

Temporal Connectives, Aspect and (Non-)Temporal Interpretation in Greek: evidence from psycholinguistics

Temporal connectives in Greek, as in many other languages, are structurally ambiguous between a temporal and a non-temporal reading (Haegeman 2003, 2010), with differences in both the internal structure of the clause introduced by the connective and in the external structure that determines the anchoring of the subordinate to the matrix clause. Although lexical and discourse factors also contribute to the (non)temporal interpretation of the connective and the clause it introduces, in Greek, the temporal reading is also determined by the morphological aspect specified on the verb in the subordinate clause. Specifically, the Greek connectives *eno* ('while', 'although'), *kathos* ('while', 'since'), and *afu* ('after', 'since') are specified for a [+/-boundedness] feature which is associated with the [+/-perfective] aspect of the verb it forms a dependency with (Tsimpli, Papadopoulou & Mylonaki 2010). In the case of a mismatch between the aspectual form of the verb and the [+/-boundedness] feature of the connective, the temporal reading is blocked. In the non-temporal reading, no such dependency between the connective and Asp is formed.

The present study examined the psycholinguistic validity of this claim extending it to the connective *otan* ('when') as well, which, unlike the other three connectives mentioned above, can have a temporal reading with either perfective or imperfective verbal aspect. An additional variable included in our study was the role of the Order between the subordinate and the matrix clause, i.e. Sub1-Matrix2 or Matrix1-Sub2. Given that both orders are possible with these adverbial clauses regardless of the temporal or non-temporal reading obtained, we aimed to test the potential advantage of the order Sub1-Matrix2 given the priority that the aspectual dependency has over lexical or pragmatic plausibility.

The study was an on-line self-paced reading experiment, which incorporated an acceptability judgement task, conducted with 80 adult Greek speakers. Four connectives (*eno*, *kathos*, *afu*, *otan*) were used in the test sentences which were further manipulated in terms of a) Aspect (+/-perfective) and b) Order of subordinate and main clause (Sub1- Matrix2 / Matrix1 – Sub2), giving rise to four conditions per sentence (see (4)-(7) in the Appendix). Twenty four sentences were designed per connective in each of the four conditions, i.e a total of 96 sentences per connective. Eighty filler sentences were also included. Due to the number of connectives tested and the resulting large number of critical items, two experiments were carried out, each containing two connectives. Each experiment was further divided into four versions, with 128 sentences each (48 critical and 80 filler sentences).

Our predictions were the following: (i) reaction times (RTs) on the judgement question were expected to be faster and accuracy rates higher when a well-formed grammatical dependency between one of the (three) connectives and the required morphological aspect was established compared to all other cases (ill-formed temporal and non-temporal readings); (ii) RTs and accuracy rates for the fourth connective, *otan*, which does not require a specific aspectual form in the temporal reading, were not expected to differ per aspectual form. With respect to the Order variable, the prediction was that (iii) when the temporal reading was available, RTs on the subordinate verb (or the following segment) in the Sub1-Matrix2 order would be faster than in Matrix1-Sub2 order. On the other hand, we predicted (iv) no ordering effects when the temporal reading is blocked (i.e. when no aspectual dependency is formed).

Results from the three connectives *kathos*, *eno* and *afu*, showed the predicted difference between aspectual forms, in that the selected aspect (imperfective in the case of *kathos* and *eno* and perfective in the case of *afou*) yielded higher accuracy rates and faster RTs in the judgement question, as well as in the reading times of the subordinate verb or the segment following it. The connective *otan*, on the other hand, exhibited no difference in RTs

and accuracy rates between the two aspectual forms, as predicted, but did exhibit faster RTs on the verb segment when the subordinate clause followed the matrix. The results with respect to Order revealed a significant interaction with Aspect: when the temporal reading was available, the Sub1-Matrix2 order was more accurately judged and faster to process. When the temporal reading was blocked, ordering effects were found only with the connective *eno*, again in favour of the Sub1-Matrix2 order. This finding for the connective *eno*, which is incompatible with prediction (iv), could be attributed to the non-temporal (concessive) reading being equally or more frequent than the temporal reading of this connective.

Appendix

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| (1) | Kathos dhuleve endatika, kurastike.
<i>kathos</i> worked.IMP.3S intensively got-tired.PERF.3S
“While she was working (intensively), she got tired.
Since she was working (intensively), she got tired.” | <i>Temporal reading</i>
<i>Premise reading</i> |
| (2) | Eno diavaze, evlepe tileorasi.
<i>eno</i> read.IMP.PAST.3S watched.IMP.3S TV.
“While she was reading, she was watching TV.
Although she was reading, she was watching TV.” | <i>Temporal reading</i>
<i>Concessive reading</i> |
| (3) | Afu dhiavase, pighe volta.
<i>afu</i> read.PERF.PAST.3S went.PERF.3S out
“After she studied, she went out.
Since she studied (already), she went out.” | <i>Temporal reading</i>
<i>Premise reading</i> |
| (4) | <i>Afu mathene Italika, pire thesi dierminea</i> IMPERFECTIVE-SUB1/MATRIX2
<i>afu</i> learnt.IMP.3S Italian, took.PERF.3S position translator
“Since he was learning Italian, he became a translator” | |
| (5) | <i>Pire thesi dierminea, afou mathene Italika</i> IMPERFECTIVE-MATRIX1/SUB2
took.PERF.3S position translator, <i>afu</i> learnt.IMP.3S Italian
“He became a translator, <i>since</i> he was learning Italian” | |
| (6) | <i>Afu emathe Italika, pire thesi dierminea</i> PERFECTIVE-SUB1/MATRIX2
<i>afu</i> learnt.PERF.3S Italian, took.PERF.3S position translator
“After/Since he learned Italian, he became a translator” | |
| (7) | <i>Pire thesi dierminea, aou emathe Italika</i> PERFECTIVE- MATRIX1/SUB2
took.PERF.3S position translator, <i>afu</i> learnt.PERF.3S Italian
“After/Since he learned Italian, he became a translator” | |

References

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