Cognition through Color

Jules Davidoff

A Bradford Book
The MIT Press
Cambridge, Massachusetts
London, England
Contents

Foreword by John C. Marshall ix
Preface xiii

Chapter 1
Introduction 1
1.1 An Object Lesson 1
1.2 Representations 5
1.3 The Organization of Chapters 6

Chapter 2
The Neurophysiology of Modularity 11
2.1 Parallel Pathways 11
2.2 Color Blindsight 25
2.3 Arguments against Modularity 26
2.4 Conclusions 28

Chapter 3
The Neuropsychology of the Color Module 31
3.1 Achromatopsia 31
3.2 Dissociated Input Modules 39

Chapter 4
Modularity Studied by Equiluminance 41
4.1 Introduction 41
4.2 Color Blind Modules 42
4.3 Summary Comment 49

Chapter 5
The Temporary Representation: Modular Approaches 51
5.1 The Pictorial Register 51
5.2 Feature Integration 52
5.3 Domain Models 60
5.4 Summary 67
Chapter 6
Boundaries and Surfaces 69
6.1 The Temporary Representation: Modular and Nonmodular Accounts Compared 69
6.2 The Colors of Surfaces 75
6.3 Apperceptive Visual Disorders: Modular and Nonmodular Accounts Compared 81
6.4 Summary and Progression to Object Recognition 83

Chapter 7
Object Knowledge 87
7.1 In Normals 87
7.2 After Brain Damage 92
7.3 A Model for the Division of Object Knowledge 96
7.4 Relationships to Other Models 99

Chapter 8
Colors without Objects 103
8.1 Functional Modularity 103
8.2 Associations with Color 111

Chapter 9
The Colors of Objects 121
9.1 The Role of Color in Object Recognition 121
9.2 The Role of Object Knowledge in the Perception of Color 124
9.3 The Recognition and Retrieval of Object Color 128

Chapter 10
Objects and Their Names 139
10.1 The Role of Object Knowledge 139
10.2 Object Knowledge and the Retrieval of Object Names in Aphasia 142
10.3 Conclusions 146

Chapter 11
Color Naming 147
11.1 In Normals 147
11.2 Disorders of Color Naming 156
11.3 Color Naming and Word Naming: Interference 163

Chapter 12
Overview 169

References 173
Index 211