

Comments on Giannakidou

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1 The Aim of Giannakidou's Paper

“In this paper, I propose **a compositional account** of the interaction between the Greek element *na*, which is traditionally characterized as the subjunctive, and the tense and aspect of the clause it occurs in.”

“The goal will be to offer **an explicit compositional account** of the syntax and semantics of the subjunctive and its interaction with the other ingredients of the clause, i.e. tense and aspect. I will look specifically at the form perfective non-past, which I will call here the verbal dependent, and which cannot occur without a particle.”

2 (Some of) Giannakidou's Central Claims

- The subjunctive (*na*) is selected by *nonveridical* predicates
- Except, when it is selected by direct perception verbs.
- In all cases, *na*'s main semantic contribution is to supply the utterance time as a value for an unbound time variable in its sister.

3 Epistemic Necessity and Nonveridicality

The epistemic necessity modal *prepi* selects for *na*-complements. But is epistemic necessity really nonveridical? In earlier work (“Affective Dependencies”, 1998), Giannakidou claims that yes:

[E]pistemic modals are nonveridical with respect to the speaker’s epistemic model. If I know that *Frank is ill*, i.e. if he just told me so, then I cannot utter *Frank must be ill*; rather, I should say *Frank is ill*. So, if I say that *Frank must be ill*, it is implied that I don’t know for sure that Frank is ill, hence I am not committed to the truth of *Frank is ill*.

This is a common misconception about the meaning of epistemic necessity modals. In fact, they do not encode uncertainty. Rather, they have an evidential meaning component: they signal that the prejacent follows from indirect deduction rather than from direct observation (or trustworthy reports); see von Stechow & Gillies [3] for discussion. The following is a perfectly good use of epistemic necessity with no hint of a lack of speaker commitment:

- (1) a. i bala ine stin sakula A i stin sakula B
the ball is in-the bag A or in-the bag B
‘The ball is in Bag A or in Bag B’
b. dhen ine stin sakula A
NEG is in-the bag A
‘It’s not in Bag A’
c. ara, prepi na ine stin sakula B
therefore, must na is in-the bag B
‘Therefore, it must be in Bag B’

Giannakidou admits that there are veridical uses of *prepi* — particularly in mathematical or analytical statements — but says that they are “aleithic” and not epistemic. She points out that they do not license the relevant Greek polarity items:

- (2) *Enas ergenis prepi na ine **kanenas** enilikas, anipandros andras
a bachelor must na be-3sg any adult unmarried man
‘*A bachelor must be any adult unmarried man’

But note that with the bland *enas* in place of the PI *kanenas* the sentence becomes good:

- (3) Enas ergenis prepi na ine **enas** enilikas, anipandros andras
a bachelor must na be-3sg an adult unmarried man
‘A bachelor must be an adult unmarried man’

If the veridicality of such “aleithic” necessity modals explain the impossibility of PIs underneath them, then why is it that even such uses of *prepi* require *na*, which like *kanenas* is supposed to be dependent on a nonveridical licenser?

4 The Dependency of the PNP

- The perfective non-past (PNP) verb form that appears in *na*-clauses consists of ordinary perfective aspect and non-past tense.
- $\llbracket \text{non-past} \rrbracket = \lambda P_{s,t} \lambda t. P(t) \wedge t \in [t', \infty]$

NB: there is an unbound variable t' in the “denotation” of the non-past tense. This suggests that the λ -calculus formula is to be taken as an expression of a semantic representation language, which will then be interpreted (relative to an assignment function perhaps that can assign values to unbound variables).

- As Giannakidou notes, her proposal is inspired by Abusch’s proposal for the semantics of future and infinitival verb forms. But there are some crucial differences, quite apart from differences in notation (Giannakidou’s t' corresponds to Abusch’s n , while Giannakidou’s n corresponds to Abusch’s u).
- In Abusch’s system, the designated variable (n in her typography) can either be bound by λ -operators introduced by various embedding expressions or remain free, in which case it is by default identified with the utterance time (in Abusch’s words: “a free occurrence of n is pragmatically interpreted as the utterance time u ”).
- Giannakidou on the other hand says about her t' : “This analysis makes the verbal dependent carry a truly dependent tense: it can only be defined with respect to a referent time t' , and t' by itself cannot be interpreted as the constant n , the utterance time.”¹
- Note that Giannakidou allows the identification of the reference variable with the utterance time for languages where a non-past tense can appear on its own in unembedded contexts: such as English *John arrives tomorrow*.
- While I see the difference in prose between the two systems (Abusch’s n variable if unbound is identified with the utterance time u , Giannakidou’s t' variable if unbound is ungrammatical), I don’t quite see how to implement that prose in an explicitly formalized system. How could we enforce that a pragmatic default rule is at work in some languages but not in others?
- How does the itch created by the truly dependent nature of the non-past tense get scratched? This is a two-step process:

1. An item that denotes the utterance time (n in G’s notation) — several items have that meaning in G’s system: “future” *tha*, “subjunctive”

¹ She also says that “[t]his claim is substantially different from the claim that the subjunctive carries deficient tense (Picallo 1985 and others)” but she doesn’t explain what the substantial difference between a truly dependent tense and a deficient tense is.

na, etc.—is generated as the sister to the clause containing the unbound and unhappy *t'*.

2. The presence of this item “triggers the *Now* Rule”:

- (4) THE NOW RULE
At the top (S-level), replace all unbound time variables with *n*.

UNANSWERED QUESTIONS: what items “trigger” the *Now* Rule—in fact, the rule itself doesn’t say that it needs to be triggered; as it stands, one might think that it is exactly the kind of default pragmatic rule that Abusch posited but that Giannakidou doesn’t want for the Greek PNP form. Further, given that the rule itself specifies that the unbound time variables are to be replaced with *n*, why is it that the trigger item denotes *n*? One might have thought that the role of the trigger is simply to trigger the rule, given that its meaning is not used compositionally otherwise. Finally, we should consider the price in complexity and explanatory force for introducing rules that are syntactic operations on the semantic representation language.

RECOMMENDATION: Look at how Abusch formulates the part of her system which replaces the *n* parameter with a specified value (Abusch’s device, while quite unorthodox, is a semantic operation, rather than a syntactic one).

- Note that just having the denotation *n* is clearly not enough to serve the purpose here:

- (5) *tha*/**tora* *kerdisi* *o* *Janis*
tha/*now* *win*.PNP.3sg *the John*
‘John will win’

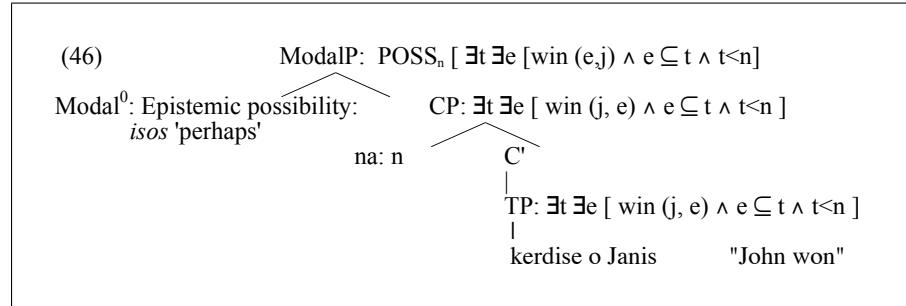
5 The Dual Nature of *Na*

In contrast to *tha*, *na* doesn’t just denote *n* and/or trigger the *Now* Rule. In unembedded *na*-clauses, *na* moves to “to acquire the illocutionary force of a request”. “Hence in addition to the semantic function of introducing *n*, *na* also has a pragmatic function of assigning the directive illocutionary force”.

In interests of compositionality, one would prefer that the illocutionary force of unembedded *na*-clauses be attributed to some other mechanism (a covert force marker, perhaps?) rather than the mysterious notion of a particle acquiring some force as it moves into a higher head position.

6 *Na* with Modals

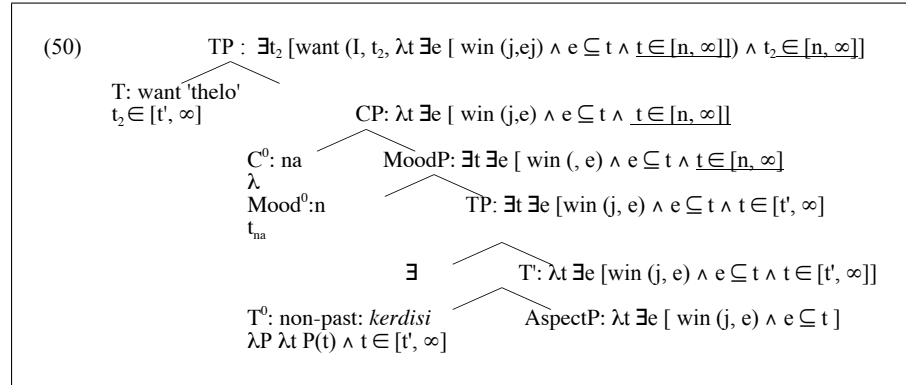
- (6) isos na kerdise o Janis
 perhaps na won.PP.3sg the John
 ‘Perhaps John won’



- *na* heads a CP under the modal adverb, but since it is an embedded CP, there is no directive interpretation; this is a simple assertion of a modal fact.
- *na* simply provides the utterance time *n*.
- But “[t]he *Now* Rule is not triggered in this case since there are no free time variables for *na* to replace” (the past tense does not introduce an unbound time variable, or if it does, it gets bound by existential closure before *na* comes into the picture).
- So, what does *na* do?
- “*na* provides the time for the modal, indicated here by indexing *n* to POSS”.
- Obviously, this kind of prose would correspond much more neatly to a structure where *na* is a time argument of the modal. But as stated, the fact that *na* provides the time for the modal is not compositionally accounted for.

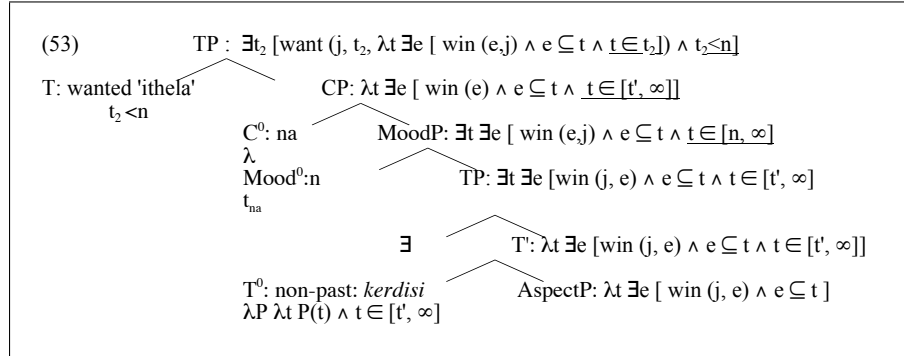
7 Embedded *Na*

- (7) thelo na kerdisi o Janis
 want.INP.1sg na win.PNP.3sg the John
 ‘I want John to win’



- Note that the imperfective non-past (like all non-past tenses) introduces an unbound t' variable. How is that itch scratched?
- “[T]he *Now* Rule applied twice: once at CP, and once at the main TP where it is needed to provide the t' for the nonpast *thelo* ‘want’.”
- But: we were told earlier that the *Now* Rule cannot just apply when an unbound t' cries out for it. It needs to be triggered (although we weren’t told how that triggering worked) and it cannot simply happen as a default. What justifies it here, and how is that made part of the compositional semantics?
- This is quite a general problem, because the imperfective non-past (with its unbound t' variable which is predicted to be truly dependent and obligatorily anaphoric) can in fact occur on its own in Greek. Note that we can’t say that the non-past in its combination with imperfective aspect does not bring with it the problematic unbound t' variable, whereas the non-past in combination with perfective aspect does. Nor can we say that the *Now* Rule is freely available with imperfective non-past but not with perfective non-past. Neither way out would be compositional.
- BTW: (7) really asserts a present desire, rather than merely a non-past desire as G’s analysis derives.

- (8) ithela na kerdisi o Janis
 want.PP.1sg na win.PNP.3sg the John
 ‘I wanted John to win’



- The interpretation of MoodP is pretty much what we expect now (*na* triggers the *Now Rule* and t' is replaced with n).
- But what is happening at the CP level? Suddenly we're back with an unbound t' in the place of n . There is no commentary in the paper about this step.
- And in the last step, the interval $[t', \infty]$ is replaced by t_2 , the time introduced by the perfective past *wanted*. How did that happen?

- (9) HIGHEST INTERVAL IDENTIFICATION RULE
 Replace $[t', \infty]$ with the highest interval.

Note that this is again a syntactic rule operating on the level of the semantic representation language.

8 Conclusion

“Our analysis has **obviously gone quite far in explaining the core observations** about the subjunctive and enabled an important connection between the subjunctive and the other elements that appear to belong to the same n -introducing class.”

“[T]his gives us **a relative accurate picture** of how subjunctive complements are interpreted after nonveridical verbs in general.”

Recommended Reading

- [1] ABUSCH, Dorit: 1998. “Generalizing Tense Semantics for Future Contexts.” In Susan Rothstein (Editor) *Events in Grammar*, pages 13–33. Dordrecht: Kluwer.
- [2] ABUSCH, Dorit: 2004. “On the Temporal Composition of Infinitives.” In Jacqueline Guéron & Jacqueline Lecarme (Editors) *The Syntax of Time*, pages 27–53. MIT Press. URL <http://mitpress.mit.edu/books/chapters/0262072491chap1.pdf>.
- [3] VON FINTEL, Kai & GILLIES, Anthony S.: 2007. “An Opinionated Guide to Epistemic Modality.” URL <http://mit.edu/fintel/fintel-gillies-ose2.pdf>. Ms, MIT and University of Michigan, to appear in Tamar Gendler Szabó and John Hawthorne (eds.) *Oxford Studies in Epistemology, Vol.2*, Oxford University Press.
- [4] GIORGI, Alessandra & PIANESI, Fabio: 1997. *Tense and Aspect: From Semantics to Morphosyntax*. Oxford Studies in Comparative Syntax. Oxford University Press.
- [5] SCHLENKER, Philippe: 2005. “The Lazy Frenchman’s Approach to the Subjunctive (Speculations on Reference to Worlds and Semantic Defaults in the Analysis of Mood).” URL <http://www.linguistics.ucla.edu/people/schlenker/Subjunctive.pdf>. To appear in *Going Romance XVII*, ms, UCLA and Institut Jean-Nicod.
- [6] WURMBRAND, Susi: 2006. “Tense Topics: The Future of Infinitives.” URL http://wurmbbrand.uconn.edu/Susi/Papers%20and%20handouts_files/MIT.pdf. Handout from a colloquium talk at MIT.