. These will be measured by analysing the UWC developed questionnaires with the Gravesian framework as a template.
- 'Perceived' – These are how the hidden and espoused are perceived by those external to that person or organisation.

Note: in all the above they are applied to the researcher as well as the case studies, but using the Gravesian framework as a unit of measure.

The research allows for a new look at Graves' (1977) work and its applicability as a management tool for use in organisations wanting to make changes. The research approach debates and discusses the validity of Graves' fundamental ideas and how his framework may be of practical use. An added outcome is the use of Graves' framework to discuss the various arguments and debates about memetics (spread of units of culture) as building blocks of organisational culture. Graves' framework has not been used this way before and is a contribution to knowledge in understanding some of the building blocks of culture.

The research method is based on Action Research (AR) which is a flexible process that allows for integrating quantitative and qualitative approaches in social and cultural settings. However the research perspective is through the researcher's interpretations in a managerial context that tends to be a phenomenological¹⁵ interpretist approach (neo-empirical). This is not to say that one approach is exclusively used. McAuley, Duberley and Johnson (2007) argue that all philosophical views of organisational culture have relevance. Whatever is interpreted the important part of AR is for change to occur. In this research change did occur within the UK Water Company, with the cultural evaluation framework becoming part of the supplier tendering process.

1.4 Summary of Research

This research explores the role of the individual in organisational culture and change by evaluating the underlying and hidden values, beliefs, assumptions, artefacts and preference for types of change as defined by Graves (1977). The framework is then used to understand the espoused and perceived view of culture.

The research method is an adapted action-research method of exploring the literature to give a background to culture and change. Then there is a review of the work of Graves (1966, 1977). The influence of memetics as a means of social reproduction of values beliefs and basic assumptions is examined, as Graves' framework maybe a memetic system. Heuristics is discussed for learning and how intuition is based on assumptions. Again Graves' framework is considered as a learning tool. Then there is

¹⁵ The study of things as they are perceived or as they are, based on the conscious experience of the researcher and interpreted through the researchers' filters of values, beliefs, basic assumptions and artefacts. (Based on Parry, 2003 and Easterby-Smith, Thorpe and Lowe, 1991)

a review of the research methods. Finally, to test the framework in practice, there are two case studies (based on fieldwork) with reflection on the research to inform a useful process that enables confirmation, feedback and change. The framework is used to raise the issues of the effect of the researcher's values and belief systems and how the same framework could be used to reveal the Gravesian values in the spoken word and documents and inform perceptions.

In its simplest form this research project takes the original work of Graves (1977) and the subsequent assessment work of Beck and Cowan (1992, 1996) and extends their work by using it in a) in a practical setting and b) to understand perceived and espoused values, beliefs and change by applying his ideas. This in turn creates a model for adding to the understanding the role of the individual in organisational cultures. As discussed previously this allows for building a social or cultural 'DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). For this research these three areas are considered as part of the building blocks of culture, a frame of reference¹⁶.

The next chapter looks at literature from the researcher's managerialist perspective of organisational culture and change with view to seeing if Graves' work can add to it. This is followed by an interpretative review of Professor Clare W. Graves' framework – what is it?

Note on Point of View: At times the researcher uses language that might occur to the natural scientist as the author making claims from the biological rather than the managerialist stance, this is however the author's pragmatic style.

¹⁶ "Like a window, we see the world through frames that determine our perspective while limiting our view to only a part of a complex world around us" (Creed et al., 2002 p36).

Chapter 2

A Background to Culture and Change

2.0. Introduction

This chapter will review some of the arguments involved in the research of culture from a managerial perspective and will relate these arguments to Graves' (1977) work. The review is to set the scene by looking at culture research in general and in organisations in particular. This then leads in the following chapters to a detailed review of Graves' (1977) framework, how culture is reproduced (memes) and how learning (intuition and heuristics) is a factor in culture. This chapter and the following ones should build a background picture for a model of a social or cultural¹ 'DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition).

This chapter discusses the problems of researching culture and of seeing how Graves' research may add to knowledge of the building blocks of culture. Some of these building blocks are internal (within the mind) and others are external. Graves started his work in the 1950s to the 1980s and it needs to be placed in more current thinking, though not necessarily culture alone. Graves' work based on the individual has not been used academically in cultural research before. This review will cover some of the debates on cultural research, the complexity involved and the relationship of culture to change. Graves' framework has the potential for an integrated approach to culture, but is there a need for an integrated approach to organisational and management culture research? Meyerson and Martin (1987) think there is a need for such an integrated approach. Graves' work allows for understanding the role of the individual, the researcher and the researched in social settings like studying culture. This allows a way to measure the cause and effect of different values, beliefs and change on culture.

Graves (1964, 1966, 1977, 1978) in his model brings together both the internal (within the person) values and beliefs that hide within pathways embedded in the mind, and the external causes (life conditions). Beck and Cowan (1996) argue that this produces

¹ "Cultural DNA" is a term and concept used by Kate Distin (2005 p18) in her review of memetics and units of cultural replication.

a representation of an individual's underlying or embedded² culture. This approach allows for an understanding of the individual and the organisation's culture. According to Graves these pathways develop over time as humans developed and they act subconsciously as filters on our thinking today. This also brings together the individual's preferred types and states of change which I argue are a key to changing the values underlying a culture. This understanding is needed as an organisation's culture needs to change as business conditions change in order to remain competitive.

To develop this perspective further it is useful to review some of the issues in researching culture and the applicability of Graves' research.

2.1 A background to culture research

Culture has been and is a fertile area for academic research (Hatch, 1996, 2006, Martin, 2002a, 2002b). The debate on what culture is and how it comes about has been around since before the days of Darwin's (1886) ideas on the evolution of species. At the centre of these debates are the questions, 'What is culture?', 'How does culture occur?' and 'What are the relationships of culture to human biological development?' Culture is about opinions (Martin, 2000a, 2002b) and it is dependent on where the observer is standing, inside or outside, subjectively or objectively, and other combinations. Each view and its associated views carry with them processes and procedures that have validity only in their settings. This broad and often fragmented approach to culture, means according to Martin (2000b), that it is hard to produce a generalised theory to use across many cultures.

The following comment by the American philosopher William James shows the complexity of researching the role of the individual in forming a culture: "Whenever two people meet there are really six people present. There is each person as he sees himself, each person as the other person sees him, and each person as they really are." (Quoted in Attwater, 1991, p.163). From a group perspective this is supported by Martin's (2002b) comments on international culture, which is also applicable to organisations. "The tendency is to view one's own membership group as complex and internally differentiated, whereas the 'other' group is viewed as homogeneous." This gives two views, but can a group see itself as it is? Logic argues that only the individual

² Embedded does not mean permanent as different states and values can be activated as life conditions change (Graves, 1977).

can know who they are, so it makes sense to view the building blocks of culture from the individual's perspective.

Graves' (1977) view is that culture is embedded (hard-wired³) as filters within the mind of the individual, forming the basic assumptions about culture. Those individuals with similar needs for survival activate similar values and beliefs to form a dominant culture (organisation). For example, a commercial organisation has a priority objective to sell its products. To achieve this objective it has developed a pressured sell-at-all-cost culture. Individuals will either have a similar culture within them or will have subdued the culture within them to survive in that organisation. Graves (1977) argues that his theory has the capacity to look within the individual. This allows exposure of underlying or hidden values and beliefs, and further allows for an understanding of the blockages and similarities within that organisation's culture. In the example, an individual with hidden values different to the organisation may be performing well. However the hidden tensions may cause stress and may result in absenteeism or high staff turnover.

Martin's (2002a) review of culture research in general and of organisations in particular refers to the polarised debates about which views and methods are the correct way to research culture. The polarising of the academic debates comes from asking, 'What is the correct way to understand culture?' The answers have caused confusion because of deeply entrenched views. Martin (2002a) continues to assert that all views have validity, while arguing for a need for a unified multidisciplinary approach. However, there are many approaches. One approach to understanding culture is "only when facades are penetrated can a researcher hope to gain depth of understanding (p. 23)". Schein (1987) supports this view by arguing for the need to enter a discussion for a deeper understanding of the basic assumptions of culture. Martin comments (2002a) that even though this approach has merits "it is purchased at a cost: the time it takes to gain in-depth understanding" (p. 26). Another approach to understanding culture that is more practical is that it is possible to gain a representation of culture "using short-term quantitative methods or innovative survey methods" (p. 28). Typically, it takes seven years to become immersed as an insider before one can reflect and understand a

³ Hard-wired in psychology is a method "to deal with a nearly infinite number of subtly varying contexts that could be encountered, the biological automaton must come equipped with a nearly infinite number of hard-wired rules, each of which is invoked in a slightly different context" Andrews (2001 p16). These pathways in the mind become automatic filters on the world around the individual.

culture (Martin, 2000a). This seems a very long time and is more relevant to in-depth anthropological studies of communities, where the researcher is living in the community.

Then there are the debates about the capacity of questionnaires about an organisation's culture to reflect that culture since the questionnaire's writer is often an outsider (Martin, 2002a). There are issues of time, cost and validity that need further research. Graves (1977) adds to this debate by offering a framework based on the way the mind has formed during human development, embedding within the individual different value and belief systems. This means Gravesian-based questionnaires are about the preferences within the individual and not within the organisation. This leads to deeper discussions about individuals and the organisation. Martin (2000a, 2002b) believes that stories and discussion are an important part of understanding a culture. Also, this allows for the views about the organisation to be more objective rather than subjective, as long as the individuals have been objective and honest about themselves. Companies are made up of individuals; individuals have values and beliefs that are told in stories and discussions. Understanding the individual allows an understanding of the assumptions that are implicit in stories.

Literature reviews by their nature and the volume of knowledge available are filtered by the researcher to support particular arguments. There seems to be a general compartmentalisation and specialism as 'culture and ...' (fill in your own word here). Some examples come across during this research are: - Cultural Change (Meyerson and Martin, 1987), Culture and Creativity and Innovation (McLean, 2005), Culture and Human Resources (Fernandez et al, 2003), Culture and Management (Martin, 1992), Managing Culture (Ogbonna and Harris 1998), Organisation Culture (Pettigrew 1979), Culture and Leadership (Schein, 1985) and Learning Culture (Siehi and Martin, 1981).

Each researcher has their preferred references when doing a historical review of culture. Joanne Martin has tried in her reviews to cross the boundaries of various specialisms. Graves tried the same and fits here by helping to map the cultural terrain (Martin, 2002b). Martin (2002b) calls these often polarised views of researching culture "Cultural Wars" (p15). At the beginning of her book "Mapping the cultural terrain" (ibid) she refers to Smircich's (1983) as being the most important making the distinction between studies that use "culture as a metaphor for organisational life" and those that assume "culture can be treated as a variable" (ibid, p4). This research argues that because Graves starts within the person his work can be used as a memetic metaphor

and changes in 'life conditions' make culture a variable. It is the interaction of the 'norms' within the person and the external causes that create a culture or climate or environment for a person or an organisation to survive and thrive. (Graves, 1977)

Martin (2002b) is honest in her position by trying to present a balanced picture while accepting her own biases. This research likes the notion "taken in combination" of "very different intellectual traditions" (p10). This research is looking at several traditions, biology psychology, social and support systems (managerial). Graves fits current cultural research that is compartmentalised by providing a 'transcend and include' idea as discussed in the next chapters. This 'meta' element is missing in most cultural research, as complexity becomes too hard to handle (Martin (2002b).

McIntosh (2007) in his book, on his interest in cultural evolution, criticises academia's silo attitude. He suggests that we now need to use an "integral philosophy" view of future cultural evolution (p3). This is based on the work of Wilber, Beck and in the past Hegel, Bergson, Baldwin, "mathematician and philosopher" North Whitehead, "Swiss cultural philosopher" Gebser and German thinker Habermas (p153-154). He integrates the work of Graves (1977) Beck and Cowan (1996) and Wilber (1999, 2000 plus many other Wilber works) to look at a nature, self and culture, a triangular model, as the basis for further evolutionary cultural change.

Fog's (1999) book on Cultural Selection takes a memetic and biological view and like McIntosh is a "taken in combination" approach (Martin, 2002b). Graves' work runs at right angles to these artificial silo boundaries because people as individuals work in these silos and perhaps this idea could be argued to reveal common ground.

No one approach is perfect but, from a managerial perspective⁴, however intriguing these debates are, the question raised is whether there is a practical research outcome that can help business. This needs to be done by fitting the time scales of business while recognising the hidden and espoused culture of the researched and researchers. Meyerson and Martin (1987) propose an integrated approach to organisation cultural research and change by considering the "complex dynamics of culture". (p. 643). Their stance is managerial in that culture and change can be managed if their three

⁴ Why a managerial perspective? The researcher is a practicing senior manager and management is an area of interest, also because of the importance of management research to business organisations to give them something practical and useful.

approaches to culture are used to form a whole picture of culture. However interesting this research is, it would be complex to implement practically because the hidden values and beliefs are not revealed but hinted at (Meyerson and Martin, 1987). Graves' work (1977) may help in revealing which of their three paradigms for managing cultural change is applicable. They comment, "These three paradigmatic⁵ views have different implications for those who wish to manage the cultural change process." (Meyerson and Martin, 1987, p. 642). However to understand this, management need to ask what is the role and importance to business of people in culture and change?

Graves came from a psychological point of view; therefore people were central to his research. However he did understand the managerialist agenda (Graves, 1966) and today this worldview is still important because people and companies are trying to break out of the 20th century view of culture in organisations. Graves could be argued in Meyerson and Martin's (1987) view as being deterministic in that "culture is an integration mechanism, an umbrella" (p. 630). This would be unfair, in the researchers understanding, Graves embraced the interpretative and symbolic approaches (a differentiated view) and allows for a fragmented (post structural view) to be included. This is because it is an inside people view outwards of culture allowing for the unique range of human diversity, Greenfield (2008) relates to this in the book "the quest for identity" adding depth to Graves' ideas on the brain and culture.

2.2 The role of people in organisational culture and change

There is a fundamental need to understand how people work together in organisations and the characteristics of the organisational culture are part of improving business effectiveness. Henri Fayol (Parker and Ritson, 2005 referring to Cole 1984, pp. 13-14), one of the originators of modern management studies in the 1910s and 1920s, recognised the importance of people. Fayol's fourteenth principle of management was 'esprit de corps' meaning "harmony is a great strength to an organisation; teamwork should be encouraged". Today we might refer to this as desirable culture, but 'people' in the work of Fayol, Taylor, Weber, and Demming, examples of well-known management thinkers, are often overlooked. The cause, the prevailing global cultures

⁵ Meyerson and Martin (1987) Three paradigms of cultural change views are: 1. Integration – culture is an integration mechanism an umbrella. 2. Differentiation – "Culture is formed by influences from inside and outside the organisation" (p. 630). 3. Ambiguity – "is thought of as the way things are." "incommensurable and irreconcilable." (p. 637)

of the times, was largely based on the command-and control-military model. The result, whatever the cost in people, it was more important to achieve the result.

In today's business environment understanding culture is a core debate in developing organisations and development often implies some form of change. The areas of culture, behaviours and change are important to business to survive in today's environment. Change (for example, ageing) is natural however there is recognition that organisational change is difficult to sustain even when well-planned as it often ends in either total failure or only partial success (Jones, Jimmieson and Griffiths, 2005). Jones et al., argue there is a need to foster a readiness for change within employees and that this hinges on attitudes towards change. Schein (1987, 1988, 1999) argues that organisational change relies on the people and their readiness to change. This, in turn, is a reflection of their own values and beliefs (culture), which then has an influence on the culture they are part of. If this is the case, then for organisations and individuals to develop and for change to become sustainable there is a need to more accurately define the complexities of culture and change. This is a better approach than the current vogue for description of culture [for instance, a "strong culture" (Martin, 2002b, p. 8)]. Graves' (1977) framework has the tools⁶ to define change more accurately and then relate the process of change to culture.

In organisations today there is a shift from the process-policing approach of Human Resources (HR) departments to the integral approach implicit in Organisation Development (OD) (Ulrich, 1998). HR have been traditionally keepers of processes and dispute resolution, which is now seen as a part of a manager's role. This releases time for HR to be involved with developing the total organisation rather than a specialist role. Organisations are now realising the importance of people and culture in performance and that HR have a role to play in it. In a recent article "People & Organisations, The search for Understanding", Watkins (2005) notes that to the question "does culture deliver bottom lines?" comments made by senior business leaders include: "Culture definitely delivers on the bottom line", "Culture change is a business issue" and "A culture will form regardless of any leadership intervention" (p. 34). Leaders can "create an environment" (p. 34) or in Graves' (1978) terms, create 'life conditions' for new cultures to evolve. The article continues by arguing that "quantifying that [culture] is often difficult." (p. 35). Values and behaviours within culture are discussed within this

⁶ Change. Graves (1977) has six conditions for change to occur and ten states and types of change.

article but no distinction is made between hidden or underlying values and those that are seen on the surface or espoused. Flamholtz (2001) also supports the view that culture has an effect on performance and profit. Flamholtz, with the aid of regression analysis, showed there was a significant relationship between culture and financial performance. The study is, however, based on espoused values and not necessarily values in practice. This suggests that an environment or 'life conditions' creates an improvement in performance. Martin (2002b) reviewing a section of Denison's (1990) research has a major quibble with his quantitative approach. This quibble is "the results are correlational and should not be interpreted to mean that culture *causes* firm effectiveness" (p. 252). She continues that leaving out the richness of stories and rituals and the environment does not quantify the culture. In other words just trying to measure culture does not define that culture. By using the Gravesian framework in a unique way in this research, this concern about lack of richness is addressed by combining quantitative and qualitative methods. Business is pragmatic and reduces complex issues to simple measures and methods. Graves offers a simple measurement of culture based on people. This allows people to be real and not cogs in a machine (Handy, 2006) by understanding the natural change needed for the business to survive. Graves' work may provide this understanding of culture without being deterministic if used as a framework to include other approaches.

A business dilemma about which or what management approach is best to make changes or to shape a culture is explained by the following quote. "Business people are scared because the rate of change is accelerating so quickly that they know the old ways of thinking are outmoded. They're turning to spiritual concepts and techniques as an adaptive or coping mechanism in order to survive in this brave new world." (Cohen, 2005, p. 144). This in Graves' terms is about the 'value systems' [cultures] that are needed for an organisation to survive in the prevailing 'life conditions'. This is also about what integrated tools are available to cope with change and develop a change in culture.

Jones et al (2005) also state there is no clear definition of what organisational culture is and, by referring to Howard (1998) and Zammuto, Gifford and Goodman (2000) add that many researchers have adopted Schein's (1990) three-dimensional model. Schein's model consists of three parts: assumptions, values and artefacts. This is developed further in Fog's book, 'Cultural Selection' (1999), by looking at culture from a transdisciplinary perspective. Graves' framework comes from a transdisciplinary perspective, Biological, Psychological, Social and Systems (BPSS) approach.

On the change side of OD, the characteristics of readiness for change have their origins in the "psychological literature". They focus on "personality attributes" such as openness to change, cognitive processes, values, beliefs, external support and being involved. (Based on Jones et al., 2005 p. 362).

Rokeach (1973) believes that values and shared beliefs develop an organisation's culture and Jones et al. believe that "behaviours and symbols can be considered to be central to understanding an organisation's culture". (Jones et al., 2005 referring to Ott, 1989).

This cultural complexity varies from individual to individual, between departments and different parts of the organisation and in various combinations within the supply chain. Jones et al., (2005, p. 364) support this view stating that "readiness to change may differ within an organisation" because of different internal and external causes⁷.

Businesses see culture as an issue in creating sustainable performance, but are confused by the complexity. The different approaches and methods fragmentation has lead to a lack of integration with understood management tools. Therefore this fragmentation suggests a need for an integrated framework.

As referred to in Chapter One, Graves' approach argues an ability to integrate other models within its framework whereas others could not encompass Graves' work (Payne, 2004). Payne (2004) argues that even though Graves' approach was unique he "was not alone in the quest to understand what motivates people" (p50). However he continues that Graves' work was the most comprehensive. Payne is not clear on why this is so, but this argument fits with other pieces of information from this research.

This is illustrated in the work of Schein (1965), Maslow (1968, 1971) and Loevinger (1976) who all had gaps in their personality models when compared with Graves' framework. (This theme is developed further in Chapter Three Table 3.3 on Schein, (1965) and Appendix 6 Loevinger (1976) from a psychological point of view).

⁷ Internal to the person as well as the organisation and external to the person and external to the organisation.

The next section will look at the academic trend towards a more integrated approach to managerial research with a need for cultural change. This will also explore the hidden importance of understanding culture and what values, beliefs and assumptions are dominant in that culture.

2.3 The need for an integrated approach in organisational research

There is a recognition that often business does not benefit from academic research because each area of research is treated as a stand-alone piece of work within precise boundaries. This is explained by Martin (2002b) in her review of cultural research. She comments (p. 316) "Rather than viewing cultural boundaries as fixed, impermeable, and clearly defined – safe territory for cultural theorists – we will come to view these boundaries as fluctuating, permeable, blurred and even dangerous". Using Graves' framework and starting with the individual, the boundary is shifted and becomes blurred and permeable just by starting from this different viewpoint. The Gravesian idea that culture is within the individual and the individual is part of many cultures moves and blurs the artificially accepted boundaries. To paraphrase Martin (2002b), an organisation's cultural issues do not coincide with organisational boundaries.

From my consultancy experience the hidden culture of the individual is often neglected in business because it appears too complex and time-consuming to understand. Action Research as a research method is an attempt to address such areas of complexity in social interactions. It can be argued that culture is a social issue⁸ as it is the outcome of the interaction of people. However, there is no unifying method that tries to introduce an idea of culture into all management research. Therefore the hidden biases arising from a given piece of work can only be guessed and the expectations of the researched are not met. Whether it is a community, a business or an individual that is the subject of the research the practical use of the research is interesting but often not carried out (Burgoyne and James, 2006). These clashes are clashes of cultures where the underlying cultures of the organisation, the academic institution and the individuals are not understood. This ineffective use of research has led to academic questioning of management research. These arguments fit with the research purpose of understanding the value of Graves work in putting the individual at the centre of culture, crossing boundaries and understanding the influence of the various players. It is

⁸ Hence the use of the social DNA metaphor as well as the "Cultural DNA" metaphor.

intended that this research meets expectations for practical use and is not just academically interesting.

The academic questioning is voiced in the increasing debate about Mode 1 and 2 research methods. To define these two approaches, Mode 2 is research in practice using a transdisciplinary approach (MacIntosh and Maclean, 2001; Maclean, MacIntosh and Grant, 2002; Burgoyne and James, 2006). Darwin (2004 p1) shows dissatisfaction with Mode 1. He argues there is "a strong dissatisfaction with the linear forms of the "scientific method" found in the literature", "scientific method" is Mode 1. To refer to Martin (2002a), both have a validity and usefulness in cultural research. This debate reflects different cultural approaches. The traditional approach carries with it a certain culture based on values, beliefs and assumptions, with perhaps the maxim of 'there is only one-way to do research'. The more 'liberal' and integrated process has a belief system that all disciplines are valid and they can bring more meaning and practicality to the research process.

Maclean, MacIntosh and Grant (2002), referring to Huff (2000), define Mode 1 as based on "scientific rigour" of the traditional research methods and Mode 2 as based on practical valued problem-solving, theory into practice. Darwin (2004 p. 2) raises a concern that "in much research there is a frequent interplay between theory and evidence which belies a linear approach." The linear approach can be blind to the other areas, such as culture, that influence the research. Mode 2 transdisciplinary approach tries to overcome this concern. Graves' work was about change as well as core values and is transdisciplinary as a Bio Psycho Social Systems (BPSS) framework. Wagner (2003 p, 1) says that "reformists have turned to proponents of Mode 2 knowledge to inform initiatives for change". MacLean et al; argue there is a growing interest in "practice grounded research" (2002 p. 190). Action research, if used within a Mode 2 transdisciplinary approach, gives useful practical outcomes for business. This research is arguing that BPSS can be a unifying framework based on the individual that includes the ideas and principles of action research and Mode 2. Mode 2 involves a transdisciplinary team, this research has taken a broader view that each part of BPSS is a different discipline.

A Mode 2 type research method lends itself towards an integration of academic and professional practice. However, this does not directly consider any bias from the researcher(s) and the researched in interpreting outcomes of research. This is because of different values and beliefs (culture) with any differences in 'readiness for change' of

the researcher and researched. As teams become larger from different backgrounds and culture it could argue the larger the transdisciplinary team the more culture plays a role. MacIntosh and Maclean (2001, p. 1348) support this approach by recognising "The key question we faced was how to view our own involvement" in the research. Therefore understanding the role of the individual's culture will help to understand one's own involvement by revealing the underlying values of one's own culture.

Graves' (1966, 1977) original research was in the Mode 1 research tradition of scientific rigour: the research for this thesis is in the Mode 2 "context of application" new tradition. (MacLean et al., 2002 p. 191 quoting Gibbons, Limoges, Nowotony, Schwartzqman, Scott and Trow 1994, p. 3). Graves (1977) and Beck and Cowan (1996) argued that in a culture there are certain sets of meta-values and beliefs that define a culture. Jones et al (2005) looked at values using the Competing Values Framework (CVF) a short-term quantitative method of assessing culture by measuring espoused values. (Jones et al., referencing Quinn 1988; Quinn and Hall, 1983; Quinn and Kimberly, 1984; Quinn and Rohrbaugh, 1981, 1983). This is a different approach to Graves' (1977) who evaluated, what he argued were hidden (subconscious) value systems within the mind as thinking patterns. The surface expressions of values are not always a reflection of the hidden values. This difference in approach between espoused surface values and hidden core values may give a more accurate understanding of culture. In any organisation people have their own values and beliefs to defend against the prevailing culture. How often do we attend meetings and think 'where is this person coming from?' or 'why are they taking this stance?'

It is possible to posit that what is happening in research in general and culture research in particular, is the influence of the 'life conditions' (education, training, community, and workplace). These reveal themselves with value and belief systems that form the individual's culture. The underlying cultures of the anthropologist, biologist, accountant, consultant, and manager all bring their cultural perspectives to bear on the research. This clash of cultures is unavoidable unless there is an understanding of the core value and belief systems and reflects the problems involved in Meyerson and Martin's (1987) three paradigmatic approaches.

Fog (1999, p. 11) argued, "The distance between the exact [Mode 1] and the soft sciences [Mode 2 and some 1] is so immense that any compromise between these two points of view will be unacceptable to both parties". Times are changing for the need for an integrated approach to cultural research, and Martin (2002b) has commented

that the boundaries of present-day anthropology are blurring. Culture is no longer unique to a group or community because often there are common hidden and underlying values, beliefs and assumptions that just happen to be in different combinations in different organisations. The next section covers some other building blocks of the social DNA model which became part of the fieldwork and case studies.

2.4. Discussion on Culture, Change and Behaviour

Ogbonna and Harris (1998) looking at managing organisational culture and using a similar research method to this one, found the difference between the written and the espoused could be used to produce a culture change. This also argues that culture, change and behaviours go together. There was also a difference between the espoused and the perceived that could be linked to espoused behaviours. They also look at the flaws in looking at culture as one collective unit and the aim of their research was to break down this collective unit view of culture and then it build up from the individual. This is an aim shared by this research. Even though as they state this collective unit approach is not shared by cultural theorists, there is little research on how practically to break down this cultural unit to look at the individual.

"Despite the espoused rationale presented, employees at different hierarchical levels attributed widely differing reasons for the change initiative. These differences imply a significant gap between that which management espouses and that which organizational members believe to be true. This leads to the tentative conclusion that top management appear to be promoting an integrative perspective (Martin, 1992) view of cultural unity which is not shared by other organizational members [nor is it shared by a substantial body of culture theory (see for example, Martin, 1992; Morgan, 1986; Ouchi, 1981; Pettigrew, 1979)]. Furthermore, the disparity between the espoused and the perceived rationale indicates that trust is still a significant issue between top management and other employees." (Ogbonna and Harris, 1998, p. 284).

They then comment that managed change may be illusionary for longer-term sustainability. Ogbonna and Harris (1998, p. 286) summarise "Overall, this paper makes an interesting contribution to the culture-management debate. Evidence is found of material manifestation, behaviour and value change (although the notions of behavioural compliance and instrumental value adoption cast doubt as to the cognitive authenticity of such change)." For acceptance of espoused values, this research

argues that the hidden values within the individual have to be understood and the gaps between the two addressed.

The espoused is often based on perceptions; Smircich (1983) in her paper on the ideas of culture argues the social part of organisations forms the organisation's culture by referring to Siehi and Martin (1981) and Tichy (1982). Smircich continued by looking at the various parts of culture referring to: -

- Myths (Boje, Fedor and Rowlands, 1982)
- Rituals (Deal and Kennedy, 1982)
- Stories (Mitroff and Kilmann, 1976)
- Legends (Wilkins and Martin, 1980)
- Specialised language (Andrews and Hirsch, 1983)
- Metaphors and images (Morgan, 1980)

Each one of these parts of culture is argued later to be a meme or a unit of culture that can reproduce itself and is discussed in Chapter Four on memetics. Each one of these memetic parts of culture is argued to be attracted to each one of the Gravesian value meme-complex systems.

Perceptions are an important part of researching culture. They include the perceptions of those within the culture and of those outside the culture. Marquardt (2000, p. 235) referring to Marsick (1988) states, "the capacity to dig below the surface layer of perception and examine taken-for-granted assumptions and values is necessary in order to determine whether or not one is addressing the right problem."

Besides perceptions, stories are a useful source of information and become part of the data gathering process outlined.

".....stories can be verified by visiting the sites of the described events. The purpose of this is twofold: (1) to check that the storytellers are reporting accurately and honestly and (2) to provide an opportunity to gather more detailed information about events seen as especially significant. If conducted some time after the event, the visit also offers a chance to see what has happened since the event [story] was first documented". Comments made by Dart and Davies (2003, p. 139) about using a "story-based evaluation tool" (p. 137).

Higgins and Mcallaster (2004), talking about cultural artefacts when considering strategic change for organisations, quote the key part in their schema for successful change is. "As all good strategic managers would, they align major strategy execution factors such as organisational structure and systems and processes with the new strategy, but a key ingredient was also aligning relevant parts of the organisation's culture – its value systems and norms – with the new strategy. Doing that meant that they also managed cultural artefacts." (p. 64). They continue (Ibid, p. 64). "There are at least five primary types of cultural artefacts – key values and norms; myths and sagas; language systems and metaphors; symbols, rituals and ceremonies; and the use of physical surroundings including interior design and equipment." (Referring to Shrivastava 1985 but adding physical surroundings to make the fifth – Table 2.0).

Table 2.0 Cultural Artefacts - (Higgins and Mcallaster, 2004 p64)	
1.	Key values and norms
2.	Myths and sagas
3.	Language systems and metaphors
4.	Symbols, rituals and ceremonies
5.	Physical surrounding

Higgins and Mcallaster, in addressing key values and norms, are reflecting them as surface expressions, what is seen, not the subconscious and underlying values of the individual. Therefore it is argued that questions about the individual reflect the individual values and not the organisations shared values, beliefs and artefacts. Each one of the five cultural artefacts could be considered a unit of cultural replication (a meme Distin, 2005). This could be argued to be attracted or rejected by an individual's Gravesian value system. In either case it can reproduce and spread throughout the organisation, but can be differently interpreted by other value systems.

Taking their five areas of cultural artefacts then, each artefact can be argued to be associated with a value system. For example, in a family-run business they will be related to family values the customs and practice of the head or chief of the company. This will be within the tribal, family and community value systems. Within a financial company these artefacts are likely to be stories, myths about success and rewards

about the analysts and brokers. This will be from the strategic and successes value system view.

Culture is made up of multiple views and each small part becomes another building block of culture. Building blocks of culture such as Graves' theory could be argued to be norms and values (Hatch, 2006) related to a specific individual in a specific culture.

2.5. Closing Arguments

This chapter has discussed the complexity involved in the study of culture and how this complexity can be reduced by putting artificial boundaries around a given piece of research, making cultural research contextual.

The compartmental nature of cultural research has caused confusion within the business environment about how to implement or use a given piece of research. Understanding culture and change is important for business. Culture, however defined, has an effect on performance. There is a pressing need for Western countries as they try to fill their employee skill and age gaps with employees from different cultures to understand the underlying cultures. Management research is moving towards a transdisciplinary approach which needs an understanding of the different researchers' points of view as well as the object of that research.

The literature on culture is fragmented and compartmentalised (Meyerson and Martin, 2002a, b) so this makes it difficult to set Graves work within any one compartment. The strength of his work is to be able to bridge boundaries. This is a reason why this research is looking at Graves' work as groups of meme complexes to produce a heuristic to assist in producing change. Hence a reason why the literature reviews are split into three areas, culture, memetics and heuristics. A "taken in combination" view (Martin, 2002b, p10) however limited.

By understanding the hidden within the individual and "mapping the cultural terrain" (Martin, 2002b, title Ch. 1) of the dominant values, beliefs leading to basic assumptions builds up a detailed map of the building blocks of an organisation's culture. It is a focus of this research to use Graves' framework to define some of these building blocks of culture. The metaphor of social 'DNA' for hidden, espoused and perceived is used to produce a map of the cultural terrain. The next chapter looks at Graves' work, and his framework for understanding 'personal' culture.

Chapter 3

Clare. W Graves Ideas for Evaluating Culture

3.0. Introduction

The focus of this chapter is on the work of Clare Graves and his framework to understand the role of the individual in culture. The use of Graves' framework is argued to reveal the individual's underlying preferences for change and their 'hidden' value systems.

The previous chapter reviewed some of the debates about culture, which suggested that evaluation of culture from a managerial perspective is mainly subjective. Because of time constraints in business, researching the complexity of culture concentrates on the visible and espoused. Schein's (1990) model is an example of the building blocks that make up culture, namely basic assumptions, values, beliefs and artefacts. Graves (1977) considered Schein's (1965) research important and complementary to his own work. The later work of Beck and Cowan (1996) added a connection to memetics as a template of how values, beliefs and artefacts could reproduce and spread to, from and within cultures. The blocks that make up basic assumptions, beliefs, values and artefacts are posited as memes (units of culture) that could be called a social equivalent of genes. This leads to the use of the social 'DNA' metaphor. The criticism of Schein's (1990) approach was that the origins of basic assumptions were difficult to find. (Young, 2000). Young (2000) also argued that to understand culture, managers needed to understand the formation of basic assumptions. This understanding the formation of assumptions within the individual is argued to be a value of Graves' (1977) work.

Graves' (1964, 1977) theory linked culture to eight pathways within the brain². These pathways activate the values for the life conditions suitable or necessary for individuals and groups to survive in those life conditions. In essence, the argument is between a biological process leading to a psychology of values and beliefs. This biological process is affected by the environment and social interactions. This interaction produces systems that form culture and allow for a definition of cultural codes or building blocks. Graves developed his theory in response to questions from his

² Brain – in this research I prefer to define the pathways as thinking capacities made up of meme-complexes (Fog, 1999).

students about whose was the correct psychological theory: Jung, Freud, Maslow, Scot Peck, Loevinger, and Schein among others. (Lee,2001a, 2001b, 2002) This led to the start of an eight-year research project.

Graves' (1977) theory provides a different type of framework. Graves (1977), Beck and Cowan (1996) and Wilber (2000) as researchers and philosophers, are arguing for an integrated approach, based on many levels of development for understanding culture and change. Graves' framework is also open-ended³. This makes the framework capable of change, allowing new systems of culture to evolve as new challenges arise caused by changing life conditions. However, the previous systems are still available when life conditions dictate. To show this point, consider a commercial organisation that has a dictum of sell-at-all-costs with a culture of rewards for the success-driven individual. If the market collapses and the organisation is to survive, the organisation needs to identify individuals who have a hidden value and belief system of problem solving and team building, instead of individualism. This assumes the state of readiness for change has recognised the need for change. Both the required values and beliefs systems and the readiness for change need to be in place to be effective in changing from 'sell at all costs' to consensus and teamwork while still being 'success driven'.

The research showed that as a framework it is much broader than the eight value systems Graves identified in his research. Graves (1977) Beck and Cowan (1996) added a multidimensional change process that includes management and training systems based on mimicking the workings of the brain as known then, the 1970's. This allows an approach for management that metaphorically resonates with staff while functioning in a multiplicity of cultures⁴.

The use of the metaphor (Morgan, 1993) of 'pathways in the mind' is used as a frame to understand the core of Graves' research. This analogy is with paths and rights of way that people move along, between villages, cities and life. Each of Graves' (1977) core-value systems forms perhaps a mental pathway model. Each pathway has its own

³ Open-ended – Graves' (1977) framework has no limit on the number of value system that can evolve as long as brain capacity is available. (Graves did suggest eighteen. Beck, 2005). In essence, as life-conditions on the planet change then new systems will emerge to cope with these changes.

⁴ The words culture and organisation are interchangeable (Martin 2002a)

boundaries, rules, and landscape but the final destination of every pathway is to arrive safely at a destination⁵: 'survival' in a prevailing culture and life conditions.

3.1. Eight 'Pathways in the Mind'

The eight identified pathways in the mind identified by Graves (1964, 1977) are; AN Survival, BO Tribal, CP Exploitive, DQ Authority, ER Strategic, FS Social, GT Systemic, HU Holistic. According to Graves, the mind has a capacity for eighteen pathways, so ten are yet to emerge. Each pathway is a response to problems caused and the response needed to be able to cope with the ever-increasing complexity of life conditions. (Explanation follows based in Table 3.0).

Table 3.0 Pathways in the Mind			
Pathway in the Mind Or Core-Value Graves (1977)	Beck and Cowan (1996)	Graves (1977)	Expressive 'I' Sacrificial 'WE'
1. Survival	Instinctive	AN	I
2. Tribal	Clannish	BO	WE
3. Exploitive	Egocentric	CP	I
4. Authority	Purposeful	DQ	WE
5. Strategic	Strategic	ER	I
6. Social	Relativistic	FS	WE
7. Systemic	Systemic	GT	I
8. Holistic	Holistic	HU	WE
9. ?	?	IV	I
The letter pairs are: 1 st letter = external life conditions' 2 nd letter = brain capacity			

The initial research on eight different sets of students over eight years revealed these initial eight values systems. This was validated independently by different sets of assessors. While Graves was studying the results, he recognised a pattern that mapped onto his understanding of the development of humankind, from hunter-gatherers to the present time. Each pathway, according to Graves, was a response to survival in the prevailing life conditions. Therefore, when there was need for safety in numbers, the tribal system arose. However, when that way of living was not as effective, then tribes became bigger forming, for example, kingdoms triggering a new

⁵ Destination. Miller (2001) looks at survival as a reproductive process of which memes plays a part. "Our Ideologies [Graves'] are a thin layer of marzipan on the fruitcake of the mind. Most of our mental adaptations that patiently guide our behaviour remain intuitively accurate" (p423). A controversial argument in evolutionary psychology.

way of living. This value system coincided with the rein of kings and emperors. When this system of living caused problems, ways to alter it developed, leading to authority and rules. This was around the time of the beginnings of religions, as we understand them today, the fourth system. The fifth system arose out of the fourth to exploit the discoveries produced during the scientific discoveries of the fourth. This is around the time of the industrial revolution. The sixth system has developed over the last eighty years to curb the excesses of taking and exploiting more than is needed from the earth. This value system puts the rights of people first.

The timings are contentious as thinking capacity was always available and in each way of living, there may have been individuals who used greater capacities. It is not within the scope of this research to develop this anthropological psychology any further. However, for this research the connection is important as it provides a link to arguing that culture maybe present within the individual as hard-wired systems. This is what Graves discovered (1966, 1977, 1978) and it is certainly open to debate. To validate this work current anthropological work would need to be reviewed. This research however, is looking at its usefulness in understanding culture as metaphor and practical model.

Each one of these pathways Graves argued (1977) became part of our way of thinking and today everyone has all these pathways and the potential to develop new ones. Each person uses the pathways that are appropriate to their life conditions. According to Beck (2005) the first six value systems are how the planet is run today by our species. Therefore, our need for change to allow for the planet's survival uses new ways of thinking, resulting in new pathways. The seventh system is being able to look at the whole picture and is used by less than two per cent of the population (Beck and Cowan, 1996). This research showed that this now is nearly five per cent using the Beck and Cowan (1992) assessment methods. According to Graves (1977), the problem solving ability of this seventh value system to deal with complexity is greater than all the other six. How Graves arrived at this conclusion is debatable and needs further research outside of this scope.

The Beck and Cowan (1992) questionnaires on the Gravesian value systems and preferred types of change, measure the current intensity of the pathways. These are used in the case studies to produce a map of social DNA within the individual (the hidden).

The following is a metaphorical or symbolic explanation of the Gravesian value systems.

3.1.1. AN - The first pathway, the basic need to survive, was more of a set of multiple meandering tracks forming a survival path. Life demanded a certain instinct-driven way of life for small bands of food gatherers (Bronowski, 1973) and the tracks formed by following the food sources. This was a way of living, which was between life-and-death with no sense of place. The main basic assumption for survival was the strong protecting the weak and banding together herd-like. (Beck, 2002c, 2005). In today's business world, this is not a way of thinking but the undying basic assumptions are still residual and could be activated as an instinct for survival. The film 'Castaway'⁶ (Broyles, 2000) is a good illustration of the journey from 'success driven' to survival 'AN' between life-and-death by activating a dormant pathway in the mind.

3.1.2. BO - The second pathway was formed when life conditions changed and there was a need for bigger groups of people to band together. This path had a stronger purpose and there were different rules on how to use the path. To plan the path was the chieftain's task and the family or tribe built it. The path was wiggly and went around sacred places. It attracted rituals and ceremonies but was a safe place to be. To use the path needed the permission of the elders and leaders. The values and beliefs (memes) that are attracted to this basic assumption are leadership by the senior person, the chief, who makes all the decisions and appoints positions in the community based on kinship, sex, age and strength. This system demanded total obedience to the leader(s), a world of magic and nature (Beck, 2002c, 2005). In today's business, this is the basis of all team and community building and is often the core-value for management in family-run companies. This pathway is similar to Ouchi's (1979) argument for clan control for proper behaviour (in Hatch, 2006 pp263-265).

3.1.3. CP - individuals out of frustration with the controls on the use of the BO path formed the third pathway. The kings, baronies and fiefdoms controlled and owned the paths; if they went to war they took over other paths and rights of way. Unless the path served the King or had a 'what's in it for me', 'me first' and 'let me get there first whatever' outcome then this path would not survive. The paths were the most creative and beautiful in design. The values and beliefs (memes) that are attracted to this basic

⁶ A FedEx executive must transform himself physically and emotionally to survive a crash landing on a deserted island.

assumption were to create empires and power. This is where the strongest survive, the world is a jungle and the most creative and cunning survived. (Beck, 2002c, 2005). In today's business, this is the innovative streak but also it is the cunning and deceitful side, manipulating others for personal gain (Hatch, 2006).

3.1.4. DQ –The fourth pathway formed out of the need to stop the tyrannical builders of the CP path who had no sense of guilt. They could only be controlled and stopped by something more powerful. These paths are built to last and, for patriotic reasons and because of their efficient use in war, bureaucracies controlled them, using the maxim 'this is the only way to do things'. To build this path needed immediate sacrifice for later reward, including even the death of others. To use this path you need to follow the rules of the road. The values and beliefs (memes) that are attracted to this basic assumption are a passive hierarchy, a rigidly structured system and positional power. The world was a place of ordered existence with an ultimate truth. (Beck, 2002c, 2005). Today, these are the healthy processes and procedures that underpin modern business. However, at its worst it is bureaucratic and restricting. Command and control management systems come out of this basic assumption system: but, more importantly, so did major scientific discoveries. (Beck, 2005). This is the era of the 'scientific method' or Mode 1 research. In organisational theory (Hatch, 2006) covers the unhealthy side of bureaucracy as suppressing innovation and creativity.

3.1.5. ER - The fifth pathway formed out of a frustration at having to sacrifice now for something better later and often not surviving in the process. Individuals saw an opportunity to exploit the technology and scientific advancements achieved during DQ dominance. The paths were built by the most able and most competitive. All the earth's resources were there to be used whatever the cost. To use this path there was a need to bend the rules, win the race in the right vehicle and have the best materialistic possessions along the way. The values and beliefs (memes) that are attracted to this basic assumption are: an active hierarchy, meritocracy, theory Y management (Table 3.0) and task-centred leadership. This is a world that is success-driven, a marketplace full of possibilities and opportunities. (Beck, 2002c, 2005). In today's business, this is the commercial streak, the need to play the game and win. However, the negative side is the worse excesses of 'I must have it at all costs' and people are casualties. This is the dominant value and belief system, for instance of commercial organisations, but with overtones of individualism CP.

Table 3.1 Theory Y (McGregor, 1985 reprint of 1960 edition)**Theory Y Assumptions:**

- People view work as being as natural as play and rest
- People will exercise self-direction and control towards achieving objectives they are committed to
- People learn to accept and seek responsibility

3.1.6. FS – Forming the sixth pathway was a counter to the excesses of exhausting the earth's resources and the lack of concern for the individual. In ER individuals were of no concern unless they were a barrier to the success of the path. In this way of thinking, new paths are rarely built and mass transport on existing paths is the order of the day. These paths needed to be ecologically friendly with an awareness of other users. To use these pathways for 'survival' it was best to walk. Any new paths would need a consensus from everyone before construction. People come first. The values and beliefs (memes) that are attracted to this basic assumption are a social network, an organisation of equals for common benefit, little concern for status, privilege and theory Z management (Table 3.2). (Beck, 2002c, 2005). In today's business, these are the concerns for the individual, leveraging diversity and being socially responsible. The negative side of this in organisations is compartmented thinking with the inability to recognise anyone else's view other than their own. (Wilber, 2000)

Table 3.2 Theory Z explanation (Ouchi, 1981)

Definition: Belief that management should create an environment for employees that values both performance and involvement

Theory Z - Japanese Style definition:

- Long-term employment, slow evaluation and promotion.
- Specialised careers.
- Consensual decision-making.
- Individuals responsibility.
- Implicit informal control, explicit measures.

BO to FS are the ways of thinking pathways that are the current assumptions that form cultures across the world, the way the world runs today. The USA, for example is dominant ER Strategic and DQ Authority, whereas third world countries are dominant CP Exploitive and BO Tribal. Figure 3.0 shows the basic assumptions profiles for South

Africa⁷, USA, Europe and Sub-Saharan Africa (Wilber, 2000). This illustration lends support to Martin's (2002b) view that cultural boundaries are not geographically based and that all cultures share common features.

The graph in Figure 3.0 uses the definitions from Graves (1977) and Beck and Cowan (1996). This research did analyse the current questionnaires database (www.onlinepeoplescan.net) and for European and American countries it suggests that the Wilber (2000) graph is reasonably accurate. However, more work is needed to validate this and is outside the scope of this research.

Figure 3.0 Country Core-Value Systems - Wilber 2000 from Beck and Linscott 1991

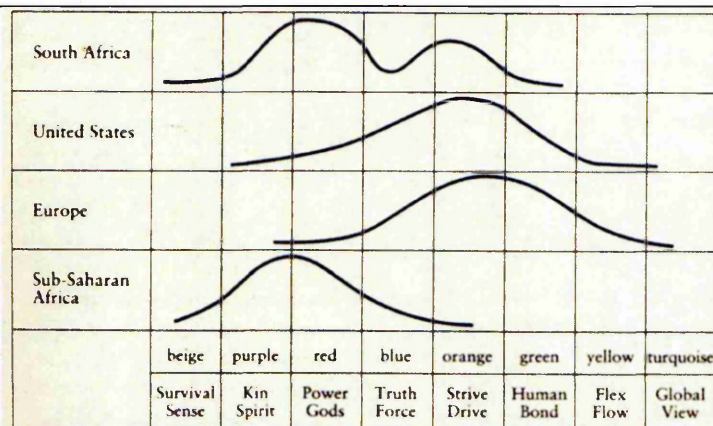


Figure 6-2. Value Systems Mosaics. Adapted, by permission, from Don Beck and Graham Linscott, The Crucible: Forging South Africa's Future (Johannesburg, South Africa: The New Paradigm Press, 1991, pp. 80-81).

Beige AN Survival, Purple BO Tribal, Red CP Exploitive, Blue DQ Authority, Orange ER Strategic, Green FS Social, Yellow GT Systemic, Turquoise HU Holistic – further details later in this Chapter.

The analogy of pathways in the mind to paths (like a road or motorway system) means that when travelling through various life conditions access to other paths (ways of thinking) is still available, if conditions demand them. A person can use different pathways at home, work and the community for example. The switching between pathways is by change and the individual's preferences for change. For example, a

⁷ Note: South Africa is bi-modal as it is a mixture of first World (Western) and third World (Underdeveloped) cultures.

high contentment with current way of living is unlikely to activate different ways of thinking. (Change and its relationship to values is discussed later). An individual has all the Gravesian value system available, but prefers certain pathways and others are of no current interest.

There is an argument that there is no hierarchy because no one route is any better than another, but some pathways are better in certain life conditions. Graves (1977) portrayed the framework as a natural bidirectional flow from expressive to belonging assumptions. The perceived hierarchical nature of Graves framework has been conveyed during Beck's training courses. (Beck, 2002c, 2005). The participants are left with the impression⁸ that it is better to have a more complex way of thinking and evolve 'up' the Gravesian value system. This view of people spiritually emerging 'up' the Gravesian value systems (Wilber, 2000) is part of personal development courses on mind, body and spirit. For certain individuals in certain life conditions that can be a valid approach. For others this is dependent on their readiness to change and their life conditions. This is similar to Maslow's (1968) early view that in his 'hierarchy of needs'⁹ the human race would only evolve and never go back. Graves' (1977) view was that it is possible to go back if the environment demands that for survival.

Beck (2005) argues that a given system fits certain life conditions and bidirectional changes will only occur when new life conditions dictate a change. This bidirectional argument has validity, as individuals looking for change will change their life conditions. To show this flow, think of going to work each day. You may have several alternative routes (paths) to take, but most often, you take the same route each day. Then one day a bridge collapses so you have to find an alternative route. This problem forces you to change your route. If there were no other routes, you would have to walk or build a new

⁸ This research showed that people attending Beck's training courses had high FS humanistic values with high aspirational HU global concerns. Therefore, they are more likely to think of the Gravesian value systems as a mind, body, spirit evolutionary processes. People who do not attend courses and have no awareness of Graves' value systems are closer to the country values in figure three. I argue pre-understanding filters peoples views and they are not honest with themselves when answering the questionnaires.

⁹ Maslow's 'hierarchy of needs' were a pyramid starting at the base – Physiological needs – Safety needs – Belonging & Love needs – Esteem needs – Need to Know & Understand – Aesthetic needs and Self Actualization at the apex (Maslow, 1954). Maslow (1971) added another level, Transcendence (Huitt, 2003). However he saw humankind as always progressing one-way: upwards.

bridge. Luckily, the brain is smart and the research of Graves (1964, 1977) argued that individuals could activate alternative pathways to reach their destination. We may not have been aware of these other paths being available but, like Britain's Roman roads, they are there but not always visible until a need arises.

The change process and how it activates new ways of thinking is a key part of Graves' (1964, 1977) research. Continuing with the analogy as an illustration, why are some individuals prepared to sit in a traffic jam and not find an alternative route? Referencing Graves (1977) framework, this is to do with the activated pathways in the mind and the comfort or frustration with that way of thinking. Graves' (1977) research identified three areas of change, and how an individual handles these variations of change is related to their active value systems. The three areas Graves (1977) identified were: - 1. Horizontal change is more of the same, but doing it better but with no insights. 2. Oblique change is using some of the characteristics of more complex thinking to produce changes with some insights. 3. Vertical change is making major insightful, step changes using a more complex ways of thinking. Beck and Cowan (1992, 1996) developed these into ten types of change, which are discussed later in detail. In the context of change, others from psychology disciplines have similar views for example Feldman (2004) referring to Jean Piaget and others who developed his ideas.

Beck (2002c, 2005) and Wilber (2000, 2002) argue the sixth value system FS has been causing a barrier to change by stopping the activation of more thinking capacity in developed Western countries. The extreme thinking in this value system has a basic assumption there are no other systems and everyone is equal. This barrier, which includes, for example, political correctness (Wilber, 2000, 2002) is causing frustration and holds back a more complex system to solve and survive in today's life conditions. Organisational leaders looking for new ways of management (Cohen, 2005) reflect this degree of frustration.

3.1.7. GT - The seventh pathway as a way of thinking is still developing or is under construction and is used by 1.9% of the population (Wilber, 2000). This research suggests this figure is now 5.0%¹⁰. The systemic value system is new in terms of the history of human development and perhaps the best analogy is that it is in its teenage years of development. As this value system matures and reaches critical mass it will

¹⁰ The 5.0% is the average figure derived from 1006 people in 2002/3. The 1.9% is based on 2500 in the 1990s (Beck, 2004, p. 1)

become a major way of thinking. This Gravesian value system emerged because of a reaction to the excesses and stagnation of FS. New paths will be made by looking at the whole picture, assessing the needs and coming up with the best solutions. This way of thinking occurred about 60 years ago (Graves, 1977). The values and beliefs that are attracted to this basic assumption are: a need to structure according to task, to be project-centred with changing leadership, the competent person is allowed to decide. The world is viewed as being process-driven like a chaotic organism forged by differences and change. (Beck, 2002c, 2005). This path has the ability to understand the other paths, therefore gaining approval from the full spectrum of Gravesian value systems. An example might be that, when using the tribal pathway, being able to understand and use the language and abide by the rules to ensure safe passage while adding value to that pathway. In today's business, these systemic thinkers can evaluate the complete supply chain and often have the answers and solutions to business problems. Unfortunately, these solutions may appear to other dominant value systems as solutions that are too far 'out of the box'. These individuals often seem too unconventional and self-contained for their solutions to be accepted by management.

3.1.8. HU - The eighth pathway is in its infancy. According to Wilber (2000) 0.1% of the population have the capacity to think at this complexity about planetary and global problems. Examples of this value system include, being ethical, respecting the welfare of all people, harmonizing social systems, seeing the earth as one ecosystem and a spiritual whole. The values and beliefs (memes) that are attracted to this basic assumption are a holographic functioning organism¹¹ that uses external and internal scanning of the environment to make decisions. Change is a natural part of the organisation's 'DNA', but with flexibility and ethical approaches. (Beck, 2002c, 2005). To develop this pathway will need a global shift of such size to be not even in the consciousness of most of the global population (Beck, 2005). The threat from global warming might be a potential example.

To summarise, Graves identified eight pathways of the mind (1964, 1977) which are; AN Survival, BO Tribal, CP Exploitive, DQ Authority, ER Strategic, FS Social, GT Systemic, HU Holistic and IV yet to emerge. This emergence is from the currently known value systems to something new to cope with new life conditions and new environments. The IV value system, if Graves (1977) is correct, will be a more complex

¹¹ 'Holographic functioning organism' in this context means people who are part of a three dimensional living universe – all things are connected to and dependent on each other.

version of the exploitive (CP) value system. One can speculate that as an 'I' system it will be individualism and creativity but not at the expense of others. People would live without fear to be themselves and express their emotions through creativity.

Each system is a set of basic assumptions that attracts values, beliefs and artefacts. Each system is also an expressive or belonging system. Expressive systems are based on the person, an 'I', and belonging systems are about a group of people, a 'We'. Groups or an individual can move either way from one system to another, but always from an expressive to a belonging or from a belonging to an expressive, however fleeting. To activate a system needs life conditions to change but is also dependent on the types of change. Pathways seven and eight still have to become a normal way of thinking as they are new systems. Graves' approach covers the biological, psychological, social and systems¹² frameworks for understanding culture as an interplay of all the parts, producing a transcending and inclusive model. These themes are developed further later.

Graves' (1977) research linked areas in the brain to the values of the individual as part of this interplay between life and thinking capacity. This is a part of his framework, which is still needs validating by others in his field; this is included here to give a rounded picture of Graves' work. In addition, it provides the link metaphorically to cultural systems being within the individual. Graves argued the brain had a finite or infinite capacity for social development based on the individuals own abilities and 'life conditions'. How the brain capacity developed became an issue in the 1960/70s, at the height of the nature/nurture debate. Lewis, (2000) and Graves (1978) stated that not everyone has the same potential capacities. This view may have stopped adoption of his research, as the prevailing philosophy at the time was 'we are all born with the same capabilities'. Graves argued that nature formed the basis of thinking capacities in the brain and nurture was by life conditions. Lewis (2000, p. 7 referring to Steen, 1996) concluded "Now the 20th century is over, most (not all) scientists believe that nature and nurture combine in a complex mixture to produce human behaviour." The basis of Graves' argument is that value systems developed with life conditions and the thinking capacity increased to react and accept change. This gives the ability to move from one

¹² Wilber (2000) produced the four-quadrant model of BPSS and discussed it with Beck. A person can be in a different value system in each quadrant. For example in the Social quadrant a person may be in a belonging 'We' core-value and in Systems maybe in an expressive 'I' system.

stable state to another stable state. External life conditions (nurture) 'A' in balance with internal value systems (thinking capacity - nature) 'N', for example, forming the AN value system.

Graves started his research because he had issues with teaching psychology. This led to developing "A systems conception of personality - levels of existence theory". This research refers to this as Graves' framework. To define his system Graves set up a series of research questions and a research method using his students over eight years (Cowan, 1998, p. 2). The review of the results and classification was carried out by eight sets of independent adjudicators, a different set of adjudicators for each year (Cowan, 1998, p. 4, based on Graves, 1970, 1971). From the reviewed results, a structure of six core-value systems emerged from the data. To confirm the framework according to Wilber (2000, p. 6) "Graves' model was tested on 50,000 people from around the world, and there have been no major exceptions found to the general scheme". Unfortunately, there appears to be little supporting evidence for this statement due to the destruction of many of Graves' papers.

Graves' framework was tested in South Africa by Beck and Cowan during the apartheid transition period (Wilber, 2000; Beck and Linscott, 1991; Linscott, 2001). An argument for using his framework was the wish to move away from stereotypes, for example often-restrictive political correctness and other racial and ethnic causes: 'This person is Zulu therefore.....', 'This person is Afrikaans therefore.....' (Beck, 2005) This approach resulted in a view of how social and cultural behaviours affect the individual without typecasting them. According to Beck (ibid) the outcome of using this framework is the ability to give the individual recognition for their values, and the values of others.

Graves (1977) supported his research by looking at three ways to corroborate his results.

1. "One is by comparing the E-C (Emergent Cyclical) concept to ten other similar points of view." [E-C is Graves' terminology for an open-ended emergent system the core of BPSS]
2. The second form of confirmation was tests conducted in the author's (Graves') laboratory. (Graves, Huntly and LaBier, 1965) Examples of the tests are the use of overt and covert observations of groups, timed responses to words and pictures, essays, game play and psychological assessments.

3. The third form of confirmation was to test the framework in action or use. Graves referred to this as "test of application" [largely the work of Beck, Cowan and Linscott in South Africa]

(Graves, 1977, Chapter VII, p. 35)

Graves' first form of confirmation in the 1960s and 1970s was against the leading conceptual thinkers of the time. Graves' review included, Ausubel (1952), Kohlberg and Turiel (1971), Sullivan, Grant and Grant (1954) Selman (1974), Broughton (1975), Issacs (1956), Issacs, Miller and Haggard (1956), Calhoun (1971), Loevinger (1976), Loevinger and Wessler (1970) and Erikson (1968, 1974). (Graves, 1977, Chapter VII, p. 43). Ausubel (1952) left Graves confused about whether his position did or did not confirm the E-C idea. Others in Graves' opinion did support his framework of core-value systems but had gaps or related only to certain value systems.

The second form of confirmation was the use of overt and covert observations of groups, timed responses to words and pictures, essays, game play and psychological assessments (Lee, 2001a; Beck, 2005). Graves' considered some other research to be of theoretical importance. The work of Schein (1965) supported Graves' open emerging systems idea, by arguing that "his [Schein] conception of Complex Man does say that Self-actualizing man of Maslow's is not the epitome of development," (Graves, 1977, Ch VII, p. 44). Graves saw Scott's (1967) work as historical and referred to Schein (1965), McGregor (1980 reprint of 1960) and Blake and Mouten (1969) as contributory to his framework (Graves, 1977). Table 3.3 shows Schein (1965) and the overlap and gaps to Graves as an example of some of Graves' research.

(Appendix 7 shows a comparison chart of Loevinger (1976) and Graves)

Table 3.3 Schein Summary and comparison to Graves (1977)

A simplistic summary of Schein's (1965) research

- No single management style can succeed in improving the performance of all workers.
- The motives of an individual may be complex, and liable to change over time.
- A high-level of satisfaction does not necessarily lead to increased productivity and increased productivity does not necessarily lead to a high-level of satisfaction.

Graves (1977)	Schein (1965)
AN Survival	-
BO Tribal,	-
CP Exploitive	-
DQ Authority	-
ER Strategic	Rational-Economic Man
FS Social	Social Man
GT Systemic	Self-Actualizing Man
HU Holistic	Complex Man

To support the other aspects of his ideas on change and that thinking capacity and life conditions were an open-ended system, he further reviewed the work of others. For example, Graves based his argument of open or closed behaviours on Harvey, Hunt and Schroder (1961) which in turn used Milton Rokeach's (1960) Dogmatism Scale and the Gough Stanford Rigidity Scale. Both these scales were recognised in psychological research for assessing a person's psychological states in the 60s and 70s. 'Open' being amenable to change and 'close' being opposed to any change led to the development of a change process.

The third form of confirmation, the result of the work in South Africa, led to developing Graves' Framework by Beck and Cowan (1996). Linscott puts the value of this work succinctly. "[The] Gravesian method turned a key for me, unlocking much that had perplexed me in 30 years and more of observing and writing about Africa in general and South Africa in particular. Suddenly it was possible to look beneath the surface and analyse in a new way, to avoid stereotypes (many of them inherently racist) which one had felt *intuitively* to be wrong but were not always easy to argue away." (Linscott, 2001, p. vii).

In this researcher's opinion, Graves' research is a useful point of view, however it is located within a certain time period of the 1970s. The next section looks at how Beck and Cowan (1996) attempted to make Graves' research a useful management tool. Their development of the assessment questionnaires and interpretation of the results is used in the fieldwork case studies. These were developed during Graves' lifetime

though anecdotally he had reservations about if these values could be measured, hence the work of Hurlbut (1979). (In the resource section of Beck and Cowan's (1996) book they site around 180 books which help define the value systems and change states and other parts of Graves framework including Covey, Dennett, Habermas, Handy and Peters).

3.2. 'Pathways in the Mind': another Perspective.

Beck's and Cowan's 1996 book *Spiral Dynamics – master values, leadership, and change* is the result of 17 years work and research in South Africa and USA (Beck, 2005). The starting point for developing Spiral Dynamics¹³ (SD) was in 1952 with Graves' research (Cowan, 1998). Beck and Cowan's contribution to Graves' research (1964, 1966, 1970, 1971, 1977 and 1978) was to develop methods of assessment, stories and management techniques to describe an individual's basic assumption profile. To reduce the complexity of Graves' research Beck and Cowan (1996) used colours as metaphors to replace Graves' coding system. Beck and Cowan's work is introduced here to show the connection to Graves'. This gives the background for using their questionnaires to reflect 'hidden' values and preferences for change used for the fieldwork case studies.

Beck and Cowan used the visual idea of a spiral that is an open-ended cone starting at a basic survival 'AN' and then assigning a colour for each Gravesian value system. Visual understanding is important within managerial environments and is an intuitive form of a heuristic. Morgan (1983, 1998) uses visual metaphors to make complex ideas accessible, the utility of a theory. However, this approach by Beck and Cowan over simplified Graves' framework and has led to a 'cult like'¹⁴ use of the work.

The Beck and Cowan (1996) approach indicates a sequential hierarchy. This is often one of the detractors and an oversimplification of Graves' ideas. Their book does not adequately show the bidirectional aspect of the model but does discuss the entering, the peak and exiting nodes of each core-value system. Additionally, it does show the flow from the expressive 'I' to the belonging 'WE'. ('I' centres on the individual, 'WE'

¹³ Spiral Dynamics (SD) is a trademark of the National Values Centre, Inc for a system of defining a cultural and social paradigm based on Gravesian values.

¹⁴ Cult – "an extreme or excessive admiration for a person, philosophy of life, or activity" Encarta Dictionary UK. The researcher supports this view of SD but not of Graves' work.

centres on the group). The increase in thinking capacity greater than all 1st tier is pictured by being labelled 2nd tier, adding to the notion of a prescriptive hierarchy. (See previous Table 3.0 for which system is an 'I' or 'WE' system). The definitions were explained in 'Pathways in the Mind' section of this chapter and follow closely Graves' definitions. Graves' argued for bidirectional flow that is part of a 'transcend and include' model, discussed later. The researcher argues that Graves' framework is not a prescriptive hierarchy. This is not made explicit in Beck and Cowan's (1996) work.

Colours have replaced Graves' (1977) codes that defined each Gravesian value systems with pairs of letters. Each letter is a naming convention used by Graves to identify the two axes of his graph, A,B,C,D,E,F,G,H¹⁵ were external life conditions. N,O,P,Q,R,S,T were the capacities in thinking needed to handle those external life condition. AN Survival Beige, BO Tribal Purple, CP Exploitive Red, DQ Authority Blue, ER Strategic Orange, FS Social, Green, GT Systemic Yellow, HU Holistic Turquoise and IV yet to emerge Coral. Graves (1977) defined three states for each value system, an entering phase, a prime or nodal phase and an exiting phase, so the six 1st tier core-value systems could give eighteen subsystems. Later work of Cook-Greuter (2002) suggests nine nodal levels and appears to be arguing support for Graves' original framework, though her levels do not exactly match Graves' and perhaps should be defined as psychological levels.

The colour-codes used by Beck and Cowan (1996) also reflected the expressive and the sacrificial (belonging) systems. Warm colours – Red, Orange, Yellow are expressive Gravesian values, the 'I'. Cool colours – Purple, Blue, Green are sacrificial Gravesian values, the 'WE'. The relationships to Graves' (1977) codes are shown in Table 3.4, with this researcher's interpretation in a managerial context. A feedback from participants during the research is the naming, for example 'instinctive' or 'clannish' does not relate to current management language.

¹⁵ These letters were reversed for his later work. The original A,B,C,D,E,F,G,H were the capacities in the brain prevalent at the time. N,O,P,Q,R,S,T were external conditions.

Table 3.4 Core-Values – Relationship Definitions.

Core-Value (in an organisational context)	Beck and Cowan (1996)	Graves (1977)	Beck and Cowan (1996)	Expressive 'I' Sacrificial 'WE'
1. Survival – Basic needs	Instinctive	AN	Beige	I
2. Organisation - Community - Teams	Clannish	BO	Purple	WE
3. Creativity and "what's in it for me"	Egocentric	CP	Red	I
4. The Correct Way - Processes	Purposeful	DQ	Blue	WE
5. The Pull to Commercial Success	Strategic	ER	Orange	I
6. The Human Dimension	Relativistic	FS	Green	WE
7. The Big Picture - Integrated	Systemic	GT	Yellow	I
8. The Global Picture	Holistic	HU	Turquoise	WE

The entering, prime and exiting phase of each core-value system has a change process attached to it. Graves argued there were six conditions for change to occur. In Lewin's (1947) gap model, these conditions of change are needed to move from a present condition to something new in the future¹⁶. Graves' (1977, Chapter IV, p. 21) six conditions for change are.

1. "Potential."
2. "Solutions of existential problems."
3. "Feeling of dissonance."
4. "Gaining of insights."
5. "Having properly timed and administered aid or non-interference – i.e., removal of barriers."
6. "Opportunity to consolidate."

Beck and Cowan (1996) developed Graves' ideas of change, further adding states of change, energy flow to produce change, chaos, order, and 1st and 2nd order change. These states act as indicators to the preferences individuals have for different types of change. (1st order change is a preference for incremental change while 2nd order change is more revolutionary). The Beck and Cowan (1996) model gives ten areas of precision to change (Table 3.5) rather than just change. In management, change state is important for two reasons: a) it is more easily understandable by managers and b) how the individual and the group handles change is argued to be related to the active

¹⁶ In AR change should occur and how we change has an influence on this. The Beck and Cowan (1992) change state assessment is used in the fieldwork and change is included here to give an understanding of Graves' change concepts.

Gravesian value systems that can help or impede change. In organisational development and cultural theory, it is argued that some form of change process is a key component. For example Hatch (1997, 2006) Johnson and Scholes (1993), Johnson, Scholes and Whittington. (2006) and Martin (2002b).

Table 3.5 Types of change	
Change States (in an organisational context)	Beck and Cowan (1996)
1. Preference for incremental change – 1 st order Change	1 st Order Change
2. Preference for Step Changes – 2 nd Order Change	2 nd Order Change
3. Preference for Order	Order
4. Preference for Chaos	Chaos
5. How content with today	Alpha
6. Something is not right with today	Beta
7. Frustration level	Gamma
8. Surge Energy to Change	Delta
9. Optimism for the future	New Alpha
10. Energy for Change to Occur	Flex/Flow

This more detailed approach to change adds more levels of precision to Schein's (1987 in Schugurensky 2005) processes for change. This builds on Lewin's (1947) work in the present state and future state gap model. Schein's process includes the unfreezing of the present to change perceptions, attitudes and behaviours. This is a cognitive restructuring process of discovering new information and possibilities. Lastly, the learning is institutionalised in a refreezing process. For example, these ten states of change provide clues on how to change opinions, as in Schein's (1987) the unfreezing process is the start for change. The following is an explanation of the states of change based on Beck and Cowan (1996) and Graves (1977, 2005). These preferred states of change are the way more or less complexity of thinking is activated for the Gravesian value systems.

Change is argued a key component of culture (Hatch, 2006) as well as a business issue and this approach to change was used in the fieldwork to inform the interplay between culture and change. For example, what changes need to be made to make our culture more innovative? The next section covers the ten states of change that were measured during the fieldwork based on Graves' framework but developed as an assessment for practical use by Beck and Cowan (1992).

3.3. Types of Change (Based on Beck and Cowan, 1992, 1996 and Graves, 1977, 2005)

3.3.1. 1st order change. This state occurs when change is from within the existing life conditions or when the basic assumptions remain unchanged. This incremental approach improves what is already there and is historically based in past decisions. 1st order change is the ability gradually to renew and reform the existing by working harder and smarter. This usually means more of the same but better.

3.3.2. 2nd order change. The difference to 1st order is the ability to make shifts to new assumptions and value systems. This is often created by outside influences and events. This usually includes the unexpected and is driven by a vision of the future. This approach to change needs a leap of faith by those involved to put into practice.

3.3.3. Order. This is the need to change in an orderly way. The change process is controlled and is applicable to either 1st or 2nd order change.

3.3.4. Chaos. This is the opposite of order. There is no need to control the process and the person or organisation during change can accept that they have no control over the process of change. Change will emerge out of chaos. This is applicable to either 1st or 2nd order change

3.3.5. Alpha. This is about the contentment felt with the current way of living. In a high alpha the organisation is doing well in its market. Society is meeting the needs of its people effectively. The life conditions and environment is stable. Organisations see no need to change and complacency may become a problem. The basic assumptions, values and beliefs have created the process and system that match the life conditions.

3.3.6 Beta. In high beta is the feeling that something is wrong, but it is not known what it is. The previous way of surviving is not working any more. Complacency and success may have introduced new and unforeseen problems to be solved.

The individual may be experiencing personal problems. Organisations may show evidence of decline and communities might experience stress, conflict and disagreement. However they do not understand what is happening in their world, but know something needs to be done. In this situation there are three approaches to change:

1. Do more of the same because there is nothing wrong. All the support systems are good and therefore it must be the implementation or enforcement of them.
2. Attempt to fine-tune, or adjust the processes while keeping their main features. This is a typically 1st order approach to change. There is a strong pull of what was good in the past, forgetting that often they did not work as well as remembered.
3. Realise that processes are only processes and there are others systems to use. This opens a new view of the world allowing change to occur. This when there is a need for 2nd order change.

These three parts of beta have merits and are suitable for certain changes and it is important to align the goals with the strategy to reach those new goals. For example when a business is going into liquidation it is no good tinkering with changes to the accounts system. (However this approach does depend on your value system, for example, dominant red CP individualists may be able to feather their nest by tinkering with the accounts system)

3.3.7. Gamma, This is a time of growing frustration, with feelings of being trapped, it can include an array of antisocial and self-destructive behaviours. The frustration comes from knowing what's wrong and why. There is an understanding of what will relieve the frustration to create new life conditions for a New-Alpha. However there is the fear that strong barriers stand in the way of making these changes. These barriers can be inside the person or the organisation. The barriers can also be imposed by external forces over which they have no control.

In a high gamma state, for instance in communities, this frustration may lead to violence, destructiveness, armed rebellion, and revolt against the *status quo*. This becomes the 2nd order change choice as individuals or groups literally or symbolically attack the barriers. In less extreme cases, it's a time of wanting to escape, run away, break out, and be free. A high-level of frustration is often seen in people experiencing a mid-life crisis or when a major personal ordeal makes the future look bleak

In a high gamma state, since change appears blocked during this state of frustration there is a tendency to look to the past for solutions. During this time of reversion to old ways of thinking, old solutions and what has worked in the past are revived.

3.3.8. Delta. This is the tipping point for change to occur. It is a time of excitement and rapid change where the barriers to change are overcome. Individuals take charge of their own future. The past is no longer in control.

The delta surge of energy is often enthusiastic, and unrestrained. The previous life conditions give way to new solutions. The previously unthought-of emerges, forming new life conditions. This passion produces creativity, resourcefulness, and dedication to achieving the goals.

The delta is a strong emotional time and often brings stress into relationships and may even trigger negative reactions from those left behind. If this energy is not channelled then it can lead to further frustration and reversion to old ways of thinking. An example may be a fired-up successful marketing campaign but no product because of production or supply problems.

3.3.9. New Alpha. This is a time of consolidation of the ideas and systems that emerged during the delta state. The individual and organisation returns to a stable state after change. The organisation is aligned to its market place. Communities are aligned with their environment. This then becomes alpha and the whole cycle can start again.

3.3.10. Flow. This is a measure of the readiness to accept change, to move away from the past and embrace whatever is new. However it can also reflect a preference for holding on to the reliable and stable and to what is currently important and necessary to support current life conditions. This is based on the work of Csikszentmihalyi's (1990). *Flow: The Psychology of Optimal Experience*.

Within the BPSS framework, there are value systems that surface to be able to handle the prevailing life condition. These result in a set of active basic assumptions, values, belief and artefacts that are core-value¹⁷ systems. To cope with changes in life

¹⁷ Core-values are used by different authors under different names: vMememes and meta-memes, Beck and Cowan (1996); Clusters of memes, meme complexes, Fog (1999); Basic assumptions, Schein (1990). This research treats them all as the same as core values or meta-memes..

conditions and to activate a more suitable core-value system, the six conditions¹⁸ for change need meeting. This allows, in Lewin's (1947, 1952 in Zand and Sorensen, 1975) terms, movement from a present to a future through a change process. How these are met depends on the preferences for types of change, for example, an individual who prefers 1st order changes is likely to have problems with a high 2nd order approach to change. Hatch (2006) refers to Gagliardi (1986) similar types of change. How this conflict is handled is related to the thinking produced by the active value systems in the individual and the organisation. For example, an individual with a high need for consensus (FS) and a preference for 1st order change, incremental, will need time to consult with everyone and even then only act in small steps. These ideas for change are not new (Hatch, 2006) but the granularity and measurement provided by Beck and Cowan (1992) argues another point of view.

One traditional view of change in Johnson and Scholes (1993) on the strategy and barriers to change is similar to Graves (1977) and Beck and Cowan (1996). However Johnson, Scholes and Whittington (2006) even in their 7th edition do not suggest how to measure the underlying culture or ability to change.

Johnson and Scholes (1993) argued that most corporate change is incremental (1st Order) and to change there has to be a need and an 'incentive to change'. By their 7th edition (Johnson et al., 2006) a whole chapter is devoted to strategic change but it is a descriptive approach once the type of change has been identified. In 1993 they use a 'gap analysis' against the status quo ("do nothing") as a reference point to measure change. (Johnson and Scholes, 1993, p. 272 and 387). If they are still correct about corporate incremental change then how can change occur if a CEO (Chief Executive Officer) has a preference for step changes (2nd Order)? More importantly how can this conflict of preferences be revealed and linked to underlying values, beliefs and assumptions of the CEO. This research argues the Gravesian framework allows individual measurement and reveals these gaps. This in turn allows the CEO for example, to learn how to make change effective and sustainable for each individual. The negative side, dependent of the CEO's values and beliefs can be manipulative.

¹⁸ 1. Potential. 2. Solutions of existential problems. 3. Feeling of dissonance. 4. Gaining of insights. 5. Having properly timed and administered aid or non-interference – i.e., removal of barriers. 6. Opportunity to consolidate.

Johnson and Scholes (1993) continue (p. 388) by looking at "transformational change" by using a gap model of present state, future state and the need for unfreezing the present state, then attend to the crisis or conflict and, once solved, refreeze the solution. During this process of unfreezing they also look at the barriers to change. By 2006 (Johnson et al.) have developed their models to much more complexity. Their types of change based on Balogun and Hailey (1999) mirror the work of Graves (1977). They talk of 'incremental' and 'big bang' in terms of realignment and transformation. They look at "styles of managing change" (Johnson et al., 2006, p515) and these are similar to Beck and Cowan (1996) as used in the UWC study for management, communications and learning styles. However Johnson et al., (2006) work at the corporate meta-level, so values, beliefs and assumptions are defined as espoused. If this research were to be integrated with their ideas then their valid approach to change interventions may improve the chances for sustainable change to happen. These interventions could then be targeted to the hidden Gravesian values and preferences for change, recognising the role of the individual in stopping or assisting change. To put this differently, Johnson et al., (2006) define "individual experience - mental (or cognitive) is the models people build over time to help make sense of their situation" (p46). It could be argued that Graves (1977) and Beck and Cowan (1992, 1996) give the ability to measure this mental model and to understand individual bias in the change process. This then allows the organisation to design interventions that target the individual's values and change state helping to achieve a desired future state.

Beck and Cowan (1996, p. 145 and 177) ask of individuals and organisation wanting or inspiring change "HOW should.....WHO manage..... WHOMto do WHAT". Overlooking this clarity in change contributes to the barriers to change. To overcome these hidden, espoused and perceived barriers to change is to perhaps include them as part of the value system, by transcending and including them.

This 'transcend and include' feature of the Graves' framework makes a bidirectional model, which ebbs and flows with changes in life conditions. To direct these flows the values, beliefs and artefacts become part of a 'transcend and include' effect. Transcend and include is the ability of previous values and beliefs to merge into the present values and beliefs therefore the old is always part of the new.

The bidirectional and 'transcend and include' aspects of the framework are considered by this research as an important principle. For example, Maslow (1968) can be argued

as one-directional but still 'transcend and include' (see previous footnote 6). The next section reviews the arguments for how others look at 'transcend and include' models.

3.4. Transcend and Include.

The two-way flow of Graves' framework is an important idea. The metaphor of Russian dolls is useful. (Beck, 2002c, 2005). If each of the Gravesian systems is thought of as a doll, the smallest doll is the survival system (AN) and this doll is inside the tribal system (BO) and so on. Therefore, the largest doll is the global system (HU) and this has within it all the other dolls. If we take the example of an individual who is tribal, if life conditions change then the survival system (AN) or the more complex individualism system (CP) maybe activated. This gives a two-way flow and a 'transcend and include' model. The values, beliefs and assumptions of one value system are available in another.

This research has found that when explaining the value systems this 'transcend and include' concept takes away the impression that climbing upwards as being better for an individual and that the 'lower levels' are perceived as bad. This is also allows other theories to be used as necessary as Graves is just one point of view. In organisational culture one corporate culture is no better than another if it allows that company or department to survive and prosper. (Note: this view only holds true from my value system. For example, a person with extreme success and materialism (ER) will see the selling of the idea that it is better to climb upwards as a training and moneymaking opportunity).

This approach can be argued to apply to Schein's (1990) three-dimensional model of culture. A basic assumption has within it values and beliefs and artefacts. As the basic assumptions change with life conditions, there is still access to the old values, beliefs, and artefacts, which, if needed, can be brought back into use. This is a 'transcend and include' model. In Wilber (2000) terms, these are wholes within wholes, a 'Holon'.

For another view of a 'transcend and include' approach, an argument from computer science suggested by Post (2003) introduces the 'tetrad' for thinking about what 'transcend and include' means. The tetrad is a method of looking at the effects of technology on the environment. Instead of looking at cause, "the tetrad organises an artefact as a 'resonating interval' an object which transcends time; and is affected by both its own attributes and the environment which surrounds it." (Hempell, 1996, p. 1).

If related to memes¹⁹ then items like values, beliefs and artefacts transcend time, in that old, new and emerging are available with the environment in which they evolved. There is a resonance between the old, new and emerging. This supports Beck and Cowan's (1996) argument of memes being like particles and waves. As told in the film *Castaway* (Broyles, 2000) the lead character, a successful executive, may have only been dimly aware that he had the values, beliefs and artefacts for him to survive in a life or death situation. Only when his life conditions changed (being alone on a desert island) were these underlying values activated. By the end of the film, he was able to switch on the values that allowed him once again to return to being an executive manager after rescue. This was a 'transcend and include' effect and a bidirectional flow. In Gravesian terms he went from ER (Strategic success) to DQ (process and controls, not opening his FedEx parcels) to CP (Creativity – opening them and using them) to BO (forming a tribe with Wilson a ball) to AN (survival by letting Wilson go to save his own life). On rescue, he quickly reactivated ER and DQ and delivered the last unopened parcel while going through a reassessment of family (BO). This story is used to illustrate the bidirectional flow and the 'transcend and include' effect.

Post (2003) quotes Marshall McLuhan, who developed the tetrad theory from McLuhan and Powers (1989, p. 9) "...the tetrad performs the function of myth in that it compresses past, present and future into one through the power of simultaneity. The tetrad illuminates the borderline between acoustic and visual space as an area of spiralling repetition and replay, both of input and feedback, interlaced and interfaced in the area of imploded circle of rebirth and metamorphosis."

The 'tetrad's' relevance to memes as units of culture is that this definition takes account of environmental life conditions, time and a spiral, the open-ended aspect. Therefore, as core-value systems become dominant under certain life conditions, the harmonic effects of previous artefacts produce a seamless metamorphosis into a new core-value system. While using the tetrad analogy is useful in exploring 'transcend and include', the difference to Gravesian values systems is that he argued, they cause changes in brain chemistry (Graves, 1977). The metamorphosis process is strengthened as artefacts, for example, buildings, dress-codes and strategies that have a visual and

¹⁹ Memes are individual values, beliefs and artefacts which in turn form Gravesian (core) value systems that group basic assumption as meta-systems or meta-memes for the purposes of this research. A meme is a unit of culture like a value, belief or artefact, these are then attracted to Gravesian value systems.

sound content playing on all the senses, conscious and subconscious and that are helping with the change. The social or cultural 'DNA' gap model being proposed for this thesis between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition) is brought together as a 'transcend and include' model.

An individual is often aware of or sensitive to changes in life conditions. Then, harmonics or residuals left by the other core-value systems are activated allowing movement and change to new systems that meet the needs of new life conditions. However, according to Beck and Cowan (1996) if there is no conflict and the six conditions of change are not met, then a change²⁰ in the core-value system does not occur. The change is reliant on the individual or group being open to change, closed to change or arrested but able to be persuaded. (Graves, 1977). Jones et al., (2005) and Schein (1987) on readiness for change and the unfreezing process propose a similar idea, except people that are truly in a closed state cannot be unfrozen.

The Tetrad idea is a practical managerial tool used in marketing of the IBM Think Pad computer brand. The 'transcend and include' concept integrated all that the IBM name stood for and it was built into the Think Pad brand. Additionally this approach integrated the use of Graves' framework for targeting and defining the markets and characteristics of the computer. (Clark, 2004). IBM's famous white shirts and dark suits, buildings, solidity and gravity in video advertising are examples playing on all the senses for the Think Pad black laptop. These are examples of memes that are attracted to the corrected way of working a DQ Gravesian value system.

Graves (1977) argued the AN survival and BO tribal core-value systems remerged as a wave to form the 2nd tier systems of GT systemic and HU global. These two systems carried the characteristics of the 1st tier origins but were able to deal with greater complexity. The systemic thinking of GT is a more sophisticated and complex form of the basic need for survival of AN. HU is a more complex form of family and tribe on a global basis. The principles of Graves' framework are core-values attracting memes as values and beliefs, multiple types of change.

²⁰ In the example of being cast away this was the cathartic change that activated the dormant value systems.

3.5. Closing Arguments

The purpose of this chapter was to explore Graves' (1977) theory that led to his framework, and to discuss how Graves supported his research and its relationship to some current ideas. It should be noted that Graves' research is over thirty years old and Beck and Cowan have not done any further 'academic' research to build on Graves' work. Graves' work crosses many disciplines from psychology to human consciousness to anthropology to biology. Perhaps Graves like Dennett (1991) was a frequent interloper in these fields and "...[had] grown accustomed to the disrespect expressed by some of the participants for their colleagues in the other disciplines" (p254). This makes Graves' work very debatable. However, this research argues that as long as the framework is used as a heuristic developmental hierarchy and not as a prescriptive and restrictive hierarchical it is a useful managerial tool.

The debate on assessing culture is complex and from a managerial perspective often impenetrable. The results of assessing culture are often subjective and descriptive rather than objective and measured. Both the subjective and objective are needed for the practical application of cultural research in organisations. Schein's (1987, 1990) models and the relationship to the work of Graves (1977) brings a different perspective and precision to Schein's work by providing a measurable template for values and change.

Graves' (1964, 1977) theory was described by using the metaphor of 'pathways in the mind' to explain his research. His theory produced an open-ended system that in turn has the ability to produce new pathways from the eight identified pathways. The pathways were the result of the prevailing life conditions that produced dominant cultures for survival. A discussion followed the relationship to the 'nature/nurture' debate and may have been a reason for the non-acceptance of Graves' ideas until today.

Beck and Cowan's (1996) book tried to simplify Graves' work for use as a management tool and did not succeed, leading to a cult like use of the work as a spiritual development process. Looking beyond this espoused view of Graves' work led to a review of Graves' (1977) conditions for change and the different states of change. These were argued to bring more precision to understanding the mechanisms of change and Schein's (1987) 'unfreezing' idea to effect change. This was also argued to bring this additional precision to the more traditional view of Johnson et al., (2006).

The opinion of some practitioners of Graves' (1977) framework is that it is to 'evolve upwards is better' hierarchical model. This is countered by the argument for the use of a 'transcend and include' model, based on an analogy from computer systems and the changing nature of technology. How this may be used is shown by the use within IBM marketing of the Think Pad laptop computer.

This chapter argues that Graves' work produces a useful method for assessing some of the hidden building blocks of culture. Therefore, before an organisation can create or change a 'culture', the hidden or social 'DNA' within the individual is best understood and addressed. The next chapter takes another view of Graves' work as groups of units of culture (memes). This covers a theory of how culture reproduces from the view of memetics, and posits a connection between the 'pathways in the mind', core-values, memes, meta-memes, basic assumptions, values, and belief systems.

Note on Point of View: At times the researcher uses language that might occur to the natural scientist as the author making claims from the biological rather than the managerialist stance, this is however the author's pragmatic style.

4.0. Introduction

This chapter reviews Graves' value system from another perspective that of being meme-complexes. Memes, as 'units of culture' are attracted to meme-complexes (Fog, 1999) and argue, form a link between the espoused and the perceived formed by intuition. Memes could be argued to be units of basic assumption and artefacts of Schein's (1990) cultural model. Therefore it is argued that memes form sub-building blocks of the social 'DNA' model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). Graves from his writings did not discuss mechanisms for how cultures formed or spread. In organisational theory, culture and change are key elements (Hatch, 2006); the outcomes for what makes a culture vary according to the research perspective taken (McAuley, Duberley and Johnson, 2007). This is another point of view on building blocks of culture.

Graves' work (1977) was based on the 'pathways in the mind' that he argued were caused by changes in life conditions. For example, frustration with the tribal (BO) way of life led to the rise in individualism (CP). However, this research argues that there could be other mechanisms. Dawkins (1976) a biologist, introduced the theory that 'units of culture' can reproduce themselves virus-like within and between cultures. Dawkins called these units 'memes', to be a social form of genes. It is likely that Graves may have been aware of Dawkins' work, and Beck and Cowan (1996) refer to the Gravesian value systems as 'meta-memes', referencing Dawkins' work. Therefore, this research proposes that once a meme's critical mass or tipping point is reached (Gladwell, 2000) then new Gravesian values systems are triggered and spread as units of culture (memes). This chapter will explore the basis of memetics, how memes are values, beliefs and artefacts and posit that they are similar to Graves' value systems. If the Gravesian eight value systems are meta-memes then they could interpret memes in different ways. It could be argued that each values system's interpretation changes a meme's meaning. These meanings could then be expressed as an espoused or perceived value. For example the IBM meme of 'wearing dark suits' may be interpreted by high individualists (CP) as that it is acceptable to wear a dark suit with wide white stripes matched with a yellow tie. This also means that the Gravesian value system

(DQ conformity) of IBM is not attractive to the person and is being made acceptable to the CP value system by this interpretation of 'stretching the boundaries'.

Beck and Cowan (1996) argued that the Gravesian value¹ systems were meta-level values for attracting values, beliefs and artefacts, calling them meta-memes. Therefore, they argued, there is a connection to Graves' framework for memetics. The Gravesian framework as meme complexes is a new debate and allows for another view of other possible building blocks of culture in organisations. As discussed later, the debate on how cultures form and the part genetics plays is a very old one.

Graves (1977) does not elaborate on how his value systems reproduce and spread in and between cultures. However, he did explore how the different types of change could activate new value systems. He referred only to how 'life-conditions' as a change system acted on the individual to alter his coping value systems. Even though Beck and Cowan (1996) introduced the notion of a meta-meme², there was no further development of the memetic idea as a method for grouping memes or core-values.

The review of memetics as a 'science' contributes another point of view on assessing inner logic to Graves' (1977) framework. The memetics idea can also be applied to Schein's (1990) culture model of values and beliefs and artefacts, as each can be argued as units of culture (memes³). This chapter will review the arguments about how these units of culture might be part of Graves' meta-theory for core-values.

Memetics the 'science' of how units of culture spread and it may be that Graves was aware of the work of Dawkins (1976). Beck worked with Graves from the 1970s (Beck, 2003b) and argued that Graves' eight sets of core-values are meta-memes (Beck and Cowan, 1996, p. 31). These meta-memes are groupings of values, beliefs and

¹ Beck and Cowan (1996) called Gravesian values vMemos (value memes).

² Beck and Cowan (1996) used meta-meme as another term for vMemos or groups of basic assumptions, values, beliefs and artefacts. This research is using Gravesian value systems, core-values and meta-memes as interchangeable. I prefer 'pathways in the mind' as a description.

³ Memes were defined by Dawkins (1976) as 'units of culture that can reproduce'. Price (2007) referring to "Distin (2005) who, in what is arguably the most in-depth review yet published, makes a case for memes as systems of representation, either natural languages or symbolic ones such as mathematical notations, specialized professional usage".

artefacts. Beck and Cowan (1996) did refer to Dawkins (1976) but preferred to use vMemos (value memes) to describe the Gravesian value system, perhaps missing an opportunity to develop a meta-theory for classifying memes.

Graves' eight value systems described in an organisational context are as follows, with an explanation of the use of the expressive and belonging system that Graves used to alter Maslow's (1971) view of his hierarchy of needs. Maslow proposed a closed system with a finite end for human development: Graves change this view to an open system that can evolve. (Lee, 2002).

AN – Survival - Basic Survival needs. An 'I' expressive.

BO – Tribal - Tribal and Community as the basis of all teamwork. A 'WE' belonging and sacrificial.

CP – Exploitive - Individualism as in 'What's in it for me?' and creativity. An 'I' expressive.

DQ – Authority - The correct way – the basis of all processes. A 'WE' belonging system, but at the expense of others for the future common good - sacrificial.

ER – Strategic - The pull to commercial success - An 'I' expressive but not at the expense of others as long as they play the game.

FS – Social - The human dimension, people and environment matter - A 'WE' belonging but often at the expense of others - sacrificial

GT – Systemic - The big picture (the whole) – A mainly 'I' expressive but sometimes sacrificed at the expense of others for survival of the whole.

HU – Holistic - The global picture - A 'WE' belonging but sometimes at the expense of others for the global good - sacrificial.

IV – yet to emerge? – (I suggest based on Graves' framework) an 'I' but more global form of individualism (CP) of being at peace with oneself as a creative individual for the good of all.

To recap from Chapter Three, it argued that each one of the Gravesian value systems (Graves 1977) attracts assumptions, values and beliefs and artefacts. Individuals and organisations are a mixture of these systems but, with a dominant Gravesian value system for coping in a given environment, this reveals itself as a culture. Graves (1977) also argued that the system is open-ended, meaning new systems can evolve and the flow can be bidirectional. If conditions for coping are less complex, then less complex Gravesian value systems can become dominant.

The Gravesian approach is argued as predictive in that movement from one value system to the next is always from expressive to belonging or from belonging to expressive, however fleeting (Beck and Cowan, 1996; Beck, 2004, 2005). This is outside the scope of this research but is useful to note for the interpretation during the fieldwork.

Graves' theory relates culture to activation of his eight pathways in the mind, giving the biological part to the later development of the biological, psychological, social and systems (BPSS) model. The biological debate on the interplay between memes and genes becomes relevant when arguing that culture starts with the individual reacting to life conditions. Graves (1977) argued activating the brain's pathways was by chemical changes in the brain that were in response to changes in environmental conditions. (in psychology these maybe argued to be hard-wired). Memetics theory provides a link between the biological and social (life conditions) for activation and creation of Gravesian values. Research, notably the work of Engel (1978), has shown that chemical changes occur when biological, psychological and social conditions interplay, Engel a Professor of Psychiatry and Medicine at Rochester, USA, developed a 'biopsychosocial' view in treating psychological problems. Examples of some of the supporting arguments for this interplay are highlighted in the following. "This whole system has physical elements, which are both sub-personal (a nervous system containing organs and networks comprised of cells, which in turn are comprised of molecules and atoms) and supra-personal. The latter entail individuals existing in a psychosocial context of increasing complexity (two person, family, community, culture, society and biosphere)." (Pilgrim, 2004, p. 1) The following illustrates the use of the genetic or biological analogy "When something is referred to as biological or brain-based, that is not shorthand for saying it is genetic and, thus, predetermined; similarly, references to "psychological" or even "social" phenomena do not exclude biological processes. The brain is the great integrator, bringing together genes and environment." (Satcher, 1999, Chapter 2. p. 1)

Coming back to Schein's (1990) culture model as an example, the building blocks of basic assumptions (assumptions), values and beliefs and artefacts form a common theme when evaluating culture. Cameron and Quinn's (1999) competing values framework (CVF) uses similar themes for interventions to make organisations more effective.

There is a degree of subjectivity when evaluating basic assumptions, as access to basic assumptions is by the observed and spoken. Kwan and Walker (2004, p. 1) show through a review of the literature there is "a lack of precision and consensus regarding its definition [organisational culture]", again because of its subjective nature. They explain the debate between quantitative and qualitative methods of assessing culture. They cite Schein (1985, 1996) as being qualitative and Cooke & Rousseau, (1983, 1988); Hofstede, (1998); Hofstede, Bond and Luk, (1993); Rousseau, (1985, 1990) as using quantitative methods. The CVF model is the most widely used and a validated quantitative⁴ model for describing culture. However, in both the quantitative and qualitative approaches there are two gaps.

- 1) Assessment of hidden values and beliefs and states of change within the individual (hidden) as proposed in the Gravesian ideas.
- 2) Analysis of how assumptions, values and artefacts reproduce and spread across organisations or cultures.

Graves (1977) argues that changes in the environment⁵ trigger a biochemical change in the brain. It could be argued that these changes could be the result of a critical mass of memes (a unit of social or cultural reproduction) clumping into a meme complex that may or may not cause these chemical changes. To help this change in thinking and to allow for handling more or less complexity, the spread of basic assumptions may lead to a tipping point⁶ (critical mass). The effect of this tipping point leads to a new way of thinking and a new culture. The move from quantitative to qualitative and then to integrated transdisciplinary research methods is an example of different cultures being created by reaching a critical mass of acceptance (Burgoyne and James, 2006). The question is 'Do memes help in producing these chemical changes with the effects of the external life conditions that produce memes'? Engel (1978) found a connection between social conditions and effects on body chemistry and used the words biosocial psychology. (Social conditions could be the prevailing academic or organisational

⁴ CVF is based on ordinal data so the cause of the order is unknown. (Denscombe, 1998)

⁵ As an example of these changes that can be easily be generated internally by for example frustration with life conditions over a period of time, or external by wars and general catastrophes.

⁶ The concept of a critical mass or a tipping point to create change is argued in Gladwell's (2000) book *The Tipping Point*.

culture). Many of these arguments are outside the scope of this research. However, they support the idea that cultures could reside within the individual as subconscious filters, therefore could be described as hidden (as in hidden from everyday view).

Memetics is a framework for understanding how ideas and social values spread across cultural systems from individual to individual and community to community. A simple example in business is from the finance industry. It is the norm there for men to wear ties. This norm spreads as a meme in the culture of 'this is the way we do things around here'. This statement would mainly be a Gravesian authority (DQ) value system. The meme is the artefact 'a tie' attracted to the basic assumption (meta-meme), a 'we' sacrificial system.

How did the idea of 'memes' come about since the word meme is a meme itself?

4.1. Memetics

The words 'memetics' and 'memes' are words of recent arrival in the English vocabulary. Their history and meaning is intriguing. The memetics community⁷ rarely uses meta-memes as a word or the idea for classification of memes. Beck and Cowan (1996) appear unique in calling their groups of Gravesian values meta-memes. However, there is some evidence of a hierarchy and taxonomy (categories) of memes (Fog, 1999).

Memetics as an idea has been around from the early nineteen-seventies. It is a method of understanding "the principles of evolution by selection to understand continuous changes in cultural behaviors" (Edmonds, 1997, p. 1).

Defining the word meme has also changed over the years. Blackmore (1999, p. 43) gives: "**meme** (mi:m), n. Biol. (shortened form of mimeme... that which is imitated, after GENE n.) An element of culture that may be considered to be passed on by non-genetic means, esp, imitation."

⁷ Meta-memes – on an internet Google scholar search 2nd Nov 2006 33 occurrences of the word "meta meme" were found nearly all applied to computer or virtual worlds, a few to the social sciences.

Two years later, the Oxford English Dictionary definition shows a slight evolution of the meaning. (OED, 2001, p. 1154). "**Meme** (mi:m), noun Biology. An element of a culture or system of behaviour that may be considered to be passed from one individual to another by non-genetic means, especially imitation." The slight change of emphasis adding 'system of behaviour', the human cause, shows how use can evolve and suggests the word 'meme' is a meme. This definition adds systems to the biosocial psychology of Engel (1978) arguing support for Graves's (1977), Beck and Cowan's (1996) and Wilber's (2000) Biological Psychological Social and Systems idea. This argues that behaviour is not a singular idea but part of a behaviour system.

A meme is defined and originated by Dawkins (1976, 1999, 1999a) and, according to Price (2001), is a method of defining self-replicating complexity, applicable to social and cultural development of organisations. Dawkins (1976) popularised the memetic approach. He coined the name "meme" in his book, *The Selfish Gene* (1976, p. 192). He reiterated it in an article in 1999. "[I] coined the word meme for these self-replicating units of culture that have a life of their own". He also argued, "memes travel longitudinally down generations, but they travel horizontally too, like viruses in an epidemic".

Price comments further. "Just as organisms have a genome so organisations have a memome, this being a collective pattern of 'rules' language, paradigms, behaviour, relatedness etc, which defines and enables an organisation, in replicating itself in the process." (Price, 2001, p. 6). Using Graves' approach, an individual or organisation's dominant or nodal⁸ Gravesian values, give pointers to which memes of values, beliefs and artefacts may or may not survive in that particular system. Each Gravesian value system (perhaps a meme complex Fog 1999) attracts memes; they are "philosophies, icons, fads, architecture, motorcars, language, life styles, psychologies, sport, archetypes, politics, literature, music, fashion, religion." (Beck and Cowan, 1996, p. 31). Returning to Schein's 1990 model, the basic assumptions [core-values] attract memes. The beliefs and artefacts which Beck and Cowan (1996, p. 31) list are examples of memes.

⁸ Nodal - The maximum point for a value system. It is the point after entering a core-value system and before leaving that system. Nodal is when a core-value is at maximum domination. The peak of the curve.

As mentioned earlier, defining a meme has spread and changed since Dawkins (1976) first coined the word and it is useful at this stage to look at other definitions. The following examples are from other researchers who use and recognise memetics.

"As genes are to the organism, memes are to the superorganism⁹ – and memes working together in theories, worldviews, or cultures can make a superorganism very hungry." (Bloom, 1997, p. 98). It could be argued that human cultural frameworks [cultures] are 'superorganisms' with a hunger to expand and survive, and the parts of these 'superorganisms' are memes working together. This may suggest that memes organise into groups to give worldviews and cultures. A world-view is an individual's internal view looking outwards at the world. For example, how one culture sees another culture or how one individual sees another (Martin, 2002a). Harvey (2005), in a recent global survey published in the journal *Science*, further explains how one culture sees another: "We are prone to errors, especially in an increasingly multicultural society like New Zealand. We should be careful when judging people, be it your colleague, the person selling you something or someone applying for a job. Dr Ron Fischer, Victoria University Wellington." and "People simply discount all the information that doesn't fit with their preconception. Dr Robert McCrae, United States Institute on Ageing". (Harvey, 2005, p. 1). Graves' framework and Dawkins' meme theory describe the subconscious filters that are in place that facilitate the process of accepting or rejecting a given meme in a certain culture that in turn informs perceptions. Taking this argument one stage further, these perceptions are based on core assumptions and, in management, may form the basis of intuitive decisions.

"Memes could carry their message via the swift intangibles of scent, sight and sound." (Bloom, 2000, p. 30 quoting Lynch, 1996). This message mechanism is part of the 'transcend and include' model the 'tetrad' covered in Chapter Three (McLuhan and Powers, 1989). Scents, sights and sounds are interrelated and part of each other. Intangibles give clues and perceptions of a culture. The smell and sight of leather chairs with dark wood panelling in a reception area gives a view of the projected espoused culture of an organisation. The hidden basic assumptions (memetic profile) may be different in not supporting the espoused or visible values.

"Memes may partially blend with each other in a way that genes do not." "New 'mutations' may be 'directed' rather than random with respect to evolutionary trends."

⁹ Superorganism - a group of organisms (humans) functioning as a social unit. An organisation is an example.

(Dawkins, 1999, p. 112). Prevailing life conditions or the environment may direct or influence mutations of memes. This suggests that blending in new ways is a memetic trend towards the use of transdisciplinary (mode 2) research methods. This approach blends the traditional and the new to handle increasing complexity of researching organisational development (Wagner, 2003).

Dawkins' (1999) argued that evolution by mutation of memes is the driver for human development. Memes can react to life conditions and change much faster than changes to our DNA or genetics. This meme interplay and mutation creates culture. Perhaps this argument suggests that Graves' (1977) debate about chemical changes in the brain is related to the critical mass of memes that starts this chemical change. The shift from a tribal BO Gravesian value system to the empire CP system was caused by frustration leading to chemical changes (Beck, 2005). This change is then spread by forming a critical mass (tipping point), that then reproduces without chemical changes in others who suppressed their own dominant value systems. This means people suppress their dominant Gravesian values for survival in another culture. A common example is a dominant personal religious value system being hidden in the secular workplace. This is only an idea and needs further research and debate but it does suggest a way of looking at Graves' (1977) framework. The next section reviews the arguments and theories of the memetic debate and introduces the idea that memes are social 'DNA', real or metaphorically.

4.2. Memes and the 'DNA' debate

It could be argued that clusters of memes are the social equivalent of DNA, based on the idea that memes are similar to genes and like viruses in their behaviour. If this holds true then it is useful for uncovering more cultural building blocks. However, there is heated debate about this social DNA view. For instance Dewey (1909), Dawkins (1976), Atmanspacher (1998), Nunn (1998), Wilkins (1998), Blackmore (1999), Kher (1999), Benitez-Bribiesca (2001) and Distin (2005). Having a framework that measures social DNA would be a useful approach to understanding culture. Do memes have a life of their own in a biological sense? Is there a biological connection?¹⁰

¹⁰ In this research this biological idea needs exploring as we are starting with the notion that culture is hard-wired within the individual.

Wilkins (1998, p. 2) defines a meme as "the unit of cultural evolution and selection." (p. 2). He further argues, "There is a close analogy between the entities and the process of biology and culture."

Wilkins (1998) uses the analogy of memes being like a virus, with the characteristics of natural selection and of being passed on by infection. He argues the virus analogy approach should not be the only biological analogy and that memetics should have a close bond to all biological analogies. He then suggests some promising methods from biology to look at memes. The debate hinges on; 'can non-biological systems such as memes be treated as biological living systems and all this implies'. Blackmore (1999) takes a similar view to Wilkins, to use memes as an analogy.

Wilkins (1998) continues to point out that, even before Darwin's *The Origin of Species* in 1859, there were debates on the interplay between evolutionary biology and culture. In 1909, Dewey (Wilkins, 1998) one of the first memeticists, showed that even if the word 'meme' is new the debate is not. This memetic debate argues that culture is more than just genetic biological evolution, as shown in the discussion in Chapter Three on environmental conditions causing biological changes producing 'pathways in the mind'.

Wilkins (1998) gives an example of how many ideas often mutate for use as management tools. Wilkins uses Kuhn's (1962) use of the word 'paradigm' as his example. Kuhn's definition of a paradigm¹¹ has mutated and is widely used in management, but as the phrase 'paradigm shift', meaning a dramatic change. (Wilkins, 1998, p. 3) This suggests there is some process by which the word paradigm (a model) mutated and spread virus-like as a 'paradigm shift' meme. The capacity of a meme to evolve divides the philosophical and scientific debates about a non-biological idea of, for example, 'paradigm' mutating into 'paradigm shift' using biological survival techniques.

This argument from genetic biology for memes having similar survival and reproduction system as genes has caused heated debates between social, philosophical and genetic biological researchers. These range from the mild to the outspoken. The following are a few examples.

¹¹ Paradigm – Kuhn refers to it as set of practices that define a scientific discipline during a particular period of time, a model of that practice. 'Paradigm shift' means a 2nd order change from one management model to another.

"Darwinian fundamentalism", dismisses the meme as a "meaningless metaphor" Stephen Jay Gould, Harvard University Paleontologist (Kher, 1999, p. 53)

"I think memetics is an utterly silly idea." Orr complains, "It's just cocktail party science" H Allen Orr, Evolutionary Geneticist University of Rochester (Kher, 1999, p. 53)

"Memetics is nothing more than a pseudoscientific dogma where memes are compared to genes, viruses, parasites, or infectious agents thriving for their own survival in human brains. Memetics is a dangerous idea that poses a threat to the serious study of consciousness and cultural evolution." (Benitez-Bribiesca, 2001)

Donnya Wheelwell (1998), a pseudonym of a science professional who wishes to remain anonymous to avoid the scorn of colleagues, referring to Atmanspacher (1998) and Nunn (1998) comments. "Atmanspacher suggests a hierarchical arrangement of memes, and I suggest that they are talking dangerous jabberwocky." (p. 362)

It is important to highlight the negatives for the use of memes as a biological system. What is of interest in this research is this debate highlights that there are different basic assumptions, values and beliefs that form these negative comments. In these negative statements about memetics, what is the culture that causes these basic assumptions, values, beliefs? What are the artefacts from a traditional 'one true way' of conducting science that produces these statements? This would be an interesting debate for a transdisciplinary (mode 2) research team, showing a need to reveal hidden values and beliefs to understand the hidden beliefs and assumptions of the team.

From another viewpoint, that of computer science and artificial intelligence, reproduction of computer code for the defence of computer systems and networks to protect against computer viruses often mimics the human body's defence systems. Computer viruses have the capacity to reproduce and mutate to survive, so why not memes, since both are non-biological? The computer work carried out by Stephanie Forester, University of New Mexico has reached a point where she understands more about the human immune system, and this knowledge would be helpful if transferred back to biologists (Davidson, 2001). There is an argument for some links between biological and non-biological mechanisms: "The computers in which memes live are human brains" (Dawkins, 1976, p. 197)

As reviewed earlier in Graves' work, there is circumstantial evidence for interplay between the brain and environment to cause chemical changes. Does Graves' framework from a BPSS perspective allow memes to make chemical changes? This leads to the question: can these memes that produce Gravesian value systems be living system entities that reproduce, mutate and survive according to the rules of genetics and biological science? If they can, then they could be the equivalent of a social and cultural 'DNA' with DNA being available as a 'template'¹². Distin (2005) argues for and gives detailed arguments for this view. If not, memetics is still a useful heuristic¹³ for understanding the social development that leads to culture. The memes argument as a metaphor for Gravesian value systems is a template similar to the double-helix spiral of DNA. social DNA is a powerful analogy for understanding culture. In Graves' framework, the two parts of the helix are the interplay between external (life conditions) and internal capacities (thinking capacity) produced by memes and groups of memes. The bridge between the two strands of this metaphorical helix is preference for types of and barriers to change.

Memes as a biological analogy in management become a useful heuristic using the power of a metaphor. Morgan (1993) in his book *Imaginization* puts the power of metaphor to good use from visuals of cartoons, to the richness of words and the images they conjure. Morgan argues that biological analogies used for the process of change and self-identity is useful. Distin (2005) advises caution when using a biological analogy for memes as it can polarise the debates.

Morgan continues his argument with the theory of Autopoiesis¹⁴. Although abstract and developed to understand biological and cognitive systems, it has a direct relevance to understanding the grouping mechanisms of social systems. This research argues that Graves' framework be considered as a grouping system for social systems.

Quick (2003, p. 3) roughly defines Autopoiesis as follows: "A system is Autopoietic if the bits and pieces of which it is composed interact with each other in such a way as to

¹² Template: - Beck and Cowan (1996) define template as a flexible overlay.

¹³ Heuristic: - a complex brain learning system that can deliver an intuitive solution to complex problems. Covered further in Chapter Five.

¹⁴ Autopoiesis. Dictionary of the Social Sciences, 1/1/2002. Autopoiesis: A key term in Niklas Luhmann's (1984) theory of social subsystems. Autopoiesis refers to the self-contained and self-moving nature of subsystems (such as law, economics, or even intimacy).

continually produce and maintain that set of bits and pieces and the relationship between them." Manturana and Varela (1980) developed this theory to understand group biological systems, which became the autopoietic theory and word. Graves' (1977) value systems are composed of bits and pieces (memes), and keep their relationship to one another to support or change a Gravesian value system. Schein's (1990) basic assumptions are the containers that keep the bits and pieces of values, beliefs and artefacts together. Therefore, using this argument and those in Chapter Three, these groups of 'bits and pieces' could be classified as meta-memes (meta-memes are core-value systems or clusters of basic assumption, values, beliefs and artefacts).

Morgan (1993, p. 327) argues, "the theory [autopoiesis] seeks to explain how systems are able to produce and reproduce themselves and acquire enduring structure over time." In autopoiesis the key idea of the identity of the system as the most important product intrigues Morgan. He notes, "this is an interesting notion" as part of systems theory suggesting that social systems have guides like organisation of goals, objectives, and relationships to the environment. Graves' (1977) value system is a guide that is produced by interacting with the environment, allowing memes to be attracted and reproduced. Memes are the goals and objectives applicable to a given environment or culture.

In the business environment, using memes as a metaphor for learning, a heuristic¹⁵ has more applicability. Price (1995, p. 307) commenting on Dawkins (1976, 1989) suggested. "If we ignore the negative connotations of the viral metaphor and admit that memes can be beneficial as well as harmful, then the idea of memes infecting our minds, or of mimic 'antibodies' triggering defensive routines creates a powerful metaphor and a tenable hypothesis for the purpose of learning." However, he does also recognise there is some evidence of a biochemical process. So, as we learn does brain chemistry change? If it does then there is a link to forming core-values and even their use as a heuristic metaphor may be argued to have the same chemical effect in their formation.

Price (1995) refers to the negative connotations of the meme metaphor, which although not a direct comparison, Beck and Cowan (1996) refer to as the negative and positive

¹⁵ Heuristic - A commonsense rule (or set of rules) intended to increase the probability of solving some problem.

aspect of each Gravesian value system. These core-value systems could be groups of negative and positive meme complexes, then negative and positive connotations are part of the basic assumptions. Schein (1999a) does refer to the negative use of values and beliefs for coercive persuasion; for example, to enforce a particular culture to keep power. The negative or positive view of a metaphor depends on the base assumptions that underpin that culture. Hofstede (2001) defines these negatives or positives as intensity and direction. His example (p6) "'having money' may be highly relevant to us (intensity), and we may consider 'more' as good and 'less' as bad (direction)". In Gravesian terms, this may come from the success strategic thinking system (ER). Hofstede continues that someone from a strong Christian background, for example, still considers money important but with a "reversed direction, 'more' is bad and 'less' is good". Again, in Gravesian terms, a shift in value system to the authority 'one true way' thinking of the DQ system. The same meme 'money' is used in both but has a different value.

Beck and Cowan (1996) argued for a relationship between Graves' value framework and memetics. Dawkins (1976, 1989, 1999) Bloom (1997, 2000) and Edmonds (1997) argued for a biological method to the spread of culture and associated memes. Blackmore (1999) Wilkins (1998) and Price (2000, 2001) argued the spread may be biological but memes are better used as an analogy to biological systems. Morgan (1993) and Quick (2003) liked the biological model as a template for use as a metaphor, and the power of the metaphor as a management learning tool. Graves (1977), Engel (1978), Pilgrim (2004) and Satcher (1999) argued the medical link between the environment and chemical changes in the body and brain. Non-biological systems can reproduce using biological mechanisms of how viruses spread in computer systems (Davidson, 2001).

Taking the memetic debate as a whole, there is circumstantial evidence that memes are a biological-type system and spread virus-like within and between cultures. How and why these spread is open to debate. The memetic approach relates to Schein's (1999) culture model of what are the basic assumptions, values beliefs and artefacts of a given culture that allow these memes to spread and survive. Graves' (1977) framework adds another view to Maslow's (1968) model, allowing for other expressive and sacrificial (belonging) values. The overall argument suggests there is some form of clustering arrangement for values, beliefs and artefacts to form, producing basic assumptions systems.

Beck and Cowan (1996), developing the work of Graves (1977), introduced the idea that Graves' eight-value systems were meta-memes. However, they did not tackle how these value systems spread across and between cultures. The discussion on memetics so far has been debate that there is an overlap between the views of Beck and Cowan and of Graves on their theory and that of memes. The other area of similarity is of memes affecting biological systems. We could infer that perhaps Graves' thinking was along the right track, that his value systems are embedded or hard-wired in the mind. The next section continues the debate by looking at the support for memes forming clusters that support Graves' value systems as attractors for clusters of memes.

4.3. Clusters of memes

The argument for meme clusters is like superorganisms such as humans clustering together into groups, organisations, and nations for survival. The interplays of internal and external life conditions provide a survival mechanism for responding to increasing complexity by producing sets of basic assumptions. These in turn produce values, beliefs and artefacts that reflect culture. There is an argument that production of basic assumptions is the result of the social interaction of people. The following is an example to show this social interaction around innovation in organisations. This also shows how important the role of the individual is in developing a creative culture. There are two reasons for using innovation as an example. 1). This is an area of special interest. (Eden and Huxham in Clegg and Hardy, ed, 1999) as I have a management background in innovation. 2). The practical implementation of this research needs an open and creative culture to accept this approach to understanding the role of the individual in culture.

There is a strong social facet to innovation (Clegg et al., 1999, p. 186). To develop science is a social issue (Bhaskar, 1975, p. 24; Dawkins, 1976, p. 325). Innovation is a social process based on the spread and understanding of ideas. Ideas are memes (Castelfranchi, 2001), with good ideas surviving and evolving, and unacceptable ideas becoming dormant or dying. This cyclic nature applies in business, for example, in management tools like Total Quality Management (TQM), Lean Manufacturing and Downsizing. These methods move from being ideas that are out of balance¹⁶ with their environment to becoming accepted tools of management and being back in balance,

¹⁶ Chapter 3 p.25. Balance is between external life conditions and internal capacity to form a stable condition for methodologies to thrive and survive.

though this will mean a change in life conditions to allow this to happen. How many different variations of TQM are there? Each variation links to the metaphor of a meme as a virus that can evolve, survive and mutate to fit differences in cultures. For example,¹⁷ the Japanese version of TQM is different from the UK version because of the different values and beliefs dominant in each country. The Japanese version had to be modified to fit UK culture to be acceptable.

Beck and Cowan (1996) and Wilber (2000) agree there is some form of nesting of memes. Wilkins (1998) argues that some of the analytical techniques of biology should be used as a taxonomy (classification). He further argues selecting memes is on several levels and considers Campbell's (1974) hierarchy of selectionist knowledge processes as a suitable template. Nunn (1998) and Atmanspacher (1998) look at Jung's archetypes and archetypes representations as memes. "The Swiss psychiatrist Carl Gustav Jung (1875-1961) is a person best remembered for his ideas about a collective unconscious and those ancestral experiences he believed were registered in the brain as *archetypes*." (Carr, 2002, p. 477). These were core-embedded systems in the brain influencing behaviour, affecting the way we perceive, imagine and think. These are rules' paradigms or schema. They contain positive and negative aspects (Matthews, 2002).

These arguments support a need for a classification system for memes as there is some form of meme organisation into meme complexes (Fog, 1999). From the view of learning and utility of a theory, an understood classification system is easier to explain to managers. The clustering of the meme debates is in line with Beck and Cowan's (1996) argument that Graves' frameworks of core-values are clusters of meta-memes (meme complexes). Simply put the argument therefore is that meme complexes are groups of basic assumptions that attract certain values, beliefs and artefacts. This adds another point of view to Schein (1990) and Graves' framework.

"Meta-memes" as proposed by Beck and Cowan (1996, p. 31) are a waveform, a system or set of social values (basic assumptions) as opposed to individual memes that are more like particles within the meta-meme waveform. Castelfranchi describes meta-memes (2001, para. 3.1): "On one side, memes spread for prescriptive-normative reasons, and on the other side, norms are themselves memes, aimed at spreading

¹⁷ Note: this example is from the researcher's experience of working in the automotive industry in the UK and Japan.

around in a given group or population, and aimed at being adopted and shared by its members. Thus, norms are meta-memes: they are memes for regulating the conformity to and the spreading of behaviours, goals, ideas; these provide models and prescribe who should or can do what". These 'norms'¹⁸ are similar to social value memes or in Schein's (1990) terms, a set of basic assumptions. Meme-complexes are core organising principles that attract other levels of memes forming a cultural framework. A meme can exist in several meta-memes, but would have different values and beliefs assigned to it (Hofstede, 2001).

Memes are the particles that can add substance to the systems of meta-memes. The more accepted a value meme or 'norm', the harder it is to ignore. Fog (1999) describes the meta-meme as a meme complex. The link Graves (1977) made was the acceptance or rejection of his eight sets of core values (Jung's light and dark facets, Matthews, 2002).

For another view Williams (1999, p.2) argued that, "melodies, icons, inventions, and fashions as contagious patterns that replicate themselves by parasitically infecting human minds and altering their behaviour, moreover causing them to replicate the pattern, are memes. A meme therefore exists in the world because people pass it on to others, either horizontally to their peers or vertically to the next generation". Williams (1999) explains his argument of how memes spread as applied to organisation development (OD) and how it affected the labour market: "flexible labour market models are a meme replicating itself around the globe". What Williams' (1999) has not considered is the life conditions that allowed that idea of a "flexible labour market" to flourish and reproduce. From Graves' (1977) perspective the 'flexible labour' meme reproduced as a response to the needs of the strategic success value system (ER) which involved a basic set of assumptions about making financial profit. From Beck and Cowan's (1996) perspective, "meta-memes" (p. 31) are "core intelligences that form systems and impact human behaviour." (p. 40). The 'flexible labour' meme was attracted to strategic success that affected human and then organisational behaviour by affecting managers' perceptions and basic assumptions of how to run a business.

These arguments for groupings of meta-memes as an overriding set of social processes, common to all individuals regardless of race, colour, creed or education,

¹⁸ Norms – "They are the unwritten rules that allow members of a culture to know what is expected of them in a wide variety of situations" (Hatch, 1996 p214).

have logic. The environment and life conditions in which an organisation has to survive are the external forces in which individuals socially evolve (Graves, 1977). An argument for the use of this framework over others is that it provides a non-stereotyped approach to evaluating culture. This approach is based inside the individual rather than types based on race, colour, creed and education and perceptions based on the espoused or observed.

Fog (1999) states that his "meme complexes" include a process of reproducing the culture in the following, these arguably map well onto each of the Gravesian value systems.

- **"Bait** – This is the promised benefits that make the meme complex look attractive to potential new hosts."
- **"Hook** – This is the part of the meme complex that urges reproduction."
- **"Indoctrination** – making sure that the host gets all the memes in the meme complex."
- **"Protection against rival meme complexes** – this could be the meme that 'Blind faith is a virtue and heresy is a sin.'
- **"Reward and punishment** – Obviously, rewards or punishments are often needed to make the host obey the instruction of the meme-complex and its organisation."
- **"Taxation** – The demand the host contribute time, energy, or money to the meme complex and its organisation."

(Fog, 1999, p. 73-74)

Fog (1999) explores the way these parts of a meme complex act by using a religious organisation as an example. This example fits within the authority, control and process Gravesian value system (DQ). This system is a sacrificial 'WE', sacrifice now for the good of all and one in the future. Within these meme complexes Fog refers to 'button pushing' and this links to the motivational 'hot buttons' (Appendix 1).

Table 4.0 later, shows Fog's example from a religious organisation (1999, p. 73-74) To show this comparison the dominant Gravesian value systems in world culture (based on Figure 3.0 Chapter Three) are used (Figure 4.0) in an organisational context.

Figure 4.0 Country Gravesian Value Systems - Wilber 2000 from Beck and Linscott 1991

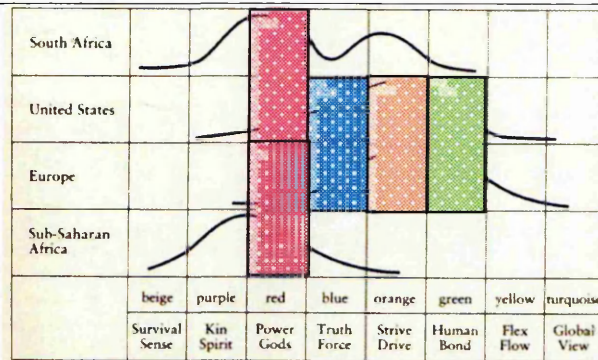


Figure 6-2. Value Systems Mosaics. Adapted, by permission, from Don Beck and Graham Linscott, *The Crucible: Forging South Africa's Future* (Johannesburg, South Africa: The New Paradigm Press, 1991, pp. 80-81).

This figure shows the dominant value system for four geographical regions. Beige AN Survival, Purple BO Tribal, Red CP Exploitive, Blue DQ Authority, Orange ER Strategic, Green FS Social, Yellow GT Systemic, Turquoise HU Holistic – further details later in this Chapter. For example, USA is success-driven, underpinned by 'the one correct way to do things'.

Fog (1999) uses a religious organisation as an example of the parts of his meme complex. It is argued that an individual is attracted to a company because of a resonance between his or her values, beliefs and assumptions. This resonance when accepting a job may have been from the espoused values presented at the interview. If later the bait and hook were not as espoused then they would most likely be short-term employees. The person with high individualism (CP) will continue working with the company as long as it gives him instant rewards with no concern for others. The person with high regard for following rules and imposing controls is more likely to want the pension and is prepared to sacrifice now for these rewards later, still staying but suppressing their other values and beliefs.

Each Gravesian value system is argued a meme complex in Fog's (1999) definition. Each value system has a bait to attract, a hook to secure and an indoctrination process to instil the values and beliefs; a protection scheme for example, a 'strong' company culture to fend off other value systems and a reward and punishment scheme that keeps staff with that value and belief system. Table 4.0 shows how each dominant value system would react in Fog's religious organisation. If the five parts of the meme complex do not align to the individual's value system then problems could occur in the religious organisation.

Table 4.0 Meme complex based on Fog (1999) religious organisation associated to Graves' values systems (meta-meme) p. 73-74

Parts	Fog 1999 meme complex	Red (CP) Power Gods	Blue (DQ) Truth Force	Orange (ER) Strive Drive	Green (FS) Human Bond
Bait	"The promise of a better life. Often bait involves button-pushing to get the attention of the potential host. The bait may be a Trojan horse."	Immediate pleasure Hot buttons immediate payoff. Looking good and getting respect	Need for a purpose in life and a reason for death to bring [you] stability and order.	Material possessions by expressing 'self' to reach goals and live well	Join others to build consensus and share feeling to make life better
Hook	"A command to evangelise."	Be tough and depend on self to fend off others aggression.	Duty, honour country, righteousness ; being prepared; sacrifice and discipline; rewards in afterlife. A promise of a good company pension is an example.	With a pyramid scheme business or chain letter the hook is an economic incentive to recruit new members (There is some red here. Fog, p73) Opportunity for success; progress and achievement. Have the bigger better new and improved	Affiliation and love; human rights and dignity for all; more participation; equality and liberation of oppressed.
Indoctrination	"This may involve frequent repetition or brainwashing. Rituals. Songs, Prayers and oaths are typical examples."	Power-driven in a hostile world where strength is a key to staying alive	Indoctrination from rightful authority. Adhere to rules and work within bureaucracy. Follow chain of command.	Play the game and win Success is the only choice Peer pressure to perform.	Explore feeling Share experiences The power of the collective We only do things if we agree.
Protection	"Blind Faith is a virtue and that heresy is a sin."	I will protect you as long as you bow and respect me	Comes from preparing for the afterlife – rewards later for sacrifice now Doing ones duty	Only if successful – only as good as your last success	The power and strength of the group.

Table 4.0 (Cont) Meme complex based on Fog (1999). Religious organisation associated to Graves' values systems (meta-meme) p. 73-74					
Parts	Fog 1999 meme complex	Red (CP) Power Gods	Blue (DQ) Truth Force	Orange (ER) Strive Drive	Green (FS) Human Bond
Reward & Punishment.	"But the most powerful rewards and punishments are often due in a distant future or in an afterlife. So it's too late for the host to change his [her] mind."	You will get an immediate reward of respect and power; if you fail then death and disgrace.	Rewards of spiritual Punishment are guilt for not following the rules. Excommunication from the organisation	Reward is status for self and the organisation No reward unable to keep up with the Jones's	A typical reward is the belonging to a sympathetic social group (Fog p74) Being treated as an equal in a warm and nurturing environment. Suppression of individuality. Outcast from the group. Feel internal guilt.
Taxation	"The resources of time, money energy are needed by the organisation for competition against rival competing memes [other religions]."	All the host's energy and time and money will be given to the leader to do with as he pleases.	All energy, time and money must be used to achieve rewards later for the sacrifices made now.	All energy and time and money must be for the success of yourself and the organisation. Play the game well and win Need to be recognised as the most competent person to do the job.	All energy, time and money to be given to the group for equitable distribution by the group. Collective 'us' is the strength to defend consensus way of life.
The Gravesian values chosen to illustrate how different values would see Fog's (1999) religious organisation are taken from Figure 9.3. South Africa Power gods (CP) and the USA a combination of truth force (DQ), Strive drive (ER) and human bond (FS)					

By using the analogy of a virus, memes are attracted to each values system of Graves' framework (1977). It could be argued to provide a possible explanation why some memes survive and mutate and other die. Looking at Fog's (1999) idea and adding it to Graves' framework, it becomes a meme interpretation system.

4.4. Closing Arguments

This chapter has reviewed the relationship of memetics to the work of Graves (1977). It defined a meme as units of cultural reproduction (Dawkins, 1976) and reviewed the case for grouping of memes into meta-memes. This is a contribution of this research. Previously there has been no researched link between memetics and Graves' (1977) work. Memetics adds a mechanism for reproducing basic assumptions, values, beliefs and artefacts as memes. There is circumstantial evidence that Graves' view of the interplay between core-values and the chemistry of the brain may have some truth.

There are strong arguments for a biological mechanism for the spread of memes. There is an also strong debate for the biological influence of memes on body chemistry. The strongest argument for its use in management is to use memes as a heuristic and metaphor as a framework for understanding the building blocks of culture. Memetics adds a support system to the biopsychosocial facet of Schein's (1990) culture model, giving a conceptual mechanism and framework for understanding the formation of basic assumptions and their relationship to beliefs, values and artefacts. According to Young (2000), managers need to pay more attention to the basis on which basic assumptions are formed.

As human behaviour (the individual) is a complex subject, the scientific biochemical debate gives another perspective in understanding the role of the individual in organisational culture. However, in organisational development it is best to apply memetics as a heuristic or as a metaphor (Price, 1995) to be useful as a management tool. This use of a metaphor is strengthened by the added argument that there is some evidence of a biochemical underpinning. There is a continuing research interest in the biochemical sphere (Bull, Holland and Blackmore, 2000; Distin, 2005; Whitmeyer, 1998; Best, 1999; Holdcroft and Lewis, 2000; Rose, 1998). An example is the research done by Best (1999) in studying the relationship between genetic evolution, learning and culture. Best argues that social learning is superior to individual learning (using genetic analytical tools) with a condition that it [memes] has a tough time against the slow plodding of genetic evolution.

Memetics suggests a framework in which memes account for the spread of ideas, values, beliefs and artefacts, and meta-memes are the containers for grouping memes into meme complexes. Using Graves (1977) framework, these groups are a reflection of an individual's social DNA and reflect the culture in which these memes can survive

and evolve. Totalling memetic profiles of the individuals in an organisation and then confirming these against the memes that they attract, provides a reflection of the underlying organisational culture. This measurement then becomes a heuristic for developing organisational culture. This approach also allows for the hidden or underlying to be compared with the espoused. Agrysis and Schön "have demonstrated the difference between people's 'espoused theories' and their 'theories in use'" (1974 in Hofstede, 2001, p4). This research argues that the reasons for the difference may lie in the individual's dominant Gravesian value system and the gap to the espoused culture.

Memes live in the individual and it is possible to have a memetic profile¹⁹ and a memetic individual²⁰, Wilkins (1998) argues. This is useful in defining the role of the individual in developing organisational culture. Distin noted that "memes must be able to interact and assemble with other memes in order to account for the breadth and cumulative stability of human culture; and they must be able to represent highly complex portions of information in order to account for the depth and complexity of human [organisational] culture" (2005, p. 200).

Graves' value systems and change states may have been better explained as memetic systems rather than embed systems. However, both are controversial and need much further debate.

The next chapter reviews the relationship between Graves' (1977) work and heuristics. Graves (ibid) raised the issue of the heuristic value of a theory. This research is using Graves work as a heuristic. This further supports the research theme that allows for building a social or cultural 'DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition).

¹⁹ Memetic profile – "The array of phemes that constitutes a memetic individual". Wilkins (1998, p. 20).

²⁰ Memetic individual – "A competent member of a memetic cultural lineage, which is developed by the lineages' professional or cultural properties to create a memetic profile within the human (biological/neurological) individual organism". Wilkins (1998, p. 20)

Chapter 5

Literature Review – Clare W. Graves and a Heuristic Component

5.0 Introduction

In Chapter Two the complexity involved in studying culture and the various approaches to researching culture was discussed in relation to Graves' (1966, 1977) research. Chapter Two also argued there was a need to understand how basic assumptions are formed. Chapter Three introduced Graves' theory and framework and the later work of Beck and Cowan (1992, 1996) who developed questionnaires to reveal the hidden values and beliefs and change preferences of the individual. Chapter Four discussed the spread of values, beliefs and artefacts to form cultures using the ideas of memetics as another view to the workings of Graves' theory. The debate is still open on Graves' research, in particular, as to whether biochemical pathways become hard-wired in the mind (brain) and whether they are biochemical processes produced by life conditions. This type of research was in its infancy in the 1960s (Beck, 2003). However, there is associated research to suggest there is interplay between life conditions, memetics and biochemical changes within the individual; this needs further research by a transdisciplinary team¹, which is outside the scope of this research. This open debate will not affect this research for use of Graves' framework as it is treated as a metaphor and a learning or heuristic device.

This research argues Graves' work reveals the 'hidden' and the idea of memetics suggests a method of how organisational culture is perceived by the individual. How units of culture reproduce to be attracted to, or rejected by, an individual's Gravesian value system. An individual can mutate these units of culture (memes) so that they are espoused to fit a dominant organisational culture. These are very difficult areas of culture to access and measure, because as "the deepest and invisible level is that of basic assumptions and beliefs about human nature and relationship to the environment" (Erez and Gati, 2004 p585)

¹ Transdisciplinary team – a team made up across different disciplines, for example: bio-sciences, psychology, anthropology, social sciences, management and financial researchers. (A Mode 2 approach to research).

This chapter discusses the 'hidden'² further and how the Gravesian framework may give an understanding of how managers use intuition (perception) and how a theory such as Graves' can become a heuristic for learning about culture.

From a managerial perspective, the role of the individual in organisational culture discussed as a purely biochemical process is not a practical approach. This is also outside the skills of the average manager and researcher. Chapters Two to Four have argued that Graves' framework has an academic underpinning and is a useful approach to understand the individual's role in developing culture. To make this framework an acceptable method as a heuristic³ for learning about oneself and the environment and the organisation in which individuals work, the framework needs a practical use. This approach then becomes an application in practice, a heuristic influence of the theory (Hall and Lindzey, 1957 in Graves, 1977). In other words, those and I involved in the research, learn and understand more about culture and our role within it.

This chapter will review how heuristics can be part of a valid and useful research method. The importance of a heuristic value to any research was recognised by Graves (1977) as the ability to learn from his research. A heuristic approach can be at an individual level and at a group or organisational level, but to be effective it needs to resonate with the memetic profile⁴ of the individual and the organisation. The meaning of a memetic profile in this research has been expanded from just meaning the strength of value systems in the individual to also include states of change. Therefore, an individual's memetic profile becomes a measure of their basic assumptions, values beliefs, artefacts and preference for change reflecting their 'hidden' culture.

Before discussing and reviewing heuristics, it is useful to add more detail to Graves' (1977) framework and to recap some of the main principles of his theory. Graves' many

² Hidden – This research's definition is that they are hidden within the individual and therefore not generally or easily revealed.

³ Heuristic – This research prefers to view a heuristic as a learning algorithm made up of many factors – for example memes, types of learning and environment.

⁴ Memetic Profile – "The array of phemes that constitutes a memetic individual." Wilkins (1998 p20) A pheme is "A single memetic interactive trait which is the expression through some behavioural regularity of a meme at the level of selection. It is the least type of selectively biased behaviour relative to a culture." Wilkins (1998 in Glossary of Terms used)

years of research into human development resulted in his theory of the emergent-cyclical model of adult psychological behaviour (Graves' framework). According to Hurlbut (1979, p. 2) Graves said that it represented "the hierarchically-ordered, pre-potent, upwardly-spiralling psychosocial systems of man" and "he thus believes in various levels of physiological existence". Perhaps the complexity of this sentence alone produced a noted barrier to the later adoption of his work. Graves (1981) apologised for this in his lecture to the World Future Society. Graves gave a further explanation of his theory as follows: -

"....the psychology of the mature human being is an unfolding or emergent process marked by the progressive subordination of older behavioural systems to newer, higher order behavioural systems. The mature man tends normally to change his psychology as the conditions of his existence change. Each successive stage or level is a state of equilibrium through which people pass on the way to other states of equilibrium. When a person is in one of the states of equilibrium, he has a psychology, which is particular to that state. His acts, feelings, motivations, ethics and values, thoughts and preferences for management are all appropriate to that state..." (Hurlbut, 1979, p. 2, quoting Graves from "Levels of Existence: An Open System Theory of Values, Journal of Humanistic Psychology, 10 - Fall, 1970, pp. 131-155).

This statement by Graves (1970) suggests that, depending on an organisation's 'life conditions' or environment, Schein's⁵ (1990) basic assumptions can wax and wane or in Hofstede's (20001) view, can alter in intensity and direction. Organisations and people pass through (in equilibrium) or become stuck (out of equilibrium) with a particular way of living. In Graves' argument, an individual's psychology is relevant to their specific state but they may only espouse or reflect other cultures. They may be in equilibrium with themselves but out of equilibrium with the organisation. This could then produce the tensions in culture to Schein's (1990) common organisational values, beliefs, and artefacts. Graves' framework perhaps points towards the reasons for how basic assumptions form in Schein's model of culture. By extending Graves' framework to include the 'espoused' and 'perceived' then the gaps with the hidden become revealed. Berg and Wilderom (2004, p571) define organisational culture "as shared *perceptions* of organisational work practices within organisational units that may differ from other organisational units". (they based this on Kostova, 1999, p309)

⁵ Schein's is a well respected template for looking at culture and was also respected by Graves (1977).

Graves spent over twenty years as a research psychologist interested in human values and behaviour. From his research data, using independent blind analysis, he found eight distinct core-value systems of people's ability to cope with complexity. These core-values, he argued are embedded or hard-wired⁶ deep in the brain and act as filters through which the individual views the world and others. (Graves, 1970; Lee, 2002a). As these embedded core-value systems produce instinctive reactions at a psychological level, there is an argument that dominant profiles are a product of a person's current life conditions or environment. Another unique outcome of Graves' research was that even though he had only identified eight core value systems, there was the potential for new ones to emerge, making his idea an open system. Graves also argued the awakening of the residuals of dormant core-value systems is by 'life conditions' allowing a person to survive in an ever-changing environment.

Graves considered that his work could be a changed, reworked and enlarged conception of Maslow's 'hierarchy of needs'. The difference from Maslow was that Graves believed in an emerging system and therefore questioned Maslow's classification (Hurlbut, 1979). Maslow (1968) argued that humankind always evolved to a peak and stopped. Graves argued that there was no peak and humanity could always continue to evolve. Hurlbut (1979) was in the fortunate position of working with Graves, having access to and quoting from some of Graves' unpublished personal papers. Maslow's first classification showed a peak of self-actualization as being finite (Lee, 2002). "Dr. Graves had known Abraham Maslow from the 1940s. In fact, when Maslow was ill in May 1965 and could not present a paper in New York City, Dr. Graves took his place and read Maslow's paper for him." (Lee, 2002, p. vii). This suggests at least a working relationship between the two.

Maslow then reviewed his model in the 1970s and added another layer above self-actualization: transcendence (Huitt, 2003). Unlike Graves, Maslow initially had not thought of his model as having bidirectional flow. According to Graves (Lee, 2002, p. 52), "You should know that Maslow came around to my point of view. If you look at his later writings you will see that he accepted both the cyclic idea that there is more than

⁶ A well used example of hard wiring is learning to drive – to begin with we have to learn when to change gear, use the mirror, steer, what is around us and so on. This takes a lot of concentration. However, after a few years we often do not remember how we got to work this is because the driving process has become hard-wired.

one kind of expressive system and more than one kind of belonging system, and the system is open ended." In Graves' (1964, 1977) eight core-value systems there were four expressive and four belonging core-value systems. Earlier chapters went into more detail on how Gravesian values reflect culture and change and how Graves supported his research against the work of other psychologists and psychiatrists. Today researchers like Susan Cook-Greuter (1999, 2004) and William Tobert (2002, 2003) have developed a larger range of core values and argue to expose gaps in Graves (1977) and Beck and Cowan's (1996) ideas.

The first investigation into Graves' work showed a strong heuristic content: Graves (1977) considered this an important part of his ideas. Heuristics are about a process of self-learning and discovery, a reflective part of learning that managers often overlook. Intuitive reasoning is needed to make heuristics effective (Buzan and Buzan, 2000), as is an understanding of the basis of the assumptions used (Young, 2000) to make management decisions.

Developing an earlier example of how 'hidden' values and assumptions clash, Cohen (2005) assumed the audience of managers he was talking to were in accord with his view. He received feedback that leaders believed old ways of thinking were outdated and a different, more spiritual, approach was needed to run their 21st century organisations. There has to be an element of self-discovery and learning, as Cohen found (2005) when speaking at the Australian Institute for Management discussing a new set of principles for 'authentic leadership'⁷. Cohen commented that a chill came over the room when he reached a point that made his audience uncomfortable. This point was reached when the audience's memetic profile was rejecting Cohen's. Cohen, who is familiar with the work of Beck and Cowan (1996), should not have assumed that his hidden value systems and states of change were the same as his audience's, even though the espoused values suggested this. Perhaps, though, he did expect this reaction and was providing a conflict for change.

In Gravesian terms the audience's state of readiness for change and dominant value systems were suitable for their 'life conditions' and met their current needs for business survival, but subconsciously (beta change state) they recognised something needed to

⁷ To have Authentic Leadership – Duignan and Bhindi (1997) "...it is important to know where one stands on important moral and professional issues and then act accordingly" (p199) start with "know thyself" (p200) the role of the individual.

change. Schein's essay on organisational learning (1999a) argues that, whatever the learning, it is time dependent. Therefore as most managers are 'time poor', any new approach must have an immediate intuitive resonance with the audience and be based on a heuristic process that allows time for self-discovery, aligned with their value and belief systems.

Schein's (1990) three-dimensional model of culture (assumptions, values and artefacts) provides a useful learning and discovery model as a starting point to understand culture, but it raises questions of how individuals and organisation decide based on assumptions. Assumptions are important to Schein's work (Young, 2000). Because of Schein's own filters and those using his idea, one can make assumptions about assumptions, values and artefacts. What are assumptions?

An assumption is "a thing that is accepted as true or certain to happen, without proof" (OED, 2001, p. 192) To make complex decisions without proof needs a heuristic process based on some facts, knowledge and experience.

Schein (1992) suggested that assumptions were unconscious and taken-for-granted ideas and beliefs that emerged from perception, thoughts and feelings; these in turn formed the source of value and belief structures. A generative or coercive heuristic process can change perceptions, thoughts and feelings. (Schein, 1999a). According to Graves (1977), the unconscious and taken-for-granted ideas and beliefs are a combination of life conditions and the dominant core-value systems activated to survive in those conditions. To understand this idea that altering opinions, thoughts and feelings is in itself a learning experience (a heuristic) causing change there is a need to look at how intuition, learning and heuristics work.

Young (2000, p. 19) commenting on Schein (1992) states that "basic assumptions are somewhat more difficult to define and examine". This statement shows a need for an idea that can be quantified as well as being a simple heuristic to inform where basic assumptions come from.

As with all ideas and theories, they have strengths and weaknesses. As George Box, a noted statistician argued, "all models are wrong; some models are useful" (Box, 1979, p. 202). This usefulness of models and theories to have a strong heuristic ability becomes even more important when taking a team approach to management, because of the complexity of people, data and information versus time and energy. It is in

research and management that heuristics help by effectively using time and energy, but still arriving at useful outcomes. This time saving comes about by intuitively recognising patterns in data and the environment. The section on heuristics discusses this in detail.

The research case studies (chapters seven and eight) at Oracle and UWC Ltd suggested that Graves' ideas had an intuitive resonance with those involved and produced a learning outcome or heuristic effect. So far the assumption from the researcher's view is that learning produces positive results, but Schein (1999a) referring to his earlier work (Schein, 1961) shows the negative side, "coercive persuasion" (p165) or 'brainwashing'. Therefore, learning in a certain culture like a prisoner of war camp can be used negatively for converting different cultures to another's (Schein, 1956). Beck and Cowan (1992) have a positive and negative characteristic in assessing core values as an acceptance or a rejection of that value or belief. For example, a high acceptance of individualism (red CP) with no rejection is applicable to gang leaders and warlords. (Beck and Cowan, 1996). The point of this argument is to raise the issue that the use of a heuristic in changing or developing a 'culture' can produce negative or positive effects.

Graves (1977) referred to the value of heuristics in his research and Gigerenzer (Gigerenzer et al., 1999) looked at the use of heuristics in academic research.

5.1. Heuristics

Gigerenzer et al., (1999) in their historical review of heuristics suggested that some researchers would criticise this approach as a means of doing second-rate work. This is because logic, probability and statistical methods are not at the centre of the research. Nevertheless, when studying the complexity involved with human understanding of culture and value systems, the argument for a heuristic approach is acceptable. This enables intuitive evaluation of the complexity. The researcher's experience shows that managers have limited time and information with which to make sense of complex issues, therefore they rely on sets of basic assumption to decide intuitively. There is an intuitive ('gut feeling') ingredient to decisions based on complex information that in turn is based on a set of basic assumptions. In Schein's view (Young, 2000) senior managers need to concentrate on the 'basis of assumptions' otherwise there can be little change to culture. Intuition is an ingredient in how

individuals make assumptions using hidden cultural filters and it helps in deciding which assumptions are suitable in their environment.

Intuition is "the ability to understand something immediately, without the need for conscious reasoning," (OED, 2001, p. 959). Graves (1977) argued that an increase in thinking capacity is needed to handle more complex 'life conditions'. The ability to be more intuitive and accurate in decisions and judgement improves as the brain activates more capacity, if Graves' ideas are correct.

Tony Buzan (Buzan and Buzan, 2000) makes the following relevant comment about intuition "Intuition is a much-maligned mental skill which I and neurophysiologist Michael Gelb (1998) prefer to define as 'superlogic'. The brain uses superlogic in order to consider its vast data bank (consisting of many billions of items from previous experience) in relation to any decision it has to make." (pp.111-112). Therefore, experience may be a heuristic or tool from which a richer learning emerges. Twenty-three years earlier Graves (1977, Chapter VI, p. 26) followed a similar theme: "the brain contains 11 or 12 billion cells, with each brain cell having a potential capacity of some 10,000 interconnections with other brain cells." In Graves' view as we cope with increasing complexity of 'life-conditions' the brain has an infinite capacity for emerging new value systems leading to new assumptions and producing better intuitive reasoning. This could answer Alfred North Wallace's question to Charles Darwin. "why does homo sapiens have such a big brain? Why does the brain contain far more cells than are necessary for survival of the individual and perpetuation of the species?" (Ibid, p. 23). Humankind has the capacity but a given culture, based on a set of core-values can affect developing this extra capacity. (Graves. 1977; Beck and Cowan, 1996; Wilber, 2000, 2002)

The power of the brain is often overlooked in management, as Buzan continues to explain. "In a flash the brain completes the most outstanding mathematical calculations, considering trillions of possibilities and permutations, in order to arrive at a mathematically precise estimate of possible success." (Buzan and Buzan, 2000, p. 112). Buzan and Buzan (2000) based this statement on the work of neurophysiologist Michael Gelb (1988, 1998 and Gelb and Buzan (1994). This argument might support Graves (1977) view that the brain is smarter than we are and will carry out the minimal functions to allow us to survive in given life conditions. He may have meant that at a young age (around two years old) all brain connections are being made and from then on as life conditions develop the brain pares back to those functions that are needed to

survive. (Blackman, 2002). An example of this in an adult would be an oppressive culture suppressing creativity and individualism (Schein, 1999a) but individuals with capacity will often still survive⁸ in this culture. This continual flow between life conditions and Gravesian values embedded in the brain allows a person to survive, activating the appropriate values for the given life conditions.

Following from the argument that 'the brain is smarter than we are', heuristics become "a rule or solution that is adopted to reduce the complexity of computational tasks, thereby reducing demands on resources such as time, memory, and attention." (CDP, 1999, p. 379). This approach is important for managers and management research into reducing complexity and making timely and suitable management decisions, because time and money within organisations are always finite.

Continuing to look at the history and acceptance of heuristics, there have been periods when it was used to justify poorly carried out investigations. This was frowned on by the traditional natural sciences, as logic and probability were discarded or were not a core discipline (Gigerenzer et al., 1999). These opposing views of quantitative and qualitative research methods are a key debate on the research of culture (Hofstede, 2001; Martin, 2002b).

Gigerenzer et al's., (1999) research into heuristics, states that between the early 1800s and until about 1970, heuristics was considered "a useful and even indispensable cognitive process for solving problems that cannot be handled by logic and probability theory." (Referring to Groner, Groner, and Bischof, 1993; Polya 1954). They continue by referring to Tversky and Kahneman (1974) that, in the fields of psychology and decision-making research, the overuse of heuristics in research where logic and probability theory were better suited led to ineffective research. How to achieve a compromise with the logical approach is dependent on the prevailing culture and 'life conditions' as these define what is acceptable in that culture. In Schein's (1999a) essay for survival in coercive culture, individual basic assumptions may remain hidden, defying logic to preserve survival, but remain ready for activation when conditions are conducive.

⁸ Schein 1999a – Gives an illustration of where the coercive brain washing leads to death by giving up, perhaps, a too-large gap between value systems.

To support the validity for a heuristic approach, Gigerenzer et al., (1999, p. 25) refers to Albert Einstein's 1905 Nobel winning paper entitled "On a heuristics point of view concerning the generation and transformation of light". Einstein used the word 'heuristic' to suggest that his view was incomplete and even false but still useful. Therefore, the framework produced by Graves (1977) for core-values can still be useful in defining hidden culture even if incomplete or open to debate.

Gigerenzer et al., (1999) showed how heuristics could be worthwhile in an uncertain and complex world where instant decisions have to be made and there is no time for 'accepted' rationality. Therefore, on limited information, individuals have to decide and judge and this can have grave outcomes for people within organisations. Gigerenzer et al., (1999) argue, based on their research, that by using different test models heuristic outcomes are often as accurate statistically as outcomes made with masses of data and information.

Gigerenzer et al., (1999) define three rules to use a heuristic process for understanding complex data.

1. "Bounded rationality – Decision-making agents in the real world must arrive at their inferences using realistic amounts of time, information and computational resources".
2. "Ecological rationality – Decision-making mechanisms can exploit the structure of information in the environment to arrive at more adaptively useful outcomes".
3. "Social rationality – The most important aspects of an agent's environment are often created by the other agents it interacts with"

(Gigerenzer et al., 1999, pp. 24-25)

By using these three rationalities, Gigerenzer et al., are trying to understand human behaviour and cognition, its adaptation to the environment and use as a heuristic guide to adaptive behaviour. This is similar to Schein's (1992, 1999) view of organisational culture. In cultural research, Martin (2002b) discussed putting boundaries around research to reduce complexity - a bounded rationality, and Graves (1977) discussed the influence of the environment, an ecological rationality. To develop management, science and innovation, for instance is a social issue. (Bhaskar, 1975; Dawkins, 1976; Clegg et al., 1999). This is described as the social rationality.

These three rationalities map on to Graves' framework as components of each of his eight core-value systems. Graves (1977) argued that core-values occur when changes in 'life conditions' activate 'thinking capacity' to be able to handle the complexity needed for survival in those given 'life conditions'. Therefore, from a Gravesian management and organisational culture perspective the following apply:

- a) Bounded rationality: - creates a need to make best use of time and information for survival in a given cultural environment.
- b) Ecological rationality: - by looking at the 'life conditions' and information from the environment that is filtered by the dominant cultural values for that culture to survive or change.
- c) Social rationality: - created by assessing 'core-values', 'memetic profiles' or 'basic assumptions' and how they interact between the individual, the organisation and the environment produces individual and group learning.

It is therefore possible to argue that heuristics is the interplay of intuition, basic assumptions, knowledge, experience and the hidden and espoused value systems, beliefs and artefacts that emerge as a learning process in a given environment. Graves examined heuristics to overcome criticism of the validity of his research process, in effect saying, as did Albert Einstein, "This is not complete but may prove useful". (Gigerenzer et al., p.25 1999).

Graves (1977), examines the "systematic and the heuristics value of his emergent cyclical conception" (Ch VII, pp. 1-2). He did this as he felt his research was open to the "criticism of contamination". This means that, because of his central role in the research and a lack of other similar studies, it might be biased. Therefore, to overcome this bias he looked at the heuristic value of his idea. However, he tested his theory against the main thinkers of his time. To support his research method he looked for three points: Utility, Verifiability and Comprehensiveness. He used Hall and Lindzey (1957) to define what a theory should be as set out following.

5.2. Graves' support for empirical and heuristic research

"...The theory itself is assumed and acceptance or rejection of it is determined by its Utility not by truth or falsity. In this instance, utility has two components – verifiability and comprehensiveness. Verifiability refers to the capacity of the theory to generate predictions which are confirmed when the relevant empirical data are collected. Comprehensiveness refers to the scope or the completeness of these derivations. We might have a theory, which generated consequences that are often confirmed but which dealt with only a few aspects of the phenomena of interest. Ideally, the theory should lead to accurate predictions, which deal generally or inclusively with empirical events, which the theory purports to embrace."

"It is important to distinguish between what may be called the systematic and heuristic generation of research. It is clear that in the ideal case the theory permits the derivation of specific testable propositions and these in turn lead to specific empirical studies. However, it is also manifest that many theories, for example, Freud's [1933] and Darwin's [1886] have had a great effect upon investigative paths without the mediations of explicit propositions. This capacity of a theory to generate research by suggesting ideas or even by arousing disbelief and resistance may be referred to as the heuristic influence of the theory. Both types of influence are of great importance and at the present stage of development within psychology are to be valued equally."

"A second function, which a theory should serve, is that of permitting the incorporating of known empirical findings within a logically consistent and reasonably simple framework. A theory is a means of organizing and integrating all that is known concerning a related set of events". (Hall and Lindzey, Theories of Personality 1957, p. 13-15 in Graves 1977, Chapter VII, pp. 1-2)

This approach argues that Graves' research is also a useful process for practical learning and starts to move towards 'theory into practice'. Taking Schein (1992), Flamhotz (2001), Young (2000), Gallivan, and Srite (2005) as know empirical studies. Then incorporating Graves' (1977) ideas as both an empirical and heuristic ingredient, offers the potential for a different approach to understanding the role of the individual in developing organisational culture.

5.3. Closing Arguments

The purpose of this chapter was to review the literature connections between Graves' work and heuristics. It reviews heuristics as a valued part of a research method and its validity as a part of a method for putting theories into practice.

Graves' work forms the focus of this research. His academic background, his respect for the work of Maslow and Schein, and the basis of his framework suggest a person with passion and precision in his research. On the other hand, he recognised the weakness in his framework and the need to use his work not just as theory but also as a practical learning method, which in essence is what a heuristic is. A heuristic is a learning model and in this researcher's view is based on the culture from which the learning occurs.

Graves' framework offers a way to look at basic assumptions, their relationship to the eight core-value systems and the memetic spread of culture. The core values, Graves argued, became embedded in the brain or, as this researcher called, them 'pathways in the mind'. Which pathways are activated as dominant are dependent on the environment, the individual and the organisation's needs to survive. This in turn results in specific cultures. Graves' unique approach is that culture starts within the individual but with a dynamic relationship to the environment and change.

This chapter has taken a specific view of heuristics as an intuitive process based on the mind's capability to make sense out of complexity. This view is supported by reviewing the work of Gigerenzer et al., (1999) Buzan and Buzan (2000) and Schein (1999). The connection to the biological and psychological facets of Graves' BPSS framework was discussed.

Graves' framework is a theory. The capacity of a theory is to create research or applications by suggesting ideas. These ideas may come about by arousing disbelief and resistance. This, according to Graves, is the heuristic (learning) influence of the theory. (Graves, 1977, referring to Hall and Lindzey, 1957)

Heuristics are processes of self-learning and discovery based on intuition, experience and knowledge while producing new experiences and knowledge. This is similar to the

ideas in Kolb's (1984) learning cycle⁹. Drejer (2000) developed this idea further by applying Kolb's cycle for the individual to organisational or group learning. Marsick and Watkins' (1990, 1993) ideas are based on the individual. They cover areas like openness, states of change 1st and 2nd order, which further supports Graves' (1977) idea of change between the value systems, but there are no practical suggestions on how to measure these states. Interestingly, to classify Kolb's idea as "experiential learning" (Drejer, 2000, p. 212) is argued by Beck and Cowan (1996) as the learning preference of the success driven value system (ER). (See Appendix 1 for other types of Gravesian value system learning.)

Heuristics are processes that can produce both positive and negative outcomes and Graves (Beck and Cowan, 1996) argues the degree of negative or positive outcome is a part of defining the dominant core-value systems.

These arguments suggest that forming assumptions occurs during a learning (heuristic) process bounded by cultural values and norms. Assumptions can also be negative or positive but according to Graves they are formed by value systems activated in a certain environment. Assumptions spread as memes between individuals and groups. The interpretation and relevance of basic assumptions is up to the individual and is influenced by the dominant Gravesian value system. A person with a given basic assumption, for example the correct way to dress in a tribe (BO) will dress one way and in a success driven (ER) culture will dress in another way. Therefore, expression of memes is dependent on their relevance to the memetic profile. There is a need to understand how the mind works in making assumptions and values if business is to integrate workers from different cultures. There have been several approaches to understand culture based on observation and behaviour (Maslow, 1971; Dawkins, 1976; Hofstede, Neuijen, Ohayv, and Sanders, 1990; Blakemore, 1999; Fog, 1999; Cameron and Quinn, 1999; Schein, 1990, 1992 1999; Young, 2000).

From previous chapters, evaluating culture in commercial organisations is achieved by external empirical methods. This means using outsiders to the organisation who are not part of the culture being measured to study that culture. Hofstede et al., (1990, 2001) is an example of this approach to understanding culture. This type of cultural research looks at the whole organisation to find espoused common values and belief

⁹ Kolb (1984) components of his learning cycle Action – Experience – Reflection – Planning – Deciding – New Action.

systems. This is useful and identifies the memes that are being used. However, it does not consider the hidden parts of culture within the individual that result in specific answers to questionnaires and interviews. Using the Gravesian framework, is argued to adds a means of empirically accessing the culture within the individual by defining a memetic profile. This then forms the basis for a heuristic for understanding self and the organisation. In essence, managers and researchers overlook the power of the brain to be smart, to decide subconsciously. These decisions can produce practical and workable outcomes. It is a purpose of this research to evaluate the heuristic effect of Graves' (1966, 1977, 1978) theory and if the framework can inform how basic assumptions, values, beliefs and change are formed.

The literature reviews on culture, memetics and heuristics have taken a specific view based on the researchers 'mindset' and worldview as stated in Chapter One. The research accepts this is a filtered view but argues that it still adds to the body of knowledge. Why is Graves' work import today? This research argues that Graves' work does not fit neatly within any one debate but does give another 'lens' for interpretation of these various debates. Two examples referred to in Chapter Three on culture and creativity McLean (2005) and culture and environmental Fernandez, et al (2003) do not really define how to measure the role of the individual in culture. Both agree that culture by their definitions has an affect on actions to improve creativity or environmental issues. Fernandez et al (2003, p641) referring to Lawrence and Lorsch (1967) "that culture may facilitate the adoption of a specific strategy if there exists strong coherence between them. On the other hand, culture may be an 'insuperable barrier', which hinders and delays change". This research argues that Graves' work is still important as it provides a framework for measuring units of culture. This in turn allows another 'lens' in which to understand the paths needed for change and evolution of that culture. Research centring on the individual is rare in cultural research because of the complexity it reveals; this research argues that Graves' work adds simplicity to understanding culture even 50 years later.

The approach for this research is to build a social or 'cultural DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). This model is used to understand the role of the individual in organisational culture. In these research questions, the proof of the usefulness of Graves' framework is when the theory is put into practice, the utility of a theory. The next chapter looks at the research method that allows for this combination of empirical and heuristic by combining quantitative and qualitative practices (Action Research).

Chapter 6

Research Methods

6.0. Introduction

This Chapter looks at the underlying research theory and philosophy used for evaluating Graves' (1977) work in practice. This research has adopted a pragmatic methodology of this is what I did and this is what happened. This is an adaption of the phenomenological¹ interpretist approach – neo-empiricist. I am interpreting the data through my filters therefore; a breakdown of my filters is included using the Gravesian framework. The chapter outlines the pilot study at Oracle (UK) Ltd and the case study at UWC Ltd as part of a culture change programme. As the methods varied slightly the details are covered within each case study.

The application of the theory into practice part of the research seeks to understand the usefulness of Graves' framework in a practical setting. This practical phase was concurrent with the literature reviews and allowed for an iterative and reflective review between the literature and understanding Graves' ideas in practice. The researcher also became part of the research's learning cycle (Kolb, 1984; Gill and Johnson, 1997; Denscombe, 1998; Drejer, 2000). Table 6.0 (next page) gives an outline summary of the research method.

The first need in this practical phase was to find an organisation willing to be involved in a pilot study to learn 'how to' use Graves' ideas. (Note: the pilot study was for the researcher to discover how to use the Gravesian framework in practice). Through business contacts Oracle UK Ltd offered access to their European e-Business advisers. Self-reporting questionnaires on Values and Change States developed by Graves (1977), Hurlbut (1979) and Beck and Cowan (1992) were used to uncover the hidden values and beliefs of the participants. As the use of self-reporting questionnaires² rely on the honesty of the individuals answering them, other views for instance stories, was needed to evaluate the degree of self-honesty. These other views

¹ The study of things as they are perceived or as they are, based on the conscious experience of the researcher and interpreted through the researchers filters of values, beliefs, basic assumptions and artefacts. (Based on Parry, 2003 and Easterby-Smith, Thorpe and Lowe, 1991)

² The Values Test and Change State Indicator questionnaires see Appendix 3.

allowed the participants to give an opinion of the espoused values and beliefs of the Oracle organisation.

Table 6.0 Summary of the research process

<p>Literature Reviews (Area 1)</p> <ul style="list-style-type: none"> • Culture – Background • Graves' Framework • Memetics • Heuristics <p>Chapters 1 to 5</p>	<p>The culture background laid the foundation for where Graves' (1977) work might fit in cultural research. Organisational culture is looked at as a group. This research looks at culture from the view of an individual. The conflict is between the individual's culture and a shared organisational culture. Support for Graves' ideas of embedded pathways in the mind that form culture was by looking at memetics. How culture could be reproduced by memetics and if a biological basis for Graves' ideas. Heuristics as a brain role for institutive decisions based on values and beliefs. The review suggests there is a sound basis for Graves' ideas. This leads to a question: Is Graves' framework of practical value in business as a process for changing or understanding culture?</p>		
	<p>Practical Evaluation (Area 2)</p> <ul style="list-style-type: none"> • Methods & Philosophy • Oracle Pilot Study • UWC Case Study <p>Chapters 6 to 8</p> <p>Summary Detail Table 6.1.</p>		<p>This phase looks at the process of the research. The literature review suggested a need to understand individual culture as a part of culture in organisations and teams. It also showed a business need. The use of the principles of action research gives an iterative process in which this research sits. The pilot study uses Graves' framework to look at the individual and shared culture and 'how to' use his framework. Revealing the hidden values, beliefs and change and how these relate with the individual's view of the shared organisational culture. The experience and knowledge gained is then used in a case study to help with culture and behaviour change, a practical problem.</p>
		<p>Research Review (Area 3)</p> <ul style="list-style-type: none"> • Findings • Discussion <p>Chapters 9 and 10</p>	<p>This final phase reviews the knowledge and experience gained for the two studies and starts to build a model of a cultural evaluation process that might be used in business and organisations in general. Review the literature contribution and the role-played by culture of researchers in research. The last chapter discusses issues, limits and future research and how change occurred in the UWC study.</p>

The questionnaires³ chosen to gather these other views were to be relevant to Oracle's business and were to provoke discussion. This allows for Gravesian Individual values beliefs and change to be discussed with the espoused values and beliefs revealed by the other questionnaires. This approach fits the research aim by taking Oracle's espoused shared values and beliefs and contrasting them with the individual's values and beliefs of the Gravesian framework. This then helps to inform the role of the individual in organisational culture by revealing the 'hidden' meme-complex values, beliefs and change states. The rationale is that the Gravesian questionnaires centre on the individual while the other questionnaires centre on the organisation as a collective.

³ The other questionnaires are shown in Appendix 6 but discussed in the next chapter.

This then also allows a Gravesian integrated approach to add understanding of the role of the individual in organisational culture. The summary of the main areas is in Table 6.1.

Table 6.1 Practical Phase – Summary of main areas	
Pilot Study Oracle Ltd	<ul style="list-style-type: none"> • Values & Change questionnaires • Espoused business values questionnaires (Marketing & Strategy) • Semi-structured interviews • Analysis using Graves' framework
Case Study UWC Ltd	<ul style="list-style-type: none"> • Values & Change & ProcessSCAN questionnaires • Espoused values questionnaires (Ways of Working) • Feedback and training for participants • Analysis of documents and interviews • Gathering of perceptual data • Analysis using Graves' Framework
Chapter 7 covers the detail of the pilot and Chapter 8 details of the case study.	

Another part of this practical phase was to improve the researcher's knowledge by becoming trained by Dr. Don Beck. This learning was to inform the 'how to' evaluate Graves' work in practice by exploring how others were using his ideas.

Chapter Three on Graves' ideas reviewed the theory but not the practical applications and these raised questions on what others were doing in this field. The researcher judged that a starting point to this exploration was to become part of the community of practice. The training revealed two areas of weakness. One area was the concentration on values with little attention to change and the other area was that there was no defined practical framework for using Graves' ideas. The training was useful to explain why Graves' work was not taken seriously in organisational culture. The researcher argues this was due in part to the Gravesian ideas not being placed in context with other cultural and social research and to the framework being explained as an all-encompassing theory. The literature reviews revealed no academic papers published on practical use of the framework in organisational culture. The researcher used the pilot study to see how practical it was to use Graves' framework in a commercial organisation.

The choice of Oracle for the pilot study was because of their interest in culture development and researcher's previous association as a customer. Oracle could also offer a broad range of participants from different countries. This study at Oracle hoped to reflect the cross cultural work in South Africa of Beck and Cowan (1996). Oracle's

selection was a personal choice made by the researcher and was considered not to influence the research outcome as none of the participants or this part of the company was known to the researcher. Companies willing to be involved with a very different approach to understanding social DNA are few and far between in the researcher's experience. A personal choice or area of interest is acceptable in an action research template; this is discussed in detail later. (Clegg and Hardy, 1999).

The Oracle study was used to gain experience in practice. The choice of company for the next case study was made for similar reasons to the Oracle pilot study. The researcher found that whilst working in the business consultancy market there was a reluctance to use a framework like Graves' that had no examples of practical outcomes, for instance, improved business performance. Commercial organisations need assurance that their investment in using this framework would give business benefits. Therefore when the opportunity arose as part of the researcher's consultancy work to be part of a culture-change review project that allowed the use of the Gravesian framework, it was taken. This project was timely as it allowed the experience gained from the pilot to inform the consultancy project. The project was on the influence on commercial performance of cultural variation in the supply chain of a UK water company (UWC). UWC's need was to improve the effectiveness of their capital investment programmes. This opportunity allowed the use of Graves' framework to show its usefulness for understanding the role of the individual, group and organisation in developing new cultures and behaviours. The expected outcome was for change to occur in the supply chain to improve overall company performance.

As this research is focused on uncovering hidden values and beliefs it needs a research method that allows for an iterative process that could be applied and accepted in a managerial environment. A clear process of checks and balances is needed to give business benefits. The research process (Table 6.0 and 6.1) of self-selecting companies was used. This allows evaluation of individual and espoused values, beliefs and change and shared values, beliefs and change profiles. The findings would then lead to the basis for discussion and feedback allowing an iterative cycle. The template⁴ provided by the Action Research (AR) allows this degree of flexibility while still being a recognised academic method for social research (Denscombe, 1998).

⁴ Template – a flexible overlay or map as defined by Beck and Cowan (1996) and in Chapter 3 p. 35.

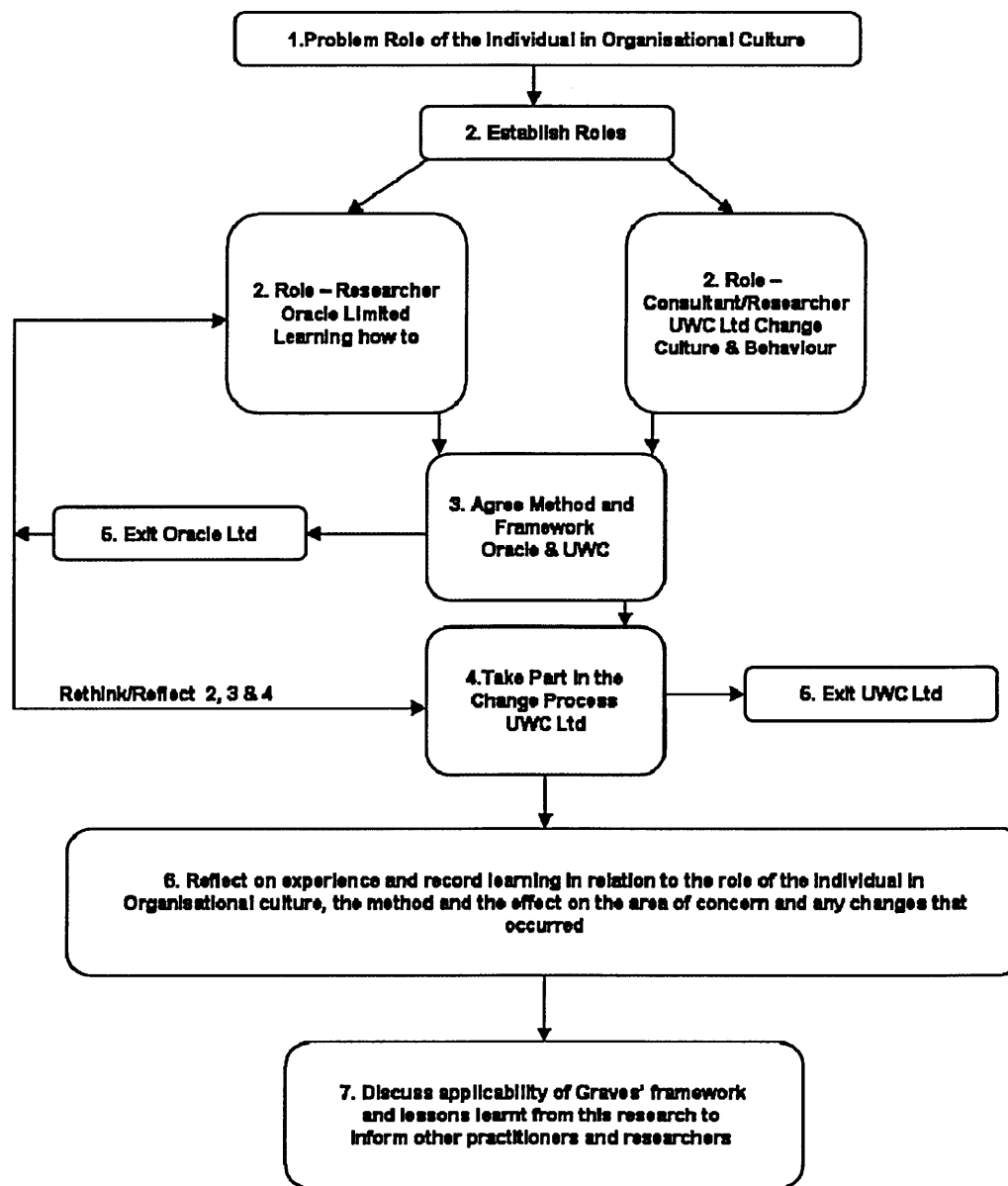
This next section of this chapter reviews the rationale for using AR as a template (guide) for this research.

6.0.1. Why use Action Research as a template?

The use of Action Research (AR) provides a set of guidelines and principles for carrying out research in a social setting that is focused on practical problems in real organisations. Culture occurs in social settings (Denscombe, 1998). This research is not a pure action research project since even though change occurred in the UWC it was not the prime purpose of the research. The prime purpose was to evaluate Graves' framework and its use in practice and to build a gap model between the 'hidden', the 'espoused' and the 'perceived'. Therefore change became a by-product while being part of a cultural change and behaviour review to solve a practical problem at UWC. AR is suitable when taking a managerial view as problem-solving in practice. Avison, Lau, Myers and Nielsen, (1999: 94), argue that, "to make academic research relevant, researchers should try out their theories with practitioners in real situations and real organizations." In this research the researcher fulfils the roles of an academic and a practitioner and consultant to UWC.

The consultancy project at UWC was a planned review of a naturally occurring event: the influence of culture and behaviour in the supply chain. (Gill and Johnson, 1997). In the UWC study the review was monitored to see "whether or not that action [using Graves' framework] has produced the expected consequences." (Ibid p59). The expected outcomes were business performance improvements in UWC's supply chain. Another important part of AR for this research is that "the researcher acts upon his or her beliefs or theories" (Ibid). Therefore, as discussed previously, revealing the hidden beliefs of the researcher adds value to the research and this is not currently a clear part of an AR process. Figure 6.0 shows an outline of the AR process flow based on Checkland and Holwell (1998). Figure 6.1 shows the AR template for this research.

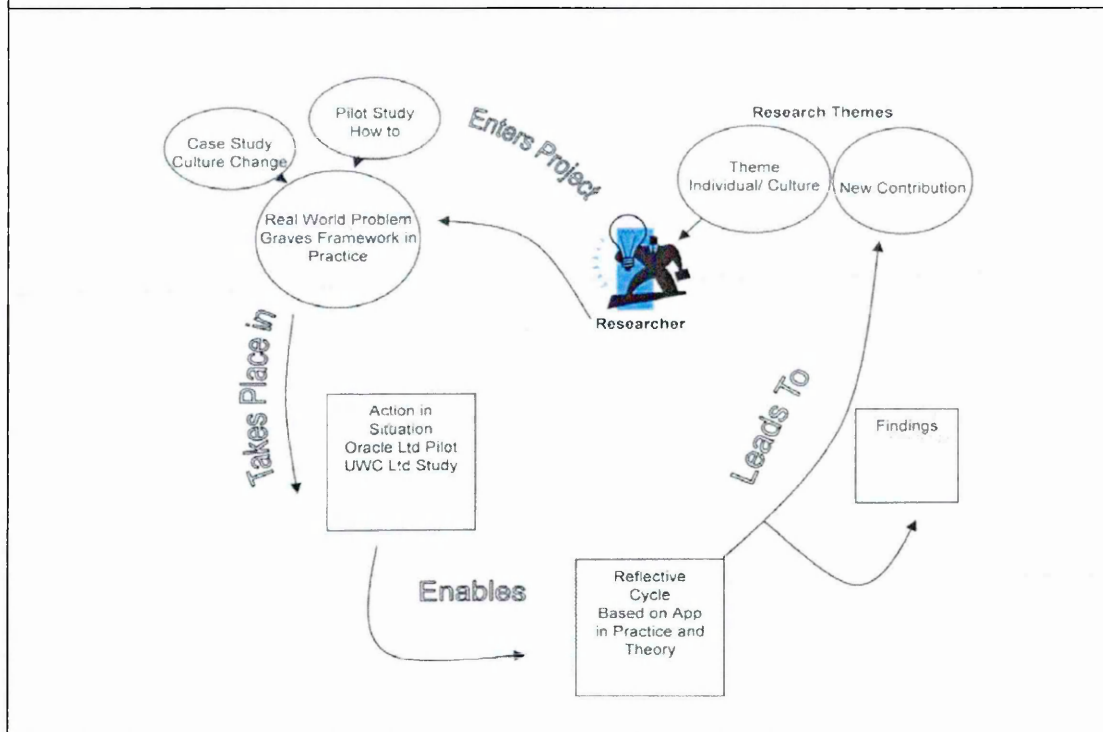
Figure 6.0 Action Research Process Flow - Based on Checkland and Holwell (1998)



Notes: the left hand side covers the learning in a practical setting at Oracle and the right hand side covers the implementation of that learning to understand culture and behaviour at UWC. These are brought together in 6 and 7 to inform the findings. The details of each process are covered in chapters seven and eight with an overview only in this chapter as each case study is slightly different.

Figure 6.1 shows the action research template used for this research. The Oracle study was to learn how to use Graves' framework. The UWC study was to tackle a 'real' problem and be part of a change process, then to reflect on what had taken place and from the findings produce a model for use in practice and contribution to knowledge.

Figure 6.1 Action Research Template – Based on Checkland and Holwell (1998)



Using an Action Research (AR) template addresses some of the key methodological debates in today's management research by attempting to look at multiple points of view, as Johnson and Clark (2006) state "research methods available to the business and management researcher are not neutral devices" (p xxi). This researcher believes that in a social setting as for this research, it can never be objective and AR is a way of addressing these concerns. In traditional positivistic research, "according to Locke [1690], our senses can only objectively reproduce what he called primary qualities - size, weight, motion and quantity - and only knowledge that was traceable to these simple, quantifiable, sensations is acceptable to science" (ibid p xxxi).

The Gravesian framework is attempting to measure an "'inner' subjective processes" (Ibid p xxxi) and 'subjectivity' is outside the realms of this traditional approach. However Johnson and Clark (2006) continue "in contrast, neo-empiricists would argue that the actors' subjective realm is not only important to our theoretical explanation of their behaviour but it is also possible to access it, describe it, and hence theoretically use it to explain aspects of human behaviour, in an objective manner" (p xxxi). This research could be considered an empirical study but in the modern tradition i.e. neo-empiricist. The use of subjective data which is then interpreted is of increasing relevance to business and management research. According to Johnson and Clark (2006) this is a

key assertion of neo-empiricists together with being able to access the participant's (actor's) inner subjective logic. Neo-empiricists also embrace the notion of '*verstehen*' which this research interprets as reconstructing meaning from the researcher's point of view. Therefore this research posits that by using the neo-empiricists approach ".....for those management researchers who view the collection of qualitative empirical data as capable of ensuring objective truth in a correspondence⁵ sense (see Alvesson and Deetz, 2000: 60-74) yet who simultaneously reject falsificationism⁶ in favour of the inductive generation of theory "grounded" in observation" (ibid p xxxii). In addition, the AR template offers a way to give a degree of objectivity that can be injected into what is a subjective world of inner logic within the mind of the individual.

The next section covers the principles of action research.

6.0.2. Principles of Action Research

Action Research (AR) becomes a set of guiding principles for this research. AR as a method has a subjective and objective focus which allows for the researcher to be an insider as well as an outsider. This was a concern discussed earlier by Martin (2000a, 2000b) in a review of culture research in Chapter Two on which approach to use. AR gives the flexibility for subjective (qualitative⁷) interpretation by the researcher and the researched, but also allows the quantitative⁸ part to inform this subjectivity. This is important as an investigative method as each investigation is unique. However unique the findings are they can be generalised as a helpful learning experience producing a heuristic. Therefore the experience, knowledge and learning gained can be useful in other research contexts. This research also uses perceptual analysis of the workplace, stories and documents to reveal the espoused values and beliefs of UWC's contractors, allowing a gap analysis of Graves' framework. Perception (subjectivity) is

⁵ Correspondence Theory of Truth - A belief is true as long as a fact corresponds to it - an Aristotelian theory.

⁶ Falsification – Testability of a theory by seeking disconfirmations or falsifications based on the ideas of Karl Popper.

⁷ Qualitative - research involving investigating participants' opinions, behaviors and experiences from the participants' points of view.

⁸ Quantitative - The process of measurement is central to the research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships.

part of a reflective process and depends on the values and beliefs of the person doing the perceiving. Therefore there is a need to understand the hidden beliefs of the researcher and these are addressed using the Gravesian framework as a unit of measure for consistency and common frame of reference.

AR as an inclusive reflective process is argued to encompass the heuristic principles of "bounded rationality, ecological rationality and social rationality" as argued in Chapter Five on heuristics. (Chapter 5; Gigerenzer et al., 1999). Graves (1977) also raised the argument of the heuristic value of a theory. The rethinking and reflection cycle shown in figure 6.0 allows for informed (intuitive) decisions within a time-frame about the effectiveness of the research findings. Bounded rationality creates a need to make the best use of time and information in a given environment. [Oracle and UWC]. Ecological rationality covers the life conditions and information about the environment and how culture filters these. [UWC]. Social rationality is created by assessing memetic profiles and the interplay between the individual, the organisation and the environment. [The researcher, Oracle and UWC]. This heuristic view is not clear in AR, however; the research has boundaries and a context (bounded rationality) and AR's strength is a "high ecological validity" (ecological reality) that "can avoid problems associated with experimental artefacts." (Gill and Johnson, 1997, p. 60) This research argues that understanding the hidden beliefs uncovers more artefacts within the researcher and the researched, adding extra information to inform the reflective process.

This research takes a broad view of the use of AR, in that the philosophical principles of 'transcend and include' (Graves, 1977), and autopoiesis (Morgan, 1993; Quick, 2003) and the tetrad theory (Post, 2003; Clark, 2004) are part of action research's iterative reflective cycle. Each part builds on previous parts while the original is still accessible. The 'transcend and include' model is like a set of Russian dolls, one inside the next. Chapter Three discussed this idea as part of Graves' work. Within this research the information from the literature reviews, Oracle and UWC studies with the business experience and knowledge of the researcher is used in the reflective cycle. However, this is within the parameters of the role of individuals in organisational culture and it sets the boundaries of the research to inform the findings. Martin (2000a, 2000b) argued that all cultural research had artificial boundaries and this research is no

exception, but, by using the Gravesian framework, these boundaries can be stretched⁹. This research argues that starting with the individual allows the crossing of these artificial boundaries as individuals live in multiple cultures and environments outside the organisation.

To study culture by looking at the roles a person's values, beliefs and states of change play in culture, the researcher needs to be involved. The researcher fulfils two roles: one as a researcher which might be described as a detached (semi-objective) external role and the other as a person. A person meaning as a complex individual with 'hidden' emotions, knowledge, experiences using a different set of values and beliefs, when 'acting' the 'role' of researcher. These two roles may use different values and states of change. The researcher facing outwards projecting an expected set of values and beliefs (espoused) as opposed to the 'hidden' values and beliefs as described by the Gravesian framework. In the Oracle study the role was that of researcher looking for experience and knowledge. In the UWC study the role was more complex as a researcher, a consultant and an agent of change. In other words, a researcher can for example play the role of consultant which may be different to that of the researcher as a person. In Graves' (1977) terms it is expressing one values profile (espoused¹⁰) while suppressing or not revealing the hidden personal values profile. This argument is only valid if the person is in an 'open' state of mind and has the Gravesian capacity to make these distinctions. (Graves, 1977; Beck and Cowan, 1996)

The researcher's involvement is never neutral as each individual has a unique world-view (Hofstede, 2001). This world-view adds distortions and filters to the research. To be involved inside a culture the individual cannot treat that culture as an objective reality. The individual becomes part of that culture. Therefore if this interplay between research and researcher is excluded, then it is easy to miss a rich information source. To further explore that culture is a social phenomenon, Chapter Four discussed an argument that all science [research] is a social issue. One definition of a social issue

⁹ Boundaries. In this research because Graves argues that culture is a series of 'pathways in the mind' within the individual, the individual carries other cultures into the organisation pushing the boundaries outwards to encompass the community around the organisation.

¹⁰ Espoused – for this research this means statements made by or about the company. The speaking about shared values and beliefs. "Culture is reflected in the visible aspects of the organization, like its mission and espoused values." (McDermott and O'Dell, 2001, p. 76)

from Action Inquiry, that is applicable to AR and to culture, is that culture is a social experience and interplay. "Action inquiry is about discovering not just objectively, but the conscious, spontaneous interplay among subjectivity, inter-subjectivity, and objectivity." (Torbert, 2003, p. 3). These arguments are important for this research as according to Easterby-Smith et al., (1995) AR researchers find it hard to claim independence. Therefore recognising this and including the researcher's values profile may turn a possible weakness into a virtue.

Therefore, as culture is argued as a social response to a certain life environment, how should we evaluate the work of Clare W Graves? Graves himself (1978) argued the data had told him it was so. Is this, then, an objective approach? From this statement it assumes that Graves saw himself as being independent of what he was researching. From listening to the 1978 recording of a lecture, he comes over as being order and process driven and maybe a digital thinker¹¹. However when reading his 1977 work there appears a 'hidden' complexity, for example, by introducing the heuristic power of his theory and framework discussed earlier, rather than only an expected 'traditional' research approach. If we had had a memetic profile of Graves it would have revealed his hidden values and beliefs and the influence on his work. In most research it is up to the reader to reveal the researcher's values, beliefs and assumptions. This in turn leads, for example, to the heated debates discussed on memetics as a 'science' in Chapter Four.

The reflective process within the AR literature is only sketchily defined. (Susman and Evered, 1978; Easterby-Smith et al, 1995; Gill and Johnson, 1997; Checkland and Holwell, 1998; Clegg and Hardy, 1999). However there are clues from hermeneutics¹² and grounded theory¹³. AR helps balance the influence of the researcher's

¹¹ Digital Thinking "Left Brain" STRONG POINTS:• Penchant for detail/precision.• Linear/logical problem-solving.• Maintains neat/tidy categories.• Runs quiet/steady operations. BLIND SPOTS:• Boxed-in view of "reality."• Inappropriate/stifling rigidity.• Blindly-driven by clock-tick time.• World reduced to bits/bytes. (Beck and Cowan, 1992).

¹² Hermeneutics – a theory of interpretation of mainly written text with a cyclic nature of involvement going from pre-understanding, leading to understanding leading to pre-understanding and so on. "holistic understanding of a social system" (Gill and Johnson, 1997, p. 74).

¹³ Grounded theory – an inductive process with minimal privileged knowledge "this means looking at the same event or process in different settings or situations" (Easterby-Smith et al., 1995, p. 35).

involvement, the distortion from different world-views, by referencing these against other views from questionnaires, documents and discussion. This allows quantitative and qualitative methods to work together to produce an integrated outcome. Within this template the Gravesian memetic profile of the researcher is used to understand the influence of the researcher. This helps with the research aim of having a Gravesian integrated framework for assessing the role of the individual in organisational culture; the researcher is also an individual.

A further interesting view on this adapted approach of AR is the assumption that organisations are organised and therefore are cultures¹⁴. This in Gravesian terms (Beck and Cowan, 1996) is dealing with chaos as a change preference (Chapter Three). In the UWC study this chaos may have been true because even though project and consultants roles were defined (Figure 6.0) the Gravesian framework had not been used before. This apparent organisational chaos is supported by Fisher, Rooke, and Torbert (2003), referring to Katz and Khan's statement: "To call a social structure organized means that the degrees of freedom in the situation have been limited." (Katz and Khan, 1978, p. 277). This limit of freedom was an objective of bureaucratic organisations but Beck (2002c) shows that certain values profiles can use the bureaucratic system to make it chaotic. Therefore, by using a flexible approach and referencing various views the internal and external parts of culture that are at play can become visible from seeming chaos.

Graves' work lends itself to being one part of an understanding of culture by using his framework to define some of the 'messiness' of culture. The framework adds a measurement system which is neutral to the organisation, as its basis is within the individual. This research's approach fits a 'transcend and include' model. This allows the individual, the organisation outside work and the environment to become transcended and included. The reflection on the parts of the process builds on the next and becomes part of the previous, so seemingly what is chaos is a natural process. (Bloom, 2000). This section argues the complexity of interplays between the actors in researching culture. There is a place and need for a descriptive rather than a prescriptive approach to allow more examination of the characteristics of culture.

To further support a flexible integrated approach there is an increasing move towards Mode 2 management research as outlined in Chapter Two. This follows a debate about

¹⁴ 'Organisation' and 'culture' are interchangeable words (Martin, 2002a, 2002b)

the nature of management research that argues a need for an all-encompassing transdisciplinary approach, an integrated approach. MacLean et al (2002, referring to Tranfield and Starkey, 1998), support the need for meta-theory to act as an umbrella or "holon"¹⁵ using Wilber's definition (2000 p. 40) and Checkland's AR (1998) term. Graves' (1977) framework is a contender to be a meta-theory, an integrator for the role of the individual in culture. This research is only transdisciplinary in so far the Biological, Psychological, Social and Systems (BPSS) are part of Graves' framework. However in the UWC study the researcher was part of a professional team of engineers, accountants, commercial and business people that were available to give other views.

On the positive side, the flexible approach of AR when used with a series of relevant management tools and techniques becomes unique to a given context with a common denominator of Graves' framework. This allows an integrated view but within a time and cost acceptable in a business context (McAuley et al; 2007). On the negative side, this approach is academically questionable because of its subjective nature. However, if the context is clear from a managerial view of the role of the individual in culture, as in this case, then the research still has weight as a learning process. If this approach leads to a different understanding of organisational culture and change then this approach is also valid. MacLean, *et al* (2002) referring to Baert (1998, p. 28) "point out that epistemological difficulties may arise.....when the object of research is also the medium through which that research becomes possible". As with MacLean, this research is in a similar predicament as it is researching Graves while using Graves' framework. However this dilemma can be less of a concern by relating Graves' framework and questionnaires to other sources of information (interviews, discussions, feedback, text and espoused values and belief questionnaires). The questionnaires forming one part with interviews, document analysis, stories and perceptual data forming the other parts. The weakness is perhaps using the Gravesian framework to analyse these because they are through the researcher's world-view. The AR template uses an approach called "triangulation"¹⁶ (Gill and Johnson, 1997, pp. 159-160) to help

¹⁵ "A holon is a whole which is a part of other wholes" (Wilber, 2000, p. 40 and Checkland, 1998).

¹⁶ Denscombe, 1998 describes the methodology of triangulations as 4 points in the centre the "topic [role of the individual] and method 1 observation, Method 2 interviews, method 3 documents and method 4 questionnaires" (p85).

with validity and reliability of research. The final test of an AR template in practice is for a change to take place as part of the research.

These dilemmas on validity, reliability and the role of the researcher are not new. The next section covers a review of the history of AR and how to address these concerns. This also provides further rationale for using AR principles in this research.

6.0.3. Action Research

Action research (AR) has its roots within a practical approach for small-scale social projects dating back to the 1940s. (Denscombe, 1998). The term action research is credited to Kurt Lewin (1946), but The Tavistock Institute where Lewin worked did not specifically use the term 'action research' until the 1960's. (Gill and Johnson, 1997, p. 61). According to Darwin et al., (2002, p 293) "Lewin argued that in order to 'understand and change certain social practices, social scientists have to include practitioners from the real social world in all phases of inquiry' (quoting McKernan, 1991 p10)." Lewin was credited with making action research an acceptable method of researching social situations. (Darwin et al., 2002).

Darwin et al., (2002 p294-295), looking at the history of AR, showed its usage in research from education to communities and is summarised as follows. 1. Nineteenth and early twentieth century by the Science in Education Movement. 2. Experimentalist and progressive educational work, notably John Dewey, (Referencing Mckernan, 1996). 3. Training in group dynamics and social psychology (Referencing Mckernan, 1996). 4. Post 1945 Reconstructionist Curriculum Development activity. 5. Used in the war on poverty 1960 USA and 1970s UK to tackle social problems. The philosophy behind AR is a straightforward cycle of Edward Deming's Plan, Do, Study and Act (PDSA) from Stewhart (1931). (Referenced in Anderson, Rungtusanatham and Schroeder, 1994 referring to Deming, 1986). This work on quality is related to the early work of Graves (1966) "Deterioration of Work Standards". This PDSA reflective spiral is also similar to strategy development (IDEA) of Investigate, Decide, Enable and Act that in turn is similar to the AR cycle of Observe, Reflect, Plan and Act. (Darwin et al., 2002 p297)

Action Research needs to be more widely used in organisational work particularly for the application of theory into practice. Darwin et al., (2002) support this view. "Action Research merits greater consideration in organisational activity than has been the case to date. This is not least because the above factors [cyclic nature] can easily be

translated into change management, where there has been growing focus on the need to involve practitioners, to obtain commitment through participation, and to address issues of power." (Ibid p 297-298). Change is also a key part of the Gravesian framework (Graves, 1977; Beck and Cowan, 1996).

However, in this research a specific view of AR is taken that is outlined following. This adapted AR considers that the researcher is also the practitioner.

According to Denscombe (1998) the basis of AR is in five principles:

- Involvement in practical issues.
- The need to make a change.
- To be participative not just the subject of research.
- To apply some academic rigour to the research process.
- Feedback loop - reflective.

From this, Denscombe (1998, pp. 57-58) states there are "four defining characteristics of action research"

1. "Practical. It is aimed at dealing with real-world problems and issues, typically at work and in organisational settings. [The role of the individual in organisational culture, the need to change culture at UWC]"
2. "Change. Both as a way of dealing with practical problems and as a means of discovering more about phenomena, change is regarded as an integral part of research". [The Oracle study discovers more about the phenomena and the UWC study covers the practical. The UWC study was part of a process to change culture and behaviours. Graves' framework gives an understanding of the phenomena to allow change to happen. Adopting the framework by UWC as a business tool occurred from this research.]
3. "Cyclical process. Research involves a feedback loop in which initial findings generate possibilities of change. These are then implemented and evaluated as a prelude to further investigation". [This cyclic process is core to this research Figure 6.0]
4. "Participation. Practitioners are crucial people in the research process. Their participation is active not passive". [In both studies researcher and participants were active and not passive].

On the surface, this argues that AR fits nicely into an integrated approach that is iterative and can produce a practical outcome for all the parties involved. MacLean et al., (2002) argue that AR and its sister methods (e.g. cooperative inquiry, clinical method) have not embraced the transdisciplinary holistic¹⁷ approach. This means most research is usually from one discipline, for example social science or psychology. This transdisciplinary approach allows more and varied points of view and is the basis of moving towards a Mode 2 research method for researching organisational issues. (Ibid).

Taking the medical definition of 'holistic'¹¹, AR needs to look at the social and mental characteristics rather than just at a symptom. For instance, the organisation which says 'we are not innovative enough' is a surface expression of something deeper that is the problem. However, what value and belief systems caused this statement as part of a mental characteristic? An argument here is that a mental characteristic can only live within the individual. Therefore there is a need to understand the individual.

Denscombe's comments on AR (1998, pp. 58-59) suggests an integral approach that includes self-reflection to produce practical outcomes. He refers to Lewin (1946, p. 35). "Research that produces nothing but books will not suffice." This leads on to Somekh's (1995, p. 34) comments that action and research are not two separate stages. "Instead, the two processes of research and action are integrated," Denscombe then refers to Edwards and Talbot (1994, p. 52) for the need for a professional process which is achieved "through structured self-reflection" of all parties involved in the research. Denscombe (1998, p. 59) refers to the spirit of AR where the researcher "needs to investigate his or her own practices with a view to altering these in a beneficial way". This is argued to mean that, as well as the research producing change as a confirmation, change within the researcher can be a form of research confirmation. The mental characteristics and understanding of 'self' fit well in the Gravesian framework based on 'pathways in the mind' or embedded value and belief systems. Johnson et al., (2006) recognise these mental characteristics and define them as "individual experience - mental (or cognitive) is the models people build over time to help make sense of their situation" (p46). The researcher's sense-making brings change.

¹⁷ Holistic - (OED, 2001, p. 874) "(adjective) Chiefly philosophy characterized by understanding the parts of something to be intimately interconnected and explicable only by reference to the whole". **The medical definition** "characterized by the treatment of the whole person, taking into account mental and social factors, rather than just the symptoms of the disease".

To achieve academic rigour it is important to carry out the research in a systematic way (Bell, 1999). Another principle that Bell (1999, p. 9) refers to is "truth" of the outcome. "In action research 'theories' are not validated independently and then applied to practice. They are validated through practice." (Ibid). This is a practical approach involving all the participants in reappraising, reviewing and reflecting, and then agreeing on an outcome that produces learning by accounting for the social part of culture and of science as a social process.

However, there has to be pragmatism in the research as we do not live in an ideal world and the researcher has to lead the process, which means some form of privileged knowledge. "There are as many realities as there are ways of perceiving and explaining". (Johnson and Duberley, 2000, p. 99). Privileged knowledge or preunderstanding needs expressing but Eden and Huxham (Clegg and Hardy, ed. 1999, Ch 10, p. 278) view it as more a matter of timing: being a cyclic process preunderstanding is always changing with the research. So at each stage in the research design it includes learning. (Figure 6.0 and 6.1).

Privileged knowledge may lead to a specific area of interest. Gill and Johnson (1997) argue that it is acceptable for this interest in the research of an idea, theory or theories to come from the researcher, the participant, or a combination of both. In this research the interest is in looking at the role of the individual in culture in a Gravesian context. As long as this is recognised, presented and agreed with the participants, this is acceptable within an AR template. Eden and Huxham further argue that this approach is valid. "The areas in which action researchers choose to work will often be influenced by their interest in the kind of theory that already exists (or does not exist) in the area." (In Clegg and Hardy, ed. 1999, p. 278).

This debate on validity of research has led to a split of AR into a more 'traditional' approach to research called Action Science (AS). The term 'Action Science' (Gill and Johnson, 1997, p. 72, referring to Argyris, Puttman and Smith, 1995) proposes that action research is viewed by the social scientist as problem-solving and not theory-testing. This research argues that it is testing the theory that Graves' framework is useful for understanding culture. On the other hand the UWC study uses it to inform a problem on the effect of changing culture.

Argyris et al., (1995) suggest that undertaking rigorous empirical research is unhelpful as it leaves out, for instance, the value of stories and perceptions. This empirical-only approach should be distinguished as 'action science' he argues. This research is argued to be both AR and AS since it has an ingredient of the empirical by measuring and defining hidden values, beliefs and change.

Raelin (1997) asked a similar question: are action learning and action science different? Gummesson (2000) argues that action science and action research are no different. Each is a label with different value systems. Neither approach can be argued to be a 'holon' or a complete system for an integrated approach. Nor will either provide an integrated approach or meta-theory because organisational culture studies need quantitative information and learning as part of the reflective cycle for acceptance in the business environment.

To make the AR arguments more complex there are parts of action learning (AL) within AR. This is likely to come about as individuals combine and form improvised learning sets. "Action learning is not so much a research approach, as an educational process that makes extensive use of action research methods". (Esaterby-Smith, Thorpe, and Lowe, 1991, p. 8). The learning is a result of the participants seeking to make some form of "meaning from the experience" (Raelin, 1997, p. 25) leading to a heuristic. In the UWC study a room was set aside as a 'sense-making'¹⁸ centre, to make meaning of the UWC cultural review process.

To help with this complexity involved in the AR template (Figure 6.0 and 6.1) Rapoport (1970) refers to three problems in action research that, if correctly addressed, can ease the use of the process.

1. Ethics - Is the client acceptable to the researcher and is confidentiality upheld? [part of defining of the roles, Figure 6.0]
2. Goals - Mismatch between objectives of the client and the researcher. A need for a practical solution opposed to academic outcomes [The process of defining roles reduces mismatch and both outcomes are not mutually exclusive and this research has both academic and practical outcomes].

¹⁸ Sense-making: Mohr (2003, p. 682) sense-making is "processes through which people make their situations accountable to themselves and others."

3. Initiatives - The pressures in the relationship must be dealt with. The need is for researchers to provide a service, and to see the systems as open, and finally, the researcher must provide support and allow participation.

These concerns are addressed later in the chapters on the Oracle and UWC studies as part of their detailed design. Also addressed is the iterative cycle of AR needed for learning and practical outcomes. The next section covers the outline of the research design.

6.1. Research Design

The research design is straightforward and is separated into three areas (based on Tables 6.0 and 6.1). These areas are not linear because of the cyclic nature and concurrency of learning. The research purpose was researching the role of the individual in organisational culture by taking a Gravesian integrated approach. This was based on building a 'social or cultural DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition).

In simple terms this is how the research was carried out. Oracle was chosen as I already had contact with them and they offered access to their European business network of e-Advisors. This seemed an ideal company for a pilot study as several cultures were involved.

The process at Oracle was to build a relationship, carryout a survey and then with the results of the surveys use them as semi-structured interviews. The survey instruments were a values test and change state indicator using Beck and Cowan's (1992) assessments and two other surveys on corporate strategy (Bailey and Johnson, and Daniels, 2000) and marketing (Hamel and Prahalad 1994). These were used to enrich the discussions at the semi-structured interviews and to see what Beck and Cowan's instruments added about the individuals 'hidden' values and beliefs to these other points of view. The semi-structured interviews were then analysed using qualitative methods using the Gravesian framework as analysing codes. The participants were self-selecting e-Advisors who were interested in the approach. Examples were then taken to illustrate the richness of discussion and the interviewee's reaction to the framework. Examples were chosen that the researcher considered illustrated common management concerns from his senior management experience.

The experience and knowledge gained from the pilot study was the used in the case study. The choice of UWC was opportunistic in that they required a study on problems with culture and behaviours in their supply chain and were open to the use of the Gravesian framework. All contracting companies and the asset management department were invited to participate. The survey instruments were chosen to reveal the Gravesian framework using the Beck and Cowan (1992) instruments to reveal the Gravesian values and change states. An in-house developed 'Ways of Working' questionnaire together with interviews, workshops and reports was used to gather espoused and perceived information. Because there was access to this additional data the concept of developing the Gravesian framework to measure an espoused and perceived element of social DNA was developed. All this data was analysed using quantitative and qualitative methods using the Gravesian framework as the basic unit of measure. The participants were self-selecting and examples used in the case study where chosen by the researcher to illustrate the usefulness of the Gravesian framework and address UWC's management issues.

In both the pilot and case studies the Beck and Cowan (1992) instruments were chosen because they were developed during Graves' lifetime and involvement. The others were chosen because they were known to the researcher or a requirement of UWC.

The investigation into the role of the individual was done by revisiting the work of Professor Clare Graves on the 'hidden'. The literature review suggested that culture research is a collection of common espoused values and beliefs and the culture of the individual's effect on the organisation has not been researched before. This research hopes that the outcomes are: -

1. That Graves' work was a useful for practical use.
2. Graves' work fitted into current thinking on culture and produces learning.
3. Graves work could help and inform a practical problem in a commercial environment.

As a reminder from Chapter One, the planned contribution to knowledge focuses on demonstrating how the use of Graves (1977) conceptual framework and the later work of Beck and Cowan (1992, 1996) can help to define an individual's internal social DNA. From this, the research will extend their ideas to measure the espoused and perceived

social DNA of an organisation. This allows for building a social 'DNA' gap model¹⁹ between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). The usefulness of this model to organisations is then validated within a water company's supply chain to produce change. This fits AR as a) solving a problem for a client and b) producing an academic contribution to understanding culture (Rapoport, 1970).

6.1.1. Area 1. Literature Reviews. To discover the academic role for Graves' work and concerns in current organisational cultural research.

To discover if Graves' work is a credible framework for research and to look at the issues of how culture is formed within the individual. How it is spread by learning from individual to individual, organisation to organisation. This process was a key part of the reflective cycle to analyse the findings from the Oracle pilot study and the UWC case study. The review also argued that culture can live within the brain of the individual and spread from individual to individual in a social environment. Therefore this informs the research that cultural building blocks come from the individual to build a culture. This culture within the individual affects manager's decisions by the way they use their values, beliefs, assumptions and types of change.

6.1.2. Area 2. Seeks to understand the use of Graves' framework in a practical setting.

First a pilot study with Oracle UK Limited part of an international computer software company. Secondly a case study at UWC Ltd within the UK water industry looking into the effect of culture on asset management in their supply chain as part of a consultancy project. This was as part of UWC's culture and behaviour change process to improve customer service and to have an efficient capital investment programme.

¹⁹ Gap Model – in this research a 'gap' model is produced by measuring the individual's Gravesian hidden culture and change profile and comparing against another individual or group. The approach is also applied to the espoused and perceived using the Gravesian framework for interpretation.

The basis of the method for the pilot and the case study is the action research template including the use of self-reporting questionnaires on Gravesian hidden values, beliefs and types of change.

Beck and Cowan's (1992) questionnaires were used as they were developed when Graves was involved and the values Form A was tested and develop with Hurlbut (1979). The researcher decided against developing his own questionnaires on values and change as there was already a large electronic database of test results to check averages. Also there was little time at UWC other than to develop their 'Ways of Working' (WoW) questionnaire. However, for future research this option will be considered based on the learning from this research.

6.1.3. Area 3. The heuristic value of the research and a possible practical framework that generalises the ideas.

The findings would then lead to a useful method of understanding the individual's role in culture for managers and researchers to consider.

A discussion on the effect of the researcher's hidden value systems on the research and their place in a research process.

Using AR as a template there was a need to be as informed as possible about Graves' framework to make best use of the reflective cycle. Therefore to consider Graves' framework for influencing cultural change there was a need to understand how others interpreted and used his work. This included the researcher's training in Graves' ideas (Beck and Cowan, 1996) and 'how to' with the Oracle pilot.

6.2. Overview of the research process

Each case study section covers a detailed method of how the Oracle and UWC case studies were carried out. This is because each study was slightly different but using the same Beck and Cowan (1992) assessment questionnaires developed during Graves' lifetime as the core.

In simple terms the process was that the Gravesian framework was something useful and of benefit to individuals and organisations in understanding culture. To learn about what the framework was. How this may fit in cultural and organisation theory. See how practical the method was to use in an organisation as a pilot to test the framework and then to apply that learning in another business environment to assist change.

The idea about using the framework to look at the espoused and the perceived values and beliefs occurred during the pilot and as an analysis method was developed during the UWC study. This gave a framework for the qualitative analysis.

The choices of organisation for the fieldwork were by using known contacts. Oracle had no knowledge or experience of the Gravesian process. However, at UWC there was a limited understanding of Graves work but the contracting companies had no previous exposure to this framework. Graves' framework is largely unknown as a management tool; therefore the opportunity was taken to work with UWC as part of a larger consultancy project on culture and behaviour.

The next section covers this self-learning which is concurrent with part of area one: literature review and part of area two: applications in practice. This gives a transitional bridge for the researcher between the theory and practice.

6.3. Learning about Gravesian Framework in Practice

Learning about Graves' ideas to inform the 'how to' and the reflective cycle was split into two areas.

1. Reflect on the literature and research associated with Graves' framework and issues raised by culture, memetics and heuristics.

2. Become trained and then teach courses to gain feedback and student reaction to the theories. To learn about applying theory to practice and understand what were the previous uses of Graves' framework.

The relevant chapters cover Item One but for Item Two the training is argued to be an important part of the self-learning cycle. The negative side of this leads to preunderstanding and privileged knowledge. To address this concern the pilot study was carried out during early training. Therefore the pilot could be more objective and become a joint learning journey with Oracle. This concurrent approach is important to the research as Graves' ideas are complex. Discussions covered this complexity in the earlier chapters on BPSS. As the researcher's involvement in gaining privileged knowledge is declared it reflects the values profile of the researcher. My Gravesian profile is as a systemic thinker (GT) with a need for much information using the Beck and Cowan (1992) values questionnaire. (Figure 3.4, Chapter Three) The next section gives a Gravesian analysis of the researcher to reveal to the reader some of epistemological problems faced during this research.

6.4. Gravesian Analysis of the Researcher

Philosophically this is a managerial approach linked to an interpretist epistemology. This might be called a pragmatic positivistic approach. This is what I did and how I did it and how I interpreted it through my basic assumptions values and beliefs, a phenomenological approach to investigating the experience (Parry, 2003). This analysis looks at the researcher's motivation, communication preferences and learning styles from the assessment developed by Beck and Cowan (1992, 1996). (Support analysis details in Appendix 1 and 2).

The dominant Gravesian value is systemic (GT) this means that the researcher looks at all the parts of a system, for example the total supply chain. This is not as a controlled system but as a natural system which is continually changing and evolving. For example, the supply chain in an organisation is viewed as an integrated and competent network that has to adapt to the people and work that needs doing. Within the supply chain changes need to happen quickly and as needed to achieve the organisation goals. Therefore in an action research he will see all parts of the process as one whole, an interacting process that will continually change. This research is a snapshot in time. Therefore the researcher's memetic profile uses ways of filtering information. To show

how these filters work for the researcher the following simple examples are used: (Based on Beck and Cowan, 1996 and Appendix 1).

6.4.1 Communications. He needs the most useful data available and will collect more data than is needed to make the best (to him) informed decisions. He will use the person with the most knowledge and understand how to get this from other Gravesian value systems. He will be able to connect and link seemingly unconnected data. He will blend measured data with hunches. This uses the idea of smart heuristics (Gigerenzer et al 1999) and intuition (Buzan and Buzan, 2000) but also uses the 'transcend and include' idea of (McLuhan and Powers, 1989) covered in Chapter Three. This approach causes research problems as the data collected is large and needs intuition and pattern recognition skills that do not philosophically fit traditional Mode 1 research but do fit the transdisciplinary approach of Mode 2, because other skills would be available to him. (McLuhan and Powers, 1989).

6.4.2 Motivation Buttons. He needs the freedom to follow his own path and understand his own self-worth. He needs access to the total picture and may not be interested in the detail. However because the capacity in the brain that is activated is greater than all the other Gravesian value systems he has the capacity to use the apt value system for this research. For this research this means using the controls and methods needed for traditional approaches to research from the correct way to things from the DQ Gravesian value system. (Graves, 1977).

6.4.3 Learning Styles. He needs to gather information from reading, discussion, testing ideas and he is self-directed. He has assorted and diverse interest and little fear in being himself. For this research this means that a wide range of experience and knowledge would be brought to focus on this research.

6.4.4 Change Preferences. The researcher has a strong preference for step change (2nd Order) much energy for change (Delta) and a strong direction to something new (New Alpha). This is a major problem for the researcher to overcome as he expects the research to produce large shifts in thinking. However the systemic value system (GT) has the capacity to think this through and produce an acceptable compromise to meet the academic need for this research.

6.4.5 Digital and Analogue thinking. The analysis of preference for left or right brain thinking was used in a limited way to inform the UWC study. This is used here to show

how the Gravesian ideas (1977) of values living in the brain influences how we react to the world. The researcher is an analogue thinker where on a scale of zero (analogue right brain) to fifteen (digital left brain) has a score of zero. (The assessment instrument is shown in Appendix 3 ProcessSCAN).

The analysis of the 'hidden' Gravesian values and preferences is through the researcher's filters and interpreted by the researcher's knowledge and understanding which produces a bias in the findings. This is a neo-empiricist's view. Traditional positivists consider assessing a cultural perspective in this way is inappropriate. "This is because it is presumed that this cannot be done in a direct, objective, neutral manner, regardless of the methodology used" (MaAuley et al., 2007 p36). They argue that "'inner' subjective processes" are "empirically unobservable" (ibid) to a point this is true, but this is what Graves' was attempting to do. However, "positivist organisation theory has a significant interpretive tradition" (ibid). In this research the Gravesian framework is being used to explore the norms, beliefs and values operating within the individual as an inner subjective processes. This is their "internal subjective logic or rationality" and leads to how they deploy "these subjective interpretations" which could lead to "socially approved levels of productivity" (ibid p37). An interpretive positivist view but by the use of the Beck and Cowan (1992) assessment instruments to reveal the Gravesian 'hidden' it could be argued as being more objective. However, any interpretation by the researcher is not objective. The same reasoning applies to the UWC ways of working questionnaire because it is asked through the management's filters of their values, beliefs and assumptions. In this research this subjectivity is attempted to be mitigated by the AR triangulation methods.

This understanding of 'self' is import to this research process but to gain as diverse a view as possible, introductory training was one-to-one. The researcher then attended advanced training at a workshop run by Beck (2002c). Added training was by attendance at a practitioners conference in Texas USA (June 2003) and the Leadership Conference in London (October 2002). All these events were 3 or 6 days long.

To gain further practical experience, the researcher acted as assistant trainer on several training courses in Scotland and London during 2002 and 2003. An outcome of training involvement was to develop a training module which included an integration of social science philosophies with practical applications. Students were given a practical issue to resolve (provided by an outside business person) and the results were

presented using Gravesian ideas. These were three-day courses held in the UK, USA and, in 2005, in New Zealand.

The researcher's involvement in this way allowed exposure to the positives and negatives (pros and cons) of using Graves' ideas. This highlighted how participants struggled with applying the ideas. It was this struggle with application which led to developing a practical training course and informed the approach for the UWC study.

The outcome of the early involvement with the community of practice was the need to carry out a pilot to find out personally what problems there are in using the framework in an organisation. Once completed it was then necessary to apply the learning to make a change in another organisation.

It could be argued that this training led to a more subjective bias, reducing objectivity even further but without this knowledge then it would be difficult to interpret the Gravesian data. However by placing Graves' work within the culture, memetics and heuristic bodies of knowledge and looking at it as learning tool to assist in organisational understanding and change, it is less of an issue. Then it is argued that as long as these ontological and epistemological problems are highlighted this research can still produce something practical and useful within an AR context.

6.5. Review the Findings.

The results of the Oracle and UWC studies are reviewed with the learning that occurred. The findings are used to inform the research questions raised in Chapter One.

- 1) Does the Gravesian framework help in understanding culture in organisations?
- 2) Does the Gravesian framework help in understanding the influence and role of an individual's culture on an organisation's culture?
- 3) Does the Gravesian framework help to understand the mechanisms of cultural change?

The objectives are to add to academic knowledge and produce change in a business organisation. The answers to these questions would also help to generalise the approach for management and academic researchers to consider.

6.6. Generalise the findings of the research.

From the review of the findings of the two studies the outcomes can be discussed for the applicability of the research for general use in understanding the role of the individual in organisational culture.

This discussion covers the generalising of the research findings, how the framework may be of benefit to other organisations and how further research is needed for development of the framework.

6.7. Closing Arguments

This chapter on research methods and philosophy shows how the research into the role of the individual in organisational culture using the Gravesian framework was carried out. The theme was to allow for building a 'social or cultural DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition).

The process has three areas. 1. Literature reviews to understand the validity of Graves (1977) ideas and how this might fit in culture research. A discussion on some of the issues brought up by Graves (1977) and later by Beck and Cowan (1996). A discussion covered the interplay of Graves' ideas on brain functions and the ideas of memetics and heuristics. 2. How to use the Gravesian idea and framework in problem solving in a commercial business to produce change. An adapted Action Research method was developed to handle the complexity of dealing with the social element of organisations. Extra questionnaires were used to add to the Beck and Cowan (1992) methods for uncovering the hidden values and change within the individual. These gave a Gravesian espoused values profile to explore against the hidden within the person's Gravesian values profile. The Oracle pilot study was a learning process of 'how to' use the framework. A need was identified for the researcher to learn practically about the framework. The UWC study was part of a culture and change project to review the influence of behaviour and culture on the commercial results. 3. The findings from the case studies would be reviewed and discussed, including any learning experience. This in turn would lead to a discussion on generalising the Gravesian framework for management and researchers to consider.

An adapted Action Research (AR) was argued to be suitable for testing the Gravesian ideas to produce validity in practice (Denscombe, 1998) at UWC. The reflective cycle was not just within the AR method but included all three areas as a 'transcend and include' model. During defining and adapting the AR process, ideas were introduced from the literature reviews, for example from heuristics the ideas on bounded rationality and intuition. This approach argues a link to Graves (1977) philosophies. In the reflective cycle pointers are taken on how to be reflective by using a sense-making approach for the UWC study and discussion on the influence of the Gravesian memetic filters of the researcher.

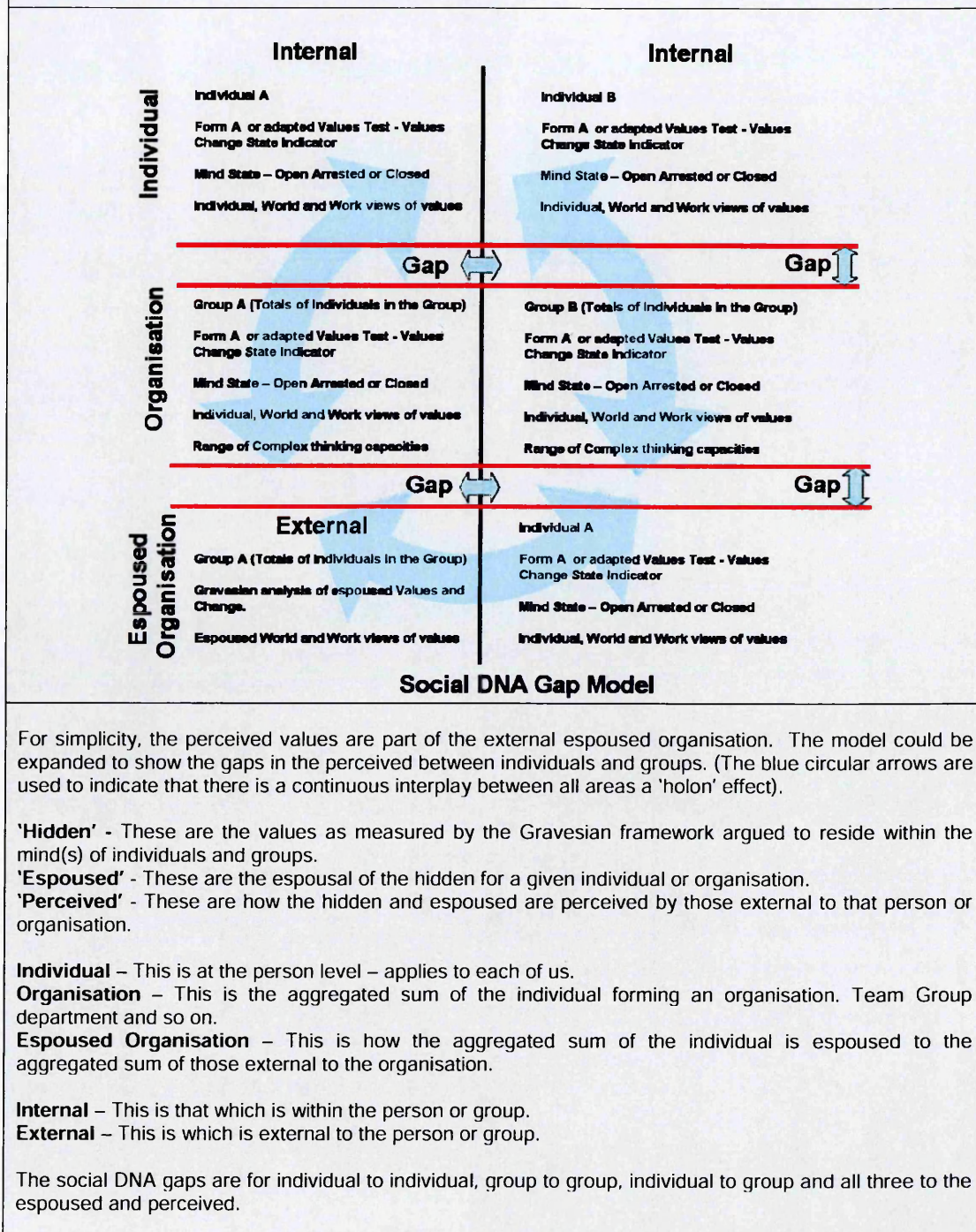
The research further argues there was a need for a research method that allows the researcher to be part of the research as well as to be outside the research. This was achieved by exiting before reviewing the findings. The method also needs to allow for a reflective and feedback cycle of analysis between the researcher and the researched to enable sense-making. There is recognition that a combination of hard (questionnaires and reports) and soft (perceptual and visual) data allows for confirmation of outcomes by inference and discussion. This produces a triangulation process while understanding the limits of the AR method. The limits are the subjective nature of interpretation of data based on the researcher's values, beliefs and assumptions. However this should not be allowed to detract from the value to the organisation for the insights gained to enable change.

To summarise the social DNA gap model as follows.

1. Comparing the Gravesian profile for hidden values and change with other individuals.
2. Comparing the Gravesian individual profile to the group, a contractor, a company or a department.
3. Comparing the Gravesian-based analysis of the espoused (interviews, other questionnaires, stories and documents) and the perceived (stories, perceptions) against 1 and 2.

Figure 6.2 outlines the social DNA gap model concept.

Figure 6.2 The social DNA Gap Model Concept.



The next chapters cover how the research for the Oracle pilot and UWC study was carried out and the results of the process. Each Case Study starts with an overview and detailed methodology.

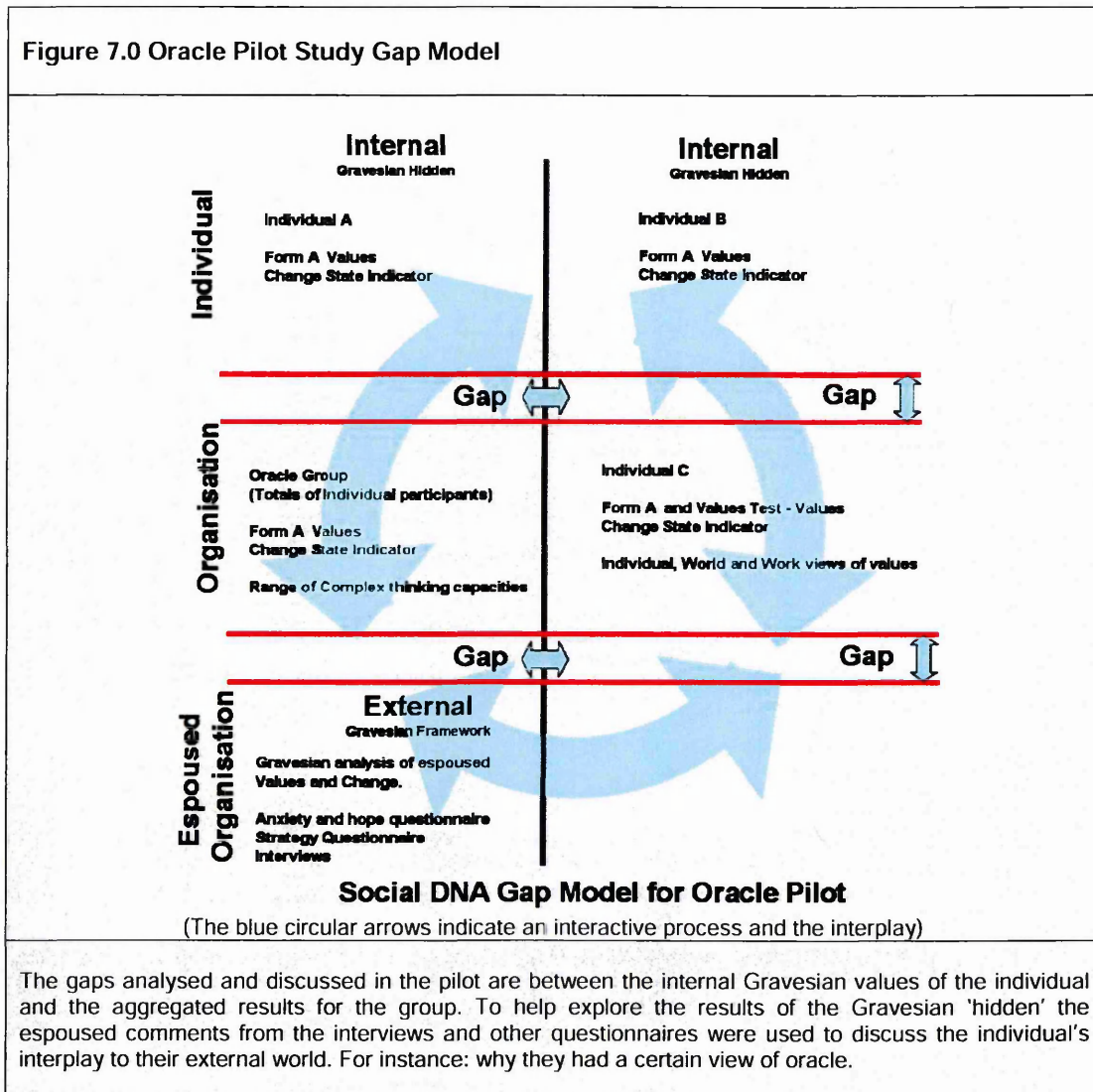
7.0. Introduction - Why a Pilot Study?

During Dr Beck's training it became clear that the practical applications of Graves' (1977) work was not taught and what was taught was mainly on the values part of Graves' framework. (Beck, 2002a, 2002b, 2002c, 2005; Cooke, 2003). On reflection, this was the starting point of this research as intuitively there was something there but how could the framework have uses in business to help organisations to change? The training concentrated on the core values and did not cover in a useful fashion the other principles that give depth and understanding to Graves' ideas, for example change states (Chapter Three). A major criticism is that the training was not referenced to other bodies of knowledge. The courses had no assessment method and it was therefore not possible to evaluate how much of the training the participants had understood. This lack of assessment became clear when meeting people who were 'practising' these theories as they only used Graves' value systems hierarchically, for personal development. This is an acceptable approach for personal development, but for business use, it needs to be referenced with other common management methods and tools to be accepted by organisations. Reflection on the courses attended revealed a need to test Graves' ideas independently and not rely on what had been offered.

The split of Beck from Cowan and its 'cult' like use of the framework had left the researcher with a healthy cynicism. The pilot was therefore used to move away from this view and see if the original 'intuitive' feel for Graves' work would be born out in a real businesses environment.

The overall objective of the pilot study was to inform the research aim of understanding the role of the individual in organisational culture. Figure 7.0 shows what is covered and how the gap model is formed. The pilot's objective was to contribute to knowledge and not to make change occur.

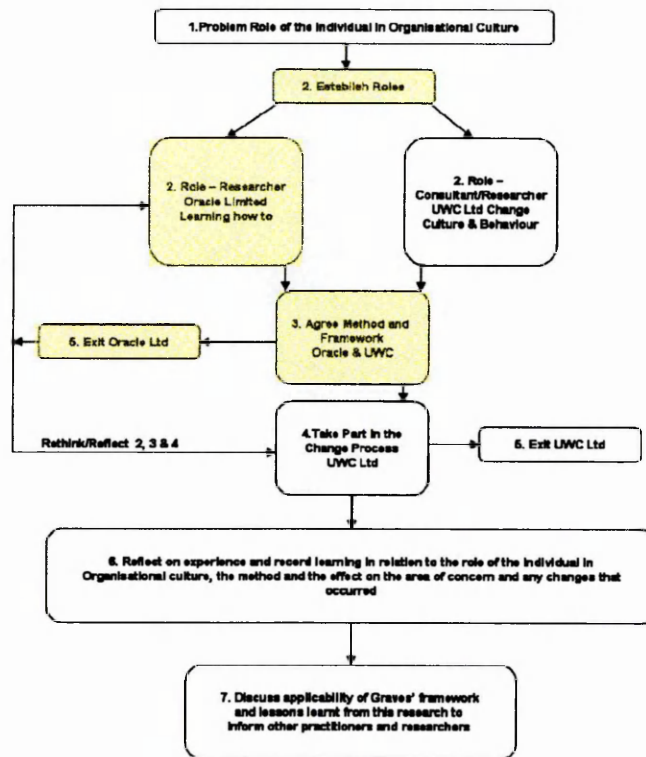
Figure 7.0 Oracle Pilot Study Gap Model



7.1. Setting up the Pilot – The roles

The pilot was set up based on the Checkland and Holwell (1998) AR flow discussed in Chapter Six. The process covers the second (Roles) and third (Agree Method) parts of the process flow shown in Figure 7.1. As this was a learning exercise, once it was completed and the data gathered, the researcher exited from Oracle. There was no Part Four as it was not part of a change process but part of an investigative learning process at Oracle. The objective was to test the use of Graves' framework and to discuss the outcomes with the participants; this would then inform the learning and be transferred to the UWC study.

Figure 7.1 Action Research Process Flow - Based on Checkland and Holwell (1998)



Note: the yellow highlighted areas are covered in this chapter as part of the AR methods

Oracle (UK) Ltd was approached using known contacts and discussions held to find their interest in the research. After presentations to senior management and to interested staff, Oracle allowed access to seventeen e-Advisors across Europe for the pilot study. (Appendix 11 letter of support from Oracle (UK) Ltd)

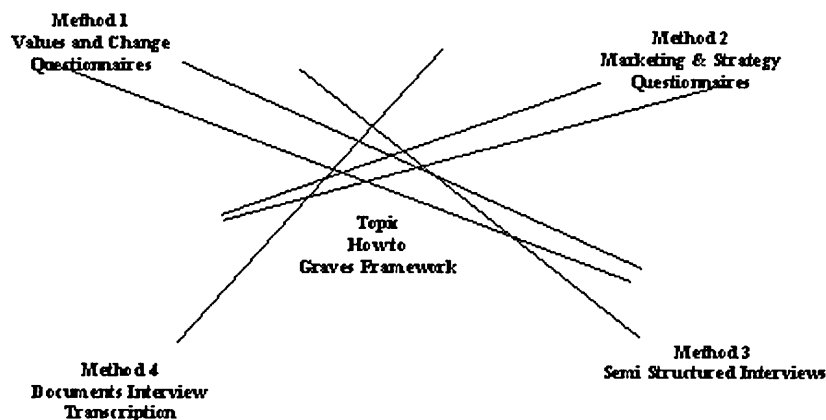
A second presentation outlining the why, what and how of the research was given in Paris at an Oracle International Conference. Nine e-Advisors decided they could commit the needed time and effort and became part of the pilot study. This group had an extra advantage of being a cross-cultural group providing a link to the work of Linscott (2001) and Beck and Cowan's work (1996) in multicultural settings.

The Oracle sponsor agreed an outcome detailed in a letter of support. The following is an extract from the letter, "to have a beneficial effect on the personal awareness and performance of all those who have volunteered to take part". (Appendix 11)

7.2. Methods and Framework used at Oracle UK Ltd

The methods and framework used for the Oracle pilot study are summarised in the triangulation method shown in Figure 7.2 outlining the information used.

Figure 7.2 Triangulation Pilot Oracle Study – based on Denscombe (1998 p85)



The centre of the triangulation is the topic 'how to use the Gravesian framework'. To help inform the topic the four methods are listed as follows:

- Values & Change questionnaires (Spiral Dynamics) [Hidden]
- Business values questionnaires (Strategy & Marketing) [Espoused]
- Semi-structured interviews [Espoused]
- Analysis using Graves' framework [Espoused]

Each method informs each of the other areas: the espoused areas for the pilot add to the discussion on the validity of the hidden; the hidden influences the espoused.

The area in the centre where all the lines intersect is the area of subjective interpretation, through the value system of the researcher. This bias is reduced with discussion and allows the participants to form their own conclusions as to its heuristic value.

The Oracle pilot explored the use of Spiral Dynamics values and change questionnaires (Appendix 1) and explored the principle of triangulation against familiar management tools which looked at espoused and shared values (Appendix 6). To reiterate, the two tools chosen for espoused values and beliefs were from Johnson and Scholes (1993) and Hamel and Prahalad (1994). The Johnson and Scholes (1993) questionnaire used was an updated version by Bailey, Johnson, and Daniels (2000). The 'Validation of a multi-dimensional measure of strategy development processes' questionnaire, and Hamel and Prahalad's (1994) questionnaire 'The balance between hope and anxiety' (Appendix 6). Both these questionnaires were considered relevant to

the roles of the participants jobs, that of marketing Oracle to clients and putting in place Oracle's client strategy. Further, these two questionnaires were used for two reasons: one, they were familiar to the researcher and, two, they fitted the role of the Oracle participants (Denscombe, 1998). Examples of the questions asked and their use are detailed further on. By using this approach of the espoused values questionnaire of Bailey et al., (2000)¹ and the Hamel and Prahalad (1994) subjective questionnaire on market positioning, both gave a view of the relationship to the hidden Gravesian values and change system and suggested reasons for the responses to these questionnaires from the participants.

The method was for the Oracle volunteers to complete the questionnaires. The results of these questionnaires then formed the basis of semi-structured interviews. These were recorded and transcribed to allow later analysis of the responses as part of the reflective AR cycle. The transcriptions could then be quantified against values, beliefs and change types. This is discussed in the section on analysis methods.

This section has described the outline of the approach used for the pilot study. The detail is covered in the next section and starts with the questionnaires.

7.3. Values & Change Questionnaires (Spiral Dynamics) [The Hidden]

To gain confidence in measuring values, beliefs and change states as a basis for analysis of the individual role in culture, the first action with the pilot was to use the Beck and Cowan (1992) values and change questionnaires. Table 3.0 shows the highlighted (bold) values measured. Table 3.5 shows the types of change measured and both tables are from Chapter Three.

Table 3.0 Pathways in the Mind			
Pathway in the Mind Or Core-Value Graves (1977)	Beck and Cowan (1996)	Graves (1977)	Expressive 'I' Sacrificial 'WE'
1. Survival	Instinctive	AN	I
2. Tribal	Clannish	BO	WE
3. Exploitive	Egocentric	CP	I
4. Authority	Purposeful	DQ	WE
5. Strategic	Strategic	ER	I
6. Social	Relativistic	FS	WE
7. Systemic	Systemic	GT	I
8. Holistic	Holistic	HU	WE
9. ?	?	IV	I
The letter pairs are: 1 st letter = brain capacity; 2 nd letter = external life conditions			

¹ Bailey et al., (2000) is a well-researched empirical study on strategy.

Table 3.5 Types of change

Change States (in an organisational context)	Beck and Cowan (1996)
1. Preference for incremental change – 1 st order Change	1 st Order Change
2. Preference for Step Changes – 2 nd Order Change	2 nd Order Change
3. Preference for Order	Order
4. Preference for Chaos	Chaos
5. How content with today	Alpha
6. Something is not right with today	Beta
7. Frustration level	Gamma
8. Surge Energy to Change	Delta
9. Optimism for the future	New Alpha
10. Energy for Change to Occur	Flex

The next section looks at how the Gravesian hidden values systems ('pathways in the mind') are measured using the Spiral Dynamics assessment tools (Beck and Cowan, 1992).

7.4. Gravesian Values [The Hidden]

Two types of questionnaires were used for assessing the Gravesian hidden values and beliefs. One is called 'Form A' which was validated by Hulburt (1979 and Holwerda and Karsten, 2005) and the second is called the Values Test (VT) which is similar, but with limited validation² by Holwerda and Karsten (2005). Note: These instruments were used as the researcher needed to test Graves' ideas and not to develop his own questionnaires. The questionnaires had been developed during Graves' lifetime therefore it was logical to use them. These questionnaires had been used for many years and a database was available for reference.

Cooke (2001) considered that 'Form A' was the more accurate and a validated instrument. However for the Values Test it was used in one instance at Oracle to address a concern by one of the participants. Both values questionnaires exclude 'AN' survival system as it is considered to be immeasurable: any language at the time this system was dominant was primitive and reactions to the environment were instinctive (Beck, 2002c).

'Form A' is a forced-choice questionnaire. 'Form A' assigns points to the chosen answers. The validation (sample size 4029) of the 'Form A'³ questionnaire by Hurlbut (1979) in her PhD thesis was to validate that the questions measured what they were supposed to (Face Validity, Seale, 1999). With self-assessment, it is important to

² At the time of use, 2001 to 2003, the Values Test had not been validated.

³ Hurlbut (1979) called 'Coping Systems Inventory' forerunner of 'Form A'.

support the data by observation and discussion and other information visual, written and observed otherwise there is a reliance on the person being honest. These other information sources help inform the responses from 'Form A'. This was why the espoused value questionnaires on strategy and marketing were included in the pilot. Often, wishful responses rather than honest answers (Cowan, 2004) are given in the values questionnaires. In addition, with a forced choice it may be that none of the choices are right for the person, leading to bias in the answers (Hussey and Hussey, 1997).

The questions assess the acceptance or rejection of a question about values. Table 7.0 gives examples of the questions. Acceptance (most like) is a positive value and rejection (less like) is a negative value. To confirm responses the questions are asked in different combinations of forced choices. There are forty questions with one hundred and forty-eight choices. The aggregated average from the responses of the Oracle participants is used to compare the individual to the group. Appendix 3 shows the full questionnaire.

Table 7.0 – Values Oracle Study Examples - Form A - Appendix 3	
Chose only one of 'Most like me' and only one 'Least like me' for each question:	
1. Most like me/ Least like me :	
Leaders look out for their people and I trust my leader to care for me. It feels good to reach out and help other people cope with life. Don't just tell me "it's the rule"; I've got to understand the reason When I play a game - I play to win; otherwise, why bother?	
15. Most like me/ Least like me:	
"Work now - play later" is the safest motto for life It's stimulating to be with people who think differently than I do I like a little competition; it makes life more lively Leaders look out for their people and I trust my own leader to care for me	
In the above example of question one and fifteen, a person may chose "Leaders look...." As most like and "It feels..." as least like me. In question fifteen it maybe answered that "Leaders look..." is least like me and "I like a little....." is the most like me. This allows for the strength of acceptance or rejection of questions to be assessed.	

To address concerns about the validity of the data (Seale, 1999), the research has taken a practical approach to averaging ordinal data⁴ and applying minimal statistical

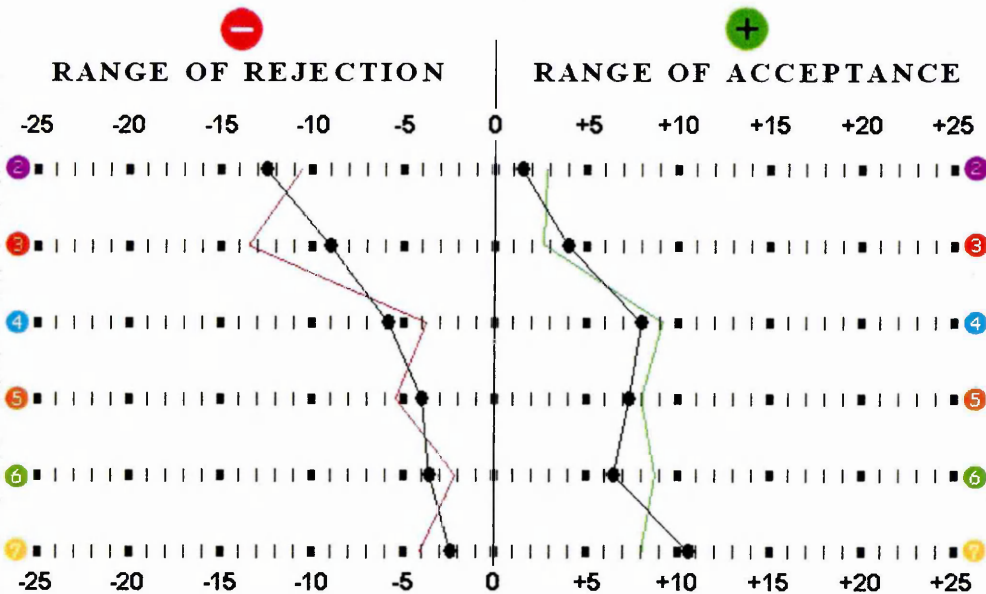
⁴ Ordinal data – is based on the Likert scale of assigning points or values to answers to a question, for example strongly agree 1 and strongly disagree 5.

analysis. There is debate on the correctness of applying statistical methods to ordinal data (Denscombe, 1998). The debate about ordinal data is that "rank order is all that can be inferred" - the cause of the order is unknown. (Ibid p. 178). Therefore averaging data for a group to compare with an individual is called "descriptive" statistics because the cause of the order is unknown. (Ibid p. 178). In this research the results of data are used for discussion and triangulated against other information. Figure 7.2 shows a pictorial representation of triangulation for the Oracle pilot.

An example of the results from 'Form A' shows a graphical representation and a table of scores. Figure 7.3 shows the graph and a table of scores as used by Spiral Dynamics (SD).

Figure 7.3 Oracle Form A Values Test Group Report

The Psychological Map™
Form A
 (A measurement of Human Values)
 Oracle Group



		BO	CP	DQ	ER	FS	GT
Range Of Acceptance	Group	1.5	4.0	8.0	7.3	6.5	10.6
	Max	4	9	12	15	10	21
	Min	0	0	3	4	0	2
Range Of Rejection	Group	12.5	9.0	5.8	4.0	3.6	2.4
	Max	22	22	13	7	12	6
	Min	8	1	3	1	0	0

Figure 7.3 (cont) Oracle Form A Values Test Group Report

The black dots are the Oracle scores; the other lines are a population average as used by Spiral Dynamics. The numbers at the sides show the Gravesian value system. 2 = BO Purple. 3 = CP Red. 4 = DQ Blue, 5 = ER Orange, 6 = FS Green and 7 = GT Yellow. These are as defined in Chapter Three on Graves' framework and Table 3.0. The colours are as added by Beck and Cowan (1996) and are the basis of Spiral Dynamics.

The left-hand side show the strength of rejection of a Gravesian value and the right-hand side shows the strength of acceptance.

The table at the bottom shows the ranges. For example, the group average for acceptance of BO (Tribal) is 1.5 with a range of 0 to 4, which means one person has a higher acceptance of tribal values. Someone else has a 22, a very strong rejection of tribal values. This reveals the ranges of complexity of thinking within the Oracle group.

The next section looks at how the ten change states are measured using the Spiral Dynamics assessment tool (Beck and Cowan, 1992) based on Graves' ideas (1977).

7.5. Gravesian Change [The Hidden]

In this part of the Oracle pilot study the questionnaire on preferred types of change is used to assess the states of change of the participants. This preference for change questionnaire is used because it is an important part of Graves' framework as discussed in the review in Chapter Three. In addition the Action Research cycle is useful for change processes in organisations (Darwin et al., 2002) and this analysis adds another level of precision to change (Beck and Cowan, 1992). Table 3.5 showed the ten types of change measured. The change state indicator has small sample validation by Holwerda and Karsten (2005).

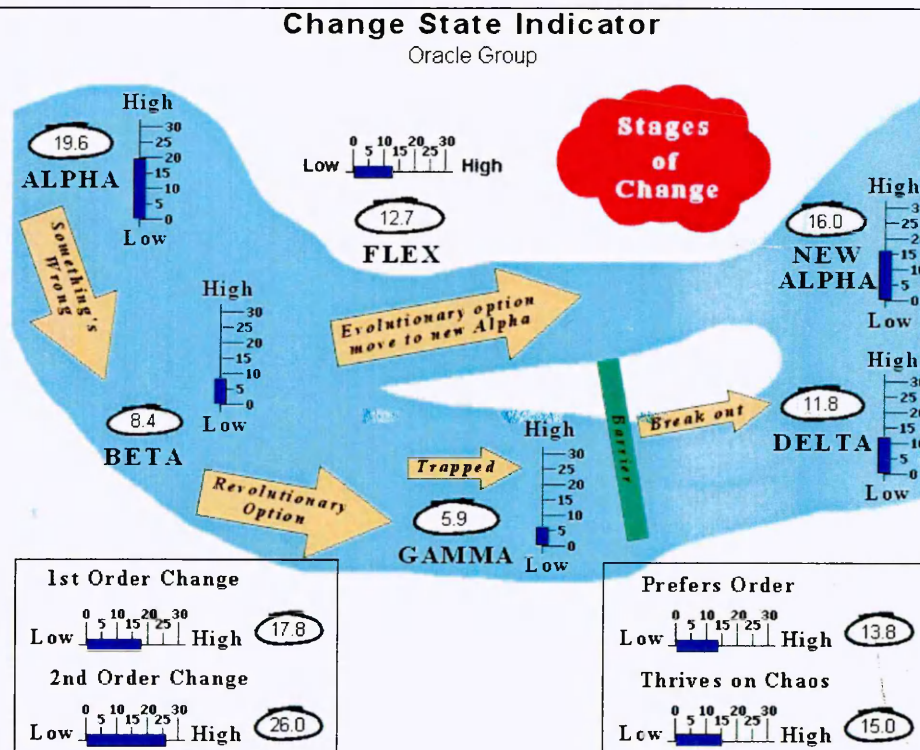
The change state indicator (CSI) is a self-assessment questionnaire that assigns points to each group of questions. In the questionnaire Sections 1 to 5 the respondent assigns 15 points and in Sections 6 to 12 the respondent chooses three predefined answers to the questions. There are 12 sets of questions. The average used to compare Oracle results to a global average was based on 300 managers and is part of the training materials. (Cooke, 2001; Beck and Cowan, 1992; Beck 2002c). The aggregated average for Oracle participants was also used to compare the individual to the group.

Each question is assigned to a category, for example 1st order change or Alpha or Gamma state and the totalled points awarded are totalled to produce a score. To confirm responses the questions are put together in different combinations (see Table 7.1). There are twelve sections with forty-eight choices. Appendix 3 shows the questionnaire.

Table 7.1 Change Oracle study Example- Change State Indicator - Appendix 3
<p>In sections 1 to 5, distribute 15 points between each statement. You may break the points in any way you desire so that more points are allocated to the statements that describe you the best - while fewer points are allocated to the statements that describe you the least.</p>
<p>1. MY CURRENT STATE OF BEING CAN BEST BE DESCRIBED AS ...</p> <ul style="list-style-type: none"> • Contentment and satisfaction since I'm on top of my problems. [0] • Rather shaky since things don't seem to be OK but I don't know why. [0] • Extremely frustrated and angry because I'm blocked from doing what I know I can and should [0] • Excited and hopeful now that the barriers and excuses no longer stand in my way. [10] • Delighted and optimistic now that I've found fresh ways to deal with the new conditions in my life. [5] <p>TOTAL points 10+5 = 15</p>
<p>In sections 6 to 12, select one of the predefined responses (Repulses me 0; Not me 1; Sometimes me 2.</p>
<p>6.</p> <ul style="list-style-type: none"> • I depend on an orderly, consistent, clock-like universe. [0] • I value balance and harmony everywhere. [2] • My world is basically the same as it's been. [1] • There are no problems so great that we can't solve them by using what we've inherited from the past. [0]
<p>In the example for question 1 the participant has allocated 10 points to "Extremely frustrated...." And 5 points to "Delighted and" giving a total of 15 points. However points could have been assigned to every question as long as the total came to 15.</p> <p>In question 6 the participant has three choices for each question but can only assign one of them to that question. In this example the participant has assigned "sometimes me" to one question and "not me" to one question. The rest are "repulses me"</p>

An example of the results from CSI is shown as a graphical representation and as a table of scores. Figure 7.4 shows the graph and a table of scores as used by Spiral Dynamics.

Figure 7.4 Oracle Change State Indicator (CSI) Group Report



	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
Group	17.8	26.0	13.8	15.0	19.6	8.4	5.9	11.8	16.0	12.7
Max	27	40	20	22	33	14	18	16	28	18
Min	5	15	8	6	13	4	1	7	7	9

Table 3.5 shows the definitions. The chart is built around the analogy of the flow of a river.

Starting on the left with 'how content with today' (Alpha) then 'something is not right with today' (Beta), leading to the frustration level (Gamma). Once frustration has been overcome there is a 'surge of energy to change' (Delta) this gives rise to 'optimism for the future' (New Alpha). The New Alpha becomes the Alpha and the cycle starts again.

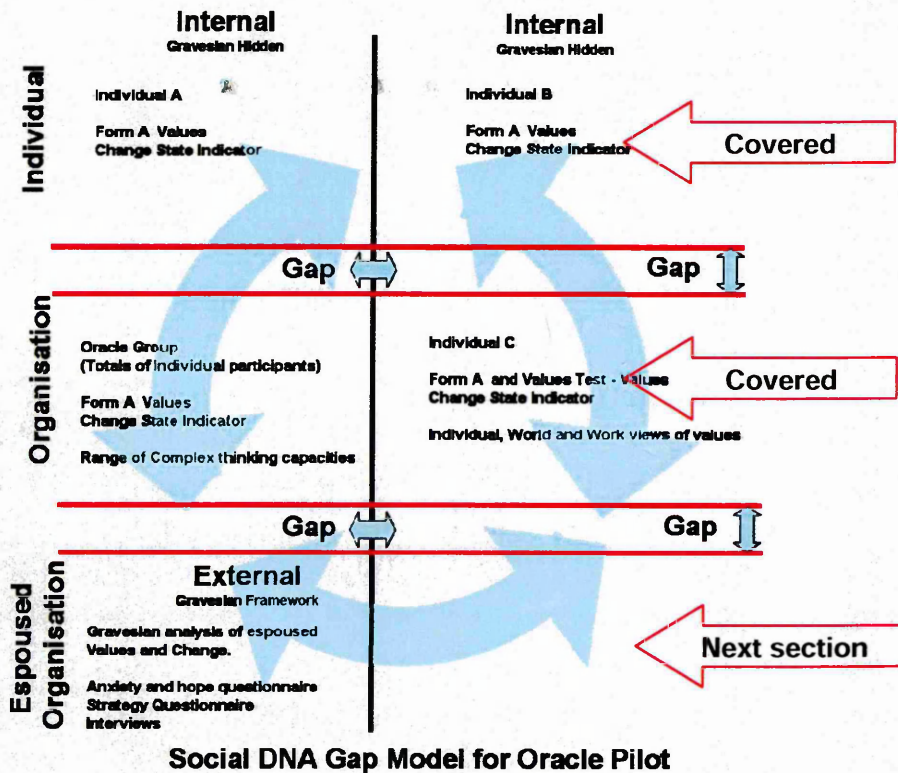
When you know something is wrong with today and frustration is building the preferences for incremental change (1st Order Change) or for Step Changes (2nd Order Change), Order (Order) and Chaos (Chaos) come into play. Dependent on choice this takes an evolutionary (1st Order) or revolutionary (2nd Order) route to reaching a New Alpha or future state. Order and chaos show if there is preference for orderly change or chaotic change.

The amount of energy for change for change to occur is shown in the 'energy for change to occur' (Flex)

The Table at the bottom shows the range of scores for the individuals in the group for example there are people with low frustration levels but one person with a very high frustration level of 18.

The next section looks at how the framework is extended to include espoused values by the use of other questionnaires. To look at Oracle's espoused values the next part of the process was to use the questionnaires on strategy and marketing as part of the AR triangulation process to inform the findings. Figure 7.5 shows the areas that have been covered so far.

Figure 7.5 Oracle Pilot Study Gap Model – where are we?



The gaps analysed and discussed in the pilot are between the internal Gravesian values of the individual and the aggregated results for the group. To help explore the results of the Gravesian 'hidden' the espoused comments from the interviews and other questionnaires were used to discuss the individual's interplay with their external world. For instance: why they had a certain view of Oracle.

The previous sections have covered the measurement of values and change using Spiral Dynamics assessment instruments (Beck and Cowan, 1992).

7.6. Espoused business values questionnaires (Strategy & Marketing)

As discussed earlier, the choice of these two questionnaires was twofold, one because it was familiar to the researcher and two, because it was relevant to the roles of the e-Advisors who volunteered to take part in this pilot. The e-Advisors were involved in marketing Oracle's products and involved in strategy planning for Oracle.

7.6.1. Strategy [The Espoused]

The questionnaire used was Bailey et al (2000) which was a validated empirical study and is a well recognised instrument. A previous version appears in Johnson and Scholes' (1993) book *Exploring Corporate Strategy*.

The questionnaire's format is similar to the other questionnaires in using an adapted Likert scale that produces ordinal data. A maximum of seven points can be assigned to a question.

Table 7.2 shows examples of the questions. Appendix 6 shows the full questionnaire.

Table 7.2 Strategy Oracle Pilot Study Example Questions (Bailey et al., 2000 - Appendix 6)

2. To keep in line with our business environment we make continual small-scale changes to strategy
 10. The information on which our strategy is developed often reflects the interests of certain groups
 18. We are not able to influence our business environment; we can only buffer ourselves from it
 27. The strategies we follow develop from "the way we do things around here"

The above are examples of the questions asked. For example, Question 2 may be considered very important and marked with a 7. The questions are in a random order and reflect six areas of strategy.

There are some parallels to the values and change questionnaires; for example, question 2 is to do with types of change 1st order and 27 is related to the DQ (Blue) authority value system. The results from the strategy questionnaire are then grouped into six areas:

1. Planning
2. Incrementalism
3. Cultural
4. Political
5. Command
6. Enforced Choice

The results, as with the other instruments, were used as part of the triangulation process and became part of the semi-structured interviews. The following Table 7.3 is an example of the Strategy results. Appendix 6 shows the full questionnaire.

Table 7.3 Strategy Oracle Pilot Study - Example of Table of Results
(Bailey et al., 2000 – Appendix 6)

Planning	Incrementalism	Cultural	Political	Command	Enforced Choice
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
Column Total	Column Total	Column Total	Column Total	Column Total	Column Total
-24	-24	-24	-24	-24	-24

Score = Column total -24

The numbers above are the question numbers and show the relationship of the questions to the categories. For example in the previous table question 2 is within incrementalism. The -24 is a normalisation factor used by Bailey et al., (2000) to make the output charts easier to read.

The next section covers the marketing questionnaire used to gain the participants' espoused views on Oracle and Marketing.

7.6.2. Marketing [The Espoused]

The questionnaire used was based on Hamel and Prahalad's (1994) 'The balance between hope and anxiety' (Appendix 6).

The questionnaire's format is similar to the other questionnaires in using an adapted Likert scale that produces ordinal data. A scale of five points can be assigned to a question. Table 7.4 shows examples of the questions. Appendix 6 shows the full questionnaire.

Table 7.4 Marketing Oracle Pilot Study Questions – based on Hamel and Prahalad's (1994) – (Appendix 6)

- Operational Efficiency against New Product Development
- Mostly catching up to Others against Mostly New to the industry
- Mostly Anxiety against Mostly Hope

The questions are about, 'what do you think (Espoused) oracle is better at?'. For example, is Oracle better at operational efficiency or new product development?

The questionnaire asks what is important between two different views of marketing. For instance, operational efficiency would be marked one if this was more important than new product development and five if it was the other way around.

The results of the questionnaire were used as part of the discussion process and formed part of the semi-structured interviews.

Figure 7.6 is an example of the question layout given to Oracle participants.

Figure 7.6 Marketing Oracle Pilot Study Questions – Example of layout – (Appendix 6)

What are we better at, improving operational efficiency or creating fundamentally new business?

Operational						New Business
Efficiency	1	2	3	4	5	Development

The Oracle participants were asked to circle a number to mark their preference. For example, if 3 were circled then Oracle did both equally well.

The next section covers the data gathered from the 'Form A' values, Change State Indicator, Strategy and Marketing questionnaires which were used for the basis for the semi-structured interviews.

7.7. Semi-structured interviews

On completion of the four questionnaires a written analysis was prepared by the researcher with his comments and interpretation. This was emailed to the participants and formed the basis for a two-hour semi-structured interview. This interview was recorded with permission and then transcribed into text for further analysis using the Gravesian framework. The process and the principles for the semi-structured interviews were based on Denscombe (1998, pp. 109 -134).

A definition of semi-structured interviews by Denscombe is a useful guide. "The interviewer still has a clear list of issues to be addressed and questions to be answered. However, with the semi-structured interview the interviewer is prepared to be flexible in terms of the order in which topics are considered and, perhaps more significantly, to let the interview develop ideas and speak more widely on issues raised by the researcher. The answers are open-ended, and there is more emphasis on the interviewee elaborating points of interest." (Denscombe, 1998, p. 113)

The emailed researcher's analysis included individual graphs for each of the questionnaires and a detailed analysis of what the values and change statements meant and their relationship to the strategy and marketing questionnaires. This emailed analysis was through the researcher's Gravesian filters. These reports of about ten pages formed the basis for discussion at the interviews. The agreed and recorded interviews of the two hour sessions produced about forty pages of transcripts for each e-Advisor.

Completing the interviews was the exit point from Oracle UK Ltd, with participants thanked for their involvement.

7.8. Analysis using Graves' framework

The gathered information was reviewed and analysed. As the objective of the pilot was to contribute to knowledge a simple method of analysing the transcribed text was used. Paragraphs and sentences from the transcriptions were coded to the Graves values and change systems. Table 7.5 shows the codes that were used and Table 7.6 gives an example of a transcription of an interview and the interviewer's analysis before the interview. Appendix 10.0 shows a more detailed analysis for Oracle.

Table 7.5 list of codes used for the Oracle Pilot

Code	Code Source
Change State	Change State Indicator
Purple BO	Form A
Red CP	Form A
Blue DQ	Form A
Orange ER	Form A
Green FS	Form A
Yellow GT	Form A
The above codes were assigned to text from the transcriptions of the interview, so that an e-Advisor's comments could be compared with the researcher's interpretation.	

Table 7.6 Researchers Analysis before interview and Person Joe (ID# 47) Interview 'Form A' Values comments

Gravesian Value	Researcher Analysis and comments (Before interview)	Joe's Interview Discussion
GT	<p>Your Yellow GT global systems view is average for the group but below the population normal. This development of Yellow systems thinking and pattern recognition gives a good understanding of other peoples perspectives. For example the ability to see the complete value chain, from supplier to customer. This will counter the compartments prevalent in strong Green and gives the ability to converse to any customers/colleagues who may have other dominant structures. The stronger systems thinking becomes the realisation that current ways of operating businesses will not succeed into the future.</p>	<p>Would you say that's typically the yellow [GT] develops over the [Time] and it becomes a more mature individual more experience from different types of work.</p> <p>Yes I agree. I would perhaps appear to think that I would have a bit higher on the yellow. But I also feel that I am currently developing that.....</p> <p>I find it easier to understand the way other people are acting. Is this the way to [develop] my yellow?</p>

In the above example the researcher's analysis given to Joe before the interview compared with the transcribed interview on his reaction to the researcher's analysis.

The object for the researcher's was to learn how accurate the Gravesian framework was in uncovering his hidden values.

There were problems with recording clarity and English not being the first language. Items in square brackets are the researcher's added notes for clarification.

This section outlined the method for the Oracle pilot study to understand 'how to' use Graves' framework in a business. The next section covers the results from the Oracle pilot study starting with more detail on the background. This section also addresses the issues and principles needed in an action research process as outlined in Chapter Six.

7.9. Background (Establishing Roles)

Oracle (UK) Ltd is a subsidiary of Oracle USA, an internationally-known provider of high-level computer software programs for business. Oracle software databases support many business applications for example ERP (Enterprise Resource Planning) but they also have a suite of management systems to support the supply chain.

The role of e-Business Advisors (e-Advisor) is to support the sales process by giving their experience and advice to customers on the best Oracle software to use for solving business issues. The advice given includes the commercial and financial gains that could be made by using the suitable (Oracle) business support and analysis systems.

The e-Advisors' role is therefore critical to the successful sales and implementation of Oracle's software and customer satisfaction. The backgrounds of e-Advisors were varied and not necessarily from the computer industry, for example they could be ex-financial directors or ex-army logistics or ex-health service managers. This mix of skills allows Oracle to service most business sectors. The e-Advisors common need was to understand themselves and their customer, enabling them to develop effective relationships. This need for understanding the self was linked into understanding of change and the preferred method of change for themselves and their customers. Some customer's cultures meant they were early adopters of technology while others were slow and incremental in accepting new methods. Therefore to understand types of change was important to the sales process.

7.10. Gathering Information

Communication with the volunteers was either by e-mail or telephone after the first face-to-face meeting of some of the volunteers in Paris. The Oracle sponsor simplified the process and ensured it flowed smoothly as the e-Advisors were located across Europe and the United Kingdom.

To start to build a relationship a simple five-question e-mail was sent to allow the e-Advisors to start thinking about the research process. This was not meant to be anything other than an 'ice-breaker', but it did show that only three of the e-Advisors had completed a psychometric evaluation such as the Myer Briggs Type Indicator. This was useful because there were no preconceived notions about the assessments they were being asked to complete. This partly addresses the third of Rapoport's (1970) dilemmas, initiatives for dealing with relationships.

The assessments used are 'Form A' and Change State Indicator (CSI) (Appendix 3) developed by Beck and Cowan (1992, 1996). To add another perspective related to the adviser's work, two other assessments, 'the balance between hope and anxiety' and 'strategy development questionnaire' were used to uncover the espoused values within this small section of Oracle. The responses were then used to inform the outcomes from 'Form A' and CSI during a semi-structured interview.

The choice of these other assessments was based on the e-Advisors being at the commercial and market-driven end of the business. In addition they were part of a large international corporation with a 'strong⁵' culture. 'The balance between hope and anxiety' Hamel and Prahalad (1994) is based on their book, 'Competing for the Future' and is marketing-oriented (Appendix 6). The Strategy Development Questionnaire is from Johnson and Scholes (1993) in their book 'Exploring Corporate Strategy' by Andy Bailey and uses the later updated (Bailey and Johnson and Daniels, 2000) version.

The Marketing and Strategy questionnaires were emailed to the volunteers and internet access given to complete the 'Form A' and Change State Indicator. On completion, the responses formed the basis of semi-structured recorded interviews. These interviews were conducted either face-to-face, by telephone or by a videoconference link. Before each interview the volunteers were given the results with the researcher's interpretation of the results. This allowed better use of their limited time and helped focus the discussion during the interview. The interviews were then transcribed into text and used for qualitative analysis to inform the findings. This was mainly manual⁶ cut and paste with some use of the HyperRESEARCH software. (This was part of the learning cycle for the researcher).

The next section looks at the analysis of each of the four questionnaires with illustrative examples. Note⁷

⁵ Strong Culture from discussions with the e-Advisors is defined as central control from head Office in the USA.

⁶ Analysis was done manually while learning how to use the software.

⁷ Note: - Graphics are used as well as tables - graphics are used at the interviews and filled the role of visual metaphors (Morgan, 1983, 1998) these needed less time to interpret for the volunteers.

7.11. Analysis Form A [The Hidden]

This section covers the results of the questionnaire Form A (Appendix 3) which looked at the current strengths of each of the value systems. This produces for the individual a value and belief system profile. Figure 7.6 is a visual representation of the profile for the group (9 participants), the sponsoring individual ID#55 (pseudonym Henry) and the 1st World Average as used by Beck and Cowan (1992). As a reminder of the value systems that were measured, they are shown in Table 7.7.

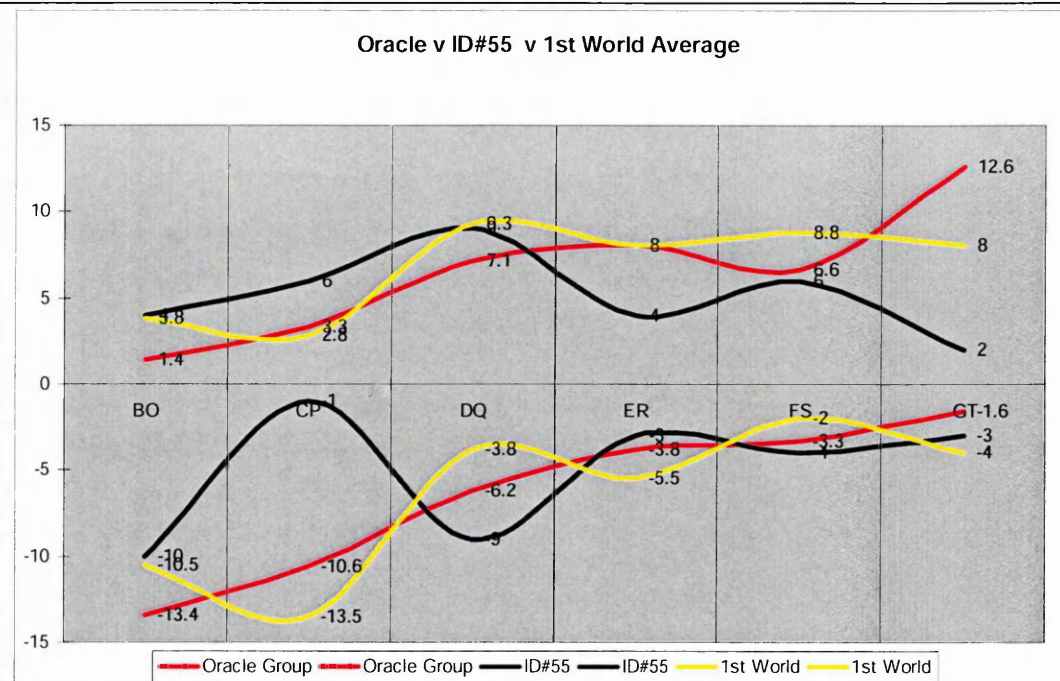
Note: 1st World Average is an average for assessments carried out in Western countries by Beck and Cowan (1992), as shown on the Form A chart Figure 7.3.

Table 7.7 Core-Values – Relationship Definitions - Oracle.				
Core-Value (in an organisational context)	Beck and Cowan (1996)	Graves (1977)	Beck and Cowan (1996)	Expressive 'I' Sacrificial 'WE'
<i>1. Survival – Basic needs</i>	<i>Instinctive</i>	<i>AN</i>	<i>Beige</i>	<i>I</i>
2. Organization Community - Teams	Clannish	BO	Purple	WE
3. Creativity and "what's in it for me"	Egocentric	CP	Red	I
4. The Correct Way - Processes	Purposeful	DQ	Blue	WE
5. The Pull to Commercial Success	Strategic	ER	Orange	I
6. The Human Dimension	Relativistic	FS	Green	WE
7. The Big Picture - Integrated	Systemic	GT	Yellow	I
<i>8. The Global Picture</i>	<i>Holistic</i>	<i>HU</i>	<i>Turquoise</i>	<i>WE</i>
The values highlighted in bold are the values measured by 'Form A'				

To produce a visual gap model the individual scores were put into a spreadsheet. Figure 7.7 is from that spreadsheet and is shown as a graph of the raw scores values. The positive scores are acceptance of a value system and the negative scores are rejection of that value system. This is another way of representing the data as shown earlier in Figure 7.3 in this chapter which was limited as it was auto-generated by the internet database system. Using a spreadsheet gives more flexibility by showing individual scores against the e-Advisors' group scores. This graph shows Oracle as a group average, and Henry (ID#55) and the world average scores.

Figure 7.7 Oracle Group results Form A – showing Gaps.

Henry (ID#55), e-Advisors Group and 1st World Average



This is 'Form A' showing the value systems in order of humankind's development from Clannish BO to Systemic GT, the centre line.

Above the centre line is acceptance of a value

Red line (start 1.4 finish 12.6) is average of the aggregated group of e-Advisor

Black line (start 9.8 finish 2) is e-Advisor ID#55

Yellow line (start 9.8 finish 8) is the 1st World average as used by Spiral Dynamics

Below the centre line is rejection of a value

Red line (start -13.4 finish -1.6) is average of the aggregated group of e-Advisor

Black line (start -10 finish -3) is e-Advisor ID#55

Yellow line (start -10.5 finish -4) is the 1st World average as used by Spiral Dynamics

Table A 9.0 Appendix 9 shows the detailed results for this graph.

Key comments: Henry has a higher acceptance of individualism (red CP +6 & -1) and low rejection, which points to creativity but also 'what is in it for me?' compared with the group and the 1st World Average (+2.8 & -13.5). The other key difference is in systemic thinking (yellow GT). The group has a greater systemic approach when compared with Henry. Henry's GT score +2.0 and -3.0 and Oracle group's were +12.6 and - 4.0. Henry was part of the group average and the low rejection -3.0 suggests some agreement with the groups Gravesian systemic values. This was an area of concern for Henry as he considered himself to be a systemic thinker. Henry repeated the 'Form A' with similar results four months later. To confirm these results the alternative Values

Test (VT) instrument was used twenty-four months later. This confirmed the results of the 'Form A' responses. Table 7.8 shows the details.

Table 7.8 Henry (ID# 55) comparison of Form A (Note: done twice 27/02/02 and 06/06/02 and Values test 13/05/04)														
Person Henry	Acceptance (Positive +)							Rejection (Negative -)						
	GT	ER	CP	BO	DQ	FS	HU	GT	ER	CP	BO	DQ	FS	HU
Form A/1 st	2.0	4.0	6.0	4.0	9.0	6.0		3.0	3.0	1.0	10.0	9.0	4.0	
Form A/2 nd	2.0	4.0	7.0	2.0	12.0	6.0		6.0	5.0	2.0	8.0	4.0	5.0	
Values Test	21.0	30.0	4.0	13.0	14.0	33.0	35.0	11.0	16.0	47.0	19.0	27.0	18.0	12.0
Oracle Average Form A	12.6	8.0	3.3	1.4	7.1	6.6		9.6	3.8	10.6	13.4	6.2	3.3	
	Left Brain Expressive Self				Right Brain Sacrificial Self			Left Brain Expressive Self				Right Brain Sacrificial Self		
1 st World Average Form A	8.0	8.0	2.8	3.8	9.3	8.8		4.0	5.5	13.5	10.5	3.8	2.0	
1 st World Average VT	29.0	37.0	15.0	10.0	31.0	25.0	13.0	13.0	14.0	40.0	24.0	17.0	13.0	30.0
Researcher Form A	18.0	3.0	1.0	2.0	7.0	9.0		2.0	4.0	14.0	14.0	5.0	1.0	
Researcher Values Test	59.0	16.0	3.0	2.0	2.0	20.0	48.0	53.0	5.0	70.0	35.0	20.0	10.0	5.0

Note: Henry considered himself as a systemic thinker but the Form A and the Values Test did not show this – this argues a possible learned behaviour but under pressure is likely to revert to their dominant meta-memetic profile.

Notes: because of the different way of assigning scores between the 'Form A' and Values Test only general similarities in the profiles can be looked at. Henry's VT acceptance (21.0) of GT below 1st World average (29.0) and rejection (-11) was slightly below the average (-13). Form A Henry GT acceptance (2.0) against 1st World average (8.0) and rejection (-3.0 and -6.0) against 1st World (-4.0). The other interesting point is that in the 24 month later VT a strong rejection of individualism (red CP) may be a suppression of CP as he moves to greater systemic GT thinking. It would need further discussion and investigation to confirm this opinion.

On this difference with Henry's espoused view of himself, the following explanation from the interview was given with the researcher's comments. This explanation gives some possible Gravesian arguments. Henry said, "I personally see myself as and I pride myself quietly and proudly on thinking holistically and systems-wise." From a Gravesian view the low GT may be because GT (systemic) is an 'I' expressive system and so is CP (individualism) which Henry has a higher acceptance of. On the other hand, CP is creative and Henry's CP may be responsible for Henry's assumption that he is thinking in a systemic way, but from an internal 'self' perspective rather than an external systemic perspective. The external environment (Oracle) may also be espousing systemic thinking and for the 'I' to earn what he wants, then the creative CP (individualism) is espousing the systemic (GT) value system. This argument is further

supported by Henry's Values Test which showed a low acceptance of global value system (HU). Both GT and HU are leaps in use of brain capacity (factor of times 10 - Graves, 1977, Beck and Cowan, 1996.) This result argues the view that Henry's systemic approach was centred on the self. Further discussions and investigations would be needed to support this argument. However it could be considered as indicative and it was supported as an argument when interviewing the e-Advisors who had a high acceptance of systemic (GT) thinking.

It is useful to think of the Gravesian value system as the basic values that are activated to cope with the current life conditions. The individual can work outside these values but under pressure or stress, and in Henry's case could revert to putting self first. Again this argument is further supported when discussing during the interviews with the other e-Advisors about their reasons for having high acceptance and low rejection of the systemic value system (GT).

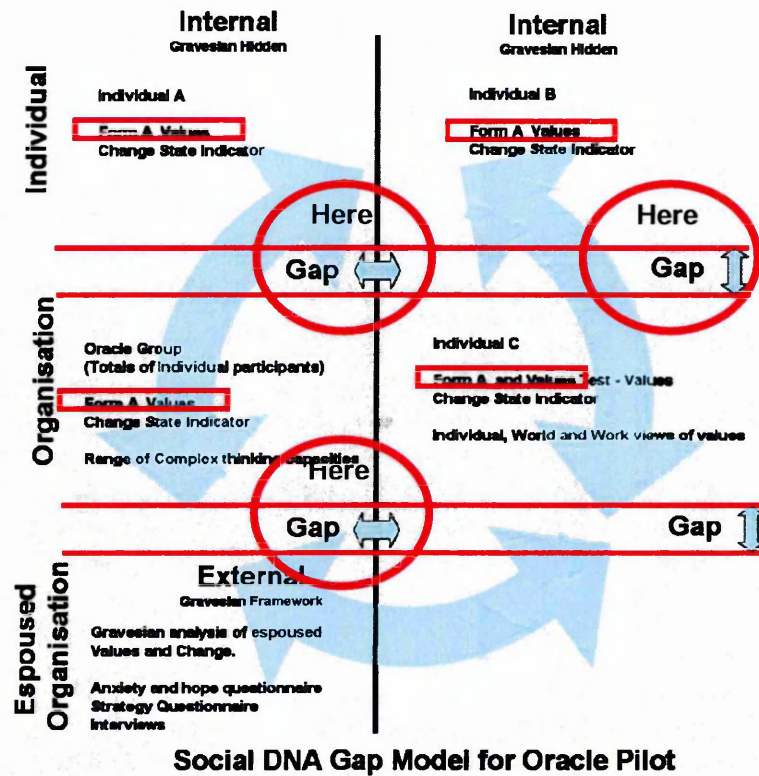
The following is an example of an individual ID#42 (pseudonym Ret). For his story, Ret during the interview is asked to explain his reasons for his high systemic (GT) score.

"I hoped that I am quite good at both perceiving those and also perceiving things like patterns, patterns across organizations, but also patterns within an organization, so for example, I did some work in [XYZ Company] and we went into a meeting with a whole load of people and they were all coming with all sorts of different issues and perspectives. And I said, 'well hold on, there is a common framework, there is common thread, a common model that would describe a lot of these things'. It was almost like you read the moment. When I was thinking, 'hold on, that is like' – click, and it just came. So I don't know about works, but certainly I do think I have got an ability to spot where there are patterns and where there are pictures. I am a very visual person anyway". (Interview quotations are word for word from the transcription of the interviews).

It could be argued that spatial awareness and pattern recognition, which is a reoccurring theme in individuals with high systemic capacities, is a key indicator of systemic thinking. (Beck and Cowan, 1996). More research would be needed and it is outside the scope of this research. However it does reflect the intuition part of heuristics (Gigerenzer et al, 1999 and Buzan and Buzan, 2000) covered in Chapter Four, based on values, beliefs and assumptions. (Schein, 1990, 1992).

The gaps between one individual and the group in their hidden values systems were revealed and expanded during discussions. Figure 7.8 shows where the research is relative to the social DNA gap model.

Figure 7.8 Oracle Pilot Study Gap Model – where we are with gaps - Values



Using the 'Form A' values assessment has started to inform the gaps highlighted above and illustrated with extracts from the semi-structured interviews.

The following Tables 7.9 and 7.10 give further examples from the recorded interviews showing the analysis carried out by the researcher before the semi-structured interview and examples of the transcribed discussions that followed.

Table 7.9 Researchers Analysis before interview and Person ID# 47 (Joe) Interview Form A Values comments

Value	Researcher Analysis and comments (Before interview)	Joe's Interview Discussion
GT	Your Yellow GT global systems view is average for the group and below the population normal. This development of Yellow systems thinking and pattern recognition gives a good understanding of other peoples perspectives. For example the ability to see the complete value chain, from supplier to customer. This will counter the compartments prevalent in strong Green and gives the ability to converse to any customers/colleagues who may have other dominant structures. The stronger systems thinking becomes the realisation that current ways of operating businesses will not succeed into the future.	Would you say that's typically the yellow [GT] develops over the [Time] and it becomes a more mature individual more experience from different types of work. Yes I agree. I would perhaps appear to think that I would have a bit higher on the yellow. But I also feel that I am currently developing that. I find it easier to understand the way other people are shaking and acting. Is this the way to my yellow.
ER	The group profile again fits with Western European profiles. It also common for most companies which have all have a good acceptance/rejection of Red 'self' Blue process and controls and Orange strive drive. With a much higher Orange than Blue you are able to play hard ball as the Americans would say and strive for success. Use your entrepreneurial skills to good effect, but may feel the frustration of the processes and controls. The group could have a small tendency to hostility and not be accountable. To be fair though this gives a go get attitude and is around average for the population normal. This healthy use of Red, Blue and Orange leaves you in good position to achieve within the Oracle culture.	I don't really still don't understand that my orange is that high. I did get a good balance perhaps, but when I read the culture manifestations and personal displays of the orange, that materialistic, consumers and factor image papers. [It] looks very important to me. If [so], that is the reason what is driving me to probe the individual, the constant development of [knowledge] and experience. That consumers [depends] on success, so I would have expected that orange together but if you're saying the question of balance, I can be [balanced].
CP	The group overall has a healthy acceptance Red CP which is necessary at times to achieve ones own goals. The group rejects the excess of Red like a gang leader and extremists. The population normal for western countries is an acceptance level of 2.8 and rejection of -13.5 the group broadly operates within this range. By keeping Red healthy, you are your own person and able to question the Oracle processes more. You may want to re-evaluate 'what's in it for me' as being lower than the population normal can cause some of the frustration of Gamma and too much for the good of the group?	I think one thing that is important is that I have, when I have answered to the question, I have mainly looked at the Swedish situation, which might of course differ from the other countries within that.... . When you put the question like that, it is better to change evolutionary to revolutionary. I'm not sure maybe it has to do with evolution as well, but I can see that the reason why I have answered this matter is that in myself I am pretty much an evolutionary man. Yes makes perfect sense because I'm seeing this continuous dichotomy within Oracle between these two extremes and how you balance them. So really, moving on sort of relatively quickly, it's surprising how far the two hours go. The chaos and order, I think are really much very self explanatory with just the incremental the older way etc. I understand that. That was what I was thinking – mainly when I see people around me, I think, high red and I understand that I don't have as high as they would have had. I'm happy with the green.

Table 7.9 (cont) Researchers Analysis before interview and Person ID# 47 (Joe)
Interview Form A Values comments

Value	Researcher Analysis and comments (Before interview)	Joe's Interview Discussion
BO	<p>The whole of the group has a strong rejection of what could be cult leadership within Oracle. There is a need to look at this in a more positive light and understand the hot buttons for this type of leadership. They tend reward groups rather than individuals and stick to a tradition. In dealing with countries as you go further south (Southern Europe to South Africa) this becomes a very strong bond of the family and tribe.</p> <p>Within UK secular society, the spiritual has become viewed with suspicion. Nevertheless, there is a growing trend toward things like emotional intelligence and spiritual intelligence. You seem to have respect for this point of view, and only reject the negatives of letting the myths and legends become too strong. How much myth and legend has the CEO built up? Is power really controlled at the centre? Your rejection/acceptance of this area of life is in line with the normal population and the group.</p>	<p>I think there is a bit too much myth and legend built up. Then again, [word cannot be heard] I also think that it's good to have one focal point of the company. After all, it's someone who makes a difference in the marketplace then makes [public] statements who is [recognised] who can bring out our vision to the marketplace.but there is a tendency towards building up to much of myth and legend [after all] you're only [a] human being.</p>
DQ	<p>The group has a dichotomy with on one hand a need for an orderly set of business processes and on the other hand the need to reject them as a command and control structure. Your rejection of imposed processes is I think shown in healthy Red. You accept the healthy aspect of Blue, which are the boundaries and controls that make life work. You do have the tension of the group and are prepared to work somewhat within the rules and constraints. This fits also with regards for the future and the reward for the group rather than the individual. If Oracle is healthy, you are! Therefore, you accept as does the group the command and control central power of the oracle processes. Is this a pragmatic acceptance?</p>	<p>Yes it's very much in line there. And you see that those who control the [purse] strings have the power.</p>
FS	<p>With a lower Green compared to Orange you have seen the pitfalls associated with fanaticism in high human bond and environmental issues. The associated barriers, confrontations and not being aware of other ways of doing things. Perhaps in your opinion these humanistic issues are being overdone. Your strong Yellow system thinking has pulled you through the pitfalls of high Green. Many people out there hide a very high Red 'self' first under a Green banner.</p>	<p>I think I've gone a long way to shaking that off but it was certainly true 5 years ago. Really true.</p> <p>Well yes. I think it's fundamentally – there's something wrong there. There is no question about it because I have invested a huge amount of effort and time into changing this issue with me which I know was an issue many years ago.</p>
<p>The researcher's analysis was emailed to the interviewee before the interview date and formed the basis of the semi-structured interview discussion Researcher's clarifications are in square brackets.</p>		

Table 7.10 Researchers Analysis before interview and Person ID#55 (Rob) Interview Form A Values comments

Value	Researcher Analysis and comments (Before interview)	Rob's Interview Discussion
GT	<p>Your Yellow GT global systems view is well below average for the group and below the population normal. This development of Yellow systems thinking and pattern recognition gives a good understanding of other people's perspectives, but because of your high acceptance of Green issues you may struggle to see other points of view. This may give problems with the ability to converse to any customers/colleagues who may have other dominant structures.</p>	<p>Couple of points. I personally see myself as and I pride myself quietly and proudly on thinking holistically and systems wise. I understand the connective nature of things. But indeed that breeds the generalism view that I have because it allows me to touch all of those aspects of the system, be it in a department period, in a project period in my life period, however I chose to define it. So I always, always try and think of the system and the effect and why the system is doing something. Systemically or holistically.</p> <p>So why such a low score? I have no idea. It's a complete and utter surprise. And I do not know how the analysis threw that up because it's a pretty fundamental value or a belief that I have about the way one should see something before tinkering with it. You might want to redo it and just see whether it comes out differently.</p>
ER	<p>The group profile again fits with Western European profiles. It also common for most companies which have all have a good acceptance/rejection of Red 'self' Blue process and controls and Orange strive drive. With a lower Orange than Blue you are not always able to play hard ball as the Americans would say. You may need to develop your entrepreneurial skills. The group could have a small tendency to hostility and not be accountable. You tend to be more accountable. This healthy use of Red, Blue and Orange leaves you in good position to achieve within Oracle but you are out of step with changes within Oracle and the western world view.</p>	<p>Depends on the issue but probably generally speaking it might be true. I can't get worked up about playing hardball sometimes. Yes, 'ra ra hee ha'. I'm taking my ball home – I'm not playing any more.</p>
CP	<p>The group overall has a healthy acceptance of Red CP which is necessary at times to achieve ones own goals. The group rejects the excess of Red like a gang leader and extremists. The population normal for western countries is an acceptance level of 2.8 and rejection of -13.5 the group broadly operates within this range. By keeping Red healthy, you are your own person and able to question the Oracle processes more, but your rejection of the excesses of Red is very low -1. You may need to look at the unhealthy side of what in it for me.</p>	<p>In part it comes from my parents. There's something about being a macho and this sounds incredibly silly John but I feel incredibly proud to have a part of a very special family. So everybody says that – but it drives me relentlessly and in a sense of proving that we're cool. I was the first one to get the cap and gown. A driving force behind the MSc was wanting to give my mother a photograph of me in a cap and gown.</p> <p>Yes – patterns it's funny. It's an incredibly strong issue for me my behavioural developments and patterns of behaviour that have got me to where I am, so patterns I'm comfortable with. Patterns I think are very important, powerful and when you understand them, it begins to make sense of why you're doing stuff and I can see that and again I am astounded it hasn't come out stronger than it has. Something has gone....</p>

**Table 7.10 (cont) Researchers Analysis before interview and Person ID#55 (Rob)
Interview Form A Values comments**

Value	Researcher Analysis and comments (Before interview)	Rob's Interview Discussion
BO	<p>The whole of the group has a strong rejection of what could be cult leadership within Oracle. You look at this in a more positive light and understand the hot buttons for this type of leadership. They tend to reward groups rather than individuals and stick to a tradition. In dealing with countries as you go further south (Southern Europe to South Africa) this becomes a very strong bond of the family and tribe.</p> <p>Within UK secular society, the spiritual is becoming viewed with suspicion. Nevertheless, there is a growing trend toward things like emotional intelligence and spiritual intelligence. You seem to totally reject this as a view point, and only look at the negatives of letting the myths and legends become too strong. How much myth and legend has the CEO built up? Is power really controlled at the centre? Your rejection/acceptance of this area of life is within the normal population and above that of the group.</p>	<p>Yes definitely. Yes there is a lot of influence at country level. People have a lot of scope to do things but truly when you say power about where the business is going, what business is it in and what is it doing and what products does it develop. All those decisions are made in the centre.</p> <p>That's a fair observation.</p>
DQ	<p>The group has a dichotomy with on one hand a need for an orderly set of business processes and on the other hand the need to reject them as a command and control structure. Your acceptance of imposed processes is I think is shown in healthy Red. You accept the healthy aspect of Blue, which are the boundaries and controls that make life work. You have the tension of the group and are prepared to work somewhat within the rules and constraints. This fits also with regards for the future and the reward for the group rather than the individual. If Oracle is healthy, I am!</p>	<p>But the interesting thing about Larry is if you said to me, would you prefer ????? , would you be happy in a dictatorial environment where the boss basically lays the law down and I would have said, No Way. But in a bizarre way it's refreshingly clear and cuts through a lot of crap about where we're going and what we have to do and then we're all left picking up the pieces about how we do it. And that's the intellectual challenge that we all face everyday. How do we bring about this. It's not where are we going, we don't spend hours contemplating about where we're going here as opposed to my last.</p>
FS	<p>With the high acceptance of Green compared to Orange you have not seen the pitfalls associated with fanaticism in high human bond and environmental issues. This acceptance of a more human approach to business is in line with current European trend. The associated barriers, confrontations and not being aware of other ways of doing things are not countered with higher Yellow systems thinking. This leads to the need to compartmentalise issues. Your lower Yellow system will not pull you through to bypass the extremes of Green issues. Many people hide a very high Red 'self' first under a Green banner are you are perhaps doing the same?</p>	<p>Which is in the green? You have got very high green. Green again is the.... Human bond. And I'll explain it a little bit better later on. When we move through this flex flow. I don't know if this will fit but I've done a huge over the last five to six seven years, like many people who've gone through a lot of change, but I have done huge amounts of self analysis. Introvert, some of it was very rudimentary in the early days, it became a richer experience the more I understood what was going on. Pretty much like today actually.</p>
The researcher's analysis was emailed to the interviewee before the interview date and formed the basis of the semi-structured interview.		

The 'Form A' assessment provided a useful tool for discussing issues, whether personal or business. The next section looks at preferred types of change for the group.

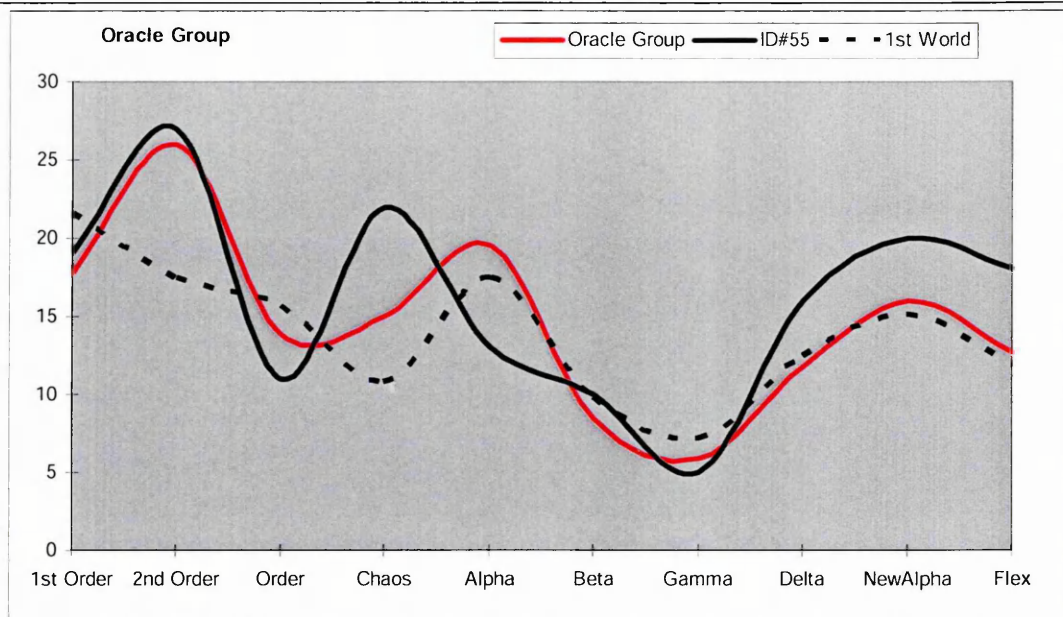
7.12. Analysis Change State Indicator [The Hidden]

This section covers the results from the questionnaire Change State Indicator (CSI – Appendix 3) which evaluates the preferred change from the ten types of change. As a reminder these are shown below from Chapter Three. (Table 3.5)

Table 3.5 Types of change	
Change States (in an organisational context)	Beck and Cowan (1996)
1. Preference for incremental change – 1 st order Change	1 st Order Change
2. Preference for Step Changes – 2 nd Order Change	2 nd Order Change
3. Preference for Order	Order
4. Preference for Chaos	Chaos
5. How content with today	Alpha
6. Something is not right with today	Beta
7. Frustration level	Gamma
8. Surge Energy to Change	Delta
9. Optimism for the future	New Alpha
10. Energy for Change to Occur	Flex

Following the same logic as the 'Form A' the raw scores from the questionnaire were input into a spreadsheet to produce a gap model. Figure 7.9 is a visual representation of the change state profile for Henry (ID#55), the Oracle group and the Spiral Dynamics 1st World averages⁸ (Beck and Cowan 1992). As with 'Form A' the auto-generated graphs from the internet database have limited use, shown earlier in Figure 7.4 in this chapter.

⁸ CSI 1st World averages are as used by Spiral Dynamics and is based on 300 managers (Beck and Cowan, 1992).

Figure 7.9 Oracle Group Change State Indicator**e-Advisors Group, Henry (ID#55) and 1st World Average.**

This shows the gaps (differences) between the e-Advisors group Henry and the Spiral Dynamics 1st World average.

The red line (starting at 17.8 1st Order Change and finishing at 12.7 for Flex) shows the e-Advisors (Oracle group)

The black line (starting at 19.0 1st Order Change and finishing at 18 for Flex) shows Henry

The dotted black line (starting at 21.6 1st Order Change and finishing at 11.9 for Flex) shows the 1st World average of 300 managers used by Spiral Dynamics as a reference.

A table of results is shown in Table A 9.1 Appendix 9

Main gaps Henry prefers chaos, is not content with today (Alpha), sees a new future clearly (New Alpha and has more energy to make changes happen (Delta and Flex) than the whole group.

The results shown in Figure 7.8 have a strong preference for 2nd Order change (step or revolutionary change) which is well above the 1st World average. Henry and the group both have a reduced need for order and a preference for chaos but Henry has more comfort in working with chaos. Chaos is argued to be an early indicator that a values profile change is starting to occur and, in Henry's case, this may be the entry stage into systemic thinking (yellow GT). The Values Test completed twenty-four months later with the reduction of CP (red individualism) may also support this transition from the 'I' of CP to the systemic 'I' of GT. This may also support Henry's view of himself as being systemic. Henry is also not content with the 'now' the today (Alpha) whereas the group is comfortable with today. Henry and the group have an average feeling that something

is wrong with today (Beta), but may not know what is wrong. The group is relaxed about these feelings of beta, as shown by the below average (Gamma) score, the trapped frustration feeling. The difference between Henry and the group is further explored in the type of change of Delta and Flex. Henry has much more energy for change (Delta) with a view of something new in the future (New Alpha) which is attainable and the energy (Flex) to move towards a new future.

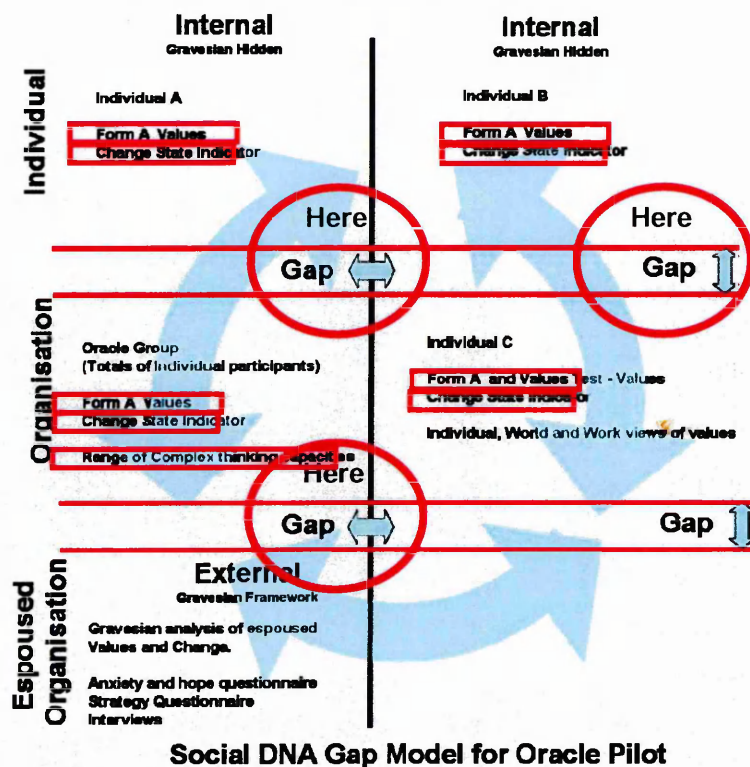
To add to this opinion of change Henry's comments from the interview are: "But I still have this almost rebel inside of me which is sparkling away all the time", a 2nd order step-change view. He continues. "there was a revolutionary period of greater personal awareness and confidence that comes with that and having a position on some of the issues that if you faced in your life, and I have a position now which allows me to manage through life and deal with many complexities." This may argue for a connection to the power associated with Henry's high CP (red 'I') individualism. The use of the word 'I' and 'position' and also further conversation on the future supported a revolutionary change option (2nd Order change).

Figure 7.9 is illustrative of how gaps between a group and an individual can be displayed and, in interview extracts, they show a method of discussing a particular score and gaps. In addition, by looking for other views there are pointers about why there are differences of opinion on Henry's GT (yellow) score. With such a small group these results can only be illustrative. If all of Oracle's e-Advisors had been involved then a better informed analysis could be carried out. Details of the Change State Indicator results are shown in Table A9.1 (Appendix 9).

This section explores the differences between Henry and the group and suggests how to use the change state relationship to values. Henry may be in transition to a more systemic way of thinking. Henry was not an e-Advisor but involved in staff development. The analysis and resulting discussions gave him clues on how to develop and help staff develop. By discussing these gaps Henry was better informed about his training relationship to the e-Advisors. Note all individual scores were confidential and not discussed with others. This was another reason for using the group average as a discussion reference point.

The Figure 7.10 shows where the research is, relative to the social DNA gap model.

Figure 7.10 Oracle Pilot Study Gap Model – where we are with gaps - Change



Using the Change State Indicator assessment has added to the information about the gaps highlighted above and illustrated with extracts from the semi-structured interviews.

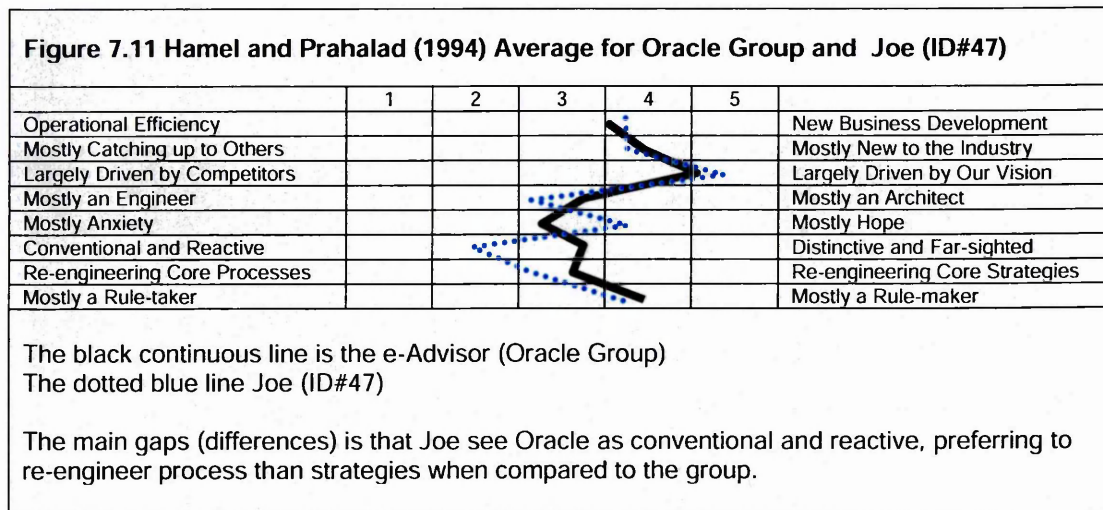
The next section continues to add further information to the social DNA gap model by looking at the marketing role of the e-Advisors, namely the use of the balance between the hope and anxiety questionnaires. This starts to look at the 'External' and espoused organisational values but within the Gravesian framework.

7.13. Analysis Balance between Hope & Anxiety [The Espoused]

This section looks at one part of the marketing role of the e-Advisors and their espoused view of Oracle's values, beliefs and assumptions. The analysis of the responses to the questionnaire uses the Gravesian values and the preference for change, building a 'transcend and include'⁹ model of information and shown in the figures of the gap models as a circle of green arrows (Figure 7.9).

The questionnaire, based on Hamel and Prahalad (1994) was a marketing-oriented assessment relating to the roles of the e-Advisors for remaining competitive and providing tailored software solutions. The questions are shown in Appendix 6 with the optional questions to provoke thoughts about the future. The e-Advisors did not answer these optional questions because of time but did agree that they offered a useful background for answering the 'Balance between Hope & Anxiety' questionnaire.

Figure 7.11 shows a visual representation for the responses and analysis of Joe (ID#47).



For a more detailed look at the results, the following Table 7.11 shows the individual results for the nine e-Advisors.

⁹ Transcend and include – Chapter 2 p36 – each part is a whole which then forms a Holon.

Table 7.11 The balance between Hope and Anxiety Hamel and Prahalad (1994)

Person ID#	42	43	45	47	48	49	51	55	60	Min	Max	Mean
	Ret			Joe				Henry				
Operational Efficiency v New Business Development	4	4	1	4	4	4	4	5	4	1	5	3.8
Mostly Catching Up to Others v Mostly New to the Industry	4	4	5	4	4	4	5	3	4	3	5	4.1
Largely Driven By Competitors v Largely Driven by Our Vision	5	5	5	5	5	5	4	4	4	4	5	4.7
Mostly an Engineer v Mostly an Architect	3	3	4	3	5	4	3	3	4	3	5	3.6
Mostly Anxiety v Mostly Hope	2	3	5	4	3	4	2	2	4	2	5	3.2
Conventional and Reactive v Distinctive and Far-sighted	4	4	4	2	2	4	3	3	5	2	5	3.5
Re-engineering Core Processes v Re-engineering Core Strategies	2	3	4	3	3	5	3	4	4	2	5	3.4
Mostly a Rule-taker v Mostly a Rule-maker	4	5	5	4	4	4	4	3	4	3	5	4.1

The marking systems is 1 right side and 5 left side e.g. if fully Operational Efficiency (OE) the mark would be 1 if fully New Business Development (NBD) the mark would be 5. Only one person #45 saw Oracle as fully OE the rest were strongly towards NBD. Appendix 6 shows the full questionnaire.

In general there was a commonly shared view of Oracle with the most notable exception a view that Oracle better at operational efficiency and view that it was better at new product development.

To illustrate the views that Oracle was better at some aspects of marketing, extracts are taken from the semi-structured interview. Joe showed a strong consensus with the group that Oracle was driving the market place, as pointed out by "largely driven by our vision". This was not reflected in the CSI, which showed Joe's preference for 1st Order (incremental) change with a weak New Alpha (where he was going), and showed less energy to achieve this with the low Delta score. However, Joe's view of Oracle being "largely driven by our vision" supports the 'Form A' group's responses and Joe's values profile of high GT (systemic) and ER (strategic). This argues that Joe would move towards the vision in slower incremental steps. (Detail of Joe's CSI Table A9.1 Appendix 9)

Joe expressed more hope than anxiety than the group and the majority were 'mostly anxiety'. The e-Advisors were 'mostly anxiety' as Oracle was in the middle of a job rationalisation programme so the future was uncertain. Systemic (GT) thinkers can handle this by working through the choices whereas others without this ability will sense frustration. (Beck and Cowan, 1996). Joe's high score of 11 (global average 7) for Gamma (frustration level) from the CSI assessment was found during the interview

discussion to be about the business process and planning roles, whereas the rest of the group was more concerned with job security. Joe stated that, because of Oracle's size and financial security. "...no matter what is going to happen in the market place, no matter what shake-ups, Oracle will be one of the [companies] that could come up on top, if you have a good set of products, vision etc. And I think, yes that is a very good culture". This view reflects the result of a balanced ER (strategic and success) and the systemic approach of above-average GT (systemic). Even though GT is an 'I' value system, it is not at the expense of the company or others. This argument is further supported by the strong rejection of individualism (CP). Therefore Joe is more likely to be a team player and gain his rewards as part of the group and be able to work through his frustration (Gamma). (Detail of Joe's 'Form A' Table A9.2 Appendix 9)

Linking the discussion to the Hope and Anxiety questionnaire reveals Joe's conflicts are the gaps created by the tensions between the group's values and beliefs and Joe's. In Joe's case the higher frustration (Gamma) in the Change State Indicator is not linked to the question of balance between hope and anxiety. This might have been assumed, but comes from a different area and is discussed further in the next section on the results of the Strategy Development questionnaire.

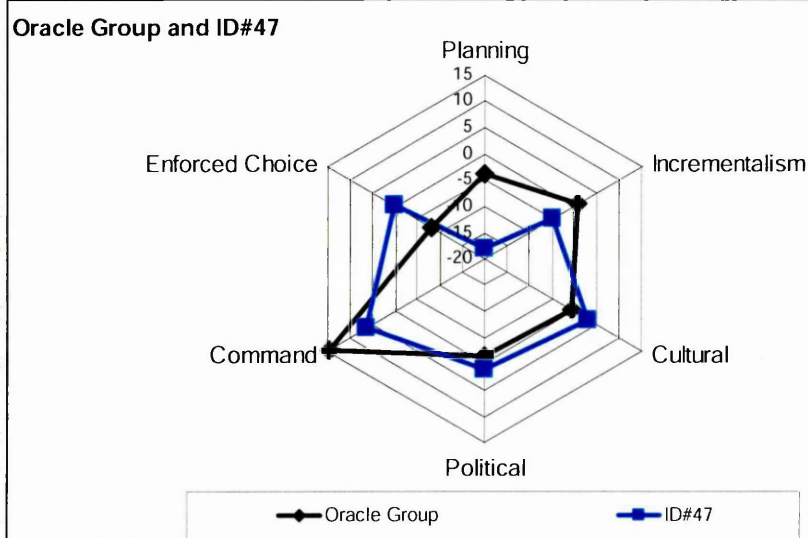
The next questionnaire takes the same approach as 'Hope and Anxiety' but from a strategic perspective. This continues to expose the espoused view the e-Advisors have of Oracle. Their world-view looking outwards through their hidden Gravesian filters.

7.14. Analysis Strategy Development [The Espoused]

Since Oracle is a global player in the corporate software market place, the investigative questionnaire by Bailey et al., 2000 (original in Johnson and Scholes, 1993) was judged suitable by the researcher. The instrument shows the tensions and possible gaps between Corporate Strategy Development, the Gravesian values and change state profiles. This adds further information to the 'hope and anxiety' questionnaire (Hamel and Prahalad, 1994) to inform the interview discussions.

Figure 7.12 gives a visual representation of the group and Joe (ID#47).

Figure 7.12 Oracle Group Strategy Development (Bailey et al., 2000)



This chart shows the differences between Joe (ID#47) and the e-Advisors (Oracle group).

Notable gaps are Joe sees Oracle as being a company of enforced choices, a command structure and having little importance for a proper planning process.

Table 7.5 shows the detailed results.

To support the above figure the following Table 7.12 shows the individual results for the nine e-Advisors:

Table 7.12 The Strategy Development Questionnaire Results (Bailey et al, 2000)

Person ID#	42	43	45	47	48	49	51	55	60	Min	Max	Mean
	Ret			Joe				Henry				
Planning	-4	-4	-1	-18	-9	-2	6	-2	0	-18	6	-4
Incrementalism	6	8	4	-5	-2	-3	0	1	-4	-5	8	1
Cultural	1	-3	-6	3	5	-10	-1	4	-1	-10	5	-1
Political	-1	4	-8	1	8	-5	-7	-1	-7	-8	8	-2
Command	17	14	13	6	17	15	14	15	17	6	17	14
Enforced Choice	-4	-9	-7	0	-9	-14	-13	-11	-9	-14	0	-8

This table cover the six categories that the questionnaire questions asked.

It can be seen from the results that Joe (#47) did not think the Oracle planning process was good (negative figures) by a large margin when compared to the others in the group. However all agreed that Oracle was a command organisation (High DQ Authority) from its USA headquarters. Again Joe had the more extreme view.

A deeper analysis of the individual responses to the questions is in Appendix 6

The two main areas highlighted, from the responses to the questionnaire, were that Oracle runs as a command structure from its centre in the USA leading to a 'command and control' environment or 'task management' (Blake and Mouton, 1969). The second area was that of planning, producing a negative response of a "necessary evil" to a "mechanistic process" with little value and no participation. This view reflects the group's overall rejection of unhealthy DQ (authority) in the Gravesian values profile (Form A).

To illustrate Joe's extreme view his marking of questions is shown in Table 7.13 showing he strongly disagreed, giving the series of questions on planning a score of 1 out of 7. The group was less negative; nevertheless it was still a controversial area for the group.

Table 7.13 Joe on Planning (ID# 47) Strategy Development

47	Q1	1	We have definite and precise strategic objectives
	Q7	1	We evaluate potential strategic options against explicit strategic objectives
	Q13	1	We have precise procedures for achieving strategic objectives
	Q19	1	We have well defined planning procedures to search for solutions to strategic problems
	Q25	1	Our strategy is made explicit in the form of precise plans
			We make strategic decisions based on a systematic analysis of our business
	Q31	1	environment.

1 = strongly disagree 7= strongly agree

Joe had a balanced acceptance and rejection of DQ (authority), suggesting a sensible and healthy view on processes, these planning systems being acceptable as long as they supported his job. (Table A9.2 Appendix 9 shows Joe's 'Form A' analysis).

From the interview Joe commented on planning: "I think that the planning questions or the strategic planning in Oracle [his country] is a mess. I'm very frustrated with it [because] I've been trying hard to make changes to this. I have planned all sorts. My own service [previous employment] is in this area, since I have been working with them before and I would be quite happy to do things [to improve things]. But that's has been turned down and we have been affected [with] some weird new [processes]. Keeping our budget figures etc, etc. So I think it reflects a frustration. That is it." (Square brackets are researcher's clarification or missing words as English is not Joe's native language).

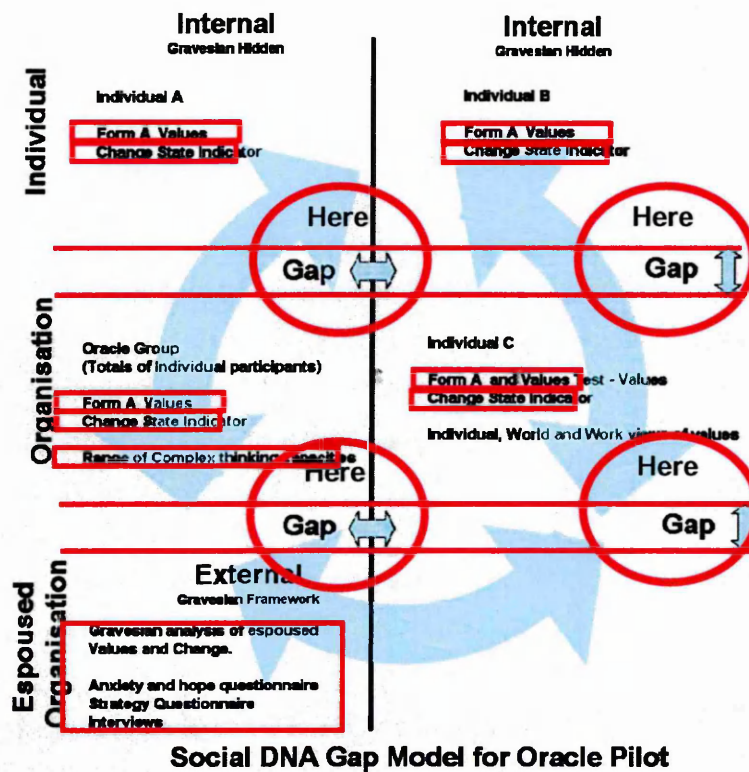
This frustration shows in the high Gamma score of 11 (1st World Average 7) which is nearly twice as high as the group. Another point to note is that Joe comes from a Scandinavian background and a management system that is imposed on a consensus-based (FS humanistic) culture will cause frustration. This also shows the limits of a command and control system where one system fits all cultures and environments. This was reflected in Figure 3.0 (p. 32) in Chapter Three, on country differences.

In Joe's discussion with the researcher on process (DQ authority) the researcher commenting to Joe on his DQ score, asked. "So, probably the fact that you're happy with order, 1st order change etc, I think means that you've got a pragmatic acceptance of the processes." Joe's reply was "Absolutely. I couldn't have put it better myself".

This section on the Strategic Development questionnaire showed how the questionnaire could be used in discussion to inform the results from the 'Form A' and Change State Indicator.

Figure 7.13 shows the further gaps that have been revealed in the social DNA gap model. Using all four tools produced a richer picture. Extra information emerged to inform the discussion with the individual and group's Gravesian values profile and change states.

Figure 7.13 Oracle Pilot Study Gap Model – where we are with gaps - Espoused



Using the Marketing and Strategy assessments has added to the information about the gaps highlighted above and was illustrated with extracts from the semi-structured interviews.

Note the Individual, World and Work views were available for Henry as they are a subset of the Values Test but were not used as only one participant.

The pilot study was not without problems and the closing section discusses these.

7.15. Closing Arguments

The closing arguments review what took place for the researcher and highlights the issues and concerns the Oracle pilot study raised.

1. There is a need to resist the urge to over-analyse the words from the interviews rather than taking an intuitive look for patterns. The data from the four questionnaires is complex, and therefore it became important to use smart heuristics for revealing patterns (Gigerenzer et al, 1999). This is intuition¹⁰ based on the values, beliefs and assumption of the researcher. This view reflects the researcher's dominant systemic value system (GT) that needs as much of information as possible to make best sense of the data. This approach could be argued to introduce bias into the analysis because of the researcher's filters. However as this was to discover 'how to' use Graves' framework, and as the e-Advisors did gain insights about themselves and Oracle, the researcher argues the approach used was an acceptable method.
2. The percentage of talking in the interview was biased towards the researcher. This was caused by not being able to have all the participants together as one group for training and information session on the questionnaires. This resulted in a large part of the interview being spent on explaining the Gravesian ideas and the questionnaires. Training is crucial when using the Gravesian framework so more time can be spent discussing the results.
3. Overcoming the participants understanding of the Gravesian framework for those whose first language was not English was a problem. Even though good, it quickly became clear during the interviews that even more interpretation of the Graves' ideas was needed for these e-Advisors. This links to item 2.
4. All the participants were comfortable with the written interpretation of the questions given to them before the interviews. Examples from the interviews against values for Joe and Rob were shown in Tables 7.10 and 7.11. There was a synergy¹¹ with the questions. Conversation flowed easily and covered areas

¹⁰ Intuition – The power of knowing without reasoning but through the filters produced by the 'pathways in the mind'.

¹¹ This synergy or resonance with participants of values and change states questions is a common comment (Coursen, 2004). The questions are not organisation-specific, therefore neutral for comments about the organisation.

which on a first or second meeting might be considered taboo subjects, for example; religion, politics and personal information.

5. The AR reflective cycle on the Oracle pilot study was important in understanding what the process had achieved. The pilot study produced the confidence for the researcher to use the framework as a means of gaining information of the individual's role in the Oracle culture. Even though a small sample, the gaps and tensions became clear between the individual's values and Oracle's. Through the discussions in the interviews they showed how the e-Advisors values and change states coped with the tensions of Oracle's corporate culture. The social DNA model based on the Gravesian framework usefully informed these discussions, allowing the e-Advisors to have a different view of themselves and their relationship to Oracle. This response suggested there is a place in organisational culture for understanding the role of the individual and its influence on business performance.
6. There were no supported relationships between the Gravesian values and the espoused values of the marketing and strategy development questionnaires. However their use proved helpful in allowing for a different interpretation of the reasons that certain hidden values or change states lead to certain views giving certain espoused values. (Joe's high-level of frustration for example). However strong Oracle's culture was, the positive or negative impact of the individual's culture was revealed. This gave Gravesian reasons to support what each e-Advisor intuitively thought.
7. The process showed that having volunteers¹² was good as they had an interest and wanted to be involved. The negative side is that it biases the results towards people who are interested in this type of approach to understanding culture and self-development. Also, relying on the 'goodwill' of the sponsor meant it is not always possible to follow action research principles, for example given by Denscombe (1998). In this study the need for training and information for the participants either face-to-face or as a group was not a choice because of geographical location and available time. Ideally after each pair of questionnaires Values Test and Change State Indicator and Hope and Anxiety and Strategy Development, there would have been feedback and training

¹² Volunteers are self-selecting and do bias the results when comparing to a group average. To produce a map of a culture a high percentage of an organisation or department needs to be involved.

sessions. This would have allowed the interviews to be more focused on discussion rather than explanations of the questionnaires used.

The adapted action research template was useful as a guide to look at Graves' framework in a small-scale social setting. (Denscombe, 1998, Gill and Johnson, 1997 and Eden and Huxham, 1999). Triangulation sounds an easy idea, but the choice of what to triangulate becomes important. Even though on reflection the marketing and strategy questionnaires were not ideal they did show usefulness when in the Gravesian framework. On further reflection it may have been better to look at espoused values by using a specific cultural instrument like the competing values framework. (Cameron and Quinn, 1999). However at the time this was not familiar to the researcher but it could be useful for future research.

The pilot process revealed, quickly pinpointed and discussed areas of the e-Advisors' values and change that were different to their perceived Oracle's espoused culture. Joe viewed the planning process within Oracle as being inflexible for different cultures (Countries). Joe's values system showed a value system balanced between acceptance and rejection for DQ (authority) which means a healthy questioning of management systems that did not support local needs. A process must have a real value to those using it, for it to be used. In Graves' terms Oracle had little command intelligence system (Z Template) which means the support system (X template) of planning were not aligned with local culture. This X Y and Z template is discussed in Beck and Cowan (1996 p. 177-192) based on the way the brain works. (Graves, 1977; Beck and Cowan, 1996). This shows how an individual's Gravesian profile can influence organisational performance and, if support systems do not align, they can produce a high degree of frustration (Gamma in the change state), as in Joe's case.

The values, beliefs and assumptions of the researcher played a role. For example, a researcher from a process-driven organisation (authority DQ) is unlikely to accept the smart heuristic approach because it cannot be corroborated easily. This, in turn, reflects in the interpretation of the information. In the researcher's case the systemic (GT) approach to the research meant collecting too much data and looking for patterns to try to make the best-informed use of the data. Because of a systemic approach intuition and smart heuristics make sense as part of an integrated approach to culture. The researcher's learning style is informational. "Self-directed access to knowledge and materials; individual develops without compulsiveness or fear; eclectic and diverse interests." (Based on Beck and Cowan, 1996 from Table A1.0 Appendix 1 shown here in Table 7.14)

Table 7.14 VALUE SYSTEMS – GT Yellow Extract (based Beck and Cowan, 1996)						
Currents Of Change	Key Description	Conditions / Problems	Operating Systems	Learning Styles	Management Systems	Motivational Hot Buttons
GT Yellow Big picture views integrative structures Natural chaos & change	Flex Flow Systemic / Integrative "Express self to be free and do no harm"	Finds other systems lack answers for living in a highly complex world	Live according to internal principles in search for most functional way to be	<i>Informational - self-directed access to knowledge and materials; individual develops without compulsiveness or fear; eclectic and diverse interests</i>	SYSTEMIC - Integrated competency-based network where methods adapt to the people and functions at hand, then quickly change again as needed	Freedom to be as one chooses; self-worth and competency; big-picture access to systems and information
<p>This table shows how the same approach to the social DNA gap model can be applied to the researcher. For example the researcher's values and change profile could have been added to the gap model to show the difference in his filters to the e-Advisors group of to individual e-Advisors.</p> <p>Table A1.0 Appendix 1 shows the full Table for interpretation of the values.</p>						

To make a virtue out of the "experimental artefacts" (Gill and Johnson, 1997, p. 60) carried by the researcher the arguments of MacLean et al., (2002) to use a transdisciplinary approach (Mode 2) show the limits of the pilot study for studying culture, as only the researcher's view was available. The insularity (his hidden culture) of the researcher, however much he tries to gain other views and insights, by interview or questionnaire, still gives only one view.

The learning for the e-Advisors and the researcher was still valid for informing the 'self' and change, and for producing a heuristic process using the heuristic ability of Graves' theory. (Graves, 1997).

The prime outcome for the researcher was to show the Gravesian framework was a useful and organisation-neutral method of assessing the underlying values, beliefs, assumptions and change of an individual. The framework allows for opening a discussion about an individual's relationship to the culture they work in. The marketing and strategy questionnaires allowed for informing the difference between espoused and hidden values, beliefs, assumptions and change, revealing perhaps the hidden reasons for them.

There were several contributions to knowledge from the pilot study:

- 1) The Gravesian framework is a useful tool for investigating culture.
- 2) The Gravesian framework can be used with other questionnaires to enhance the level of understanding.
- 3) The Gravesian framework allows individuals and organisations to understand something new about their cultures.
- 4) The Gravesian framework is useful in an AR project for understanding the influence of hidden culture on the research and the participants.
- 5) It is possible to build a social DNA model using the Gravesian framework between the hidden (within the person) and the espoused (what the person says)

These go part of the way to answering the questions asked in Chapter One to produce a better understanding of culture to improve business performance, specifically these questions.

- 1) Does the Gravesian framework help in understanding culture in organisations?
- 2) Does the Gravesian framework help in understanding the influence and role of an individual's culture on an organisation's culture?
- 3) Does the Gravesian framework help to understand the mechanisms of cultural change?

The next chapter is about the UWC case study and builds on the experience gained during the pilot.

8.1.0. Introduction and Overview

The UWC (Utilities Water Company) case study is a further step in understanding the role of the individual in organisational culture using the Gravesian framework. The UWC case study extends the Oracle pilot by adding perceptions.

Chapter Eight is broken down into four parts as the volume of information and data collected over nearly two years was large. 500 staff were invited to take part in the internet-based questionnaires with a rate of return of 20.6% for the Gravesian questionnaires and 13.4% for the UWC questionnaires. Analysis of documents, interviews and questionnaire returns resulted in 5195 instances of coded text. (This information is included here to give an idea of size of the task required to analyse the raw data).

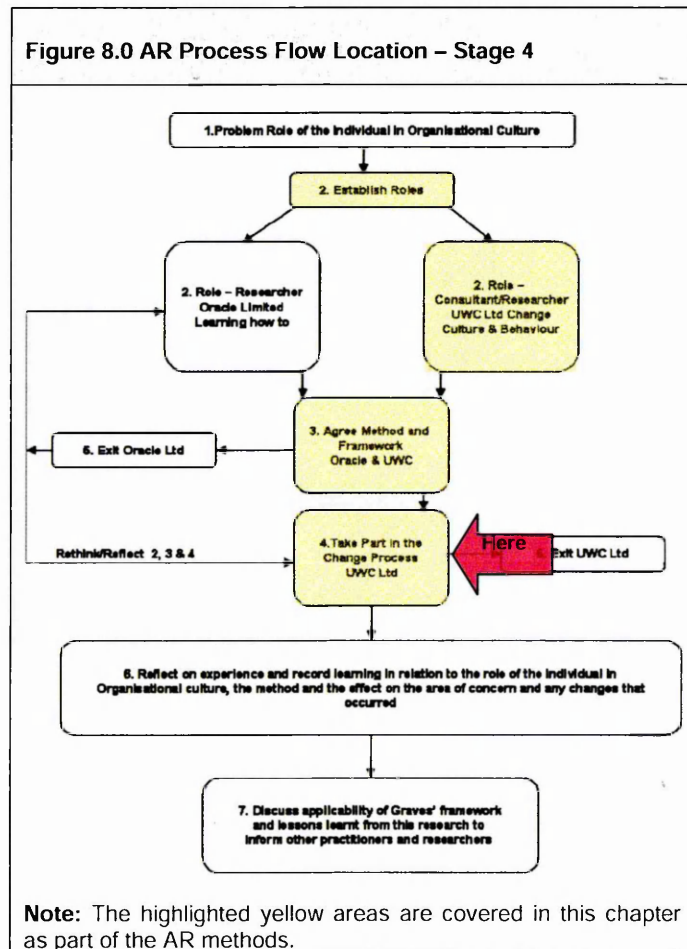
This chapter (Part One) gives an overview of the culture and behaviour problem that UWC wished to address. Part Two covers the detailed research process based on the research methods of Chapter Six. This is slightly different due to the UWC context and the learning that occurred at Oracle. Part Three covers the analysis of information and data gathered and Part Four covers the presentation to and feedback from UWC and the changes that occurred to show the utility of the research.

8.1.1. The Case Study – A Utilities Water Company (UWC)

UWC's concern was that the various cultures and behaviours of contractors were stopping UWC realising the full potential of the new commercial model and its associated new ways of working. In UWC's view the potential of the model was shown by one high-performing contractor who had adopted a certain culture and behaviour to make the new way of working successful. How did this cultural concern surface?

8.1.2. The Concern

In action research (AR) terms this is the 'real world problem' with action taking place in UWC's and their contractor's places of work (Checkland and Holwell, 1998, see Figure 8.0 below). In summary the problem was, had behaviours and culture changed to support a new commercial model? The UWC question was: is the behaviour and culture at each geographical-based contractor supporting or hindering commercial performance? Note: Figure 8.0 the red 'here' arrow shows where the research is in the AR process flow.



Midway into a five-year contract to upgrade Water Quality, Treatment and Customer Service UWC needed to review progress against the new commercial model to provide the foundations for the next five-year contract. UWC needed to discover the real as opposed to the perceived performance of contractors. (Some contractors had more

pain than gain¹). UWC already had indicators (Key Performance Indicators or KPI's) that suggested behaviour issues were causing this pain within UWC and the contractors. This led to UWC perceiving poor performance in the financial return to UWC as an indicator that the commercial model was not working.

Therefore the expected outcomes for the review were for any improvements to management structures, support processes and the commercial model itself that would continue to make UWC profitable and competitive. Once completed the review would allow current or new contractors to tender for the next five years of investments in 2005 with an understood and approved process involving an assessment of behaviour and culture. This was distilled into 'have changes occurred from the traditional and previous way of conducting business?'

The sponsor confirmed the project was to review performance of the new commercial model and to learn if the senior management's opinions of certain contractors reflected what was happening. The researcher's role was to reflect the influence of culture and behaviour on the commercial model using the Gravesian framework as part of an integral approach.

It is not within the scope of this research to go into detail of the workings of the water industry including the water industry regulators. However, it is useful to understand the key issues confronting UWC.

UWC had introduced the new commercial model to reduce the cost of investing in infrastructure for the supply of clean water and the removal of wastewater services for its customers. Any improvement work had to be within the UK Government approvals and investment agreements. Essentially the Government wanted better value for its investments and tied productivity gains to its capital investment programmes to improve water quality to meet European laws (Francis and Minchington, 2002). These programmes were labelled AMP2 (previous), AMP3 (current) and AMP4 (next programme). UWC designed a new contractor commercial 'pain/gain' model as a principle-led partnership model to meet these objectives. At the time this approach was considered an industry-leading approach.

¹ Pain/gain model – agreed budget price, any loss (pain) or profit (gain) shared between UWC and Contractor.

AMP2, the previous programme, worked on a traditional contractor-supplier relationship. Each part of a project was tendered for and then a tender was accepted (usually the lowest), with any escalation clauses. UWC found this way of tendering to be costly and often led to lack of innovation. The approach of accepting the lowest cost, plus payments for changes, brought about a culture of 'them' (contractors) and 'us' (UWC) that needed a command and control² style of management.

To meet Government regulators' needs for AMP3 and the cost and efficiency savings, UWC needed a new method of working rather than the 'them and us' of AMP2. To move forward and be ready for AMP4 in 2005, it was critical for UWC to understand if the methods used for AMP3 were working effectively. Some of the key principles UWC created in the new commercial model are the partnership and team approach that needed a different culture and different behaviours from AMP2. Table 8.0 outlines the pain/gain model.

Table 8.0 - Pain/Gain Commercial Model

- The UWC split its catchment area into regions and contractors, as individuals or as consortiums, tender a budget for the overall programmes for that region.
- The shared responsibility commercial model allowed for sharing profit or losses against the agreed budgeted costs – a pain/gain model.
- For new Infrastructures, systems and processes to support the new commercial model were introduced. The basis of the model was the use of joint contractor and UWC teams. The teams consisted of engineers, project managers, risk managers and were managed by a scheme manager. For a given scheme, the teams evaluated and created solutions, costs and times. The Capital Board and Senior managers then approved or did not approve the teams' solution for the scheme. It was a part of the commercial model that if the overall schemes were completed on budget or under, then UWC did not become involved in the detail of individual sub-projects. This included individual projects that were over cost as long as the overall scheme is under budget.
- Another innovation is locating UWC scheme managers and engineers at the contractors' sites, thus becoming part of the local regional teams.

The focus for this commercial model was to fund and control schemes and not individual projects. In the early stages of the new model, some issues had been overlooked that may in part have led to this review. For example, each region had different topographical problems, with different values, beliefs and assumptions about the contractors and the customers they supplied. In addition, different contractors had

² A task management approach to controlling contractors and costs (Burnes, 2000).

negotiated different clauses into their contracts that reflected their organisational values.

For the review, UWC set up a steering group of senior managers to evaluate the progress and the results of the new commercial model. There were concerns that regions were performing differently, with the best performing contractor making the 'gain' part of the commercial model work well. Poorer performing contractors were perceived as not making the model work properly because they were on the 'pain' side of the model, but seen as internally profitable by UWC.

The UWC steering group identified barriers to change in introducing the pain/gain model. Some of these were infrastructure issues on processes and approvals but the main issues identified were 'behaviours' and 'culture'. This new team approach needed trust and involvement of the contractors, with UWC taking joint ownership and responsibility; this needed a change in culture and behaviours. In essence the old AMP2 way of contracting of 'this is what we want done' from UWC, a 'do it' and 'why haven't you done it' attitude as the dominant management style. The result of this was a confrontational approach over cost variances. Any extra costs incurred by accepting the lowest tender made contractors' profits hinged on engineering changes made to the specification as the contract progressed.

UWC during the change from AMP2 to AMP3 invested time and effort in training and support to its own staff and the contractors. UWC already saw a cost decrease by not having detailed tenders for each project, just an agreed budget cost for an overall scheme.

Table 8.1 shows the questions (edited) the steering group had asked themselves and Table 8.2 gives indicators to the underlying behaviours and cultures, viewed from the UWC management perspective. These formed a basis for the UWC 'Way's of Working' questionnaire and become qualitative analysis codes to assign questionnaire responses to. These questions reflect behaviour, with the behaviour linking to perceptions filtered by their individual and collective cultures.

Table 8.1 Questions raised by the UWC steering group	
1 Control Misalignment	"Is there a misalignment of levels of control between different parties and between the level the model requires?"
2 Risk	"What level of risk adverseness of different parties is actually demonstrated?"
3 Understanding	"what is the level of understanding of different parties of: the commercial model; the contract; system ;the risk value balance; the budget process; target costs; Capital Approvals; core team working; role of the Project Managers"
4 Trust Response	"How to make UWC more willing to share information, more responsive and more trusting?"
5 Contractor 4	"Are they performing significantly better? If so, how do we convince other contractors [to do the same.]"
6 Change Control	"What is the reality and the perceptions of different parties around management of change control? How do we improve things?"
The above comments were taken from the Steering committee's brief for the half-way review.	

A summary of an UWC internal meeting report (Table 8.14) records the UWC view that, to be successful, the new ways of working relied on changes in culture and behaviour.

Table 8.2 UWC edited internal report on perceived behaviour problems.
<p>Title of report <i>"To understand to what extent UWC behaviours impact contractor #2's commercial performance"</i>.</p> <p>"Board behaviour causes delays by: Scheme Managers spend too much time preparing; waiting for slots; schemes knocked back unnecessarily"</p> <p>"Contractor 2 seen as risk adverse (Contractor 2 dependency on UWC as a client and accounting rules and head office connection)"</p> <p>"Contractor 2 reluctant to share (audit and innovation early experience)"</p>

There was evidence from the preliminary interviews that barriers to change between UWC and contractors were not resolved. These interviews were written down and

transcribed to become documents. For example, "if schemes had been released at the beginning of AMP3 instead of in year two we would have performed better". This caused an 'if only' way of thinking. As pointed out before, culture and behaviour was already in UWC's consciousness. UWC considered that this had a large part to play in improving the effectiveness of the new commercial model. Table 8.2 indicates that this contractor had a risk-averse culture. The contractor had not developed a new 'culture' still relying on 'old' connections to UWC. In UWC's view this value and belief system perpetuated the old culture of the traditional tendering process as used in AMP2, leading the associated behaviour of confrontation to recoup overrun costs.

8.1.3. Concluding Summary

UWC had established that the performance of their contractors was linked to attitudes, behaviour and culture. To make changes and improve the commercial results by continuing to change attitudes, behaviours and culture, UWC needed to understand and define culture. To define and understand UWC's 'culture and behaviour' issues, data and information was gathered. The gathered data and information allowed for a sense-making centre to be set up. The centre was a room set aside for gathering, storing and reviewing gathered information. To summarise: -

1. The role of the researcher was as a consultant in a broader project for evaluating the performance of the commercial model.
2. The role of the researcher for this research was as a participant, an observer and gatherer and analyst of data. Extracting a subset to look at the role of the individual in culture.
3. Methods and process were agreed for the overall project with the UWC sponsor.
4. To take part in a change process for new contracts by evaluating the role of individuals and contracting company cultures on performance.

The following Part Two of Chapter Eight covers the process and methods in detail for collecting data, based on the Action Research methods from Chapter Six.

8.2.0. The Process

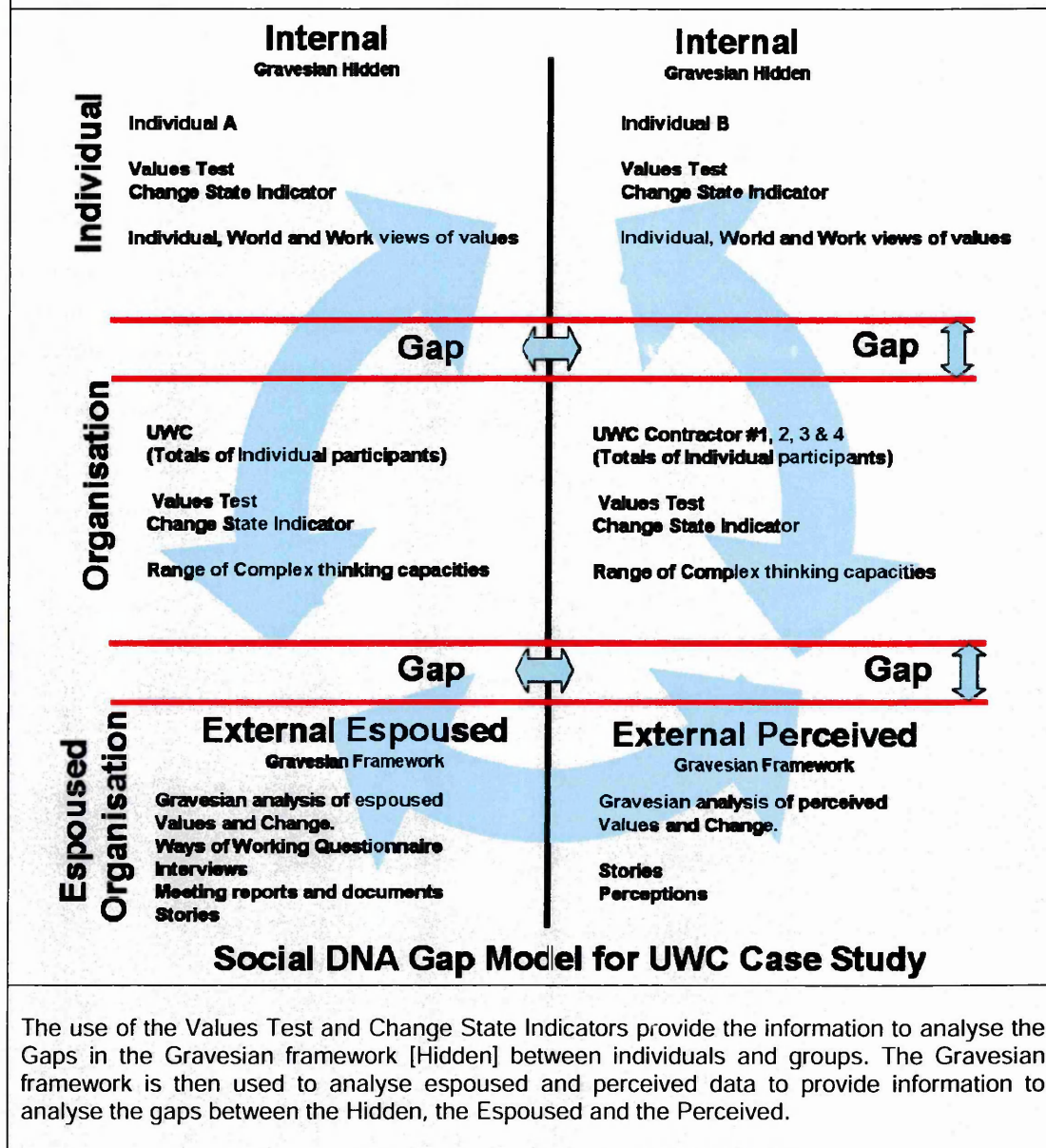
This chapter explains in detail how the research was carried out at UWC. The chapter interweaves the principles of Action Research to act as an overall guide through the research process. The social DNA gap model used for the pilot study is developed further for the UWC gap model. A version of social DNA model for UWC is used throughout this chapter to assist the reader through the case study. Part Three looks at the analysis of the gathered data.

Chapter Eight Part One on UWC's concern.

1. This research is using a subset of data collected as part of a larger UWC project on commercial performance over the last two to three years of their new participatory contractor's commercial model.
2. UWC had realised that culture and behaviour were effecting the results of their new commercial model.
3. This research was used to understand how culture and behaviours could be affecting the change process from the traditional industry 'cost plus' contracting model to the new participatory 'pain gain' model.
4. The researcher collected, analysed and interpreted the data about the Gravesian framework and developed the method for analysis of interviews and documents and other questionnaires as part of this framework. This was based on the learning outcomes from the Oracle study but adding this new approach to analysing espoused and perceived information from documents, stores etc.
5. The findings of this analysis were then integrated as part of a total project report by the consultancy and project team. (This accounted for about 25%).

The layers of information collected in this study reveal the 'hidden' values and change from the Beck and Cowan (1992) Gravesian framework questionnaires. These questionnaires about the 'hidden' are added to by using the same Gravesian framework to assign values to the espoused and perceived information. This creates another layer for the gap model for individuals and groups. This chapter interweaves the academic needs of an AR research project with the aim of developing the social DNA model, as previously outlined.

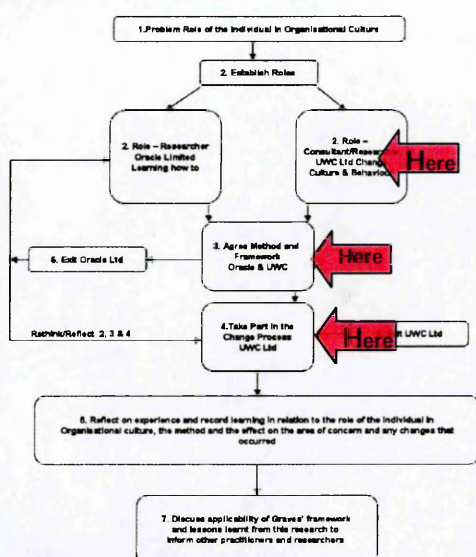
Figure 8.1 UWC social DNA Gap Model



The research carried out at UWC is based on Checkland and Howell's (1998) AR model shown in Figure 8.2 (below).

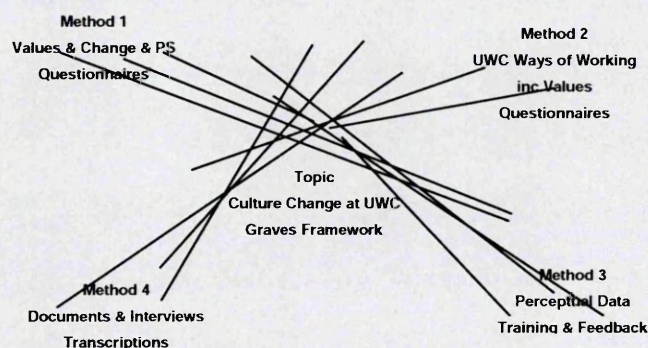
8.2.1. Setting up the UWC process – The roles

Figure 8.2 Action Research Process Flow - Based on Checkland and Holwell (1998)



Setting up the process at UWC Ltd covers the second (Roles), third (Agree Method) and fourth (Change) parts of the process flow shown (on the left) in Figure 8.2. As this was part of a consultancy change process once it was complete and the data gathered, the researcher exited from UWC after presentations and feedback. However a watching brief with UWC continued until 2005 to see if change did occurred. Figure 8.3 outlines the UWC's triangulation method.

Figure 8.3 Triangulation UWC Study – based on Denscombe (1998 p. 85)



The centre of the triangulation is the topic 'how to use the Gravesian framework'. To help inform the topic the following information is used:

- Values & Change & ProcessSCAN questionnaires [Hidden]
- Espoused values questionnaires (Ways of Working) [Espoused]
- Feedback and training for participants [Espoused and Perceived]
- Analysis of documents and interviews [Espoused and Perceived]
- Gathering of perceptual data [Perceived]
- Analysis using Graves' Framework

Each data set informs each of the other areas: the espoused analysis from the pilot adds to the discussion on the validity of the hidden; how the hidden influences the espoused.

The area in the centre where all the lines intersect is the area of subject interpretation through the value system of the researcher. This bias is reduced with discussion and allows participants to form their own conclusions as to this process' heuristic value.

Roles

The roles were established as part of a consultancy project and designed with UWC. The case study became a sub-set of this project covering the culture and behaviour aspect. The project covered the changes in culture and behaviours and their effect on the supply chain performance. This opportunity to play a part in the UWC culture change process had other benefits of being inside a larger project that allowed access to other professional disciplines. These professionals covered accounting, engineering, human resources, training, auditing and managers of four contracting companies and UWC. From these professionals the researcher was able to gather other points of view by using the Gravesian ideas as part of training and feedback. A continued part of the project was training and feedback which is an important part of AR. (Denscombe, 1998, Eden and Huxham, 1999).

8.2.2. Agreed Method - Understanding the project by confirmation of the brief.

The project brief was the starting point for the project and the case study was a review called the 'halfway review'. This review helped to build a relationship between the company and the researcher. As the relationship built it allowed feedback to confirm the researcher's understanding of the project. This feedback allowed the setting of project boundaries and confirming UWC expectations. (Denscombe, 1998). A briefing note was agreed covering the why, what, how, who and when of the project. Table 8.3 shows this confirmation of the project brief.

Table 8.3 – A Briefing Note from the Researcher and Consultants to UWC.	
Review of the New Commercial Model	
Why	
To maximise value for the rest of AMP 3 [programme]	
To understand commercial drivers and process linkages in preparation for AMP 4 [the next 5 year programme]	
To improve the uniform application of the [commercial] model & related processes, for example cost control	
What	
Understand the actual <u>commercial</u> situation, including savings being achieved and the commercial arrangements within each contractor and region	
Identify the commercial drivers and <u>behaviours</u> in each party and the level of understanding of the model and related processes in each party	
Improve the processes and systems that affect the commercial model	

Table 8.3 (cont) – A Briefing Note from the Researcher and Consultants to UWC.	
How	
Review existing data and gather some new data to test different hypotheses	
Operate in three project teams covering areas 1 to 3 in the "what" box, but ensure close co-ordination between the three teams	
Cover all necessary initiatives either: by including them fully in the review (e.g. the role of Scheme Managers); by promoting and co-ordinating work by others (such as more efficient processes for small schemes); or by co-ordinating with ongoing work (such as continuous learning)	
Use continuous buy-in and learning through the review process rather than investigation and conclusions for subsequent implementation	
Who	
Steering Group of senior UWC managers that are responsible for asset investment who act as "the client" for the review	
Sense Making Group made up of the project managers of the reviews plus a senior contractor representative to co-ordinate the management of the review and test the findings	
Review teams managed by Commercial, Behaviours and a UWS Project Manager and representative of Processes & Systems.	
When	
The review to be completed by the end of August, including starting any immediate improvements and signing up to any longer term improvements.	
Scope of the review to be agreed by the UWC Steering Group	

UWC appointed a project champion as the main point of contact and the project controller. The UWC project champion summarised the project, the culture and the behaviours as follows: "You'll be aware that *our consultants* have sent out a lengthy questionnaire[s] to a range of people within each Contractor. The immediate objective of the questionnaire is to help us understand people's commercial behaviours. Because behaviours are driven at different levels the questionnaire has been designed to probe some pretty fundamental things like values and beliefs as well as the more obvious drivers of commercial behaviour such as personal reward and incentives". (Appendix 10, Table A10.0). This initial process helped to build relationships with UWC, define the roles and helped get support for the UWC review (Denscombe, 1998, Eden and Huxham, 1999). This UWC support made gathering information easier.

8.2.3. Gathering data

While the project brief was reasonably clear, the method used to gather information and data had to be flexible because of the number of companies, departments and contractors involved. This complexity included four contractor companies, UWC and approximately 500 people. Each individual and independent contracting company had different expectations and different organisational cultures. Therefore, not having a

prescribed process allowed for flexibility of approach tailored to each situation. The consultants and researcher had to be aware of the need to put in place a suitable project plan to meet UWC expectations. The way to achieve this awareness is with openness, trust, and keeping all parties informed of problems and progress. To achieve this openness and trust a room was set aside as a place for gathering information and data. The room was accessible to anyone who wanted to know how the project was going and to add information. The sense-making room became part of the process for allowing openness and developing trust (Raelin, 1997). Those who were not able to visit the room because of their geographical location were kept informed by meetings and feedback sessions and given an e-mail contact address to raise any concerns or issues. The following are details of the sense-making room:.

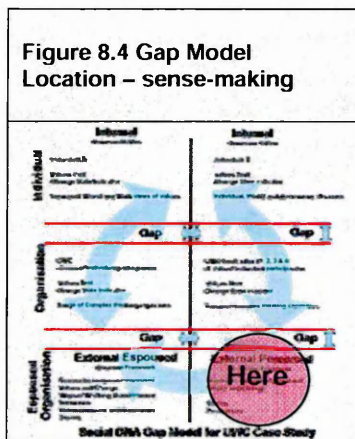
1. A room was set up as a 'Sense Making' centre to co-ordinate information allowing as much information as possible to be displayed visually on the walls. Access was provided to UWC's internal IT systems.
2. The engineering and accounting external auditors were located in the same room, allowing for the possibility of other professional input rather than working in isolation. The reason these people were needed as part of the project was twofold. One was to check the accounting process to ensure the commercial model results were correct and the other was to audit the engineering solution that was the most cost-effective. This allowed an assessment to be made of any relationship between values and beliefs and commercial performance.
3. Data was gathered from interviews, questionnaires, reports, visual analysis, site visits and workshops at all staff levels. 500 staff were invited to take part in the internet-based questionnaires.
4. A continual process of relationship building was put in place to support the project and extra training and clarification was given as needed. The relationships were developed face-to-face, by e-mail, by phone, at meetings and at training and feedback sessions. This formed part of the iterative and reflection cycle of AR, giving a joint learning rather than just a report at the end of the project. (Lewin, 1946). As a rule, anyone visiting the sense-making centre was able to enquire about what was happening and to be involved as part of the team while they visited. This helped in building relationships, openness and trust. (Rapoport, 1970).

Making sense of the complex information is not easy. Addressing the three dilemmas raised by Rapoport (1970) of ethics, goals and initiatives was achieved by carrying out

items one to four above. These issues were continually addressed throughout the research project. The next section defines what is sense-making and what this meant for the UWC study.

8.2.4. What is Sense Making?

What is sense-making? It is the ability to understand complex, individual and organisational information. According to Mohr sense-making is a "processes through which people make their situations accountable to themselves and others." (2003, p. 682) Figure 8.4 shows 'sense-making' as a perception.



McKenna (1999) suggests a need for sense-making by mapping perceptions¹ that can aid learning and argues for allowing trust and openness in organisations. The need for sense-making was apparent in feedback and project update sessions with the contractors and UWC.

The sense-making centre allowed others to make sense of senior management's reasons for the halfway review. The following quote was used to lay the ground work for understanding the espoused and perceived values in UWC.

"This paper suggests that... in the context of complex organizations, operating in complex environments, new ways need to be designed to develop effective management and organizational learning. Based on work conducted with middle managers in three large global corporations, the paper argues that management is largely concerned with sense-making. The more managers feel and think that decisions made by "top management" do not make sense, the more difficult it is for them to make sense of these decisions as they affect their own area of complexity. The paper further suggests that by mapping the perceptions of managers, organizations can better develop organizational learning." (McKenna, 1999, p. 1).

¹ Perceptions. Denscombe (1998, pp. 140-141) comments that two researchers looking at the same event together should record the same information about the event, however they do not because each person filters the information received. Therefore understanding perception is important. "The mind acts as an intermediary between 'the world out there' and the way it is experienced by the individual".

Two themes emerge from McKenna (1999): 'better organizational learning' (the heuristic side), and the tensions for managers in not being able to make sense of decisions. In this research it is argued that the embedded Gravesian value and belief systems that lead to assumptions that filter perceptions. In UWC, why was senior management carrying out this complex and time-consuming commercial review involving culture and behaviours?

Because of the iterative and reflective nature of AR the sense-making centre allowed for the best use of existing information and for collecting new data. This collected data was then able to be reviewed against the questionnaires. The following summarises the data and information gathered from UWC and shows where the information fits into the social DNA gap model as hidden, espoused² or perceived

8.2.5. Data Collected

1. A specialised, jointly developed, UWC questionnaire on processes and the commercial model (internet based – called 'Ways of Working' – appendix 4) – [Espoused]
2. Strategy Development Questionnaire (internet based – Appendix 6) - [Espoused]
3. The Values Test (internet based – Appendix 1) – [Hidden]
4. The Change State Indicator (internet based – Appendix 2) – [Hidden]
5. ProcessSCAN to discover thinking – digital or analogue (internet based – Appendix 3) – [Hidden]
6. Entry and exit interviews of managers and engineers who were presenting to the Board on scheme updates, capital and solution approval. [Espoused]
7. Observation of the Board in action - [Perceived and Espoused]
8. Attendance at contractor meetings and presentations - [Espoused]
9. One-to-one interviews with key managers at UWC and the Contractors - [Perceived and Espoused]

² Espoused – Kabanoff and Daly (2000) argue "that is [espoused] values of collective actors such as organisations and institutions, and those values may be distinct from those of individual members of an institution." (p258) They continue "Evidence of the nature of these values may be found in key documents that organisations produce as collective actors such as their annual reports (e.g. Tinker and Neimark, 1987; Wolfe, 1991). (p285)

10. Visual observations of places of work at the geographic locations - [Perceived]
11. Feedback sessions with the steering group and individuals taking part - [Espoused]
12. Exchange of results with other consultants looking at technical and fiscal issues – [Espoused]
13. Minutes of meetings, monthly reports and supporting documentation – [Espoused]

As this was a large volume of information and data, a meta-structure was developed to classify the data collected for later analysis into three meta-groups. The three groups are called 'types of data' 1, 2 and 3. (1= espoused, 2 = hidden and 3 = perceived. However there is often a grey area of what is espoused and perceived, when not all information is one or the other but a combination. However, this research has taken a prescriptive view).

8.2.6. Types of data.

For simplicity the data is split into three types (categories) of meta-data.

- 1) Anything which is convertible to electronic text, for instance reports or typed-up notes. [Espoused]
- 2) Beck and Cowan (1992) questionnaires. (This is the core of the research on the Gravesian framework). [Hidden]
- 3) Any subjective perceptual data like appearance of the reception area, stories told and any data that adds value to inform sense-making. [Perceived]

The three types of data allow building of a 'social or cultural DNA' gap model between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). The analysis of this data uses the Gravesian framework as the model.

The following are the details of the data that is included in each of the three types (categories).

1. Documents, Ways of Working questionnaire, Corporate View on Innovation, Interviews and Notes – these were in electronic form and converted into text

format, then imported into a software programme for qualitative analysis. Handwritten notes were also transcribed into text documents.

The free text input areas of the Ways of Working questionnaire was treated as a document and converted to text. For this research the free-form text comments were judged more representative of the individual's views than the answers to the UWC forced-choice 'yes or no' answers to technical or procedural questions.

The text documents were then coded. That is, words, phrases and paragraphs were assigned to a predefined code and any emerging theme was coded as they occurred.

The predefined categories (codes) are Graves' (Beck and Cowan, 1992) coding of values and change state indicators. Allocation of codes to the text was by the researcher assigning a code to words, sentences and paragraphs. Table 8.8 shows the list of codes in the section on the espoused values from the 'Way of Working' (WoW) questionnaire.

UWC, the Contractors, Beck and Cowan (1992), the Researcher, and the Engineering Auditor were each treated as a case; each code was then assigned to a case or cases.

2. Collecting the Gravesian value and change state data was done by using the Beck and Cowan (1992) questionnaires shown in Appendix 3.
3. Collecting subjective and perception data was done during discussions, observations and stories at the meeting. So, for example, while discussing with an individual or a group their perception of issues, these were noted. This information was recorded by asking participants to mark on a piece of paper the relationship of the contractor to UWC, two years ago, today and where they would like this relationship to be in the future. Table 8.9 illustrates and discusses this later and shows an example in the section on perceived values.

The working environment, atmosphere and conditions were noted and the researcher asked himself questions. For instance 'What is the feeling when entering reception?' 'How are you treated as a visitor?' 'What pictures and

certificates are on the wall?' 'Are there any corporate vision statements? First impressions of the office layout, with the working 'atmosphere' were noted with the actions and energy of staff.

To start the data gathering process Gravesian (1977) framework was used to reveal the 'hidden' by use of the Beck and Cowan (1992) online questionnaires. These were circulated to participants first to reduce any bias in their answers.

The change questionnaire from Beck and Cowan (1992) is the same as that used in the pilot study (Chapter Seven). The 'Form A' was replaced by the Values Test (VT) for uncovering the Gravesian 'hidden' values and beliefs. This was because the VT assessed the global value system of HU (Global) and is the most used questionnaire (Beck, 2003a). Also added for a limited number of participants was ProcessSCAN to reveal left or right brain dominance. This was also used to reveal more about the 'hidden' values of the researcher.

The next section covers the three types of data used, starting with the Gravesian values and preferred changes to reveal the hidden values and preferences for change.

The questions are phrased to assess the participant acceptance of a Gravesian value system. This allows for assessing the value as a move towards that value or a rejection (move away) of that value. The move away from that value is a negative value (rejection) and move towards that value is positive value (acceptance). Like 'Form A', to confirm responses the questions are asked in different combination. (Table 8.4 shows an example). There are twenty questions with one hundred and thirty-nine choices.

Table 8.4 UWC study Example of Values Test questions (Appendix 3)

For each of the 20 questions, distribute 15 points between each statement. You may break the points in any way you desire so that more points are allocated to the statements that describe you the best – while fewer points are allocated to the statements that describe you the least.

1. I Like A Job Where I Like A Job Where...

Loyalty earns greater job security and we are treated fairly [1]

I make lots of cash, people stay off my back, and I can do what I want [0]

Our primary concern is the health of the planetary living system [2]

Our circle is strong as we work together and sacrifice for each other [0]

Successful performance advances my career and I can get ahead [2]

Human feelings and needs come first as we all share equally in a caring community [0]

Systemic and long-range thinking count more than people, money, traditions, or quick fixes [10]

TOTAL Points 1+2+2+10 = 15

11. In My Job, It's Less Important That ...

Loyalty earns greater job security and we are treated fairly [1]

I make lots of cash, people stay off my back, and I can do what I want [8]

Our primary concern is the health of the planetary living system [0]

Our circle is strong as we work together and sacrifice for each other [2]

Successful performance advances my career and I can get ahead [2]

Human feelings and needs come first as we all share equally in a caring community [2]

Systemic and long-range thinking count more than people, money, traditions, or quick fixes [0]

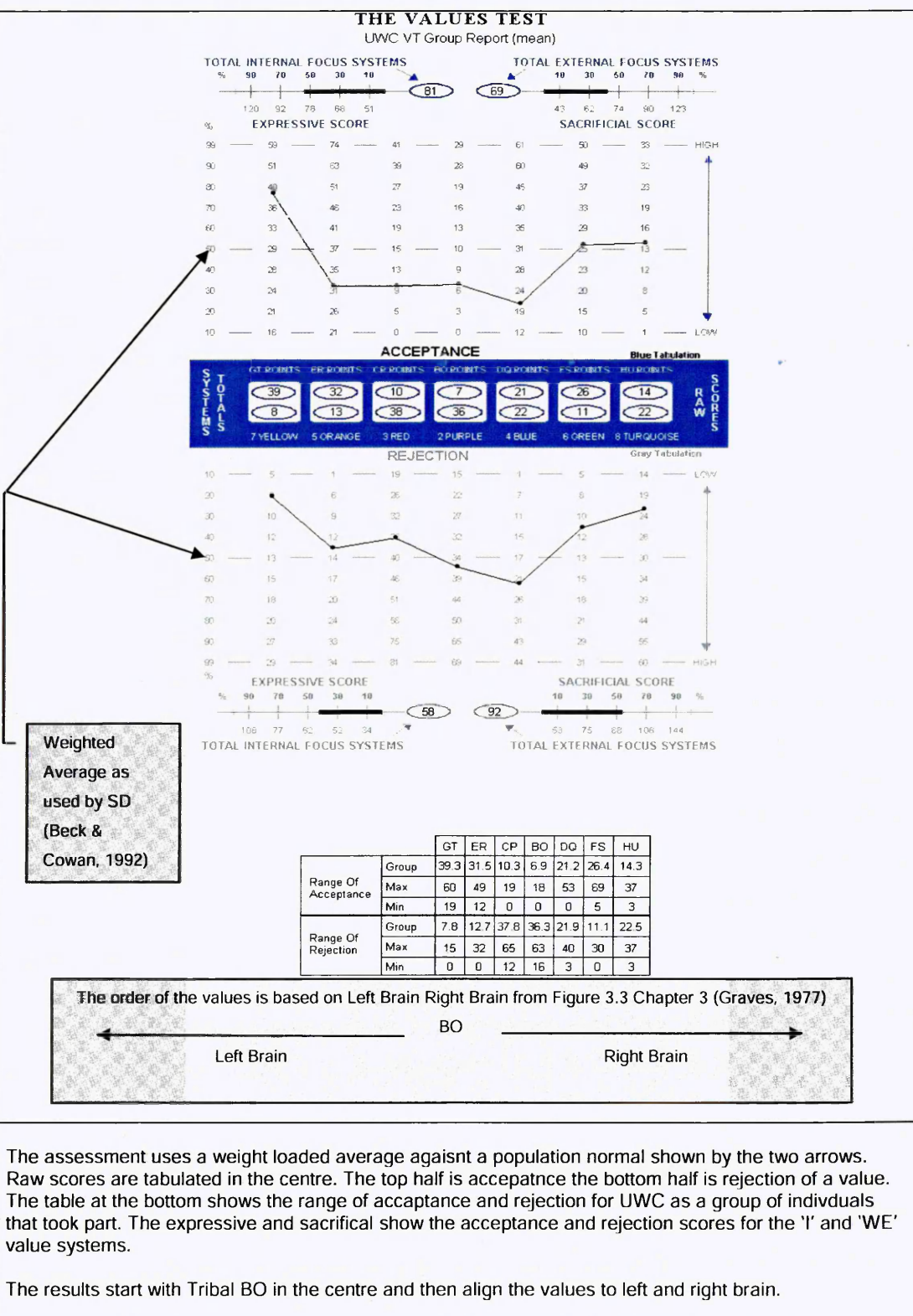
TOTAL Points 1+8+2+2+2 = 15

In the above example the person has only assigned one point to Q1 and Q11 but can be seen is a low priority when compared with long range thinking (Q1) and making cash (Q11).

The examples above the 15 points have been spread over several answers. It is possible for 15 points to be assigned to one answer.

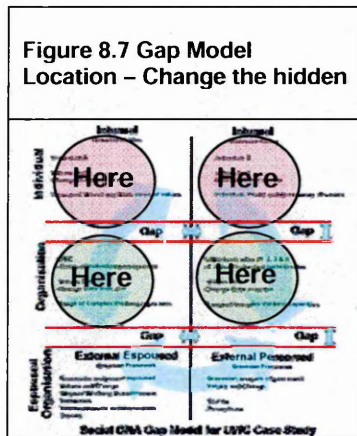
The Values Test has not been fully validated unlike the 'Form A' but this does not influence its use for the following reasons. The questions asked for the six value systems are similar to 'Form A'. The seventh value system is new and will need to be validated to assess if it does measure the global value system (HU). To check this further on the six-values measured a sample from the online database of 134 people 'Form A' and 1006 people Values Test suggested the results were similar in the pattern of profiles. However further research is needed to validate the Values Test. This is outside the scope of this research. The work of Holwerda and Karsten (2005) on a limited sample of 40, argues that the Values Test is acceptable for reliability but insufficient for validity in psychometric analysis. In the pilot study one person completed both assessments and this gave similar results. This is discussed later in the findings for the Oracle study. Figure 8.6 shows the example of the UWC group average for the Values Test as a normal Beck and Cowan (1992) output graph.

Figure 8.6 UWC Values Test Group Report



The next section looks at the second Beck and Cowan (1992) questionnaire on change.

Gravesian Change [The Hidden]



The same questionnaire on types of change was used as for the Oracle pilot study. The comments made there apply to the UWC study. Figure 8.7 shows an example of the graph for the UWC Group.

Note: Figure 8.7 the red 'here' circles are individual Change State Indicator results and green 'here' circles are the aggregated group Change State Indicator.

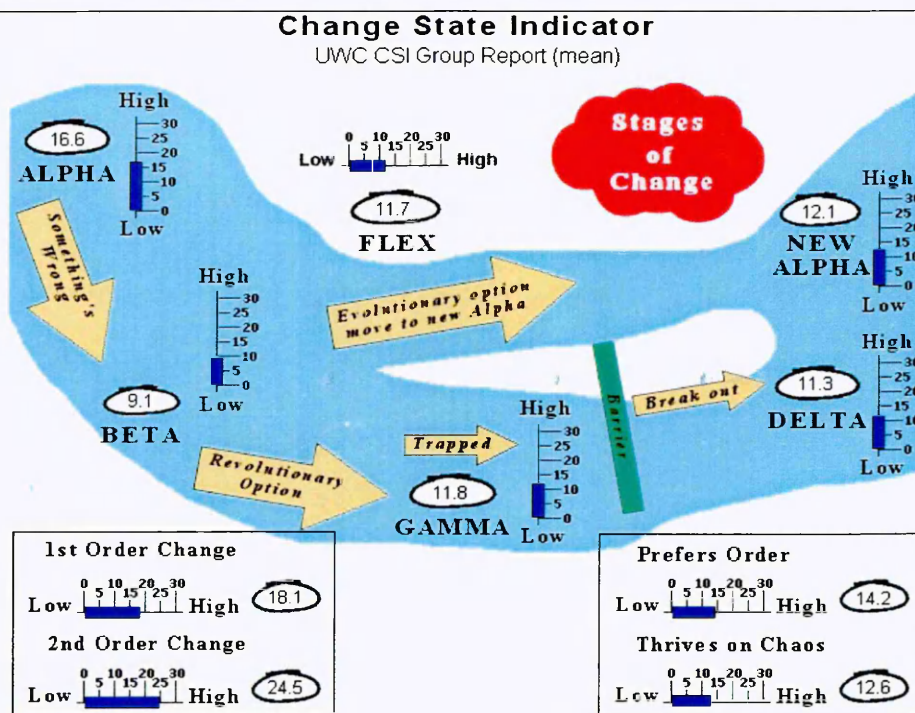
The change state indicator (CSI) is a self-assessment questionnaire answered by assigning points to each group of questions. In the questionnaire Sections 1 to 5 are assigned 15 points, and in Sections 6 to 12 answers are chosen from three predefined answers to the questions. There are 12 sets of questions. The average used to compare UWC results to a global average was based on 300 managers and is part of the training materials. (Cooke, 2001; Beck and Cowan, 1992; Beck 2002c). The aggregated average for UWC participants was also used to compare the individual to the group.

Table 8.5 Types of change
Change States
1 st Order Change
2 nd Order Change
Order
Chaos
Alpha
Beta
Gamma
Delta
New Alpha
Flex/flow

Each question is assigned to a category, for example 1st order change or Alpha or Gamma state and the total of points awarded produce a score. To confirm responses the questions are put together in different combinations. There are twelve sections with forty-eight choices. Appendix 3 shows the questionnaire. (For more information on this questionnaire refer to the Oracle pilot study) Table 8.5 is a reminder of the ten types of preferences for change.

Figure 8.8 shows the standard Beck and Cowan (1992) output for UWC as a group score.

Figure 8.8 UWC Change State Indicator (CSI) Group Report



	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
Group	18.1	24.5	14.2	12.6	16.6	9.1	11.8	11.3	12.1	11.7
Max	34	37	29	21	33	19	27	28	26	17
Min	7	8	4	0	3	4	3	1	6	7

Table 3.5 (Chapter three) shows the full definitions. The chart is built on the analogy of the flow of a river.

It starts on the left with 'how content are you with today?' (Alpha) then to 'something is not right with today' (Beta), leading to the frustration level (Gamma). Once frustration has been overcome there is 'surge of energy to change' (Delta) this gives rise to 'optimism for the future' (New Alpha). The New Alpha becomes the Alpha and the cycle starts again.

When you know something is wrong with today and frustration is building the preferences for incremental change (1st Order Change) or for Step Changes (2nd Order Change), Order (Order) and Chaos (Chaos) come into play. Dependent on choice this takes an evolutionary (1st Order) or revolutionary (2nd Order) route to reaching a New Alpha or future state. Order and chaos show if there is preference for orderly change or chaotic change.

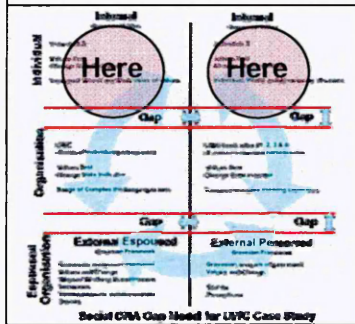
The amount of energy for change to occur is shown in the Flex score.

The table at the bottom shows the range of scores for the individuals in the group; for example, there are people with low frustration levels but one person with an extremely high frustration level of 27. A normal score is less than 7 so this person is nearly four times more frustrated than average.

The next section looks at the third questionnaire used for assessing the left (digital) - right (analogue) brain preferences.

ProcessSCAN [The Hidden]

Figure 8.9 Gap Model Location – L&R Brain



Beck and Cowan (1992) use this analysis questionnaire to assess an individual's preference for using the left or right part of the brain. According to Graves (1977) different values system lived in different parts of the brain. There are fifteen questions each, a choice between 'a' or 'b' statements or one word versus another. Table 8.6 shows an example. Appendix 3 shows the full questionnaire. Note: Figure 8.9 the red 'here' circles are to indicate that ProcessSCAN is part of the Gravesian 'hidden' framework for the individual and cannot be used

for a group average.

Table 8.6 ProcessSCAN UWC Study – Appendix 3.

a	My mind scans over complex information and events seeing new combinations
b	My mind sorts out detail and makes good sense out of confusion
Intuitive or Logical	
The questionnaire asks the participants to make a chose between 'a' or 'b' and Intuitive or Logical.	

When designing the review process at UWC it was decided to start by using the questionnaires for Values, Change and ProcessSCAN, to reduce bias, while the UWC 'Ways of Working' (WoW) questionnaire was completed. This was part of the concurrent thinking needed to meet UWC completion dates for the project. This addressed the practical use of time needed in a business environment (Bounded rationality, Gigerenzer et al., 1999). On completion of the WoW questionnaire and because of its size the ProcessSCAN questionnaire was dropped for the contractors. The allowed a decrease in the time burden for the contractors. However as some were returned from UWC it has been added to the information to inform the findings and understand the influence of the researcher. The following Table 8.7 is an example of the results from the questionnaire.

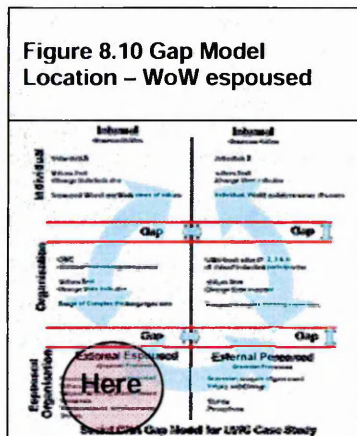
Table 8.7 ProcessSCAN UWC Study example of results - Appendix 3.

High Analogue				Mod Analogue				Mixed Systems				Mod Digital				High Digital			
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				

The numbers are the scores. A person with zero is a high analogue thinker while a person with a score of 15 is a high digital thinker. Analogue is right and digital is left brain.

The Beck and Cowan (1992) questionnaires are part of type two data of the research data classification [Hidden]. The next section looks at type one data [Espoused] which is UWC related. In the project this was treated as type one as UWC saw the data a key part of the half-way review. This type one data looks at the espoused values and beliefs of UWC in a Gravesian context.

8.2.8. Ways of Working Questionnaire [The Espoused]



This questionnaire was developed for and with UWC to look at the processes involved in building and managing plant and equipment to supply clean water and remove dirty water for their customers. This was to be a review of the effectiveness of current practices. UWC's aim was to understand the process and how culture and behaviour affected asset investment. Six questions were introduced into the WoW on Gravesian values to further inform the Values Test. Because these were asked in a work related questionnaire it was hope these would reveal the Gravesian espoused values. Examples from the

questionnaire are given in Table 8.8. Appendix 4 shows the full WoW questionnaire. Note: Figure 8.10 the red 'here' circle indicates using the Gravesian framework for analysing the espoused responses to WoW questionnaire and other documents.

Table 8.8 UWC Study – Ways of Working Questions – Appendix 4

Which of these statements do you believe describes the situation best? Allocate a max of 15 points to each statement.

- 1.4.4. I am convinced that we can win the commercial model game. We strive to be the best. We interpret the model to ensure that we stay ahead of the game. We appreciate the learning from the others involved in the model – however the information we gain we use to stay ahead of the game.
- 1.4.6. For the Contractor / Commercial model to work we need to focus on the principles. Our flexibility is derived from our appreciation of the natural systems at play in organisations – we can adapt to any situation and will organise ourselves as needed to get the job done. If we win then UWC wins and our customers win.

Question 7.

What is the reality and the perceptions of different parties around management of change control. How do we improve things?

7.6 If you had a magic wand – what one improvement would you like to see adopted in the Commercial model?

The first section above "which of these statements....." are examples of Gravesian values questions being asked in a business context. These were included to see if there would be any differences between these and the 'hidden' values questions.

Question 7 is an example of a series of questions in the WoW questionnaire that allows the participant to input descriptive answers rather than yes or no. This was to bring out their espoused views which could then be compared to their hidden values.

Any of the questions in the WoW that needed a yes or no answer were ignored for this research (See Appendix 4). Only questions that allowed for free-text input were used for an individual to write comments; for instance, 7.6 in Table 8.8. The answers to these questions could then be treated as documents and then analysed for espoused Gravesian values and change preference statements.

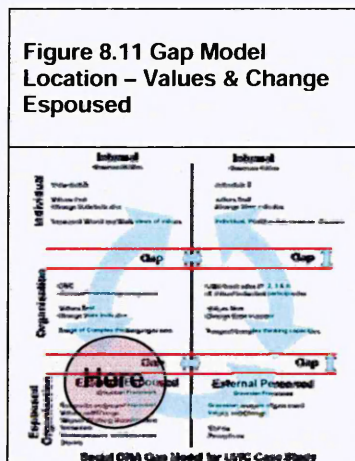
Table 8.9 shows an example of WoW questions analysed using the Gravesian Framework.

Table 8.9 UWC Study WoW Examples – WoW Questionnaire

GT Systemic	ER Strategic	CP Egocentric	BO Clannish
Attitude – is supposed to be a forum Feedback non-existent – been doing 6/7 years congratulated once. Is presentation good too long etc.	Allows the Contractor to manage their resources better and provide greater savings and more affordable solutions. Allows the Core Team to be more proactive, less risk averse and a more effective resource.	Naked appearance at Monthly Meeting if achieve forecast expected (front-row tickets & binoculars now sold out!!)	Reduction in costs an easy ride – will be asked what are the risks and what is being done. Always tell hot spots with the Solution Manager Network – flavour of the month will spread like wildfire.
<p>The examples above come from the responses to WoW questions by the participants and are extracts from Appendix 10.</p> <p>Text was coded to the Gravesian values system i.e. GT, ER, CP and BO. The statements could also be coded to other Gravesian values for example there is an element of CP individualism the GT statement which could be the 'I' element in both.</p>			

The next section outlines how the Gravesian framework was used to reveal the espoused values in other documents.

Gravesian espoused values and change



UWC supplied various documents which covered monthly meetings to guidelines on process and procedures. Entry and exit interviews were conducted before and after a board meeting. Researcher's notes were kept and, where appropriate, converted into electronic format. Qualitative analysis was performed to identify Gravesian values and types of change. The same approach was used for the WoW data and Table 8.9 showed an example. Table 8.10 shows a list of documents collected. Most of the data was available to the researcher in electronic form. This was useful as it allowed direct importation data into the analysis software detailed later in the section on

qualitative analysis. Note: Figure 8.11 the red 'here' circle indicates using the Gravesian framework for analysing the espoused responses to WoW questionnaire and other documents.

Table 8.10 UWC List of documents

Document name	Source	Placeholder
Board Interviews 09 July 02.	Entry Exit Interviews	3571
Contractor 1 Ways of Working 31 July 02	Summary of returns	34801
Contractor 2 Ways of Working 31 July 02	Summary of returns	23229
Contractor 3 Ways of Working 31 July 02	Summary of returns	29372
Contractor 4 Ways of Working 31 July 02	Summary of returns	32728
Corporate View Contractor 1 29 July 02	Summary of returns	1729
Corporate View Contractor 2 29 July 02	Summary of returns	2255
Corporate View Contractor 3 29 July 02	Summary of returns	1477
Corporate View Contractor 4 29 July 02	Summary of returns	2775
Corporate View UWC 29 July 02	Summary of returns	2882
Inv Del Mtg Notes 07.06.02	UWC Internal Mtg	1476
Next Steps - 010706	UWC Internal Mtg	740
Next Steps - 010810	UWC Internal Mtg	1309
Next Steps - 011005	UWC Internal Mtg	893
Next Steps - 011109	UWC Internal Mtg	816
Next Steps - 020111	UWC Internal Mtg	746
Next Steps - 020208	UWC Internal Mtg	918
Next Steps - 020308	UWC Internal Mtg	1301
Next Steps - 020510	UWC Internal Mtg	933
SD Bibliography2	Beck & Cowan 1996	38529
Survey Questions Build Up.	UWC Internal Notes	8202
UWC 402 Ways of Working	Individual	17172
UWC 408 Ways of Working	Individual	13810
UWC 409 Ways of Working	Individual	12643
UWC 411 Ways of Working	Individual	13549
UWC 412 Ways of Working	Individual	16151
UWC 413 Ways of Working	Individual	15552
UWC 415 Ways of Working	Individual	13100
UWC 614 Ways of Working	Individual	12589
UWC 615 Ways of Working	Individual	11177
UWC 616 Ways of Working	Individual	13741
UWC 617 Ways of Working	Individual	13486
UWC 618 Ways of Working	Individual	12060
UWC Ways of Working 31 July 02	Summary of returns	42809

The above is a list of documents gathered from UWC. The source was, for example, exit interviews, summary of returns and the collated WoW returns from each contractor and UWC.

The placeholder number is the location in the software used to track and analyse data. Note: once documents were imported into the software and assigned a placeholder number they became locked and could not be altered.

The next table (Table 8.11) details the codes with their source assigned to the content of the documents.

Table 8.11 UWC list of codes – edited to take out 'jargon' and keep confidentiality

Code	Comments on Code Source	Code	Comments on Code Source
1 Control Misalignment	UWC Steering Group	Green FS	Values test
2 Risk	UWC Steering Group	Health & Safety	As a theme emerging
3 Understanding	UWC Steering Group	Individual Core Values	Values test
4 Trust Response	UWC Steering Group	Innovation	Ways of Working questionnaire
5 Contractor 4	UWC Steering Group	Innovative Approaches	Ways of Working questionnaire
6 Change Control	UWC Steering Group	Innovative Comments	Ways of Working questionnaire
Affordability	As a theme emerging	Innovative Not	Ways of Working questionnaire
Behaviour	Ways of Working questionnaire	Leadership	As a theme emerging
Beige AN	Values test	Orange ER	Values test
Best Practice & Learning	As a theme emerging	Purple BO	Values test
Blue DQ	Values test	Quality	As a theme emerging
Board	Ways of Working questionnaire	Red CP	Values test
Business Drivers	Ways of Working questionnaire	Resources	As a theme emerging
Capital Approval	Ways of Working questionnaire	Responsive	Ways of Working questionnaire
Change Process Control	Ways of Working questionnaire	Risk	Ways of Working questionnaire
Change State	Change State Indicator	Risk Value Balance	Ways of Working questionnaire
Commercial	Ways of Working questionnaire	Scheme Managers	Ways of Working questionnaire
Communication	Ways of Working questionnaire	SD Open Closed Arrested	Beck and Cowan (1996)
Compensation Events	Ways of Working questionnaire	SD Politeness Openness Autocracy	Beck and Cowan (1996)
Compliance	Ways of Working questionnaire	Self Aware	As a theme emerging
Contract	Ways of Working questionnaire	Sharing	As a theme emerging
Contractor 1	Contractor 1	Staff	As a theme emerging
Contractor 2	Contractor 2	Strategy	Ways of Working questionnaire
Contractor 3	Contractor 3	Systems & Structure	Ways of Working questionnaire
Contractor 4	Contractor 4	Target Cost Setting	Ways of Working questionnaire
Control	Ways of Working questionnaire	Team Core	Ways of Working questionnaire
Creativity	Creativity as a theme emerging	Training	Training as an emerging theme
Critical Incidences	Ways of Working questionnaire	Trust	Ways of Working questionnaire
Culture World View	As a theme emerging	Turquoise HU	Values test
Data Knowledge	As a theme emerging	UWC	Utility Water Company
Forecasting	Ways of Working questionnaire	Yellow GT	Values test

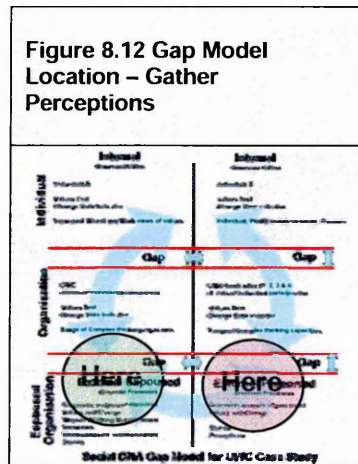
The codes used came from several sources for example the values and change codes are from the Gravesian framework. Understanding, trust etc are issues found important by UWC steering committee for the half-way review. Emerging themes were taken as common responses to the WoW questionnaire. The four contractors were named 1 to 4 and UWC as UWC.

Note – these codes are edited to take out 'jargon' and keep confidentiality

The next section looks at the Type Three data [Perceived], that of opinions, stories and any miscellaneous data that added value to the research to inform the findings.

8.2.9. Gathering of perceptual data

This part of the research gathered information on perceived and some espoused values of the contractors and UWC. The researcher carried out a study to gain first impressions of the work environment for each of the companies. The purpose was to analyse the environment with the Gravesian framework. For instance, the first impressions of a reception area were of an old-style traditional contractor's workplace with dark wood panelling. The hidden values of the contractor may be success-driven and materialistic which is not reflected in the reception. This shows the gap between perceived and the hidden and is used to inform the findings. The findings from the



perceptual analysis were assigned by the researcher to Gravesian values and change codes. Table 8.8 included a list of these codes. To help the researcher with assignment of codes they were often discussed with the lead consultancy college who worked on the project at UWC. Note: In Figure 8.12 there is a grey area³ between espoused and perceived; this is highlighted by the green and red 'here' circles in the table above.

Part of the information gathering sessions used a technique for revealing perceptual data is shown in Table 8.12. For example, a contractor was asked 'do you see UWC as fat and lazy or lean and agile'. This would be marked on a piece of paper for the last two years by every one in a meeting. The results were then used to inform the findings and add to the triangulation process. They were also as a way of opening further discussions.

³ For this research 'perceived' is how espoused values are perceived by others. Therefore 'perceived by others' when spoken about become 'espoused'. Kabanoff and Daily (2000) suggest that all values are espoused. Where this research differs in the Gravesian argument is that they are embedded in the brain. Most researchers in this field draw a distinction between "espoused and enacted values" (ibid, p285 referring the Argyris and Schon, 1978). 'Enacted values' could be based on the hidden.

Table 8.12 Example of perception analysis gathering

<p>Scheme/Solution Managers Meeting – Location – 15th July 2002</p> <p>Your perception of Contractor #1,#2,#3,#4 (delete as appropriate) as an organisation – on a scale range of "Fat and Lazy" Organisation and "Lean and Agile" Organisation.</p> <p>Mark on the scale by an * how your perception has changed since you became a Scheme/Solution Manager with this Contractor – Please put the year and month against each *</p>	<p>Solution/Scheme Managers Meeting – Location – 15th July 2002</p> <p>How much do you trust Contractor #1,#2,#3,#4 (delete as appropriate) to look after the interests of UWC?</p> <p>Mark on the scale of 1 to 10 (10 = Totally and 1 = not at all) - Mark today with an X and 2 years ago with a circle</p>
<p style="text-align: center;">F&L</p> <p style="text-align: center;">↑ Jly 2002 ↓ Aug 2001</p> <p style="text-align: center;">L&A</p>	<p style="text-align: center;">TOTALLY (10)</p> <p style="text-align: center;">O X</p> <p style="text-align: center;">NOT AT ALL (1)</p>
<p>The above method of trying to quantify perception is useful as a focus for individuals thoughts.</p> <p>F&L is 'fat and lazy. L&A is lean and agile. These two extremes came from managers and the steering committee. The other area of trust was also a concern for UWC as they perceived that some of their contractors did not trust them. There were many statements to support this view from the answers to the WoW questionnaire.</p>	

Using AR principles and eliciting opinions from participants helps build trust and understanding and allows for openness in collecting and analysing data. As trust builds, individuals become more open with further information. This addresses Rapoport's (1970) comment that pressures in relationships must be dealt with. Feedback and training sessions became part of the reflective cycle so the researcher was part of the process.

8.2.10. Feedback and Training for Participants

As part of the reflective AR cycle and as a need to keep managers and participants informed various feedback and training session were planned as part of the project.

Table 8.13 Reminder of AR principles

Denscombe (1998) – AR's five principles.

Involvement in practical issues.
The need to make a change.
To be participative not just the subject of research.
To apply some academic rigour to the research process.
Feedback loop - reflective.

The training sessions covered the fundamentals of Graves' value systems (Beck and Cowan, 1996) and Graves' (1977) framework with one-to-one question and answers on participant's Gravesian profiles. These sessions were after the questionnaires were completed so as not to influence participant's answers. To track the number of feedback sessions a research journal of dates was kept. This journal (Table 8.14) also acted as a memory aide for the reflective cycle. Note: in Table 8.13 the green highlighted areas act as a reminder to indicate

that there has to be a two-way flow between the researcher and the participants of that research or consultancy.

Table 8.14 Journal of key dates and actions

Date	Who Involved	Comments
03/07/02	UWC	Asset Manager Sponsor preliminary meeting
09/07/02	UWC	Agreed questionnaires and UWC cover letter to support the project – circulated 250 questionnaires
12/07/02	UWC	Sponsor meeting also please complete questionnaires etc
15/07/02	Contractor 1	Attending UWC Commercial Model presentation plus one-to-one discussions
16/07/02	UWC	Sense making centre, attend UWC Mtg's
17/07/02	UWC	Sense making centre/feedback and training
21/08/02	Audit	Meeting and feedback within engineering audit company
1-2/09/02	UWC	Sense making centre, attend UWC Mtg's
09/09/02	UWC	Sense making centre, attend UWC Mtg's
12/09/02	UWC	Sense making Centre, attend UWC Mtg's
14-15/09/02	UWC	Presentation from UWC
20-23/09/02	UWC	Presentation discussion
10/10/02	Contractor 4 session	These sessions were open to any staff who wanted to attend. Presentations on the whys, how and outcomes. One-to-one session for individuals who wanted detailed explanations of their values and change state indicator.
10/10/02	Contractor 1 session	
25/10/02	Contractor 3 session	
25/10/02	Contractor 2 session	
31/10/02	Leadership Training	Contractors and UWC senior managers training and practical outcomes
07/11/02	Leadership Training	Contractors and UWC senior managers training and practical outcomes
12-13/11/02	UWC	Finding and discussion to Senior Groups
17/12/02	Contractors 1,2,3 & 4	Feedback and UWC presentation and discussion

Comments: - The table shows the number of days at the contractors and UWC sites – total researchers time 43 days – 24 on site and 19 offsite analysing data and reporting and presentation preparation. Information was supplied by other consultants who completed as many days. This data was then discussed and added to the research data. For examples the researcher did not attend contractor 2,3 & 4 UWC presentation days but received feedback. Of the commercial model sessions on the 4th, 8th, 9th, 12th July the researcher only attended the 15th July session. This split of roles was for geographical reasons and to meet UWC's project completion date.

The next section looks at the analysis methods used for the gathered data. This covers the use of quantitative and qualitative techniques.

8.2.11. Comments on the Analysis Methods (for the Oracle⁴ and UWC studies).

Quantitative Analysis

In Mode 1 traditional research assigning numerical values as responses to questions is argued to produce a subjective quantitative approach (Denscombe, 1998; Gill and Johnson, 2000). As stated before, this is because assigning values to questions is ordinal data. "With ordinal data we do not know the *cause* of the order, or by how much they differ." (Denscombe, 1998, p. 178). This numerical assignment shows itself in the variability of range for a given value system for a given individual. For example, an individual may assign 15 points to one question in each series, while another may spread the points over three or more questions in a given series. This approach is argued to be acceptable as long as the limits are understood. (Ibid). The limits in the Oracle study are that it formed a basis for semi-structured interviews and allowed for individual learning. In the UWC study it allowed for the individual to learn about himself and discuss commercial issues in a neutral context. In both studies the aim was to produce a heuristic and a practical way to use Graves' framework.

Therefore, as answers to questions produced a score, either from a forced choice or by assigning a score, this allowed for averaging the ordinal data and applying minimal analysis. That is, these total and averages were useful in feedback discussions to look at the score for a group versus the individual's score. This heuristic approach to ordinal data overcomes the variation in the range of scores assigned to a value or change state. What can be argued is that someone in the organisation has a well above or below average score and this then needs further discussion and investigation to find the causes. (This was illustrated in the Oracle study with the frustration level).

⁴ Oracle is referred to in this chapter on the UWC case study as it was the learning that took place that informed the methods for UWC.

Qualitative Analysis

Qualitative analysis of data is the "focus on words rather than numbers as the unit of analysis." (Denscombe, 1998, p. 174). However, numbers may be assigned to words, sentences or paragraphs for ease of analysis. This then allows for simple statistical analysis or descriptive statistical analysis. (Denscombe, 1998))

The qualitative analysis of data is carried out using a software programme called HyperResearch V2.6 (<http://www.researchware.com>). This is HyperRESEARCH's definition from their help files. "Traditional qualitative analysis is labor-intensive. After gathering data, researchers would transcribe the source material with a typewriter or word processors, make multiple photocopies of the text, painstakingly read through and assign codes to the material, cut the pages up into coded passages, and then manually sort the coded text". This allowed for analysis of written and transcribed text by assigning attributes to them.

All interviews and documents and pictures were converted to electronic text files and then imported into the software. On importation the files become locked and further analysis carried out on the data. Table 8.8 list of UWC documents showed the locking reference number. When a section was coded such as a word or sentence or paragraph, this reference number uniquely identifies it to provide an audit trail back to the original source of the material. Table 8.9 showed the UWC codes. For example, for the Oracle study each individual becomes a case for assigning predefined attribute codes. In the UWC study companies became cases for assigning predefined and emerging attribute codes or themes like 'best practice and learning'.

- 1) Predefined categories, for example the eight Gravesian values systems and change states.
- 2) Any emerging themes like 'leadership', 'training' or 'trust'.

Once the data is entered into the software the following was carried out on the data:

- Code any amount of data any number of times (For example a sentence may be applicable to several values so the sentence is assigned multiple codes).
- Retrieve and manipulate portions of coded source material (For example a report is produced for a given value system across all companies or just for individuals).

- Test propositions about the data on any code or combination of codes using Boolean searches.
- Test theories about the overall meaning of the data.

Analysis of Coded Data

By choosing from the codes (categories) or adding emerging codes and using a suitable Boolean operator (and, or, not) it is possible to build as complex an expression as is necessary to a selected set of cases. The following is an example of the queries used in this research. The results of queries were taken as indicative, becoming points for further discussion and to inform the findings.

Select any cases (Oracle⁵ - Individuals - UWC - Contractors) that have one or more references to (Strategic ER OR Authority DQ) AND Social FS. (Note the inclusion of Oracle here shows how the learning from the pilot was used for UWC).

A similar analysis could be carried out on the codes (categories). For example Contractor #1 equals Strategic ER and Commercial.

The results of this analysis are that, as reports and the references in the reports are hyperlinked to the source material, a review of each reference to its source material is shown in context. In the UWC study the number of instances of all codes was exported to a spreadsheet so they could be ranked in order. This allowed for the hidden Gravesian values, beliefs and change to be assigned to the Gravesian espoused values from the text. This could then be cross-referenced to the top UWC issues (based on 2345 code instances) like trust (ranked 9) or training (ranked 20), from the responses to the WoW questionnaire and other documents. (Table A10.3 Appendix 10).

The results gave a Gravesian profile of espoused values which could be discussed as a 'gap' between the Gravesian hidden values profiles of individuals and groups, for example a contractor. This analysis informs the findings as part of the learning

⁵ Note on analysis for Oracle. The analysis of data from Oracle was a combination of manual cut and paste and some use of the software. The Oracle data was used as learning how to use the software. This learning was supplemented with training at Sheffield Hallam University on an alternative software package but using the same principles.

experience. This research recognises the limits of the analysis as being indicative as it is based on ranking ordinal data and the researcher's subjective assignment of codes.

Handling of Raw Data

The volume of data gathered was large and when printed out ran to about 400 pages. The numerical data from the Beck and Cowan (1992) questions was easily handled and analysed as quantitative data. The interpretation was by using the researcher's understanding of the Gravesian framework. The analysis of the textural data was a new approach to using the Gravesian framework and again a subjective judgement based on the researcher's experience was used to code text.

The researcher argues that this will lead to bias in the analysis and even the stories used to illustrate the case study could also be said to be biased. However, the research was not trying to validate Graves' framework but to use it as a method to draw out further information and give a structure to that information.

As this research is taking an Interpretivist point of view, then based on Easterby-Smith et al; (1991, 2002) the following comments apply. On validity, a multiple number of perspectives has been included, the researchers, the participants and Graves framework to reduce bias. On reliability, the same observations could be reached by other researchers. Though this is dependent on their value systems and basic assumption and may well add a slightly different perspective. However research carried out by the researcher in other companies shows the overall patterns to be similar (Cook, 2007). On Generalizability, the patterns observed in the sample are repeatable to a general population. This is with the proviso that it is a snapshot in time and the actual intensity of values and preferences will vary with changes in life conditions.

8.2.12. Concluding Summary

Part Two of Chapter Eight has explained how the information and data was gathered and analysed. It also highlighted how the process followed the Action Research principles of role definition and the building of relationships and trust. The methods outlined were also designed to become a learning experience for the researcher and UWC which could start a heuristic dialogue to help change occur. For UWC the expected outcome was for change to occur and for the research, to contribute to knowledge by validating the heuristic use of the Gravesian framework.

The next Chapter (Part Three) looks at the analysis of Type 1 Documents [Espoused], Type 2 Beck and Cowan (1992) assessments [Hidden] and Type 3 Perceptual Data [Perceived]. Each of these three perspectives is argued as building blocks that build a social DNA gap model of culture for this research.

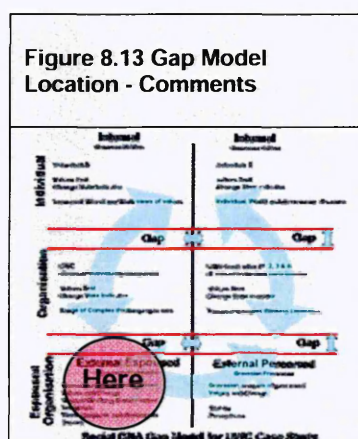
8.3.0. The Analysis

Part Three of Chapter Eight covers the analysis of data and how this analysis was used. This chapter looks at the analysis of Type 1 Documents [Espoused], Type 2 assessments [Hidden] and Type 3 Perceptual Data [Perceived]. Each of these three perspectives, as discussed earlier is argued as the building blocks that produced a social DNA gap model of culture.

As the analysis of Type 1 espoused data using the Gravesian framework is a new concept not researched before, the following is a general note covering the ideas behind this analysis. The basis is that words, sentences are memes that are attracted to or a reflection of one or more Gravesian values and change systems.

General Note on Analysis of Type 1 data. [The Espoused]

The objective of analysing type one data [espoused] is to produce a Gravesian values profile from the words and sentences¹ of various documents. For example, using the free text input in the UWC Ways of Working questionnaire and analysing them for a person will reveal any differences in the espoused Gravesian profile to those produced from the questionnaire of type two data [The Hidden]. Note: Figure 8.13 the red 'here' circle indicates using the Gravesian framework for analysing the espoused responses to WoW questionnaire and other documents.



The following covers how the espoused analysis was carried out. The contractors were companies that contracted to supply services for a geographical area for UWC and are treated as cases. Words, sentences and paragraphs were coded to Gravesian codes like individualism (CP) or a UWC code like behaviour. These were also cross-referenced to participants. To meet ethical

¹ Distin (2005) talks of these as memes and Price (2007) introduces the notion of language 'selfish signifiers' as a memetic approach.

requirements no individual responses were revealed to UWC or the contractors. This helped to build trust and gave access to deeper opinions and perceptions.

To store and analyse data a software package called HyperResearch was used. This allowed the contractors and UWC to become classified as cases and then linked and coded to statements in the data gathered.

Table 8.15 Pathways in the Mind (UWC Highlighted)		
Pathway in the Mind Or Core-Value Graves (1977)	Graves (1977)	Expressive 'I' Sacrificial 'WE'
1. Survival	AN	I
2. Tribal	BO	WE
3. Exploitive	CP	I
4. Authority	DQ	WE
5. Strategic	ER	I
6. Social	FS	WE
7. Systemic	GT	I
8. Holistic	HU	WE

The Gravesian letter coding system was used for assigning values and the ten change states were treated as one 'change state'. There were two issues that occurred when trying to code the change states to textural words and phrases. 1) lack of time to code another few thousand lines of classification and 2) at this stage no work had been done on assigning a

Table 8.16 Types of change (UWC)	
Change States	
1 st Order Change	
2 nd Order Change	
Order	
Chaos	
Alpha	
Beta	
Gamma	
Delta	
New Alpha	
Flex/flow	

change state like 'contentment with today' (alpha) to a sentence or paragraph. However the change states contributed to the individual assessment and discussions. Therefore with UWC we agreed to use just change as a code to see if it confirmed an issue that was raised by participants. Table 8.15 shows a reminder of the value codes and Table 8.16 the change states. (For UWC these change states were treated as one code).

The qualitative classifying codes were predefined by the Gravesian values. The other codes came from the steering committee and the ways of working questionnaire. These were defined as hard codes and became predefined in the software. There was allowance made to assign codes that became a common theme as the data was analysed. An example is quality and resources. Table 8.17 showed the codes' definitions. Using this classification resulted in 62 codes 6 cases (UWC, 4 contracting companies and the engineering auditor² company) giving 5,195 coded statements. 2,345 were statements from UWC documents, interviews and questionnaires and 2,850 related to the Gravesian value systems. As this data was large, the researcher decided not to try to define statements against the ten types of change, therefore all change was coded to 'change state'. This was because UWC considered values related to behaviour and had limited time available to complete the

² Auditor Company – this was one project person and was only used to inform discussion and is not included in the analysis.

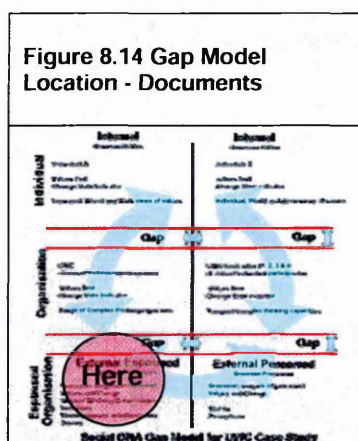
review and start the new tendering process. This reflects the arguments in Chapter Two about businesses having limited time scales to allow investigations to produce practical results. Also the arguments about academic management research having to produce practical and useful outcomes for business.

To explain the results from the research the top 20 codes are ranked by the number of statements assigned to that code. The top 20 accounted for 84.8% of coded statements.

Analysis of Type 1 data – Documents [The Espoused]

Purpose: To support the research by understanding the (Gravesian) espoused value, beliefs and assumptions and comparing these to the

(Gravesian) hidden values, beliefs, assumptions and change. Each written and spoken statement made by an individual about UWC or its contracting companies fulfils the research aim of looking at the role of the individual in organisational culture. This gives another view for interpretation of gathered information as part of the research method to inform the findings. Note: In Figure 8.14 the red 'here' circle indicates using the Gravesian framework for analysing the espoused.



Method Sequence: All the text data was entered into the HyperResearch software with the 55 predefined hard codes. 7 other codes were added as themes emerged ,making 62 codes shown in Table 8.17. UWC and the four contract companies plus the audit company were entered as cases. All the documents listed in Table 8.10 were assigned to cases. For example a 'Ways of Working' (WoW) questionnaire completed by contractor #4 was assigned to contractor #4, an interview with a UWC staff member was assigned to UWC. Then statements from the UWC interview were coded to a contractor. If the statement related to another contractor or to another code, for example a Gravesian value or UWC's communications code, then it was also coded to both. To explain the way codes were assigned is by taking examples from the highest ranking coded statements. Appendix 10 shows a fuller analysis.

Analysis

The analysis of documents and text data was carried out by coding and treating UWC and contractors as cases. This allowed for the data to be analysed by case and or code. The following are illustrations of how the coding was applied and uses examples of words and statements coded against the Values Test and UWC issues. The cases were called Contractor #1, #2, #3, #4 and UWC. Note: the case contractor #1 could also be a code contractor #1. This allowed for statements made by one contractor about another to be coded.

Table 8.17 UWC list of codes – edited to take out 'jargon' and keep confidentiality			
Code	Comments on Code Source	Code	Comments on Code Source
1 Control Misalignment	UWC Steering Group	Green FS	Values test
2 Risk	UWC Steering Group	Health & Safety	As a theme emerging
3 Understanding	UWC Steering Group	Individual Core Values	Values test
4 Trust Response	UWC Steering Group	Innovation	Ways of Working questionnaire
5 Contractor 4	UWC Steering Group	Innovative Approaches	Ways of Working questionnaire
6 Change Control	UWC Steering Group	Innovative Comments	Ways of Working questionnaire
Affordability	As a theme emerging	Innovative Not	Ways of Working questionnaire
Behaviour	Ways of Working questionnaire	Leadership	As a theme emerging
Beige AN	Values test	Orange ER	Values test
Best Practice & Learning	As a theme emerging	Purple BO	Values test
Blue DQ	Values test	Quality	As a theme emerging
Board	Ways of Working questionnaire	Red CP	Values test
Business Drivers	Ways of Working questionnaire	Resources	As a theme emerging
Capital Approval	Ways of Working questionnaire	Responsive	Ways of Working questionnaire
Change Process Control	Ways of Working questionnaire	Risk	Ways of Working questionnaire
Change State	Change State Indicator	Risk Value Balance	Ways of Working questionnaire
Commercial	Ways of Working questionnaire	Scheme Managers	Ways of Working questionnaire
Communication	Ways of Working questionnaire	SD Open Closed Arrested	Beck and Cowan 1996
Compensation Events	Ways of Working questionnaire	SD Politeness Openness Autocracy	Beck and Cowan 1996
Compliance	Ways of Working questionnaire	Self-Aware	As a theme emerging
Contract	Ways of Working questionnaire	Sharing	As a theme emerging
Contractor 1	Contractor 1	Staff	As a theme emerging
Contractor 2	Contractor 2	Strategy	Ways of Working questionnaire
Contractor 3	Contractor 3	Systems & Structure	Ways of Working questionnaire
Contractor 4	Contractor 4	Target Cost Setting	Ways of Working questionnaire
Control	Ways of Working questionnaire	Team Core	Ways of Working questionnaire
Creativity	Creativity as a theme emerging	Training	Training as an emerging theme
Critical Incidences	Ways of Working questionnaire	Trust	Ways of Working questionnaire
Culture World-View	As a theme emerging	Turquoise HU	Values test
Data Knowledge	As a theme emerging	UWC	Utility Water Company
Forecasting	Ways of Working questionnaire	Yellow GT	Values test

Table 8.17 (cont) UWC list of codes – edited to take out 'jargon' and keep confidentiality

Hard codes are codes that were predefined; for example Orange ER. Soft codes were themes that emerged as the text was being read. If it occurred several times as a theme from participants then it was given a code for instance the words 'best practice and learning'.

55 hard codes predefined and 7 emerging theme codes making 62 codes for analysing statements. Of the 55 hard codes 7 were the Gravesian framework's seven value systems.

The examples highlighted are used later as instances of a code and related to answers to that WoW question.

To explain the analysis, it was carried out by looking at the top 20 codes that accounted for 84.8% of the 62 codes assigned. Table 8.18 shows examples of values coding. This looks at espoused statements that individuals made in answers to the WoW questionnaires and other from documents. These were then assigned to a Gravesian value system. (7 value systems and change state).

Table 8.18 UWC Study WoW Examples – WoW Questionnaire

(Code) GT Systemic	(Code) ER Strategic	(Code) CP Egocentric	(Code) BO Clannish
"Attitude – is supposed to be a forum." "Feedback non existent – been doing 6/7 years congratulated once". "Is presentation good too long etc".	"Allows the Contractor to manage their resources better and provide greater savings and more affordable solutions." "Allows the Core Team to be more proactive, less risk averse and a more effective resource."	"Naked appearance at Monthly Meeting if achieve forecast expected (front-row tickets & binoculars now sold out!!)."	"Reduction in costs an easy ride – will be asked what are the risks and what is being done". "Always tell hot spots with the Solution Manager Network." "flavour of the month will spread like wild fire".

The examples above are from the responses to questions by the participants and are extracts from Appendix 10 Table A10.1. The codes are the Gravesian letter codes

The examples above come from the responses to WoW questions by the participants and are extracts from Appendix 10.

Text was coded to the Gravesian values system i.e. GT, ER, CP and BO. The statements could also be coded to other Gravesian values for example there is an element of CP individualism in the GT statement that could be the 'I' element in both.

Table 8.19 shows an example of comments made from the Ways of Working (WoW) questionnaire for Contractor #1 and the three top codes. (As outlined earlier, the top

three codes were those instances which had been coded the most times). The analysis looks at espoused statements that individuals made in answers to the WoW questionnaires and from other documents coded to contractor #1 and emerging themes (48 UWC codes were 'hard' coded meaning they were already defined by UWC and 7 emerging theme that were coded as they occurred).

Table 8.19 Examples of statements for the top 3 codes for Contractor #1			
Contractor (case)	(code) Behaviour #1	(code) Capital Approvals #2	(code) Systems & Structure #3
#1	<p>"General reluctance by UWC to take on new ways of working except their own Attitude of some senior UWC staff."</p> <p>"restrictions on the freedom to act or decide without first obtaining authority from above."</p>	<p>"Reduce paperwork required for Capital Approval and omit altogether for minor changes."</p> <p>"Where % change is less 10% a simpler system is required."</p> <p>"quicker decisions needed."</p>	<p>"The measures set out in appendix 8 of the Contractors Agreement are too restrictive and not practicable."</p> <p>"Understanding of systems and ways of working."</p>
<p>Taken from Table A10.3 Appendix 10 as examples of comments made from the WoW questionnaire. (the top 6 issues accounting for 41% of 2345 code instances for UWC).</p> <p>These statements would also have been coded to Gravesian Values and change building a multidimensional model to explore relationships between for example behaviour and the Gravesian value system BQ authority.</p>			

To reiterate, a code could be considered a theme, for example a Gravesian value strategic ER or Change State and a UWC theme of Behaviour. (Highlighted in white in Table 8.17). A case was a company for example UWC and Contractor #1 and a theme (code) could be related to them.

Note: in the ER example E is the life conditions that are the time and the place and the circumstances which allow R the activated brain capacity to produce the commercial strategy to produce the profitable results.

This approach to analysing Type 1 document [espoused] data allows an analysis of espoused statements for the whole project, the individual contracting companies and the individual. For instance, the role of the individual is revealed as a Gravesian espoused values profile. This produces a gap model to inform the discussion between the differences to the Gravesian hidden values and change of the Type 2 data.

Assigning codes was done by reading the question³ and answer, then applying an understanding of Graves' framework to the answer. The period of learning during the relationship building with UWC and its contractors helped in applying codes to statements. Also learning from the training and the experience gained from the Oracle pilot study helped with this process.

For example, the following source material from contractor #4 was coded to Graves' codes: DQ (authority) process, FS (humanistic) people and BO (tribal) community or team. "Frustrating when people are not available for meetings or do not complete actions between meetings". This same statement was also coded to UWC concern 'Behaviour' as people who do not attend meetings is argued as an example of behaviour. (More examples are available in Appendix 10 Table A10.1 and A10.3 assignment of codes).

The contractor #4 illustration of source material was about how to improve a process. There are issues around the 'correct way to do things', a DQ theme. People involvement issues, a humanistic FS theme and an implicit reference to teams, a BO theme which was a building block of the partnership approach of the UWC commercial model. This frustration with people is manifested as espoused behaviours. For example depending on the memetic profile of the person a dominant DQ might find the process too vague and therefore find an excuse not to attend the meeting. Each statement like this example was assigned a code(s) with an audit trail. Table 8.20 outlines the audit trail process.

Table 8.20 Audit Trail of Documents

To allow for an audit trail of documents used (Table 8.7) the original source data from questionnaires are received as spreadsheets from the completed internet returns. These are then collated as text into a word document. No changes were made to correct grammar and spelling.

The documents were then imported into HyperResearch (details chapter six) as a text file and automatically referenced with a placeholder reference number. The files then become locked and could not be changed. The examples and reports shown here in this research as illustrations have been corrected for typing errors to make it easier for the reader.

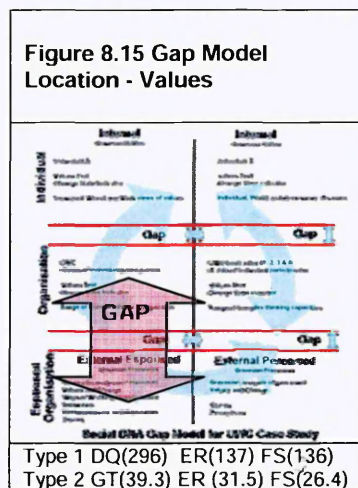
With questionnaires not completed on the internet, mainly UWC's as internet access was not available, were received as document files and therefore could be saved as text files and imported into HyperResearch.

³ The questions were not assessed for their hidden values and were taken at 'face value' as the answers were considered to portray the values of the person answering them. An area of further research would be required on value-laden questions and is outside the scope of this research.

As a summary, the list of UWC's themes and emergent themes was further analysed by counting the number of times a statement was assigned to a code (theme) to give the top 20 codes out of the 62 codes. Table 8.21 shows these 20 codes with a brief definition of the meaning of each code. (Table 8.11 previously showed a full list of the 62 codes).

Table 8.21 Definition of the top 20 UWC codes – 84.8% of all codes	
Code	Definition
1. Behaviour	Any behaviours which impacts on the effectiveness and philosophy of the commercial model
2. Capital Approval	Issues which affect the process and systems of gaining capital approvals for schemes
3. Systems & Structure	Issues which are related to the systems and structures which support the commercial model
4. Control	Issues which are seen or perceived to control the commercial model
5. Commercial	Issues related to the profit. Pain-Gain and commercial issues related to the model
6. Contractors	Issues related to the four contractors
7. Risk	The levels of acceptable risk against cost and innovation
8. UWC	Issues related to UWC as the customer of the contractors
9. Trust	Issues related to the levels of trusts between all parties to the commercial model
10. Core Team	Issues related to the workings and effectiveness of the core teams in developing/ delivering schemes
11. Solution Managers	Issues related to the role and effectiveness of solution managers within the commercial model
12. Business Drivers	Issues related to the alignment or misalignment of the business drives for each of the parties to the commercial model.
13. Target Cost Setting	Issues related to how budget costs are set
14. Responsive	Issues related to how responsive individuals and all parties are within the commercial model
15. Board	Issues related to the role of the board in the commercial model process
16. Innovation	Issues related to how innovative or not all parties are in effective use of assets
17. Contract	Issues related to the legal framework and spirit of contractual arrangements
18. Solution Approval	Issues related to the processes of getting scheme approval
19. Change Process Control	Issues related to the change requirements of implementing schemes
20. Training	Issues related to training and understanding of the commercial model and the needs for new methods of working
As statement made relating to the above codes were also coded to Gravesian values and change it was possible to test if statement for example made about 17 Contract related to Gravesian Values DQ authority.	

Table 8.23 further on, shows a Gravesian values (memetic) profile⁴ of text and



statements coded against Gravesian values as the number of code instances out of the 2850 assigned codes. This was then compared with the Values Test by ranking the top three as the Gravesian dominant values. The espoused values profile for Type 1 data for UWC was: DQ (296) process, ER (137) commercial and FS (136) people involvement. The Type 1 analysis did not reflect the Gravesian values [hidden] profile of UWC⁵ from Type 2 data, namely GT (39.3), ER (31.5) and FS (26.4) acceptance values. The espoused values of Type 1 data show a task and process focus and do not reflect UWC's subconscious [hidden] strategic and systemic (GT) Gravesian value systems. (Footnote⁶ on scales). Note: Figure 8.15 shows the gap that is being revealed.

Note: To clarify the Gravesian codes in current management contexts the following researcher's interpretation may be useful. Each Gravesian value system enables the handling of more complexity as the commercial environment becomes more complex. GT the systemic approach can handle ten times the complexity of all the values systems 2 to 6 including 1. The survival values are not measured (Beck, 2005). (Table 8.22)

Table 8.22 Researcher's Definitions of Gravesian values

2. BO Organisation or community and teams (WE)	6. FS The human dimension (WE)
3. CP Creativity and 'what's in it for me'(I)	7. GT The big picture and integrated ways of working (I)
4. DQ The correct way to work and processes (WE)	8. HU The global picture and the whole from a planetary perspective (WE)
5. ER The pull to commercial success (I)	

⁴ Memetic (Values) profile was defined in Chapter Four memetics and in summary are values, beliefs, assumption and artefacts that are attracted to and held within a person. Graves' value systems framework is used to measure these.

⁵ UWC memetic (Values) profile is taken from Table A10.4 Appendix 10 Type 2 Data acceptance raw scores.

⁶ The scales are different between the text analysis and VT but are useful for gap analysis and to generate discussions. The results are ranked as the top 1, 2 and 3. DQ is #1 in text and GT#1 in VT analysis acceptance of that value etc.

Table 8.23 shows a summary of the values found in the Type 1 [espoused] data ordered by right and left brain. This is how the Values Test is normally displayed and is linked to Graves (1977) Figure 3.4 (p. 51) in Chapter Three on the way values might reside in the brain. The centre is BO and left brain is CP, ER, GT and right brain is DQ, FS, HU. Table 8.6 gives a memetic profile for the espoused statements and shows the average for the groups of contractors and UWC.

Table 8.23 Type 1 data [Espoused] as Graves' value system codes

(Work related text in the WoW Questionnaire, Interviews and Document Statements).

Contractor	GT	ER	CP	BO	DQ	FS	HU
1	82	163	44	51	228	101	0
2	43	108	24	40	205	111	1
3	53	123	62	38	180	102	0
4	40	63	15	43	89	72	0
UWC	78	137#2	89	33	296#1	136#3	0
Total of 2850	296	594	234	205	998	522	1
UWC VT Accept	39.3#1	31.5#2	10.3	6.9	21.2	26.4#3	14.3

This table is the number of times a piece of text was assigned to Gravesian value system by the researcher. The UWC VT Accept is the group score for the values test taking the acceptance values. For instance in the total of 2850 coded instances of text the highest was DR authority (998).

The UWC Values Test (VT) Accept group scores for the top three scores were GT (39.3), ER (31.5) and FS (26.4) whereas the document's top three for UWC are DQ (296), ER (137) and FS (136).

The researcher used the raw acceptance scores from the Type 1 data as espoused values which are argued to be acceptance of that value and compared them to the group's acceptance scores for the hidden type 2 data. (Type 2 data is from the Gravesian questionnaires).

Note: - Table A10.1 (Appendix 10) shows further examples of the code analysis from the 2850 instances of statements coded against the Values Test. Table A10.3 shows examples of the top 6 instances of text coded to the top 20 codes (UWC themes) assigned to the Contractor and UWC. The top 20 accounted for 84.8% of the 2345 codes shown in Table 8.17. Table A10.2 (Appendix 10) shows the summary of the top 20 as totals and ranking. The totals of assigned codes to text and statements are 2345 to UWC themes plus 2850 assigned to Gravesian values, giving a combined total of 5195 instances of coded text.

To further illustrate the analysis by using the code theme 'behaviour', for example, was a UWC concern assigned 197 times. The number of instances assigned to UWC was

79 which were in the range of 2 to 3 times that of the contractors (Table 8.22).

Explaining some of this difference was by the way the coding was done. An instance of a text or a statement could be assigned several times to a contractor or contractors and UWC. For instance, a comment about UWC behaviours from a contractor would appear in UWC, the contractors' and UWC's behaviour. Therefore, the number should only be taken as relative and as a pattern as long as the process of code assignment was consistent. Contractor #3 had fewer problems with 'behaviour' but contractor #1 had a bigger problem with 'behaviour', UWC had the biggest problem with 'behaviour' - Table 8.24.

Table 8.24 Behaviour top codes - 8.4%	
Contractor	Behaviour
1	41
2	31
3	21
4	25
UWC	79
TOTAL	197

Continuing with the UWC analysis, once the text and statements were coded further analysis was carried out (Ogbonna and Harris, 1998). For instance, are there links between the UWC processes (DQ) and the theme behaviour? DQ (authority) a Gravesian value for order and processes had 998 instances and the behaviour theme code had 197 instances. This was tested in HyperResearch software by using the hypothesis function and showed there was a positive link between UWC processes and behaviour. In interviews and feedback sessions this was confirmed that as UWC imposed more controls it induced negative behaviour with people trying to get around the new controls to succeed in their job. Table 8.25 shows further examples.

As another example was there a link between commercial issues and the way the new UWC commercial model worked and the humanistic needs of people, such as a need for consensus. People values are in the Gravesian FS value system. The software found there was a positive link for contractor #3, but not for the others. This result reflects contractor #3's value test results. This showed a dominant Gravesian value system of family and team (BO) and a need for a high-level of consensus and agreement from people (FS).

Table 8.25 HyperResearch Hypothesis Examples

Testing a Hypothesis on Case: Contractor #1, #2, #3, #4 and UWC

Is there a relationship between UWC processes and the behaviour of staff?

1. The following rules were found to apply to this case: "Rule 1 is applicable: IF Equals ("Blue DQ", "Behaviour") THEN GOAL REACHED "Relationship between Processes and Behaviour." Enough rules were found to be applicable to this case to reach the GOAL of the hypothesis. Therefore, the hypothesis is shown to be 'supported' for this case. Therefore there was a relationship between processes and control and the behaviours of all the contractors.

Is there a relationship between the commercial contractor model and the need to involve staff in its use?

2. The next example is to see if there is a link between Commercial (119) and humanistic and people issues (522). The results showed there is a relationship for Contractor #3 and UWC but not for the other contractors. The values test results for contractor #3 supported this.

Testing the Hypothesis on Case: Contractor #3 and UWC. The following rules are found to apply to this case: Rule 1 is applicable: IF Equals ("Commercial", "Green FS") THEN GOAL REACHED Relationship between the commercial model and people issues. Enough rules are found to be applicable to this case to reach the GOAL of the hypothesis. Therefore, the hypothesis has been shown to be 'supported' for this case.

Testing the Hypothesis on Case: Contractors #1, #2, #4. The following rules are found to apply to this case: (none) Rule 1 is not applicable: IF Equals ("Commercial", "Green FS") Not enough rules could be found to be applicable to this case to reach the GOAL of the hypothesis. Therefore, the hypothesis has been shown to be 'not supported' for this case.

This function in HyperResearch was used only as an indicator because what was being found was the number of codes that were coded to the same statement. For example were there statements about people in statements about commercial issues. If there were enough instances then there was a relationship. If there were no instances then there was no relationship.

The limits of this analysis are recognised because of the subjective nature of assigning codes and the honesty in making these statements by the participants. However the overall picture gives a pattern for discussion and argues for UWC's original concerns about behaviour and its relationship to control processes and the commercial model, therefore informing the research.

This part of the research at UWC has outlined how the gaps between the espoused values for a group of participants have been compared with the hidden values. This was illustrated by taking examples from documents and the UWC WoW questionnaire. Note: Figure 8.16 shows the gap being revealed.

The espoused was coded to Gravesian values and UWC themes like behaviour. The hidden was taken from the Values Test questionnaire results for groups of participants.

limited by the UWC context and the subjective assignment of codes. The approach allowed for discussion on understanding the difference between what was written and spoken and how individual values, beliefs and assumption influenced their perceptions of the organisations.

The written words in the reports from UWC show a process-driven organisation and not the systemic people-focused organisation from the Values Test (VT). The UWC documents profile showed that commercial issues (ER) and humanistic people issues (FS) were similar between the documents and the hidden values from the VT assessment. UWC was not a process-driven organisation from the VT responses. (Analysis of Type 2 data discusses this further). Therefore the espoused values of UWC from the documents did not reflect the hidden Gravesian values of UWC. (A cause of this difference could be the hidden values profile (memetic profile) of the person writing the reports who may have been (DQ) order and process driven).

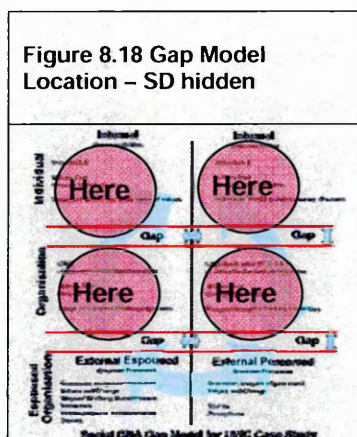
The analysis suggested a connection between the (DQ) process and control and behaviour. The analysis also suggested a connection between people issues and commercial issues for contractor #3 and UWC, but not the other contractors. Even though these connections were only indicative they start to build up a picture of the complex relationship between UWC and its contractors from a written and spoken use of words and statements.

Chapter Two, when looking at cultural research in general, discussed research boundary issues. This research is blurring these boundaries by revealing a hidden part of a culture which brings other cultures into the workplace. (Martin, 2002a, 2002b). The hidden is addressed by the Gravesian framework questionnaire which this research argues to be organisation neutral. The external world view of an organisation is addressed by applying the same framework to statements that were specific to that organisation's culture. The limit of this method is the subjective assignment by the researcher filtered through his Gravesian values and his understanding of the Gravesian framework. However this still produced a useful outcome for UWC, which is one of the objectives of action research. (Denscombe, 1998)

To build on the espoused data the next section covers Type 2 hidden data. Type 2 data covers the results from Beck and Cowan (1992) Values Test (VT) and the Change State Indicator (CSI) questionnaires.

8.3.3. Analysis of Type 2 data –Questionnaires [The Hidden]

Purpose: To look at the 'hidden' values and changes of the Gravesian framework and



then explore how to further compare the 'hidden' to the 'espoused'. Type 2 data is from the Gravesian questionnaires⁷ that reveal the hidden values, beliefs, assumptions and change within the individual. This continues the research aim of building a picture of culture based on the individual. In this analysis it reveals the 'hidden' gaps between a manager and their staff and an individual and their company. It also reveals the 'hidden' gaps between companies. When used with Type 1 data [espoused] it shows that what is said often does not reflect the real or 'hidden' culture. (Kabanoff and Daly,

2000) Note: in Figure 8.18 the red 'here' circles shows the related area of the gap model.

Method Sequence: The sequence used in the analysis of Type 2 data follows this format: An outline of the data gathered from the Gravesian framework questionnaires.

Type 2 data [hidden] covers the questionnaires used to produce individual and group Gravesian values and change state profiles. Also carried out was a limited analysis on left and right brain. This is based on Graves' (1977) idea for the X, Y and Z template on the relationship to parts of the brain of his value systems. (Figure 3.3 Chapter Three showed this). To add to the information a version of the Gravesian value system was asked in the UWC 'Way's of Working' questionnaire. This was to see if the questions supported the internal values of the VT or the espoused values of the Type 1 data.

1. Core Values (meme complexes) Values Test (VT) – Appendix 1
2. Change State Indicator (CSI) – Appendix 2
3. ProcessSCAN Digital and Analogue thinking – Appendix 3

⁷ SD Questionnaires – these are used as they were developed during Graves' lifetime and a online database is available to cross check averages. Time constraints at UWC meant that only the WOW questionnaire could be developed and few questions added relating to the Gravesian values and another triangulation point.

4. Questions 1.4.1 to 1.4.6 Ways of Working⁸ Appendix 4 – To ask Gravesian value questions in UWC's context.

The analysis for UWC and the contracting companies follow a similar format as before. The analysis was carried out using the Beck and Cowan (1992, 1996) interpretation data in Appendix 1 and 2 and the information provided by Beck and Cowan (1996) and in their appendices pages 332 to 335.

Adding the individual scores of a company together allowed for a group analysis of the Values Test and Change State Indicator. The results gave a gap analysis between the contracting company and UWC. As a further reference point the average (mean) from 1006 people in the online database was used as a comparison and is used as a western world normal⁹.

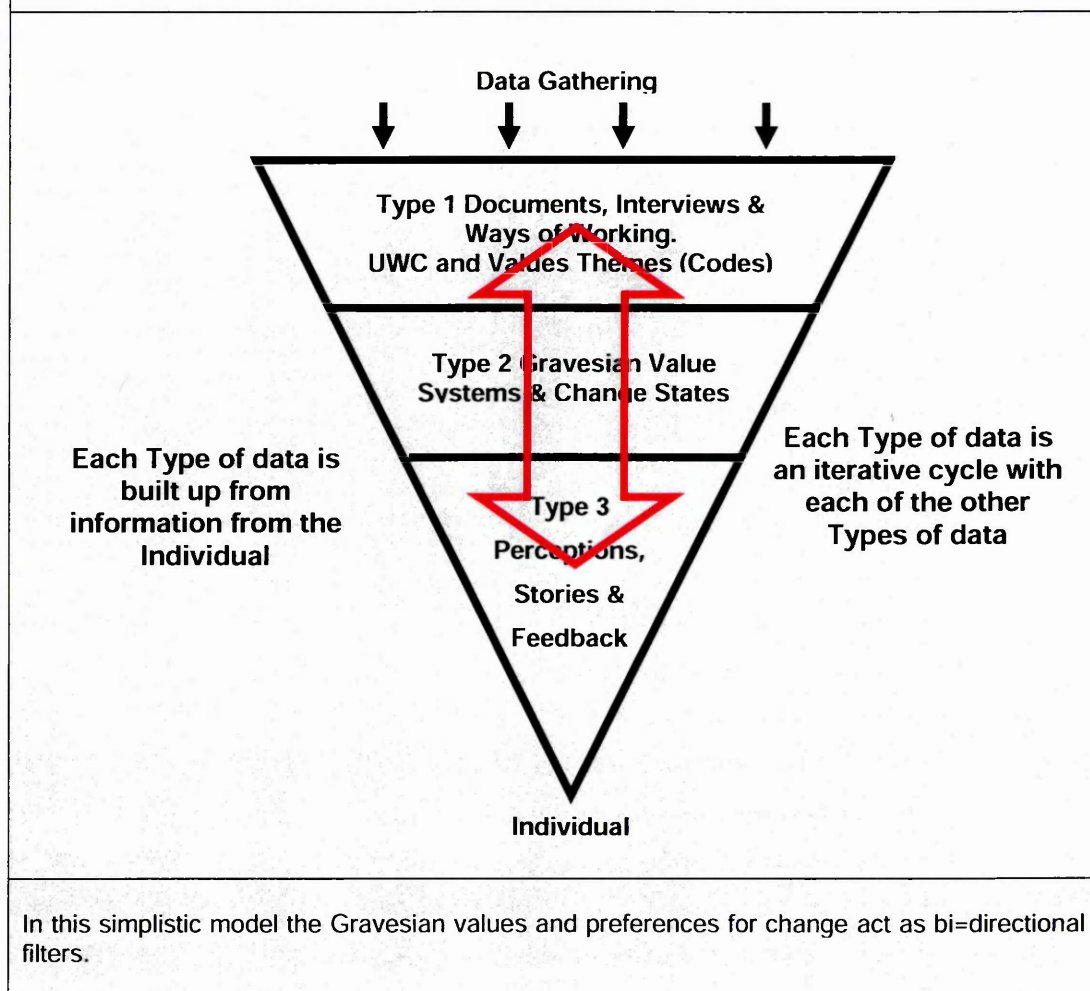
To illustrate the analysis two management issues are used. First was the way communication occurs for different value systems. The second covered what were the motivational 'hot buttons' for the dominant Gravesian value systems. Communication was a UWC issue raised in the 'Ways of Working' questionnaire and is a coded theme. Also communications as a theme is part of the body of cultural research into organisations. How communications occur within an organisation will have an effect on culture and behaviour change programmes.

"Communications process meanings" (Martin, 2006, p. 86) this for UWC was part of 'sense making' and feedback sessions. Martin, referring to Luhmann (2000), argues there is a difference between an organisation's formal structure and culture. When the formal structure fails, the communications of the culture come into use. An example of structure failure at UWC was one of adding further procedural controls on the contractors. Type 1 data [espoused] from the UWC Way's of Working questionnaire asked questions about the formal structures. Type 2 data [hidden] looks at the ways different Gravesian value system communicate and what motivates this communication.

⁸ WoW questionnaires - Appendix 4. The free text answers to the questions are part of the Type 1 data analysis. The values part of WoW is part of Type 2 data analysis.

⁹ Western World normal – this is based on people who are self-selecting with a small percentage of organisational selected people which may or may not reflect the total western population. Further research is needed.

Figure 8.20 Refining of data down to the individual.



The Type 2 data [hidden] starts with the Values Test and the Change State Indicator which is covered next.

Analysis Values Test and Change State Indicator [The Hidden]

This section reviews the results from the VT and CSI questionnaires Appendix 1 and 2. As a reminder of what these questionnaires measure Tables 3.0 VT and 3.5 CSI are reproduced here from Chapter three.

Table 3.0 Pathways in the Mind			
Pathway in the Mind Or Core-Value Graves (1977)	Beck and Cowan (1996)	Graves (1977)	Expressive 'I' Sacrificial 'WE'
1. Survival	Instinctive	AN	I
2. Tribal	Clannish	BO	WE
3. Exploitive	Egocentric	CP	I
4. Authority	Purposeful	DQ	WE
5. Strategic	Strategic	ER	I
6. Social	Relativistic	FS	WE
7. Systemic	Systemic	GT	I
8. Holistic	Holistic	HU	WE
9. ?	?	IV	I
The letter pairs are 1 st letter external life conditions 2 nd letter brain capacity			

Table 3.5 Types of change	
Change States (in an organisational context)	Beck and Cowan (1996)
1. Preference for incremental change – 1 st order Change	1 st Order Change
2. Preference for Step Changes – 2 nd Order Change	2 nd Order Change
3. Preference for Order	Order
4. Preference for Chaos	Chaos
5. How content with today	Alpha
6. Something is not right with today	Beta
7. Frustration level	Gamma
8. Surge Energy to Change	Delta
9. Optimism for the future	New Alpha
10. Energy for Change to Occur	Flex

Analysis and Overview

Out of the 500 questionnaires circulated 103 CSI and VT's were returned. The invitation to be involved in the review had a covering explanation written by UWC asking all to co-operate, stressing the importance for placing of new contracts for AMP4. The returns gave a 20.6% rate of return. Table 8.26 shows the breakdown of questionnaire returns.

Table 8.26 Questionnaire Returns – VT and CSI

Contractor #	Sample Size	%
1	19	18.4
2	17	16.5
3	19	18.4
4	29	28.2
UWC	18	17.4
Auditor	1	1.0
TOTAL	103	100%

Contractor #4, regarded by UWC as the best contractor, returned the highest number, perhaps an argument of a willingness to support UWC in this review process and wanting to keep their favoured status.

From the questionnaire returns and to compare the Gravesian values profiles, the average for UWC and the contractors was used as one reference. The other reference was the 1st World Average¹⁰. Table 8.27 shows a summary of these results.

¹⁰ 1st World Averages "We [Beck and Cowan, 1992] asked a professor at Texas Womans' University to figure the percentile patterns to be able to show both raw and relative scores, using data we had available". (Beck, 2004a) Beck was a Professor of political science in Texas before joining Professor Clare. W. Graves in his work.

Table 8.27 Percentage Group VT scores (shown as weight loaded percentages)

Ranking	1	2	3	4	5	6	7	CoG
Contractor	ER	BO	FS	GT	HU	DQ	CP	
#1 Acceptance	50	50	45	40	40	38	38	ER/BO/fs
Rejection	-33	-35	-50	-40	-45	-50	-45	
Contractor	GT	HU	FS	BO	DQ	ER	CP	
#2 Acceptance	78	68	39	38	33	30	29	GT/HU/fs
Rejection	-30	-20	-50	-23	-58	-55	-62	
Contractor	BO	FS	HU	GT	CP	DQ	ER	
#3 Acceptance	60	60	60	58	40	28	18	BO/FS/HU
Rejection	-29	-40	-22	-40	-53	-53	-56	
Contractor	GT	BO	DQ	FS	HU	ER	CP	
#4 Acceptance	68	50	45	39	36	35	35	GT/BO/dq
Rejection	-40	-35	-50	-64	-35	-40	-33	
UWC	GT	HU	FS	BO	CP	ER	DQ	
UWC Acceptance	78	56	53	35	33	33	25	GT/HU/FS
Rejection	-20	-25	-35	-53	-40	-45	-59	

Based on 1st World Average – Columns 1,2 & 3 show where the focus of the main energy is, figures greater than 50% acceptance are above average and figures greater than -50% are above average rejection. In the column on the right Lower-case text shows a below average acceptance. This **CoG** column is the Centre of Gravity of the values profile weight loaded. (Beck and Cowan,1992 based the weight loading on a population normal from the work carried out by Texas Womans' University).

These results are taken from the Values Test reports as previously exemplified in Figure 8.5

An example taken from Table 8.27 is contractor #2 GT/HU/fs. The capital letters are above 50%, lower-case are below 50% of the weight-loaded average for each value, giving a Gravesian memetic profile for each group. The dominant value system (CoG) or the one taking the most energy was the first three values of the acceptance score. Table 8.28 outlines how Beck and Cowan (1992) recommended doing the analysis of the Values Test scores.

Table 8.28 "The Values Test Overview Basic Guide for Administration and Interpretation" (Beck and Cowan 1992).

The following extracts show how the logic for the basis of the weight-loaded figures. "There are 10 questions for acceptance with a maximum of 15 points giving a total of 150 points. The same applies for rejection. To determine the profile the data is normalised by taking a hypothetical person and weight-loading against this average for each value. The average in this case is the 1st World average as defined at the Texas Womans' University". "A seemingly 'high' CP (red) score of 20 compared to the average could well be the fourth or fifth ranked in terms of the individual's raw score profile. In other words, a person's score could be markedly above the average line in a system like CP or HU, yet their dominant Value System could be somewhere else entirely." (Beck and Cowan, 1992, p. 2). Example: chart Figures 6.7 chapter six, p. 127.

Tables 8.29 to 8.30 show the results of the Values Test for each contractor as the acceptance and rejection scores of that value system. Using the mean acceptance and rejection gives a 'gap' analysis looking at the difference between the values and change states of the contractor and UWC. This exposes the tensions between the contractor and UWC. It was important the analysis contains both VT and CSI to define the tension and synergies, as a preference for different change states influences the use of the values. For example, frustration level (Gamma) is handled differently by different individual's Gravesian values profiles. (Beck and Cowan, 1996)

The details for the basis of the analysis are available in Appendix 1 and 2. The next section looks in detail at each of the four contractors and UWC as groups.

Note: The mean column in the tables was an average taken from the current online database of 1006 people for the Values Test and 959 for the Change State Indicator. A separate exercise was carried to check the 1st World averages as used by Beck and Cowan (1992) from the 1990s against current data. The Values Test showed, for example, an increase in acceptance of GT systemic thinking from 29 to 33 and a decrease in CP individualism from 15 to 8 from the 1990s figures. The Change State Indicator was similar to the 1990s average. Appendix 10 Table A10.16 and Table A10.17A shows a comparison of the research mean and the 1st world averages. This check on the averages was carried out as Beck (2004a) kept no details of the research on the population normal carried out by Texas Woman's University.

The following tables show the analysis process for each contractor and are the same for each contractor starting with Contractor #1.

8.3.4. Analysis Contractor Company #1

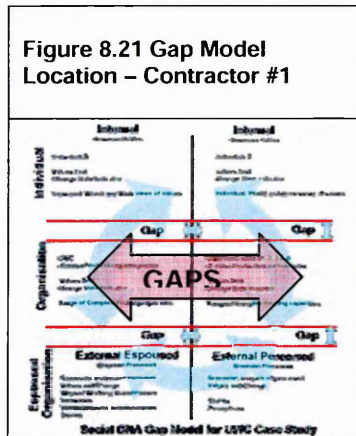
Table 8.29 is a view of differences between acceptance and rejection between Contractor #1 and UWC. This suggests areas of likely tension and synergy.

Table 8.29 – V T Contractor #1, UWC – based on Table A10.5 Appendix 10				
Core Values	#1	UWC	Mean	Comments Values Test
GT	+28/-12	+39/-8	+33/-9	Below average and less than UWC for systemic thinking 'the big picture'
ER	+37/-12	+32/-13	+31/-14	Above average and more than UWC showing a much higher strive drive or 'commercial' orientation
CP	+12/-39	+10/-38	+8/-45	Above average and just above UWC but both well below in rejection of individualism and creativity, so a fair degree of 'what's in it for me'.
BO	+11/-30	+7/-36	+8/-30	Above average and UWC on safety/team/community
DQ	+27/-17	+21/-22	+19/-24	Well above average and UWC for process driven – the correct way
FS	+24/-13	+26/-11	+29/-9	Much less than average and less than UWC for people/environment issues. Both have an above average rejection
HU	+12/-29	+14/-23	+23/-20	Well below average acceptance and strong rejection, but closer to UWC but both well below the mean and strong rejection of global issues
UWC are the 'big picture', look at the whole 'big brush'. #1 is more commercially astute (ER) and supports this with strong processes (DQ) with a suppressed creativity (CP) and individuals, interesting not so people oriented (FS) – neither had time for global issues. Tension areas shown in red.				

Table 8.30 is a view of differences in the change states and Contractor #1 and UWC. This suggests areas of likely tension and synergy.

Table 8.30 - CSI Contractor #1, UWC - based on Table A10.10 Appendix 10				
Change State	#1	UWC	Mean	Analysis Change State Indicator
1 st Order	25	18	20	8 point difference to UWC - therefore a preference for incremental change
2 nd Order	17	24	24	-7 point difference - UWC have a preference for step changes
Order	17	14	14	3 point difference - contractor has a preference for order
Chaos	10	13	14	-2 point difference - UWC can live more with chaos then the contractor
Alpha	21	17	16	4 point difference - contractor is much more content with today the way things are than UWC
Beta	10	9	9	1 point difference - both have average concern that something is wrong with today
Gamma	8	12	6	-4 point difference - both are well above average from feeling of being trapped/frustrated UWC is high when compared to the mean
Delta	10	11	14	-1 point - the energy for change in both cases well below the mean
New Alpha	12	12	17	0 point difference - both below average on where they want to be
Flex	11	12	12	-1 point difference - both have average flexibility to make changes.
The dissonance and tension here is that UWC want to have step changes in progress and the contractor needs controlled incremental changes. This is maybe reflecting both parties have a feeling of frustration. Tension areas are shown in red.				

The following is a detailed analysis of the gaps for Contractor #1. As a general comment on contractor #1 the amplitude of the values, the difference between acceptance and rejection was small. This suggests an arrested¹¹ state with no dominant view. Some individuals within the group have high ER (strategic), GT (systemic), DQ (process) and FS (people). The ranges may also argue there are individuals within the group who are there to get what they can for themselves. The higher than average contentment with today (Alpha) may suggest the group has little need for change, therefore producing a narrow range of values (Beck and Cowan, 1992). Note: Figure 8.21 shows the gaps that are being revealed.



The next section looks at the gaps from a UWC and the contractors' viewpoint resulting in an analysis of the tensions between the two using the Gravesian framework. This analysis uses the data from the values test and the change state indicator.

Contractor #1 needs from UWC. The contractors' memetic profile was strive-drive for success, a commercial need, team and community as a place of safety and some concern for people issues (ER/BO/fs). To explain the preferences for the use of the Gravesian value systems by contractor #1, used communication and motivations as examples. The reasons for using these examples were covered at the beginning of this section on Type 2 data. All analysis is based on Beck and Cowan (1996) and Appendix 1 and 2 with the experience gained from training and the Oracle pilot study.

Communications (how the group likes to be communicated with)

- Need to be success-oriented; based on successful applications. Therefore, communication needs to be supported with proven models, through trusted contacts from the team leader or respected person.

¹¹ Note: Arrested state – "reluctance to rock the boat" The group is trying to live with the "status quo" – "the barriers [to change] may be adjusted a bit, but basic assumptions remain unaltered. Change efforts are directed to refine, polish, and work harder-and-smarter". (Beck and Cowan 1996 p. 79) This links to 1st order [incremental] change.

- Communication needs to be seen as having some form of consensus but can be distorted by the reliance on myth and rumour.

Motivation Buttons (what motivates the group)

- Has tensions with UWC – sees need for change as they are the customer, but prefers change to be incremental and orderly. This tension, perhaps leading to tension and frustration, shows in high Gamma.
- Needs the opportunity to be successful and competitive, thus making them success driven and goal oriented.
- Expects the best person to do the job with the right rewards, but was less likely to explore the feelings and consensus of others.
- People concerns are considered as long as they bring success.
- Paternalistic family run atmosphere.

UWC needs from contractor #1. The UWC Group memetic profile is one of being systemic and looking at the whole picture including the commercial perspective with a need for a global team of themselves and the contractors. This global team may have been a wish rather than a reality because of the high need for people involvement and consensus. (GT/HU/FS)

Communications

- Will need to learn by having much information from the contractor, but will also want the facts, feelings and instincts. Will have a need to make sense of the bigger picture for themselves and the contractor. This could be seen as an information-overload from the contractor's view.
- Will have a need to be seen as using consensus, focus groups and participative and team decision making.
- Wants communications to be a learning experience in a communal environment.

Motivation Buttons

- More participation.
- Access to the best information to make the best-informed decisions.
- Will have high ideals and are principle led.
- Can morph to portray what it thinks the contractor wants and will play their game. This can be confusing to the contractor.
- Wants to be seen as people oriented and forward thinking.

- Learning in a communal network with sudden insights for example, the pain/gain model.
- Does understand its global responsibilities but developing them was in its infancy and perhaps aspirational because of the high Green FS (people consensus) clouding the issue.

The Tensions are between (the gap between the value systems of UWC and the contractor) – ER/BO/fs (#1) and GT/HU/FS (UWC)

- The contractor can play the commercial game better than UWC, but will only buy into UWC commercial model if it brings them success.
- The contractor may see involving people as stopping best practice. UWC may see the contractor's high commercialism with less involvement of people as a blockage to becoming creative and provide effective scheme solutions.
- UWC will also have problems with the traditional ways of the contractor. UWC may not be aware of this problem as it may hide within the higher commercial drive for success of the contractor.

Change - Incremental v Step Change (the effect of preferred types of change on the relationships)

- UWC was expecting major changes and this will create tensions with the contractor's incremental approach. For a systemic thinking UWC who are for step changes and the big picture, they will produce stress in the relationship and block change. UWC may not understand the contractor's needs. In other words this suggests that both are wasting energy and time by looking inwards and trying to control different cultures with their values, beliefs and assumptions.

Comment. The commercial, family and traditional approach of the contractor shows a negative reaction to UWC's whole system of values. The need for too much information by UWC was seen as too restrictive and controlling, whereas UWC's values were clashing with the traditional and commercial success culture of the contractor. Comments from the Type 1 data [espoused] like "inflexible", "contractor takes all the risks", "attitude of UWC senior staff" lend support to the contractor's profile.

8.3.5. Analysis Contractor Company #2

This particular contractor was the subject of the internal report referred to in Table 8.2 on UWC's perceived behaviour problems. Tables 8.31 and 8.32 show the analysis of the values profile and the change states as defined for the analysis of contractor #1.

Table 8.31 – VT Contractor #2, UWC – based on Table A10.6 Appendix 10				
Core Values	#2	UWC	Mean	Comments Values Test
GT	+39/-10	+39/-8	+33/-9	equal to UWC for systemic thinking 'the big picture' but much more aligned in thinking but not necessarily in direction
ER	+31/-16	+32/-13	+31/-14	equal to UWC for average strive drive 'commercial'
CP	+8/-47	+10/-38	+8/-45	Slightly below UWC and average individualism and creativity.
BO	+8/-24	+7/-36	+8/-30	Slightly more than UWC but a strong rejection of the extremes of safety/team/community
DQ	+24/-21	+21/-22	+19/-24	More than UWC for process driven
FS	+22/-13	+26/-11	+29/-9	Below UWC on people/environment issues, both well below average
HU	+18/-21	+14/-23	+23/-20	Above UWC but both well below mean on global approaches
UWC and contractor #2 are more aligned in systemic thinking GT the big picture and on commercialism ER. These could be areas of tension as may be different big pictures. The areas of tension are highlighted in red.				

Table 8.32 - CSI Contractor #2, UWC - based on Table A10.11 Appendix 10				
Change State	#2	UWC	Mean	Analysis Change State Indicator
1 st Order	29	18	20	11 point difference to UWC - contractor incremental
2 nd Order	13	24	24	-11 point difference to UWC - contractor not for step changes
Order	17	14	14	3 point difference order - driven compared to UWC
Chaos	11	13	14	-2 point difference to UWC - can accept some chaos
Alpha	26	17	16	9 point difference to UWC - content with today
Beta	9	9	9	0 point difference - average feeling about today
Gamma	7	12	6	-5 point difference to UWC - not feeling frustrated and trapped
Delta	8	11	14	-3 point difference to UWC - little energy for change
New Alpha	10	12	17	-2 point difference to UWC - not a clear future
Flex	9	12	12	-3 point difference to UWC - less flexibility to launch change
The big dissonance and tension here was that UWC want to have step changes in progress and the contractor needs controlled incremental changes but for this contractor it produces a feeling of frustration. This reflects their high contentment with today – as the way they are now – again causing frustration for UWC.				

General comments on contractor #2 are that they have a high acceptance of looking at the bigger picture which is a systemic value system (GT) and a need for being part of a global team a holistic value system (HU). The high acceptance of GT suggests a strong affirmation of HU as way of thinking and was a zone of comfort for the group. The low intensity of BO community and team was of little value to them but this has been replaced with the strong global team (HU). The strong need for the global value system may be a result of being part of a global company. (Beck and Cowan 1996)

- Will have a higher need for consensus, focus groups and participative and team decision making - #2 will do this on the surface rather than as a core value.
- Will need UWC 'big picture' to be #2's – may result in communicating across each other.

Motivation Buttons

- More participation.
- Access to as much information as possible to make the best-informed decisions.
- Will have high ideals and is principle-led.
- Can morph to portray what it thinks the contractor wants and will play their game. This can be confusing to the contractor as they may be coming from the opposite direction of the GT value system.
- Wants to be seen as people-oriented if it agrees with a successful strategy, will expect #2 to be aligned with them and have same values.

The Tensions are between – GT/HU/fs (#2) and GT/HU/FS (UWC)

- The contractor plays the same game as UWC. As UWC focuses on their own 'big picture' and #2 focuses on its own 'big picture', UWC may assume it was being taken for a ride by parallel values, beliefs and assumptions.
- The contractor may see UWC 'focus group' involvement of people as limiting the successes of its own strategies.
- The game-playing was by morphing to meet each others needs, in this relationship this will be the biggest cause of tension leading to misunderstanding. Two groups having the same value system but are playing different games would be a good analogy. Example, one was playing a game of rugby and the other was playing soccer. Similar principles different rules.

Change - Incremental v Step Change

- The contractor's high contentment with today, the 'now' may mean some complacency or that they are performing to their values and goals. This was supported further by the lower Gamma and 'feel at ease' with what they are doing. This was confirmed by UWC seeing them as 'Fat and

Lazy' (based on the results of the illustration shown in Table 6.9

Chapter Six and taken from the documents used at a feedback session)

- The contractor's need for incremental changes against UWC need for revolutionary changes will be a cause of dissonance and tension between them. This can be a good driver for change if UWC recognises the likeness in values, but seen at the moment by UWC as behavioural problems. (Contractor referred to in UWC report in Table 8.14).

Comment. Their bigger picture approach of the contractor was supported by them having the lowest percentage (16.5%) of people taking part. In discussions and analysis of Type 1 data argues that they are playing by their own rules. A Type 1 espoused example of these values was explained in this statement about UWC "The development of costs is surrounded in secrecy which in a partnering arrangement is not in the spirit of the agreement". In Gravesian terms it is likely to be that a big picture view cannot have "secrecy" and must be shared with the best information. The global team and systemic values is supported by being "in the spirit of".

8.3.6. Analysis Contractor Company #3

UWC considered this contractor as having potential but needed support to develop its potential. As before, Tables 8.33 and 8.34 give the simplistic analysis of the memetic profile and the change state.

Table 8.33 – VT Contractor #3, UWC – based on Table A11.7 Appendix 10

Core Values	#3	UWC	Mean	Comments Values Test
GT	+32/-12	+39/-8	+33/-9	Much less systemic thinking than UWC plus below average
ER	+25/-15	+32/-13	+31/-14	Much less strive drive than UWC and below average
CP	+13/-42	+10/-38	+8/-45	Slightly higher than UWC but in both cases creativity/individualism is more acceptable than average
BO	+13/-28	+7/-36	+8/-30	Twice as high as UWC on safety/team/community and well above average
DQ	+22/-20	+21/-22	+19/-24	About the same for process oriented as UWC and well above average
FS	+29/-12	+26/-11	+29/-9	More people focused than UWC on people/environment issues but only average
HU	+16/-21	+14/-23	+23/-20	Slightly more acceptance of global issues than UWC but both well below mean

UWC are more big picture systemic GT than contractor #3 with much less strive for commercialism ER. Slightly more process driven DQ and people FS than UWC. Areas of tension highlighted in red.

Table 8.34 - CSI Contractor #3, UWC – based on Table A10.12 Appendix 10

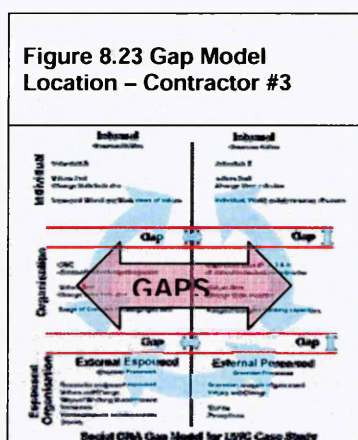
Change State	#3	UWC	Mean	Analysis Change State Indicator
1 st Order	27	18	20	7 point difference to UWC- contractor has a high need for incremental changes
2 nd Order	16	24	24	-8 point difference to UWC - contractor much less comfortable with step/revolutionary changes
Order	17	14	14	3 point difference to UWC – contractor preference for order
Chaos	10	13	14	-3 point difference to UWC – contractor less comfortable with chaos
Alpha	20	17	16	3 point difference to UWC – Contractor reasonably comfortable with today - the now
Beta	10	9	9	1 point difference to UWC – contractor has slightly more feeling of something needing to change but what – more unease
Gamma	8	12	6	-4 point difference to UWC – contractor just above average frustration but not as great as UWC
Delta	11	11	14	-0 point difference to UWC – contractor have the same energy for change
New Alpha	11	12	17	-1 point difference to UWC – no clear definition of the future where they want to be
Flex	11	12	12	-1 point difference to UWC – Have about the same flexibility to start change

The big dissonance and tension here is that UWC want to have step changes in progress and the contractor needs controlled incremental changes. This was reflecting both parties' feelings of frustration. Similar to contract #1. Areas of tension highlighted in red.

General comments on Contractor #3 are their rejection of imposed processes (DQ) and the need to be seen as commercial (ER). This may signal as a group that they are moving towards a closed¹² state that was a result of previous adverse fights with bureaucracy and too commercially minded management. The commercial value system uses the best person for the job. In a family run (BO) organisation the 'boss' is always the best person. There may be an underlying dormant individualism (CP) arising from a rebellion against its own paternalistic management (BO) style leading to a higher frustration level (Gamma) in the change states.

Contractor #3 needs from UWC. The contractor's values profile was for a strong team

and community run by the 'boss' giving a place of safety in which to work. They need to involve people and have consensus with an aspirational need to be part of a larger global community. The high regard for people issues and involvement often means that it can stop development of the company because others' views may be discounted particularly between departments. The global team ambition is wishful because they have not made the transition to the strategic systemic value system. Therefore the global team (HU) as a re-emergence of team and community (BO) suggests that these family-



type business values are even stronger. (BO/FS/HU) Note: Figure 8.23 shows the gaps that are being revealed.

Communications

- Needs communications which are the outcome of participation.
- Needs a 'friend' at UWC – Known and trusted contacts network that they have grown up with.
- Needs to know that communications are sensitive to the needs of others.
- Grapevine was a strong source of communication.
- Whatever the 'boss' says must be right.

¹² Closed state: "Threatened by change and fights to stay put" and "historic traumas may have triggered closure" Beck and Cowan 1996 p77

Motivation Buttons

- Needs to feel part of the 'team' or collective.
- Can put human concerns above those of business and sometimes may not recognise this.
- Needs lightly structured processes which are not too restrictive to consensus but will look for direction from the 'boss'.
- Commercial priorities are an anathema.

UWC needs from contractor #3. The UWC Group memetic profile is one of being systemic and looking at the whole pictures including a commercial part and a need for a global team of themselves and the contractors. This global team may have been a wish rather than a reality because of the high need for people involvement and consensus. (GT/HU/FS)

Communications

- Will need as much information as possible from the contractor, but will also need the facts, feelings and instincts.
- Will have a higher need for consensus, focus groups and participative and team decision making - this will resonate with the contractor.
- Will need to understand UWC's 'big picture' as it was likely to be different to the Contractor's who was not interested in 'big pictures'.
- Communications are likely to be more effective as a learning community.

Motivation Buttons

- More participation.
- Access to much information to make the best-informed decisions.
- Will have high ideals and are principle-led. Accepts the spirit of the agreement.
- Can morph to portray what it thinks the contractor wants and will play their game. This can be confusing to the contractor, especially a dominant community and family-type company (BO/FS).
Wants to be seen as people-oriented if it aligns with UWC's strategy. Contractor #3 may be aligned in people matters, but has only started the transition to systemic values (GT). This may be a barrier to change.

The Tensions are between

BO/FS/HU (#3) and GT/HU/FS (UWC)

- FS synergy may be why UWC see them as having potential. As UWC focuses on the big picture, the higher FS works in compartments or silos. Therefore it becomes harder for #3 to see the whole.
- The contractor may see UWC are 'off in the clouds' with its approach to business and developing the commercial model by wanting to keep with tradition.

Change - Incremental v Step Change

- The contractor's contentment with today was softened with the feeling that something has to change.
- The contractor's need for incremental changes versus UWC's need for revolutionary changes are a cause of dissonance and tension, leading to the higher than average frustration (Gamma).

Comment. The 'family and people' approach of the contractor was supported with the following illustrations from the Type 1 data. The needs of people are explained in this statement. "Empower people to make a decision rather than play the silly Value Management games"; and a possible 'family' statement "Transfer the Solution Managers to the Contractor to become part of the team and community under the control of the 'boss'".

Note: As a general comment on the global team and holistic (HU) value system there were no statements from Type 1 data that could be coded to this value. The following suggest some reasons, referring to Beck (2004, 2005) and Cowan, (2004).

1. 'Aspirational thinking' from the high FS (people and environment) wanting an ideal world.
2. As the global team value system (HU) is a re-emergence of tribal and family values (BO) on global basis (Graves, 1977 and Beck and Cowan, 1996) there is much not understood about this new value system.

3. A perception of HU from the contractors is that they are all part of larger global groups and this may lead to a feeling of a larger community but not a true HU value system.
4. There is a problem with the weighted averages based on work done in the early 1990s. Some practitioners still take the results of HU and divide by two and add to the BO value system (Beck, 2005). This will be discussed more fully in the research findings as it is a research concern when interpreting the data. To overcome this concern in the UWC study a combination of raw values data and weight loaded data was used as part of the triangulation process of the action research methods. This problem did not occur when subjectively applying the values to Type 1 (espoused) data as it is a new method from this research.

8.3.7. Analysis Contractor Company #4

UWC considered this the best-performing contractor and an example for the other contractors to follow. Tables 8.35 and 8.36 give the analysis of values profiles and the change states as before.

Table 8.35 – VT Contractor #4, UWC – based on Table A10.8 Appendix 10				
Core Values	#4	UWC	Mean	Comments Values Test
GT	+35/-12	+39/-8	+33/-9	Less systemic thinking than UWC not so strategic but above the average
ER	+33/-12	+32/-13	+31/-14	Slightly higher than UWC strive drive, slightly more than average
CP	+11/-34	+10/-38	+8/-45	Slightly higher individualism than UWC both suppressed when compared but not rejected as much
BO	+10/-33	+7/-36	+8/-30	Higher need for a place of safety/team/community than UWC, and higher than average
DQ	+29/-17	+21/-22	+19/-24	Much higher process the correct way than UWC and well above average
FS	+22/-16	+26/-11	+29/-9	Below on people oriented than UWC but both well below mean
HU	+10/-27	+14/-23	+23/-20	A strong rejection of global issues and a high difference when compared with the mean
UWC were the 'big picture', look at the whole 'big brush'. #4 is slightly more commercially astute (ER) and supports this with healthy processes (DQ) with a better creativity (CP) and individuals, interesting not so people oriented (FS) – neither had time for global issues. Tension areas shown in red.				

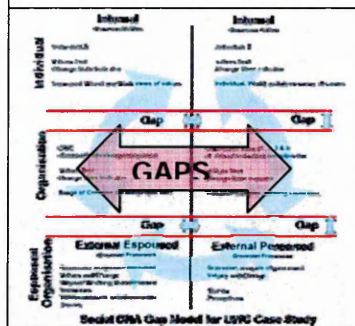
Table 8.36 - CSI Contractor #3, UWC - based on Table A10.14 Appendix 10				
Change State	#4	UWC	Mean	Analysis Change State Indicator
1 st Order	25	18	20	7 point difference to UWC - contractor has a high need for incremental changes
2 nd Order	18	24	24	-6 point difference to UWC - contractor much less comfortable with step/revolutionary changes
Order	17	14	14	3 point difference to UWC - contractor preference for order
Chaos	10	13	14	-3 point difference to UWC - contractor less comfortable with chaos
Alpha	27	17	16	10 point difference to UWC - Contractor is comfortable with today the now
Beta	9	9	9	0 point difference to UWC - contractor both have the same feeling of something needing to change but what
Gamma	5	12	6	-7 point difference to UWC - contractor is not frustrated and 'laid-back'
Delta	8	11	14	-3 point difference to UWC - contractor less surge of energy for change
New Alpha	12	12	17	-0 point difference to UWC - no clear definition of the future where they want to be
Flex	10	12	12	-2 point difference to UWC - less flexibility to introduce change
The big dissonance and tension here is that UWC wants to have step changes in progress and the contractor needs controlled incremental changes. The high contentment with today and the frustration level may suggest a high degree of complacency supported by being UWC telling them that they are the best.				

The following are general comments on contractor #4. The higher than average rejection of people and environmental values (FS) suggests the transition to the strategic and systemic values system (GT) was still emerging. The individuals within the group have much stronger values at each end of the scale, a large range of extremes. For example, the range for GT acceptance was from 8 to 72. The team

leader has below average strategic and systemic values (GT) but has a higher commercial (ER) awareness and may be using the value system by listening to those

who have successful solutions like strategic and systemic thinkers (GT). The strong sense of community and team (BO) was visible in the workplace.

**Figure 8.24 Gap Model
Location – Contractor #4**



Contractor #4 needs from UWC. The contractor's memetic profile was strategic and systemic with a strong team and community giving a safe place to work. This was support with healthy processes and management systems. (GT/BO/dq). Note: Figure 8.24 shows the gaps that are being revealed.

Communications

- Needs the most relevant and useful 'lean' data available from all sources.
- Needs clean information without any spin.
- Any communication should support the contractor's community.
- Needs to come from a credible 'family' source.
- Needs communications to come through a healthy 'free-flowing' process.
- Known and trusted contacts network that they have grown up with.
- In this case a healthier grapevine was a strong source of communication.

Motivation Buttons

- Was more aligned with UWC – sees need for the same 'big picture' as UWC.
- Needs to be part of a larger team of contractors and UWC.
- Needs the opportunity to be a commercial success and be competitive.
- Needs praise for the team and its identity as the 'best'.
- Can morph¹³ and play the UWC games for the strategic, systemic (GT) and people and environmental issues value systems (FS).

¹³ Morph – The contractor has the collective brain capacity to change its outward appearance completely and instantaneously, so from the UWC perspective #4 would create an illusion of being the same as UWC.

- Can see the strategic value in producing healthy process to overcome the weaknesses it sees in UWC's 'big picture'.

UWC needs from contractor #4. The UWC Group memetic profile is one of being systemic and looking at the whole pictures including a commercial part and a need for a global team of themselves and the contractors. This global team may have been a wish rather than a reality because of the high need for people involvement and consensus. (GT/HU/FS)

Communications

- Will need as much information as possible from the contractor, but will also need the facts, feelings and instincts. This may cause tension but #4 will use its people to reduce this tension.
- Will have a higher need for consensus, focus groups and participative and team decision-making – shown in UWC's preference for this contractor.
- Will need UWC's big picture to be #4's – here #4's strategic and systemic values system has been put to good use and aligned with UWC's 'big picture'.

Motivation Buttons

- More participation.
- Access to as much 'lean' information as possible to make the best-informed decisions.
- High ideals and is principle-led.
- Can morph to portray what it thinks the contractor wants and will play their game. This has given a common value system with contractor #4.
- Wants to be seen as people-oriented, will expect #4 to align with the same values as UWC.

The Tensions are between - GT/BO/dq (#4) and GT/HU/FS (UWC)

- The contractor can morph to reflect UWC. As UWC focuses on the 'big picture' and praised it as the best contractor, UWC may unwittingly be causing complacency. In addition UWC was not recognising the strong family based team and community (BO) culture at the contractor.

- The contractor may see involving people as the part of the family and therefore wants to decide based on its 'family and community values'. An example of strategic and systemic value system (GT) was developing a 'risk' process (DQ) for adoption by others to help overcome the weakness seen in UWC systems and practises. If UWC accepts this it will further enforce the contractor's sense of community.
- Because the strategic and systemic values (GT) of the 'big picture' were aligned with UWC's, then game playing by morphing to further the relationship will be reduced. This allows for some healthy participation for both companies but needs some dissonance in their relationship to lessen the complacency from a high-level of contentment with today of the contractor.

Incremental Change v Step Change

- The contractor's high contentment with today 'the now' may mean there was complacency. This was further supported by the below average Gamma and a 'feel at ease' with what they are doing. The Beta antenna that questions the contentment was only average so there was little feeling that something might be wrong with their relationship to UWC.
- The contractor's need for incremental changes against UWC's need for revolutionary step changes will cause dissonance and tension. This is all right while #4 was making 'gains' from the pain/gain model and there was success for UWC. However with high complacency this could easily change. Keeping a balance between 1st and 2nd order types of change may have a favourable result by creating the dissonance need to support further change. The differences in change preference can be positive if handled correctly, in that 'big picture' changes need handling in small increments for the contractor.

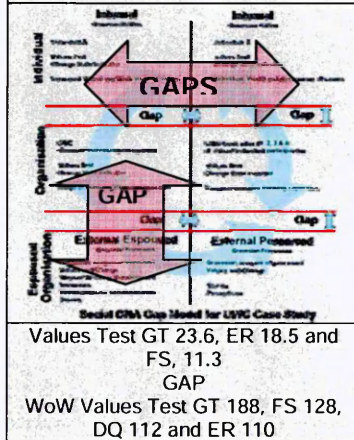
Comment. The strategic, systemic and family community approach of this contractor is explained in the following example from Type 1 espoused data in this statement. "The [new] contractor process [is seen] as a whole as a breath of fresh air". This refers to the commercial model as a process and supports their strategic systemic values. "Quicker relay of info from UWC to the contractor via appointed person not via grapevine." This comment is a team and family value as the appointed person is likely to be the managing director or owner. This is the only way for accepting any communications

from UWC. The contractor also needs to understand the processes for delivering information.

8.3.8. Summary of results of Type 2 data [Hidden]

Type 2 data [hidden] in Table 8.37 shows the relationship between the Values Test and the customised values questions in the UWC 'Ways of Working' questionnaire. These

Figure 8.25 Gap Model Location – Summary hidden espoused



are values questions asked in a work-related context (Appendix 4). This was a useful part of the research method even though only on a small sample (Table 8.37) to inform the overall findings. Note: Figure 8.25 shows the gaps that are being revealed.

The Gravesian values systems for UWC and the contractors as a total from the Values Test (GT 23.6, ER 18.5 and FS, 11.3) and then compared to the 'Ways of Working' questions (GT 188, FS 128, DQ 112 and ER 110). This shows agreement on strategic and systemic; strive for commercial success and people and environmental value systems (GT, ER and FS) as being

in the top four. However as expected in a project-driven contracting environment, control and processes (DQ) are of equal importance to the commercial value system when the questions are related to work. Therefore it could argue that altering the context of the questions makes them espoused values rather than Gravesian hidden values. This is an avenue for further research but outside the scope of this research. It also indicates that even though the espoused showed a greater importance for process (DQ) some of the espoused values they are expressing may be from their hidden values in a work context.

Table 8.37 Ways of Working (WoW) – Values Test (VT)

WoW	188 #1	110 #4	17	45	112 #3	128 #2
	Yellow GT	Orange ER	Red CP	Purple BO	Blue DQ	Green FS
Values Test	23.6 #1	18.5 #2	-28.2	-20.8	6.4 #4	11.3 #3

The top line shows the response from the Gravesian questions related to values at work in the WoW UWC questionnaire.

The bottom row shows the results of the Values Test questions for all the participants. The numbers # next to the values show the rank order with differences between the two.

The VT is the mean of acceptance and rejection of 103 participants

The WoW is of 40 participants out of 67 who answered these specific questions shown in Appendix 4 - Questions 1.4.1 to 1.4.6.

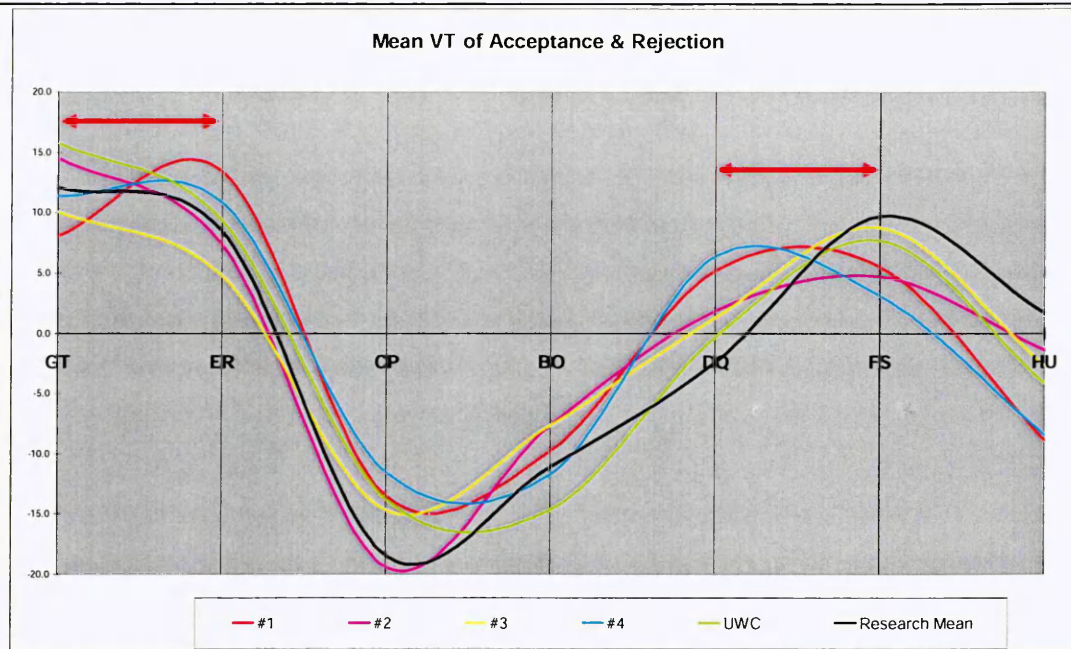
Circulation of the 'Ways of Working' questionnaire was to the same 500 people and 67 were returned. This was a return rate of 13.4% (Table 8.38), less than the VT and CSI questionnaire returns of 103 or 20.6%.

The values revealed in the 'Ways of Working' questionnaire were used to inform the research findings but were also used to explain to UWC how perceptions of data can be altered depending how the question were asked. For instance, the 'Ways of Working' questionnaire may reflect the value systems of the steering group who defined the context of the questions.

Table 8.38 Questionnaire Returns – Ways of Working		
Contractor	Sample Size	%
1	13	19.4
2	10	14.9
3	12	17.9
4	19	28.3
UWC	13	19.4
TOTAL	67	100%
Note: Contractor #4, the preferred performing contractor, again had the highest number of returns, perhaps suggesting a willingness to be involved in the review.		

Figure 8.26 shows pictorially the differences between the contractors and UWC for the Values Test. (These are illustrative of the types of graphs used in presenting findings to UWC). Graphs were found to be the easiest way to show complex values and change information to UWC's management. In addition the format used by Beck and Cowan (1992) did not allow the presentation of multiple companies. The on-line database was able to give the researcher the information in a suitable format for use in a spreadsheet. This saved time and reduced errors.

Figure 8.26 - VT gaps between contractors and UWC.

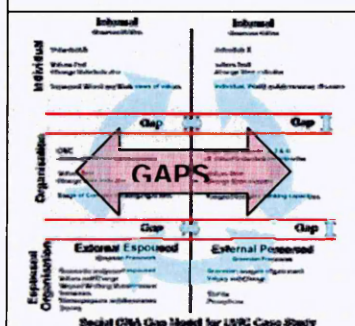


In graph based on the group's mean of Acceptance and Rejection, the red arrows suggest the area of difference between UWC and the contractors, but the vertical differences in scores should also be noted as it shows the differences in intensity.

To simplify the graphs, they use the mean between accepting a value and rejecting a value. Note: Figure 8.27 shows the gaps that are being revealed.

In Figure 8.26 from the Values Test the (red) arrows show the two key gaps between

Figure 8.27 Gap Model Location – Values gaps



UWC and the contractors. The tensions were between the need for strategic and commercial success (ER), however the contractor defined it, and the end-to-end effectiveness of the supply chain for UWC. The other key area was between the people value system (FS) and control and processes (DQ). As expected, the contractors are project-driven with the need to be commercially successful. These processes were not a core UWC value system, but from the feedback sessions and document analysis, UWC imposed extra procedural processes to

feel they were in control. This was instead of involving their contractor in defining these processes by using the contractors' project expertise. This reflects a traditional (AMP2) way of working with contractors not reflecting the needs of the new commercial model.

This further argues that a weakness was lack of trust by UWC in their contractors; this does not fit the principles of the commercial model which UWC asset management had developed. The board that reviewed schemes and projects was separate to the asset management group. The research is limited in its ability to develop this argument on the difference in value systems between the board and asset management because of a limited number of board members joining in the review. If, for example, the chair had taken part then it might have highlighted the hidden value and change system of the leader as being different to the group. Therefore the research could be taken further by being able to link to agency and power theories. (Finkelstein, 1992, Eisenhardt, 1988, 1999) However, the framework is argued to be still valid as this research is designed to show how the Gravesian framework could be used.

Another concern for UWC was the suppression or rejection of individualism (CP) and creativity with the neglect of a sense of community (BO), the foundation value system for teamwork. This is discussed later in the research findings as it may be a symptom of political correctness (Wilber, 2002) or a rejection of some words or phrases in the questions. From the analysis of the data and stories, the decline in the use of team events like social gatherings, lunches and outings have been made by UWC over the years. This shows the slow neglect of the family and community (BO) value system. In addition, there have been changes of logo and identity, resulting in the loss of a place of safety or belonging, the core values of BO. Contractor #4, as shown later in Type 3 perceptual data, used the new way of working to create a new sense of identity and belonging to give them a commercial advantage.

UWC wanted creativity and innovation in developing solutions for water schemes so the capital invested would be cost-effective. As more controls (DQ) are imposed on the contractors this leads to suppressing the more creative (CP) value system. To find support for this view the research looks at further data available from the Values Test.

The Values Test (VT) can be broken down into different views of work, personal and world-view hidden within the individual. This shows that often individualism and creativity are suppressed when coming to work. The result of this analysis suggested that often the creativity from the individualism (CP) value system was healthy outside work and suppressed when at work. This is discussed in more detail and supported in the Type 3 perceptual data which includes an analysis of the values, beliefs and change state of the individual.

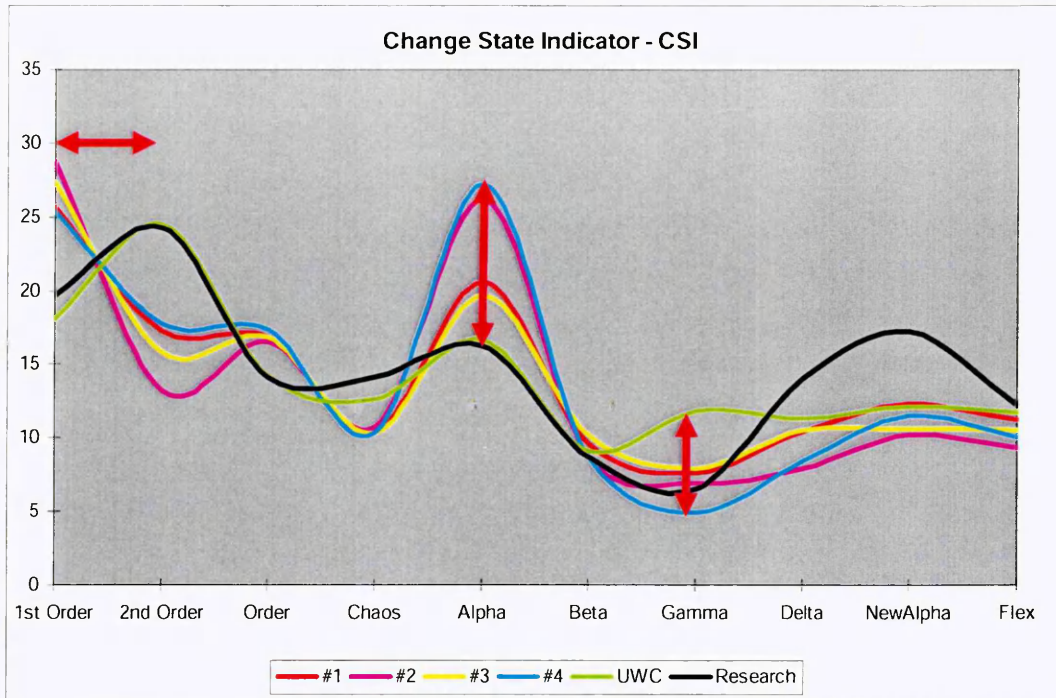
UWC and the contractors to varying degrees were suppressing the creativity in the individual as a group. Using the values test and change state indicator to build a picture of the 'culture'¹⁴ of the group allows a reference point for discussion. The range within the group can then be discussed with the individual by using the group as a reference.

According to Smircich (1983, p. 339) in management research "culture is treated as an independent variable; it is imported into the organization through membership [referring to Fayerweather, 1959; Slocum, 1971]. Its presence is believed to be revealed in the patterns of attitudes and actions of individual organization members." This research is arguing that the Gravesian framework describes and measures what cultures the individual brings into the organisation while revealing the reasons for the patterns of attitudes and their actions. Using this framework argues that culture becomes a measurable independent variable.

Before moving onto the analysis of perceptual and individual data the research looks at the influence of the Gravesian state of change on the process. This completes the picture presented to UWC of the hidden Gravesian framework. The Change State Indicator in Figure 8.28 pictorially shows and explains the source of some of the frustrations between UWC and its contractors.

¹⁴ 'Culture' in this research is defined as represented by the Gravesian value systems and the preferences for types of change. This is the hidden or subconscious culture in the individual and not espoused and shared values.

Figure 8.28 CSI gaps between contractors and UWC

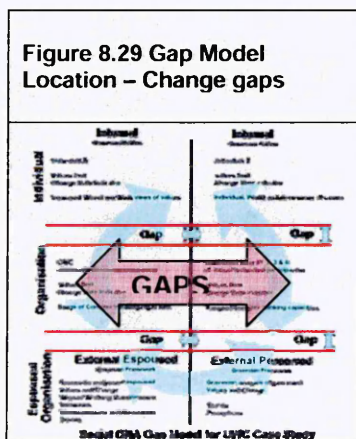


The red arrows mark the three keys areas of difference in the preferences for change. UWC prefers step change and the contractors prefer incremental change. The strength of contentment with 'as things are' with the contractors (Alpha) is much greater than UWC which may result in UWC's high level of frustration (Gamma).

The black line is the research's average all participants.

Note: Figure 8.29 shows the gaps that are being revealed.

In Figure 8.28 preferences for states of change, the (red) arrows mark the three key



areas between UWC and the contractors that were a possible cause of tension. The first is how groups or individuals prefer to handle change. UWC are not incremental, preferring the revolutionary change process (2nd Order). If UWC is too far ahead of its contractors they will see UWC as unfocused – 'this is the flavour of the month' or 'just plain madness', too 'far-out' for them to reach. This view is often how individuals with high systemic (GT) value systems are seen; also being an 'I' value system it can look selfish. So UWC have this

combination of 2nd Order change with the strategic and systemic values. This

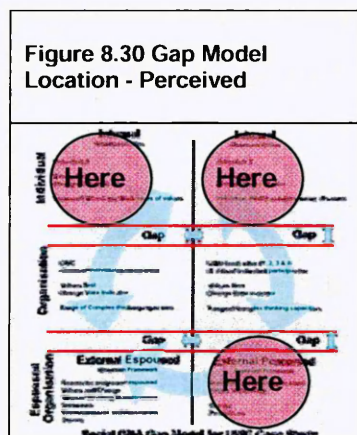
combination needs careful handling in UWC's relationship with the contractors. Their strategies need reducing into incremental (1st Order) steps and its actions and words aligned with the contractors' Gravesian value and belief systems.

The second area of tension is the contentment with what is happening today. If the contractor sees that they are doing well and there is no need to change, then it becomes difficult for UWC to gain further improvements. In the particular case of contractor #4, the continued praise of UWC and them wanting all the other contractors to be the same argues no recognition of the underlying values and culture of the other contractors. The tensions caused in the first and second lead to a third area (shown in Figure 8.28): that of feeling frustrated or trapped. How this is handled is dependent on the Gravesian memetic profile. An example was contractor #4 with their strategic and systemic approach that was able to think its way through and turn any frustration to an advantage. A high commercial value system (ER) for contractor #1 will often restrict other values by being exclusively focused on the need to be a success and make a profit. Therefore unless UWC's strategic plans bring short-term commercial success for contractor #1 then these plans will be rejected.

To summarise, the examples indicate how to use the Gravesian framework to help understand the interplay and tensions caused by different values systems and different ways of handling change. This is not only at the collective or group level but needs to be built up from the individual. The limitation for the analysis is how representative is the group surveyed of the company.

The next section looks at Type 3 perceptual data and the individual. The analysis of the perceived is reviewed with the data from the hidden and the espoused. For UWC Type 3 information was used to develop the individual's understanding of the Gravesian framework for use by management in understanding culture and behaviour in the supply chain. This allowed for an understanding of the effect of UWC's half-way review on culture and behaviour of the contractors and the commercial model.

8.3.9. Analysis of results of Type 3 data – Perceptions, Stories and Impressions – the role of the individual. [Perceived]



Purpose: The previous Type 2 hidden data was at the collective or the group level, for example the contractor and UWC. The build-up of the collective or group data was from individual data. Type 1, espoused on documents, interviews and 'Ways of Working' questionnaire, analysed statements as Gravesian values systems and themes as raised by UWC. Type 2 data, the core of the research, used the Gravesian framework questionnaires to reveal the Gravesian value system and types of change within the individual. Again analysis was as a collective, UWC and the contractors. Following the

funnel idea depicted in Figure 8.21 the research is now using the same information from the Type 1 and 2 data to look at the role of the individual. This part of the case study starts to bring together the three perspectives of the data to inform the research findings. When perceptions and stories are added to this analysis another valuable source of information can be analysed using the Gravesian framework. Note: In Figure 8.30 the red 'here' circles denote the areas being reviewed.

The analysis of Type 3 data includes perceptions¹⁵, stories and impressions, with examples of analysis of the role of the individual supported by extracts from Type 1 and 2 data. This approach has been well researched over the past thirty years. Smircich (1983) in her paper on the ideas of culture argues the social part of organisations forms the organisation's culture by referring to Siehi and Martin (1981) and Tichy (1982) covered in the discussion in Chapter Two. Therefore Type 3 data links to the literature reviews and starts to define the role of the individual in organisational culture. For UWC, Type 3 data allowed them to see the anonymous¹⁶ statements made by staff and contractors and understand the underlying Gravesian values and beliefs that resulted in those statements.

¹⁵ Perceptions – This research has taken the broader approach in that stories narratives and impressions because they are interpreted by the researcher are treated as perceptions adding to the rich picture to informing the findings.

¹⁶ Anonymous statements – these were anonymous to UWC but not the researcher.

Perceptions are an important part of researching culture: they include the perceptions of those within the culture and of those outside the culture Marquardt (2000, p. 235). This is the aim for integrating the Type 1, 2 and 3 data to go below the surface with the Gravesian framework to reveal the building blocks of the culture of UWC and its contracting companies.

Besides perceptions, stories are a useful source of information and become part of the data gathering process outlined (Dart and Davies 2003).

Method Sequence: The sequence used in the analysis of Type 3 data follows this format: An analysis of the UWC sponsor and champion looks at how opening remarks about the half-way review can be analysed with the Gravesian framework. This is followed by a look at example stories from individual discussions by using a detailed analysis of an engineer and his manager from contractor #3 as an example. This individual gap analysis is in a similar format to the Gravesian gap analysis between the contractors and UWC. Added to the analysis are the memes that attach to the individual for learning and management styles. These provide links to memetics in Chapter Four and heuristics in Chapter Five. The research has taken a managerial view as discussed in Chapters One and Two; therefore management styles become part of this analysis.

The individual's stories are supplemented by carrying out a perceptual analysis on the contracting companies and UWC and assigning Gravesian value systems to these perceptions. This provides a further viewpoint of what the companies say to the outside world about their value and belief systems. This highlights the gaps between the Gravesian hidden value system, the espoused and the perceived. These differences are then tabulated using the Gravesian letter pairs to describe the value systems and show the differences.

To start this part of the analysis the research looks at a remark made at the beginning of the UWC project.

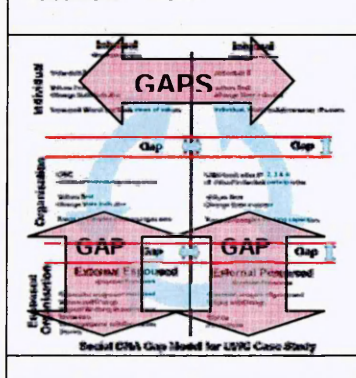
Analysis

The following anecdote from the start of the project is used to illustrate that a seemingly innocent remark can have other meanings. This research argues that this remark is a reflection of the memetic profile of the individual, a reflection of espoused culture.

Before circulation of the 500 questionnaires the UWC sponsor made sure the ground had been prepared with all their contractors for the half-way review. A covering note went out with each questionnaire explaining the reasons and the importance for the future of UWC and for AMP4, the next investment phase. The sponsor explained how important the review was at contractor and UWC meetings with details about involving consultants and an auditor. A follow-up e-mail supported this further. (Appendix 10 Table A10.0)

The contact person on any technical or other problems with the questionnaires was the researcher. Within a few hours of circulation the following message was received indirectly from contractor #2 and noted by the researcher. "A slight negative reaction from contractor #2 as not enough warning and not the right circulation - he has put the exercise on hold until he has spoken to UWC". In a follow-up telephone conversation the reasons behind the message became clear, 'Who is going to pay for time lost?' In Gravesian terms, this could be considered individualism (CP) as 'he' put the project on hold as a one-sided decision but with a strong commercialism flavour (ER payment). This statement links with one of UWC's feedback comments on behaviour from the 'Way's of Working' questionnaire, "Are there hidden agendas - are UWC trying to get more than required" from the same contractor.

Figure 8.31 Gap Model Location – WoW



The UWC values profile (GT/FS/er) with its strategic and systemic approach was viewing the supply chain as a whole by looking at how the current commercial model (AMP3) would affect future business (AMP4). This strategic and systemic view was further supported by UWC's willingness to change the commercial model, if evidence showed support for changes which would improve it. UWC recognised the needs of those taking part (FS people) and that the process (DQ now for later) of the review was time-consuming but worthwhile. UWC's approach uses the DQ value system of rewards later for

sacrifice now. That is, the possibility of AMP4 contracts for future business for their involvement now in the review. UWC was also using its systemic morphing ability to appeal to the process-driven (DQ) contractors, while also appealing to the commercial success (ER) of the contractor so the outcomes of the review would be successful. In the analysis of concerns about the review raised by the contractor #2 and the follow up e-mail, the role of the memetic profile of the project sponsor plays a part. (Table 8.39). Note: Figure 8.31 the red arrows denote the gaps being revealed.

Table 8.39 VT results for UWC sponsor (ID# 408).

	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-
ID# 408	60	45	16	0	16	6	7	-0	-3	-30	-55	-27	-15	20
UWC	39.3	31.5	10.3	6.9	21.2	26.4	14.3	-7.8	12.7	37.8	36.3	21.9	11.1	22.5
Mean	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	13.7	44.8	30.3	23.5	-9.3	19.8

In this Table the UWC sponsor and champion is a systemic and success driven individual (GT and ER) and then compared with the UWC groups and the research mean.

Mean is from online database of 1003 people

The e-mail (Appendix 10 Table A10.0) reflects the values profile of the writer, as Table 8.39 shows. The scores for GT (60, 0) are high, with little rejection of the idea with a high ER (45, -3). This signals a need to be successful; again, a low rejection. Therefore, the sponsor needs the half-way review to be successful for UWC (GT/er), with high self-achievement and material rewards for himself and his group (an 'I' value system). The individualism (CP) value system is healthy (creative and innovative) because the sponsor's memetic profile shows a strong rejection of the unhealthy facet of selfish individualism. Adding to the value systems picture are the preferences for types of change (Change State Indicator - CSI). (Table 8.40).

Table 8.40 CSI for UWC sponsor (ID# 408)

	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
ID 408	11	30	10	17	26	5	12	4	11	11
UWC	18	24	14	13	17	9	12	11	12	12
Mean	20	24	14	14	16	9	6	14	17	12

In this table the UWC sponsor prefers 2nd order change, is content where he is today (Alpha), but has no clear idea of the future (New Alpha). This may equal high Gamma frustration.

Mean is from the online database of 959 people

From the Change State Indicator (Table 8.40) the sponsor has a high preference for 2nd order step change, with a preference for chaos with some order. The higher contentment with today (Alpha) but with no clear picture of the future (New Alpha) may be accounting for the high Gamma¹⁷ frustration level, which was common to UWC overall. The frustration does show through in his e-mail, as support for the review was patchy. As a high (GT) systemic thinker, he has the ability to think through the problems and decide 'what to do' on the best available information.

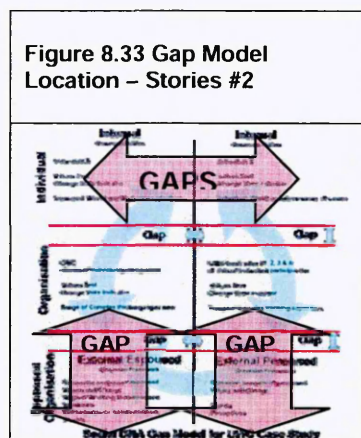
Informal meetings, observation and feedback sessions confirmed this was a reasonable analysis of the sponsors' business approach and how he handled change. This example was used to illustrate how the researcher analysed statements using Graves' framework. Further discussions expanded the analysis with data gathered from the WoW questionnaire and documents.

The next section continues the theme of using the Gravesian framework to further understand the role of individuals in organisational culture by looking at stories told by participants at feedback and training sessions.

¹⁷ Any Gamma reading above 7.2 is cause for concern (Beck and Cowan, 1992, 1996)

Story of an Engineer working for contractor #3

UWC wanted confidentiality and the individual's privacy. For this reason each person



was identified by a code. In this illustration he was an engineer (ID# 368) with contractor #3. He was involved in the feedback meetings and asked for a one-to-one session with the researcher. Note: In Figure 8.33 the red arrows denote the gaps being revealed.

All the one-to-one discussions followed a similar format and started with the question 'What does this mean for you?' or 'What do you think this means?'.

An outline was given by the researcher on the meaning of the results, with a simple explanation of the Gravesian framework. To lessen the researcher's influence it was important to allow the person to open the discussion, then to answer their questions. The answers were supplemented by asking for illustrations of what was meant. This was used to clarify their perception of their values profile or a change state. The session was about 20 minutes; therefore graphs rather than tables were an effective communication media. There were two regular questions asked by the participants: one was, 'Where am I versus the average?' and the other was, 'Where am I versus my group?' This feedback process follows the basic advice for doing action research. (Susman and Evered, 1978; Easterby-Smith et al 1995; Gill and Johnson, 1997; Checkland and Holwell, 1998; Denscombe, 1998; Avison, Lau, Myers and Nielsen, 1999; Bell, 1999; Eden and Huxham in Clegg and Hardy (eds), 1999; Johnson and Duberley, 2000; Torbert, 2003).

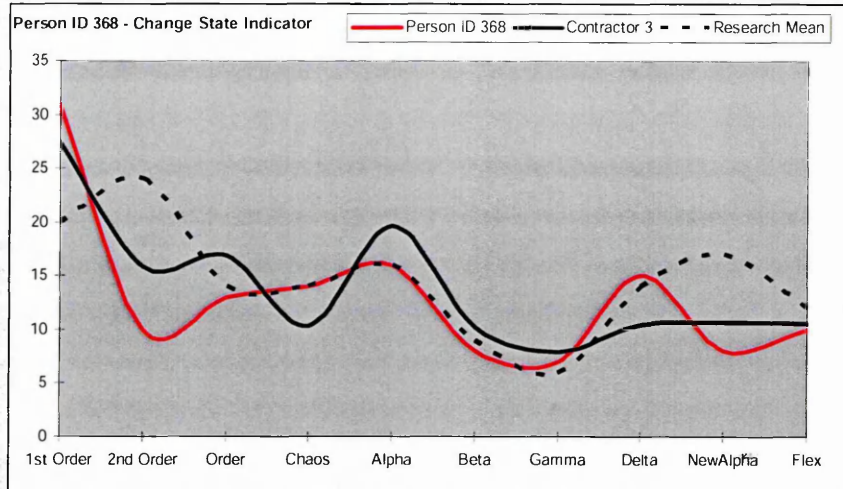
To humanise these feedback discussions, as this was a discussion about an individual's values and beliefs, he is referred to as Bob (ID# 368). The following is the analysis of Bob's VT and CSI results. The discussion started with a look at the Change State Indicator (CSI), since this approach on change is easier to explain as most business people understand the idea of change. This naturally led the discussion into the relationship of the CSI profile to the individual's values profile. Using this sequence of change then values, helped explain the link between the two assessments¹⁹. Table

¹⁹ From the learning gained from the pilot, participants were more at ease with discussing change as most managers think they understand change and the need for it.

8.41 looks at the CSI results while Figure 8.34 looks at the same information pictorially and is similar to the information given to Bob in his feedback information pack.

Table 8.41 CSI for Bob - ID# 368				
Change State	Person ID 368	Contractor #3	Research Mean	Analysis Change State Indicator
1 st Order	31	27	20	Preferred incremental change more than his employer and much more than the research average – though more in tune with his employer.
2 nd Order	10	16	24	Has a strong dislike for revolutionary change well below the research average – supporting his incremental change approach
Order	13	17	14	Is happy with an ordered approach
Chaos	14	10	14	But is also able to cope with some chaos – his employer less so.
Alpha	16	20	16	Had average contentment with his current situation of today. His employer is more content with today – this is confirmed by the contractor's relationship to UWC. Lack of dynamism and innovation less responsive.
Beta	8	10	9	Had an average awareness that something is not right with the current ways of working
Gamma	7	8	6	There is little feeling of frustration 1 point above average with his employer 2 points above average
Delta	15	11	14	The energy for change is average and the employer is 3 points below average
New Alpha	8	11	17	Half the average with no vision of a new future the same applied to the employer
Flex	10	11	12	Below average flexibility to want to have change.
<p>Bob was in tune with his employer but the employer was out of tune with UWC. For example, UWC had a 24 score for revolutionary change against Bob's of 10 and #3 of 16. This would lead to tensions, with UWC not being less content with the now, alpha of 17</p> <p>Research mean is from the online database of 959 people.</p>				

Figure 8.34 CSI for Bob - ID# 368



Research mean is from the online database of 959 people. The biggest concern here is that Bob and the contractor had no clear idea for the future (New Alpha). The contractor was much more content with how things are today than Bob (Alpha). Both were incremental (1st Order)

In Bob's case, there is a strong preference for 1st order, incremental change, with a low preference against 2nd order step change. There was an even balance between order and chaos. Bob has an average contentment with today (Alpha) but has a strong feeling that perhaps something was not right (Beta). His frustration or trapped feeling (Gamma) was slightly above average (8) but below that of contractor #3 (10). His energy for change (Delta) was just average (15) and much more than contractor #3's average (11). His Delta energy was wasted, as there was no clarity about the future (New Alpha) and not too much flexibility (Flex) to move towards something better (New Alpha). A lack of clear direction or an understood strategy was a reflection of the contractor's organisation as having no clearly defined future or goals. Were they hungry enough to want to get the new (AMP4) contract? This perception came across from the contractor's responses to the 'Ways of Working' questionnaire. The values profile of contractor #3 (BO/FS/HU)²⁰ supports a 'favour' (at the boss' pleasure) approach to spreading information. However this was acceptable to Bob as it suits his own high acceptance of the BO value system and suppression of the individualism CP value system.

²⁰ VT profile from the weight-loaded results in Table 8.33.

To build on this analysis of Bob's culture from the Gravesian values, a discussion was held on interpreting the Values Test (VT). Figure 8.35 shows the results pictorially and Table 8.42 in more detail. This is similar the chart given to Bob at the feedback session.

Figure 8.35 VT for Bob - ID# 368

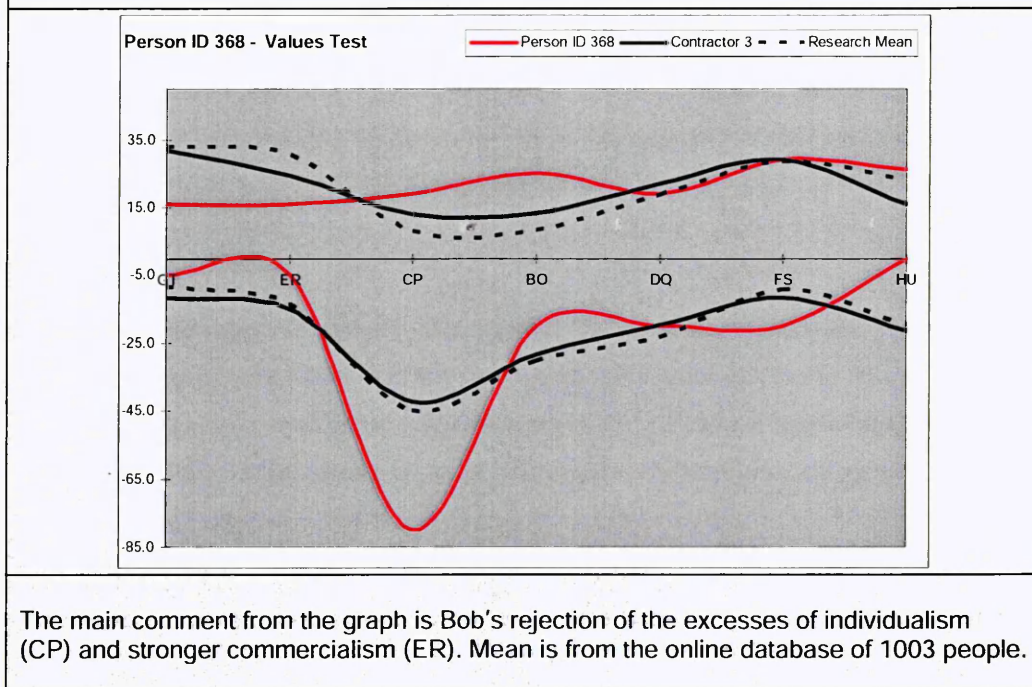


Table 8.42 VT for Bob - ID# 368

Values	Person ID 368	Contractor #3	Research Mean	Comments
GT	+16/-5	+32/-12	+33/-9	The contractor is average for systemic thinking but 368 is not a systemic thinker but does not reject the idea
ER	+16/-5	+25/-15	+31/-14	The contractor is below average for commercial strive drive. 368 is not so commercially aware but does not reject the idea
CP	+19/-80	+13/-42	+8/-45	The contractor has an above average individualism with a strong rejection of the excesses of individualism. 368 has a high need for individualism and because of the high rejection of excess it is likely to be healthy and creative.
BO	+25/-20	+13/-28	+8/-30	The contractor has an average need for team and creating a place of safety. 368 has a high need for place of safety, community family also showing is less rejection so traditions would be important.
DQ	+19/-20	+22/-20	+19/-24	The contractor has an above average need for due process and does not reject the excess of the correct way compared to average. 368 is average and more inline with the contractor.
FS	+29/-20	+29/-12	+29/-9	The contractor has average for the regard for the human needs with 368
HU	+26/-0	+16/-21	+23/-20	The contractor is well below average in thinking on a global scale does see the need. 368 see it as import as an idea zero rejection which could also be a more spiritual version of BO community and family

Table 8.42 (cont) VT for Bob - ID# 368

The figures are rounded to the nearest whole number. Bob was realistic in the need for community and family and needs a strong place of safety at home and work. He is a team player with strong individualism and perhaps creativity. He needs tradition and will be loyal to the chief or boss.

The mean was taken from the online database of 1003 people.

Bob's strongest raw score VT shows a BO/FS/dq that has a community and team score of three times the research average and twice that of the contractor #3. However his is less than average rejection that shows a strong loyalty to family and the group. Therefore, Bob was likely to have respect for 'the Boss' and to follow traditions. He has a strong need for a place where he feels safe. This links into his people concerns, as shown in FS. He feels people are important but rejects the excesses of consensus decision-making, as his rejection of this FS value was three times less than average. Even though his DQ was average he accepts the need for controls and management systems to avoid too much chaos.

Bob's weight-loaded values profile tells a slightly different story from the raw data with BO/HU/FS. However, as before, BO family, community and team was where Bob's energy was strongest. The global team (HU), which is a re-emergence in complexity of BO for global communities, is probably correct, as his rejection of FS people and the environment was less than average and this reduces 'aspirational thinking'. Because the global value system of HU is still emerging (Beck, 2005) it is better to read as a higher BO from which it emerges. His strong rejection of individualism (CP) values is often a result of his above average acceptance of FS, which does suppress individualism. (Note: from Holwerda and Karsten (2005), limited validation of the VT raised concerns about the validity and reliability of the HU questions and may account for the differences to raw scores and averages).

This analysis gives an overall picture of Bob's hidden culture, but further analysis by breaking out answers to the VT questions, shows Bob's values at work, his view of values in the outside world and his personal internal values. Table 8.43 and Figure 8.36 give a detailed breakdown. The breakdown into these three views is from the analysis of answers to questions in the VT for example Q1 is about the job, Q2 is about

personal view and Q6 is about view of the world. (See Appendix 3 Values Test Questionnaire for further examples).

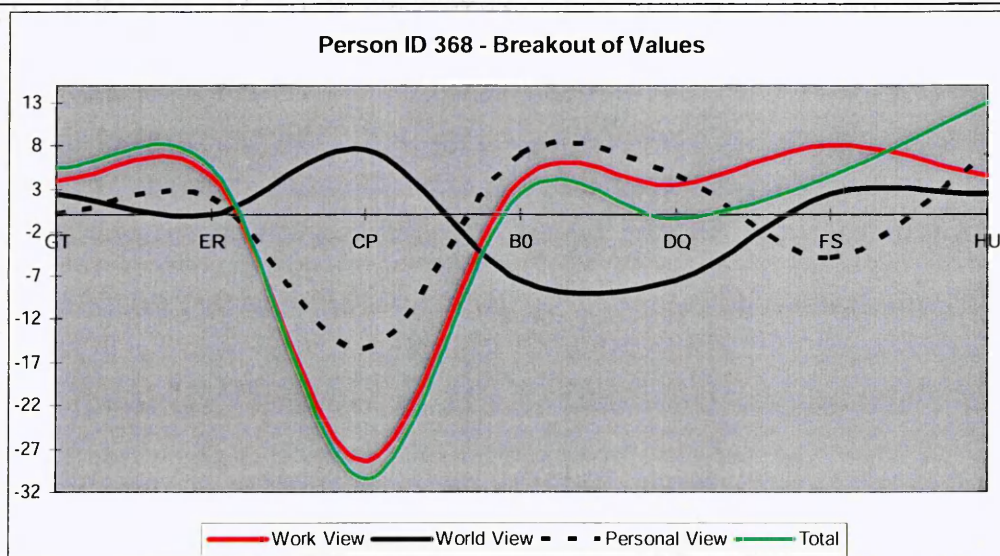
Table 8.43 Bob - Values for Work, World and Personal – ID# 368

Participant: Id #368 - Bob							
Profile	GT	ER	CP	B0	DQ	FS	HU
Work-related (Acceptance)	8	9	3	8	7	16	9
Work-related (Rejection)	0	0	-60	0	0	0	0
World-views (Acceptance)	5	0	15	5	5	10	5
World-views (Rejection)	0	0	0	-20	-20	-5	0
Individual/Personal (Acceptance)	5	9	4	14	9	5	14
Individual/Personal (Rejection)	-5	-5	-35	0	0	-15	0

The breakout of values – Work-related is at work – World-view is how the world appears from the person's viewpoint – Individual is the person internal view of himself. The breakout of total values is as follows: Work-related question 1,3,4,5 World-views questions 6,7,10 – Individual/Personal questions 1,2,8,9 of the Values Test (VT) Appendix 3

The area highlighted green shows the strongest raw scores.

Figure 8.36 Breakout of Values for Bob - ID# 368



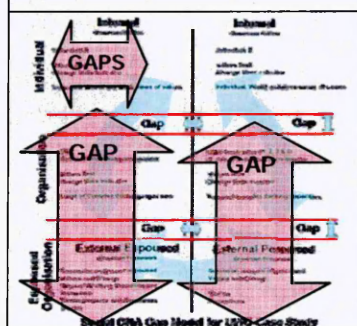
Bob's view of the world is of individualism (CP) a 'what is in it for me' while his personal and work view are for suppression of this value system

Bob at work regards the work environment as FS (people and environment issues) and ER (strive for success and is commercial) with a suppression of his individualism (CP). Discussion with Bob revealed that 'it is best not to show one's individualism at work'. His personal and work views are different. He views the world as having a high (CP) individualism, perhaps 'me first', but also with a need to address issues about (FS) people and the environment. His personal view was a need for a strong (BO) family, community and team. This view is further strengthened by the score for global issues (HU) as this is harmonic of family and community (BO).

When Bob looks outwards, he sees the world around him as being individualistic (CP) 'I' first with little community and places of safety (BO), but with some concern for people and the environment (FS).

Bob's view of the world looking outward produces tensions between his personal and work life. He needs to feel part of a community and his sense of belonging is in conflict with living in a world full of 'I' first individuals.

Figure 8.37 Gap Model Location – Bob hidden



So far in this analysis of Bob's hidden values, beliefs and assumptions based on the Gravesian framework has been the researcher's interpretation of the assessments. This is through the researcher's own filters and understanding, but what are Bob's views? During the feedback session Bob agreed with the overall direction of the assessment and the following story highlights and clarifies the analysis. This story is from notes taken at the feedback session by the researcher. Note: In figure 8.37 the arrows denote the gaps being revealed.

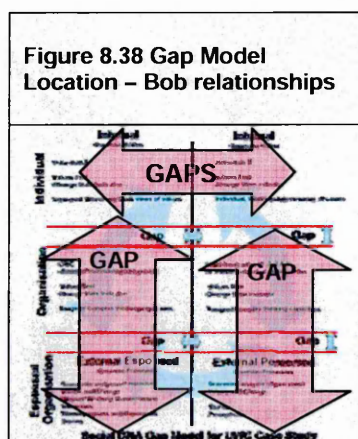
Bob in his career had been an engineer working away from home and found that this was putting a stress on him, as he wanted to spend more time with his family and growing children. Bob likes celebrating social and family events, like religious festivals, family gatherings, anniversaries and so on. He had taken his current role even though it was a sideways career move so he could spend more time with his family.

Just in this short story shows Bob's need to be part of a team, a community and to have a place of safety, all views and beliefs from his high BO value system score. He also suggested that it was not healthy to show individualism within the work environment which supports his rejection of CP at work. This short story is another

illustration of the Gravesian framework and how the researcher carried out the analysis of Bob. By taking the analysis down to the individual it shows how the same data can be used for the individual as well as a group. This is the same format that was used in the gap analysis for contractors and UWC in the section on Type 2 [hidden] data.

The analysis now continues by using Bob's story and the same information to illustrate Bob's relationship to his group manager.

Bob's relationship to Management.



A similar gap analysis as used for Type 2 values data that looked at the different needs of the Gravesian values and change of the contractors and UWC. This approach is applied to the relationship between Bob and his Group Manager. This supports the research aim of looking at the role of the individual in organisational cultures. This analysis uses the same approach as before, but adds motivation and communication preferences. The individual analysis goes a little deeper to show the relationship to management and learning styles of the

Gravesian framework (Beck and Cowan 1996 and Appendix 1 and 2). Note: In Figure 8.38 the red arrows denote the gaps being revealed.

Bob's needs from the Manager Jane – The values profile of Bob is for a strong community, team and a safe place in which to live and work. He has concerns for the global community and genuine concerns for people and the environment (BO/HU/FS).

Communications

- Needs to have verbal communication rather than written. Information needs to come from the owner or a respected senior manager.
- Needs communications to come from consensus of those he works with and needs to feel sense of belonging and ownership of the communication.
- Needs to build trust and explore the meaning of any communications.

Motivation Buttons

- Respect for powerful figures.
- Tradition, custom and safety.
- Respect for other human beings with participation.
- Will suppress his individualism for the sake of people and community.

Learning Styles

- Traditional teacher relationship.
- Step by step in small groups with imagery.
- Will use observation and share experiences.

Manager (Jane - ID #177) needs from Bob – Jane's values profile is one of a need for commercial success and rewards for herself and her team. There is a need for a strong community and family atmosphere, however a strong 'I' first individualism (ER/BO/CP).

Communications

- A professional approach to communication that is clear and unambiguous. More credibility is given to those communications that come from a highly regarded expert and can return a profit to her and to the whole team.
- Will use a contact network that she has grown up with.
- With believe communications from trusted (family) business contacts.
- Wants immediate results and responses to communications. Has a tendency to be autocratic.

Motivation Buttons

- Success and competitive driven.
- Looking for the new and improved.
- Rewards for the company, the team then self.
- Wants respect.
- Adheres to customs and traditions.

Learning Styles

- Needs mentors and guides.
- Will learn more effectively if it includes how to be a winner.
- Likes to use 'high-tech' gadgets that give status.
- Learning in a family environment.

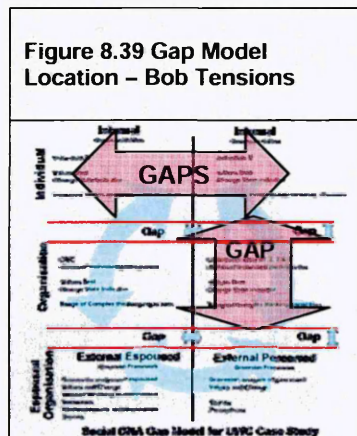
- Learning by doing.

Management Styles

- Competitive and results-oriented with rewards for the 'winners'.
- Strong caring for her staff and prefers to reward the team.
- Autocratic and straight taking.

The Tensions are between –

- **Bob (BO/HU/FS) and Manager Jane (ER/BO/CP) and contractor #3 (BO/FS/HU).**
- Bob will need a community that is safe with people awareness. The



contractor has community and awareness of the people issues. Therefore, being a reasonable alignment for Bob.

- The Manager is success-oriented and will only help Bob with his needs if he can show success for the contractor and her. The high individualism (CP) of Jane may manipulate Bob to her own goals and eventually cause frustration (Gamma) for Bob. However his loyalty (BO) to the team

may mean 'grin and bear it' and productivity falls off, for example.

- The sharing between the two parties of team and sense of community (BO) will allow a comfortable working relationship. However, because of this UWC's strategic and systemic (GT) approach the contractor, Bob and Jane would not be comfortable with UWC's broad picture approach. Note: Figure 8.39 denotes the gaps being revealed.

Change - Incremental v Step Change

- Jane was equally happy with 1st or 2nd order change and can live with chaos and order to be comfortable when working with Bob. As a commercial success-driven manager, always looking for the win could cause some conflict for Bob's traditional, incremental and consensus values.
- Bob's overall change approach aligns with the group change approach and should see some benefits here.
- Jane can play the game [political] as needed to be successful a part of the commercial success value systems (ER).

Learning Styles

- The conflict here was Bob's preference for classical and observational learning versus Jane's preference for experimental and conditioned versus contractor #3's group approach of classical and observational. Bob and the contractor have likenesses and Jane may eventually find the contractor's culture restricting.

Management Styles

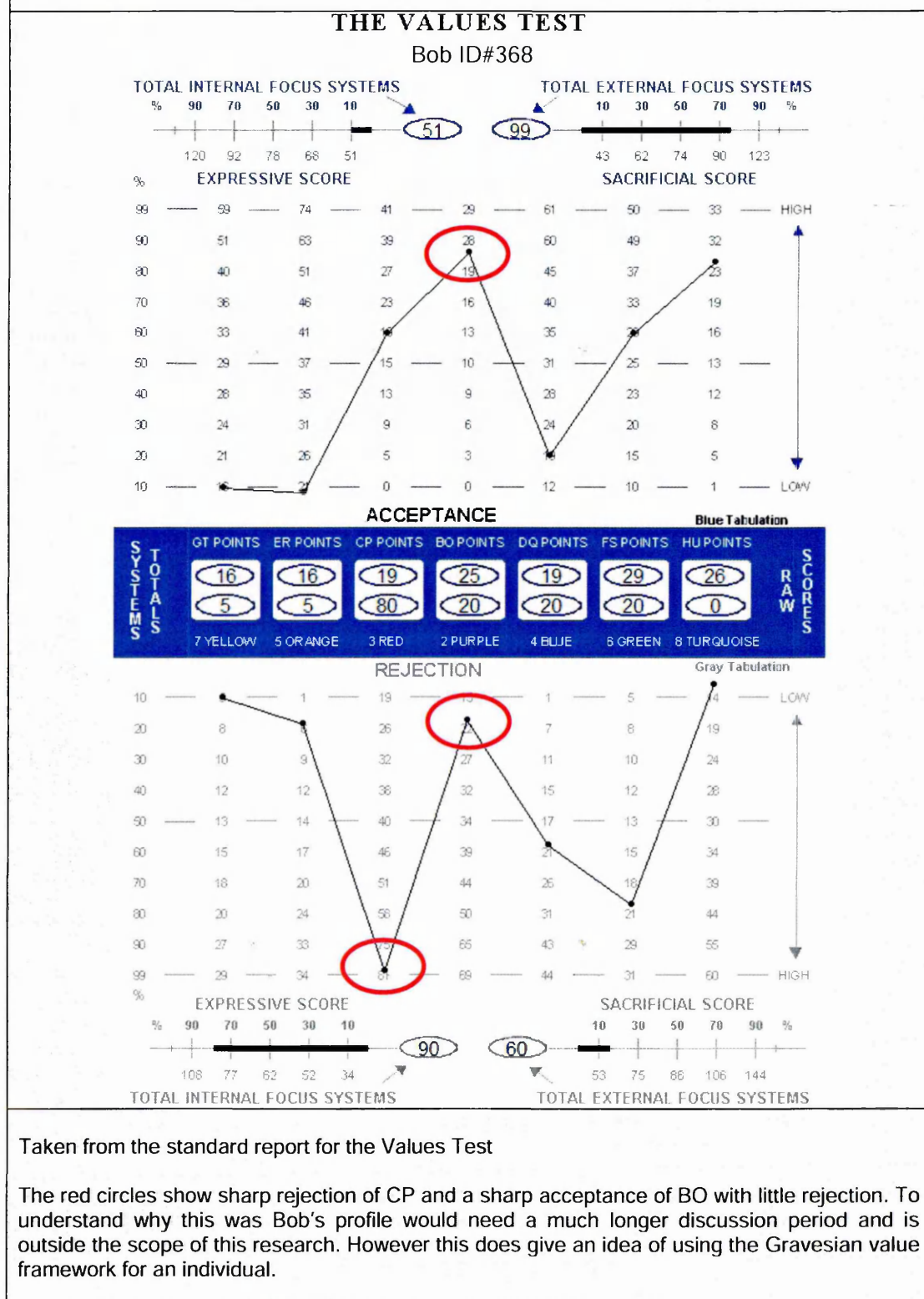
- The conflict here was Bob's preference for tribal, family and social versus Jane's preference for economic and tribal versus contractor #3's tribal and social. Here Jane may feel the family atmosphere is too restrictive to gain economic and commercial success for the company.

Linking the previous research's analysis to Bob's 'Ways of Working' questionnaire, he made the following statements used to support the analysis. On control "power of restraint" and "I would feel unable to perform" [if levels of control inappropriate]. "We're working for UWC - that's a big enough risk in itself", and "Involvement of the Contractor" [for improvements]. On trust, "We already are trusting and with good reason, as UWC have yet to betray this trust". On UWC's opinion of contractor #4's performance "It is purely based on KPI's [Key Performance Indicators] and rumour". These statements are about community and team and the bigger UWC family (BO). There are comments about people and relationships (FS) with distrust of the commercial drive for success (ER), which aligns with Bob's lower acceptance of the commercial success value system.

Using Beck and Cowan's way to analyse the Gravesian value systems, Bob's Values Test (Figure 8.40) profile raises the following comments. Bob sharply accepts tribe, community and family (BO) and sharply rejects individualism (CP). "In this first case, the person [Bob] assigns a large number of acceptance points to BO statements while assigning that Value System only a few Rejection points. In such a case (and it is a common occurrence), there is a strong affirmation that the way of thinking is typical of the person and, most probably, appropriate in their [his] world. When someone finds much about a way of thinking with which to identify, there is often relatively little negative energy attached to it. This is a zone of comfort, probably stability and congruence." (1992, p. 66-67)

"Sharply Rejects - In the second case, the person [Bob] finds completions [results] from the CP Value System to be quite apart from self-perception. Thus, many rejection points appear. The acceptance score on that system is quite low. (On CP it is often zero [Bob's is just above average]. Near zeros are also frequent in BO and HU). Many people seem to have a fairly clear idea of the worldviews they accept and reject. One may hypothesize that the more someone moves towards a 'Closed' state, the more extreme the acceptance/rejection profile will become. Note in [Bob's] example the FS acceptance score is above average, a profile that often rejects CP strongly." (Beck and Cowan, 1992, p. 66). This assessment was consistent with other information and the feedback discussions with Bob. To resolve why individualism (CP) was so strongly rejected in his work and personal views, and the meaning to him of the global team (HU) value system needs more discussions. Figure 8.40 shows Bob's Values Test results and pictorially illustrates the above analysis.

Figure 8.40 Bob's Values Test ID#368



Because of the limited time available for discussion with Bob about the findings of his value systems this research argues that the analysis is reasonable to illustrate how to

use the Gravesian framework. This fits with the research aim of revisiting Graves' (1977) ideas as a way of understanding the role of the individual in organisational cultures.

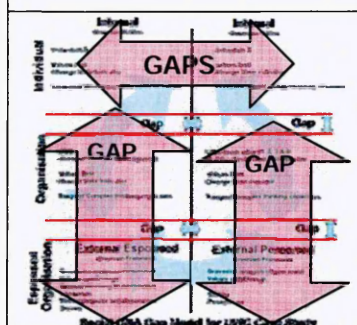
Note: The manager Jane in this example did not return a Ways of Working questionnaire. Therefore the research cannot cross-check her values with written responses. Unfortunately, out of all the questionnaires returned there was no individual who took part in the feedback sessions whose manager had also taken part in all aspects.

In this section the case study has covered the detailed analysis of Bob using the ideas of the Gravesian framework (1977) Beck and Cowan (1996, 1992) with the interpretation tables. (Appendix 1 and 2). In addition it used information from Wilber (2000, 2002), Lynch (1996), Cowan (2004), Beck and Linscott (2001), Lynch (2003) and Payne (2004).

Bob's example is one way of applying Graves' framework. To develop this approach further the following further stories in précis form are from the research.

Further Example of individual stories

Figure 8.41 Gap Model Location – Other stories



Geoff (ID# 400, values profile GT/DQ/bo), was a strategic and systemic thinker who sees the big picture but he was also process driven, using a one-correct way to do work.

Geoff had a high-level of frustration (Gamma) a value of 22 against a research mean of 6²¹ (SD 1st world average 7.2). This showed a high-level of stress while at work. Geoff suppressed his Individualism and creativity (CP) at work but was healthy in his personal value systems outside work. His outside social skills shows the use of a

creative mind coming from the CP value system. The following comments come from several noted meetings and discussions as well as documents and 'Ways of Working' questionnaire. Note: Figure 8.41 denotes the gaps being revealed.

Geoff suggested that it was not prudent to volunteer to provide answers to problems and be an individual at work. Suppressing his individualism (CP) at work did not point to an overall rejection of the CP value system. In Geoff's work, his team leader was asking him to get information from an IT system that it could not deliver. On the other side the IT people, who were responsible for support, would not alter the systems to help deliver the management's needs. To increase the frustration further, Geoff, being a systemic thinker, had the solutions to solve this problem. The result for the business was wasted energy and counter-productive non-value-added behaviour and processes. Examples of non-productive processes, wasted and lost time, was the manual assembly of information instead of obtaining it from the IT system. This wasted time, and led to missed deadlines and inaccurate information.

Geoff's responses from the 'Ways of Working' questionnaire described trust as "poor" and "It's a partnership". His view on the commercial pain and gain model: "but only if we let it work" and "allow the contract to run without interference" confirms a strategic and systemic value system. On process, "poor start data". On control, "too much" and "lost time/interference" support the healthy and flexible use of process (DQ) while

²¹ Note: Gamma (Frustration) levels. In South Africa, where the method is being used by a Human Resources department in a mining company, they send workers away to a counsellor for training when Gamma is above 5, particularly if a high acceptance of CP 'I' first. In the USA, UK tends to look at values above 7.5. (Cooke and Cook, 2003) Research average is 6 based on 959 people from the online database.

rejecting the excesses of bureaucracy. All these statements show frustration and lend support to some of the reasons for his high-level of frustration (Gamma).

This section has so far looked at using the gap analysis as applied to the contractor and UWC, using the value and change state data of Type 2 and then applying a similar analysis for individuals. The analysis added preferences for types of communication and motivation related to the values systems and then the learning and management styles. Learning as part of the heuristic process reviewed in Chapter Five and management as part of the managerial approach for this research.

The next part on Type 3 data adds more perceptions as another source of information. ".....stories can be verified by visiting the sites of the described events." (Dart and Davies, 2003, p. 139). This part of the research uses perceptions of the place of work as a Gravesian values profile of perceptions to show the differences in surface values against the Gravesian hidden value systems.

and period furniture. The conference room was lighter and repainted but was an awkward shape to be comfortable. There were no obvious signs of vision statements, certificates to ISO 9000 or corporate identity.

Assessing using the Gravesian value systems showed an atmosphere that was 'old school' or a traditional contractor's building. This reflected a value system that says, 'a family firm', 'the myths and legends of the past' (BO), with a reluctance to make step changes (2nd Order) and suggests that they would rather make small incremental changes.

This contradicted the success-driven memetic profile of this contractor with traditional or family values with some people concerns (ER/BO/fs). (From the values test Type 2 data). This suggests the visual appearance supports the BO "the traditional way". However, there are little overt signs of their need for commercial success (ER). There were no signs of materialism associated with shows of success. However, there was a feeling of a friendly working atmosphere (FS). The commercial success may be hidden as change was incremental and it argues that they want to experiment and see if the UWC pain and gain commercial model gives them success before investing further time and effort. Therefore the observed perceptual judgement was BO/FS/dq compared with the Values Test ER/BO/fs.

Contractor #2

This contractor's location was in a business park with easy access to the motorways. As one drives through the gates and on through the landscaped site to a modern architectural designed building it shouts success. There were plenty of visitors parking bays close to the reception. The reception was large, light, airy and staffed. The staff was friendly, helpful and efficient. The notices, corporate logo and information were all visible. Visitors were then personally met and escorted to the department they were visiting. When walking through the building there was an impression of a 'buzz' of activity. This atmosphere continues even to the temporary accommodation of the department associated with this project.

The memetic profile of this contractor was strategic and systems with regard for global issues and concerns for their staff (GT/HU/fs). However, from the visual perception there was a strong sense of commercial success (ER). The strategic and systemic system (GT) only became obvious when talking to people and was not picked up without the hidden Gravesian values analysis. Being an 'I', expressive values as

opposed to a 'We', sacrificial, it is easy to mistake systemic value systems for individualism (CP). Therefore, the perceptual judgement was ER/FS/dq, with the people (FS) coming from the atmosphere and the good treatment of people and visitors, with the control (dq) from the strong processes and protocols in place to look after visitors.

Contractor #3

This contractor's location was on a small business park within a high-density housing area. The building was late 80s - 90s and typical of the angular architecture and successful ideals of that period. There was parking but it was limited and it was always full. Reception was small and not staffed. A telephone was provided for visitors to book in. While the reception area was reasonable it felt cramped and after several visits there is no recall of any notices or logos though there was an impression of something having been on the walls²³.

The second floor to which visitors were escorted was again typical of the period, with long corridors and offices off each side. The conference rooms were good but had a slightly dark atmosphere as if trying to show tradition and history.

This contractor's memetic profile was family, community with strong regard for staff and respect for the global values (BO/FS/HU). The impression however was of a traditional contractor's with one correct way to do business (BO and DQ). A hint of cost-cutting by not staffing the reception did not support their high people and environment value systems (FS). Therefore the perceptual judgement was BO/ER/dq.

Contractor #4

This contractor's location was in a rural area on the outskirts of a small town. The business park had a mixture of styles from 1950s onwards. The contractor's building was of 60s design but well-maintained with good visitor parking opposite the reception. The staffed reception had a friendly 'country' feeling. Logo and vision statement was prominent and they include a logo of UWC. The offices were open-plan and appeared light and airy. UWC staff on secondment were well integrated into the environment and

²³ Comment: it is important not to take notes at the time, but to see what sticks in the mind at later date as it is perceptions that are needed and not absolute precision.

teams. This was obvious visually on entering the office complex. The second floor contains offices and meeting rooms but was restricted by the building design and age, though this still had an openness and 'good' feel to it.

The contractor's memetic profile was strategic and systemic with family and community supported by controls and processes (GT/BO/dq). The need for commercial success was not overtly present but it obvious that their customer UWC was their key driver. Their success depended on UWC success. The strategic and systemic values (GT) impression comes from a feeling of planning towards the 'big picture' and the deliberate alignment with UWC. This was not at the expense of their traditions, goals and drivers. There was a strong feeling of team and community (BO). The featuring of UWC in their reception confirmed this and by using this vision to unite their team to a common goal. Therefore the perceptual judgement was GT/BO/er.

UWC

The headquarters location for UWC was on the outskirts of a large city but in a semi-rural and urban environment. There are several large buildings of about 1980/90s with a three-storey 80s look. This was a security-controlled site with visitor parking close to reception. The fully staffed reception was light but with slightly dated decor. The walls carried pictorial information on community projects and computer access to their public website.

The asset division, sponsors of the project, were on the second floor, open-plan with a few small offices. The researcher had spent much of the project on-site and it soon became obvious the building, even though comparatively modern, had a depressing feel either because of 'sick building' syndrome or a lack of flow-through ventilation.

UWC's memetic profile²⁴ was systemic with strong support for staff and concern for global value systems (GT/FS/HU). The third floor was for directors and the only one with air-conditioning. There was a relaxed, well-used, and serviced cafeteria. The cafeteria showed the concern for staff (FS) but this was slightly negated by the 'them and us' air-conditioned senior management third floor. UWC's strategic and systemic value system (GT) was not obvious and may have only applied to the asset division. Support for the view of two cultures was shown by the fact few directors took part in the

²⁴ UWC's memetic profile was mainly the sponsors group and does may not reflect UWC as a company.

exercise, even though invited and the importance to UWC of the review was stressed. The overall impression was there was a difference in memetic profiles of the asset department compared to the rest of the company. Operations and support departments take most of the site and these departments are control and process-driven (DQ). Therefore the perceptual judgement was DQ/FS/gt.

Note: Within the perceptual analysis it was hard to judge the change states and therefore these have not been commented on, except for contractor #1 where there was a definite feeling of slow change.

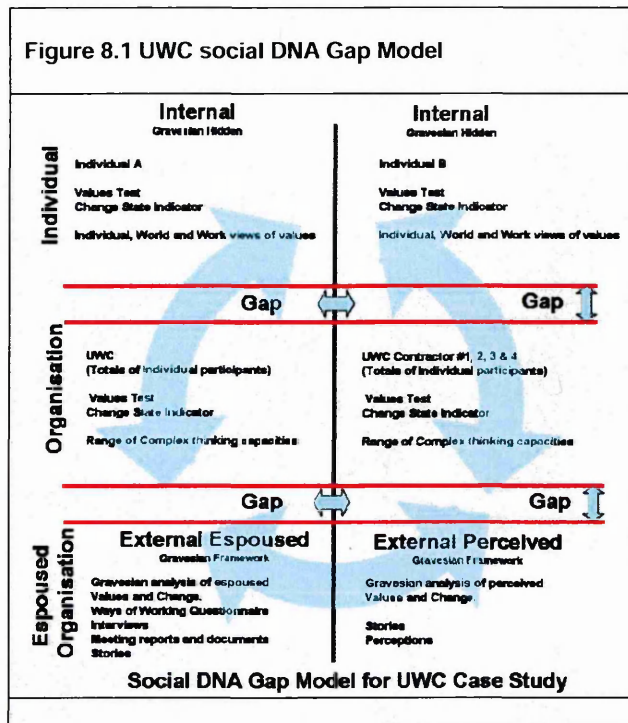
This section on perceptions and visual analysis suggests how the Gravesian framework²⁵ can be applied to what is being observed to inform the research findings. Its use as part of the UWC half-way review showed to UWC how decisions based on just perceived or sensed information could distort the interpretation of accountancy and KPI data. This helped explained why UWC wanted to stop using one contracting company based on them being on the pain side of the commercial model. The use of the Gravesian framework revealed that this contractor if handled correctly relatively to its' value system had the potential to make the commercial model work.

The last section of the UWC study brings together the analysis of the Gravesian memetic profiles for the three types of data. This shows the differences between Gravesian espoused, Gravesian hidden and Gravesian perceived value systems.

²⁵ Price (2007) looks at space from a different point of view that of the natural sciences and memetics. Price's story about an academic reader's views on moving to an 'open plan' environment would perhaps gain further insights as well as the espoused view of the reader with the Gravesian framework.

8.3.11. Summary of the Hidden, the Espoused and the Perceived

Purpose: The purpose of this summary is to pull together the analysis from the



documents, interviews and 'Ways of Working' questionnaires. Then add the gap analysis results from the Values test and Change State Indicator and the individual gap analysis, stories and perception data.

This summary was used to inform the findings when presenting to UWC. (Figure 8.1 is a reminder of the UWC social DNA gap model. The summary is using the integration shown by the green circle of arrows).

Method Sequence: Firstly, to review the memetic profiles of Type 1, 2 and 3 data (Table 8.44). Then, to discuss what this means for each of the contractors and UWC. The last part of this section will discuss the feedback from UWC of the culture and behaviour part of the UWC half-way review project. Presentation of data uses the Gravesian framework letter codes which were explained in the previous sections and chapters. (Table 8.15 'Pathways in the Mind')

The data

The impressions and perceptions gained by observation add another perspective to the Type 1 [espoused] data questionnaires, interviews, document analysis and the Type 2 [hidden] data, the assessment instruments for values profile and change state. Table 8.44 shows that the areas of Gravesian values overlap between the three data types.

Table 8.44 Summary of Hidden, Espoused and Perceived Data								
Contractor	Values	GT	ER	CP	BO	DQ	FS	HU
#1 Type 1 data	DQ/ER/fs		2			1	3	
#1 Type 2 data	ER/BO/fs		1		2		3	
#1 Type 3 data	BO/FS/dq				1	3	2	
#2 Type 1 data	DQ/FS/er		3			1	2	
#2 Type 2 data	GT/HU/fs	1					3	2
#2 Type 3 data	ER/FS/dq	3	1				2	
#3 Type 1 data	DQ/ER/fs		2			1	3	
#3 Type 2 data	BO/FS/HU				1		2	3
#3 Type 3 data	BO/ER/dq		2		1	3		
#4 Type 1 data	DQ/FS/er		3			1	2	
#4 Type 2 data	GT/BO/dq	1			2	3		
#4 Type 3 data	GT/BO/er	1	3		2			
UWC Type 1 data	DQ/ER/fs		2			1	3	
UWC Type 2 data	GT/HU/FS	1					3	2
UWC Type 3 data	DQ/FS/gt	3				1	2	
Total		14	17	0	15	21	18	5
Type 1 data – Questionnaires, interviews, documents Type 2 data – Values Test and Change State Indicator Type 3 data – perceptual habitat Green highlighted areas are the main Values 1 & 2 or upper-case Yellow highlighted areas are the secondary Value 3 or lower-case The Values are in order of acceptance 1 highest 3 Lowest Total is derived 1= 3 points 2 = 2 points 3 = 1 points The Total suggests the total group is process driven (DQ 21), commercial driven (ER 17) with people (FS 17) needed to be involved to reach commercial targets.								

From Table 8.44, contractor #1 has a reasonable agreement of the memetic profile over the three types of data. Nevertheless, the written word (DQ/ER/fs Type 1 Documents, interviews and WoW) and perception values (BO/FS/dq Type 3) argue an image with the message of a 'traditional' process-driven contractor. Therefore, from a staff and customer perspective, their astute 'success driven' values profile (ER/BO/fs values Test Type 2) was hidden and perhaps leads to them to be seen by UWC as rigid and dated.

Contractor #2 has little alignment of the memetic profile (GT/HU/fs Values Test Type 2) with the perceived values of (ER/FS/dq Type 3). However, the message from the Type 1 [espoused] written data shows a stronger people (FS) side and a process and control driven approach (DQ). The concerns for staff (FS) would resonate with UWC and would hide the commercially competitive success (ER) to allow the contractor to achieve its goals internally. UWC would be seeing this as poor performance in the pain and gain model. This researcher's view supports the internal UWC report about concerns on performance of this contractor (Table 8.2).

With contractor #3 there was reasonable alignment with the values (BO/FS/HU Type 2 Values Test) and the perceived values (BO/ER/dq Type 3 perceptions). The written word (DQ/ER/fs Type 1 documents, WoW) was putting out an overtly commercial success message. This produces a conflict of messages in UWC's mind but may argue why UWC see them as having potential and worth working with.

Contractor #4 was the most interesting as they were considered by UWC to be the best performing contractor. The image of systemic (GT) values suggested in the perception data (GT/BO/er Type 3), shows enough commercialism (ER) to show commitment and support to the Type 2 [hidden] values of GT/BO/dq. The written word (DQ/FS/er Type 1) was processes and controls (DQ), with enough need for success (ER), but taking a strong account of staff and people values (FS). However, the written documents do not support their team, family and community values (BO). The reason contractor #4 was perceived as successful (and this was supported by the analysis and discussions with them) was that, unlike contractor #2, they have aligned their systemic values (GT) with UWC's. As stated before, two organisations with a similar values profiles may have the same basic values, beliefs and assumption to deal with complexity, but can be in two different worlds with different strategic plans and outcomes.

The analysis in the researcher's judgement showed there were expected differences between the espoused and written, the perceived and the hidden Gravesian value systems. Adding the Gravesian framework has given a method of measurement of the hidden values and allowed for gaps to be identified and discussed. The gap analysis using Graves' framework showed where tensions were between the value systems and preferred states of change for the group and the individual. These differences were further explained by looking at communication styles and motivation for the different value systems. For the individual this was added to by looking at learning and management styles.

8.3.12. Concluding Summary

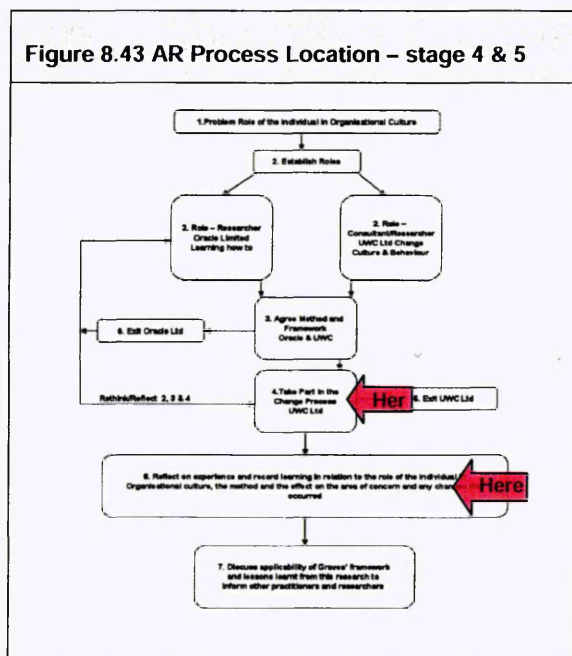
Chapter Eight Part Three explained how the information and data collected was used and analysed with the Gravesian framework. The three types of data, the espoused, the hidden and the perceived were interwoven to produce a picture of UWC and the contractor's culture, based around the individual. It showed how the Gravesian framework is useful to define the social DNA gaps between contractors, individuals and UWC. How people preferred to change and how the Gravesian values influenced what motivation, leadership and learning processes suited them. The results from this detailed analysis altered UWC perception of hard accounting data and led to a change in the way the asset management group was organised. A simplified version of the process was adopted for choosing contractors as part of the tendering process for new contracts.

The last Part (Four) of Chapter Eight looks at feedback as part of testing the utility of Graves' theory. This covers for UWC the cultural aspect of the half-way review project, together with the researchers' reflections as part of the research methodology.

8.4.0 Presentation to UWC and Feedback from UWC [Gaps to produce change]

This part of the study addresses the needs of the action research method for utility and change. McAuley et al; (2007 p22) referring to Keleman and Bansal (2002, p. 104) arguing the needs of management and the academic debates that "... a great deal of research is simply being 'wasted', because academics may not be skilled at translating their theories in a language that appeals to practitioners, or indeed, because there are no institutional incentives to do so", hence using an AR method and for a change to occur. The interplay between the researcher and UWC using the Gravesian framework as the linking theme is part of the AR process. (Checkland and Holwell 1998 stage four of Figure 8.43). This addresses the problem of how to present this research in an acceptable format for UWC to understand and use. From a research point of view this is also the reflective process of Stage Six. Also it addresses the issues of an 'application in practice' and the 'utility of a theory'. (Hall and Lindzey, 1957). These stages are highlighted in Figure 8.43 as red 'here' arrows.

Figure 8.43 AR Process Location – stage 4 & 5



The challenge of presenting this complex information in a simple form to a commercial organisation would not have been possible without using the cyclic feedback and reflective nature of the action research methods. This took UWC on each step of the project allowing them to be part of the project process. The feedback and training sessions were important in allowing an understanding of the project, the research methods used and to understand the Gravesian ideas. These methods produced a continual heuristic

process or learning cycle. (Kolb, 1984, Gill and Johnson, 1997, Denscombe, 1998, Dryer, 2000).

The research on the culture, behaviours and financial outcomes of the half-way review were presented in a joint report and presentation with the engineering audit consultant. It was found that the information from the behaviour and change review gave a different interpretation of the UWC contractor's performance figures. For example Contractor #2 was seen as a poor performer with little or no 'gain' from the commercial model. Any 'pain/gain' was shared with UWC and they felt they were losing revenue or not getting cost-effective solutions. Therefore UWC perceived that contractor #2 was not commercially profitable. The assessments of values, beliefs and change showed that contractor #2 had a similar memetic profile of values (Type 2) to UWC. Even though similar, it appeared that Gravesian value systems were employed in parallel rather than aligned with UWC. This promoted further financial investigation that supported this analysis as contractor #2 was found to be profitable on schemes by the management fees that allowed them to make a profit but without a 'gain' to UWC.

The UWC commercial model had allowed contractor #2 to use its systemic thinking (GT). The contractor's stronger commercial astuteness (ER) than UWC had allowed them to meet its own strategic goals without giving anything back to UWC. The contractor was making more effective use of UWC's commercial model to their advantage, showing up flaws in the model. The flaw in this case was having different management fees for each contractor, how these were negotiated and agreed reflected the dominant contractor's Gravesian value system.

In comparison contractor #4 has a reasonable alignment of its memetic profile (Type 2 values) with UWC. Their systemic thinking (GT) with its strong sense of a team (BO) gave them the ability to align with UWC's commercial model and return 'gain' to UWC. They were able to strengthen their own strong sense of team (BO) and become part of the UWC community. Contractor #4 had aligned their perceptual data with their memetic profile so UWC perceived them as being the best contractor and were therefore supported by UWC. The Type 1 data reflected UWC's (asset division) values profile of being people oriented (FS) and all three types of data suggested they supported one another. This allowed the contractor to keep their commercial advantage. Contractor #4 further used the strength of artefacts like a common logo with UWC, to give a sense of community, an important part of their values profile. This was also helped by UWC's global team (HU) value system that is a more complex form of team and community (BO).

The other two contractors, #1 and #3, were sending mixed messages across the three types of data and therefore alignment was less likely with UWC's values, beliefs and assumptions.

To further evaluate the result of the culture review on UWC the following edited extracts are from UWC's internal feedback sessions. These sessions were given to the contractors by the UWC sponsor (ID#408). The researcher was present at some sessions as an observer. (The sponsor supplied a list of comments). The presentations were UWC's interpretation of the information given to them during the half-way review project including information from the final consultancy report.

On the commercial 'pain/gain' model these comments were made: "The model could deliver more value, particularly in three contractors." "Flex the model e.g. more gain share - don't think that the model's incentive is wrong, rather the contractors' reaction and perception of the incentive." This argues how useful the perceptual data and espoused values data was to the research in developing discussions and understanding roles.

The comments made on the influence of behaviour on the commercial model were, "Working practices, and organisations have not caught up with the model." "AMP 2 mindset interferes with effective implementation of the model." "Clash between UWC's desire/need for strong control and rules and the high-level incentive approach of the model." "UWC does not recognise, understand or act on the cultural diversity of the contractors."

These comments illustrate the gaps between UWC's need for step changes (2nd Order Change) while still keeping the command and control thinking of the AMP2 model. Additionally, there was tension between UWC's systemic thinking (GT) and its inability to be good at imposing healthy process controls that reflects the low DQ value system in its values profile. From the research UWC now recognised the tensions caused by its inability to consider 'subconscious' cultural diversity and in assuming surface behaviours and espoused comments reflect underlying culture. An example of a surface behaviour is lack of 'gain' from some of its contractors and the assumption that they were 'fat and lazy' when they were profitable by their values, just using the commercial model to their advantage.

UWC also commented on its own behaviour's effect on the commercial model as follows, "The model needs a lot of commercial and consensus thinking (AMP 2 is rules

based - what does the contract say)". "UWC: mainly rules-based thinking with a small but significant element of autocratic thinking".

These comments (and they are supported later) argue there was a gap between the systemic thinking (GT) of the asset department and the control (DQ) by process thinking of the Board¹. This is shown by imposing more controls on their contractors and commented on in the responses to the 'Ways of Working' questionnaire.

At a presentation to senior management it was explained that the Gravesian values that were built into the commercial model created by asset management were different to the current behaviour and values of the Board. The Board needed to change to get the best from the principle-led partnership model. (In the presentation to UWC a gap model showing the differences between UWC Board, the Contractors and the Commercial Model's values (memetic) profile suggests why the Board's attempts at control by AMP2 thinking were ineffectual.

This section has summarised the feedback from UWC and some of the information used at senior management presentations. The next part looks at some of the feedback from contractors about UWC.

8.4.1. Feedback from the contractors about UWC.

The feedback is taken from the responses to the UWC 'Ways of Working' questionnaire and interviews, documents and feedback sessions. This shows the relationship of statements to the Gravesian value system of the contractor and UWC.

Contractor #1 (ER/BO/fs): "[UWC] have strong commercial thinking [ER] but low autocratic thinking (which also drives creativity)". They may perceive UWC's "low autocratic" as their interpretation via their filters of the systemic (GT), consensus and people (FS) values in UWC's profile. This allows UWC to play to the contractor's values system of the need to be successful. However they are correctly assuming "low autocratic" (DQ) helps creativity. In both UWC and the contractor there is an argument that their suppression of individualism (CP) is what stops creativity and in particular the paternalistic or 'chief' management style of the family firm (BO) in this contractor.

¹ Most of the Board were not involved in the Type 2 Gravesian values assessment, so the support for these comments is anecdotal and from discussions and attendance at feedback meetings.

Contractor #2 (GT/HU/fs): "[UWC] see things that get in the way but have an ability to deal with complexity". The Contractor was seeing the systemic (GT) thinking of UWC and may reflect their own systemic values.

Contractor #3 (BO/FS/HU): "[UWC's] high level of consensus thinking (share work out "as agreed") and tend to perceive things that get in the way". The contractor was seeing the need to involve all staff and arrive at consensus (FS) and the need for a team (BO) perhaps a reflection of UWC's global team values (HU²).

Contractor #4 (GT/BO/dq): "[UWC has a] strong capacity for complex thinking and openness - look for opportunities". The contractor sees the strategic and systemic (GT) values and thinking of UWC.

These comments from UWC and the contractors were after completion of the project. This culmination of the training and feedback sessions and presentation lend support to the Gravesian framework being a useful heuristic process that enables deeper and more meaningful discussions.

Concluding feedback

It is important to reflect on the hidden and espoused values of the sponsor as a factor in the analysis. The UWC's values profile (GT/HU/FS Values Test) and the sponsor's values profile (GT/ER/cp Values Test) are important when trying to understand UWC's statements about itself, as the views are filtered by the sponsor. These sponsor statements come from Type one data [espoused] including the 'Ways of Working' questionnaire.

"[UWC's] Tendency to believe and act on perceptions, prejudices and fears rather than data ('the report is good news but it doesn't feel good')." [The case study analysis was considered by UWC as data].

"UWC's desire for strong control, combined with actions driven by perceptions, results in additional controls being added."

² According to Graves (1977) HU is a more complex form of BO and because of UWC's high FS (people) the HU is likely to be aspirational and is more likely to reflect BO community.

"Board intervene at detail scheme level".

"UWC is seen as artificially managing the commercial model."

From the sponsor's values profile there was a need to be seen as completing a successful (ER) half-way review for UWC. These comments help justify inclusion of culture as part of the culture and behaviour review by the sponsor. However, with the other data from the other viewpoints, accounts and engineering, the sponsor's comfort with the overall analysis allowed the results to be made public within UWC and the contractors.

The behaviours part of the half-way review accounted for roughly 25% of UWC's total presentation time for the analysis as shown in this case study to their contractors. (This percentage is taken from their PowerPoint slide presentations). The values and change were included in all sections of the presentations. For example, to improve performance and processes an overall culture change was seen as a key to meeting the needs of AMP4.

Six to twelve months after completing the review a change occurred within UWC. Leadership and management training now included the Gravesian framework. A values and change profile was to become part of the contractor's selection process for new AMP4 contracts.

The following is from an e-mail from a senior person at UWC (UWC1, 2004, p. 1) reflecting on the Gravesian framework one year after the case study and after making the framework part of a new tendering process.

"the majority of the contractor groupings were keen to understand more about our thinking around the selection process and methodologies and particularly in our feedback to them on the findings of the surveys [values test, change state indicator and digital analogue from Beck and Cowan 1992] and how we used that alongside the other major steps of 'Interviews' and 'Workshops'." [Workshops were based around the Gravesian framework with a common contracting problem to solve – two-way feedback is a requirement of AR and to become involved another]

"Whilst successful contractor groups found the overall process long and demanding in that it made them think, and think differently, they all said they had learned a lot from the process itself which they could build on in future bids - but some were also open

enough to say they had actually found out more about their own organisations, culture and people!"

"As far as other influences go, the success of the AMP4 selection process has not gone unnoticed in the business and those involved in renewing other types of contract have actively sought my advice on their interview process and specific questions!"

"Of course the learning we gained from the half-way review is also being utilised in the way we have gone about developing AMP4 processes, communication, training and overall implementationas I kept saying to the AMP4 management team, selection was easy compared to implementation ...I think some of them are starting too understand what I meant!!" (UWC1, 2004, p. 1).

As a result of the research process a new Gravesian questionnaire was developed which combined the values test, change state indicator and digital analogue thinking into one questionnaire for selecting contractors for new business by UWC. (Beck, 2004). From this researcher's view the following extracted from the senior manager's e-mail sums up the usefulness of the Gravesian framework. ".....but some [tendering companies] were also open enough to say they had actually found out more about their own organisations, culture and people.... so much so that some have adopted a different approach to how they communicate and develop ideas with their people." (Table 8.45 UWC1, 2004, p. 1).

The concluding comments part of this case study outlined above fit the needs of part Four and Six of the Checkland and Howell (1998) process on action research for change to occur. Above all even with the subjectivity involved in analysing the raw data, the process supported Graves' framework as a useful heuristic and learning tool. How much of this change occurred because of the use of the Gravesian framework is hard to evaluate. However there is little doubt the framework opened up another way of understanding the role of individuals and groups in behaviours and culture. The process proved to be a strong heuristic template.

Closing Arguments

This case study achieved for UWC their project aim of understanding behaviour and culture. When the final report was given at a presentation, a senior director stated that this was the most comprehensive and useful piece of work done by external consultants. The work had enabled them to understand the role of the individual in an organisational culture, how the interplay of individual values, beliefs and assumptions influenced the commercial performance of their contractors and how perceptions led to poor commercial decisions. Lastly, the framework allowed them to learn about themselves and their relationships with others.

This case study was part of the UWC half-way project and adds to the findings to meet the research aim of understanding the role of the individual in organisational cultures. Specifically the Gravesian framework can help to provide an integrated approach. The framework also provides a template for measuring hidden values, beliefs and assumption with the preferences for change. The integrated approach was depicted in Figure 8.3 of the action research triangulations method. The research method gave a framework of quantitative measures of values, beliefs and assumptions linked to qualitative analysis. Any bias in the questions and the subjectivity of the analysis was balanced by the feedback and discussions leading to acceptance as a practical and useful framework. The result for UWC was a journey of discovery about the influence of culture leading to behaviours that influenced the commercial profitability of UWC and their contractors. This journey became a heuristic or learning framework for UWC. This caused greater discussion within the group and, to a certain extent, lessened the tensions of 'them and us'. This lessening of tension was essential for the success of the participatory commercial model.

Individual response was positive and within the participants there was an instinctive resonance with the Gravesian framework. Out of the 103 people there were no negative comments, though one person who declined to take part stated the assessments were of no relevance to his job. Interestingly, this comment came from what the researcher sensed was high DQ ('the one true [engineering] way to do things and of no relevance to an engineer').

There are limits to the research and these are recognised by using the framework as a heuristic template to delve deeper into an organisation's 'hidden' underbelly, namely the individual.

The quantitative Beck and Cowan (1992) assessments³ and the subjective qualitative measures fit the needs of a commercial environment (time and measures). The Gravesian framework is useful in that it starts with the individual. The assessments are argued as organisation-neutral, by asking about what is important to the individual and avoiding the pitfalls of getting subjective comments about the organisation. Building a picture of culture outwards from the individual does rely on self-honesty. To try to check this honesty is why this case study uses the same Gravesian framework applied to the espoused and perceived values, beliefs and assumptions, adding a greater depth to the assessments. This in turn exposes the difference in espoused values and what is hidden within the individual and group.

The UWC study followed the guidelines for action research which was a real business problem of looking at culture and behaviour in the supply chain for UWC. The UWC project was carried out on-site at UWC and its contracting companies. Reflection, feedback, relationship building and ethical and confidentiality issues were all addressed. The role of the researcher was understood and, to reduce any biases, different views of the data were used. Finally, for UWC a change occurred since the Gravesian framework was used as part of the tendering process for new business.

The following sources were used to adapt the action research methods for the UWC study. Susman and Evered, 1978, Easterby-Smith et al 1995, Gill and Johnson, 1997, Checkland and Holwell, 1998, Denscombe, 1998, Avison, Lau, Myers and Nielsen, 1999, Bell, 1999, Eden and Huxham in Clegg and Hardy (eds), 1999, Johnson and Duberley, 2000 and Torbert, 2003.

Support for the use of the Gravesian framework came from the chapters on culture, Graves, memetics and heuristics. These argue how each data type fitted into the research aim and linked to the literature reviews. Perceptions and stories (Dart and Davies, 2003) were important parts of culture (Smircich, 1983). Smircich referred to myths (Boje, Fedor and Rowlands, 1982), rituals (Deal and Kennedy, 1982), stories (Mitroff and Kilmann, 1976), legends (Wilkins and Martin, 1980, specialised language (Andrews and Hirsch, 1983) and metaphors and images (Morgan, 1980). Each one of these parts of culture is a unit of culture, a meme that is attracted to a Gravesian value system, a meta-meme. Using a similar meme argument, preference for different types of communications (Martin, 2006), motivational triggers (hot buttons, Beck and Cowan,

³ Quantitative is described in this case as descriptive statistics as it is based on ordinal data as "rank order is all that can be inferred" (Denscombe, 1998 p178).

1996), learning and management styles were used to show how the Gravesian framework could become a useful gap analysis. This analysis was between groups of individuals (UWC, Contractor) and individuals and managers. All these units of culture then formed a heuristic or learning cycle for UWC (UWC1, 2004). (Kolb, 1984, Gill and Johnson, 1997, Denscombe, 1998, Ogbonna and Harris 1998, Drejer, 2000).

A significant new area of research in this case study is the use of the Gravesian framework and applying it to the espoused, the perceived and defining stories as values profiles. The gaps analysis between values and change profiles of the individual and the group and individual-to-individual needs exploring further. However this produces a template of the differences in hidden expectations and espoused needs (wants) and argues how training, education and management can be aligned with the values profile between groups and individuals. This alignment being aided by using the Beck and Cowan (1992) defined motivational 'hot buttons', management and learning styles. (Appendix 1 and 2). This was explained in the analysis by what a contractor needed from UWC and by what an individual needed from their manager. The following extract from a senior UWC manager meets the research aim of understanding the role of the individual in organisational cultures and the usefulness of the Gravesian framework as a heuristic and integrating template.

".....as part of the overall process there has been a demonstrable shift in behaviour and collaborative working between the successful partners ... down to the insights and learning they gained along the way!" (UWC1, 2004, p. 1).

As a compass throughout the case study, Figure 8.0 the UWC social DNA Gap Model was used as a guide. The validity of the model is open to debate but it was judged useful to 'make-sense' of complex cultural information.

The next chapter moves on to stage six and seven based on the Checkland and Howell (1998) AR process, and reviews and reflects on the research findings.

9.0. Introduction

This chapter is a reflection on the research and about how this reflection informs the research findings. The reflective process is part of the action research (AR) process. In

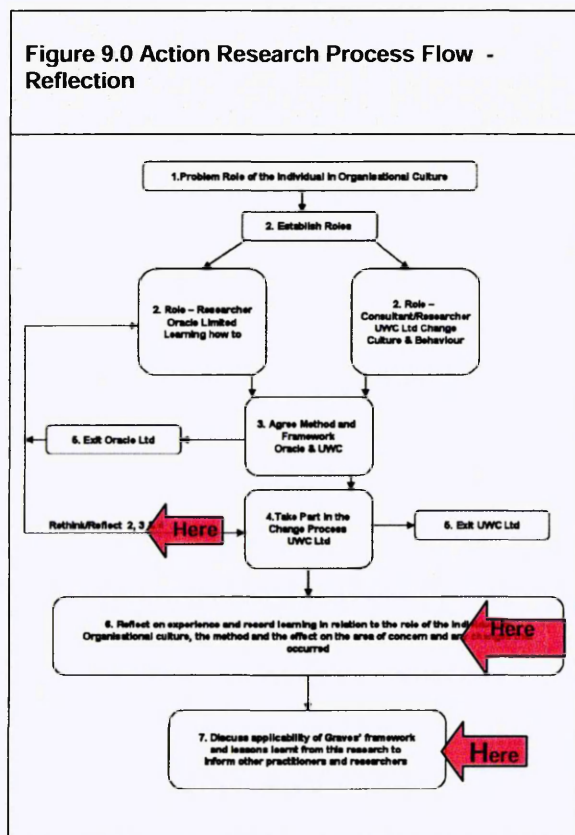


Figure 9.0 the red arrows denote the stages of the process for review and reflection (Based on Checkland and Howell, 1998).

This research is about using Graves' framework in a practical way. Revisiting the basis for his research and looking at the framework as a heuristic for learning about the role of individuals in organisational culture. The analysis and findings are interpreted by the researcher as part of the process. The arguments on the building blocks of culture such as memes is not complete but intended to give useful clues to future research building on Graves' ideas. The Gravesian approach used

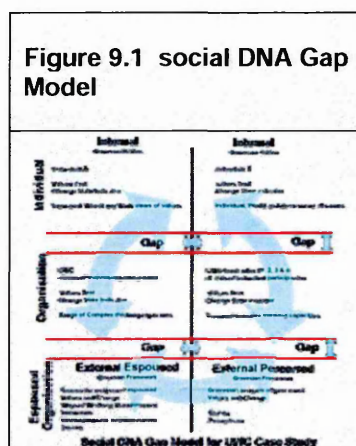
could be also applied to the research of others who are working in a similar field for example Cook-Greuter and Torbert.

This reflective process reviews and discusses the findings in the context of using the Gravesian framework to help understand the role of the individual in organisational cultures.

There are 24 findings covering the literature, the research method and the Oracle and UWC case studies. To cover these areas the review is split into sections starting with a reflective review of the literature. Then it covers a review of the questionnaires, the Oracle and UWC studies and the role of the researcher. The reflective part of action research (AR) is important as it produces the findings which in turn lead to the

contribution to knowledge. (Denscombe, 1998, Clegg and Hardy, 1999, Checkland and Holwell, 1998; Darwin et al., 2002)

Figure 9.1 is a reminder of the social DNA gap model as an iterative and a 'transcend and include' model. The literature informs the case studies and the case studies inform the interpretation of the literature. The theme running through the research was to use the Gravesian framework.



The contribution to knowledge is in the use of Graves (1977) and the questionnaires of Beck and Cowan (1992) to define an individual's internal social DNA and then to extend the framework to measure the espoused and perceived social DNA of an organisation. Graves' work has not been researched in this way before. This allows for building a social DNA gap model¹ between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition). The usefulness of this model to organisations was piloted in Oracle and

then tested within a water company's (UWC) supply chain to produce change.

Of the research questions asked in Chapter One it would be easy to answer 'yes' to all of them, but the complexity of culture and the interactions of individuals is complex (Martin, 2002a, 2002b). Graves' work is an attempt to reveal the subjective logic that an individual uses to interact with an organisation culture (McAuley et al., 2007). The UWC study showed this complexity but also that the template (Figure 9.1) was a useful way to reveal the 'cultural' gaps between the individual and the organisation. The use of the framework produced change and learning for UWC. How much this research contributed to the changes is debatable as the commercial forces on UWC were considerable in their competitive marketplace and other approaches may have also produced a similar change. However the Gravesian framework did allow its use as a map to navigate the complexity of behaviours and culture. It allowed for the hidden values and preferences for change to be revealed and was a method for finding the

¹ Gap Model – in this research a 'gap' model is produced by measuring the individual's Gravesian hidden culture and change profile and comparing against another individual or group. The approach is also applied to the espoused and perceived using the Gravesian framework for interpretation.

values in espoused and perceived views of people and organisations. UWC in 2006 commented anecdotally that even those tendering companies that went through the process with the Gravesian framework and were not successful said they had gained from the process and would be able to use the concepts in their own organisations.

The values in the espoused and the perceived were revealed from questionnaires, documents, stories, interviews and the researcher's perceptions and intuition. The gaps and differences in Gravesian values form the basis of the social DNA gap model. The use of these various aspects and their importance in understanding culture was supported from the literature by Myths (Boje, Fedor and Rowlands, 1982), Rituals (Deal and Kennedy, 1982), Stories (Mitroff and Kilmann, 1976), Legends (Wilkins and Martin, 1980), Specialised language (Andrews and Hirsch, 1983) and Metaphors and images (Morgan, 1980) taken from Smircich (1983). Ogbonna and Harries (1998) argued referring to others that espoused corporate values are not shared by the people they lead. This research argues that the Gravesian framework helps reveal a reason for these differences.

The objective of the research was to review the validity of using Graves' framework in understanding some of the building blocks of culture. This gave rise to the research questions and the following is an outline summary of findings related to each of the research questions.

1) Does the Gravesian framework help in understanding culture in organisations?

- The questionnaires used (Beck and Cowan, 1992) for revealing the hidden Gravesian values and preferences for change were easy to use and produced a guide for discussions.
- The results could easily be aggregated to produce a group score and the gaps between an individual and the group could open meaningful discussions as to their validity.
- Do the questionnaires (Beck and Cowan, 1992) reveal the 'hidden' cultural filters in the mind? Graves' (1977) original work was sound but it does require further research to support his ideas. Bias in the way the questions are asked means they may not be revealing the hidden. However, if treated as a heuristic then the research found it was useful.

- An aspect that can be argued as controversial is that interpretation of results is through the researcher's filters. The questionnaires do require further validation for content validity and face validity. In other words do the assessments measure what they claim to measure? No work on this has been done since Hurlbut (1979).

2) Does the Gravesian framework help in understanding the influence and role of an individual's culture on an organisation's culture?

- The use of the framework did help in looking at culture from the individual's influence on it, but only from a Gravesian point of view.
- The framework can be argued to help with revealing an individual's subjective logic and how it shapes and is shaped by an organisation's culture.
- The research did show in both studies that when the results of the hidden values and change were discussed with participants there was some confirmation of the results in their answers and stories.
- The studies revealed it was not so much the influence of the individual on organisational culture, but the way an individual interpreted, perceived and reacted to an organisation's culture.
- Without a framework the interplay between a person and organisation would be extremely difficult to reveal. The framework did make measurements, however subjective, the process did contribute to revealing pointers to basic assumptions, beliefs and values (Schein, 1990) which, as Young (2000) argued, are extremely difficult to define.

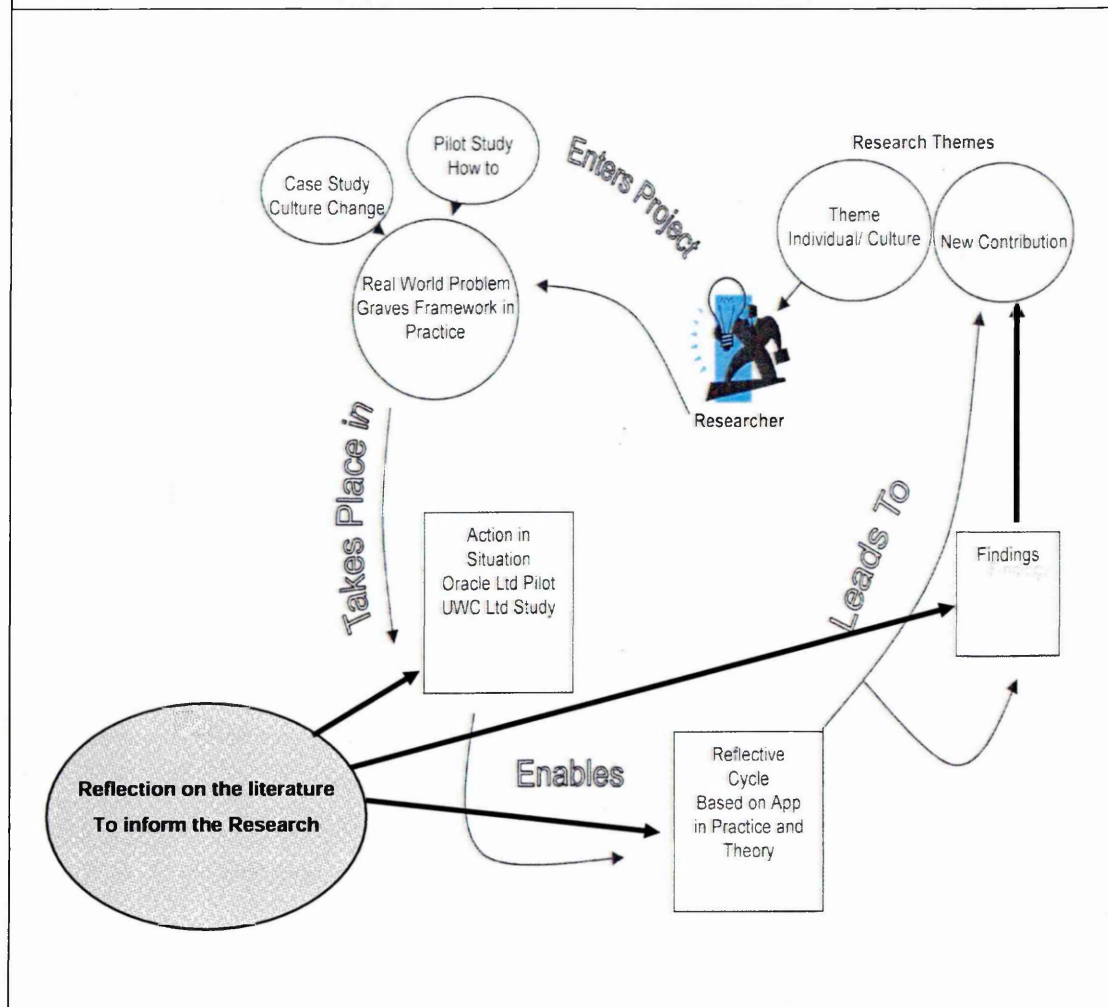
3) Does the Gravesian framework help to understand the mechanisms of cultural change?

- The use of the preferences for change added an easily understood concept for management and individuals.
- The most important areas were the differences between people who prefer incremental change and those who prefer the revolutionary approach.

- The measurement of the level of frustration was useful to identify who had a high level of frustration then, by discussion, tries to find the cause and if this cause was work related.
- How change was handled by a person was related to their Gravesian values profile and again this proved useful for discussions and gave clues to the type of intervention that was acceptable for a given person in helping organisational change.

To add more detail to these finding from the research questions we start with a reflective review of the literature. Chapter Six argued that the reflective process within the action research literature was only sketchily defined. (Susman and Evered, 1978, Easterby-Smith et al, 1995, Gill and Johnson, 1977, Checkland and Holwell, 1998, Clegg and Hardy, 1999). Figure 9.2 outlines that for this adapted AR approach the literature reviews became part of the reflective process. The literature informs the analysis for the Oracle and UWC studies, therefore not being separate to but a part of a reflective approach.

Figure 9.2 Action Research Template Addition of Literature Reflection – Based on Checkland and Holwell 1998 from Figure 6.1 Chapter 6



9.1. A Reflective review of the Literature

At the start of this research (1999) there were only two peer-reviewed academic papers relating to Graves' ideas (Graves, 1964, Cowan and Todorovic, 2000). However, by 2006 peer reviewed papers had increased and several books had been published. The books are more 'populist' in nature even though written by academically qualified writers and they were not all peer reviewed. All assume that Graves' original research was correct and well-founded. There was no research found to confirm and develop Graves' original work as previously discussed in Chapter Three. Graves' work appears sound with evidence of academic thoroughness (Graves, 1977, 2005). However it has never been put into the context of other cultural research.

Most publications after 1964 do not cover all of Graves' work other than Graves' own lectures. Graves in a lecture in 1978 criticised this restrictive view of his work. Others trying to popularise Graves' work placed the emphasis on Graves' value systems. Further simplification occurs with the use of colours to define Graves' value system by Beck and Cowan (1996). This has led to surface level applications of Graves' work leaving out the interplay between activated thinking capacity and the environment and different types of change.

For example, a paper on organisational development (OD) (Cacioppe and Edwards, 2005) shows a specific approach to the work of Beck and Cowan (1996). In this paper the authors look at three approaches to researching OD to produce an integral theory. They refer to integral theory as proposed by Wilber (1999, 2000a, 2003), Spiral Dynamics (SD) by Beck and Cowan (1996) and 'levels of consciousness' by Barrett (1998, 2002) which they use in an action inquiry method based on Torbert (2000). It is interesting that they do not refer to Wilber (2000) which integrates the work of Beck and Cowan (1996) into Wilber's integral theory. It would appear that Cacioppe and Edwards (2005), rightly or wrongly, have taken specific view of the Gravesian framework as defined by Beck and Cowan (1996). This research has argued as well as understanding values and beliefs, there is a need to understand change for organisational development. This research supports Wilber's (2006) view that SD is not a complete model. It is a good and simple introduction but "as an actual psychological model, it's a disaster" (ibid p86). I think Graves would have also supported this view as he always considered his work incomplete and open to revision but useful. However as a heuristic OD tool it is still useful.

This research has argued by using the framework in the two case studies, that understanding change is an important part of the Graves' work. A values profile only shows a part of the cultural picture. Capcioppe and Edwards (2005) do however concede that SD is suited to understanding culture but mainly used on global projects. Organisational culture is complex and produces a multiplicity of views (Martin, 2002; Hatch, 2006; McAuley et al; 2007). However change and values are part of the picture.

One traditional view of change in Johnson and Scholes (1993) on the strategy and barriers to change is similar to Graves (1977) and Beck and Cowan (1996). However Johnson, Scholes and Whittington (2006) even in their 7th edition do not suggest how to measure the underlying culture or ability to change (Chapter Three).

Some of the techniques available within the Gravesian framework are argued to bring a precision to change which is not available taking the broad approach of Johnson et al., (2006). Graves' (Graves, 1977; Beck and Cowan, 1996) deeper analysis of change gives a greater ability.

In both the case studies, change was a business driver for the organisations to survive and prosper in their economic environment. This balance between the capacity for change and the environment gives the Gravesian framework the ability to be integrative by looking at a measure for values, beliefs, assumptions and change. Individuals with preferences for different types of change produce for an organisation a heuristic on how to set up a cultural shaping² and change programmes. For example a manager whose preference is for incremental change (1st Order) will need to take a different approach to staff that prefer step change (2nd Order). In this example step change staff may quickly become frustrated with the incremental approach and may become

² "In looking at past research agendas [culture learning] we have seen that some authors were wedded to the need to promulgate the "one best way" or the formula to be followed to become a learning organisation. However, the future agenda will have to move away from the search for the one best way and begin to draw on multiple sources - based on human and economic goals and values and organisational and educational learning theories. A central point to be addressed is that of managing the dialogue between the different dimensions of organisational life, between the tangible aspects dealing with structure and the intangible aspects dealing with building a culture. The importance of the intangible culture shaping structure, rather than the other way round, was stressed. Culture is something that must be built together if it is to give meaning to structure." Nyhan, B, Cressey, P, Tomassini, M, Kelleher, M and Poell, P. (2004, p84)

disruptive by trying to bypass the manager. However if the manager is in an arrested³ state and has only activated limited capacity of a certain dominant values system then the needs of staff will be ignored. This may result in wasted energy and a decrease in productivity. Instances of these interplays were by examples in the UWC study of the different change needs of the 'company and the individual' and the 'manager and the individual' in Chapter Eight – Part Three.

Finding No. 1 Graves' (1977) framework is based on academic research in the 1950s to 1970s (Chapter Three) that still needs further validation. However as a model for understanding the role the individual plays in organisational culture it has proved useful and effective *heuristic* in the UWC case study. This aided change with a template for understanding different behaviours and cultures of the contractors.

Finding No. 2 The Gravesian types of change are *a* starting point for looking into a building block of organisational culture. This research found that managers perceived the idea of change better. These different types of change added more building blocks. However to gain a richer picture, the preferences for different types of change need to be linked to values, beliefs, assumptions and artefacts to understand how change is handled by the individual's values. (This is also the learning from the Oracle pilot study that 'change' as a concept is more readily understood than values, beliefs and assumptions because they are mainly hidden).

Change therefore becomes one of the building blocks of organisational culture. In particular, the role of the individual in the culture has more meaning by understanding their change preferences. Other building blocks are the hidden and espoused value systems within an organisation. Schein's (1990, 1998) model of culture consisted of a common sharing of values, beliefs, basic assumptions and artefacts. These could be argued to be espoused as they are common to the people within the organisation but not necessarily to the individual. How these values spread and become accepted in the organisation led to a review of memetics. The idea that Graves' (1977) hidden value

³ Note: Arrested state – "reluctance to rock the boat" The person is trying to live with the "status quo" – "the barriers [to change] may be adjusted a bit, but basic assumptions remain unaltered. Change efforts are directed to refine, polish, and work harder-and-smarter". (Beck and Cowan 1996 p. 79).

systems were meta-memes was raised by Beck and Cowan (1996) and this led to the literature review of Chapter Four.

Note: as a reminder, memes are units of culture that reproduce themselves virus-like. (Dawkins, 1976)

9.2. A Reflective review of Culture from a Memetic perspective

This research argues that the Gravesian value systems shown in Table 3.0 (Chapter Three, p. 31) attract memes as values, beliefs and artefacts. They maybe considered as meme clusters. These memes can be attracted to several value systems; how they are used by that value system will be different. An example from the UWC study was Bob, an engineer with a value system based around BO (tribal, family and community). Bob was attracted to a company who had a similar value system which attracts the memes of a safe place to work; the chief was the boss, celebrating rituals like anniversaries, staff functions and family. In the same company Jane, whose value system was based around ER (strategic and success,) attracts memes of status, rewards and a management style based on merit. Therefore she is likely to become frustrated working for a family-type company or may find ways of exploiting what are seen by her as weaknesses to play the success game.

Memes can be artefacts which are left over from the past like myths and stories or can be physical for example a logo. Artefacts play a role in defining a culture. (Schein, 1990, 1992)

Higgins and Mcallaster (2004), talking about cultural artefacts when considering strategic change for organisations, quote "[Managers]...aligning relevant parts of the organisation's culture – its value systems and norms – with the new strategy. Doing that meant that they also managed cultural artefacts." (p. 64). (Contractor #4 in the UWC study managed cultural artefacts to its advantage). Higgins and Mcallaster (2004 p64) referred to five areas 1. Key values and norms, 2. Myths and sagas, 3. Language systems and metaphors, 4. Symbols, rituals and ceremonies and 5. Physical surrounding

Each one of the five cultural artefacts (Higgins and Mcallaster, 2004 p64) is argued to be a meme which is attracted or rejected by an individual's Gravesian value system. The UWC study showed an example of how perceptual data may be compared with the Gravesian framework.

Does the Gravesian value system add an ability to evaluate Higgins and Mcallaster's (2004) five areas? Each area is attracted to all value systems; however, how these are revealed is dependent on the dominant Gravesian value system. Myths and sagas, language and metaphors, symbols, rituals and ceremonies are memes (Distin, 2005). As memes are attracted to Gravesian value systems and supports the argument that the Gravesian value systems are perhaps meme complexes. To explore how this attraction and grouping occurs, Fog's (1999) multidiscipline approach to understanding culture was used to further support the argument that the Gravesian value systems could be considered as meme complexes.

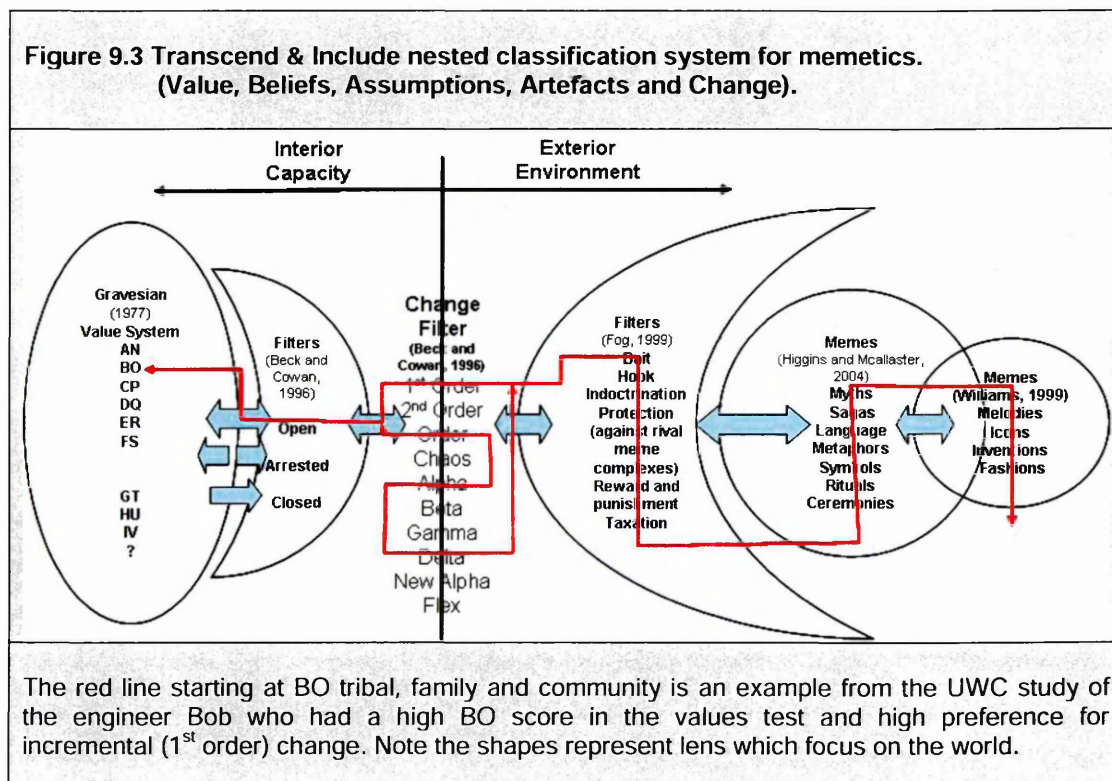
Fog (1999, p. 73) from his multidisciplinary research into cultural selection proposes that memes do not work alone but as "meme complexes". For example, new employees to an organisation are given an employment package based on the dominant memetic espoused profile of the organisation. If the organisation is dominant success (ER) culture then material rewards are given; if it is people and environmentally driven then the rewards are social (FS).

"These vMememes [meta-memes or Gravesian value systems] are organizing principles that act like attractors for the content-rich memes Dawkins and Csikszentimihalyi describe." (Beck and Cowan, 1996, p. 31 referring to Dawkins from Barlow, 1994 and Csikszentimihalyi, 1993, p. 120)

How memes are attracted to values is not clear in Graves' (1977) and Beck and Cowan's (1996) work. Fog's (1999) work adds another link in generalising the idea. The meta-memes' attractions can be used as a negative or a positive and can work in several of Fog's meme complex's definitions. (Hofstede refers to negative and positive values, 2001). What effect these attractors have on an individual with a certain memetic profile and change state needs further research. In business what is it that attracts an organisation to an individual or an individual to an organisation. Using Fog's

(1999) units of meme complexes may give some clues to this attraction (Chapter Three).

Figure 9.3 represents this finding as the interplay between what is internal to the individual and how the memes are filtered from the external life conditions. This forms a template to understand memes related to an individual's value systems and change preferences. Note: as this research is about Graves' framework it is shown in this context.



The red line in Figure 9.3 uses Bob (ID#368) as an example from UWC of how memes are attracted to and rejected by Bob's Gravesian value system. This forms a template for understanding memes. Graves (1977) theory was that as humankind developed over the last 100,000 years, value systems were chemically embedded in the brain. Each value system is a response to having to deal with greater complexity of life conditions. In today's humankind activation of these 'pathways in the mind' enables us to live in our current environment and are formed by education, family, the environment and a need to survive and prosper.

Each of the Gravesian value systems attracts or rejects memes that do or do not support a value system. These are the internal capacities within each individual. These values are then filtered by being open to other ideas, arrested to ideas, but can be persuaded or closed (Table 9.2 and Beck and Cowan, 1996). If we follow the pathway for Bob who had a dominant tribal, family and community (BO) value system but was open to ideas, then how he uses and accepts these ideas is further filtered through the preferences for change. Bob preferred to change in small incremental steps (1st Order) but had some energy to change (Delta). So for the bait, hooks, indoctrination, protection against non-BO values, rewards and punishments and taxation (Fog, 1999) to be accepted by him, they would need to be aligned with his BO Gravesian value system. The memes would have to use a language, symbols and rituals that resonated with Bob. Some of these memes that he attracts are a safe place to work, company social events, recognition by the 'boss' or leaders and a language of 'we are all one company tribe and family'. Rewards would be, to be part of the company's family and to gain favours, for example time off at the boss's pleasure. This is a simplistic example because Bob had other active value systems and Chapter Eight outlined this in greater detail in the UWC study.

Finding No. 3 The research found that the Gravesian value system is a useful analogy for understanding units of culture (memes). Therefore this research considers the Gravesian value systems as a form of meme-complexes or maybe meta-memes. These meta-memes attract acceptable memes that help change⁴ to take place in Gravesian values through the preferences for different types of change.

Finding Number Three supports the idea of meme-complexes and that the Gravesian value systems are a form of meta-meme that attracted or repelled small memes. What Beck and Cowan called 'small memes' are units of culture that can reproduce and change and are therefore memes. (Dawkins, 1976; Fog, 1999; Williams, 1999; Higgins and Macalister, 2004).

⁴ Change – can be imperceptibly slow like ageing – as we get older we are attracted to different memes like exchanging sweet for sour foods. For some, change is not a major life change (2nd Order). Therefore the word change is used in its broadest sense.

Finding No. 4. If Graves' values systems are meme complexes, then as such this reopens the arguments that memes act as biological entities⁵. The debate on memes as non-biological viruses continues. However, in the Gravesian framework meme complexes have a biological link to the subconscious mind (Graves 1977).

Finding Number Four could be a fruitful area for future multidisciplinary research to look further into memetics and the biological person. However from a management perspective meme complexes and memes have a place in helping organisations to understand culture. This could build on the work of Distin (2005) and her view of memetics.

This framework becomes a learning process for the individual, departments and managers in organisations. This then adds to the heuristic process and links it to culture. It suggests a theory for how basic assumptions and intuitive decisions occur.

9.3. A Reflective review of Culture from a Heuristic perspective

Graves' (1977) theory about cultural pathways in the mind argues that they act as filters on heuristic process within the mind, especially when arriving at intuitive management decisions. In Chapter Five Gigerenzer et al, (2002) outlined how intuitive decisions were made and that their accuracy was often as good as those arrived at by data and logic. The difference was that decisions based on intuition are made in short time scales that are needed in business to react to the continual change of economic environments. The argument was raised that managers need to spend more time in understanding where Schein's (1999) basics assumption came from. (Young, 2000).

Finding No. 5. Graves' framework gives a measurement and a model that gives clues to understanding of basic assumptions and how they form values and change systems. (This gives a quick and practical method for measuring hidden values and beliefs if limitations of their validity are recognised).

From Chapter Five, heuristics are about a process of self-learning and discovery, a reflective part of learning that managers often overlook. To make heuristics effective

⁵ Entities - Existence - philosophy - the state of having existence (Encarta Dictionary English UK)

needs intuitive reasoning (Buzan and Buzan, 2000) and an understanding of the basis of the assumptions used to decide (Young, 2000). Graves raised the issue that a theory has a heuristic or learning effect that was based on Hall and Lindzey (1957).

Graves (1977), examined the "systematic and the heuristics value of his emergent cyclical conception" (Ch VII, p. 1-2). He did this as he felt his research was open to the "criticism of contamination". This allows for Graves' theory to be used as a useful template even though it still needs further research and validation. However there is enough circumstantial evidence from other brain and mind researchers to suggest there is some validity to his ideas.

This idea of smart heuristics as a subconscious brain process to arrive at instant decisions on complex information arguably supports Graves' (1977) work on the realms of conscious and subconscious thought. Haggard and Clark (2003), Haggard, Cartledge, Dafydd and Oakley (2004) continuing the work of Libet (2003), showed there is brain activity several milliseconds before we recognise it as a thought or action. Therefore this research argues that each intuitive management decision is filtered by value systems, the states of change and the memes that are attracted to them before the individual converts them into management decisions.

Finding No. 6. Graves' framework is a useful heuristic theory for learning about how an individual uses their subjective logic to shape or be shaped by organisational culture (McAuley et al., 2007). The use of this framework provides a heuristic template that acts as a metaphor (Morgan, 1980, 1983 and 1986) as well as a subjective measurement of values, beliefs, assumption and change.

Finding Number Six covers two ingredients of Graves' theory. One is the capacity to cope with complexity and the other is life conditions. Beck and Cowan (1996) have then developed the Gravesian value systems (filters) to learning and management styles and motivations of individuals. This research considers it important to understand the connections between management and decision making and why certain intuitive management decisions are made. The gap analysis from both the Oracle and UWC studies argued how this approach reveals in a practical way an individuals 'hidden' subjective logic.

Finding No. 7. The Gravesian framework is a heuristic template for using memetic ideas in a business environment. UWC study showed one way of using this template as a practical tool. (Memetics at the moment has not become accepted as a practical business tool).

In Finding Number Seven the Gravesian template through its measurement of values and change becomes a learning process which has a resonance (Coursen, 2004) with individuals and is a reasonable template for companies to understand culture. How useful these measurements are and what questionnaires to use to reveal values and change is reflected upon next.

9.4. Reflective review of the Questionnaires.

This part looks at and reflects on the usefulness and validity of the questionnaires used during this research starting with the Gravesian measurement of value systems (Beck and Cowan, 1992).

Finding No. 8. It is a finding of this research that either the 'Form A' assessment (not containing the HU values system) or an adapted Values Test (without questions about HU) should be used. The new CultureSCAN⁶ assessment contains the Values Test without the questions for HU and this gave acceptable reliability and validity results. (Holwerda, and Karsten, 2006a, Table 9.6).

The research raised a concern about the weight loading for a population normal for the Values Test. The root of the concern is based on the way the HU global value system is assessed. This is an emerging value system that has surfaced in the last thirty to fifty years. There has been no confirmation that the questions used to assess this value do measure that value system [content and face validity. Seale 1999]. Using the HU assessment distorts the results because of the ambitions of the people with high humanistic values (FS). A recent study carried out by Amsterdam University showed that the Values Test (sample size 40) ".....performs rather unsatisfactorily compared to the other questionnaires." (Holwerda, and Karsten, 2006, p. 2).

⁶ CultureSCAN – is a newly developed questionnaire and was not available at the time of this research.

The research of Holwerda and Karsten (2006) in Table 9.0 supports the 'Form A' validation done by Hurlbut (1979, p. 2). This was given to "4029" participants. Hurlbut's conclusion was that the test "met the standards of reliability and validity accepted within psychometrics." (p. 3)

Table 9.0 Assessment Validations (Holwerda, and Karsten, 2006 p3)	
Value Index <i>Value (+/-)</i>	Performance
> 0,75	Very Good
0,70 – 0,75	Good
0,60 – 0,70	Acceptable
0,50 – 0,60	Doubtful
< 0,50	Insufficient
Reliability	
Form A	0,71 (Acceptance)
Values Test	0,66 (Acceptance)
Change State Indicator	0,74 (Alpha to New Alpha)
CultureSCAN	0,76 (Purple to Yellow)
	0,88 (Alpha to New Alpha)
Validity	
Form A	-0,60 (Acceptance vs. Rejection)
Values Test	-0,48 (Acceptance vs. Rejection)
Change State Indicator	0,73 (CSI vs. CultureSCAN)
CultureSCAN	0,73 (Form A vs. CultureSCAN)
A 0.70 score is the minimal score for a test to be acceptable for a satisfactory correlation. Note this is a small sample of 40 people.	

From the questions of validity and reliability we move onto the question of using a weight-loaded population normal as used in the Values Test (Beck and Cowan, 1992).

Finding No. 9. The weight loaded averages used by Beck and Cowan (1992) for the Values Test are unproven and will change with population changes. This is an avenue for further research as it does alter interpretation of results leading to misleading analysis. This was countered by using raw data against averages as well as weight loaded data.

In Finding Number Nine calculations of the original population normal data was carried out at Texas Womans' University. This now needs updating to a current population distribution. It is a finding of this research that the raw data scores compared to the average from the online database is a better way to interpret the results. ('Form A' and

CultureSCAN do not use a weight-loaded approach). This research argues that this acceptable for use in a heuristic gap model.

Finding No. 10. The questions in the Values Test are organisationally neutral. (The questions are centred on the individual and are therefore applicable to any group or organisation because the questions are not asking for subjective views about the organisation – this makes the framework able to be generalised).

From the Values Test questionnaire it is possible to breakout the responses to the questionnaire into individual, work and world-view values. The concern is that if some of the questions are related to work and this might influence the neutrality of the questionnaire. This research considers it is important to be organisationally neutral when assessing the hidden culture within the individual. However, because the questions are about what values at work the individual internally prefers, then the total assessment could still be considered organisationally neutral. Examples below from the values test on work.

1. I Like A Job Where I Like A Job Where...

Loyalty earns greater job security and we are treated fairly

3. I Prefer An Organisation That ...

Treats everybody by the same rules and is committed to going by the book

4. Pay And Rewards Should Be Determined By ...

What people like me need to keep the wolf away from the door

5. My Own Career Priorities Are Determined By ...

Whatever will allow my work group to stay together like a family

The questionnaires used for assessing change are valid. The questionnaires for measuring the Gravesian value system are also valid if the questions related to HU are not used in a business environment. The other area that needs further research is the language used in the questions. This is Western and USA centric language and anecdotally in this research concerns were raised about the language used for the questions for tribal and individualistic values. This concern is also raised by Holwerda and Karsten (2006) in their validation of the questionnaires into Dutch.

The next part of this reflective review covers the two case studies and the findings from them.

9.5. Reflective review of the Oracle and UWC studies.

9.5.1. Oracle Study

The purpose of the Oracle study was to learn how to use the Gravesian assessment tools in an organisational setting. The second purpose was to see how to apply the triangulation method of action research. At the time no documented use of the framework in business had been found; therefore this argued a need for a pilot.

Finding No. 11. The Oracle study fulfilled its research purpose of learning how to use the Gravesian framework to work with individuals in understanding their role in organisational culture. (The study did not solve a problem for Oracle but did act as a heuristic for the researcher. The experience gained was used for the UWC case study).

The responses from the Change State Indicator and the 'Form A' values were used as the basis for the semi-structured interviews and were found to be effective. This approach enabled a discussion to cover work and personal life without having to build trust over several meetings. The interview process would have used the time available more effectively if the participants could have been brought together for training on the principles behind Graves' theories before the interviews.

Finding No. 12. The Oracle study showed that Henry's espoused perception of being a systemic thinker (GT) was not confirmed by the Gravesian value system. The reliability of Henry's results (Table 7.0 Chapter Seven) showed similar results for 'Form A' four months apart and for the Values Test eighteen months later. (When individual concerns are raised as to the results validity it is better to re-test with a different values assessment).

In discussion with Henry it was suggested that he was activating more thinking capacity but under duress would fall back on less complex value systems. This shows how important it is not to just rely solely on the values scores for interpretation but to allow discussion. Action research triangulation becomes an important idea for confirming information with discussion being a key part of this process.

Finding No. 13. From the Oracle study, using the framework as the basis for semi-structured interviews allowed a quick and easy access to organisational concerns raised by the participants. It supported the argument that the assessments were organisationally neutral.

Finding No. 14. From the Oracle study the Bailey et al (2000) questionnaire was useful to provide another view for asking other questions about how the individual Gravesian values and change influenced the way participants answer these questions. The Bailey et al (2000) questionnaire has development potential to include a Gravesian values and change profile. All their questions could be assigned to a Gravesian value or change state. However further research would be needed.

Finding No. 15. From the Oracle study the Hamel and Prahalad (1994) based marketing questionnaire added little to the process because of the limited range of choices to the questions and no written descriptive answers.

Finding Number Fifteen added little to inform the understanding the Gravesian framework. On reflection it would have been better to use the second set of questions from Hamel and Prahalad (1994) Appendix 5, and then analyse the free text responses in a similar way to the UWC 'Way's of Working' questionnaire.

Finding No. 16. The choice for all participants to remain anonymous in the responses and keeping all discussion confidential allowed for open and valuable discussions. (Building trust and relationships is a key principle of Action Research as well as business)

The findings from the Oracle study were used to inform the process for the UWC study and improve the action research triangulation method to include stories and perception data.

9.5.2. UWC Study

The opportunity arose to do this research as part of a commercial project reviewing contracting companies in the supply of water infrastructure for UWC. The research used three types of data to look at the effect of culture and behaviour on UWC's new commercial model. The three types of data informed each part of the action research method. Type 2 data [hidden] was the core of the research using the Gravesian based assessment instruments for assessing Gravesian values and change. Table 9.1 shows the summary of the data types. The Gravesian framework qualitatively analysed Type 1 and 3 data.

Table 9.1 UWC Data Types Summary (From Chapter Six)	
Type 1 [Espoused]	Anything which is convertible to electronic text like reports or typed up notes.
Type 2 [Hidden]	Beck and Cowan (1992) questionnaires. (This is the core of the research)
Type 3 [Perceived]	Any subjective perceptual data like reception area appearance, stories told and any data that added value to inform sense-making.

Finding No. 17. The UWC study meets the research aim by starting to understand the role of the individual in organisational cultures and resolving a cultural problem for them. (The journey of discovery and understanding produced change).

Finding Number Seventeen shows that by allowing an analysis of espoused values and comparing them with Gravesian hidden values by using the same framework, reveals other building blocks of culture. This in turn allowed for a gap model of differences between companies and individuals in their Gravesian value and change preferences. (Figure 9.2 at the start of this chapter).

Finding No. 18. Using the framework allowed for defining culture by totalling the individual's Gravesian values and change. (A simple to use method with limitations but an effect on change greater than its simplicity suggests).

The problems associated with totalling ordinal data was discussed in the research methods in Chapter Six. A practical approach was taken that it was useful and gave another basis for discussion and gap analysis.

Finding No. 19. It was possible to define the range of capacities within a company (Group) and preferences for change and use this to give a picture of the culture. (This gives an idea of the range of diversity available to a company).

Finding No. 20. The framework is useful for evaluating espoused values from oral and documentary sources of information as well as the analysis of perceptions. This is useful to develop further as a gap model to assess the effects on staff and customers of oral and written material produced by companies. (This gives a useful tool for example customer service).

Finding Number Twenty discovered differences between the questionnaires used to assess the Gravesian values and change of the individual and the values hidden in perceptions, the spoken word and documents. The limits to this subjective analysis are the values, beliefs and assumptions of the researcher. However these can be mitigated if assigning values is made by more than one person.

Finding No. 21. The Gravesian framework is argued to extend the artificial boundaries traditionally often put in place in cultural research. (Just using the assessment instruments across departments can initiate a change process within a few days because discussion of the results reduces the 'them' and 'us' management type conflicts).

The use of the Gravesian framework is argued to give a manageable way to extend culture research boundaries. This means that research can start with the individual and easily add the department, the company, the family, the community, and the country. This can be to whatever precision needed by a research objective. (Martin, 2002a, 2002b).

Finding Number Twenty-One argues that, because the assessment method is about the individual, it highlights how their values, beliefs, assumptions and preferences for change are brought into the organisation, hence extending boundaries. By using this approach another picture of the building blocks of cultures is produced.

The last finding for the UWC study is that change occurred. This supports one of the validations needed for using an action research method. (Denscombe, 1998; Clegg and Hardy, 1999).

Finding No. 22. Change did occur at UWC as the Gravesian framework become part of the tendering process and part of staff training.

The findings from this research are filtered through the Gravesian value systems of the researcher which has an effect on them. (A detailed analysis was given in Chapter Six Research Methods). The next section reflects on the role of the researcher's by using the Gravesian framework.

9.6. Reflective review of the Role of the Researcher.

The use of action research methods raises the question of the role of researchers and their influence on the research. This concern is raised in advice on using action research methods, notably by Susman and Evered, 1978, Easterby-Smith et al, 1995, Gill and Johnson, 1997, Checkland and Holwell 1998, Denscombe, 1998, Avison, Lau, Myers and Nielsen, 1999, Clegg and Hardy, 1999. However there is little direction on how to handle or reveal this influence.

James (1999, p. 85) argues the "self" is often neglected in action research by referring to Usher & Edwards (1994, p. 213). "Yet, they assert that 'how the self is disposed as an engaged enquirer is a neglected dimension of reflective research practice."

James continues "each researcher's journey or experiential trajectory through a study is unique (Usher and Edwards, 1997, p. 218), depending on past life experiences and the often tacit, personal and cultural knowledge thus brought to any circumstances." (Ibid, p. 85).

Therefore if as this suggests there is a need and the Gravesian framework becomes a valid idea for measuring the hidden culture and change of the individual, then it makes sense to apply the same reasoning to the researcher.

Finding No. 23. The Gravesian framework gives a research template for discussing and measuring the influence of the researcher's values, beliefs, assumptions and change preferences on the research. (Further research might reveal if a researcher or consultant with a social DNA profile at odds with the organisation causes change or stops change).

This in some ways compounds the problems for the solo researcher that would not be an issue if he were part of a team. The problem needs the use of the disciplines of the DQ value system to gain the rewards of a PhD later for sacrifices now. The following is an example taken from Appendix 1 and according to Beck (2003d) was part of his work with Herman (1988) on the creative brain. The strong points for the researcher's a right-brain dominant person are looking at the whole, weaving through complexity, being pulled by dreams and a vision, and liking to push the boundaries of what is possible. The weak points are that details are often overlooked, there is a bias towards ideas rather than actions, and that he vacillates and can be trapped within the dream. For this research the boundaries of what is accepted as research are being pushed with a non-traditional approach that has allowed the research to change and emerge. Being trapped in the dream of completing the research rather than completing, means that a team approach of balancing memetic profiles is needed to ensure completion. The researcher was part of a consultancy team for the UWC study and is part of a PhD team of supervisors, so this helps overcome the weakness in an analogue thinker. A more detailed breakdown of the researcher was given in Chapter Six.

Finding No 24. It is important that a researcher with this value system be part of a team of other diverse Gravesian value systems researchers. So for example in this PhD the team have to be prepared to supply much information, have their brains picked and challenged while ensuring that due process is adhered to. If the supervisors' value systems are too far apart from the researcher's, then the way he does research will seem at best illogical and at worst heretical.

This analysis could be taken further by looking at the gaps between the researcher and the university, the research and case studies. However this simplistic analysis of the researcher's Gravesian value and change and thinking systems is in line with the research aim of understanding the role of the individual. This approach arguably shows the cultural filters that the researcher brings to and influences the research.

To overcome this influence the use of triangulation of different views of the data is used to lessen this influence. This was further helped by being part of larger project on culture and behaviour at UWC. The final report and presentation to UWC on this research had a balance of factual accounting and engineering information as well as culture and behaviour.

In the Oracle pilot study the researcher had a greater influence on the research because it was the researcher's idea for the area of research, but agreed with Oracle. (Easterby-Smith et al, 1995, Denscombe, 1998, Clegg and Hardy, 1999). Recognition of this influence and the use of other measurements tested the action research's triangulation method. This was a study to learn about how to use Graves' framework and it was necessary to feed the search for information and knowledge of the researcher's systemic (GT) value system.

The systemic (GT) value system with 2nd order step change suits the openness and emergent qualities of action research. A one-true way (DQ) value system with 1st order, incremental change, order and a high contentment with today would struggle without a prescribed process and outcome. Therefore triangulation (Gummesson, 2000, Seale, 1999) as an idea becomes important for GT (systemic) dominant values system. For dominant GT, based on the researcher's view, part of this evaluation and validation process is a learning cycle. This cycle is a continuous open-ended spiral rather than a double loop (Argyris and Schon, 1978) that brings in the interplay of thinking capacity and life conditions. This fits with Beck and Cowan's (1996) idea of an open-ended spiral of complexity. This reflective process is similar to the preunderstanding cycle of the hermeneutics⁷ (Gummesson, 2000). This cyclic process is important to the effectiveness of the use of the Gravesian ideas. The discussion in Chapter Three was that Professor Clare W Graves' own value system would have been useful to know, to understand his approach to his research. Reading his 1977 draft it would be easy to gain the impression that he was DQ (one true way) and order driven. However there are glimpses of GT (systemic) thinking. Therefore what he had written may have been a product of the life conditions prevailing at the university at the time. This argues how important the effect of life conditions is on the research.

⁷ Hermeneutics - the branch of philosophy that is concerned with the study and interpretation of human behaviour, structures of society, and how people function within these structures (Encarta Dictionary English - UK).

The adaptation for this research of Graves' framework takes the interplay between life conditions and capacities into consideration while also allowing different types of change to occur. Further research would be required to evaluate the influence of the researcher's Gravesian meme-complex profile on outcomes. However this research argues that this research's context with this researcher is a valid way of understanding the role of the individual in organisational culture.

9.7. Reflective review on use and analysis of espoused and perceived data.

The key to this research is 'with this researcher it is a valid approach...' in the context of using an interpretist positivist (Neo-empiricist) approach. This means that the data is analysed in a subjective manner. There is a reality out there but the researcher cannot engage neutrally with it (McAuley et al., 2007). However, Graves' framework was to some extent about the interplay between life conditions and the internal thinking capacities of the individual for survival. Therefore the choice of data used for illustration is based on the working environment (life conditions) at UWC and its contracting companies and made more complex by the internal capacities and life conditions of the researcher. As illustrated earlier a researcher with a more bureaucratic (DQ) approach may well have chosen other examples.

This research argued that the Beck and Cowan (1992) assessments add a small level of objectivity to revealing the subjective logic within the individual by being organisationally neutral. The analysis of words and stories etc involved the multiple coding of words and phrases. Certain sentences and paragraphs become multiple coded to several values in the Gravesian framework giving some ambiguity but taking out some bias in the interpretation. There are many problems with collecting data from the feedback sessions for example did the researcher actually hear and note what was really said. Did the interviewee only say what the researcher wanted to hear? These dilemmas were addressed by assessing against the more objective Beck and Cowan (1992) assessment instruments.

On perceptual analysis of the workplace there is bias but the process was based on many years' management experience and knowledge and intuition then interpreted using the Gravesian framework.

The examples of the gaps between the internal and external social DNA model are used to reveal and illustrate the influence of the inner subjective logic of the individual. The Gravesian meme-complexes are the research template. This approach puts "people first" which is an interest of "Neo-modernist organisation theory" and Graves' work could be argued to be a "way that the values and beliefs of people shape and are shaped by their experience of organisational life (McAuley et al., 2007 p45). McAuley et al., continue that the interest in culture and "to ways in which organizations 'need' to be designed around people and to understand the processes of change" (ibid). The data and information used and interpreted was with this in mind and recognises the complexities of human behaviour.

As Graves argued that his research was open to the criticism of contamination (1977) this research can also have the same accusation levelled at it. However the data was analysed it produced a change outcome and therefore argues a utility.

9.8. Concluding Arguments on the Research Findings

This research took a relook at the work of Professor Clare W Graves and its applicability to understanding the role of the individual in organisational culture. It reviewed whether his ideas fit into current research on organisational culture and would add knowledge to understanding of organisational culture. Martin (2002a, b), Hatch (1997) and Schein (1999) were indicative of the body of knowledge, in particular Martin's (2002a) review of cultural research in general. Key points used in this research were that to study of culture takes time either from within or outside that culture. Because of this time restraint, artificial boundaries are placed around the research area, for instance a department or a company. Organisational culture is often defined by finding the common values, beliefs, assumptions and artefacts. Culture is a business issue (Watkins, 2005) but has limited time scales in which to understand it. Measuring a 'business' culture is done by asking questions and receiving espoused answers that may reflect the company but not the influence of the individuals within it. Businesses want to understand culture so it can be changed to improve their performance. UWC and Oracle are examples of this. Change is often not defined in detail; rather it is at a meta-level as in Johnson and Scholes (1993, Johnson et al., 2006), with little attention to the need for precision to define and measure the change process. They see the change process as an unfreezing and refreezing process that takes little account of the individual's role within this change process. Johnson et al, (2006) did not measure the individual's preferences for types of change that produce

the barriers to change in an organisation. However they do agree on the influence of the mental process of the person in change.

The review of Graves' (1977) work revealed his theory, that over the course of time different ways of living (for example tribal, feudal, religious, material, humanitarian) created 'cultural' pathways in the mind. As life conditions changed needing more thinking capacity then this formed new pathways. The basis was eight years of research, independently reviewed and analysed. This identified six core pathways and two emerging pathways. The emerging pathways had greater capacity to handle more complex life conditions than the first six (Graves, 1977). Continuing Graves' work, Beck and Cowan (1992) developed questionnaires that measured the strength or weakness of residual pathways in the mind to produce a cultural preference map for the individual. According to Graves (1977) and Beck and Cowan (1996) the strength of these residual pathways is produced in the individual by their upbringing, education and current life conditions.

The questionnaires used to measure these residuals for values and change states are valid and reliable (Hurlbut, 1979, Holwerda and Karsten, 2006) though the Values Test with questions on the emergent global values system (HU) is not. The questions used for the HU value systems have not been validated and as it is an unknown system (0.1% of the population. Wilber, 2000) the questions need defining and validating. It is a finding of this research that these questions should be removed from the Values Test and Form A used in business organisations. However the HU questions maybe useful in personal development as an indicator of the awaking of this potential brain capacity but not as an accurate measure. (Beck, 2005).

The review on memetics argued that there is a link between Graves' ideas and the idea of reproducing units of culture (memes). Graves' value systems can act as a meta-template for attracting or rejecting memes. By integrating the theories of memetics it allows for an evaluation template for the three-dimensional model of culture as proposed by Schein (1999) of values, beliefs and basic assumptions. Figure 9.4 showed an example of the use of the Gravesian framework to include memetics. Figure 9.4 also showed how the hidden Gravesian values can attract or reject external memes like fashion, music, processes and so on. Graves' idea that 'cultural' pathways have been embedded (hard-wired) in the mind does support the argument that memes act as biological entities. However this needs much further debate and research from the

biological research community. For this research the use of Graves' ideas is as a heuristic or learning process.

The review of heuristics (Gigerenzer et al, 1999 and Buzan and Buzan, 2000) followed the theme of pathways in the mind. Using heuristic and intuitive methods allows fast and simple decisions to be made from complex information. This approach is valid for managers and is often overlooked. Linking this to memetics and Graves' ideas argues a method for understanding a basis for making intuitive decisions. Heuristics also is a valid part of a theory that provokes thought and promotes learning (Graves, 1977 referring to Hall and Lindzey, 1957).

Graves (1977) raised these themes in understanding the role of the individual in organisational culture as 'cultural' values systems embedded in the mind and the heuristic value of a theory. Beck and Cowan (1996) raised the idea that Graves' value systems were meta-memes but did not develop it further.

The method used to test the usefulness of Graves' framework was an adapted action research method. This choice was that it was practical and used a real company problem on cultural change (UWC). This allowed the framework's use as a heuristic to inform other financial, engineering and management data. From an action research view change occurred in that the Gravesian framework became part of the new contractor tendering process.

The research findings in this chapter are used to inform the three research questions raised in Chapter One.

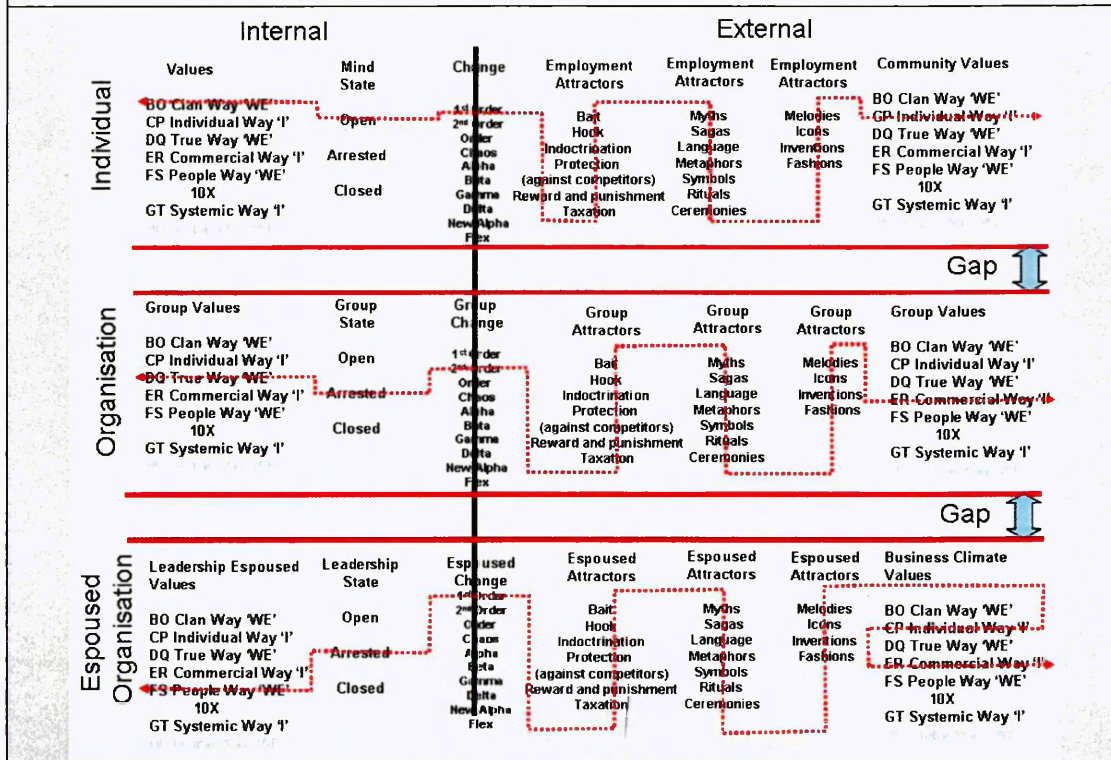
- 1) Does the Gravesian framework help in understanding culture in organisations?
- 2) Does the Gravesian framework help in understanding the influence and role of an individual's culture on an organisation's culture?
- 4) Does the Gravesian framework help to understand the mechanisms of cultural change?

Based on the findings from this research the following suggested model is a template for business and research use. The model is work in progress and other frameworks maybe integrated or even replace Graves' framework as experience and knowledge is developed. The research argues that these provide a time and cost-effective method

for understanding the role of individuals in organisational culture (Watkins, 2005).

Figure 9.4 shows a theoretical model

Figure 9.4 Theoretical Research Model



Referring to Chapter One to develop a social DNA gap model⁸ between the hidden (within the person), the espoused (what the person says) and the perceived (the person's intuition).

The above figure is a further development of Figure 9.1 social DNA gap model for UWC. This model shows on the left hand side what is hidden within the person or group and that which is revealed by the Gravesian hidden assessments. The centre line represents the preference for change filters that interplay with the external environment.

The right hand side are the memes that are attracted to the Gravesian systems. The extreme right hand side is the community or organisation in which the person lives. The rows represent the individual, the organisation and the espoused organisation. The left hand side of the organisation is the group or collective Gravesian hidden values. The external are the memes and environment that the groups lives in. For example this could be a department within a company or a company within a community.

The bottom row is what the organisation espouses about itself. Left is what espoused Gravesian values are hidden from the world but expressed within the organisation (for example, the hidden values in a mission statement). The external is the memes that they attract. The extreme right is the business or governmental espoused hidden values that the organisation lives in. The gaps are revealed between each row for the values and change states.

The three areas in this model (Figure 9.4) are the individual who filters all incoming information through their Gravesian values system, the mind state and the preferences for change. The incoming information is filtered as being attracted to the individual's internal systems and rejected if it is not. On the right is the community in which the individual lives and it may be associated with several communities for example, family, local and scattered. Each community is filtered by the individual. When an individual joins an organisation the job offer is filtered through the attractiveness of the bait, hooks, indoctrination, protection, rewards and punishments and taxation. Helping to decide to join the organisation are the myths, sagas, language, metaphors, symbols, rituals, ceremonies, melodies, icons, inventions and fashions. The individual will selectively filter what is needed to justify to his or her Gravesian internal systems the reasons to take the job and may suppress their hidden Gravesian value systems. This suppression will not become obvious until in the job, leading to a rise in frustration (Gamma change type) if the Gravesian values system is not aligned with the actual.

The second area is the organisation. An organisation is made up of individuals and this research argues that a group's culture for instance, a department has values, beliefs, assumptions and types of change that reflects the individuals as an average score. The Gravesian framework allows these internal states to be aggregated to find an average and shows the range of capacities that are available within that group. External group values, hooks, bait, myths and stories which are attractive to the group come from other departments and the organisation as a whole. For example a financial department will have different values for control of money to the creative marketing department. This approach reveals the gaps of the internal values of the group to the internal values of the individual or the internal values of a department to another department. Myths, stories and for example employment contracts can be analysed with the Gravesian framework to show what is likely to be attractive to a group or an individual.

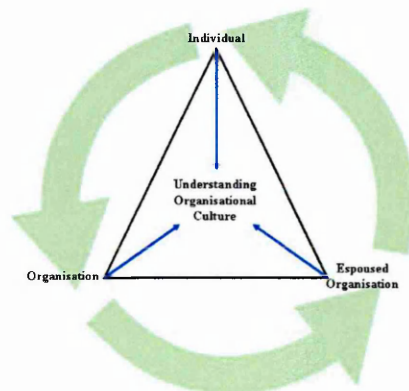
The third area is the espoused organisation. This is the face of the organisation that is public to its shareholders and employees. A good example is a company's mission and values statement. If these documents or any documents, media quotes are analysed using the Gravesian framework, a profile of the organisation's espoused values, beliefs, assumption and change types is revealed. These internal espoused values filter the external espoused values that the organisation accepts and attracts. This was the basis for the document and story analysis using the Gravesian framework for UWC.

The espoused organisation reveals the gaps between the individual and groups. An example here is a senior management group whose Gravesian values system centres on commercial success and individual's rewards with revolutionary change. This management group puts out a mission and values statement showing the organisation to be people and environmentally friendly. This becomes bait and a hook to employ people and is for example supported by espoused stories and myths. These then attract people with these internal [hidden] Gravesian systems. When working for the company the commercial and individualistic Gravesian internal values clash with theirs. This then leads to a potential for increasing frustration levels and may result in higher staff turnover.

The suggested theoretical model (Figure 9.5) that allows for measurement of the interplay of the Gravesian internal [hidden] profiles for individuals and groups. Using the same Gravesian framework for subjectively applying to the espoused allows the use of a heuristic gap model and template for organisational development and change.

The three parts of the research model become a triangulation process for use in learning and change. Figure 9.5 shows the triangulation part of the model using this research's three building blocks of culture. Other building blocks for instance agency⁹ and power theories (Eisenhardt, 1988, 1989) could be added with further research.

Figure 9.5 Triangulation Part of the Research's Models



These are three of the building block of organisational culture used in this research: the individual, the organisation made up of individuals and the espoused organisation as espoused by the board of directors or CEO for instance.

The overall finding of this research is that the Gravesian framework is useful learning idea for understanding organisational culture. It allows a means of understanding what culture individuals bring to an organisation. It allows discussions and targeted implementation of changes for the individual and the group. For example alignment of learning and individual development to the Gravesian profile of the person by considering what motivates them and what learning styles are suitable for them.

The Gravesian framework becomes an integrating dialogue method for understanding the interplay of different building blocks of organisational culture. As Nyhan et al., (2004) argue, the need to manage "the dialogue between the different dimensions of organisational life, between the tangible aspects dealing with structure and the intangible aspects dealing with building a culture." This research argues that the Gravesian framework fits this role, albeit it is only one of many approaches which may have achieved the same results.

The last Chapter looks at areas for further research, with further comments on the research.

Note on Point of View: At times the researcher uses language that might occur to the natural scientist as the author making claims from the biological rather than the managerialist stance, this is however the author's pragmatic style.

10.0. Introduction

This chapter develops the research and discusses the philosophy associated with using the Gravesian framework. The research has looked at organisational culture from the 'hidden'¹ culture within the individual. To do this the research reviewed the 1950/60s theory of Professor Clare. W. Graves (1914 -1986) a psychologist who investigated how different dominant cultures have become part of the embedded filters in the mind that we view the world through today. These filters, called in this research 'pathways in the mind', become active and dominant depending on the life conditions of the individual. Activating these is by upbringing, education and the life environment. These are the filters we use to interact with the organisation or community we work for or are associated with. The research then extended Graves ideas as a template for finding the culture in what an organisation says about itself [the espoused] and how it is perceived [the perception]. Cultural building blocks were argued to be represented by values, beliefs and preferences for change.

Beck and Cowan, who worked with Graves, developed a series of questionnaires that measured these filters. (Beck and Cowan, 1992, 1996). This research used these questionnaires to map the currently activated 'pathways in the mind' which produced a map of the individual's cultural values and change preferences. These maps had a resonance with case study participants (Coursen, 2004) as a representation or metaphor of their social DNA.

Graves (1977) argued that the eight value and beliefs systems that he identified from his research were able to handle the ever-increasing complexity needed to survive in an increasingly complex world. He argued that the brain had the capacity to handle eighteen of these value systems as new ways of living emerged. Therefore it was an open-ended system and varied according to an individual's life conditions; more or less complex value systems activated as needed for survival. This then led to Graves'

¹ Hidden – hidden is used from the perspective that the Gravesian framework is argued as a template to understand building blocks of basic assumption. Basic assumptions are often hard to reveal and therefore are considered 'hidden'.

researching what types and conditions for change were needed to activate more or less complex ways for thinking.

Graves (1964) first applied his ideas to management and especially that of quality management but mainly to human psychology. (Graves, 1964, 1965, 1966, 1967, 1970, 1971, 1974, 1977, 1978; Lee, 2001a, 2001b, 2002, 2002b). Beck and Cowan (1996) also applied their developments of Graves' work to management in their seminal book *Spiral Dynamics - mastering values, leadership and change*. However there has been no published further research into use of Graves' framework in business and organisational culture.

The approach to this research was to review and use Graves work in organisational cultural research. From the literature surveyed most culture research focused on finding the common visions, values and beliefs within a group of people (Hatch, 1996, 2006; Martin, 2002a, 2002b). Because of the complexity of culture, boundaries are placed around the research to produce a bounded rationality². This research argued that Graves' framework allowed these boundaries to move outward to take account of change and the life environment adding a social and ecological rationality³. These three types of rationality are features of making intuitive management decisions and Gigerenzer *et al* (1999) argued for them as smart heuristics.

Therefore Graves work added to understanding the individual by suggesting a template to understand their role in culture while expanding the boundaries. The boundaries move outward to encompass other groups and communities, inwards to the culture within the individual, but takes account of the life conditions.

As Graves' framework argued that it starts within the mind, the research touched on biological and non-biological underpinning of his work. (This debate was considered to

² "Bounded rationality – Decision-making agents in the real world must arrive at their inferences using realistic amounts of time, information and computational resources". (Gigerenzer., *et al* 1999: p24-25)

³ "Ecological rationality – Decision-making mechanisms can exploit the structure of information in the environment to arrive at more adaptively useful outcomes".

"Social rationality – The most important aspects of an agent's environment are often created by the other agents it interacts with" (Gigerenzer., *et al* 1999: p24-25)

be outside of the scope of this research to support the arguments that there maybe some form of hardwiring and if so it was 'hidden'. Hidden, meaning in the subconscious and that people carry a core culture within them). Using Schein's (1990) model of culture of values, beliefs and basic assumptions led to a review to understand how to reveal the basis for these building blocks of culture. Young (2000), looking at Schein's work suggested that managers needed to understand where basic assumptions come from to be better managers. Managers use intuition, so by reviewing intuition and heuristics as thinking patterns the research did find some arguments that supported Graves' theories.

Graves' work produces a framework to understand basic assumptions and where values and beliefs may originate. This led to reviewing how these assumptions, values and beliefs spread throughout or between cultures. Beck and Cowan (1996) raised the idea of Graves' framework being meta-memes. Meta-memes attract or reject memes which Dawkins (1976) defines as units of culture that can reproduce virus-like. With the work of Fog (1999) on cultural selection and his idea that memes form meme complexes adds another view to Graves (1977) ideas. This research argues that Graves' value systems are meme complexes (perhaps meta-memes) and therefore useful in understanding memetics in organisational theory.

Graves' framework produced a useful cultural evaluation method that included the theories of memetics to define values, beliefs and basic assumptions with the added precision of defining change. The framework is useful at 'face value'⁴ as 'pathways in the mind' or a metaphorical device that is a heuristic template for learning about the individual's role in organisations. Both these approaches, as metaphor or as genuine 'hidden' values in the mind, produce quantitative information on meme-complex profiles that includes change. This may address some of the problems associated with subjective research into culture by providing a quantitative measurement of building blocks of culture.

The other unique feature in this research was the use of the Gravesian framework to analyse the 'hidden' values and change in documents, stories and perceptions. This approach allows for a structured method of qualitative cultural analysis. The Gravesian meme-complexes form the hardwiring while still allowing emergent management

⁴ Face value - what something seems to mean or be worth, which may be better than its true worth or meaning. Encarta Dictionary English (UK).

themes. This research proposes for consideration the Gravesian framework as a template for use in qualitative cultural research. More research needs to be done to further test this as a valid method for understanding the espoused values, beliefs and assumptions of organisational culture. The approach produced a gap model to look at the hidden in the individual to individual, individual to group and group to group relationships and then compared these to the espoused and perceived.

The role of researchers and their influence on research is another area in action research that is discussed but not clearly defined. For instance, Gill and Johnson (1997, p. 59) say "the researcher acts upon his or her beliefs or theories" but how are these assessed? Easterby-Smith et al (1995) argue that action researchers find it hard to claim independence. Graves' framework does allow some objectivity in understanding the researcher's influence.

This research found that by using the Gravesian framework as descriptive and not as a prescriptive method, it acts as an iterative and reflective process that can be part of other common management tools. Therefore the research argues that the Gravesian framework is a 'transcend and include' model having the ability to become an integrated or integrating template for cultural research. However it was noted that other similar research could be applied in the same way (Cook-Greuter, 2002, 2004; Tolbert, 2003).

This research had to tread the fine line between logic and intuition or subjectivity and objectivity. This is how business works, and the book, 'On the rise and fall of NASA' (Boin, 2006) shows this difficulty. "The crucial challenge – for NASA and any other organization operating dangerous technology [UWC for safe water supply] - is to reconcile engineering logic and experience with emerging doubts and strong gut feeling that something is going wrong. A reliable organization effectively combines both logic and intuition." (Ibid, p. 258).

Further research into the use of Graves' framework may well help address these difficulties. However, what concerns has this research about using Graves' framework?

10.1. Discussion: Graves and Beck and Cowan

Graves work has been available since the 1960s and 1970s but until recently few have look at his ideas academically. The publication (1966) in the Harvard Business Review of 'Deterioration of Work Standards' should have produced some debate. However as argued in Chapter Three this was during the nature/nurture debate and Graves' work may have been seen as prescriptive and on the side of nature. Certainly, no further research has been done for use in the commercial and business environment. Another reason is the split between Beck and Cowan around 1998 discussed in Chapter One. This produced two philosophies about the use of Graves' work. Also, their 1996 book *Spiral Dynamics* is difficult to read and provides little referenced support for the ideas expressed. Even in 1996 other researchers were working along similar lines and they could have placed their work in the cultural or organisational (cultural) theories bodies of knowledge and have added knowledge to Graves' work. By not doing this Beck and Cowan have left Graves' work on the fringe of the research communities.

10.2. Is Graves' original research grounded and able to be reproduced?

Graves' original research has not been corroborated, but from Graves' (1977, 2005) draft book there is evidence from the comparison with his peers (Chapter Three). Graves' research from the literature reviewed was sound but was carried out in a university environment using different sets of students over eight years in the 1960s and 1970s. This raises the question, were the results representative of a wider general population? Beck and Cowan (1992) attempted to correct this by trying to normalise the Values Test questionnaire to a population normal. This would have been acceptable if the questions had been validated to confirm that questions asked, measured the value systems they were supposed to as with Form A (Hurlbut, 1979).

With today's knowledge and technology it should be possible to corroborate Graves' work with brain scanning. This is area for further research but it would be expensive; however a detailed review of others working in this field may be enough to support Graves' theories. Following are a few random examples of work in this field.

Electromagnetic brain scan may have identified the areas of the brain associated with the true way (DQ) value system. Looking at the Gravesian research from a biological and neuroscience perspective by today's research methods, this would appear primitive. Cowan (2003, 2004) states that a brain scanner would be needed to confirm

Graves' research. Coursen (2004) from a neuroscience discipline argues the survival meta-meme (AN) may be more complex and have subcategories but also suggests there is evidence that areas of the mind do produce certain value responses. It has been found for instance that certain areas of the brain are stimulated during a religious meditation. (Newberg, d'Aquili and Rause, 2001). This may equate to the process 'true way' meta-meme (DQ). Michael Hill's work as a neurophysiologist at Laurentian University, Canada showed that using electromagnetic waves on the brain of a precise wavelength produced a religious experience in some people. However this did not occur in Richard Dawkins case (Hitt, 1999).

Graves' work is about the filters individuals use to reflect and make sense of what is going on in the world around them. One example of how we filter information from the work of Snyder, Mulcahy, Taylor, Mitchell, Sachdev and Gandevia (2003) on savant-like skills in normal people.

Snyder et al (2003) suppressed the left fronto-temporal lobe of the brain using transcranial magnetic stimulation. "Without stimulation participants almost always missed the duplicated 'the' in the sentence." (Ibid, p. 6 Figure 5). After magnetic stimulation, which effectively switched off the left part of the brain, the proof-reading skills and detailed drawing abilities of the participants improved. The brain has this ability to filter the world without conscious thought; therefore it could argue that Graves' idea of embedded or hard-wired cultural filters in the brain may have some basis in fact. These examples are used to argue only the possibility that with further research Graves may have been correct, adding weight to his framework and linking to Dawkins' (1976) virus-like memes.

If there is a need to validate Graves' ideas as he came from a medical discipline, then the ideas need be to be researched within the medical disciplines. However if we take the approach that as a 'useful tool' for understanding business and management then the truth in medical terms becomes less important. As Beck (2004, 2004a) stated it is not to take this too seriously and to use the ideas to improve understanding. This research has argued with case studies that the method is useful and has a resonance with those being involved with it. In both studies the framework produced a 'learning' process then according to Eden and Huxam (1996, 1999) its use is supported. This research argues that the framework's use as a metaphor of 'pathways in the mind' adds to its acceptance. The framework is considered as being organisation or

community neutral. This takes out biases of race, gender and political issues. (Linscott, 2001), however there is still a negative side.

10.3. Is Graves' framework an integrating approach to understanding culture?

To discuss if the Gravesian framework is an integrating approach is done by using examples of where it may usefully contribute to other research. For example there is management research on performing top management teams (TMT). This research suggests that successful TMTs have a greater capacity for cognitive complexity. How is this easily measured to remove some of the subjectivity? Graves' framework may offer a way based on the methods used in the UWC study.

Lohrke et al (2004) in their research review of TMTs performance in turning around organisations noted there are differences between individuals that have this ability to turnaround organisations citing Hendrick (1990). The qualities they found align closely with the systemic thinking (GT) in three areas.

- 1) TMTs were good at analysing and integrating ideas and data and arriving at creative solutions (Lohrke et al., 2004 referring to Harvey 1996).
- 2) TMTs need volumes of data and information (Lohrke et al; 2004 referring to Tuckman, 1964).
- 3) TMTs had a degree of self-interest (Lohrke et al; 2004 referring to Huff and Reger, 1987 and Eisenhardt 1989). This particular quality reflects the 'I' of the systemic way (GT) with the individual way (CP) for creativity.

However appearances can be deceptive. According to Wilber (2000) and Beck and Cowan (1996) this value system (GT) is only active in less than two per cent of the population. Even with the increase to five per cent found by this research it is unlikely that all TMTs come from this percentage of the population. This maybe a useful area for further research - to find the underlying values, beliefs, assumptions and change using the Gravesian framework.

If top teams become the norm instead of a charismatic one-person leadership as forecast by Warren Bennis (Bennis, and Powell, 2000), then Gravesian insights would

be a valuable tool for understanding the hidden and espoused team interplays as illustrated in the UWC study.

For the basis of ideas like Graves' to become commonly accepted there is a need for further research. For example the use of Myers Briggs Type Indicator (MBTI) has many years of statistical and empirical research to support its relevance to the general population (Quenk, 2000). MBTI is often used in TMTs to characterise types of people in a team. Graves' framework as a 'transcend and include' model could offer another interpretation of these characteristics. The research argues that an individual with a certain MBTI profile (for instance, extroverts) will display this differently dependent on their dominant values/change profile. They will attract or reject different memes, for instance language and dress. Then express espoused values and beliefs suitable to the dominant community they live or work in. Much further research in this area is needed to see if the Gravesian framework provides a useful point of view.

The last example for further research is around corporate governance which over the last few years has become a TMTs management problem because of the high-profile collapse of Enron and WorldCom (Hatch, 2006; McAuley et al; 2007). Taking the example of a trainee person in Enron or WorldCom environment, they will be exposed to the espoused value system of that organisation. This research argues that this will either activate new values, beliefs and assumption or reinforce the ones already active.

The UWC study identified an individual who thought it was unwise to show individualism at work as it was unacceptable in that organisation and could lead to loss of employment. He suppressed his creativity (healthy individualism CP is balanced acceptance and rejection) at work but it was healthy outside work. In Enron and WorldCom collapses the tacit support of auditors and a social culture of greed allowed the few to flourish. This is a characteristic of high acceptance of and no rejection of the Gravesian 'I' value system CP. The whistle-blowers like Sherron Watkins (Reingold, 2003, Watkins, 2002) had either the capacities for systemic thought or more likely a strong belief in the true way to work (DQ) or a high humanistic value system (FS). Which of these value systems was her driving force can only be guessed. It is likely the decision to blow the whistle was based on intuition. Intuition is argued in this research to be based on values, beliefs and assumption where the basis of these may be revealed by the Gravesian framework.

This research has already argued from the studies that the Gravesian framework expands the boundaries of organisational cultural research. It has usefulness for integrating the culture of the individual, the group and the espoused organisation. With further research the boundaries could be expanded to add this building block for understanding individuals in organisational culture. The examples of TMTs, MBTI and Enron are to show how further research might prove useful. Statistical studies are needed to find links between TMTs or MBTI for example and the Gravesian framework. This research came from philosophical view of research as a useful learning experience validated in use so it needs its subjectivity to be balanced with more statistical studies.

All theories are useful (Graves, 1977 referring to Hall and Lindzey, 1957). However the use of the values part of the Gravesian framework by practitioners has caused concern and has done damage to Graves' original ideas. This limited approach outlined in Chapter Nine and unintentionally started by Beck and Cowan's (1996) use of colours instead of codes has contributed to this damage of acceptability of Graves work. However the work of Cook-Greuter and Tolbert which uses some of the Gravesian ideas could also be used in a similar fashion to this research and perhaps be substituted for Graves' framework. However this would require further research to add in the preferences for change. Also easier to use questionnaires would have to be developed to become an acceptable management tool.

10.4. Closing Debate

The basis of Graves' framework is the biological workings of the mind, according to Graves. The biological debate is in two areas, that of the Graves' (1977) 'pathways in the mind' and that of Dawkins' (1976) memes. At the moment there is only indicative evidence in Graves' case for biologically embedded pathways other than his own research. To support Graves' (1977) ideas and bring them into the mainstream medical area would need a large effort in time and money. However, without further research there will always be room for the detractors of these ideas to condemn the framework as pseudo-science. Beck and Cowan (1996) and others have also contributed to this view.

If Dawkins' (1976) idea of memes (that there is a 'virus'-like reproduction of ideas and cultures) is combined with the Gravesian ideas then there are reasonable grounds that these Gravesian value systems are some form of meme-complexes. This combination

could then be used as a template for understanding the memetic building blocks of change and culture. The work of Dennett (1991), Miller (2000) and Distin (2005) would help to develop these arguments further, putting Graves' ideas into the current human consciousness and memetic debates. Graves' ideas are unique in understanding culture in that they include change as a core part of culture. Preferences for change can be argued to also be pathways in the mind and therefore filters about how change occurs in individuals.

The purpose of this research was to look at the role of the individual in organisational culture by *revisiting* the work of Professor Clare W Graves. This research has inferred from the case studies that the Gravesian framework is best used as part of a research process. When combined with other management tools and techniques then it is a useful integrating template for individual and organisational development. The UWC case supported this with the Gravesian framework becoming part of its contract tendering process.

The use of an adapted action research method allowed testing Graves' framework in a business in helping the understanding of UWC problem of the effect of culture and behaviours on commercial performance. The triangulation process tested in the Oracle pilot learning study and refined in the UWC study allowed data to be looked at from different perspectives. The different perspectives were used not to confirm each other's findings but to reveal the gaps between the individual, the groups and the espoused group using the Gravesian framework as the integrating theme.

"As long as a theory only has academic interest, there is room for discussion and differing opinions without harm being done. But if the theory is put into practice, for which r/k-theory⁵ [read Graves' framework] is highly suited, then the consequences of the theoretical errors may be quite serious. What if, for example, the theory is used in an international peacemaking effort, and there is an error in the theory? On the other hand, you may say that the risk of unfortunate decisions is much higher if you have no theory at all." (Fog, 1999, p. 259)

⁵ r/k-theory - r-selection, r is the mathematical symbol for the rate of reproduction. K-selection is the opposite of r. K is the mathematical symbol for carrying capacity. Fog used these to mean in cultural selection to become cultural r- and k-selection. (Fog, 1999, p. 88 and 91)

There are positives and negatives to the use of any theory and this research has tried to mitigate these with the action research methods. However as a heuristic learning journey the research has proved useful in adding another view of change and culture building blocks in understanding culture. However this is always viewed through the filters and interpretation of the researcher.

Research has moved on since Graves' perceptive ideas. Graves' meme-complexes could with further research address the comments of Dennett (Fog, 1999, p. 43 referring to Dennett, 1995) that "Dennett does not even consider it [memetics] a science. This is because it lacks reliable formalizations, quantifiable results and testable hypotheses, but he understands the insights it gives."

Fog (1999, p. 43) writing about memes, referring to Hull (1982) and Benzone (1996) says "the products of cultural evolution or conceptual evolution cannot be systematized into distinct classes and it is impossible to make a strict evolutionary taxonomy of cultures". This research argues that Graves (1977) has produced a helpful method for looking at the memes involved in culture and change.

At the start of this research the Gravesian framework was just another model or useful metaphor. Through this research and learning, what was a theoretical framework has been argued to have practical applications. It has helped with understanding of the individual in the pilot study, in understanding the different cultures for UWC's and introducing the framework into the tendering process. Then in understanding how 'hidden' preferences in managers and groups produce 'gaps' between the individual and espoused values and change.

However well-chosen, management measures and tools are based on the espoused values of the organisation and are interpreted by the 'hidden' value systems of the individual. Beck (2002c, 2005) in his training says that, when visiting organisations, he looks at the management bookshelf. The books can then be reorganised with a shelf for each of Graves' value systems. The following are examples. The tribal way (BO) would contain books on team building rituals and ceremonies. The individual way (CP) would contain books on creativity and 'How I did it'. The true way (DQ) would contain books on process, quality and systems. The commercial way (ER) would contain books on marketing and how to win. The people way (FS) would contain the human resources books on for instance emotional intelligence (Goleman, 1996). Beck (2005) argues the quantity of books on each shelf would reflect the prevailing management values

thinking, which currently in the Western worlds are the true (DQ) and commercial (ER) ways.

There are growing signs from this research that the systemic way (GT) is increasing from the Beck and Cowan (1996), less than two per cent to a current five per cent⁶ from articles published in the trade and public media. The culture of the 1990s is beginning to change. A retrospective article in New Zealand Management (2004) explains that underlying [Hidden] values were misread in that awards were given to individuals considered to be beacons of management excellent. However these "turned out to have feet of clay" (p. 96) with their organisations going into receivership or being investigated and convicted for fraud, just as in the Enron case (Curver, 2002).

In the same edition Auckland University of Technology awards for Business Ethics shows an emerging climate change. A good example is from the purpose of Untouched World a company finalist for an award. (New Zealand Management, 2004, p. 49). Their purpose was "through fashion to lead the way in what is possible for people and the planet." This is perhaps a 'vital sign' of the people way (FS) emerging into the systemic way (GT). Unfortunately it could be hiding in the people way as a thin veneer over the commercial way (ER). The Gravesian framework allows organisations to define what so far have been intuitive and open discussions on what is the basis for this intuition. It is a model that can be used prescriptively, but its real strength lies by being open and inclusive.

From Chapter One, understanding cultural diversity is important since organisations try to survive in a competitive global commercial climate. In the Western or first world countries the shortage of skilled workers, coupled with an ageing population, makes it necessary to employ skilled individuals from different and often alien cultures. However they need to be able to take advantage of the current experience and knowledge of existing individuals. This research proposes for consideration the Gravesian framework as just one tool in the role of understanding the individual in organisational culture.

⁶ From the spiral dynamics global test database taking out people who were on Spiral Dynamics training courses and looking at individuals from business culture projects with no interest in SD.

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Glossary of Terms

Term	Definition
1 st Order.	A preference for the way a person likes change to happen. 1 st order is incremental change, doing more of the same but better. (Beck and Cowan, 1996).
2 nd Order.	A preference for the way a person likes change to happen. 2 nd order is step or revolutionary change, something new. (Beck and Cowan, 1996).
AMP2, AMP3 and AMP4.	Name given for UK Government investment in the water industry infrastructure over 5 years – AMP4 started in 2005.
Alpha.	A Beck and Cowan (1996) state of change. The contentment that a person has with how they are living today.
AN.	A Gravesian value system for the basic survival by instinct which was at its height about 100,000 years ago.
Arrested.	A term used by Beck and Cowan (1996) to suggest a person who has reached equilibrium in their life conditions and has no incentive to develop brain capacities; however, they can develop further if the desire is there.
Autopoiesis.	Word coined by Maturana and Varela (1980), used in biological and cognitive systems. The way the 'bits and pieces' of a system interact with one another and the relationship between them. For example, the relationship between memes, meme complexes and their relationship to meta-memes. (Dictionary of the Social Sciences, 1/1/2002) Autopoiesis is a key term in Niklas Luhmann's theory of social subsystems. Autopoiesis refers to the self-contained and self-moving nature of subsystems (such as law, economics, or even intimacy).
Beige.	See value system AN

Beta.	A recognition that something needs to change in a person's life although the person may not know exactly what it is. (Beck and Cowan, 1996).
Blue.	See value system DQ
BO.	Gravesian Value System based on living as a tribe or clan. At its height about 40,000 years ago
BPSS.	The basis for Graves' (1977) framework. Building blocks of culture within the individual as a biological, psychological, social and systems (BPSS) model.
Building Blocks of Culture	Building blocks of culture or cultural building blocks is a device or frame that are the "underlying structures or organizing principles that bind and give coherence to diverse arrays of symbols and idea elements that make up . . . [culture and give] packages of meaning" (Creed <i>et al.</i> , 2002 p481) in Ghaziani, A and Ventresca, M J. (2005 p534).
Chaos.	A preferred type of change in which a person prefers chaos over an orderly existence. (Beck and Cowan, 1996).
Closed.	A Term used by Beck and Cowan (1996) to mean a person who has a closed mind to anything that is external to their way of thinking. This state is usually only found when brain damage has occurred.
Core-values.	Another name for Gravesian value systems and basic assumptions based on value and beliefs.
CP.	A Gravesian value system based on individualism and creativity. It was at its height during the era of Empires and Kings about 10,000 years ago.
Critical mass.	See Tipping point. Gladwell (2000).
Delta.	The energy to make change that occurs once the barriers to change have been overcome. (Beck and Cowan, 1996).
DQ.	Gravesian value system based on rules and regulations. At its height during the eras of nationalism, religion and science about 4,000 years ago. Still important but on the decline in the Western world.

Epistemological.	A philosophical method of understanding knowledge by the use of methods and validity, to distinguish belief from opinion.
ER.	A Gravesian value system of success and exploitation. At its height during the era of the industrial revolution about 1,500 years ago. Still important but starting to decline in the Western world.
Frame or Framework	"Like a window, we see the world through frames that determine our perspective while limiting our view to only a part of a complex world around us" (Creed et al., 2002 p36).
Flex (flow).	The energy needed to change. (Beck and Cowan, 1996). This is a mental state that a person becomes fully immersed in what they are doing. In the state a person understands clear goals, has high-level concentration, actions and awareness become one, time is distorted, there is immediate feedback, the person has control over events and feels rewarded. Based on the work of psychologist Mihaly Csikszentmihalyi 1990.
FS.	A Gravesian value system of concern for people and the environment. Started about 110 years ago and still at it height. This has not reached its peak in the Western world.
Gamma.	Frustration with the current way of living of working. This can be a barrier to change. (Beck and Cowan, 1996).
Genes.	Shortened from of genetic code, the codes within living cells that carry individual human characteristics based on DNA and RNA.
Green.	See values systems FS
GT.	A Gravesian value system emerging as a way of looking at whole systems. This started about 80 years ago and covers about 5% of the Western population. Graves suggested that this is a more complex form of the AN survival value system.
Heterogeneity.	The use of 'ad hoc', diverse and self-forming teams across departments and disciplines

Heuristics.	Allowing a person to learn for themselves by rules which are loosely defined (OED, 2001). A complex brain learning system that can deliver intuitive solutions to complex problems. Covered in Chapter Five.
Holon.	"Holon" means whole parts of something that make a whole. Used by Wilber (2000, p40) to overcome the overuse of the word holistic.
HU.	A Gravesian value system that is just starting to emerge and has been in humankind's consciousness for about the last 30 years. What it is and how it can be measured is open to debate and Graves (1977) suggested that this is a more complex form of BO tribal on a planetary basis.
Life conditions.	The external circumstances that affect our daily lives and influence our behaviours and ways of thinking.
Lineage.	"[A]n entity that persists indefinitely through time either in the same or an altered state as a result of replication." (Hull 1988, p409). (From Wilkins 1998)
Memes.	Units of culture which can replicate from an individual or group to other individuals or groups. The word was coined by Dawkins (1976) as an analogy for a social gene.
Meme complexes.	Used by Fog (1999) to illustrate how memes can form into groups. These groups have rules of attraction. In this research these groups could be considered a meta-meme.
Memetic Individual.	A competent member of a memetic cultural lineage, developed by the lineages' professional or cultural properties to create a memetic profile within the human (biological/neurological) individual organism.
Meta-memes.	Term used by Beck and Cowan (1996) to describe the currently identified eight 'pathways in the mind' of the Gravesian concept.
Memetic Profile.	The array of phemes that constitutes a memetic individual. Wilkins (1998).
vMemes.	Term used by Beck and Cowan (1996) to describe Graves eight pathways as v=Value memes.

Mindset.	The fixed set of attitudes held by an individual (OED, 2001). These in Gravesian terms can be Open, Arrested or Closed states.
Nature/Nurture.	The continuing debate about whether humans are born with certain traits and characteristics or that we are a 'clean slate' and with the proper care and education we can develop traits and characteristics. Nurture believes all humans are born with the same potential. Nature believes all humans are a product of their genetic inheritance.
New Alpha.	A desired future way of living. The stronger this change value the clearer the desired change will be. (Beck and Cowan, 1996).
Mnemone/Mnemonically.	Campbell's (1974) term for a conceptual replicator, roughly equivalent to a meme (Wilkins 1998).
Open.	Term used by Beck and Cowan (1996) to identify individuals who are receptive and open to change and self-development.
Order.	A person's preference for change in an orderly way. (Beck and Cowan, 1996).
Orange.	See value system ER
Pathways in the Mind.	This research's descriptive name for the Gravesian values systems which are also meta-memes.
Phenomenological interpretist	The study of things as they are perceived or as they are, based on the conscious experience of the researcher and interpreted through the researchers filters of values, beliefs, basic assumptions and artefacts.
Red.	See value system CP
r/k-theory.	r-selection, r is the mathematical symbol for the rate of reproduction. K-selection is the opposite of r. K is the mathematical symbol for carrying capacity. Fog uses these symbols to mean, in cultural selection, to become cultural r- and k-selection. (Fog, 1999, p88 and 91)
Sense-making.	An individual develops a mental model to make sense of information. For example, to be able to make sense of senior management's decision making.

Social 'DNA'.	A metaphor to illustrate that meta-memes, vMemos and meme complexes reflect the underlying norms and values of a society's culture.
Superorganism.	A group of organisms (humans) functioning as a social unit for example an organisation.
Tachistoscopic.	In this research's context the use of words and images flashed before a subject's eyes and the reaction times to these images and words is recorded. This measures the subconscious reaction without allowing time for interpretation. Used by Graves (1977) as part of his method to show his value systems.
Taxonomy.	A scheme of classification – for example, is Graves' meta-memetic structure a way of classifying memes?
Template.	"We use 'Template' metaphorically to describe an adjustable overlay, an expanding and contracting map, and a graphic image for the flow of organisational energy, relationships among processes, decision time-lines and work-streams. Templates are designed and shaped by the vMeme ¹ [core-values] in our psychological 'DNA' and sketches in the parameters of our real worlds". (Beck and Cowan, 1996, p. 172)
Tipping point.	A tipping is when a critical mass of people adopt a way of thinking or living so that it spreads throughout the general population and becomes a norm. Gladwell (2000)
Transdisciplinarity.	"Problem solving involves the integration of different skills in a 'framework of action.'" MacLean et al., 2002, p. 191 quoting Gibbons et al., 1994. p.4
Turquoise.	See value system HU
Vital signs.	In the context of this research, 'vital signs' are indicators of effectiveness of management interventions or give an indication of problems. These indicators are not always the most obvious metrics but can be intuitively based.

¹ vMeme = meta-meme are both Beck and Cowan's (1996) term. This research prefers the term meme-complex, meta-meme or core-values. Basic assumptions (Schein, 1987) can be argued as meta-memes.

Appendix 1 - Chart for Self-interpretation of Form A and Values Test (VT)

Table A1.0 VALUE SYSTEMS - Profiling Global People Practical Application						
Currents Of Change	Key Description	Conditions / Problems	Operating Systems	Learning Styles	Management Systems	Motivational Hot Buttons
BO Purple Mystical spirits Safe nests Powerful chiefs	Kin spirits Animistic / Tribalistic "Sacrifice self for chief/ancestors ways"	Threatening world of many spirit beings and mysterious forces	Rely on chief, group or magic to find safety and security for the people	Classical - paternalistic teacher; step-by-step sequences, rituals, and routines; small group nests; use of magic and fantasy	TRIBAL - Strong, caring "chiefs" who reward groups (not individuals), assure safety and uphold traditional ways	Ritual ; respect for powerful figures; appeals to safety, magic and mysticism; tradition and custom; home and hearth
CP Red Power impulses Immediate pleasure Spontaneous & colourful	Power Gods Egocentric / Exploitive "Express self impulsively, forget others"	Power-driven in a hostile world where strength is key to staying alive	Be tough and depend on the self to fend off the aggression of others	Conditioned - immediate rewards for learning tasks; powerful teacher who allows for toughness; favours on-the-job learning; rejects rigid structures	AUTOCRATIC - Tough, straight-shooting boss who gives quick payoffs, respects strength and allows freedom up to a point.	Immediate payoffs; macho appeals and challenges; heroic images; more clout; looking good and getting respect
DQ Blue One right way Purpose in causes Guilt-based sacrifice	Truth Force Absolutistic / Saintly "Sacrifice self as higher authority says"	Need for purpose in life and reason for death to bring stability / order	Find a truth that offers answers delivered through a chain of command	Avoidant - indoctrination from rightful authority; punishment for errors; moralistic direction; possibility of deferred rewards in future	BUREAUCRATIC - Hierarchy with categories for managers to maintain order, set uniform standards and reward dutiful performance equitably	Duty, honour, country; righteousness; being prepared; sacrifice and discipline; rewards in the afterlife
ER Orange Success-driven Goal-orientated Material gain	Strive Drive Materialistic / Achiever "Express self to reach goals and live well"	Sense possibility of movement to do better than others and to win	Entrepreneurism and plans to reach goals to better the self and some others	Expectancy - trial-and-error experiments where success brings anticipated gains; competitive gaming with high-tech, high status tools	ECONOMIC - Competitive and goal-oriented with perks for "winners" and rewards measured by production, political savvy, or gamesmanship skills	Opportunity for success; progress and achievement; competitive advantage; bigger and better, new and improved
FS Green Consensus-seeking Everybody's equal Everything's relative	Human Bond Relativistic / Social "Sacrifice self for all to prosper in unity"	Use collective actions to reach societal goals and meet individual needs	Join others to build consensus and share feelings to make things better now	Observational - explore feelings and learn by watching others' actions; share here-and-now experiences to enhance interpersonal skills	SOCIAL - Sharing circle of equals where all pull for the group while developing their human potential and heightening awareness	Affiliation and love; human rights and dignity for all; more participation; equality and liberation of oppressed
GT Yellow Big picture views integrative structures Natural chaos & change	Flex Flow Systemic / Integrative "Express self to be free and do no harm"	Finds other systems lack answers for living in a highly complex world	Live according to internal principles in search for most functional way to be	Informational - self-directed access to knowledge and materials; individual develops without compulsiveness or fear; eclectic and diverse interests	SYSTEMIC - Integrated competency-based network where methods adapt to the people and functions at hand, then quickly change again as needed	Freedom to be as one chooses; self-worth and competency; big-picture access to systems and information
HU Turquoise Planetary concerns Synergy of life Ordered world	Global View Global Renewalist "Sacrifice self / others as Earth may require"	Knows the Earth needs a co-ordinated approach to new global problems	Co-operate with world-wide networks to address issues impacting all life forms	Experiential - interaction with whole-earth networks to expand awareness and explore diverse ways of being and thinking; intuitive learning	GLOBALIST - Holistic blend of insights from anywhere, anytime coming together for purposes impacting the Global Village and all life forms	Unification across races and nations for global solutions; multi-dimensional thinking; survival of life on Earth

Table A1.1 KEY CONCEPTS Values Test Key Concepts courtesy Dr Don Beck and of www.onlinepeoplescan.com

A. *These Value Systems describe types in rather than types of people.*

The Earth contains roughly 6 billion different types of people, but we share only a few basic Value Systems. These are mixed in different proportions within each one of us. Their relative strength and complexion vary in us because our lives are unique. They are expressed in many, many different ways through our individual and collective actions.

B. *None of the Value Systems is inherently better or worse than any other.* Each System has developed in response to a specific set of problems. Each is calibrated to address those conditions. They differ in levels of complexity, capacity to deal with diverse situations, and degrees of personal commitment. They do not reflect intelligence, or character, or temperament, as those dimensions run across world views.

C. *The Value Systems describe how a person thinks, not what is valued.* People value different things because they think in different ways. Like seven different containers, each Value System holds a particular structure for thinking; each is a decision-making system for choosing what matters in life. The contents can be diverse, even seeming contradictory. For example, the what contents of the DQ (Right Way) Value System could be politically on the left or right wing. Religious content might be Islamic fundamentalist or committed Atheist. The economic belief might be devoted Marxist or Capitalist. The how of the DQ Value System is absolutistic, dyed-in-the-wool, and all-or-nothing; the what depends on the person.

D. *The Value Systems are like living organisms that can ebb and flow as our existence conditions change.*

These are not rigid, frozen, or locked-in mindsets programmed at birth or at any other time in our lives. The Value Systems mirror the conditions we confront as we deal with living. If things get tougher, we may shift back to a previous Value System to try to solve those problems. If things get more complex than our coping repertoires can handle, we may add a new Value System. People are capable of change, and there is scientific evidence the human brain can "rewire" itself to activate more Value Systems as new conditions of existence emerge.

E. *Value System Profiles can consist of an infinite number of combinations and patterns.*

We are not single types of personalities, nor are we a little bit of everything. Individual Profiles may display strength in a particular Value System, be dominated by a couple, or be expressed in a mixture of several interweaving world views. They reflect both the uniqueness of individuals and the threads that bind us together. The seven themes reflected in this instrument are played out through beliefs, feelings, and actions in the melodies of human living. Some are harmonious, some are discordant, but all are special.

F. *Everyone is motivated, but we are not motivated by the same things.* The question is not "How do you motivate people?" Instead, it is "How do you relate what you are doing to their natural motivational flows?" Each Value System has a particular set of driving forces that stimulate it to action.

Appendix 2 - Chart for Self-interpretation of Change State Indicators (CSI)

Table A2.0 CSI Test guide courtesy of www.onlinepeoplescan.com
Glossary of Terms - Change State Indicator
<p>Introduction: CSI displays your relative concentration of energy within the flow of change. Your scores will reflect composite summaries, since you may be in different change states in different areas of your life. You might be in Alpha in your marriage, trapped in Gamma at work, and entering Beta at church. You might belong to a company that is experiencing a Delta of growth after serious crisis. Your community might be in a Beta regressive search for reassurances from the past.</p>
<p>ALPHA</p> <p>Alpha is a condition where individual, organisations, or cultural Value Systems successfully address the problems of existence. An individual "has it together" in the real world. The company is doing well in its "niche". Society is meeting the needs of its citizens in an effective way. The environment is relatively stable. Organisations are satisfied as they are. The culture has created the forms and structures that match the problems. In a symbolic sense, "God's in His heaven and all's right with the world".</p>
<p>BETA</p> <p>Beta arises with doubts. Something's wrong, but what is it? The old ways of living no longer work; the boat rocks. Successful living may have introduced new and unforeseen elements into the environment. Maybe nature has played its tricks on us. Maybe we're just bored because we are no longer challenged – we've got it too easy.</p> <p>We may have personal problems; companies may show evidence of decline; communities might experience stress, conflict and discord. We still don't understand what's happening. So, what do we do?</p> <p>First, we try to do "more of the same" because we believe nothing is wrong with The System, only its implementation or enforcement. We "hunker down", "rededicate our lives", or "get with the program".</p> <p>Second, we look for ways to reform, fine-tune, or adjust The System while keeping its main features. (See below: Change 1st Order) We experience a nostalgia for "the good ole' days" when everything seemed to work. (We forget why they didn't).</p> <p>We recognise that The System is only A System; there are others. A window opens for a possible transition, through the Evolutionary Option into a New Alpha. (See Change 2nd Order)</p>

Table A2.0 (Cont) - CSI Test guide courtesy of www.onlinepeoplescan.com.

Glossary of Terms - Change State Indicator

GAMMA

Gamma is a time of growing frustration, feelings of being trapped, and an entire array of antisocial, self-destructive and acting out behaviours. The anger comes from (a) knowing what's wrong and why; (b) understanding what will relieve the tension and create a **New Alpha**; but (3) fearing that powerful and often punitive barriers stand in the way. These barriers can be internal to the person or group, and/or imposed by external forces seemingly out of their control.

Gamma may lead to violence, destructiveness, armed rebellion, and revolt against the *status quo*. This becomes the **Revolutionary Option** as individuals or movements literally or symbolically throw themselves against the barriers. In milder cases, it's a time of wanting to escape, run away, break out, and be free of the bonds that entrap us. **Gamma** is often seen in people experiencing the panic of a mid-life crises or when going through a major personal trauma where the future looks hopeless.

Since forward movement seems blocked at **Gamma**, we may experiment with a *Regressive Search*. We explore old ways of thinking, dust-off solutions, revive the "tried-and-true", and believe the "old-time religion was good enough for my father and it's good enough for me".

DELTA

Delta is a period of excitement and rapid change where the barriers are overcome and previous restraints drop away. People take charge of their own destinies. The past no longer controls the present.

The **Delta** energy surge is often raw, enthusiastic, and unrestrained. Old ways of living give way to fresh solutions as unexpectedly different structures begin to emerge in a swirl of activity. This exuberance ignites creativity, resourcefulness, and dedication to the task of designing a new age or person.

"Eureka!" and "Ah, ha!" are heard everywhere as the thrill of liberation mobilizes people in search of the new utopia. **Delta** often brings stress into relationships and may even trigger negative reactions from those left behind. Too much **Delta**, too soon, too emotionally displayed, can produce a serious backlash that actually reinforces the old barriers.

NEW ALPHA

The **New Alpha** is the consolidation of the ideas and coping systems that emerged during the **Delta** state into new systems, paradigms, and arrangements. The individual returns to a steady state as the world is once again in sync. The organization is congruent to its marketplace or within its professional niche. Society itself appears to be in stride with its environment. Many come to believe the ultimate has been reached; the world will stay this way forever. Over the horizon, around the corner, or up the road lies a new **Beta**.

Table A2.0 (Cont)

REVOLUTIONARY OPTION	FLEX	EVOLUTIONARY OPTION
Demands Fundamental Change in Structures/Systems Unrelenting "All or Nothing" Assault on Barriers/Obstacles Defends Actions by Finding Noble Purpose in "The Cause"	HIGH SCORE indicates readiness to accept change, to move away from what was and embrace whatever is next. LOW SCORE reflects a preference for holding on to what you feel is reliable, stable, important and necessary.	Previous Problems Solved Potential in the Brain Access to New System New Models and Patterns Available Resources Consolidation and Support

Table A2.0 (Cont)

CHANGE 1 ST ORDER	CHANGE 2 ND ORDER
Change occurs within a system, which itself, remains unchanged. Restore balance; improve within givens Rooted in past decisions Renew – Refurbish – Reform Work harder and smarter <i>Basic Theme: MORE OF THE SAME</i>	Mega-system shift to new paradigms, new assumptions, and new structures. Generated by outside events / influences Driven by perceived future Puzzling – Unexpected – Paradoxical New wine, new wineskins <i>Basic Theme: REFRAMING</i>

Table A2.0 (Cont)

CHAOS	ORDER
Stimulated by turmoil, variety, uncertainty, challenges, novelty, unpredictability, surprises, and the need to adapt to sudden changes. Thrives on shifting patterns, air-cleansing storms and constant motion.	Relies on structure, dependability, logical sequences, clear boundaries, continuity and patterned detail in providing order and stability. Preference is for predictability. Looks for the prevailing order in everything.

Appendix 3 - Questionnaires for Form A, Values Test, Change State Indicator, ProcessSCAN.

1. FORM A

INTRODUCTION

This test of Value Systems is based upon the pioneering studies of the late Clare W. Graves, Professor Emeritus Psychology, Union College, New York. It is part of a suite of globally available assessment tests that are available through the Spiral Dynamics Group Inc. Texas. The seven Value Systems measured here are elements of Graves' Levels of Psychological Existence Theory. They reflect different worldview, belief structures and operating systems.

LENGTH OF TEST

This test consists of 40 questions and takes between 20-30 minutes to complete

COMPLETING THE TEST

For each question there are a number of following statements describing attitudes or personal characteristics of people. From these statements select ONE statement that is most like you and ONE statement that is least like you. One statement cannot be both most like you and least like you.

1.

Most like me Least like me

- Leaders look out for their people and I trust my leader to care for me.
- It feels good to reach out and help other people cope with life.
- Don't just tell me "it's the rule" I've got to understand the reason
- When I play a game - I play to win; otherwise, why bother?

2.

Most like me Least like me

- I would willingly sacrifice myself for the good of my group
- It's people who really count - not materialistic gain
- Life's a game and I'm in it to win and move ahead
- The basic Truths have existed from the beginning and will always be the same

3.

Most like me Least like me

- Morally speaking, most things are clearly either right or wrong
- The world is a very complex process without any easy answers
- Love and tolerance are more important than dogma or material gain
- I intend to get somewhere in life, and will pay almost any price to get there

4.

Most like me Least like me

- When the "spirits" get angry, horrible things can happen to us
- I don't think one should live just for the moment; it's irresponsible
- I think of myself as a "people" person first and foremost
- I admire functionality and competency above authority, status or position

5.

Most like me Least like me

- Diversity is stimulating and I seek out varied experiences
- The basic Truths that have existed from the beginning and will always be the same
- It's a dog-eat-dog kind of world no matter what anybody says
- It feels good to reach out and help other people cope with life

6.

Most like me Least like me

- Whatever turns you on - do it - to hell with others
- If everyone did what was right and proper, we'd all get along a lot better
- There's always one best way and if we want to progress we'll find it
- I wish the world weren't so scary, but when I'm with my own people I feel safer

7.

Most like me Least like me

- I love to meet the challenge of competition and prove myself
- The work I do must be relevant to me; money is not in itself that important
- I would willingly sacrifice myself for the good of my group
- You've got to be strong and tough or the world will eat you alive!

8.

Most like me Least like me

- The only way I survive in this world is to band together with others like myself
- The law's the law and, whether fair or not, it must be followed
- I make my own decisions in life and even if they differ from what most people think, I'll accept the consequences
- It's stupid to save a lot of money because you can't take it with you

9.

Most like me Least like me

- I choose to judge myself and don't need to ask the opinions of others
- I like to negotiate and get the best deal possible
- You've got to be strong and tough or the world will eat you alive!
- I want to invest my life in people - not possessions or power

10.

Most like me Least like me

- Doing the right thing will eventually bring rewards
- I don't let anyone tell me what I can or can't do
- I enjoy matching my wits and resources against others'
- I'm usually one who can see the "big picture" and understand the long-term consequences of decisions.

11.

Most like me Least like me

- I wish the world weren't so scary, but when I'm with my own people I feel safer
- I wish people would get off my back
- I feel guilty when I don't follow the rules
- If you really understand a person, you can't dislike him/her

12.

Most like me Least like me

- If you don't look out for yourself, no one else will
- Doing the right thing will eventually bring rewards
- I take advantage of every opportunity that comes my way
- Everyone's beautiful in his/her own way

13.

Most like me Least like me

- Each individual must contribute to the betterment of humankind
- My good luck charms help protect me
- Love 'em and leave 'em - that's my motto!
- The world's there for the taking - if we are willing to take the risks

14.

Most like me Least like me

- I make my own decisions in life and even if they differ from what most people think, I'll accept the consequences
- I can't imagine life alone without my own people or the person I look up to
- If you don't look out for yourself, nobody else will
- If I trust a person, I'm not afraid to tell him/her who I really am

15.

Most like me Least like me

- "Work now - play later" is the safest motto for life
- It's stimulating to be with people who think differently than I do
- I like a little competition; it makes life more lively
- Leaders look out for their people and I trust my own leader to care for me

16.

Most like me Least like me

- The past is awe-inspiring
- I seek inner peace through harmony with others
- I function best in an open and flexible environment
- I've learned to "play the game" and expect to be successful

17.

Most like me Least like me

- I often feel helpless in a world that's often threatening and scary to me
- Each life should contribute to the well being of humanity
- We can conquer our problems and control our own destiny
- Doing the right thing will eventually bring rewards

18.

Most like me Least like me

- I often feel guilty when I don't do what's right
- I respond more to competency than authority or position
- Feelings and emotions and their expression are important to me
- I pride myself in taking advantage of my opportunities

19.

Most like me Least like me

- I feel the safest when I'm with my own people
- I expect loyalty and dedication to be recognized
- We should be patient with people and understand why they do things
- I respond much more to reasons than to rules themselves

20.

Most like me Least like me

- I need more variety and diversity than most people I know
- I always try to do my duty
- Sometimes it's fun to rock the boat just for the hell of it
- Everyone should have an equal opportunity to develop to the fullest

21.

Most like me Least like me

- I don't blame anyone for grabbing everything he/she can
- Children who are taught discipline will be good citizens
- The world is full of opportunities for those who are ambitious
- My life is filled with sacred objects that I rely on to protect me

22.

Most like me Least like me

- I don't mind a little "wheeling and dealing."
- Personal freedom and autonomy are bottom-line with me
- The day-to-day problems of living almost overwhelm me sometimes
- You only live once so you should eat, drink, and be merry

23.

Most like me Least like me

- I sometimes feel the spirits are controlling my life
- The well-disciplined life is a happy and stable life
- I am more a non-conformist than an anti-conformist
- I usually do what I damn well please

24.

Most like me Least like me

- I believe that a human is human - neither inherently good nor bad
- I enjoy matching my wits and resources against others
- I get a real thrill out of taking chances that people notice
- If we truly put people first, our other problems will vanish and we'll find peace

25.

Most like me Least like me

- Even though I don't like some rules I still must accept them and live by them
- Everybody has his or her price and can be bought
- Winning is a high priority with me and I like to compete
- I pretty much "hear my own drummer" in dealing with life

26.

Most like me Least like me

- I usually need for someone to show me what to do, and when
- I call the shots and let the chips fall where they may
- We should build on the traditions we have inherited from our predecessors
- I wish every person could have all they wanted in life

27.

Most like me Least like me

- Lots of people see me as "flashy" because of what I do and how I do it
- We should strive to preserve our customs and traditions
- I have strong needs to achieve and progress
- Life is a beautiful experience when we trust and help each other

28.

Most like me Least like me

- I prefer work or activities that are important to human welfare
- My life has been full of heroes that I have honoured and respected
- People will try to rip you off if given half a chance
- I like to take the initiative and make things happen

29.

Most like me Least like me

- I enjoy viewing life from a broad perspective - observing the continuous flow of people and events
- Sometimes living scares me
- People will try to rip you off if given half a chance
- Each individual develops in a unique and beautiful way

30.

Most like me Least like me

- I usually need for someone to show me what to do and when to do it
- I make decisions based on what is right and logical and proper
- Learning the world's secrets helps us enrich our lifestyles
- What I value is more self-determined than dictated by society's rules

31. I am a person who is ...

Most like me Least like me

- a real free spirit - self-reliant, flexible, and looking for new experiences stable and responsible with firm convictions, beliefs and morals
- security-conscious, sometimes superstitious, very loyal to group/family/clan
- spunky, bold. sometimes abrasive, aggressive and seen as rather self-centered ambitious and progressive, with strong aspirations, initiative, and drive
- open and authentic, sensitive to feelings and people-oriented

32. I like a job that has ...

Most like me Least like me

- a lot of security with close group of co-workers like me
- a lot of action with a chance to make lots of cash - quick!
- a lot of stability with orderly work and rewards for loyalty and dependability
- a lot of opportunity for advancement, with pay based on merit and my performance
- a lot of responsiveness to human needs and relationships
- a lot of freedom to do things that interest me by my own standards

33. I can best be managed when I have ...

Most like me Least like me

- the power to influence my own destiny and challenges that test me
- a boss who calls the shots but doesn't hassle me or get on my back
- a management system that is fair, consistent, and sticks by the rules
- a supervisor who shows a personal interest in me and stays in charge
- an atmosphere that responds to the needs and feelings of everyone
- access to the information I need and the freedom to do a job my own way

34. I prefer to work for an organization that ...

Most like me Least like me

- is well organized, consistent, and rewards loyalty and dedication
- understands and accepts individual uniqueness without being judgmental
- offers action and adventure, pays me well, and leaves me alone
- considers the needs, feelings, and well being of both employees and customers
- creates a protective and secure "family" atmosphere for us employees
- provides avenues and incentives to climb the job ladder and get ahead

35. In terms of my view of religion ...

Most like me Least like me

- God controls man and the universe, but leaves it up to us to subdue and develop the world for our benefit
- there are strong and powerful gods who act upon me at their whims
- God rewards only those who are faithful and obey His will
- there are spirit beings all around me - in every rock, every tree, among the blades of grass
- there is a universal force that acts upon all things, but it is beyond the understanding of humankind, yet there it is and there it shall always be
- I rarely think about religion or gods except as the concept influences the thinking of those around me

36. Laws, rules, and regulations are ...

Most like me Least like me

- necessary, but we only make progress when we can bend them a bit
- absolutely essential in order to maintain stability, discipline and order
- generally designed to protect selfish interests and punish the rest of us
- functional guidelines that should encourage personal responsibility
- protective of those in trouble and tell the rest of us what's expected of us
- helpful if they benefit all people and are enforced in a humane manner

37. The best way for me to cope with life is to ...

Most like me Least like me

- attach myself to a person or group, which will take care of me
- be tough enough to take care of myself so I can get what I want
- hold to my beliefs and keep doing what's right in order to obtain the ultimate reward
- learn to negotiate with the world in order to enjoy life to its fullest
- seek peace with my inner being and the inner selves of others
- avoid being compulsive, regimented, or technologically dependent by accepting the inevitability of nature's way

38. Different people see life in different ways. To me, "life" is ...

Most like me Least like me

- an experience through which a person explores what it means to be human and becomes aware of the humanness of others
- somewhat scary and mysterious, but its a good feeling when I know I'm safe
- a synthesis of man, nature and events, resulting in an atmosphere of diversity and the inevitability of change
- like a jungle where the toughest survive and the most powerful dominate
- full of opportunities for those who are willing to take the risks necessary to advance themselves and achieve the good life
- an orderly place controlled by a set of basic laws and principles, which determine our destinies and show us the right way to act

39. To me, money is important because it ...

Most like me Least like me

- pays for the basic necessities that I must have to keep food and shelter
- lets me buy the things I want so I can feel like somebody
- provides me a decent standard of living today and security for the future
- allows me freedom to be myself and to do what I find interesting
- is a means whereby we can provide for the needs of ourselves and others
- demonstrates that I've been successful and deserve to enjoy life's good things

40. I make decisions based on ...

Most like me Least like me

- the impact of my decision on the well being of other people
- what is right and consistent with our standards and ways of living
- what's in it for me - now; if you don't, somebody else might rip you off
- what will pay off for me in terms of material gain and/or personal recognition
- what the signs and spirits indicate is best for me to do
- the effect on our total life system - and on man's basic freedom to be

2.0 VALUES TEST

INTRODUCTION

This test of Values Systems is based on the pioneering studies of the late Clare W. Graves, Professor Emeritus Psychology, Union College, New York. The seven Value Systems measured here are elements of Graves' Levels of Psychological Existence Theory. They reflect different world views, belief structures, and operating systems. It is part of a suite of globally available assessment tests that are available through the Spiral Dynamics Group Inc. Texas.

LENGTH OF TEST

There are a total of 20 questions to complete with each question comprising of 7 statements. The test takes between 10-20 minutes to complete.

COMPLETING THE TEST

For each of the 20 questions, distribute 15 points between each statement. You may break the points in any way you desire so that more points are allocated to the statements that describe you the best - while fewer points are allocated to the statements that describe you the least.

1. I Like A Job Where I Like A Job Where...

- Loyalty earns greater job security and we are treated fairly []
- I make lots of cash, people stay off my back, and I can do what I want []
- Our primary concern is the health of the planetary living system []
- Our circle is strong as we work together and sacrifice for each other []
- Successful performance advances my career and I can get ahead []
- Human feelings and needs come first as we all share equally in a caring community []
- Systemic and long-range thinking count more than people, money, traditions, or quick fixes []

2. These Words And Phrases Describe Me Best ...

- A world citizen; interested in a grand synthesis of all energy, matter, and life in the universe []
- A person who loves power; lives for the moment; likes to be respected for feats of strength, intelligence, or conquest []
- A kindred spirit; clannish and superstitious; senses the spirits in nature, objects, animals []
- A humanist egalitarian; believes every human being should have an equal opportunity to develop []
- A competitor who values material possessions and technology; thinks pragmatically; pursues success []
- A person with strong moral convictions; patriotic; caught up in culture pride; a true believer []
- A non-materialist; non-compulsive; internally-driven; variety-seeking; accepts life as what it is []

3. I Prefer An Organisation That ...

- Treats everybody by the same rules and is committed to going by the book []
- Lets me cream what I can off the top and gives me the respect I deserve []
- Adapts to its natural environments so the organisational form is determined by its current functions []
- Connects to a global network of information and makes decisions based on nature's ordered systems []
- Preserves our traditional customs, observes seasonal celebrations, and protects our close-knit groups []
- Tends to the inner and outer health of all of its people so they can become fully human []
- Thinks strategically and acts competitively to be successful in its niche []

4. Pay And Rewards Should Be Determined By ...

- What people like me need to keep the wolf away from the door []
- Individual contributions based on knowledge, levels of competency, and degree of importance to the function []
- What you're powerful and quick enough to get, since it's everybody for themselves in this dog-eat-dog world []
- The collective needs of the entire human community so they benefit everyone instead of the select few []
- Personal ambition and initiative, successful accomplishments, and the willingness to risk []
- What fosters the development of perspectives and programs that contribute to global survival []
- The need to maintain our standard of living, honour seniority and loyal service, and provide for rainy days ahead []

5. My Own Career Priorities Are Determined By ...

- Whatever will allow my work group to stay together like a family []
- What I have to do to get what I want without having to give in to anybody or conform to any system []
- What is just and proper, since my job and profession should reflect my rightful place in society []
- The goals I have set for myself in my pursuit of the good things in life []
- How I can dedicate myself on behalf of human causes that work to reduce hunger, poverty, racism, and violence []
- What I really want to be doing, now, even if it may mean charting a whole new course []
- A need to unite with other minds around the planet to work for a new global order []

6. The World Is ...

- Under the control of destiny and the direction of the Higher Power []
- Like a jungle where the strongest and most cunning must exploit to survive []
- An elegantly balance system of interlocking forces []
- A magical place alive with spirit beings where there's safety and security in tribal ways []
- A pool of unlimited possibilities and opportunities for those willing to take some risks []
- The human habitat in which we share the experiences of living []
- A chaotic organism driven by differences and change, but with no guarantees []

7. In An Ideal World ...

- We feel safe knowing the spirits of our ancestors watch over us []
- I've been heroic in conquest and my name will live forever []
- Righteousness triumphs over evil and the faithful receive their just rewards []
- I have achieved material success and enjoy the very finest this world has to offer []
- We all join hands and hearts to prosper equally in peace and togetherness []
- Our population matches the available natural resources, as each person learns to do more with less []
- All living things cohabit Earth in balance and harmony as part of the universal order []

8. Whenever I'm Criticised, It's Usually For Being ...

- Too rebellious and self-centred, a power-seeker who likes to rock the boat and gratify senses []
- Too ambitious and materialistic, a wheeler-dealer game-player who exploits others in an attempt to "win" []
- Too abstract and metaphysical, something of a spiritual wanderer caught up with planetary issues []
- Too sensitive and caring with people, a naive social worker type who is blind to the realities of life []
- Too rigid and judgmental, a person who is such a true believer life becomes narrow, restrictive, and unforgiving []
- Too superstitious and mystical, a person plagued by charms, spirits, fortune, and spells []
- Too aloof and detached, an individual who does his own thing, lacking self-sacrifice and commitment to others' good []

9. When Under Real Stress, I ...

- Rely on my faith and convictions to see me through adversity []
- Get down and fight even harder to survive in this world where "the toughest get the mostest". []
- Recognise why it's there and decide whether to live with it or remove it, even if it means a complete life-style change []
- Shift to another plane of consciousness to transcend the animalistic elements producing it []
- Do things to make fortune smile on me and go to where I feel safe []
- Manoeuvre strategically to influence both people and events to get back in control of the situation []
- Seek support and assistance from others to explore and deal with my feelings and fears []

10. My Deepest Beliefs And Values ...

- Come from the customs of my people and our ancestral folk ways []
- Are what I want them to be and its nobody's business but my own []
- Stand on the firm foundation of my faith and the One True Way []
- Grow from confidence that we have the power to shape tomorrow []
- Emerge from an acceptance of our need for interdependency and sharing []
- Reflect very personal views of what will work in a complex and changing world []
- Blend my energies with natural forces in the universe beyond time and space []

11. In My Job, It's Less Important That ...

- Loyalty earns greater job security and we are treated fairly []
- I make lots of cash, people stay off my back, and I can do what I want []
- Our primary concern is the health of the planetary living system []
- Our circle is strong as we work together and sacrifice for each other []
- Successful performance advances my career and I can get ahead []
- Human feelings and needs come first as we all share equally in a caring community []
- Systemic and long-range thinking count more than people, money, traditions, or quick fixes []

12. These Words And Phrases Do Not Describe Me ...

- A world citizen; interested in a grand synthesis of all energy, matter, and life in the universe []
- A person who loves power; lives for the moment; likes to be respected for feats of strength, intelligence, or conquest []
- A kindred spirit; clannish and superstitious; senses the spirits in nature, objects, animals []
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- A person with strong moral convictions; patriotic; caught up in culture pride; a true believer []
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13. I Don't Think It's Important For Me To Work For An Organisation That ...

- Treats everybody by the same rules and is committed to going by the book []
- Lets me cream what I can off the top and gives me the respect I deserve []
- Adapts to its natural environments so the organisational form is determined by its current functions []
- Connects to a global network of information and makes decisions based on nature's ordered systems []
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14. It's Less Important That Pay And Rewards Be Determined By ...

- What people like me need to keep the wolf away from the door []
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- What you're powerful and quick enough to get, since it's everybody for themselves in this dog-eat-dog world []
- The collective needs of the entire human community so they benefit everyone instead of the select few []
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- What fosters the development of perspectives and programs that contribute to global survival []
- The need to maintain our standard of living, honour seniority and loyal service, and provide for rainy days ahead []

15. My Own Career Priorities Are Least Determined By ...

- Whatever will allow my work group to stay together like a family []
- What I have to do to get what I want without having to give in to anybody or conform to any system []
- What is just and proper, since my job and profession should reflect my rightful place in society []
- The goals I have set for myself in my pursuit of the good things in life []
- How I can dedicate myself on behalf of human causes that work to reduce hunger, poverty racism, and violence, []
- What I really want to be doing, now, even if it may mean charting a whole new course []
- A need to unite with other minds around the planet to work for a new global order []

16. I Don't Share The View That The World Is ...

- Under the control of destiny and the direction of the Higher Power []
- Like a jungle where the strongest and most cunning must exploit to survive []
- An elegantly balance system of interlocking forces []
- A magical place alive with spirit beings where there's safety and security in tribal ways []
- A pool of unlimited possibilities and opportunities for those willing to take some risks []
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- A chaotic organism driven by differences and change, but with no guarantees []

17. In An Ideal World It's Less Important That ...

- We feel safe knowing the spirits of our ancestors watch over us []
- I've been heroic in conquest and my name will live forever []
- Righteousness triumphs over evil and the faithful receive their just rewards []
- I have achieved material success and enjoy the very finest this world has to offer []
- We all join hands and hearts to prosper equally in peace and togetherness []
- Our population matches the available natural resources, as each person learns to do more with less []
- All living things cohabit Earth in balance and harmony as part of the universal order []

18. Whenever I'm Criticised, It's Seldom For Being ...

- Too rebellious and self-centred, a power-seeker who likes to rock the boat and gratify senses []
- Too ambitious and materialistic, a wheeler-dealer game-player who exploits others in an attempt to "win" []
- Too abstract and metaphysical, something of a spiritual wanderer caught up with planetary issues []
- Too sensitive and caring with people, a naive social worker type who is blind to the realities of life []
- Too rigid and judgmental, a person who is such a true believer life becomes narrow, restrictive, and unforgiving []
- Too superstitious and mystical, a person plagued by charms, spirits, fortune, and spells []
- Too aloof and detached, an individual who does his own thing, lacking self-sacrifice and commitment to others' good []

19. When Under Real Stress I Rarely ...

- Rely on my faith and convictions to see me through adversity []
- Get down and fight even harder to survive in this world where "the toughest get the mostest". []
- Recognise why it's there and decide whether to live with it or remove it, even if it means a complete life-style change []
- Shift to another plane of consciousness to transcend the animalistic elements producing it []
- Do things to make fortune smile on me and go to where I feel safe []
- Manoeuvre strategically to influence both people and events to get back in control of the situation []
- Seek support and assistance from others to explore and deal with my feelings and fears []

20. Few of My Deepest Beliefs And Values ...

- Come from the customs of my people and our ancestral folk ways []
- Are what I want them to be and its nobody's business but my own []
- Stand on the firm foundation of my faith and the One True Way []
- Grow from confidence that we have the power to shape tomorrow []
- Emerge from an acceptance of our need for interdependency and sharing []
- Reflect very personal views of what will work in a complex and changing world []
- Blend my energies with natural forces in the universe beyond time and space []

3. CHANGE STATE INDICATOR

INTRODUCTION

The Change State Indicator (CSI) is based upon the pioneering studies of the late Clare W. Graves, Professor Emeritus Psychology, Union College, New York. It is part of a suite of globally available assessment tests that are available through the Spiral Dynamics Group Inc. Texas.

The CSI displays your relative concentration of energy within the flow of change. Your scores will reflect composite summaries, since you may be in different change states in different areas of your life.

LENGTH OF TEST

This test consists of 12 sections comprising of 31 statements and takes between 10-15 minutes to complete

COMPLETING THE TEST

In sections 1 to 5, distribute 15 points between each statement. You may break the points in any way you desire so that more points are allocated to the statements that describe you the best - while fewer points are allocated to the statements that describe you the least.

In sections 6 to 12, select one of the predefined responses (Repulses me, Not me, Sometimes me,

Basically me, Strongly me, Totally me) for each statement.

1. MY CURRENT STATE OF BEING CAN BEST BE DESCRIBED AS ...

- Contentment and satisfaction since I'm on top of my problems. []
- Rather shaky since things don't seem to be OK but I don't know why. []
- Extremely frustrated and angry because I'm blocked from doing what I know I can and should []
- Excited and hopeful now that the barriers and excuses no longer stand in my way. []
- Delighted and optimistic now that I've found fresh ways to deal with the new conditions in my life. []

2. CHANGE HAPPENS TO EVERYBODY. IN MY CASE ...

- Things are working out for me as they have been for some time. []
- My life is in some turmoil but I just can't get a handle on what the problems really are. []
- All hell is breaking loose in my life and there's not a damned thing I can do about it. []
- A huge burden has been lifted off of me and there's light at the end of the tunnel. []
- I feel as though I've discovered a new person in me and have been able to reconstruct my world. []

3. I PREFER CHANGE TO BE ...

- Only in the direction of improving what we already know and have. []
- A slow, gradual and cautious process that preserves our standards. []
- A sudden shift in our priorities and programs into a new dimension. []
- A quantum-leap where we replace the old wineskins with new ones, since the world is changing rapidly. []

4. PERSONALLY, I THRIVE ON ...

- Chaotic surprises, sudden turns and bumpy roads. []
- Order, consistency and continuity. []
- Living on a predictable and stable track. []
- Moving in swirling currents and through jagged edges. []

5. THE BEST WAY TO RESOLVE PROBLEMS IS TO ...

- Go back to basics and be certain to maintain the fundamentals. []
- Question everything in order to challenge the underlying assumptions. []
- Think logically about the causes and work systematically to eliminate them. []
- Reframe the total problem from a much broader perspective. []

In sections 6 to 12, select one of the predefined responses (Repulses me,. Not me, Sometimes me,

6.

- I depend on an orderly, consistent, clock-like universe. []
- I value balance and harmony everywhere. []
- My world is basically the same as it's been. []
- There are no problems so great that we can't solve them by using what we've inherited from the past. []

7.

- I'm satisfied and pleased things are still going so well for us. []
- I am finding a return to "the good ole days" more and more attractive. []
- The best way to deal with our problems is to do what we know to do - only do it better. []
- Before things get worse, maybe we should re-evaluate the track we are on to be certain it's the right one. []

8.

- I would like to blow everything away and start over again with a clean slate. []
- The time has come to either break out or give up. []
- We're mad as hell because we're trapped and helpless. []
- I'm beginning to see a silver lining through the dark clouds. []

9.

- After being frustrated for so long, look out world here I come. []
- Old obstacles are crumbling and setting me free to do things I never thought were possible. []
- As I look back on it, exploring new ways around old barriers has been both exciting and rewarding. []
- I am finally living the way I want and need to live. []

10.

- We've fashioned a whole new way of dealing with our world. []
- Some people seek after safety, but I'm free to launch out into the deep. []
- The more things change, the better I like it. []
- I like to throw away the book and start from scratch. []

11.

- Nothing is sacred to me; everything is up for grabs. []
- The future belongs to those who can see the world in new and quite different ways. []
- I see nature as chaotic, disruptive, and erratic. []
- To me, the world is free flowing, unpredictable, and random. []

12.

- I know there is a purpose and pattern in everything. []
- I believe events happen chaotically without rhyme or reason. []

4. ProcessSCAN

INSTRUCTIONS: Check next to the statement in each set that more accurately reflects your own thinking; be sure to respond to each of the sets.

Table A3.0 ProcessSCAN Questions

1	a	My mind scans over complex information and events seeing new combinations	<input type="checkbox"/>	5	a	I thrive on changes, novelty, variety and scrambled situations	<input type="checkbox"/>
	b	My mind sorts out detail and makes good sense out of confusion	<input type="checkbox"/>		b	I prefer my world to be "cut-and-dried," stable, and predictable	<input type="checkbox"/>
2	a	I'm "High Tech" and prefer precision and accuracy	<input type="checkbox"/>	6	a	I'm often criticised for being rigid, locked-in, and matter-of-fact	<input type="checkbox"/>
	b	I'm "High Touch" and value feeling and relationships	<input type="checkbox"/>		b	I get criticised for being too wishy-washy, theoretical, idealistic, and "far-out."	<input type="checkbox"/>
3	a	I sense the power of feeling tones, novel expressions, and swirling images	<input type="checkbox"/>	7	a	My mind roams freely over constantly changing landscapes.	<input type="checkbox"/>
	b	I am better at handling numbers, factual information, and practical results	<input type="checkbox"/>		b	My mind consistently sorts out and evaluates people, ideas and projects	<input type="checkbox"/>
4	a	I paint the world with fresh ideas and explore new uncharted horizons	<input type="checkbox"/>	8	a	I generally see the "trees" instead of the "forest"	<input type="checkbox"/>
	b	I pride myself on being organised and full of common sense	<input type="checkbox"/>		b	I am much more aware of the "forest" than the "trees"	<input type="checkbox"/>

Pick ONLY ONE Word From Each Pair

9	a	<input type="checkbox"/>	Intuitive or Logical	b	<input type="checkbox"/>	13	a	<input type="checkbox"/>	Spontaneous or Methodical	b	<input type="checkbox"/>
10	a	<input type="checkbox"/>	Organiser or Synthesizer	b	<input type="checkbox"/>	14	a	<input type="checkbox"/>	Visionary or Pragmatic	b	<input type="checkbox"/>
11	a	<input type="checkbox"/>	Realistic or Impulsive	b	<input type="checkbox"/>	15	a	<input type="checkbox"/>	Calculative or Instinctive	b	<input type="checkbox"/>
12	a	<input type="checkbox"/>	Detailer or Scanner	b	<input type="checkbox"/>						

Table A3.1 ProcessSCAN Analysis

Table A3.1 ProcessSCAN Analysis															
High Analogue				Mod Analogue				Mixed Systems				Mod Digital			
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Analogue Ranges "Right Brain"				Mixed Systems								Digital Ranges "Left Brain"			
Strong Points <ul style="list-style-type: none"> •Accesses the kaleidoscopic "whole" •Zig-zags through complexity •Driven by dreams and visions •Lives in uncharted "frontiers" 				Strong Points <ul style="list-style-type: none"> •Translates idealism into realism •Absorbs complexity/reduces to simplicity •Roams the terrain yet water the trees •Expands strategies/refines tactics 								Strong Points <ul style="list-style-type: none"> •Peregrinate for detail/precision •Linear/logical problem solving •Maintains neat/ready categories •Runs quiet/steady operations 			
Blind Spots <ul style="list-style-type: none"> •Details "fat between the cracks" •Bias toward ideation, not action •Lives on emotional roller coasters •Trapped in a world of fantasy 				Blind Spots <ul style="list-style-type: none"> •Pragmatism endangers principles •"Everything to everybody" wears thin •Torn "but" and "tween" two words •Moderation/mediation snuffs out clarity/creativity 								Blind Spots <ul style="list-style-type: none"> •Boxed in view of "reality" •Inappropriate/sifting rigidity •Blindly-driven by clock/tick time •World reduced to bits/bytes 			

Appendix 4 - UWC Case Study 'Ways of Working' Questionnaire

Ways of Working

INTRODUCTION

This questionnaire has been edited to for confidentiality with UWC as most of the questions related to specific processes within the commercial model.

The questionnaire was put together with UWC based on their understanding and their perception of the need for the commercial model review.

Question 1:

Commercial Behaviours:

1.1 What do you understand by the term commercial?

1.2 Is it defined in the commercial Model? - Please select a number 1 not at all 5 Fully

1.3 Where else would you refer to help define this term?

1.4. Which of these statements do you believe describes the situation best? Allocate a max of 15 points to each statement.

1.4.1. I have a strong allegiance to my team. There are many stories from the past that bond us together and I do believe that we frequently have signs of 'good luck'

1.4.2. For the effort we put in we expect rewards – now. It really doesn't matter what anyone else thinks we will do it our way. I look forward to the next challenge that we are given- we'll show them. If nothing else, when we're gone, they'll remember our name.

1.4.3 Our team offers the right way to do things. The client is important to us, as they are the ones who dictate the rules and carry the authority. We accept that if we get it wrong we deserve to be punished. When we do get things wrong we do feel rather guilty.

1.4.4. I am convinced that we can win the commercial model game. We strive to be the best. We interpret the model to ensure that we stay ahead of the game. We appreciate the learning from the others involved in the model – however the information we gain we use to stay ahead of the game.

1.4.5. Our team respects openness and trust. Our role is more than playing the game it is about playing our role in society. We are just concerned that everyone is treated fairly. It upsets me when things don't go too well.

1.4.6. For the Contractor / Commercial model to work we need to focus on the principles. Our flexibility is derived from our appreciation of the natural systems at play in organisations – we can adapt to any situation and will organise ourselves as needed to get the job done. If we win then UWC wins and our customers win.

Question 2

Is there a misalignment of levels of control between different parties and between the level the model requires.

2.1 What does control mean to you?

2.2 How would you know if the levels of control were inappropriate?

2.3 What areas of control are you aware of in the CASP model?

2.4 In each of these are the levels of control appropriate?

Question 3

What is the level of risk averseness of different parties that is actually demonstrated?

3.1 As a core team, how averse to risk do you believe that you are? (Please select one) 1. Totally – We will not take any risks at all.

2. Somewhat – We take some 'little' risks 3. Neutral – We just play it straight 4. Sometimes – We do take some significant risks 5. Not at all: We take many significant risks in the achievement of our work.

3.1.1 Please provide an example:

3.1.2 Is your averseness to risk increasing or decreasing? - Please select number 1 less 5 more

3.1.3 What triggered this change?

3.1.4 When did this occur?

3.1.5 Are there any examples where you believe real risks have been taken?

3.1.6 Across the whole commercial model who do you believe are the major risk takers?

3.1.7 Across the whole Commercial model who do you believe are the major risk taker

Question 4

What is your level of understanding of different parties of: The commercial model; the contract; the Cost System, the Risk -Value Balance; The budget process; Target costs, Authorisations; Core team working; role of Project Managers.

4.1 The Commercial model: Do you fully understand the commercial model – Please select a number 1 not at all 5 Fully

4.2 The Contract

4.2.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully

4.2.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example

4.2.3 In one sentence or one word please indicate what these processes are like for you. 4.3 The Cost System

4.3.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully

4.3.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example

4.3.3 In one sentence or one word please indicate what these processes are like for you.

4.4 The Risk-Value Balance

4.4.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully

4.4.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example

4.4.3 In one sentence or one word please indicate what these processes are like for you.

4.5 The budget process

- 4.5.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully
- 4.5.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example
- 4.5.3 In one sentence or one word please indicate what these processes are like for you.
- 4.6 Target Costs
- 4.6.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully
- 4.6.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example
- 4.6.3 In one sentence or one word please indicate what these processes are like for you.
- 4.7 Compensation
- 4.7.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully
- 4.7.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example
- 4.7.3 In one sentence or one word please indicate what these processes are like for you.
- 4.8 Capital Approvals
- 4.8.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully
- 4.8.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example
- 4.8.3 In one sentence or one word please indicate what these processes are like for you.
- 4.9 Core Team Working
- 4.9.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully
- 4.9.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example
- 4.9.3 In one sentence or one word please indicate what these processes are like for you.
- 4.10 Role of Project Manager
- 4.10.1 In your view how effective are the current processes – Please select a number 1 not at all 5 Fully
- 4.10.2 Please state in your opinion what improvement could be made to the process – if necessary please give an example
- 4.10.3 In one sentence or one word please indicate what these processes are like for you.

Question 5.

How to make UWC more willing to share information, more responsive and more trusting?

5.1 Do you believe that there are benefits to CaSP in:

5.1.1 Sharing information YES ☐ NO ☐

5.1.2 Please explain your answer

5.1.3 Being more responsive YES ☐ NO ☐

5.1.4 Please explain your answer

5.1.5 Being more trusting YES ☐ NO ☐

5.1.6 Please explain your answer.

5.2 Who specifically do you believe needs to be more:

5.2.1 Sharing with information:

5.2.2 Trusting:

5.2.3 Responsive:

5.3 Do you believe that there are benefits to the Commercial Model in:

5.3.1 Sharing information YES ☐ NO ☐

5.3.2 Please explain your answer

5.3.3 Being more responsive YES ☐ NO ☐

5.3.4 Please explain your answer

5.3.5 Being more trusting YES ☐ NO ☐

5.3.6 Please explain your answer.

5.4 Who specifically do you believe needs to be more:

Please state who or what team/group

5.4.1 Sharing with information:

5.4.2 Trusting:

5.4.3 Responsive:

5.5 How would you describe the levels of trust in the Contractors?

Is it changing? If so how?

5.6 How would you describe the levels of trust in the Commercial Model?

Is it changing? If so how?

Question 6.

Is Contractor #4 performing significantly better, if so how and how do we convince the other Contractors?

6. 1 Do you believe that Contractor #4 are performing significantly better than other Contractors? Select 1.

No 3 same as other 5 Yes

6.1.1 What reasons can you offer for your answer?

6. 2 If it was proven that any one CASP was performing better than another what do you believe should happen next?

Question 7.

What is the reality and the perceptions of different parties around management of change control. How do we improve things?

7.1 The management of Change Control. In your view how is this working? Select 1. not enough 3 not sure 5 Too much

7.2 What improvements would you suggest?

7.3 What have you heard about taking a change variation to the Board?

7.4 What was your experience of taking a Change Variation to the Board?

7.5 If you had a magic wand – what one improvement would you like to see adopted in the CaSP model?

7.6 If you had a magic wand – what one improvement would you like to see adopted in the Commercial model?

Question 8

Please tick the following.

I agree to be part of this survey and that the information will be used in confidence for this project and no other.

YES ☐ NO ☐

I would like to remain anonymous from UWC/Contractor but would like the above information to be used without disclosure of its source. Please tick one below.

Remain Anonymous ☐

Appendix 5 - Questionnaires used in the Pilot Study

The Balance between hope & anxiety & Strategy Development Questionnaire

1. Hamel and Prahalad. *The Balance between hope & anxiety* Competing for the Future (1994)

Name _____ Company _____
 Position _____ Date _____

The Balance between hope & anxiety

Please highlight in **BOLD RED** the number that more accurately reflects the question: -

What are we better at, improving operational efficiency or creating fundamentally new business?

Operational						New Business
Efficiency	1	2	3	4	5	Development

What percentage of our advantage-building efforts focus on catching up with competitors' actions versus building advantages new to the industry?

Mostly Catching Up						Mostly New to the
To Others	1	2	3	4	5	Industry

To what extent has our transformation agenda been set by competitors' actions versus being set by our own unique vision of the future?

Largely Driven by						Largely Driven by
Competitors	1	2	3	4	5	Our Vision

To what extent am I, as a senior manager, a maintenance engineer working on the present or an architect designing the future?

Mostly an						Mostly an
Engineer	1	2	3	4	5	Architect

Among employees, what is the balance between anxiety and hope?

Mostly						Mostly
Anxiety	1	2	3	4	5	Hope

How does senior management's point of view about the future stack up against that of competitors?

Conventional and Reactive	1	2	3	4	5	Distinctive and Far-sighted
------------------------------	---	---	---	---	---	--------------------------------

Which issue is absorbing more of senior management's attention?

Re-engineering Core Processes	1	2	3	4	5	Regenerating Core Strategies
----------------------------------	---	---	---	---	---	---------------------------------

Within the industry, do competitors view our company as more of a rule-taker or a rule-maker?

Mostly a Rule-taker	1	2	3	4	5	Mostly a Rule-maker
------------------------	---	---	---	---	---	------------------------

Please return to John Cook by 14th Feb 2000 - ref: - Hamel and Prahalad. Competing for the Future

Questions about the future

The following are questions about the future - you do not need to answer them now, but I suggest that you consider them and think about them before the one to one interviews. If you want to reply please do so, **BUT DO NOT HOLD UP RETURN OF PAGE ONE**

Does Senior Management have a clear and collective point of view about how the future will be or could be different?

Do Senior Managers see themselves as the industry revolutionaries or are they content with the status quo?

Does the company have a clear and collective agenda for building core competencies, deploying new functionalities, and evolving the customer interface?

Is top management allocating as much time and intellectual energy to pre-market competition as to market competition?

Is the company exercising an influence over industry evolution that is disproportionately large given the companies resources?

Do all employees share an aspiration for the enterprise and possess a clear sense of the legacy they are working to build?

Is there a significant amount of stretch in that aspiration - that is, does it exceed current resources by a substantial amount?

Has Senior Management operationalised that aspiration into a clear set of corporate challenges?

Is it clear to everyone in the company how their individual contribution links into the company's overall aspiration?

Have managers clearly identified current corporate and industry conventions and subjected those conventions to close scrutiny?

Are the conditions under which the firm's existing economic engine might run out of steam clear to all managers?

Do employees at all levels possess a deep sense of urgency about the challenge of sustaining success?

Does the firm's opportunity horizon extend sufficiently far beyond the boundaries of the existing product markets?

Is there an explicit process for identifying and exploiting opportunities that lie between or transcend individual business units/departments?

2. Strategy Development Questionnaire - with Permission of Andy Bailey (Copyright 1997) Lancaster University

This questionnaire considers the process by which strategy is developed within an organisation. It is designed to discover your perception of how strategic decisions are made in your organisation. Strategic decisions are those which are characterised by a large commitment of resources and deal with issues of substantial importance to the organisation usually with longer rather than just short-term impact or significance; they usually involve more than one function and involve a significant change.

The following pages comprise a number of statements. When considering these statement please:

- Assume each applies to _____ and respond to the statements as such
- Think of your organisation as it **exists at present**. Not as it has existed in the past or how you would like it to exist in the future.
- Evaluate each statement in terms of the extent to which you **agree** or **disagree** with it in relation to your organisation.

Thank you for your co-operation

How to complete the questionnaire

- Please answer all the statements (it will take approximately 5 - 10 minutes to complete)
- Give the answer that first occurs to you. Do not give an answer because you feel it is the right thing to say or you feel it is how things should be.
- Respond to each of the statements by circling the appropriate number on a scale of 1 (you **strongly disagree** with the statement in relation to your organisation) to 7 (you **strongly agree** with the statement in relation to your organisation).

Your name _____ Date ____/____/____

Name of your organisation _____

What industry does your organisation mainly operate within? _____

1	We have definite and precise strategic objectives	1	2	3	4	5	6	7
2	To keep in line with our business environment we make continual small scale changes to strategy	1	2	3	4	5	6	7
3	Our strategy is based on past experience	1	2	3	4	5	6	7
4	The influence a group or individual can exert over the strategy we follow is enhanced by their control of resources critical to the organisation's activities	1	2	3	4	5	6	7
5	The strategy we follow is directed by a vision of the future associated with the chief executive (or another senior figure)	1	2	3	4	5	6	7
6	We have strategy imposed on us by those external to this organisation, for example the government	1	2	3	4	5	6	7
7	We evaluate potential strategic options against explicit strategic objectives	1	2	3	4	5	6	7
8	We keep early commitment to a strategy tentative and subject to review	1	2	3	4	5	6	7
9	Our organisation's history directs our search for solutions to strategic issues	1	2	3	4	5	6	7
10	The information on which our strategy is developed often reflects the interests of certain groups	1	2	3	4	5	6	7
11	Our strategy is closely associated with a particular individual	1	2	3	4	5	6	7
12	Our freedom of strategic choice is severely restricted by our external business environment	1	2	3	4	5	6	7
13	We have precise procedures for achieving strategic objectives	1	2	3	4	5	6	7
14	Our strategies emerge gradually as we respond to the need to change	1	2	3	4	5	6	7
15	There are beliefs and assumptions about the way to do things which are specific to this organisation	1	2	3	4	5	6	7
16	Our strategy develops through a process of bargaining and negotiation between groups or individuals	1	2	3	4	5	6	7
17	The chief executive determines our strategic direction	1	2	3	4	5	6	7
18	We are not able to influence our business environment; we can only buffer ourselves from it	1	2	3	4	5	6	7
19	We have well defined planning procedures to search for solutions to strategic problems	1	2	3	4	5	6	7
20	We tend to develop strategy by experimenting and trying new approaches in the market place	1	2	3	4	5	6	7
21	The strategy we follow is dictated by our culture	1	2	3	4	5	6	7
22	Our strategy is a compromise which accommodates the conflicting interests of powerful groups and individuals	1	2	3	4	5	6	7
23	Our strategic direction is determined by powerful individuals or groups	1	2	3	4	5	6	7
24	Barriers exist in our business environment which significantly restrict the strategies we can follow	1	2	3	4	5	6	7
25	Our strategy is made explicit in the form of precise plans	1	2	3	4	5	6	7
26	Our strategy develops through a process of ongoing adjustment	1	2	3	4	5	6	7
27	The strategies we follow develop from "the way we do things around here"	1	2	3	4	5	6	7
28	The decision to adopt a strategy is influenced by the power of the group sponsoring it	1	2	3	4	5	6	7
29	Our chief executive tends to impose strategic decisions (rather than consulting the top management team)	1	2	3	4	5	6	7

30	Many of the strategic changes which have taken place have been forced on us by those outside this organisation	1	2	3	4	5	6	7
31	We make strategic decisions based on a systematic analysis of our business environment.	1	2	3	4	5	6	7
32	Our strategy is continually adjusted as changes occur in the market place	1	2	3	4	5	6	7
33	There is resistance to any strategic change which does not sit well with our culture	1	2	3	4	5	6	7
34	Our strategies often have to be changed because certain groups block their implementation	1	2	3	4	5	6	7
35	A senior figure's vision is our strategy	1	2	3	4	5	6	7
36	Forces outside this organisation determine our strategic direction	1	2	3	4	5	6	7

Strategy Development Questionnaire scoring sheet

Instructions

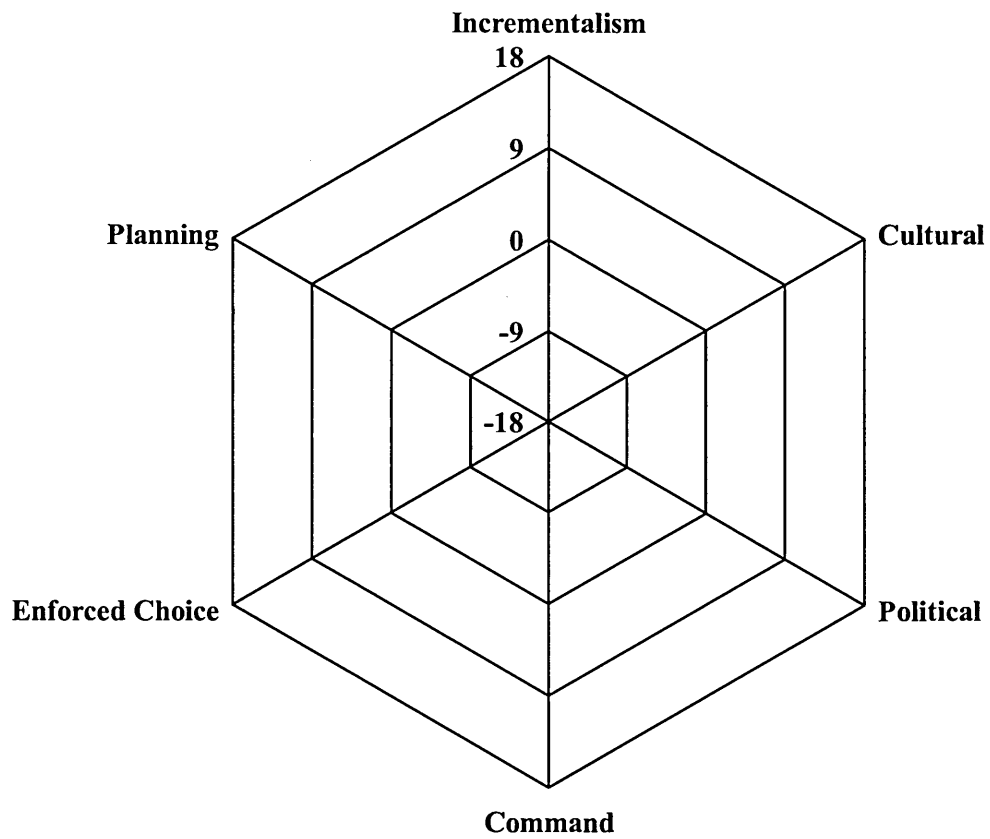
Please transfer the number circled for each statement of the Strategy Development Questionnaire to the corresponding box on the grid below. The number at the left of each box indicates the questionnaire statement to which it refers.

Having transferred the number for all statements to the grid, sum each column. Subtract 24 from each of the column totals to produce a score for each of the perspectives. This score can then be plotted on the development profile by marking crosses on the appropriate one of the six axes. Finally join the crosses together by moving clockwise around the profile.

Planning	Incrementalism	Cultural	Political	Command	Enforced Choice
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
Column Total	Column Total	Column Total	Column Total	Column Total	Column Total
-24	-24	-24	-24	-24	-24
Score = Column total -24					

--	--	--	--	--	--

(Johnson and Scholes 1993; Bailey, Johnson, and Daniels, 2000)

Strategic Development Profile**Figure A5.0 Strategy Development output graph.**

Appendix 6 - Example Comparison Chart Loevinger & Graves

Table A6.0 - Loevinger (1976) as compared by Graves (1977)

Loevinger's Steps	Step or Stage	Step or Transition or Level	Step as E-C (Graves) sees them
1	Pre-social or Autistic		AN
2		Symbiotic	an/BO
3	Impulsive		CP/bo
4	Self protective		CP
5	Conformist		DQ
6		Self aware or Conventions Conformist	DQ/er
7	Conscientious		ER
8		Individualistic	
9	Autonomous		FS/er
10	Integrated		A ¹ N ¹
			? A ¹ N ¹ /bo

Notes: - Loevinger started with 4 levels and then increased these to 10. According to Graves this supported his entry and exit stages or transitional phases of each value system aligning with 10 of the 22 Graves states. (Graves (1977) additional states are the entering, exiting and nodal states of each value system). Graves (1977) did think Loevinger (1976) went above FS (green) and he though Lovinger did agree with him that it is an open system.

A¹N¹ is the re-emergence of the survival value system (AN) into the systemic value system (GT).

Appendix 7 – Dr Don Beck permission to use Spiral Dynamics Information

From: Dr. Don Beck [drbeck@attglobal.net]

Sent: Thursday, 15 July 2004 10:24 a.m.

To: john.cook@5deep.co.uk

Subject: RE: From New Zealand

For John Cook:

New Zealand

To Whom it may concern:

This will give you complete permission to use The Values Test, The Change State Indicator, both Form “A” and Form “B” as well as the CultureSCAN in your research and professional activities.

Don Edward Beck, Ph. D.

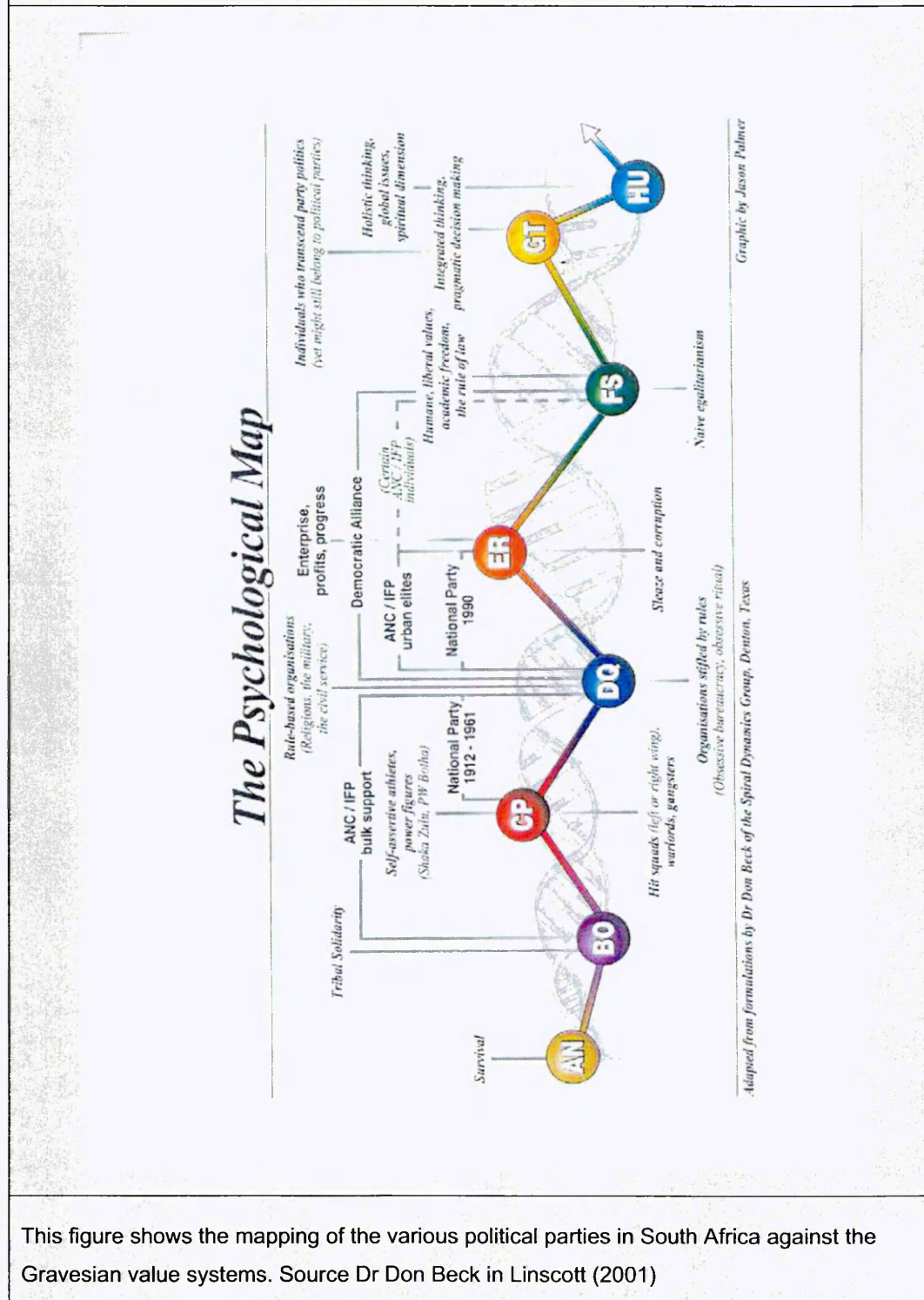
Co-Founder, National Values Center, Inc.

Box 797

Denton, Texas 76201 940.383.1209

Appendix 8 – Linscott (2001) vMeme Development

Figure A8.0 – Linscott (2001) vMeme Development – The Psychological Map



This figure shows the mapping of the various political parties in South Africa against the Gravesian value systems. Source Dr Don Beck in Linscott (2001)

Appendix 9 - Support Data for Chapter 7 Oracle Pilot Study

Table A9.0 Form A - Oracle Pilot Study Group														
Note: Values GT & HU, it is suggested that both sides of the brain tend to be used for this level of complexity (Beck, 2002). ² Beck, 2002d, p1														
Person ID#	Acceptance							Rejection						
	GT+	ER+	CP+	BO+	DQ+	FS+		GT-	ER-	CP-	BO-	DQ-	FS-	Sample Size
42 (Ret)	21	6	3	2	4	4		0	-5	-7	-14	-10	-4	
43	17	6	0	0	10	7		0	-5	-22	-10	-3	0	
45	11	9	3	2	7	8		-2	-3	-10	-15	-7	-3	
47 (Joe)	12	11	1	1	6	9		-1	-6	-16	-11	-5	-1	
48	19	9	2	0	3	7		-1	-1	-10	-13	-13	-2	
49	12	15	9	0	4	0		-1	-1	-1	-22	-3	-12	
51	7	7	6	3	9	8		-4	-3	-12	-17	-3	-1	
55 (Henry)	2	4	6	4	9	6		-3	-3	-1	-10	-9	-4	
60	12	5	0	1	12	10		-2	-7	-16	-9	-3	-3	
Pilot Group Average	12.6	8.0	3.3	1.4	7.1	6.6		-1.6	-3.8	-10.6	-13.4	-6.2	-3.3	9
Std Dev	5.9	3.4	3.1	1.4	3.1	3.0		1.3	2.1	7.0	4.2	3.7	3.5	
Confidence Interval ±	1.3	0.8	0.7	0.3	0.7	0.7		0.3	0.5	1.6	0.9	0.8	0.8	95%
	Left Brain Expressive Self			Right Brain Sacrificial Self				Left Brain Expressive Self			Right Brain Sacrificial Self			
1st World Average	8.0	8.0	2.8	3.8	9.3	8.8		-4.0	-5.5	-13.5	-10.5	-3.8	-2.0	4029 ²
Research Average	13.0	7.8	2.2	1.5	5.9	9.0		-2.0	-4.7	-12.5	-12.6	-5.0	-2.6	1003

Table A9.1 CSI Summary of Oracle Pilot Group

Person ID#	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex	Sample Size
42 (Ret)	14	30	12	15	33	5	3	11	7	11	
43	27	15	15	11	22	7	2	10	18	10	
45	15	27	20	12	15	5	3	15	28	14	
47 (Joe)	25	18	14	14	17	12	11	9	7	9	
48	10	34	10	20	19	4	4	12	22	14	
49	5	40	8	22	25	8	6	12	13	18	
51	20	25	14	13	16	11	1	14	19	10	
55 (Henry)	19	27	11	22	13	10	5	16	20	18	
60	25	18	20	6	16	14	18	7	10	10	
Pilot Group Average	17.8	26.0	13.8	15.0	19.6	8.4	5.9	11.8	16.0	12.7	9
1st World Average	21.6	17.5	15.7	10.8	17.5	9.8	7.2	12.5	15.1	11.9	300
Research Average	19.6	24.3	14.1	14.2	16.3	8.7	6.5	14.1	17.2	12.2	959
Std Dev	7.4	8.1	4.1	5.4	6.2	3.5	5.4	2.9	7.2	3.5	
Confidence Interval \pm	1.7	1.8	0.9	1.2	1.4	0.8	1.2	0.7	1.6	0.8	95%

Table A9.2 Person ID# 47 (Joe) Form A Values (meta-memes)						
Meta Meme	Person ID# 47		Pilot Group mean			Comments Form A
	Accept	Reject	Accept	Reject	Diff'	
GT	12.0	-1.0	12.6	-1.6	0	0.6 point decrease in acceptance than the group and 0.6 less rejection. Average systemic thinking
ER	11.0	-6.0	8.0	-3.8	+0.8	3.0 point increase in acceptance and 2.2 point increase in rejection than the group giving a slightly stronger need for commercial success.
CP	1.0	-16.0	3.3	-10.6	-7.7	2.3 point decrease in acceptance and a 5.4 point increase in rejection than the group giving average creativity and individualism.
BO	1.0	-11.0	1.4	-13.4	-2.0	0.4 point decrease in acceptance and 2.4 point decrease in rejection than the group a slight bias against community and teams.
DQ	6.0	-5.0	7.1	-6.2	-2.3	1.1 point decrease in acceptance and a 1.2 point decrease in rejection than the group giving less interest in the one correct way.
FS	9.0	-1.0	6.6	-3.3	+5.7	2.4 point increase in acceptance and 2.3 point decrease in rejection than the group
The difference (Diff') is calculated taking the gap between persons accept and group accept and adding to gap for rejection i.e. GT $12.6 - 12.0 = -0.6$, $(-1.6) - (-1.0) = -0.6$ Diff = $-0.6 + -0.6 = 0$						

Table A9.3 Person ID# 47 (Joe) Change State Indicator (CSI)			
Change State	Person ID# 47	Pilot Group mean	Comments Change State Indicator
1 st Order	25.0	17.8	7.2 point more than group preference for incremental change
2 nd Order	18.0	26.0	8.0 point less than group preference for step changes
Order	14.0	13.8	0.2 point difference average of group for order
Chaos	14.0	15.0	1.0 point less for chaos
Alpha	17.0	19.6	2.6 point less content with the now/today than the group
Beta	12.0	8.4	3.6 point more concern that something is not quite right with today.
Gamma	11.0	5.9	5.1 point higher degree of frustration than the group
Delta	9.0	11.8	2.8 point less than group for energy for reaching a new today
New Alpha	7.0	16.0	9.0 point less than group about a new future – a way forward.
Flex	9.0	12.7	3.7 point less energy than the group and flexibility for change
Detailed explanations are covered in Chapter 8 of the meaning of the Change States Table 8.2, 8.4 and Appendix 2			

Appendix 10 - UWC Support Information

Table A10.0 - 22/07/02 Note from the UWC Sponsor
<p>You'll be aware that <i>our consultants</i> have sent out a lengthy questionnaire to a range of people within each Contractor. The immediate objective of the questionnaire is to help us understand people's commercial behaviours. Because behaviours are driven at different levels the questionnaire has been designed to probe some pretty fundamental things like values and beliefs as well as the more obvious drivers of commercial behaviour such as personal reward and incentives.</p> <p>Unfortunately, this means that it's pretty substantial and time consuming. The benefits from a good response are, however, significant:</p> <ul style="list-style-type: none"> (a) the data will affect the future design of any improvements to the AMP3 model and is likely to impact on UWC's design of the AMP4 commercial arrangements (b) the data will give managers and individual organisations considerable insight into their people and should provide immediate management benefits <p>So far we've had a patchy response averaging about 10% return. Contractor #4 and Contractor #3 have responded well above this but, Contractor #1, #2 and UWC central have had a very low response. Unless we get a better response (particularly in #1 and #2) there is a danger that adjustments to the commercial model will be based on data from specific bits of the Contractor set up (and may be appropriate for them but not for others)</p> <p>It would be very helpful if you could emphasise to your staff the importance of completing the questionnaire during this week</p>

Table A10.1 Examples of Values Statements – these have been edited to ensure confidentiality and are examples from the HyperResearch coding. (2850 instances)						
GT	ER	CP	BO	DQ	FS	HU
Attitude – is supposed to be a forum Feedback non-existent – been doing 6/7 years congratulated once. Is presentation good too long etc.	Allows the Contractor to manage their resources better and provide greater savings and more affordable solutions. Allows the Core Team to be more proactive, less risk averse and a more effective resource	Naked appearance at Monthly Meeting if achieve forecast expected (front-row tickets & binoculars now sold out!)	Reduction in costs an easy ride – will be asked what are the risks and what is being done. Always tell hot spots with the Solution Manager Network – flavour of the month will spread like wild fire.	Board already booked up to mid July – need to book schemes for next 3 months NOW!! restrictions on the freedom to act or decide without first obtaining authority from above	A N Other getting better Either unnecessary rules or wrong people authorising	NIL
Contractor 4 have focussed on delivery for UWC. They have addressed clients needs and organised themselves to deliver. They acted in the spirit of the agreement and have developed a culture that challenges to perform better. They taken the UWC staff with them in the way that they work and operate.	Re-instate Managers the privilege of completing minor Approvals on CMS ie +/- 10% or £50,000 which ever is the greatest. Now having to do Approvals for changes in costs between +/- £1-£10k	scheme should be well received as going well – A N Other comment why report if going well	Other times flavour of the month Occasionally secretive Transfer the Solution Manager's to the Contractor	Accruals – Manager to review process and definitions with key delivery managers including IT, A N Other	Attitude – is supposed to be a forum Feedback non-existent – been doing 6/7 years congratulated once. Is presentation good too long etc.	NIL
Some of the duties of the PM as stated in the contract don't fit in with commercial model philosophy and don't add value.	Better information on existing assets and the bigger picture	As expected – one question – easy one.	Anecdotal comments that they deliver schemes quicker and better than others	Board Meetings – feedback of key points to all – process required	Allow Managers greater control and flexibility – Risk Unit need to trust Managers and empower them to take more decisions.	NIL
Empower people to make a decisions rather than play the silly Value Management games	Allow Managers greater control and flexibility – Risk Unit need to trust Managers and empower them to take more decisions.	Always be the best prepared you can – if not you will get a million actions.	Quicker relay of info from UWC to Contractor via appointed person not via grapevine.	Prepare report for decision on how the expenditure actuals are compared with forecasts for Capital Index input	Remove a lot of the control baggage, Managers don't have time to think, to be innovative or provide constructive challenges.	NIL

Table A10.1 (cont) Examples of Values Statements – these have been edited to ensure confidentiality and are examples from the HyperResearch coding. (2850 instances)						
GT	ER	CP	BO	DQ	FS	HU
A good concept but with significant difficulties/confusion at a detailed level and prone to user error/interpretation	consult with Managers before implementing impacts and changes. Stop the mixed messages	Got positive feedback and congratulation on his presentation. Should be given if job has been done properly.	Praise and faith from systems working well	* DO NOT financially complete schemes with authorised sum different to actual outturn ie if required, CA needs to be authorised and input on CMS prior to financial completion	Healthy and challenging with full commitment from all parties to enable the required outputs to be achieved	NIL
The development of Costs is surrounded in secrecy which in a partnering arrangement is not in the spirit of the agreement.	Remove a lot of the control baggage, Managers don't have time to think, to be innovative or provide constructive challenges.	SM not responsible for project management – done by consultants. Has to take the responsibility – buck stops here – but has no control – OK it is a cost plus project so what the fuss the customer is paying.	Work together to achieve the target - not sit on opposite ends of offices blaming each other for a problem that could be easily and mutually solved.	Check finance procedures with respect to costs being charged to schemes The contractor process as a whole is a breath of fresh air	Very Good right from the start - the attitude was right	NIL
The contractor process as a whole is a breath of fresh air	Board should give reassurance, as the Solutions Managers job is lonely	What does control mean to you? The idea of control is to be in command of the project	frustrating when people are not available for meetings or do not complete actions between meetings	Trading of consents and F&M, more visibility of process	Attitude of some senior UWC staff	NIL
	Got positive feedback and congratulation on his presentation. Should be given if job has been done properly.	Got what he wanted from the session Seems to be a lot cooks	Lots of variability It depends on the mood of Board and the credibility of the people to Board	Expectations fully met – comments often not all Directors there sometimes none – should always be at least two – show importance of the process	frustrating when people are not available for meetings or do not complete actions between meetings	NIL

Table A10.1 (cont) Examples of Values Statements – these have been edited to ensure confidentiality and are examples from the HyperResearch coding. (2850 instances)						
GT	ER	CP	BO	DQ	FS	HU
	£35k bill for a BT line drove us to a modem link option for telemetry.	This is a trust issue again - accepted practices seem to be turned upside down and the driver is always to the benefit of UWC	They are perceived as a family which people are happier with talking to other UWC colleagues in Contractor #3	Lot of effort goes in presentations – takes eye off managing the project – 2days	Listening and acting upon ideas in a timely fashion will encourage people to come forward with more ideas for improvement	NIL
	Game playing by a lot of parties	I have no confidence that UWC is following the Contractor agreement in setting Costs.		Bureaucratic baggage which stifles innovation and creative thinking, we have become scheme administrators in a strangle hold.	Yes. One solution manager said he was all for new ideas - but not on his scheme	NIL
		Listening and acting upon ideas in a timely fashion will encourage people to come forward with more ideas for improvement		Very good from the start the attitude was right, but the level of trust around CA's has reduced dramatically over the last 9 months with the imposition of much tighter and more bureaucratic control	Empower people to make a decisions rather than play the silly Value Management games	NIL

Table A10.2 Review of Coding of questionnaires, documents, interviews etc the top 85% the top 20 – based on 2345 instances

Contractor	Training	Change Process Control	Solution Approval	Contract	Innovation	Board	Responsive	Target Cost Setting	Business Drivers	Solution Managers
1	7	9	9	10	11	13	18	13	15	18
2	7	9	13	9	10	12	17	16	18	18
3	4	9	8	14	12	10	12	22	17	13
4	3	9	13	13	14	17	15	7	16	11
UWC	17	11	9	9	15	19	12	23	22	29
Of 2345	38	47	52	55	62	71	74	81	88	89
	1.6%	2.0%	2.2%	2.3%	2.6%	3.0%	3.2%	3.5%	3.8%	3.8%
	84.8%	83.2%	81.2%	79.0%	76.6%	74.0%	71.0%	67.8%	64.3%	60.6%
Ranking	20	19	18	17	16	15	14	13	12	11
Contractor	Core Team	Trust	UWC	Risk	Contractors	Commercial	Control	Systems & Structure	Capital Approval	Behaviour
1	14	14	28	20	23	16	31	32	42	41
2	16	24	16	28	16	17	31	21	30	31
3	10	16	17	17	22	20	27	16	37	21
4	23	15	27	21	20	21	31	17	35	25
UWC	28	29	15	21	36	45	31	67	52	79
Of 2345	91	98	103	107	117	119	151	153	196	197
	3.9%	4.2%	4.4%	4.6%	5.0%	5.1%	6.4%	6.5%	8.4%	8.4%
	56.8%	52.9%	48.7%	44.3%	39.8%	34.8%	29.7%	23.3%	16.8%	
Ranking	10	9	8	7	6	5	4	3	2	1

Table A10.3 Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances						
Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
1	<p>General reluctance by UWC to take on new ways of working except their own</p> <p>Attitude of some senior UWC staff</p> <p>restrictions on the freedom to act or decide without first obtaining authority from above</p> <p>Are there hidden agendas/are UWC trying to get more than required.</p> <p>confusion between the written word & spoken word</p> <p>Generally seems to be held within UWC with little contractor consultation.</p> <p>All core team members come fully briefed and respond to earlier actions prior to meetings</p>	<p>Reduce paperwork required for Capital Approval and omit altogether for minor changes</p> <p>where % change is less 10% a simpler system is required</p> <p>quicker decisions needed</p> <p>No CA required for minor changes approximate costs and far less detail for other changes</p> <p>CapX only would assist SM/Contractor management of programme budgets rather than scheme budgets.</p> <p>Little feedback given from UWC - needs to be more.</p> <p>The process of Capital Approvals should not be necessarily viewed as a failure.</p>	<p>The measures set out in appendix 8 of the Contractors Agreement are too restrictive and not practicable</p> <p>Understanding of systems and ways of working</p> <p>The process is still evolving but changes or systems are imposed by UWC without discussions with Contractors users. Worse still roll out of the commercial model Whole Life Costing Guidelines to Contractors occurred months after rollout to UWC staff</p> <p>Early warnings are a very useful way of communicating potential problems and explaining the reasons.</p>	<p>UWC often do things because! In the past a Solution Manager has demanded a price review for a rejected option in a submission to Board even though the option was rejected solely on technical and performance grounds because The Board will want to see it UWC want to stick with what they know</p> <p>My perception is that Contractors have remodelled their processes to match UWC processes, which seem inflexible.</p>	<p>We are taking a commercial risk constantly</p> <p>The Contractor risks significant PAIN for little GAIN against an unproven model.</p> <p>Yes but we ought to be allowed to keep commercial advantages if we have spent years developing them</p> <p>To look for more efficiency Enables better understanding of drivers and therefore better solutions items can be break down It improves the performance of the company We all like to work in our own way Everyone benefits to help the running of the commercial model</p>	<p>Contractor need greater flexibility to programme works which requires early release of briefs</p> <p>The measures set out in appendix 8 of the Contractors Agreement are too restrictive and not practicable</p> <p>The process is still evolving but changes or systems are imposed by UWC without discussions with Contractor users.</p> <p>Consistent approach is required all Contractors operating differently</p> <p>Some of the duties of the Project Managers as stated in the contract don't fit in with Contractors philosophy and don't add value.</p>

Table A10.3 (cont) Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances

Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
1 (cont)	frustrating when people are not available for meetings or do not complete actions between meetings		The measures set out in appendix 8 of the Contractors Agreement are too restrictive and not practicable		removal of the upper limit the gain share percentage	Export best practice to others. good work should carry on Opportunities for learning should be explored but this is fraught with difficulty - not invented here syndrome and one size does not fit all
2	<p>Praise and faith from systems working well</p> <p>One solution manager said he was all for new ideas - but not on his scheme</p> <p>Lack of support when outcome not as planned</p> <p>Frustrating - at best increases timescales at worst significantly increases time and costs of feasibility</p>	<p>Greater flexibility should be allowed so that less time is wasted on justifying minor changes.</p> <p>Increase risk provision and include in authorised sum</p> <p>UWC could explain when Capital Approvals are required and when they are going</p> <p>A move away from project change to programme change.</p>	<p>Too little - too many cock-ups. Too much - frustration with a 'wooden' system.</p> <p>Conflicts between the Contract and UWC systems should be resolved</p> <p>A standardised approach from all Project Managers</p> <p>Greater flexibility should be allowed so that less time is wasted on justifying minor changes.</p>	<p>Reporting requirements prohibit streamlining of processes</p> <p>UWC systems appear to be rigid and immovable. This conflicts with Contractors being encouraged to innovate. The Board manages at project level</p>	<p>Improvement could be made if people were less penny pinching. more realistic/commercial view needed</p> <p>Improve the framework agreements</p> <p>Earlier release of information would assist with scheme delivery</p> <p>Clearer description would give more accurate costing</p>	<p>An agreed Pain/Gain calculation method - unclear at the moment</p> <p>The Contractor and UWC are driven by different drivers leading to conflict and misunderstanding</p>

Table A10.3 (cont) Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances

Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
2 (cont)	The development of Costs is surrounded in secrecy which in a partnering arrangement is not in the spirit of the agreement.	Certified Payments not made if over authorised sum but contractually incorrect - must be resolved The system needs to be able to cope with small deviations is costs better. Small schemes are vulnerable to needing several Capital Approvals due to the scope of the work being limited. N/A Solution Manager should have greater authority	The very rigid system results in us not being paid at the appropriate time - hits cash flow.	Excessive constraints leading to increased time implementing controls One party feels the system is not working Too little - too many cock-ups. Too much - frustration with a 'wooden' system. Experience Feedback from within the team and foreseeable costs escalating beyond what was predicted Incorrect decisions leading to poor solution Slower progress	High Targets do not lead to huge profits by Contractors All parties need to understand the mutual benefits of being trusting Accuracy of information would assist reporting Fairer sharing of risks. Drive out uncertainty over pain/gain and get consistency	If measured on a level playing field good practice should be determined and fed back to all parties The reasons for the improved performance should be made available by UWC to all of their contractors All differences should be identified and resolved to improve performance of both Find out why and distribute knowledge Solution Managers are given a very tough ride - the Contractor is not involved therefore cannot defend itself or add to process
3	Too much focus on financial not enough on programme Early Contractor projects where feasibility had been done by other parties leading to major losses	Current process hinders responding quickly to compensation as in spirit of cooperation we are not authorising expenditure of client money before client authorisation gained	Better programme visibility required More clarity of roles Empower people to make a decisions rather than play the silly Value Management games	There can be instances where the Solutions approval procedure can be rigid	The nature of the contract pain gain Realisation that risk free solutions cannot be achieved for the budgets available	Early Contractor projects where feasibility had been done by other parties leading to major losses Requirement from our Senior Directors to be more considerate of risk

Table A10.3 (cont) Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances						
Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
3 (cont)	Requirement from our Senior Directors to be more considerate of risk Empower people to make a decision rather than play the silly Value Management games Too many meetings with client personalities having differing agenda - no consistency	Speed up the process by empowering the staff Speedier resolution Better understanding	Transfer the Solution Manager's to the Contractor Potential conflict if all swings and no roundabouts. No mechanism exists to resolve disputes leading to frustration. reduction in number/frequency of meetings A short intensive open scrutiny of the capital database to sort out the howlers now	Not allowing things to just happen Clear definitions of responsibility and empowerment a defined direction expenditure limits Managing Organisation and rules to achieve a goal Getting the right result at the right time power of restraint On top of the situation	Early Contractor projects where feasibility had been done by other parties leading to major losses Requifement from our Senior Directors to be more considerate of risk Easier funding solutions A short intensive open scrutiny of the CAPX database to sort out the howlers	However the programme incentive makes it generally equitable after a number of 'adult' conversations occasionally on certain project construction partners Service providers The consortia carrying out the design and construction.

Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
4	<p>UWC procurement only seem to be interested in proving their capital efficiencies rather than working with contractors to improve them more</p> <p>Too much power with one individual / organisation</p> <p>Being told how not to do things when clearly things are going well</p> <p>More openness. Robust relationship with AMP2 cost and affordability in AMP3</p> <p>frustrating when people are not available for meetings or do not complete actions between meetings</p>	<p>Change Authorisation process is unwieldy for minor changes</p> <p>Overhaul and simplify Capital Approvals and reduce expectations from forecasts to more achievable levels</p>	<p>Early warnings are a very useful way of communicating potential problems and explaining the reasons.</p> <p>Some of the duties of the Project Manager as stated in the contract don't fit in with Contractor philosophy and don't add value.</p>	<p>Allowed construction detailing to be site influenced therefore saving time and money</p> <p>A set of milestones allowing managers to ensure that things remain on track. The ability to alter the progress path of a scheme at various stages</p> <p>The interaction/relationship between the client and the Contractor</p> <p>Ability to achieve solutions with designated parameters. Accepting the relative level of responsibility Authority or a power to influence In charge of what you are doing</p> <p>Controlling</p>	<p>Award of the Contractor contract gave us the confidence to invest heavily in innovative IT systems</p> <p>Development of reporting systems</p> <p>The contractor process as a whole is a breath of fresh air</p> <p>The deliverables could be made available to the Contractor sooner to aid contract compliance</p> <p>Yes but we ought to be allowed to keep commercial advantages if we have spent years developing them</p>	<p>I feel there is an overall team feeling rather than a 'them and us' culture</p> <p>The Contractor process as a whole is a breath of fresh air</p> <p>Quicker relay of info from UWC to Contractor via appointed person not via grapevine.</p>

Table A10.3 (cont) Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances

Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
UWC	<p>Board already booked up to mid July – need to book schemes for next 3 months NOW!!</p> <p>Naked appearance at Monthly Meeting if achieve forecast expected (front-row tickets & binoculars now sold out!!)</p> <p>Expectations fully met – comments often not all Directors there sometimes none – should always be at least two – show importance of the process</p> <p>Always tell hot spots with the Solution Manager Network – flavour of the month will spread like wild fire.</p> <p>UWC squeezing the walls of the room in which we do our thing</p>	<p>Very good from the start the attitude was right but the level of trust around Capital Approval's has reduced dramatically over the last 9 months with the imposition of much tighter and more bureaucratic control</p> <p>At the moment there is no flexibility and all changes are visible to the authorising body. This level of detailed control is not used on any other form of contract used by UWC. The Contractors contract is less than 50% of the programme.</p> <p>Less bureaucracy more streamlined</p> <p>Wider bands before a Capital Approvals is needed, possible by applying control bands to a mini programme of schemes instead of each scheme</p>	<p>Expectations fully met – comments often not all Directors there sometimes none – should always be at least two – show importance of the process</p> <p>Lot of effort goes in presentations – takes eye off managing the project – 2days</p> <p>Omitting stages in process schemes on a probabilistic basis rather than going for the gold plated</p> <p>Solutions engineered at senior management level without full knowledge of risk</p> <p>Bureaucratic baggage which stifles innovation and creative thinking we have become scheme administrators in a strangle hold.</p>	<p>Managing the process in a trusting, flexible and non bureaucratic manner</p> <p>No they have become bureaucratic - control freaks</p> <p>Re-instate Solution Mangers privilege of completing minor Capital Approvals on a +/- 10% or £50,000 which ever is the greatest. Now having to do Capitol Approvals for changes in costs between +/- £1-£10k</p>	<p>Review capital efficiency in Waste Water – look at workshops etc to get back on track</p> <p>The process for attending the meeting is triggered at 10% or 50K by the Solution Manager according to the proccgss. May attend 2/3 times is a 6 week period and then not again for 6 months. All projects above 400K must be approved by the Board</p> <p>Very good from the start the attitude was right, but the level of trust around CapX Approval's has reduced dramatically over the last 9 months with the imposition of much tighter and more bureaucratic control</p>	<p>UWC to determine if there is a Company need for the other Contractors to change, and if so promote the Contractor 4 and our model</p> <p>The contractor would take risk</p> <p>Need to be more creative</p> <p>It (Trust) is beginning to change but there seems to be a fear we will not get the best out of the Contractor</p> <p>Design a system, which has a buffer in it somewhere. At the moment there is no flexibility and all changes are visible to the authorising body. This level of detailed control is not used on any other form of contract used by UWC. The Contractor contract is less than 50% of the programme.</p>

Table A10.3 (cont) Examples of a range of issues versus the top 6 issues accounting for 41% of 2345 instances

Contr actor	Behaviour #1	Capital Approvals #2	Systems & Structure #3	Control #4	Commercial #5	Contractors #6
UWC (cont)	<p>Uncertainty of cost increase. The Contractors attitude is that they get paid actual costs so that's ok of the costs go up</p> <p>Just come back from Board and felt that decision had been made before we entered the room</p> <p>Rushed no dialogue decisions made without considering all the facts</p> <p>Much more user friendly please.</p>	<p>Very good from the start the attitude was right but the level of trust around Capital Approvals has reduced dramatically over the last 9 months with the imposition of much tighter and more bureaucratic control</p> <p>Unnecessary bureaucratic baggage we have become form fillers</p> <p>Can be time consuming</p> <p>Painful</p> <p>Could be better</p> <p>Onerous over the top</p> <p>Bearable</p> <p>Bureaucratic and out of control.</p> <p>Fail accompli</p> <p>Petty in some cases</p>	<p>The approach to the amount of risk taken seems to depend too much on how the finances for than particular scheme are looking rather than trying to balance the risk across the programmes</p> <p>The whole process is not administered very well as some of the risks that have become compensation events should of been identified earlier and a mitigation plan developed</p>		<p>Getting worse. Pain gain mechanism is not effective in controlling costs. It is a one way street of increased target costs sought for changes</p> <p>A big picture approach by all parties to the Target Cost process, accepting that the detailed level does not give greater accuracy, it merely generates avoidable cost and conflict</p>	<p>Use of Capital as target</p> <p>Project Managers should be more involved in projects to be able to understand the issues, causes and to be able to make a fair judgement</p> <p>Train the Contractor delivery manager to be a Project Manager not a site agent. – Experience is that the delivery managers do not know how to control design budgets and programmes, or designers. – hence why the UWC Solution Manager gets dragged out of the core team working role</p> <p>Forget it and either get Contractor 4 in across the board or go back to the AMP2 delivery process.</p>

Values Test Results for UWC Case Study

Table A10.4 UWC Case Study Results VT - Contractors 1, 2, 3, & 4, UWC, Auditor, Research Average

Contractor	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-	Sample Size
1	28.3	36.9	11.9	10.5	27.0	23.8	11.5	-12.1	-10.2	-38.9	-30.1	-16.6	-12.8	-29.2	19
2	39.1	30.6	7.8	8.3	24.2	22.1	17.8	-10.1	-15.9	-46.6	-23.6	-20.6	-12.8	-20.5	17
3	31.8	24.5	13.0	13.2	22.1	29.3	16.1	-11.7	-14.9	-42.3	-28.4	-19.5	-11.7	-21.4	19
4	34.6	33.2	11.1	9.7	29.4	22.0	10.0	-11.8	-11.6	-34.2	-33.1	-16.6	-15.8	-26.9	29
UWC	39.3	31.5	10.3	6.9	21.2	26.4	14.3	-7.8	-12.7	-37.8	-36.3	-21.9	-11.1	-22.5	18
Auditor	31.0	23.0	17.0	18.0	15.0	24.0	22.0	-13.0	-22.0	-32.0	-32.0	-21.0	-16.0	-14.0	1
Research (mean)	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8	1006
UWC Case Study	34.5	31.5	11.0	9.9	25.2	24.5	13.5	-10.9	-13.0	-39.2	-30.7	-18.8	-13.2	-24.4	103

Table A10.5 Difference of Contractor #1 and UWC - Values Test Results

Contractor	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-	Sample Size
1	28.3	36.9	11.9	10.5	27.0	23.8	11.5	-12.1	-10.2	-38.9	-30.1	-16.6	-12.8	-29.2	19
UWC	39.3	31.5	10.3	6.9	21.2	26.4	14.3	-7.8	-12.7	-37.8	-36.3	-21.9	-11.1	-22.5	18
Difference	-11.1	5.4	1.7	3.6	5.8	-2.6	-2.8	4.3	-2.6	1.2	-6.2	-5.3	1.8	6.7	
Research	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8	1006
Case Study #1	34.5	31.5	11.0	9.9	25.2	24.5	13.5	-10.9	-13.0	-39.2	-30.7	-18.8	-13.2	-24.4	103

Table A10.6 Difference of Contractor #2 and UWC - Values Test Results

Contractor	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-	Sample Size
2	39.1	30.6	7.8	8.3	24.2	22.1	17.8	-10.1	-15.9	-46.6	-23.6	-20.6	-12.8	-20.5	17
UWC	39.3	31.5	10.3	6.9	21.2	26.4	14.3	-7.8	-12.7	-37.8	-36.3	-21.9	-11.1	-22.5	18
Difference	-0.2	-0.9	-2.5	1.3	3.0	-4.3	3.5	2.3	3.2	8.8	-12.7	-1.3	1.7	-2.0	
Research	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8	1006
Case Study #1	34.5	31.5	11.0	9.9	25.2	24.5	13.5	-10.9	-13.0	-39.2	-30.7	-18.8	-13.2	-24.4	103

Table A10.7 Difference of Contractor #3 and UWC - Values Test Results

Contractor	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-	Sample Size
3	31.8	24.5	13.0	13.2	22.1	29.3	16.1	-11.7	-14.9	-42.3	-28.4	-19.5	-11.7	-21.4	19
UWC	39.3	31.5	10.3	6.9	21.2	26.4	14.3	-7.8	-12.7	-37.8	-36.3	-21.9	-11.1	-22.5	18
Difference	-7.5	-7.0	2.7	6.3	0.9	2.8	1.8	3.9	2.2	4.5	-7.9	-2.4	0.6	-1.1	
Research	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8	1006
Case Study #1	34.5	31.5	11.0	9.9	25.2	24.5	13.5	-10.9	-13.0	-39.2	-30.7	-18.8	-13.2	-24.4	103

Table A10.8 Difference of Contractor #4 and UWC - Values Test Results

Contractor	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-	Sample Size
4	34.6	33.2	11.1	9.7	29.4	22.0	10.0	-11.8	-11.6	-34.2	-33.1	-16.6	-15.8	-26.9	29
UWC	39.3	31.5	10.3	6.9	21.2	26.4	14.3	-7.8	-12.7	-37.8	-36.3	-21.9	-11.1	-22.5	18
Difference	-4.7	1.7	0.8	2.7	8.2	-4.4	-4.2	4.0	-1.1	-3.6	-3.2	-5.3	4.7	4.4	
Research	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8	1006
Case Study #1	34.5	31.5	11.0	9.9	25.2	24.5	13.5	-10.9	-13.0	-39.2	-30.7	-18.8	-13.2	-24.4	103

Table A10.9 Change State Indicator – Contractors #1, 2, 3, & 4										
	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex Sample
1	26	17	17	10	21	10	8	10	12	11 18
2	29	13	17	11	26	9	7	8	10	9 16
3	27	16	17	10	20	10	8	11	11	11 16
4	25	18	17	10	27	9	5	8	12	10 30
UWC	18	24	14	13	17	9	12	11	12	12 22
Auditor	18	28	17	9	13	5	4	14	21	14 1
Research Mean	20	24	14	14	16	9	6	14	17	12 959
Case Study #1	25	19	17	12	23	10	9	10	12	11 103

Table A10.10 Change State Indicator – Contractor #1										
	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
1	26	17	17	10	21	10	8	10	12	11
UWC	18	24	14	13	17	9	12	11	12	12
Difference	8	-7	3	-2	4	0	-4	-1	0	0
Research Mean	20	24	14	14	16	9	6	14	17	12
Case Study #1	25	19	17	12	23	10	9	10	12	11

Table A10.11 Change State Indicator – Contractor #2										
	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
2	29	13	17	11	26	9	7	8	10	9
UWC	18	24	14	13	17	9	12	11	12	12
Difference	11	-11	3	-2	9	0	-5	-3	-2	-2
Research Mean	20	24	14	14	16	9	6	14	17	12
Case Study #1	25	19	17	12	23	10	9	10	12	11

Table A10.12 Change State Indicator – Contractor #3										
	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
3	27	16	17	10	20	10	8	11	11	11
UWC	18	24	14	13	17	9	12	11	12	12
Difference	9	-9	3	-2	3	1	-4	-1	-2	-1
Research Mean	20	24	14	14	16	9	6	14	17	12
Case Study #1	25	19	17	12	23	10	9	10	12	11

Table A10.13 Change State Indicator – Contractor #4										
	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
4	25	18	17	10	27	9	5	8	12	10
UWC	18	24	14	13	17	9	12	11	12	12
Difference	7	-7	3	-2	11	0	-7	-3	-1	-2
Research Mean	20	24	14	14	16	9	6	14	17	12
Case Study #1	25	19	17	12	23	10	9	10	12	11

Table A10.14 Values Test (Total) results for Person ID# 368 working at Contractor #3														
Contractor 3	GT	ER	CP	BO	DQ	FS	HU	GT-	ER-	CP-	BO-	DQ-	FS-	HU-
Person ID 368	16.0	16.0	19.0	25.0	19.0	29.0	26.0	-5.0	-5.0	-80.0	-20.0	-20.0	-20.0	-0.0
Contractor 3	31.8	24.5	13.0	13.2	22.1	29.3	16.1	-11.7	-14.9	-42.3	-28.4	-19.5	-11.7	-21.4
Difference	-15.8	-8.5	6.0	11.8	-3.1	-0.3	9.9	-6.7	-9.9	37.7	-8.4	0.5	8.3	-21.4
Research Mean	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8

Table A10.15 Change State Indicator for Person ID# 368 working for contractor #3										
	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex
Person ID 368	31	10	13	14	16	8	7	15	8	10
Contractor 3	27	16	17	10	20	10	8	11	11	11
Difference	4	-6	-4	4	-4	-2	-1	5	-3	-1
Research Mean	20	24	14	14	16	9	6	14	17	12

Table 10.16 VT comparison of 1st world average and research mean – source www.onlinepeoplescan.com
 Note: It is suggested by Beck (2002) that the value systems GT & HU use both sides of the brain. (Beck, 2002)

	Acceptance							Rejection							Sample Size
	GT+	ER+	CP+	BO+	DQ+	FS+	HU+	GT-	ER-	CP-	BO-	DQ-	FS-	HU-	
1st World Average Research Mean	29.0	37.0	15.0	10.0	31.0	25.0	13.0	-13.0	-14.0	-40.0	-24.0	-17.0	-13.0	-30.0	2500 - Beck 2004, p1
	32.9	30.5	7.9	8.1	18.7	28.6	23.2	-8.7	-13.7	-44.8	-30.3	-23.5	-9.3	-19.8	1006
	Left Brain Expressive Self							Right Brain Sacrificial Self							
	Left Brain Expressive Self							Right Brain Sacrificial Self							

Table 10.17 CSI comparison of 1st world average and research mean – source www.onlinepeoplescan.com

	1st Order		2nd Order		Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex	Sample Size
	1st Order	2nd Order	1st Order	2nd Order	Order	Chaos	Alpha	Beta	Gamma	Delta	New Alpha	Flex	Sample Size
1st World Average Research Mean	21.6	17.5	17.5	15.7	15.7	10.8	17.5	9.8	7.2	12.5	15.1	11.9	300 - Beck and Cowan, 1992
	19.6	24.3	24.3	14.1	14.1	14.2	16.3	8.7	6.5	14.1	17.2	12.2	959