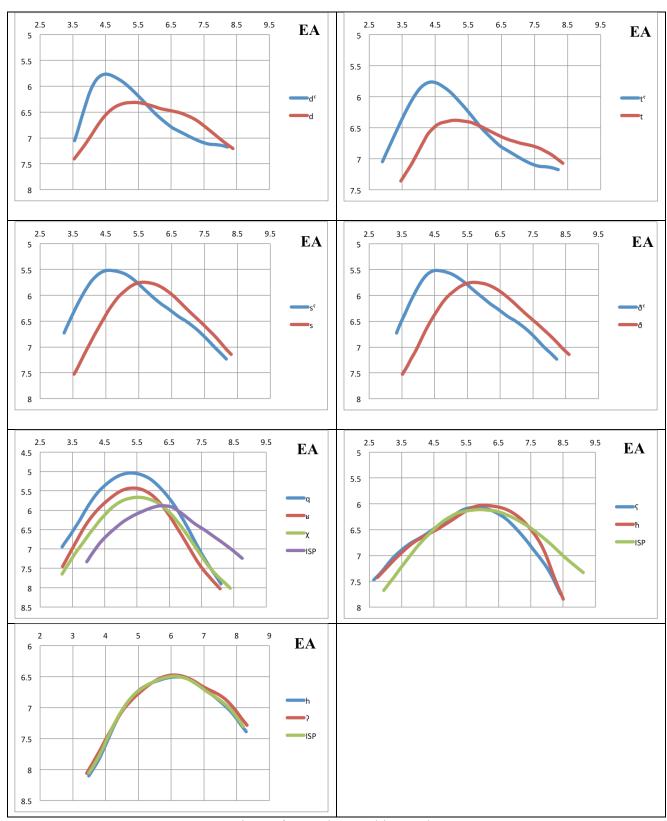
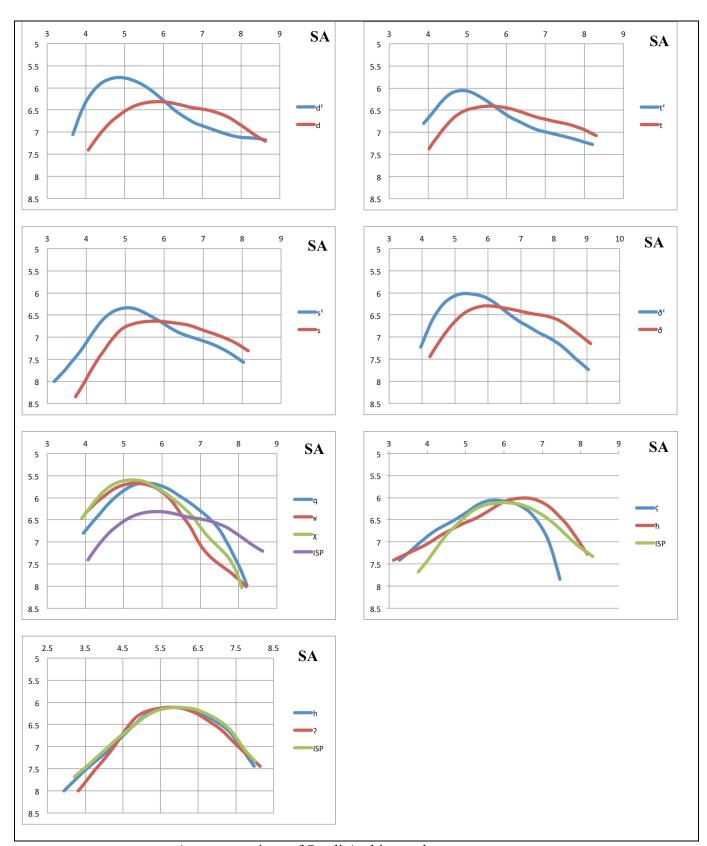
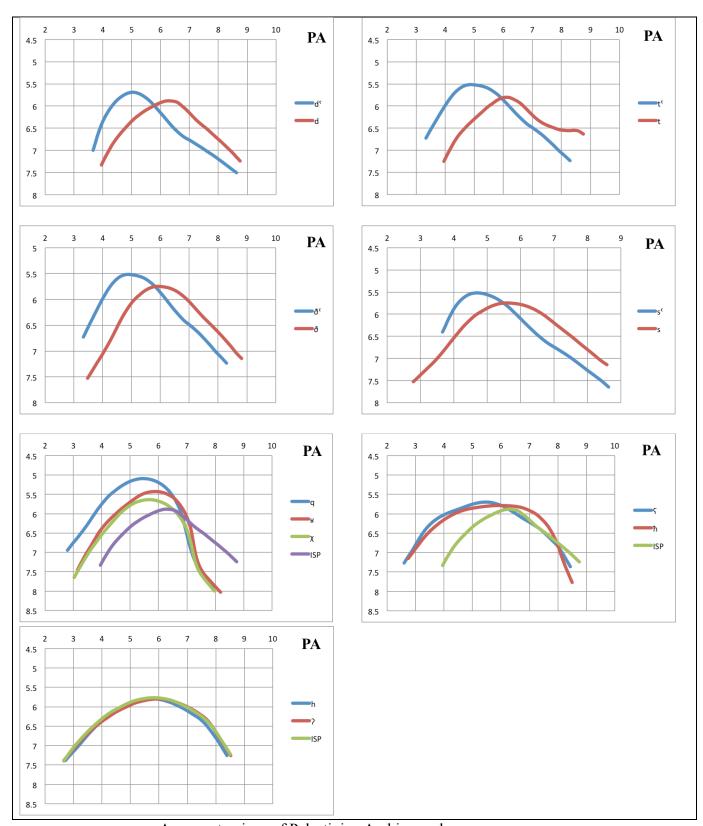
**Appendix A:** General tracings



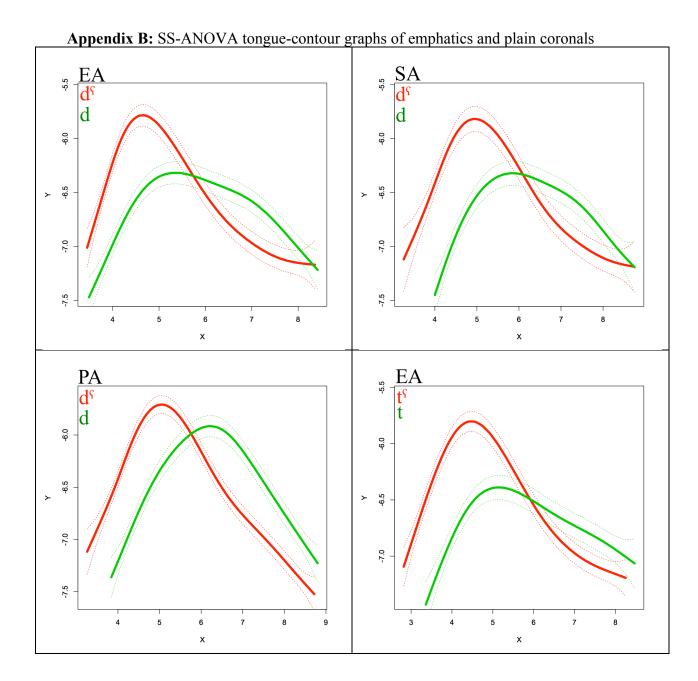
Average tracings of Egyptian Arabic speaker

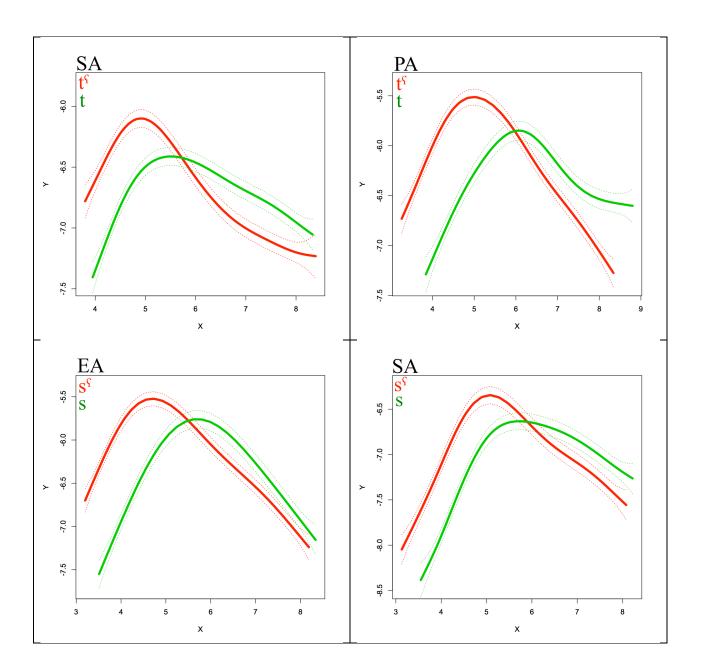


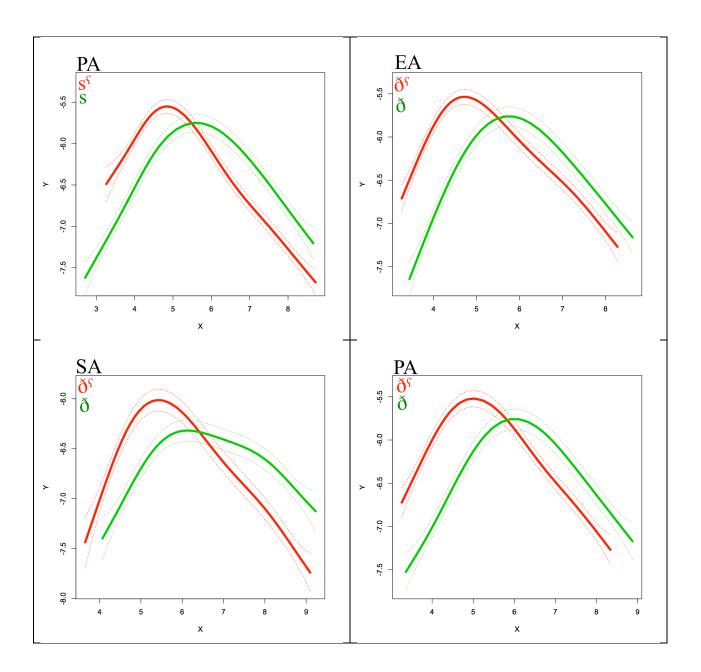
Average tracings of Saudi Arabic speaker



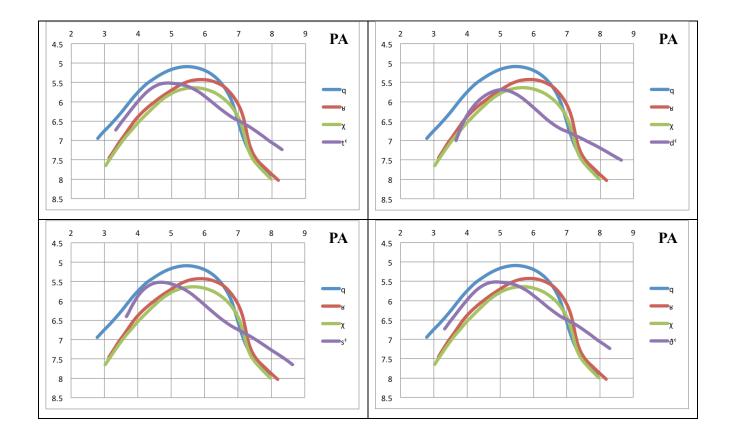
Average tracings of Palestinian Arabic speaker







**Appendix C:** uvular-emphatic comparisons 7.5 8.5 9.5 6.5 2.5 2.5 3.5 4.5 5.5 5.5 6.5 7.5 8.5 9.5 EA  $\mathbf{E}\mathbf{A}$ 4.5 4.5 5.5 5.5 6.5 6.5 7 7 7.5 7.5 8 8 8.5 8.5 9.5 7.5 8.5 9.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 2.5 3.5 4.5 5.5 6.5  $\mathbf{E}\mathbf{A}$  $\mathbf{E}\mathbf{A}$ 4.5 5 5.5 5.5 6 6 6.5 6.5 7 7 7.5 7.5 8 8 8.5 8.5 5 6 7 6 SA SA 5 5 5.5 5.5 6.5 6.5 7 7 7.5 7.5 8 8 8.5 8.5 SA SA 5.5 5.5 6 6 6.5 6.5 7 7.5 7.5 8 8 8.5



Appendix D: SS-ANOVA tongue-contour graphs of pharyngeals, emphatics and uvulars

