

CONTENTS

LIST OF TABLES.....	i
LIST OF APPENDICES.....	ii
AUTHOR DECLARATIONS	iii
ACKNOWLEDGEMENTS.....	iv
CHAPTER 1. CONTEXT: MULTIDISCIPLINARY TEAMS AND COLLABORATIVE WORK	1
Introduction.....	1
Areas of Emphasis in the Study of Multidisciplinary Product Development.....	2
Incentives and Organisational Structures.....	2
Interaction and Communication.....	4
Survey Methods Addressing Interaction and Conflict.....	6
An Example Survey-Based Study.....	7
Approaches to Facilitating Communication.....	10
Personality Types and Thinking Styles.....	11
The Dual Knowledge Thesis.....	13
Summary.....	15
CHAPTER 2. LITERATURE REVIEW.....	17
Introduction.....	17
Problems of Meaning.....	18
A Personal Experience	19
Meaning - Myth, Metaphor, and Experience	20
Traditional Views of Communication.....	20
Categorisation and Meaning.....	21
Myths and Discourse	25
Metaphor and Problem Setting.....	26
Metaphor and Understanding.....	28
Structuring, Entailments, Coherence, and Grounding.....	29
Novel versus Conventional Metaphors.....	31
Meaning and Experience.....	32
Narrative and Understanding.....	36
Meaning and Interaction.....	39
Sociological Perspectives.....	40
The Sociology of Occupations and Professions.....	40
Micro-Interaction Perspectives.....	42
Grice and Pragmatics	46
Meaning and Culture.....	48
CHAPTER 3. BELIEFS, KEY QUESTIONS, AND STATEMENT OF HYPOTHESIS	53
Introduction.....	53
Summary of Key Points from Literature Review.....	53
Context of Prior Work in Multidisciplinary Product Development.....	53
Communication and Collaboration.....	54
Cognitive Aspects.....	54
Aspects of Interaction.....	55
Opportunities Presented	55
Key Questions to be Addressed by the Current Work.....	57

CHAPTER 4. METHODOLOGY.....	60
Introduction.....	60
Starting Points.....	60
Words, Pairs, and Icons.....	60
Early Considerations of Interview and Analysis Methods.....	61
Range of Topics Considered Relevant.....	62
Semantic and Textual Analysis Methods Considered.....	62
Methods Involving the Creation of Representations.....	64
Development of Interview Technique.....	67
Changes Resulting from Trial Interviews.....	69
Information Expected from Interview in Final Form.....	72
Choice of Analysis Method.....	73
Note Taking and Levels of Transcription.....	73
Discourse Analysis.....	75
The Use of Discourse Analysis with Respect to Beliefs.....	78
A Review of How the Initial Threads Have Developed.....	79
CHAPTER 5. FIELD RESEARCH AS CONDUCTED	81
Introduction.....	81
Conduct of the Interviews.....	81
Selection of Informants.....	82
Brief Summary of Interview Script.....	82
Variation in Thematic Elements.....	83
Mechanics and Administration.....	84
Description of Informants.....	85
Post-Interview Analytical Procedure	87
Transcription.....	87
Parsing.....	88
Successive Readings and 'Lenses'	91
Reading for Explicit Content.....	92
Reading for Figurative Language.....	92
Coding and Extraction by Categories of Explicit Content and Repertoire Elements.....	94
Mapping of Themes.....	96
CHAPTER 6. SUMMARY OF ANALYSIS RESULTS	99
Introduction.....	99
EF Interview.....	99
Understanding vs. Being Driven - The Big Picture.....	100
Marketing - Driven by the Quest for Sales	100
Engineering - Driven by Manufacturing Cost and Minimum Risk.....	102
Industrial Designers - Less Easy to Typify and Closer to the Big Picture	104
A Deep Understanding - Quality and Product Life.....	105
Industrial Designers - Skill Sets and Pigeonholing	108
Summary.....	112
UC Interview	114
Industrial Design - Various Aspects of 'Intelligence'.....	115
Marketing - Re-active vs. Pro-active, and a Copy-cat Attitude	118
Being Open and Bringing in, vs. Being Stuck in Your Ways	123
Doing Your Job, vs. Just Processing.....	125
Good Industrial Design as Achieving a Balance.....	126
Summary.....	130
AM Interview.....	132
Work as a Network of Relations and Influences.....	132
Moving Within a Project.....	133

Engineering - Freedom and Openness vs. Indoctrination, Rules and Regulations.....	135
Industrial Designers - Flexible vs. Adamant.....	140
Long Term vs. Short Term Involvement.....	142
Work as Delivering on Obligations and Commitments.....	147
Internal vs. External.....	149
Summary.....	151
BB Interview.....	153
Strategy, vs. Concepts and Implementation.....	154
Design - Answering the Brief vs. a Fashion Statement.....	157
Engineers - Looking at the Technology vs. Looking at the Market.....	158
Communication with a Target Audience.....	160
Marketing - A Real Understanding.....	165
Summary.....	168
RK Interview.....	170
Understanding Both Sides of the Loop.....	170
Engineers Can Miss out on Market Needs.....	172
Conflict Due to Cultural Barriers.....	173
Product Marketing - Repertoires of Abstraction and Involvement.....	175
Individuals and Personalities.....	179
Summary.....	183
CHAPTER 7. INTERPRETATION AND DISCUSSION.....	186
Introduction.....	186
Interpretation of Analysis Results	
Common Thematic Aspects of Interviews.....	187
Special Knowledge and Understanding.....	188
Other Common Thematic Aspects.....	190
Other Observations About Specific Words.....	195
Comparison of Insider and Outsider Descriptions.....	197
Object Blind.....	197
Fashion for the Wrong Reasons.....	200
Negative Characterisations of Engineering.....	203
Observations About the Use of Examples.....	205
CHAPTER 8. REVIEW AND CONCLUSIONS.....	210
Goals and Results.....	210
Critique and Observations on Method.....	212
Informant Selection and Conduct of Interviews.....	212
Processes of Analysis.....	214
Conclusion.....	217
BIBLIOGRAPHY.....	218

LIST OF TABLES

Table 4.1	Feeling Words	69
Table 5.1	Informant Backgrounds.....	86
Table 6.1	EF Repertoire Elements, Clustered by Emergent Themes.....	113
Table 6.2	UC Repertoire Elements, Clustered by Emergent Themes.....	131
Table 6.3	AM Repertoire Elements, Clustered by Emergent Themes.....	152
Table 6.4	BB Repertoire Elements, Clustered by Emergent Themes	169
Table 6.5	RK Repertoire Elements, Clustered by Emergent Themes	185

LIST OF APPENDICES

- Appendix I Transcription Conventions and Notation
Interview Transcripts and Analysis
- Appendix II Interview Scripts
- Appendix III PhD Proposal
- Appendix IV Word List
- Appendix V Proposed study of radial category structure around the word 'Design'
- Appendix VI Engineering Stereotype Humour
- Appendix VII Advertisement for design firm featuring 'child-like' attitude