



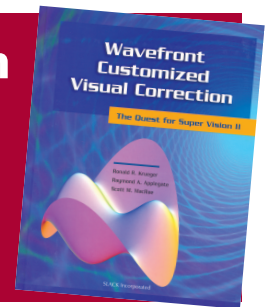
Join the quest for the revolutionary edge of vision correction

WAVEFRONT CUSTOMIZED VISUAL CORRECTION: THE QUEST FOR SUPER VISION II.

EDITORS: RONALD R. KRUEGER, RAYMOND A. APPLGATE, AND SCOTT M. MACRAE.

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398 PAGES. COLOUR AND BLACK AND WHITE ILLUSTRATIONS AND TABLES.



The Quest for Super Vision II is the rather computer-game sounding subtitle of this volume, successor to 2001's "Customized Corneal Ablation: The Quest for Super Vision."

For the editors, we live in age where mere correction of vision to a norm is far from the limit of our abilities; we can transcend this and achieve "super vision", defined as "exceptionally good quality of vision beyond that represented by the normal population."

This volume is a completely revised version of "Customized Corneal Ablation" and discusses additional forms of customised diagnosis and correction.

This book, therefore, sets itself very much on the revolutionary edge of things. The final chapter, "The Future of Customization," proclaims that "a great challenge exists ... to be bold and pursue innovative concepts beyond the status quo. Sometimes in dreaming big dreams, one can actually change the future by being actively involved in the process of innovation."

Yet, the editors are at pains to suggest that reality has a place: "Innovation requires a certain aspect of realism, which is predicated on the stepping stones of science."

Thus, the bulk of the book is taken up with the realism that underlies the expansive dreams of super vision. Another concept that is key to

understanding the editors' mission is that of customization. Early in the book, the editors distinguish between normalization and customization. Normalization is based on a population average standard to which correction aims, while customisation is based on an individualised customized wavefront.

Perhaps the key chapter, therefore, from the theoretical point of view, is that on "How Far Can We Extend the Limits of Human Vision?" This is a particularly detailed, optics- and statistics- heavy chapter, which essentially puts a powerful case for the pursuit of correction of higher-order optical defects. As with any innovation, it is important to stop first of all and wonder if the innovation is feasible and if it is desirable. As the authors mention in their final chapter, perhaps there was some evolutionary advantage in visual defects that we can only guess at. However, the dream of "super vision" is an old one, redolent in phrases such as "eagle-eyed" in which humanity expressed a certain envy of the (perceived) perceptual prowess of other animals.

Theo Seiler, in his foreword, writes that "conventional medical education ... is based only marginally on natural science and more on a 'medicine as an experience' science." He praises the volume under discussion as an exemplar of the merging of basic science and clinical experience. It is interesting in

this age of evidence-based practice becoming such a near fetish, that a basic-science approach is taken.

Each of the four main sections of the book – on Wavefront Diagnosis and Standards, Wavefront Customised Corneal Ablation, Wavefront Customised Lenses, and Nonwavefront Customised Corrections – is divided into basic science and clinical science sections. Thus, the theoretical aspects and evidentiary base are discussed first, before the meat of clinical practice. This is a practical approach, although the clinical science chapters are less of a step-by-step guide than one would sometimes encounter.

It is certainly a comprehensive approach. The list of contributors is itself impressive, with researchers from many countries contributing chapters. There is an extensive section of diagnosis. Obviously, with customisation as one of the aims of the editors, this is a crucial step. The emphasis has to be on the individual patient and their individual eyes. If visual function is not merely to be corrected to a population-based norm but optimised – the promise of "super vision" – diagnosis and accurate measurement is critical.

The book is big and bold in design as well as in concept. It has no less than five full pages of acknowledgements, information about the eminent editors, a foreword by Theo Seiler of Zurich's Institut für Refraktive und Ophthalmo-

Chirurgie, an introduction by Stephen Trokel of the Columbia University Medical Center, and a preface from the editors. The book is filled with diagrams and tables, many in colour.

In a way, this volume illustrates the one of the dilemmas of modern medicine. As medical technology disseminates and is more widely spread, the demands change. What was once miraculous becomes routine – and then more is demanded. The editors embrace this and urge their readers to dream big dreams and to try and shape those dreams into reality.