Foundations of Binocular Vision
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First Edition, 2000
Errata as of March 31, 2004

Page ix, paragraph 2, line 1- The word “textbook” is misspelled.

Page xi, paragraph 1, line 6- The semicolon should be replaced with “and”.

Page 10, paragraph 5, line 3- The text and the pictorial representation in Figure 2-1 do not match. The text should read “nodal point” rather than “entrance pupil”. This same error occurs at:

Page 13, paragraph 2, line 4
Page 93, paragraph 1, lines 2 and 3

Page 11, paragraph 2, line 4- If the eyes move to the right, the image should be on the *nasal* retina in the left eye and *temporal* retina in the right eye.

Figure 2-7 (page 17)- The eye on the right of the figure should be rotated to the right so that the fovea is aligned with the object of regard.

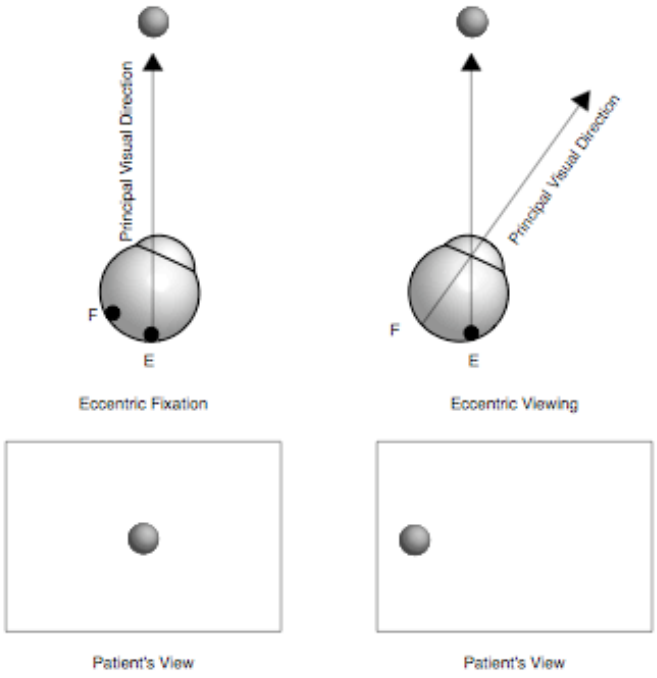


Figure 2-18 (page 32)- The figure is correct, but its text description on page 33,

paragraph 3 is reversed. It should read that “crossed disparity involves a *temporalward* shift of the images on the retina in one or both eyes, whereas uncrossed disparity involves a *nasalward* shift”.

Figure 2-20 (page 35)- The text underneath diagrams B and C are cut off. They should read “B. When focused on the distal finger, the near finger is seen as double.” and “C. When focused on the near finger, the distal finger appears double.”

Figure 3-6 (page 59) and Figure 4-4 (page 86)- The lines labeled “Horopter without fixation disparity” and “Horopter with fixation disparity” are reversed.

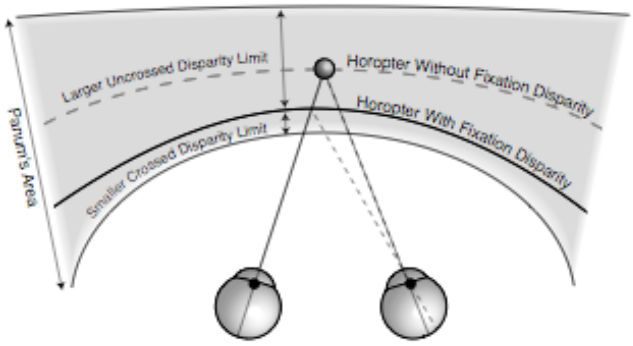
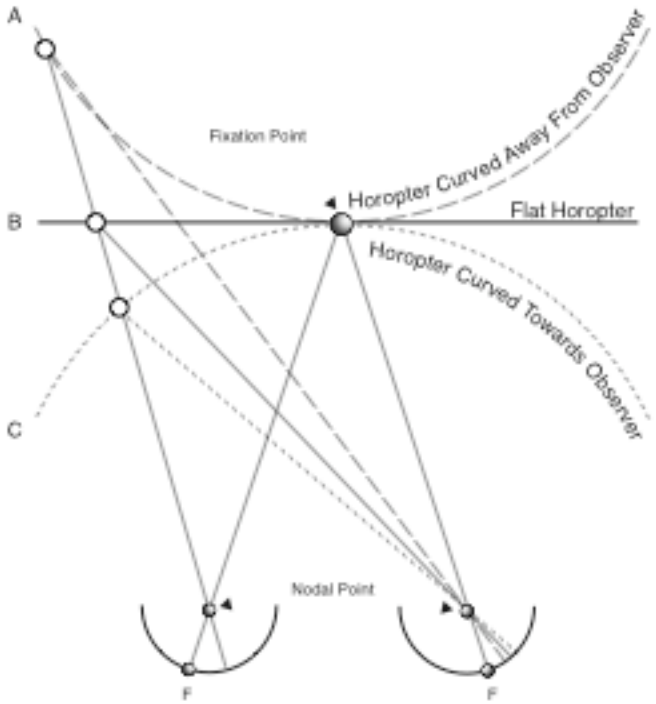


Figure 4-1 (page 82)- The word “horopter” is misspelled. The correct figure is below:



Page 89, paragraph 1, line 3- The *original perceived frontoparallel plane* is farther away than fixation.

Page 89, paragraph 1, line 7- The AFPP method may, in fact, exhibit effects due to fixation disparity.

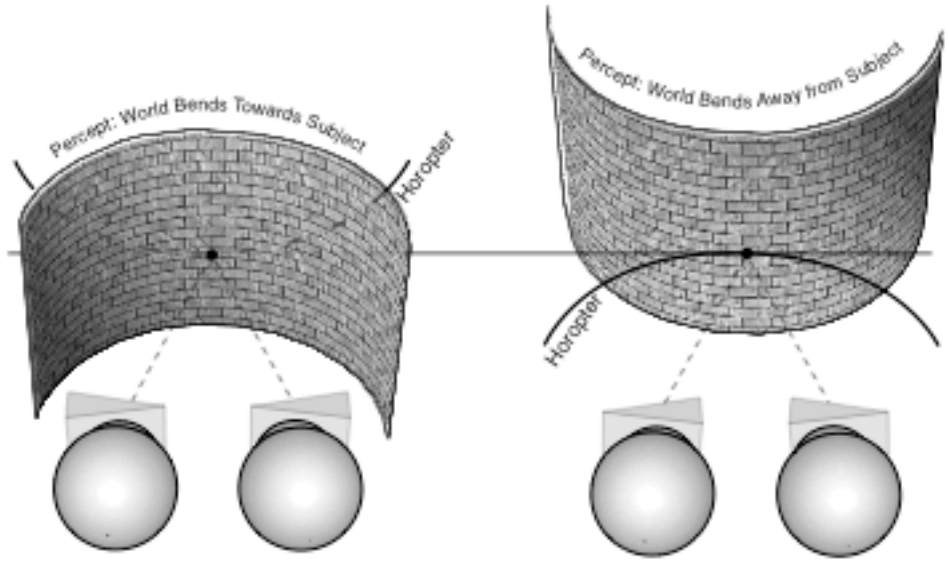
Page 93- The definition of the value R should read:

$$R = \tan \alpha_2 / \tan \alpha_1$$

Figures 4-12 and 4-13 (page 94)- The figure legends should read "*Nonius* horopter" rather than "AFPP horopter".

Page 102, 3, following the formula- Variable *h* is not the vertex distance (from the spectacle plane to the cornea), but the distance from the spectacle plane to the *entrance pupil*, i.e., about 3 mm. greater than the vertex distance. [Thank you, Dr. Salmon!].

Figure 4-26 (page 112)- The left side of figure should be *BO* prism and the right side should be *BI* prism. The correct figure is below:



Page 134, paragraph 1, line 6- "Binocular color mixing" should read "binocular color rivalry".

Page 134, paragraph 3, line 3- The word "luster" should be replaced by "color mixing".

Page 142, paragraph 1, line 5- "The retinal locus with the best stereoacuity" should be replaced by "the retinal location with non-degraded stereopsis".

Page 143, paragraph 3, line 5- Replace the word “base” with “apex”.

Page 148, paragraph 1, line 6- Delete the word “produce”.

Page 162- The square root symbols for the term $\sqrt{2}$ are misprinted as $\overline{2}$.

Page 163, paragraphs 5 and 6- To match Figure 6-6, the text should read that the neutral density filter is placed over the ***right*** eye. The right eye therefore becomes the filtered eye in the discussion and the left eye the unfiltered eye.

Page 188, paragraph 5, last line- “Vertical disparity” should be changed to “horizontal disparity”.

Page 193, paragraph 4- On line 5, “optical axis” should read “*visual* axis”. On line 8, “temporally” should read “*nasally*”.

Page 199, paragraph 3, line 4- It should read “…the square root of the stimulus contrast”.

Page 204, line 11- Change “uncrossed” to “crossed”.

Figure 7-21 (page 205)- The thin-film beam-splitter is 90 degrees away from its correct orientation. The corrected figure is below:

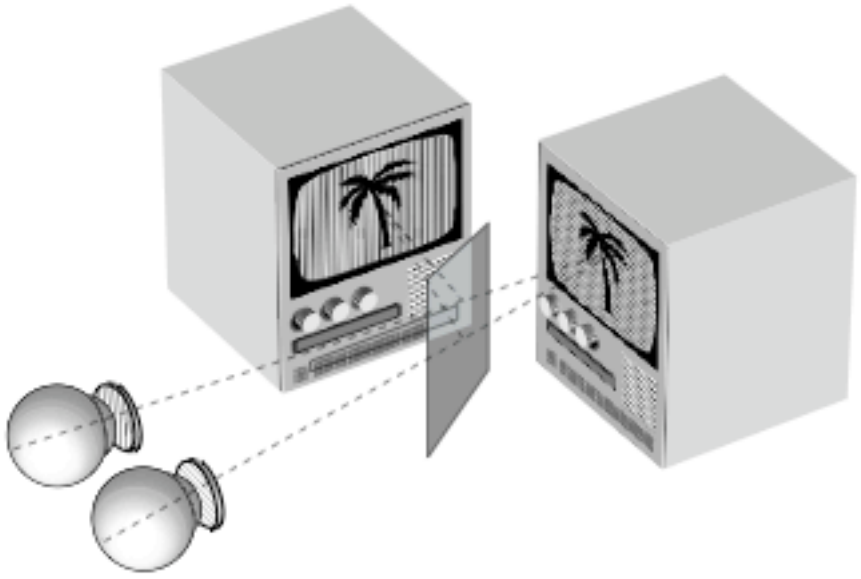


Figure 7-22 (page 205)- This figure has been redrawn to conform to standard ray tracing of prismatic effects of the decentered lenses. An updated figure is below, although the light path is still not drawn perfectly yet:

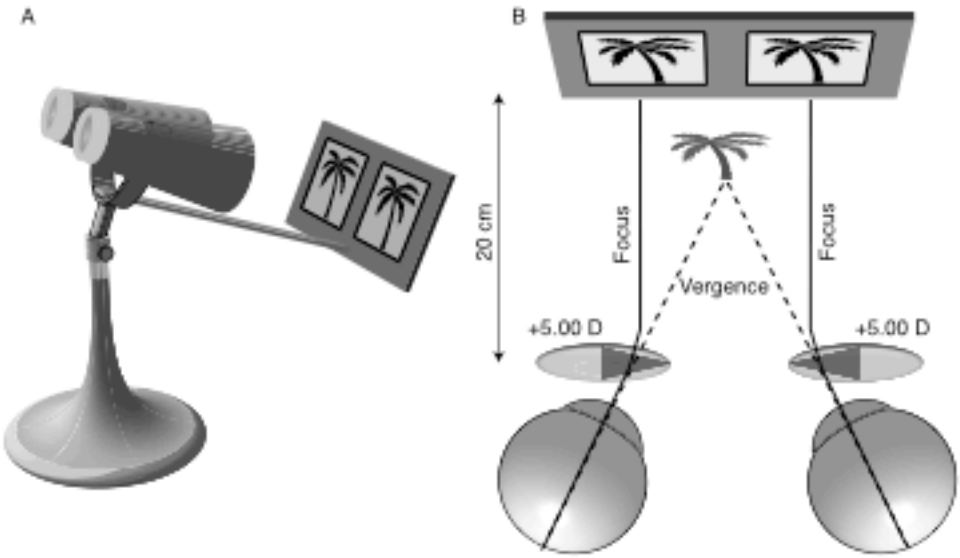
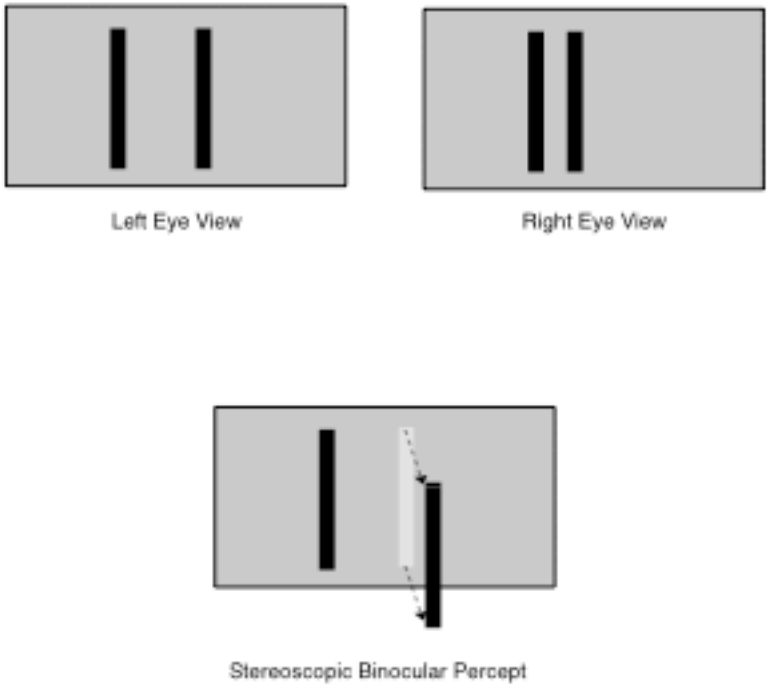


Figure 7-27 (page 211)- The right target in the right eye view should be displaced leftward rather than rightward in order to produce crossed disparity.



Page 239, paragraph 3, line 4- Chiasmal lesions yield bitemporal field defects due to the loss of optic nerve fibers from the nasal retina, not binasal defects.

Page 240, paragraph 1, line 5- Layers 3 through 6 are P-cells.

Page 249- Note that although binocular summation in the VEP is limited in its clinical usefulness, one can still examine relative changes in summation by recording at a given spatial and temporal frequency and manipulating stimulus parameters that will decrease fusion, and therefore the degree of summation (e.g., prism strength). In addition, note that the NBEO examination still erroneously states that the pattern VEP can be used as a clinical test of binocular summation by comparing binocular and monocular VEP amplitudes.

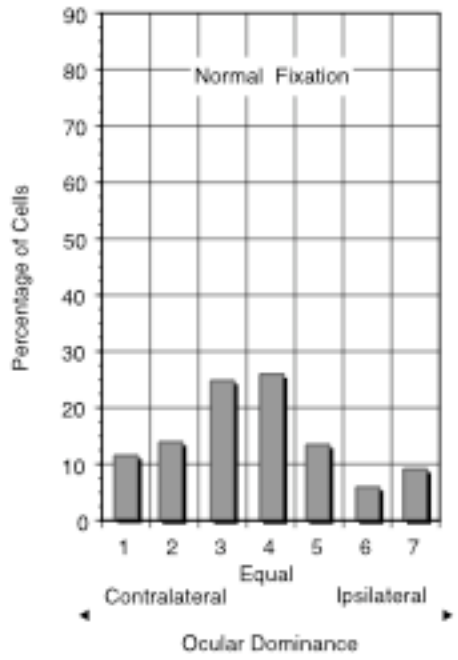
Page 250, paragraph 3, line 6- Change "When the VEP is recorded…" to "After the VEP is recorded…".

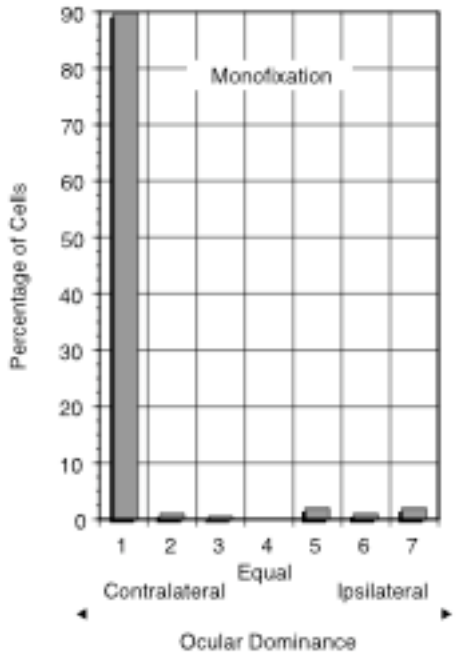
Figure 8-12 (page 255)- The titles for figures C and D are reversed. Figure C is a *crossed* disparity cell, while Figure D is an *uncrossed* disparity cell.

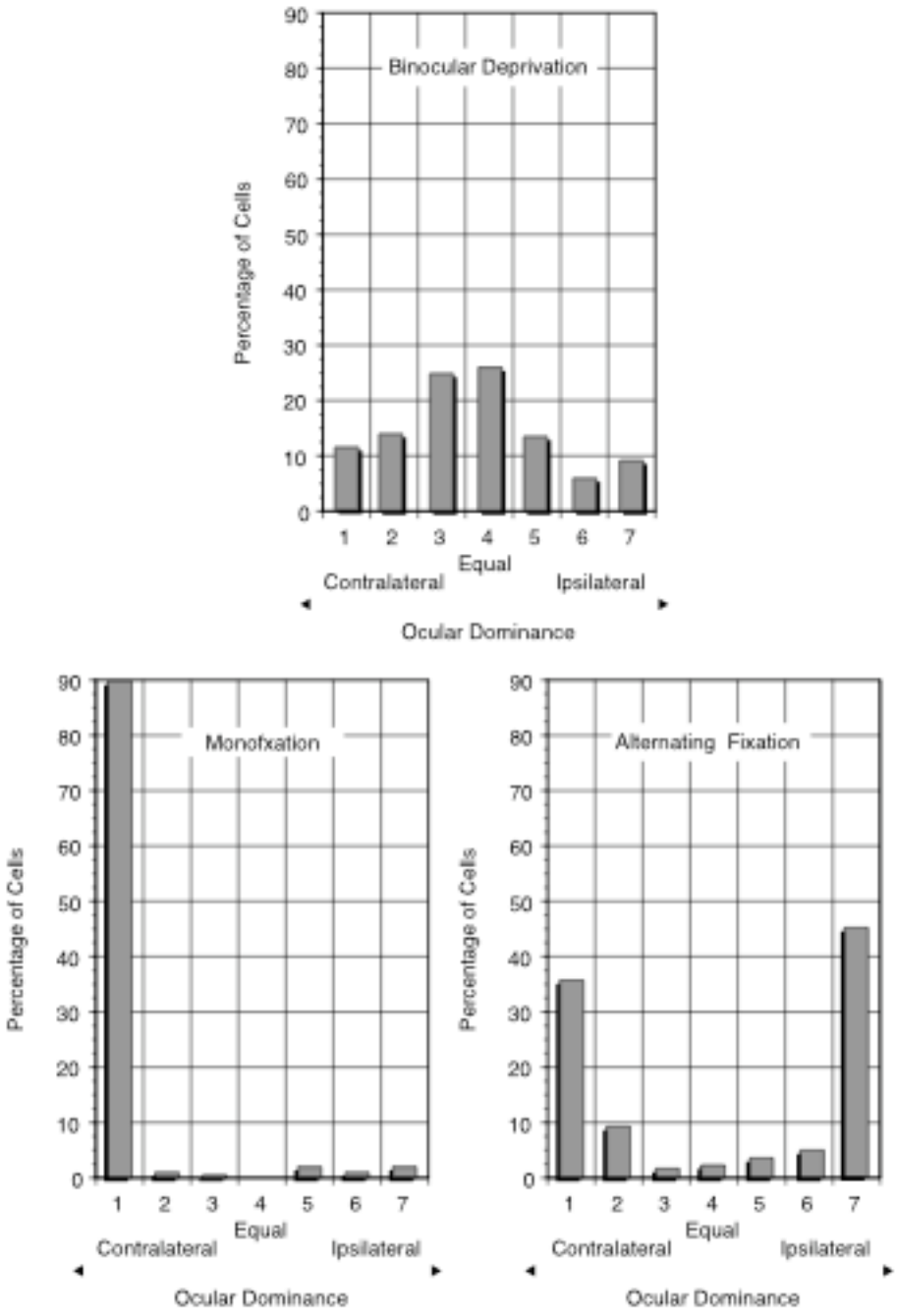
Figure 8-13 (page 256)- The righthand side of the figure has been cut off. Inhibitory zones should be present on the right side of each drawing of the right eye's receptive fields. These right eye receptive fields should all be symmetric in shape as in the left eye zero disparity receptive field.

Figure 9-1 (page 270)- This figure's x-axis label does not agree with the text. The leftward label on the x-axis should be "Birth".

Figures 9-9 (page 292), 9-10 (page 293), 9-13 (page 297) and 9-17 (page 303)- The ocular dominance histograms using the 7 level scale of Hubel and Wiesel, should indicate cells responding to the *contralateral* eye only for category 1 and the *ipsilateral* eye only for category 7. This means that each of these figures is a left-right mirror-image of what it should portray. The corrected figures, in order, are below:


Normal Fixation
Percentage of Cells
90
80
70
60
50
40
30
20
10
0
1 2 3 4 5 6 7
Equal
Contralateral
Ipsilateral
Ocular Dominance


Monofixation
Percentage of Cells
90
80
70
60
50
40
30
20
10
0
1 2 3 4 5 6 7
Equal
Contralateral
Ipsilateral
Ocular Dominance



<u>Acknowledgements</u>: The authors wish to thank Dr. Arthur Bradley of Indiana University School of Optometry and Dr. Thomas Salmon of the Northeastern State University College of Optometry for bringing some of these errors to their attention.