CONTENTS

About the author ix Acknowledgements xi

01 What is neuro design? 1

What is neuro design? 3
A global psychology experiment 5
The importance of digital images 6
Web users are intuitive, impatient and image-focused 7
'System 1' business 9
Neuro design 10
Summary 14
Notes 14

02 Neuroaesthetics 17

Aesthetics and neuroscience 19
Neuroaesthetics is born! 21
Ramachandran's nine principles 24
Semir Zeki: artists are neuroscientists 33
Summary 37
Notes 37

O3 Processing fluency: how to make designs feel more intuitive 39

Processing fluency 42
Familiarity: the mere exposure effect 42
Physiological evidence for processing fluency 44
People internally monitor their ease of processing 45
How Systems 1 and 2 decode an image 46
Perceptual and conceptual fluency 47
Beyond simplicity versus complexity 49
Novelty and complexity can lead to liking 50
How would you make a robot curious to view images? 52

Ways to make designs more fluent 59
Checking the complexity of your designs 74
Summary 75
Notes 76

04 How first impressions work 81

The halo effect 83
Are first impressions just a feeling? 84
First impressions of people online 85
Thin slicing and the impatient consumer 87
What drives first impressions? 89
Novelty can harm usability 93
Implications for designers 94
Clear at a glance 95
Summary 98
Notes 98

05 Multisensory and emotional design 101

Activating other senses through visuals 103
Do letters trigger colour associations? 104
Day-colour associations 106
Do shapes have colours? 106
Colour 108
Embodied cognition 111
Word sound associations 112
The affect heuristic 113
Faces 113
The uncanny valley 115
Cuteness 116
Anthropomorphic design 117
Curved and pointy shapes 117
Summary 120
Notes 120

Visual saliency maps 123

How we decide where to look 125 The power of visual saliency 129 Saliency mapping software 130 Using saliency mapping software 131
Saliency mapping on webpages 132
How designers can use visual saliency 134
Summary 136
Notes 136

07 Visual persuasion and behavioural economics 139

Priming 141

Persuasion is not always conscious 142
Behavioural economics: shortcuts to decision making 146
Revisiting the pension challenge 151
Visual nudges 153
Creating/testing persuasive imagery and nudges 154
Summary 155
Notes 156

O8 Designing for screens 157

Reading is harder on screens 160
Ways to increase readability of text 162
Hard to read = hard to do 162
Disinhibition effect 165
Mobile screens 165
Central fixation bias 168
Horizontal viewing bias 170
Summary 172
Notes 173

09 Viral designs 175

Memes 176
Internet memes 178
Memes and neuro design 180
Mimetic desire 182
Emotions and viral content 183
Can a computer predict if an image will go viral? 184
The main viral image sites 187
Summary 188
Notes 189

viii

Designing presentation slides 191 10

Allowing the audience to follow your message 193 Visual learning 200 Summary 202 Notes 203

Conducting neuro design research 205 11

Average versus polarizing results 208 Controlling for other factors 208 The new research tools 210 Keeping up with new research findings 217 Conclusion 220 Summary 221 Notes 222

12 Conclusion 223

Applications for neuro design 227 New screens and formats 230 More data for finding patterns 233 What neuro design still needs to learn 235 Notes 237

Appendix: 61 neuro design principles 239 Index 245