Relativization and Nominalization

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Chomskyan notation of recursion and the RC construction

(1) a. \(S \rightarrow \text{NP VP}\)
    b. \(\text{NP} \rightarrow (D)N' (S')\)
    c. \(\text{VP} \rightarrow V (S')\)
    d. \(S' \rightarrow (C) S\)

(2) Relative clause

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       NP
      /  \
     /    \  \
  D    C  S'
     |     / \
   N    S
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the man (who saw John)

the man/who saw John

Definitions of RCs

Harada (1974/2000:237-238): An RC is a sentence embedded in an NP whose head is PRO in underlying structure. The RC must contain in underlying structure an NP (REL) which has the same index as does the PRO-HEAD. Surface forms of RNP’s are derived through the following transformations:
- Pro HEAD Substitution
- REL Fronting
- Shadow Deletion
- Pronoun Drop

Keenan and Comrie (1977: 63-64): an RC "specifies a set of objects (perhaps a one-member set) in two steps: a larger set is specified and then restricted to some subset of which a certain sentence, the restricting sentence, is true."

Lehmann (1986:664): "a construction consisting of a nominal...and a subordinate clause interpreted attributively modifying the nominal. The nominal is called the head and the subordinate clause the RC. The attributive relation between head and RC is such that the head is involved in what is stated in the clause.”

Issue #1  Nature of recursion in natural languages

Marc D. Hauser, Noam Chomsky, and W. Tecumseh Fitch
The faculty of language: What is it, who has it, and how did it evolve?

“We submit that a distinction should be made between the faculty of language in the broad sense (FLB) and in the narrow sense (FLN). FLB includes a sensory-motor system, a conceptual-intentional system, and the computational mechanisms for recursion, providing the capacity to generate an infinite range of expressions from a finite set of elements. We hypothesize that FLN only includes recursion and is the only uniquely human component of the faculty of language.” (Emphasis added)
**Issue #2**  Typological classification of relative clauses

Headedness parameter (Lehmann 1986, Dryer 2007, Andrews 2007, etc.)

Relative clauses

- Headed RCs
- Headless RCs (free relatives)

- Single-headed RCs
- Double-headed RCs

- Head-external RCs
- Head-internal (internally-headed) RCs

- Pre-head RCs
- Post-head RCs (Huang 2008:762)

Are these really relative clauses? Aren’t we wrong-headed about them?

**Pat 1: Nominalizations > Relative clauses**

Relative clauses in Sasak (Western Malayo-Polynesian; Eastern Indonesia)

Puyung Meno-Mené Sasak

a. Inaq wah=en bell sebie wiq
   mother PAST=3 buy chili yesterday
   'Mother bought the chili yesterday.'

b. Dengan nine [sasq ø wah=en bell sebie wiq]=no inaq=ek (A Topic relativized)
   person female REL PAST=3 buy chili yesterday=that mother=1SG
   'The woman who bought the chili yesterday is my mother.'

b'. Kanak=no kaken sebie [sasq ø wah=en bell isiq inaq wiq] (Topic relativized)
   child=that eat chili REL PAST=3 buy by mother yesterday
   'The child ate the chili which mother bought yesterday.'

**Sasak expressions marked by saq, siq, etc. function as an argument or a nominal predicate, just like any simple nominals**

Puyung meno-mené Sasak

a. [sasq ino] baru
   NMZ that new
   'That one is new.'

b. [sasq pertame] mame kance [sasq kedue] nine (speaking about
   NMZ first male and NMZ second female one’s children)
   'The first one is male and the second one is female.'

c. Gitaq [sasq njenke=n tokol leq bucu]=no
   look NMZ PROG=3SG sit LOC corner=that
   'Look at the one sitting in the corner.'

d. [sasq njenke=n tokol leq bucu]=no amaq=k
   NMZ PROG=3SG sit LOC corner=that father=1SG
   'The one sitting in the corner is my father.'

e. Amaq=k [sasq njenke=n tokol leq bucu]=no
   father=1 NMZ PROG=3SG sit LOC corner=that
   'My father is the one sitting in the corner/It is my father who is sitting in the corner.'
Modification functions of nominalized forms

Pancor Ngeno-Ngené Sasaka

a. suara [si ne=ngerontok lawang loq Ali] sound NMZ 3=knock door by Ali
   'sound of Ali knocking on the door'

b. berita [si angku=n loq Ali beruq merariq] news NMZ way=3 ART Ali recently marry
   'the news that Ali recently got married'

c. Aku luqaq [si angku-n loq Ali wah mbilin kota=no] I forget NMZ way=3 ART Ali PERF leave town=that
   'I forgot that Ali had left the town.'

d. waktu [si ku=masih sekolah]=no... time NMZ 1=still school=that
   'At the time when I was still going to school.../When I was going to school...'

   'Ali was killed when/while he was walking in the street.'

g. buku [si Ø ne=bace isiq loq Ali] (Relative Clause) book NMZ 3=read by ART Ali
   'the book that Ali read'

Japanese pro pro

RC gaps

Comrie on Japanese RC gaps (Comrie and Horie 1995 and Comrie 1998)

a. kore=ga [Ø kinoo Ø katta] hon desu this=NOM yesterday bought book COP
   'This is the book that (I) bought Ø yesterday.'

b. Ø kinoo Ø katta. "Have you bought the book already?"
yesterday bought
   '(I) bought (it) yesterday.'

Comrie's claim:
In Japanese noun modifiers can be any ordinary sentences, possibly with anaphoric (zero) pronouns;

RCs are just a type of modifying sentences ◄ ◆ (Comrie and Horie 1995; Comrie 1998)

A gap in RC is created in a nominalization process

Nominalization—two types (Comrie and Thompson 1985)

1. “name of activity/state” (e.g. create → creation)
2. “name of an argument” (e.g. employ → employer; employee)

Role of the Austronesian focus morphology:

profiles the grammatical role of the nominalized argument

A-focus: nominalized form refers to an actor; the one who hits
P-focus: nominalized form refers to a patient; the one who is hit
L-focus: refers to a location where an action is performed.

I-focus: refers to an instrument used to perform an action.

Our hypothesis:
A gap representing the nominalized argument is created in the process of argument nominalization; it is this gap that we see in the RC construction, which simply juxtaposes a head nominal and an argument nominalized form. RC formation does not involve a full clause, let alone a full sentence, that undergoes movement/deletion.
Mayrinax Atayal: 4-way focus morphology (Formosan; based on Huang 2002)

a. Actor focus/nominalization
   Baq-un=mu ku? [n-aquwas] ka? haca? know-PF=1SG.GEN NOM.REF AF sing LIN that 'I know that singer/one who is singing there.' (あそこで[歌っている]のを...)

b. Patient focus/nominalization
   ma-hnuq ku? [8-in-añay nuk? našakis] AF cheap NOM.REF buy<PERF-REALIS>buy GEN.REF old.man 'What the old man bought was cheap.' (老人が[買った]のは...)

c. Locative focus/nominalization
   YaYhapuyan ku? [naniq-an cu? Buŋa? nku? ʔulaq?] kitchen NOM.REF eat-LF ACC.NONREF yam GEN.REF child 'The kitchen is (the place) where the child eats yam.'

b. Instrumental focus/nominalization
   kaa ptiq-ani ku? [na-patiq=mu] NEG.IMP write-LF.IMP NOM.REF IF-write=1SG.GEN 'Don't write with my pen/thing to write with.'

Tibeto-Burman Northern Qiang (Ronghong) (Huang, Chenglong 2007: 192-194)

Other language families with nominalization mechanisms similar to the Austronesian focus morphology

Subject/agent nominalization

a. fa  gupu gua=m (equivalent of Austronesian AF)
   clothes red wear-NMZ

b. [qa (-wu) khe]-ku  (RC by apposition)
   1SG-AGT cut-GEN
   'the child who wears red clothes'

c. [qa (-wu) khe]-te saf tho-zgu  (RC by apposition)
   1SG-AGT cut-GEN tree-that-CL
   'the tree that I am cutting'

Object/patient nominalization

Nominalizations as relative clauses

Mayrinax Atayal (Formosan; based on Huang 2002)

a. yakaat m<-uwah cu?hisa? ku našakis
   NEG AF<PERF>come yesterday NOM.REF old.man 'The old man didn’t come yesterday.'

b. kia? ʔi? m-aniq ku? [yakaat m<-uwah cu?hisa?]
   PROG LIN AF-eat NOM.REF NOM.REF AF<PERF>come yesterday 'The one who didn’t come yesterday is eating (there).'

Relative clause

c. kia? ʔi? m-aniq ku? cuqliq ka’ [yakaat m<-uwah cu?hisa?]
   PROG LIN AF-eat NOM.REF person LIN NEG AF<PERF>come yesterday 'The person who didn’t come yesterday is eating (there).'

Relativization

cuqliq ka’ [yakaat m<-uwah cu?hisa?]
   Sasak buku [siq baca isiq Ali] ‘what Ali read’
   '(the) book which Ali read'

Instrumental nominalization

c. pies khukhu=- (equivalent of Austronesian IF)
   meat slice-NMZ
   'what (is used) to slice meat.'

c’. tse: [pies khukhu-] ʔtsepi ʔua (RC by apposition)
   that:CL meat slice-NMZ knife COP
   'That is the knife that is used to slice meat.'

Nominalization as an argument

Northern Qiang (Courtesy of Chenglong Huang)

qa [laiy tse-m] e: u-teu-a (Subject nominalization)
   1SG book read-NMZ one.CL DIR-see-1SG
   'I see one who is reading books.'
Uto-Aztecan: Yaqui (González 2007)

a. jú-me usí-m yeéwe
   DET-PL child-PL play
   'The children are playing.'

b. inepo uka chu'u-ta tea-k
   1SG DET.AC dog-ACC find-PERF
   'I found the dog.'

c. Wa kari [nim bo'o-pea-ho] uyooll (equivalent of Austronesian LF)
   DEM house 1SG GEN sleep-DES-NMZ pretty
   'That house where I want to sleep is pretty.'

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Old and Modern Japanese

[teite tateru] =pa pasiki ta=qa tuma (M20. 4397)
shine stand.ADNM=TOP beautiful who=GEN wife
'the one standing there shining whose wife is that?' (Wrona)

[teite tateru] wotome (RC)
shine stand.ADNM girl
'the girl who is standing there shining'

[kagayaite tateiuru] =no=wa... (Mod. Japanese)

[kagayaite tateiuru] syoozyo (RC)
What are the following no’s?

a. [Taroo=ga katta] hon=o boku=mo hosii. (RC)
   Taro=NOM bought book=ACC I=too want
   ‘I too want the book that Taro bought.’

b. [Taroo=ga katta]=no o boku=mo hosii.
   Taro=NOM bought=NMZ=ACC I=too want
   ‘I too want what Taro bought.’

c. Kore=ga [boku]=no hon de, are=ga [otoosan]=no da.
   this=NOM I=NMZ book COP that=NOM father=NMZ COP
   ‘This is mine and that’s the father’s.’

d. boku=no hon
   I=NMZ book
   ‘my book’

e. gengogaku=no hon
   linguistics=NMZ book
   ‘a book of linguistics’

Chinese de (的)

a. nǐ méi yǒu [wǒ xiūhuān]=de chēnsīn
   you not have I like NMZ shirt
   ‘You don’t have a shirt which I like.’

b. nǐ méi yǒu [wǒ xiūhuān]=de
   you not exist I like NMZ
   ‘You don’t have what I like.’

   this is I NMZ book that is father NMZ
   ‘This is my book, and that’s the father’s.’

Chinese de (and Japanese no) cannot be a linker; linkers cannot be stranded.

Recapitulation:
1. Languages may have nominalization processes that are sensitive to grammatical roles; Subject/Agent nominalization, object/patient nominalization, etc. The Austronesian focus morphology has its origin in this kind of argument nominalization; similar mechanisms are also seen in other languages.

2. RC gaps are those created in the process of argument nominalization; They don’t have anything directly to do with relativization, which simply juxtaposes a nominal head and a nominalized form. Modification by nominalizations qua RCs is a function of the [Nominal + Nominal] construction, as in other types of nominal construction consisting of two nominal elements.

3. RCs do not involve a full clause or full sentence—there is no sentence/clause recursion in RC formation.

4. Grammatical relations and the Keenan-Comrie Accessibility Hierarchy are irrelevant in the relativization process in the languages that recycle nominalizations as relative clauses—and there are a lot of languages that do (see below).
Part 2: Wh-relatives and their ilk

What about languages like English, where there are relative pronouns that stand for the gaps in relative clauses?

a. I met a man [who knew my old friend]
b. I met a man [whom my old friend knew]

There are nominal expressions headed by an interrogative pronoun (so-called “free relatives”); but unlike those studied above, they cannot be used as relative clauses.

a”. I want the book [which John bought] too.
b. I will meet [whoever comes tomorrow].
b’. I will meet the man [*whoever comes tomorrow]
b”. I will meet the man [who comes tomorrow.]

Complementarity of English “free relatives” and RCs

a. I saw the man who/*what won the first prize. (RC)
b. I read the book which/*what you recommended to me. (RC)
c. I will meet the man who/*whoever comes tomorrow. (RC)
d. I read what/*which you recommended to me. (FR)
e. I will meet whoever/*who comes tomorrow. (FR)
f. I will visit the place where you live. (RC)
e. I will visit where you live. (FR)

This complementary pattern of the distribution of “free relatives” and RCs is in fact rare, if ever, even among IE languages of Europe. Even in English, it is a recent development.

Spanish (SP), Brazilian Portuguese (PO), French (FR) (courtesy of Noritaka Fukushima, Michael Colley, Hiroshi Hayashi)

(1) a. Veré al hombre [que viene mañana] (SP)
    Verei o homem [que vem amanhã] (PO)
    Je verrai l’homme [qui viendra demain] (FR)
    ’I will see the man who comes tomorrow.’
    b. Veré al [que viene mañana] (SP)
    Veré a [quien viene mañana] (SP)
    Verei [quem vem amanhã] (PO)
    Je verrai (celui) [qui viendra demain] (FR)
    ’I will see (to the) that comes tomorrow’
    ’I will see the one who comes tomorrow.’

(2) a. Leeré el libro [que usted recomienda] (SP)
    Lerei o livro [que você recomenda] (PO)
    Je lirai le livre [que vous recommandez] (FR)
    ’I will read the book that you recommend.’
    b. Leeré lo [que usted recomienda] (SP)
    Lerei o [que você recomenda] (PO)
    Je lirai ce [que vous recommandez] (FR)
    ’I will read the one you recommend.’
Slavic languages

Russian (courtesy of Alexandra Aikhenvald)
a. (tot,) [kto vymyli ruki], mozhet nachatj jestj (that) who washed hands can start eat
'The one who has washed his hands can start eating.'
b. *Malchik, [kto vymyli ruki], mozhet nachatj jestj boy who washed hands can start eating
'The boy who has washed his hands can start eating.'

Czech (courtesy of František Kratochvíl)
a. (ten,) [kdo stoji tám-hle], ještě ne-měl dort (that) who stand.3SG.PRES there-PART yet NEG-have.3SG.MASC.PAST cake.ACC
'The one who stands over there, hasn't got the cake yet.'
b. *kluk [kdo stoji tám-hle], ještě ne-měl dort boy who stand.3SG.PRES there-PART yet NEG-have.3SG.MASC.PAST cake.ACC
'The boy who stands over there, hasn't got the cake yet.'

Germanic languages

Danish hvem 'who' and hvad 'what'

Danish (Examples and the grammaticality rating courtesy of Bjarke Frellsvig)
a. *[hvem står der] er min fars ven [Who is standing there] is my father's friend.
b. ??[hvem jeg så igår] er min fars ven [Whom I saw yesterday] is my father's friend.
c. ??[hvad er på bordet] er min fars [What is on the table] is my father's.
d. ??[hvad jeg læser nu] er meget interessant [What I am reading now] is very interesting.
e. [hvad jeg læser nu] er avis'en (OK but not very natural) [What I am reading now] is the newspaper

hvem 'who' and hvad 'what' do not form RCs

*Mande-n [hvem står der] er min fars ven man-DEF.ART who sand there is my father's friend
'The man standing there is my father's friend.'

Russian

a. tot, [kotoryj/chtó stojit tam], eto drug otca that which/what stand there it friend father
'The one who is standing there is my father's friend.'
b. tot chelovek, [kotoryj/chtó stojit tam], eto drug otca that man which/what stand there it friend father
'That man who is standing there is my father's friend.'

Czech

a. ten, [kter-ý/co stojí] tám-hle] that.MASC.NOM which/what.SG.NOM stand-3SG.PRES there-PART
to je otcuv přitel it.SG.NOM is father's.SG.GEN friend.SG.NOM
'The one standing there is my father's friend.'
b. ten muž, [kter-ý/co stojí] that.MASC..SG.NOM man.SG.NOM which/what.SG.NOM stand-3SG.PRES tám-hle], je otcuv přitel there-PART is father's.SG.GEN friend.SG.NOM
'The man who is standing there is my father's friend.'

Danish

(1) a. Den [som/der står der] er min fars ven DEF.ART AS/THERE stands there is my father's friend
'The one who is standing there is my father's friend.'
b. Mande-n [som/der står der] er min fars ven man-DEF.ART AS/THERE stands there is my father's friend
'The man who is standing there is my father's friend.'

(2) a. Den [som jeg så igår] er min fars ven DEF.ART AS I saw yesterday is my father's friend
'The one whom I saw yesterday is my father's friend.'
b. Mand-en [som jeg så igår] er min fars ven man-DEF.ART AS I saw yesterday is my father's friend
'The man I saw yesterday is my father's friend.'

Swedish vad 'what'

Swedish (courtesy of Martin Hilpert)
a. Jag läser [vad ni rekommenderar] I read what you recommend
'I read what you recommend.'
'I read a book that you recommend.'
(1) a. Ich empfinde den, [der morgen kommt]
I receive ART ART tomorrow comes
'I receive the one who comes tomorrow.'

b. Ich empfinde den Mann, [der morgen kommt]
I receive ART man ART morning comes
'I receive the man who comes tomorrow.'

(2) a. Ich lese (das), [was Sie empfehlen]
I read ART what you recommend
'I read what you recommend.'

b. % Ich lese das Buch, [was Sie empfehlen]
I read ART book what you recommend
'I read the book which you recommend.'

(3) a. Ich empfinde, [wer (auch) morgen kommt]
I receive who (also) tomorrow comes
'I receive who(ever) comes in tomorrow.'

b. *[Ich empfinde den Mann, [wer morgen kommt]
I receive ART man who tomorrow comes
'I receive the man who comes tomorrow.'

Part 3: Are nominalizations headless/free relatives?

Sneddon (1996) on Bahasa Indonesia

Bahasa Indonesia (Sneddon 1966:300)

car NMZ PASS-buy Ali colored blue
'The car which Ali bought is blue.'

b. Ø [yang di-beli Ali] berwarna biru. "Headless/free RC?"
NMZ PASS-buy Ali colored blue
'The one Ali bought is blue.'

"Nominalization occurs when the head noun is ellpited ...The yang phrase then functions like a noun." (Sneddon 1996:300)

Deletion analysis of headless/free relatives:


Middle English

Middle English Dictionary (2000)

which: "[a] is an independent relative with indefinite or generalized force referring to a thing, an abstraction, et., introducing noun clauses" (492)

who: "[a] is an independent relative referring to a person or persons used as subj. or pred. nom. introducing noun clauses" (538)

a. And [which falle P on Pat furste flur] schal beo Quene.
b. [Who aske this] Leseth his asking trevely.

Modern English

a. Invite [who/whom you like]. (Huddleston and Pullum 2002:1076)
b. After silence, [that which comes nearest to expressing the inexpressible] is music. (Aldous Huxley Music at Night 1931)

Functional specialization

what(ever), whoever, ...— Argument/Referring
who, which — Modification

Matisoff (1973) on Lahu nominalization particle ve

Overweighing this consideration [a deletion analysis] is the simple fact that an underlying Nrh [relative head nominal] is not at all necessary to explain how these sentences work. To interpret the ve-clauses as ordinary Nominalizations does not distort the meaning, and has the crucial advantage of avoiding multiplication of covert entities...Once we admit deleted Nrh's after some ve's, consistency would demand that we stick them in after every post-verbal ve, even in the (very numerous) cases where the only semantically possible Nrh would be an empty one like č -čp 'thing' or č -čp 'matter'. (Matisoff 1973:484-485)
More compelling evidence against a deletion analysis

There are nominalizations (headless/free relatives) that do not modify a head nominal or that do not form a headed RC construction

Russian
a. (tot.) [kto vymyl ruki], mozhet nachat' jestj (that) who washed hands can start eat ‘The one who has washed his hands can start eating.’
b. *Mal'chik, [kto vymyl ruki], mozhet nachat' jestj boy who washed hands can start eating ‘The boy who has washed his hands can start eating.’

German
a. Ich empfange, [wer (auch) morgen kommt] I receive who (also) tomorrow comes ‘I receive who(ever) comes in tomorrow.’
b. *Ich empfangen den Mann, [wer morgen kommt] I receive ART man who tomorrow comes ‘I receive the man who comes tomorrow.’

Japanese
[Boku=ga tabeta] udon=wa umakatte keredo, [Taro=ga tabeta]=no=wa I=NOM ate noodle=TOP delicious though Taro=NOM ate=NMZ=TOP mazu-katta raisi ‘Though the noodle soup I ate was delicious, the one that Taro ate seemed tasteless.’

Spanish
María está leyendo su libro y yo voy a leer María is reading her book and I GO.1SG to read.INF lo [que Juan me dio] ART that Juan me gave ‘Maria is reading her book and I am going to read what Juan gave me.’

Pro?

Japanese
a. [Taro=ga tabe-ta]=no=wa... Taro=NOM eat-PAST=NMZ=TOP ‘the one that Taro ate is...’
b. [[Taro=ga tabe-ta]=(=no) Pro]=wa...

Spanish
a. lo [que Juan me dio] ART that Juan me gave ‘what Juan gave me’
b. lo [Pro [que Juan me dio]...

Wrong perspective

Relative clauses ⇨ Nominalizations “Headless/free relatives” (cf. oxymoron: free slaves)

Noun complements Verb complements Adverbial modifiers

Pae chu (白菜) Unpickled kimchi!
What is nominalization?

Creation of a referring (nominal) expression, which refers to an entity pertaining to a particular person/object/property/event.

1. A state of affairs characterized by an event denoted by the clause (event nominalization—may not have a gap)

[Taro=ga konakatta]=no=wa zannen datta. (Japanese)
Taro=NOM come.NEG.PAST=NMZ=TOP sorry COP.PAST
'That Taro didn't come was too bad.'

2. An entity characterized in terms of the denoted event in which it has crucial relevance (argument nominalization—gap)

[Ø konakatta]=no=wa Taro da.
come.NEG.PAST=NMZ=TOP Taro COP
'The one who didn't come is Taro.'

3. An entity having crucial relevance to the referent of a noun ("genitive" nominalization—no gap)

Taro=no hon gengogaku=no hon
Taro=NMZ book linguistics-NMZ book

Typically occur in the following four kinds of context

1. Relative clause construction, where the head noun identifies the entity

[Taro=ga katta] hon 'the book which Taro bought'

2. Cleft-sentences

[Taro=ga katta]=no=wa hon desu.
'What Taro bought is a book.'

3. Cleft-type questions

[Taro=ga katta]=no=wa nani desu=ka
'What is it that Taro bought?'

4. Where the identity of the referred entity is clear from the context

Kore=ga boku=no hon de, are=ga anata=no desu.
'This is my book and that is yours.'

[sotto=ga akai]=no=wo kudasai.
'Give me that red one over there.'

Boku=mo [Taro=ga motto iru]=no=ga hosii.
'I also want what Taro has.'

Properties of (non-lexical) normalized expressions

1. A particular object/object/event is presupposed.

[Taro=no hon] kono hon da
Taro=NOM bought=NMZ=TOP this book COP
'What Taro bought is this book.'

[Taro=ga Ø katta] hon (presuppositions carry over to RCs: evidence for
Taro=NOM bought book
NMZ→REL)
'The book which Taro bought.'

2. While what is referred to may be specific, its identity is not known (to the hearer)—it doesn't name (or put a label on) the entity it refers to.

Lexical nouns: book, employer, etc.

Nominalizations: What John gave me, the one who employs John, etc.

(Lexicalization of nominalizations also occur: m-aquwas 'one who sings/singer' (Mayrinax Atyal); bir tani-digm 'one I know, an acquaintance of mine' (Turkish))

Are RCs really subordinated to the head nominal?

Apposition

I saw John the butcher in the market.

I saw a butcher in the market.

Boku=wa [Taro=ga kureta] hon=o yonde iru.
I=TOP Taro=NOM gave.me book=ACC read be
'I am reading a book which John gave me.'

Boku=wa [Taro=ga kureta]=no=ø yonde iru.
I=TOP Taro=NOM gave.me=NMZ=ACC read be
'I am reading what Taro gave me.'

Chinese

a. nǐ méi yǒu [wō xīhuān]=de chènshān
you not have I like=NMZ shirt
'You don't have a shirt that I like.'

b. nǐ méi yǒu [wō xīhuān]=de
you not have I like=NMZ
'You don't have what I like.'
Head internal/Internally headed RCs?

Modern Japanese (Kuroda 1976:269, 270) (主内在関係節)

Taro=wa [ringa=ga sara=no ue=ni atta]=no=ο totte, Toro=TOP apple-NOM plate=GEN top=LOC existed=NMZ=ACC take.CON poketto=ni iireta pocket=to put.PAST ‘Taro picked up an apple which was on a plate and put it in a pocket.’

Cf. Externally headed RC
Taro=wa [sara=no ue=ni atta] ringo=ο totte, Toro=TOP plate=GEN top=LOC existed apple=ACC take.CON ‘Taro picked up an apple which was on a plate and...’

Double-headed RCs

Kombai (Irian Jaya, Western New Guinea; Dryer 2005:366)
a. [[dou adiyano-no] dou] deyalukhe sago give.ePL.NONFUT-CONN sago finished ‘The sago that they gave is finished.’
b. [[gana gu fali=kha] ro] bush.knife 2SG carry-go-2SG.NONFUT thing ‘the bush knife that you took away.’

Ronghong Qiang (Tibeto-Burman; Huang 2008:740) [[zap itetaimqa zawa tshu-tshu] (ts) zap tha-kua] place usually rock drop-REDUP-GEN place that-CL ‘the place where rocksides often occur’

Japanese (correlative RC?)
[Taro=ga ringo=o motte kita] sono ringo=o minnade tabeta Taro=NOM apple=ACC bring came that apple=ACC all ate ‘We all ate the apples, the apples that Taro brought.’

Head internal/Internally headed RCs?

Kuroda (1976) on Japanese internally-headed relatives

Syntactically each of them [headed and head-internal relatives] is characterized as a relative clause by the fact that (the referent of) a noun phrase in it (the pivot) assumes double grammatical functions, one determined inside the relative clause and the other by the noun phrase position of the matrix sentence, the position in which the relative clause is embedded. (274)

Modern Japanese (Kuroda 1976:269, 270)

Internally headed RC
a. Taro=wa [ringa=ga sara=no ue=ni atta]=no=ο totte, Toro=TOP apple-NOM plate=GEN top=LOC existed=NMZ=ACC take.CON poketto=ni iireta pocket=to put.PAST ‘Taro picked up an apple which was on a plate and put it in a pocket.’

Externally headed RC
b. Taro=wa [sara=no ue=ni atta] ringo=ο totte, Toro=TOP plate=GEN top=LOC existed apple=ACC take.CON ‘Taro picked up an apple which was on a plate and...’
Deletion analysis

Counter-Equi analysis by Harada (1973) (also see Weber 1983 on Quechua)

(a) Keisatu=wa [doroboo=ga nigeru]=tokoro=o tukama-ta.
   police=TOP thief=NOM ran.away=PLACE ACC catch=PAST
   ‘The police caught the thief as he ran away.’

(b) Doroboo=wa [nigeru]=tokoro=o keisatu=ni tukama=ra-te-ta.
   thief=TOP run.away=PLACE ACC police=by catch-PASS=PAST
   ‘The thief was caught by the police as he ran away.’

[Keisatu=wa doroboo=o [doroboo=ga nigeru]=tokoro=o tukamaeta]

Counter Equi-NP Deletion

Keisatu=wa ∅ [doroboo=ga nigeru]=tokoro=o tukamaeta

Problems of coreference in RC constructions

So-called internally headed relatives are evocative nominalizations

黒田（1999:49）

1. ...[[...NP ...]s Pro]_{NP}...

2. ...[[...NP ...] [e]_{NP}... ...

3. ...[[...NP ...]_{NP}... (LF)

∅-role assignment

1. ...[[...NP ...]s Pro]_{NP}...

2. ...[[...NP ...] [e]_{NP}... ...

3. ...[[...NP ...]_{NP}... (LF)

So-called internally headed relatives are evocative nominalizations

[花子がリンゴを買ってきてくれた]のをみんなで食べた。

[花子が木からぶらさがっているリンゴをもぎ取ってきてくれた]のを
みんなで食べた。

≠（僕らは）みんなで木からぶら下がっているリンゴを食べた。

[花子がトリ肉を料理した]のがテーブルの上にのっている。
状態変化型関係節
おだまじゃくしがかえるくなったのが庭を跳ねている。
「状態変化型関係節は主部内在関係節と同じ外観をもちながら
主部内在関係節に関する記述状の通則に従わず、そのため、
通則の反証と取られかねない擬似反例を提供する。状態変化関係節
は主部内在関係節でないということが周知であれば、擬似反例は
通則の証例と対比されて、かえって通則の傍証と化するのであるから、
状態変化関係節は間関係節の特殊なものであることを示すことは、
主部内在関係節の分析・理解にも有益なことであるが、本稿では状態
変化型関係節の仔細には立ち入らない。」（黒田1999:32）

主部内在関係節（黒田1999:67）
[警官が[暴漢がおそいかってきたのを]5逆に組み伏せてしまった]яνp
次郎長は[黒駒親分が子分を引き連れて殴りこんできた]のを全員
たたきのめしてしまった。

Cf. 次郎長は、[子分を引き連れて殴りこんできた]黒駒親分を全員
たたきのめしてしまった。

Kuroda’s relevancy condition
(a)Taroo=wa [Hanako=ga ringo= ST no ue= ni oita] no= o totte...
 ‘Taro picked up an apple which Hanako had (just) put on a plate.’
(b) # Taroo=wa [Hanako= ga kinoo ringo= ST no ue= ni oita] no= o totte...
 ‘Taro picked up an apple which Hanako had put on a plate yesterday.’
(Kuroda 1976:271)

(c) Cf. the headed version
Taroo=wa [Hanako= ga kinoo sara no ue= ni oita] ringo= o totte...

THE RELEVANCY CONDITION: For a headless relative clause to be acceptable, it is necessary that it be interpreted pragmatically
in such a way as to be directly relevant to the pragmatic content of
its matrix clause. (Kuroda 1976:270)

Why such a condition on “internally headed relatives” if they
are syntactically well-defined constructions?
Evocative nominalizations with a head

[太郎が戸をたたく]音
[太郎が戸をこすりたたく]うの聞いた。

[秋がしのびる]気配
[秋がしのびる]のが感じられる。

[魚が焼ける]におい
[魚が焼ける]のがにおう。

Evocative nominalizations in other languages?

Quechua

a. [Maria(-q) wayk'u-sqa-n] wałpa-ta mikhu-sayku
   Maria(-GEN) cook-NMZ-3 chicken-ACC eat-PROG.1PL.EXCL
   ‘We are eating the chicken which Maria cooked.’

b. [Maria(-q) wayk'u-sqa-n]-ta mikhu-sayku
   Maria(-GEN) cook-NMZ-3-ACC eat-PROG.1PL.EXCL
   ‘We are eating what Maria cooked.’

c. [Maria(-q) wałpa-ta wayk'u-sqa-n]-ta mikhu-sayku
   Maria(-GEN) chicken-ACC cook-NMZ-3-ACC eat-PROG.1PL.EXCL
   Lit. ‘We are eating what Maria cooked.’

e. [Maria(-q) laranjas-ta ch'irwa-sqa-n]-ta uyani
   Maria(-GEN) oranges-ACC squeeze-NMZ-3-ACC drink.1SG
   Lit. ‘I drank the oranges that Maria squeezed.’

Cf. *laranjas-ta uyani
   oranges-ACC drink.1SG
   ‘I drank oranges.’

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Issue #2  Typological classification of relative clauses

Headedness parameter (Lehmann 1986, Dryer 2007, Andrews 2007, etc.)

Relative clauses

- Headed RCs
  - Single-headed RCs
  - Double-headed RCs
  - Head-external RCs
  - Head-internal (externally-headed) RCs

- Pre-head RCs
- Post-head RCs

(Huang 2008:762)

Are these really relative clauses?

Aren’t we wrong-headed about them?

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Correlations of Evocatives and V-finality and Zero pronouns

(Cole 1987)

[Hanako=ga ringo=o motte kite kureta] □ o tabeta
John ate □ [Hanako brought apples]

What is evoked must be available in the head position.

Evocatives as zero pronouns

きのう太郎がやってきてね，（□） こんなものくれたのよ。
もし太郎がガールフレンドを連れてくるなら，（□/□） 会いたいわ。