Exploring the role of stress change in compound recognition across modalities
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Greek compounds exhibit two main stress patterns; the compound preserves the stress of the second constituent (the morphological head) (1) and the compound receives stress on the antepenultimate syllable (2):

(1) jiðovoskós < jið- + vosk- (cf. voskós)
‘goat herder’ ‘goat’ ‘herder’
(2) tsimedóliðos < tsimed- lið- (cf. líðos)
‘concrete block’ ‘cement’ ‘stone’

Previous studies on compounding (cf. Libben & Jarema (2006), Libben, Derwin, De Almeida, 1999)) have argued for a dual representation of compounds. This account of compounding permits stress, among other properties to have a role during processing. However, while other compound properties like headedness and constituency (Kehayia et al., 1999) have been shown to affect compound processing, the role of stress has only recently begun to be explicitly explored.

In an earlier study, Tsiamas & Kehayia (in press) investigated the role of stress change in compound recognition, hypothesising that compounds with stress change (SC) will be processed slower than those without (NSC), due to the extra cost stress change, under the premise that any additional processing operation will yield extra processing cost. Two experimental tasks were employed; a cross modal (audio-visual) lexical decision one and a primed naming (reading) task. For both tasks, the prime (second constituent of a compound) was auditorily presented, followed by the target (compound word) visually presented on a computer screen. In all trials, participants performed faster in experimental stimuli than controls, with a smaller mean difference (MD) for SC compounds as originally predicted. These results confirmed the initial hypothesis, where especially for the naming task, NSC compounds were recognized significantly faster than those with stress change (p<0.5):

(3)

To explore further the role of modality, we conducted an ‘auditory-auditory’ primed lexical decision with twenty nine native speakers of Modern Greek. The experimental results
obtained present an intriguing pattern, as they contrast the ones obtained from the naming task. In particular, speakers performed significantly faster in compounds with stress change than those without:

(4)

To confirm that results were not simply due to an experimental artefact an additional auditory simple lexical decision task was run. Findings parallel those obtained in the priming task, again with compounds undergoing stress change yielding faster RTs than those that do not.

In view of this disparity of results across the different modalities, we are obliged to reconsider the role of stress change in compound processing and its interaction with other processes operating during word recognition, e.g., point of recognition of a word during auditory processing. We argue that the results obtained particularly from the naming (reading) task, where stress has to be realized, show that stress change hinders the production/reading of the word, because of the extra processing cost it incurs. On the other hand, in the auditory recognition tasks (both primed and simple), stress change yielding antepenultimate stress, facilitates the recognition of the compound as speakers seem to rely on stress position for word recognition, as the new position of stress appears to coincide with the point of recognition of the word. This hypothesis is also supported by a preliminary analysis of the fillers (derived words) in the auditory-auditory task where speakers show faster RTs for derivatives with antepenultimate stress than those with ultimate stress.

We believe that our results present a compelling case not only for the role of stress in compound recognition, but also for the importance of considering the interaction of modality in the realisation of specific linguistic properties.

References