

Contents

| | | |
|----------|---|-----------|
| 1 | Introduction: Motorcycle and the Semantics of Design | 1 |
| 1.1 | Semantics of Design | 3 |
| 1.2 | Motorcycle and Aesthetics | 5 |
| | References | 7 |
| 2 | Motorcycle and Its Aesthetics: A Glimpse in History | 9 |
| 2.1 | 1869 to First World War: The Birth-Pangs | 10 |
| 2.2 | Between the Wars: The Baby Steps | 15 |
| 2.3 | The Metamorphosis (1945–60) | 17 |
| 2.4 | 1960–1984: Decline of the Empire | 19 |
| 2.5 | Post 1984: Return of the East | 20 |
| 2.6 | The Indian Story | 22 |
| 2.7 | Summary | 25 |
| 3 | Challenges for Product Planners | 27 |
| 3.1 | DNA Strategy | 28 |
| 3.2 | Architecture Strategy | 33 |
| 3.3 | Platform Strategy | 34 |
| 3.4 | Product Family Strategy | 34 |
| 3.5 | Semantic Strategy | 34 |
| 3.6 | Product Planning Tools | 35 |
| 3.7 | The Tensions | 36 |
| 4 | Challenges for Styling Designers | 39 |
| 4.1 | The Process | 39 |
| 4.2 | The Tensions | 42 |
| 5 | The Science of Emotions | 45 |
| 5.1 | Emotion Perspectives | 46 |
| 5.2 | Summary | 55 |
| | References | 56 |

| | | |
|-----------|---|-----|
| 6 | Deconstructing Emotions into Design Factors | 59 |
| 6.1 | Context | 60 |
| 6.2 | Color | 61 |
| 6.3 | Form | 64 |
| 6.4 | Unity | 64 |
| 6.5 | Dynamism | 66 |
| 6.6 | Graphics | 67 |
| | References | 68 |
| 7 | The Methodology | 69 |
| 7.1 | The Approach | 69 |
| 7.2 | Mathematical Modeling | 75 |
| 7.3 | Verification and Loop Closure | 78 |
| | Appendix 1: Weightage Calculation for Context Sub-factors | 80 |
| | Appendix 2: SGDI Calculation for Context Sub-factor Front Facia | 80 |
| | References | 81 |
| 8 | The Context of Emotions | 83 |
| 8.1 | Type: Cruiser, Sports, and Standard (Fig. 8.2) | 86 |
| 8.2 | Construction | 91 |
| 8.3 | Front Facia | 93 |
| 8.4 | Wheels | 93 |
| | Appendix 1: Emotion Scores for Motorcycle Types | 98 |
| | Appendix 2: Emotion Scores for Wheels | 99 |
| | Appendix 3: Emotion Scores for Front Facia | 101 |
| | References | 102 |
| 9 | The Shape of a Motorcycle | 103 |
| 9.1 | Fuel Tank | 104 |
| 9.2 | Side Cover | 112 |
| 9.3 | Seat | 116 |
| 9.4 | Visor | 119 |
| 9.5 | Summary | 122 |
| | Appendix 1: Fuel Tank Shapes and their Emotion Scores | 124 |
| | Appendix 2: Side Cover Shapes and their Emotion Scores | 130 |
| | Appendix 3: Seat Shapes and their Emotion Scores | 132 |
| | Appendix 4: Visor Shapes and their Emotion Scores | 133 |
| 10 | Color and Texture | 135 |
| 10.1 | Mono-Colors | 138 |
| 10.2 | Combinations in a Single Primary Color | 139 |
| 10.3 | Combinations of Different Primary Colors | 141 |
| 10.4 | Combination of Primary Colors, White, Black and Gray | 145 |
| 10.5 | Texture | 149 |
| | Appendix 1: Emotion Scores for Color Combinations | 152 |
| | Appendix 2: Emotion Scores for Color and Texture Combinations | 154 |

| | | |
|-----------|--|-----|
| 11 | Unity and Dynamism: The Interplay | 157 |
| 11.1 | Unity | 158 |
| 11.2 | Dynamism | 162 |
| 11.3 | Unity and Dynamism | 173 |
| | References | 177 |
| 12 | Graphics: To Be or Not to Be | 179 |
| 12.1 | Graphics | 180 |
| 12.2 | Typography | 184 |
| | Appendix 1: Graphics Combinations | 189 |
| | Appendix 2: Emotion Scores for Graphics Combinations | 190 |
| | Appendix 3: Emotion Scores for Typography Combinations | 192 |
| | Reference | 194 |
| 13 | A Case Study | 195 |
| 13.1 | Calculation of Evaluation Scores | 198 |
| 13.2 | Comparison and Iterations | 198 |
| | Appendix 1: Calculation of Evaluation Scores | 203 |
| | Appendix 2: Sample Calculation of Emotion Scores | 205 |
| | Appendix 3: Sample Calculation of Emotion Scores for Texture | 206 |
| | Appendix 4: Weighted Emotion Scores for Texture | 218 |
| 14 | Design and the Role of Cultures | 219 |
| 14.1 | Migration | 221 |
| 14.2 | Gender | 222 |
| 14.3 | Lyricism | 230 |
| 14.4 | Accounting for Culture | 232 |

Aesthetics: Quantification and Deconstruction
A Case Study in Motorcycles

Chandra, S.

2018, XIII, 233 p. 155 illus., 140 illus. in color.,
Hardcover

ISBN: 978-981-10-6234-6