

Phonetic realizations of geminate affricates: A study of production

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The phonologically geminate affricates of Polish can be manifested in phonetically distinct ways: by rearticulation of the affricate or by lengthening the duration of either the stop closure or the release (including the aspiration, if present). This study compares the distinct manifestations of the Polish voiceless affricate geminates (/tʃtʃ/, /tʃtʃ/ and /tsts/) acoustically, comparing the present findings with the findings of an earlier study of Polish geminate /tʃtʃ/ (Thurgood 2001).

Four questions are of interest:

- (1) Are the durational patterns similar for different places of articulation? Do geminates derived morphologically differ from lexical geminates?
- (2) It is well known that diverse speech styles of exhibit different phonetic characteristics. What effects did the different speech styles have on these geminates?
- (3) Does the data show a new type of geminate manifestation? Specifically, can the geminate vs. singleton be manifested solely by fricative length?
- (4) What sort of variation in manifestation exists both within individual speakers and across speakers?

Acoustic correlates of singleton vs. geminate affricates are investigated in the disyllabic words /lɛtʃɛ/ 'summer (locative case)' vs. /lɛtʃtʃɛ/ 'fly'; /grɛtsi/ 'the Greeks' vs. /grɛtstsɪ/ 'Greek (adjective)'; and, /utʃɛ/ 'teach (first person)' vs. /utʃtʃɛ/ 'celebrate (first person, future)'. The geminates in /lɛtʃtʃɛ/ and /grɛtstsɪ/ are morphologically derived; the geminate in /utʃtʃɛ/ is lexical.