APPENDIX - Mistakes in previous work

Mistakes were made in the first author's previous theoretical investigation about how measured axial length changes during accommodation might be in error[17].

Firstly, there were errors in the Gullstrand gradient index unaccommodated eye in Table 1. The average refractive index of the eye should be 1.34616 instead of 1.34701, the optical path length of the

gradient index in the lens should be 5.03740 mm (5.05798 mm), and the total optical path length should be 32.82674 mm (32.84728 mm). As a consequence, the average refractive index for the lens given on page 285 should be 1.39929 (1.404500).

Secondly, equation (8) for the accommodated lens should be

$N(Z) = 1.406 - 0.00125155(Z - Z_o)^2 - 0.0009371125(Z - Z_o)^4 - [0.00117215 + 0.000527125(Z - Z_o)^2]Y^2 - 0.000034995683Y^4$

rather than

$N(Z) = 1.406 - 0.001251555(Z - Z_o)^2 + 0.0009371125(Z - Z_o)^4 - [0.00117215 + 0.0000527125(Z - Z_o)^2]Y^2 - 0.000034995683Y^4$

This mistake affects equations (9) and (10). The optical path length in the lens should be 5.60533 mm instead of 5.62715 mm and the total optical pathlength should be 32.86022 mm (32.88204 mm).

The consequence of these two sets of errors is that the change in mean refractive index on page 285 is +0.15% instead of +0.13%, the error in equation (4) for the total optical path length should

be 0.02494 μm or 25 μm (rather than 0.02573mm or 26 μm), and the error in equation (12) for the optical path length should +5.8 μm (not +5.1 μm). Fortuitously, the two sets of mistakes largely cancel.