

### Diagnosis of defective colour vision

Jennifer Birch  
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This book is primarily intended as a practical guide for all people who perform colour vision examinations. Although the content is quite 'in-depth' in places, the book is nicely written, and even the novice will be drawn into this fascinating subject. The style, intentional or not, is such that one can skip confusing sections without losing the thread, and the reader should not be put off by what may appear to be for them, irrelevant content.

The opening chapter explains the importance of colour vision in all aspects of our lives, and serves to make the reader aware of what is often taken for granted. This leads on to the various theories of colour vision, the definition of normal colour vision, acquired defects, congenital defects and their prevalence and inheritance.

There is a good deal of material on molecular genetics, occupational colour vision standards, and the design and use of new colour vision tests. Assessment and examination techniques are discussed in detail, along with a comprehensive range of investigations appropriate to different types of colour vision deficiency, plus a summary of typical results, including carefully chosen and very helpful case histories relating theory to practice. The various causes of congenital colour deficiency, acquired defects in retinal pathology, central and peripheral retinal lesions, glaucoma, diabetes, retinitis pigmentosa, optic

nerve lesions, intracranial lesions, and toxicology are also examined.

The emphasis is clinical, but occupational screening is very well covered too. There is an enlightening chapter devoted to examination of children, with advice given on how to handle different age groups, and what tests are practical for the different stages in life. The psychological aspects, relating to the diagnosis of, or failure to diagnose colour vision deficiency in children, are examined, with the caveat that false positive results are unacceptable at any stage. There is also a small but interesting chapter on filter aids for colour-deficient people, detailing the benefits of various filtered contact lenses, with caveats on road safety and employment.

The traditional and widely available 100 Hue and D15 tests, anomaloscopes and screening plates are particularly well covered, with plentiful detail of their many variants. There is useful advice on, for example: techniques to further sophisticate analysis of the 100 Hue test. The discussion of practical limitations for each investigation is very useful indeed, because there appears to be no 'ideal' colour vision test, and important decisions are best made on the evidence of an appropriate battery of tests, examples of which are detailed for different occupational screening and clinical requirements. There are a surprising number of different colour vision tests, and they all seem to get a mention, if not discussed in detail. The optimal use of screening, classification, grading and occupational tests is looked at, and there is helpful information on giving advice about employment.

It is good to see an attempt to remove the non-existent hue 'indigo' from our vocabulary, and

interesting to learn the historical reason for its misconception having taken root so firmly in popular belief. Indeed, the discussion of other historical aspects of colour vision exploration help to make this book an enjoyable read. Although the references are generally comprehensive and reasonably up-to-date, frustratingly, some interesting comments are unreferenced, making them difficult to follow up, and there are several unqualified statements, which perhaps deserve further explanation. Here, some detail appears to have been sacrificed for the sake of conciseness.

Those reading the cover, could be forgiven for expecting information on all aspects of colour vision testing, but the emphasis is very much on the 'tried and trusted', and more recent tests which are PC based are not well covered. The content relating to electrophysiological testing is quite sparse, with unconventional views on the origin of the ERG b-wave, and will be of little value to the reader. However, the author has put a lot into 149 pages, and although a little disappointing in the coverage of the more esoteric investigations, this book should be essential reading for optometry students and practitioners, ophthalmologists and all professionals involved in colour vision assessment and examination. For the vast majority of colour vision testing, this book will prove to be absolutely invaluable, and well worth the very modest investment of around £30.

Lawrence Brown  
Department of Medical Physics  
Royal Hallamshire Hospital  
Sheffield, UK