

Temporal Modification in Nominals

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In this paper I will:

- Suggest that temporal modifiers, like other modifiers, distribute across two major domains in the nominal: NP and DP.
- Propose an analysis in which one set of modifiers are N-complements, and the other, D-complements
- Examine some of the syntactic & semantic correlates of the distinction

1.0 A Simple Ambiguity

Consider the interpretation of *Thursday*, as it appears in (1)-(2):

- (1) a. The lecture **Thursday**
 b. **Thursday's** lecture
 c. A/the/John's **Thursday** lecture
- (2) a. Every appointment **Thursday**
 b. Every **Thursday** appointment.

In each example, *Thursday* can have a **deictic reading**, denoting a specific Thursday. But in (1c) and (2b), *Thursday* can also have a **generic reading**, referring to Thursdays in general; cf.:

- (3) a. The lecture **on Thursday** (deictic)
 b. The lecture **on Thursdays** (generic)

The prenominal deictic/generic ambiguity appears to be structural.

- (4) My **Thursday** lecture **Thursday** (was interesting).
generic deictic
- (5) a. (Tuesday lectures are usually interesting and Thursday lectures boring but:)
 the **Thursday Thursday** lecture (was interesting this week)
deictic generic
 b. the **Wednesday Thursday** lecture (was packed)
deictic generic
 (said of a regular Thursday lecture moved to Wednesday during one week)

2.0 Prenominal Modifier Ambiguities

The positional ambiguity with *Thursday* seems to be one instance of a wider set of contrasts that have been noted over the years.

2.1 Bolinger Contrasts Bolinger (1967) notes a subtle, but systematic meaning difference in pairs like:(6a-d):

- (6) a. the **individuals responsible** (include Mary, John and Alice).
 the **responsible individuals**
 b. the **jewels stolen** (were on the table).
 the **stolen jewels**
 c. the **rivers navigable** (include the Nile, the Amazon and the Ganges)
 the **navigable rivers**
 d. the **stars visible** (include Capella, Betelguese, and Sirius)
 the **visible stars**

Bolinger (1967):

- The postnominal adjective attributes a **temporary property** (TP).
- A prenominal adjective can attribute a temporary property. But it also can attribute a characteristic or **enduring property** (EP).

The difference is truth conditional (7a,b). But it is not (pace Bolinger) simply a matter of prenominal vs. postnominal (8a,b):

- (7) a. The **visible** stars include Capella.
 b. The stars **visible** include Capella.
- (8) a. The **visible** stars **visible** include Capella.
 b. The **visible visible** stars include Capella.
- (9) a. The **nonvisible visible** stars include Capella. Coherent! (B. Citko)
 b. #The **visible nonvisible** stars include Capella Incoherent!
- (10) The **visible visible** stars include Capella.
TP EP

2.2 Possible Ambiguities Larson (2000) discusses the meaning difference in pairs like (11a,b):

- (11) a. Mary interviewed every **candidate possible**.
 b. Mary interviewed every **possible candidate**.

Larson (2000):

- The postnominal adjective has an **implicit relative reading** (IR) (cf. 12a)
- The prenominal adjective has the implicit relative reading.
But it also has a **direct modification reading** (DM) (cf. 12b)

- (12) a. Mary interviewed every candidate that it was possible for her to interview.
b. Mary interviewed every potential candidate

Again, the ambiguity in prenominal position appears to be structural. Consider:

- (13) a. Mary interviewed every **possible candidate possible**
(= Mary interviewed every potential candidate possible for her to interview.)
b. Mary interviewed every **possible possible** candidate.

- (14) . . . every **possible possible** candidate
IR DM

2.3 Intersective-Nonintersective Ambiguities Consider also familiar examples like (15) and (16), said to display "intersective" and "nonintersective" readings:

- (15) Olga is a **beautiful dancer**.
i. 'Olga is a dancer who is beautiful' (Intersective Reading)
ii. 'Olga dances beautifully' (Non-intersective Reading)
- (16) Peter is an **old friend**.
i. 'Peter is an aged friend/friend who is old' (Intersective Reading)
ii. 'Peter is longtime friend/friend of longstanding' (Non-intersective Reading)

This prenominal ambiguity appears to depend on proximity to N:

- (17) a. Olga is a **blonde** and **beautiful** dancer. *Only Intersective Reading*
b. Olga is a **fast** and **beautiful** dancer. *Only Non-intersective Reading*
(Vendler 1967)
- (18) a. Olga is a **blonde beautiful** dancer Int – Int ✓
Int – Non-Int ✓
b. Olga is a **beautiful blonde** dancer Int – Int ✓
Non-Int – Int *

- (19) . . . a **beautiful beautiful** dancer
INTERSECTIVE NONINTERSECTIVE

- (20)
- | | | | | |
|----|---------------------|---|------------------------|-------------|
| | <u>OUTER</u> | | <u>INNER</u> | |
| a. | Thursday | [| Thursday | lecture] |
| | <i>DEICTIC</i> | | <i>GENERIC</i> | |
| b. | visible | [| visible | stars] |
| | <i>TEMP PROP</i> | | <i>ENDURING PROP</i> | |
| c. | possible | [| possible | candidate] |
| | <i>IMPLICIT REL</i> | | <i>DIRECT MOD</i> | |
| d. | beautiful | [| beautiful | dancer] |
| | <i>INTERSECTIVE</i> | | <i>NONINTERSECTIVE</i> | |

Observations:

- No clear difference of meaning in modifier *per se*, occurring in outer/inner position seems to be what's crucial
- No clear relation to A-ordering hierarchies (Hetzron 1978, Sproat & Shih 1991)

Some Questions

- What is the nature of the positional contrast? Why are there apparently two positions for one and the same modifier?
- What accounts for the semantic differences in the two positions: deictic vs. generic; temporary property vs. enduring property; direct modifier vs. implicit relative; intersective modifier vs. nonintersective modifier?

Ideas Pursued Here

- There are two distinct domains of modification: N- vs. D-modification.
- The inner vs. outer position in (19) corresponds to N- vs. D-modification
[DP α [NP β N] α] (α = D-modifier; β = N-modifier)
- N-modifiers are in the domain of a generic quantifier Γ ; D-modifiers are not.
- D-modifiers are intersective in interpretation; N-modifiers are not.

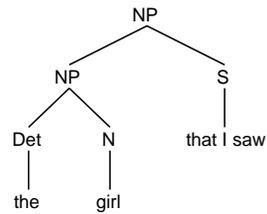
3.0 N-Modification

N-modification readings often appear to be generic, or express i-level predication (Carlson 1977):

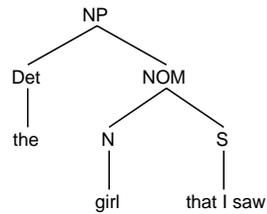
- (21) a. Their Thursday meeting
b. They meet **on Thursday(s)**.
- (22) a. A beautiful dancer
b. She dances **beautifully**.
- (23) a. These visible stars
b. These stars are **characteristically/intrinsically visible**.

4.1 Analyses of Relative Clauses

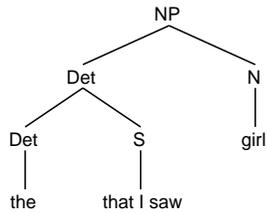
(35) a. **The NP-S Analysis**
Ross (1967)



b. **The NOM-S Analysis**
Stockwell, Schacter & Partee (1970)



c. **The ARTICLE-S Analysis**
Smith (1964)



d. **A "Right Wrap" Variant (MG)**



Article-S was motivated in part by apparent discontinuous dependencies holding between determiners and restrictive modifiers, including relative clauses:

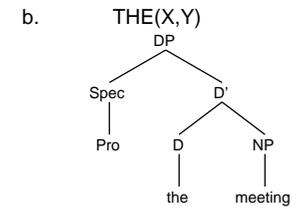
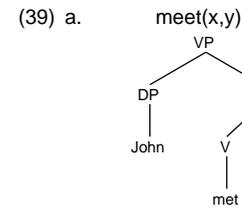
- (36) a. I earned it | that way
 b. | *the way
 c. | the old-fashioned way
 d. | the way that one should
 (after Kuroda 1969)

- (37) a. *the Paris
 b. the old Paris
 c. the Paris that I love
 (from Jackendoff 1977)

- (38) a. i. every / no boy but/except Bill
 ii. *some/three/most/many boys but/except Bill
 b. i. more women than men
 ii. *no/three women than men
 (Keenan and Stavi 1986)

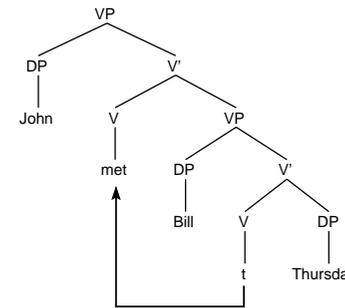
4.2 Relative Clauses as D-Complements (Larson 1988,1991)

My approach employs a particular version of the Article-S analysis, involving "DP shells:

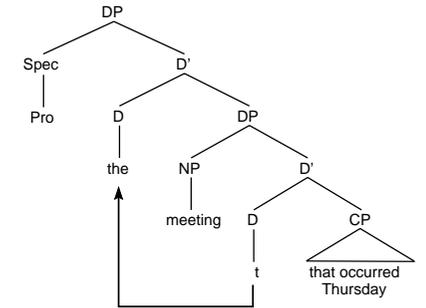


- (40) a. *every* → λQλP∀x[Q(x) → P(x)]
 b. *some* → λQλP∃x[Q(x) & P(x)]
 c. *the* → λQλP∃y∀x[[Q(y) ↔ y = x] & P(x)]

(41) a.



b.



- (42) a. *every* → λQλP∀x[[Q(x) & **R(x)**] → P(x)]
 b. *some* → λQλP∃x[[Q(x) & **R(x)**] & P(x)]
 c. *the* → λQλP∃y∀x[[[Q(y) & **R(y)**] ↔ y = x] & P(x)]
 (Bach & Cooper (1978))

This view can be generalized to the class of postnominal modifiers noted earlier; all can be analyzed as initial arguments of D, stranded by D-raising:

- (43) a. [DP Pro [D' **the** [DP lecture [D' t [DP **Thursday**]]]]]
 b. [DP Pro [D' **the** [DP stars [D' t [AP **visible**]]]]]
 c. [DP Pro [D' **every** [DP candidate [D' t [XP **possible**]]]]]

- (44) a. $[_{DP} \text{Pro } [_{D'} \text{every } [_{DP} \text{boy } [_{D'} \text{t } [_{PP} \text{but/except Bill }]]]]]]$
 b. $[_{DP} \text{Pro } [_{D'} \text{more } [_{DP} \text{women } [_{D'} \text{t } [_{PP} \text{than men }]]]]]]$

Some Evidence for Argument Status: Giorgi and Pianesi (1997) note that phrases like *last Thursday* and *the Thursday before* pattern differently as arguments (45) vs. predicates (46). Used as modifiers, they pattern like arguments (47). Similarly for postnominal occurrences (48).

- (45) a. Ho passato (?il) giovedì scorso/*(il) giovedì prima al mare
 I have spent (the) Thursday last/(the) Thursday before at the seaside
 b. Ho passato *(lo) scorso giovedì al mare

- (46) a. Il giorno dell'esame era (il) giovedì scorso/(il) giovedì prima
 The day before the exam was last Thursday /the Thursday before
 b. Sono discorsi da scorsa giovedì
 These talks are typical of last Thursday

- (47) a. Ho incontrato Mario (?il) giovedì scorso/*(il) giovedì prima.
 I met Mario (the) Thursday last/(the) Thursday before
 b. Ho incontrato Mario *(lo) scorso giovedì

- (48) a. la conferenza (?il) giovedì scorso/*(il) giovedì prima
 the meeting last Thursday
 b. la conferenza *(lo) scorso giovedì (A. Cardinaletti, p.c.)

4.3 Prenominal Position for D-Modifiers

If D-modifiers are underlyingly inner D-complements, then outer prenominal position must be derived, even with modifiers that cannot surface postnominally (49):

- (49) We discussed the previous/current/subsequent/recent climate t
 (cf. *the climate previous/current/subsequent/recent)

Derivation from postnominal position is clear with *possible*-ambiguities (Larson 2000):

- (50) Mary interviewed a/no/three/more/ a taller possible candidate(s).
 (≠ Mary interviewed a/no/three/more candidate(s) that it was possible to interview.)

- (51) a. Mary sampled every/all/ the only/the sweetest food(s) possible.
 b. *Mary sampled a/no/three/more food(s) possible.

How exactly does this movement work? Tricky with multiple modifiers!

- (52) a. ?We skipped every meeting Thursday possible.
 b. We skipped every possible meeting Thursday.
 c. We skipped every possible Thursday meeting.
 d. *We skipped every Thursday possible meeting.
 e. We skipped every Thursday meeting possible.

Possibility 1: D-raising can carry other material along.

- (53) a. $[_{DP} \text{Pro } [_{D'} \text{every } [_{DP} \text{meeting } [_{D'} \text{t } [_{DP} \text{Thursday } [_{D'} \text{t } [_{AP} \text{possible }]]]]]]]]$
 b. $[_{DP} \text{Pro } [_{D'} \text{every } [_{AP} \text{possible }]] [_{DP} \text{meeting } [_{D'} \text{t } [_{DP} \text{Thursday } [_{D'} \text{t }]]]]]]$
 c. $[_{DP} \text{Pro } [_{D'} \text{every } [_{AP} \text{possible }]] [_{DP} \text{Thursday } [_{D'} \text{t }]]] [_{DP} \text{meeting } [_{D'} \text{t }]]]]$
 d. $*[_{DP} \text{Pro } [_{D'} \text{every } [_{DP} \text{Thursday } [_{D'} \text{t }]]] [_{AP} \text{possible }]] [_{DP} \text{meeting } [_{D'} \text{t }]]]]$
 e. ????

Possibility 2 (after Cinque): a collection of functional projections (F1, F2, F3...) above N, and above D (G1, G2, G3...), with features that trigger movement:

- (54) a. $[_{DP} \text{the } [_{GP1} \text{Thursday } G1] [_{FP1} \text{Thursday } F1] [_{NP} \text{lecture } t]] t]]$
 b. $[_{DP} \text{a } [_{GP2} \text{visible } G2] [_{FP2} \text{visible } F2] [_{NP} \text{star } t]] t]]$
 c. $[_{DP} \text{a } [_{GP3} \text{beautiful } G3] [_{FP3} \text{beautiful } F3] [_{NP} \text{dancer } t]] t]]$

Possibility 2 basically analogizes modifiers to arguments, which start as complements to some head and then raise to Spec.

4.4 N-Modifying Relatives?

N-modification is non-intersective and typically generic (but cf. *possible*). D-modification is intersective and equivalent to modification by RCs. This suggests RCs should not be N-modifiers. But, Takahashi (1997) notes ordering restrictions on prenominal RCs in Japanese based on whether they express -s-level or i-level properties (55):

- (55) a.

	s-level		i-level	
[Watashi-ga	kinoo	atta]
[tabako-o	suu]	hito-wa
	1sg-NOM	yesterday	met	tobacco-ACC
			inhale	person-TOP
				(is Mr. Tanaka)
				'the person who smokes who I met yesterday is Mr. Tanaka'

- b. **i-level** **s-level**
 *[tabako-o suu] [watashi-ga kinoo atta] **hito-wa** (Tanaka-san desu)
- c. **s-level** **s-level**
 [Watashi-ga kinoo atta] [tabako-o sutte ita] **hito-wa**
 1sg-NOM yesterday met tobacco-ACC inhale BE-PST] person-TOP

Strongly suggests outer/inner modifier distinction. Similarly for Japanese adjectival/finite RCs marked with *-ta*, 'Past' (Abe 1993, Ogihara 1998). Adjectival reading seems to require closeness to N:

- (56) a. Hanako-wa [**taore-ta**] kanban-o mi-te iru
 Hanako-TOP [fall-PST] signboard-ACC look-TE IRU
 'Hanako is looking at the fallen sign/sign that fell'
- b. Hanako-wa [**magat-ta**] [**taore-ta**] kanban-o mi-te iru
 Hanako-TOP [bend-PST] [fall-PST] signboard-ACC look-TE IRU
 'Hanako is looking at the bent, fallen sign/the fallen sign that was bent
 /the sign that fell that was bent/?the bent sign that fell'

(57) The duty-officer [**when John was on deck**] will be at the board of inquiry.

Tentative Conclusion: RCs are not forbidden from N-modification if they combine with the event structure (more generally, world-time-event-degree structure) of N.

5.0 Conclusions

- Prenominal As occupy structurally different sites, depending on whether they are understood as NP modifiers or (reduced) relatives.
- Although less-articulated structure than CP/TP in lacking tense, DP appears to have a richer structure in containing two distinct domains of modification: N and D.
- It is N, not D, that is closest to being an independent tense domain, containing I'.
- Although D is often compared to T/C, in certain respects it is also parallel to V in taking modifiers as its complements (recall (41a,b)).
- Whether the two modification domains contain their own ordered functional hierarchies (Cinque 1993) remains to be seen.
- As proposed by some early analyses in transformational grammar, certain prenominal As originate postnominally - in effect, as reduced relative clauses.
- Temporal As participate in the same alternations as nontemporals.

References

- Abe, Y. (1993) "Dethematized Subjects and Property Ascription in Japanese," *Proceedings of the 1992 Asian Conference on Language, Information and Computation*, Seoul.
- Bach, E. and R. Cooper (1978) "The NP-S Analysis of Relative Clauses and Compositional Semantics," *Linguistics and Philosophy* 2:145-150.
- Bolinger, D (1967) "Adjectives in English: Attribution and Predication", *Lingua* 18:1-34.
- Chierchia, G. (1995) "Individual-level Predicates as Inherent Generics," in G. Carlson and J. Pelletier (eds.) *The Generic Book*. (pp. 176-223) Chicago:University of Chicago Press.
- Cinque, G. (1993) "On the Evidence for Partial N Movement in the Romance DP," University of Venice Working Papers Vol.3, n.2.. Venice: Centro Linguistico Interfaculta.
- Crisma, P. (1993) "On Adjective Placement in Romance and Germanic Event Nominals," *Rivista Di Grammatica Generativa* 18: 61-100.
- Crisma, P. (1996) "On the Configurational Nature of Adjectival Modification," in K. Zagana (ed.) *Grammatical Theory and Romance Languages (Selected Papers from the 25th LSRL)*. (pp. 59-71).
- Davidson, D. (1967) "The Logical Form of Action Sentences," in N. Rescher (ed.) *The Logic of Decision and Action*. (pp. 81-120) Pittsburgh: Univ. of Pittsburgh Press.
- Diesing, M. (1992) *Indefinites*. Cambridge, MA: MIT Press.
- Giorgi, A. and F. Pianesi (1997) *Tense and Aspect*. New York: Oxford University Press.
- Hetzron, R. (1978) "On the Relative Placement of Adjectives," in H. Seiler (ed.) *Language Universals*. (pp. 165-184) Tübingen: Gunter Narr Verlag.
- Jackendoff, R. (1977) *X-bar Syntax*. Cambridge: MIT Press.
- Keenan, E and J. Stavi (1986) "A Semantic Characterization of Natural Language Determiners," *Linguistics and Philosophy* 9:253-1326.
- Koster, J. (1978) "Why Subject Sentences Don't Exist," in S.J. Keyser (ed.) *Recent Transformational Studies in European Languages*. (pp.53-64) Cambridge: MIT Press.
- Kuroda, S.Y. (1969) "English Relativization and Certain Other Related Problems," in Reibel & Schane.
- Larson, R. *Restrictive Modification: Relative Clauses and Adverbs*. Ph.D. dissertation, UWisc.
- Larson, R. (1988) Class lectures. MIT.
- Larson, R. (1991) "The Projection of DP and DegP Structure," unpublished ms., SUNY - Stony Brook.
- Larson, R. (1998) "Events and Modification in Nominals," in D. Strolovitch and A. Lawson (eds.) *Proceedings from Semantics and Linguistic Theory VIII*. Ithaca: Cornell University.
- Larson, R. (2000) "ACD in AP?" paper presented at the the Nineteenth West Coast Conference in Formal Linguistics (*WCCFL 19*). UCLA, Los Angeles, CA.
- Levi, J. (1978) *The Syntax and Semantics of Complex Nominals*. New York: Academic Press.
- Giorgi, A. and F. Pianesi (1997) *Tense and Aspect*. New York: Oxford Univ. Press.
- Ogihara, T. (1998) "The Semantics of Adjectival Relatives in Japanese," unpublished ms., UWash.
- Ross, J. R. (1967) *Constraints on Variables in Syntax*. Ph.D. dissertation, MIT.
- Smith, C. (1964) "Determiners and Relative Clauses in Generative Grammar," *Language* 40: 37-52.
- Sproat, R. and C. Shih (1991) "The Cross-Linguistic Distribution of Adjectival Ordering Restrictions," in C. Georgopoulos and R. Ishihara (eds.) *Interdisciplinary Approaches to Language: Essays in Honor of S-Y Kuroda*. (pp.565-593) Dordrecht: Kluwer Academic Publishers.
- Stockwell, R., P. Schacter, and B. Partee (1970) *The Major Syntactic Structures of English*. New York: Holt, Rinehart and Winston.
- Takahashi, N. (1997) "Hierarchy Among Relative Clauses in Japanese," unpublished ms., SUNY - SB.
- Vendler, Z. (1967) *Linguistics in Philosophy*. Ithaca: Cornell University Press.