A Cartographic Approach to Japanese Relative Clauses

SETTORE SCIENTIFICO DISCIPLINARE DI AFFERENZA: L-LIN/01

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Table of Contents

Acknowledgements 3
List of Abbreviations 5

1. Introduction 7
1.1 Main characteristics of Japanese Relative Clauses 8
1.2 Types of Japanese Relative Clauses 14
   1.2.1 Restrictives and Nonrestrictives 14
   1.2.2 Head-External, Head-Internal and Headless relatives 16
   1.2.3 Pseudo-relative or gapless and to iu type RCs 24

2. Cinque’s theory on the universal structure of relative clauses 35

3. Features of Japanese Relative Clauses 47
   3.1 Position of the Relative Clause 47
      3.1.1 Mutual order between two RCs 52
   3.2 Accessibility 56
      3.2.1 Genitives and Topics 58
   3.3 Island violations 64
   3.4 Resumptive pronouns 70
   3.5 Reconstruction effects 77
      3.5.1 Idiom chunks 77
      3.5.2 Reflexives 79
   3.6 Ga/No conversion on subject 83
   3.7 Modality 89
   3.8 Presence of Topic 96

4. A cartography for the Extended Nominal Projection 103
   4.1 The cartography of the extended projection of the NP 103
   4.2 Derivation of Japanese Relative Clauses 107
      4.2.1 Derivation of gapped clauses 107
      4.2.2 Derivation of gapless and to iu-clauses 111
4.3 Relative Clauses' internal size 114
4.4 The cartography of the extended NP (reprise) 115

5. Conclusions 119

Bibliography 123
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### List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Adjective</td>
<td>MOD</td>
<td>Modality</td>
</tr>
<tr>
<td>ACC</td>
<td>Accusative case</td>
<td>N</td>
<td>Noun</td>
</tr>
<tr>
<td>ART</td>
<td>Article</td>
<td>NEG</td>
<td>Negative</td>
</tr>
<tr>
<td>CI</td>
<td>Classifier</td>
<td>NOM</td>
<td>Nominative Phrase</td>
</tr>
<tr>
<td>COMP</td>
<td>Complementizer</td>
<td>NP</td>
<td>Noun Phrase</td>
</tr>
<tr>
<td>COP</td>
<td>Copula</td>
<td>NPAST</td>
<td>Non-past tense</td>
</tr>
<tr>
<td>CP</td>
<td>Complementizer Phrase</td>
<td>NRRC</td>
<td>Nonrestrictive Relative Clause</td>
</tr>
<tr>
<td>DAT</td>
<td>Dative case</td>
<td>Num</td>
<td>Numeral</td>
</tr>
<tr>
<td>Dem</td>
<td>Demonstrative</td>
<td>PAST</td>
<td>Past tense</td>
</tr>
<tr>
<td>DP</td>
<td>Determiner Phrase</td>
<td>POL</td>
<td>Polite</td>
</tr>
<tr>
<td>FocP</td>
<td>Fous Phrase</td>
<td>PROG</td>
<td>Progressive aspect</td>
</tr>
<tr>
<td>GEN</td>
<td>Genitive case</td>
<td>PSV</td>
<td>Passive voice</td>
</tr>
<tr>
<td>HERC</td>
<td>Head-External Relative Clause</td>
<td>Q</td>
<td>Quantifier/(Question under interrogative <em>ka</em>)</td>
</tr>
<tr>
<td>HIRC</td>
<td>Head-Internal Relative Clause</td>
<td>RC</td>
<td>Relative Clause</td>
</tr>
<tr>
<td>HON</td>
<td>Honorific</td>
<td>RedRC</td>
<td>Reduced Relative Clause</td>
</tr>
<tr>
<td>IMP</td>
<td>Imperative</td>
<td>RRC</td>
<td>Restrictive Relative Clause</td>
</tr>
<tr>
<td>INS</td>
<td>Instrumental case</td>
<td>TOP</td>
<td>Topic</td>
</tr>
<tr>
<td>IP</td>
<td>Inflectional Phrase</td>
<td>TP</td>
<td>Tense Phrase</td>
</tr>
<tr>
<td>LOC</td>
<td>Locative case</td>
<td>VOL</td>
<td>Volitional</td>
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1. Introduction

This thesis represents a description of the relativization strategies in Japanese from a cartographic point of view. First, I will outline which type of Relative Clause (RC) Japanese shows. Beyond the well-known semantic distinction between restrictive and nonrestrictive, or appositive, RCs, Japanese also shows a morpho-syntactic distinction between Externally Headed RCs (HERCs) and Internally Headed RCs (HIRCs), or at least something that resembles them. There is also a wide use of gapless relatives in which the external head does not seem to match with an element inside the relative clause.

After a brief sketch in the introduction of the main characteristics of the various types of Japanese RCs, I will turn in chapter 2 to an illustration of Cinque's proposal for a unified theory of relative clauses (see Cinque 2008a, 2010). The aim of this work is in fact to investigate if the model proposed by Cinque suits the features of Japanese RCs or if amendments are needed.

In chapter 3 I will then take into consideration some syntactic issues and examine which behaviour every type of RC in Japanese shows with respect to those issues. The topics are 1) the position of the clause relative to other elements like quantifiers, demonstratives, numerals and other RCs; 2) the distribution of the relativized elements, that is which element of a sentence among arguments and circumstantial can become the head of a RC with respect to the clause type; 3) island sensitivity, which has been discussed in the literature; 4) the availability of resumptive pronouns in place of the gap in the RC; 5) the presence of reconstruction effects between the head of the relative and a reflexive or the remaining parts of an idiom chunk; 6) the conditions for the nominative/genitive conversion inside the RC; 7) the presence of modal expressions in the RC; and 8) the presence or
absence of topics inside the RC.

In chapter 4 I will try to draw a conclusion about the relativization strategies in Japanese. To do this I will match the features of the Japanese RCs analysed in chapter 3 with the universal model proposed by Cinque depicted in chapter 2. The goal is to locate the merging position of every type of RC in the hierarchy of the extended projection of an NP.

Chapter 5 is dedicated to some conclusions.

1.1 Main characteristics of Japanese Relative Clauses

Japanese is an agglutinative language with a basic SOV order. While scrambling among constituents is allowed for reason of information structure, the predicate is consistently at the end of a sentence, except when it is followed by a modal particle or by a complementizer in case of a dependent sentence. When a verb is in front of a noun or (a portion of) an extended projection of N, it closes a relative clause that modifies that NP. Thus, the basic world order is always RC>N. It is consistent with the fact that modifiers in Japanese always precede the modifiee:

1) adjective>noun
   aka-i ringo         sizuka-na basyo
   red-NPAST apple     quiet-NPAST place
   “a red apple”       “a quiet place”
As seen in the examples, a noun is modified by an element that precedes it and is marked by a particle, which is in most cases the

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1 This is the basic, non-marked position of quantifiers in Japanese. There are also other orders, the most common of them being the adverbial or absolute position of the quantifier, after the noun and without postparticles:

   a) tokai ga takusan aru
   clock NOM many exist
   “there are many clocks / the clocks are many”

2 Japanese is a numeral classifier language: the quantity of an item is expressed by a number followed by a sortal classifier and this group is tied to the noun by means of the genitive postposition.
genitive postparticle \textit{no}. Adjectives and verbs of a relative clause are marked instead by a particle that realizes their adnominal or attributive form. In contemporary Japanese the difference between attributive and predicative form of verbs and adjectives is morphologically no more noticeable, except for the so called \textit{na}-adjectives (or Adjectival Nouns) and the copula that forms an adposition:

6) \textit{Attributive}: \textit{Predicative}:

\begin{align*}
\text{Sizuka-na heya} & \quad \text{heya wa sizuka} \textit{ da} \\
\text{Quiet-NPAST room} & \quad \text{room TOP quiet NPAST} \\
\text{"a quiet room/a room that is quiet"} & \quad \text{"the room is quiet"}
\end{align*}

7) Gakusei \textit{no} John \quad John \textit{wa} gakusei \textit{ da}

\begin{align*}
\text{Student GEN John} & \quad \text{John TOP student is} \\
\text{"John, who is a student"} & \quad \text{"John is a student"}
\end{align*}

Verbs and the so called \textit{i}-adjectives (or true adjectives) do not show an overt morphological difference:

8) \textit{Attributive}: \textit{Predicative}:

\begin{align*}
\text{aka-i ringo} & \quad \text{ringo wa aka-i} \\
\text{red-NPAST apple} & \quad \text{apple TOP red-NPAST} \\
\text{"a red apple"} & \quad \text{"the apple is red"}
\end{align*}

9) \textit{[daigaku e iku]} Aiko \quad Aiko \textit{wa} daigaku \textit{ e iku}

\begin{align*}
\text{university to go Aiko} & \quad \text{Aiko TOP university to go} \\
\text{"Aiko, who goes to university"} & \quad \text{"Aiko goes to university"}
\end{align*}

\footnote{The relative meaning can be specified also substituting the particle \textit{na} with the periphrastic construction \textit{de aru} `to be': [sizuka \textit{de aru} heya `a room that is quiet`.}
The difference between attributive and predicative form disappears even in *na*-adjectives and adpositions when they turn into a negative or a past form; this means that the difference applies only in the non-past affirmative conjugation:

10) **Attributive:**

Sizuka *de nai* heya

Quiet-NEG room

“a room that isn’t quiet”

**Predicative:**

heya wa sizuka *de nai*

room TOP quiet-NEG

“the room isn’t quiet”

11) Gakusei *datta* John

Student be.PAST John

“John, who was a student”

**John wa gakusei *datta*”

John TOP student be.PAST

“John was a student”

In externally headed relative clauses (HERC) there is neither a relative pronoun nor a complementizer; the attributive morphology substitutes it. Japanese has also internally headed RCs (HIRC), which instead have an overt pronoun *no*:

12) Ken wa [Aiko ga keeki o tukutta] *no* o tabeta

Ken TOP [Aiko NOM cake ACC bake.PAST] *no* ACC eat.PAST

“Ken ate the cake that Aiko baked”

Since HIRC are not the prototypical form of a RC, and indeed they are fairly unusual, when I expose a general characteristic about RCs I refer

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4 Usually, in case of negative predicate and especially with the negative form of the copula, between the postparticle of quality *de* and the negative copula *nai* there is a contrastive *wa* particle. The result is the more common “sizuka *de wa nai* heya” and “heya wa sizuka *de wa nai*”.

5 The copulas *da* (non-past), *datta* (past), and their counterparts agglutinated with the politeness morpheme *desu* and *desta* are sintetic forms derived by the analitic expression *de aru*, where *de* is a postparticle indicating quality and *aru* is the verb ‘to exist’. *De aru* expresses the meaning of ‘to be’, but the copulas of the *da*-family are utilized also in other construction without the meaning of ‘to be’.
to the most common HERCs; it should be noted that HIRCs could behave differently.⁵

Concerning tense, Japanese shows only two tenses: past and non-past. While subordinate clauses have an absolute tense that refers to speech time (ST),⁷ RCs have also a relative tense, whose interpretation depends on the tense of the main clause (MC), the past indicating anteriority and the non-past posteriority. As noted in Makihara 2003, a past in a RC is anterior in respect to a non-past in the MC, without reference to speech time:

13) [NP[RC siken ni ukatta] hito] o raisyū yatou
exam DAT pass.PAST person ACC next week hire.NPAST
“next week (I) will hire a person who passed the exam”
“next week (I) will hire a person who will have passed the exam”

The two possible sequences of events are thus RC>ST>MC or ST>RC>MC. In the second case the past tense in the RC represents a future event, posterior to speech time but still anterior to the main clause. On the other hand, if RC and MC have both a past tense, both events are previous respect to speech time, but the mutual order is not determined:

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⁶ We will see later on the real status of the HIRCs.
⁷ The generalization does not cover the case of subordinate clauses morphologically realized like relative clauses, with a noun as complementizer rather than a particle:

(a) asita siken ga owatta toki koko ni kite kudasai
tomorrow exam NOM end.PAST time (noun) here DAT come.IMP
“tomorrow when the exam will be ended please come here”

Cfr. (b) siken ga owatta kara koko ni kite kudasai
exam NOM end.PAST since (prt.) here DAT come.IMP
“since the exam finished, please come here”

12
14) [NP[RC kōen ni itta] hito] ni hanasikaketa
   park-to go.PAST person DAT speak to.PAST
   “(I) spoke to a person after (he) went to the park”
   “(I) spoke to a person before (he) went to the park”

In this case the two possible sequences of events are respectively
RC>MC>ST (relative interpretation, or [-deictic] in Makihara’s terms)
and MC>RC>ST (absolute, or [+deictic] interpretation). Similarly, I
tested that a non-past in a relative clause indicates posteriority in
respect to a main clause with a past tense, independent of the speech
time [see 15], while a double non-past combination is about two future
events, whose mutual order is though undeterminable (16):

15) [NP[RC siken ni ukaru] hito] o yatotta
    exam DAT pass.NPAST person ACC hire.PAST
    “(I) hired a person that (then) passed the exam”
    “(I) hired a person that will pass the exam”

16) [NP[RC 1000 en ijō kifu suru] hito] wa pātī ni
    1000 yen over donate.NPAST person TOP party DAT
    sanka dekiru
take part POT.NPAST
    “The persons who will have donated more than 1000 yen can
take part in the party”
    “The persons who will donate more than 1000 yen can take
part in the party”
1.2 Types of Japanese Relative Clauses

1.2.1 Restrictives and Nonrestrictives

The distinction between nonrestrictive and restrictive clauses resides primarily in whether the head is identifiable independently of the relative clause or not. In Japanese there is no overt morphological difference between the internal structure of these two kinds of RCs; in both cases the clause precedes the relativized noun:

17) [ringo o tabeta] hito
   apple ACC eat.PAST person
   “The person that ate an apple”

18) [ringo o tabeta] Tanaka-san
   apple ACC eat.PAST mr. Tanaka
   “Mr. Tanaka, who ate an apple”

The nonrestrictive meaning is straightforward if the head is a proper noun or an already well identified substantive, but it can be associated also with a morphologically indefinite head if it refers to a unique element in the shared knowledge of speaker and hearer:

19) [ringo o tabeta] otoko no hito wa dekaketa
   apple ACC eat.PAST male GEN person TOP go out.PAST
   “The man that ate an apple went out”
   “The man, who had eaten an apple, went out”

There are no differences in the elements’ position nor in the type of relative pronoun, in that no relative pronoun is used in externally headed RCs. A distinction emerges when the RC contains a wh-element:
contrary to English, a Japanese restrictive RC can contain a wh-word, but the constraint still holds in nonrestrictives (Miyake 2011: 94-95):

20) anata wa [nani o kaita] sakka o sitteiru no you TOP what ACC write.PAST novelist ACC know.NPAST Q Lit. “What do you know a novelist that wrote __a?”

21) *anata wa [nani o kaita] Murakami o sitteiru no you TOP what ACC write.PAST ACC know.NPAST Q Lit. “What do you know Murakami who wrote __a?”

Miyake 2011 starts from the observation that a sentence like

22) anata wa [dare o hihan siteiru] hon o yomimasita ka you TOP who ACC criticize.NPAST book ACC read.PAST Q Lit. “Whom did you read [a book that criticizes]?”

can be answered in two ways: e.g. “Chomsky”, corresponding to the bare wh-constituent, or “a book that criticizes Chomsky”, corresponding to the entire RC+NP complex. It can be stated that in Japanese the wh-feature percolates to the whole RC+NP if the RC is restrictive, but it does not percolate in case of a nonrestrictive.

In section 1.1 I have already mentioned that tense in Japanese RCs is both an absolute and a relative tense. A qualification is in order, inasmuch as in case of nonrestrictive RCs only an absolute tense interpretation is possible (Miyake 2011: 97-98):

23a) [syūron o kaiteiru] gakusei ga sono gakkai thesis ACC write.PROG.NPAST student NOM that conference de happyō sita LOC presentation do.PAST
"A student that was writing the thesis made a presentation at that conference" (relative interpretation)

"A student that is writing the thesis made a presentation at that conference" (absolute interpretation)

23b) [syūron o kaiteiru] Taro ga sono gakkaidesu.
thesis ACC write.PROG.NPAST NOM that conference
de happyo sita
LOC presentation do.PAST

"Taro, who is writing the thesis, made a presentation at that conference" (absolute interpretation)

1.2.2 Head-External, Head-Internal and Headless relatives

As seen in all the examples of the previous section, the prototypical layout of a Japanese RC is a Head-External construction (HERC). In this construction the RC precedes, and is separated from, an external head, which is a NP identical to a NP originally inside the RC. Different theories and analyses postulate that this construction derives either by movement of the head NP from inside the RC to the external position, leaving a gap, or by direct merge of the head outside the RC and consequent deletion of the identical NP inside the clause. Enlightened by an illustration of Cinque’s proposal for a unified theory of relative clauses in chapter 2 and by tests in chapter 3, we will see later on which derivation is most suitable to the Japanese case.

Japanese also has Head-Internal RCs. This is not surprising, since in Cole 1987 it is noted that HIRCs often alternate with prenominal RCs. In this construction the RC is a full clause without gaps, and in place of the external head there is a pronoun, no, which refers to a constituent (or to the entire content, see 25) of the RC. Consider 24:
24) Ken wa [Aiko ga keeki o tukutta] no o tabeta  
TOP NOM cake ACC bake.PAST no ACC eat.PAST  
“Ken ate the cake that Aiko baked”

A HIRC and the correspondent HERC are not fully interchangeable, though. Indeed, HIRCs have some properties that lead me to believe that they are not real relative clauses, but a different kind of clause. Thus, I do not intend to develop an analysis of HIRCs in this dissertation, but I will mention here the main properties of these clauses nonetheless.

First, the head of a HIRC is morphologically indeterminate, there is no clear sign of which constituent the external pronoun no corefers with. The association occurs at a logical level. Furthermore, what the external pronoun no seems to refer to, is not just an element inside the HIRC, but the result of the event described:

25) John wa [koori ga sara no ue de toketesimatta] no o  
TOP ice NOM plate GEN top LOC melt.PAST no ACC  
gokugoku nonda  
gulp down.PAST  
“John gulped down the water which resulted from the ice’s having melted on the plate”  
(Hoshi 1995: 120)

The sentence in 25 cannot be converted into a corresponding HERC without getting a weird reading:

26) #John wa [___a sara no ue de toketesimatta] koori o  
TOP plate GEN top LOC melt.PAST ice ACC

---

8 An account of the characteristics of HIRCs are mainly due to Kuroda 1992, Hoshi 1995 and Kim 2004.
gokugoku nonda

gulp down.PAST

"John gulped down the ice which had melted down on the
dish"  

(Kim 2004: 46)

The difference between 25 and 26 resides in the fact that the external
head represented by the pronoun no in 25 refers to an entity, the water,
which is drinkable, resulting from the event described inside the HIRC;
while the external head in 26 represents one element of the HERC, the
ice, which is not drinkable and thus fits in directly with the main clause
in an inappropriate way.

Further, it has been noted by Kuroda 1992 that "Japanese HIRC
are legitimately base-generated (externally merged) only into θ-marked
positions" (quotation in Narita 2007: 61). Kuroda points out The
Relevancy Condition (Kuroda 1992: 147):

“For a pivot-independent relative clause9 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.”

To be more precise, a HIRC can identify only an element that is involved
in an action as its subject, direct or indirect object or other syntactic
role, but not the subject or the predicative part of a nominal predicate.
This distributional constraint does not hold for HERCs. Compare 27a
and 28a (HIRCs) with 27b and 28b (HERCs):

27a)  "? kore wa [ima Picasso ga syōzōga o kaiteiru] no de aru.
     this TOP now NOM portrait ACC is.drawing no COP

9 Kuroda calls HIRC ‘pivot-independent relative clauses’.
Lit. "This is [Picasso is now drawing a portrait]"
(Narita 2007: 65)

27b) kore wa [ima Picasso ga ___ kaiteiru] syōzōga de aru
this TOP now NOM is.drawing portrait COP
"This is the portrait that Picasso is drawing now"

28a) *[soko de Tanaka san ga tatteiru] no wa isya da
there LOC NOM is.standing no TOP doctor COP
Lit. "[Mr. Tanaka is standing there] is a doctor"

28b) *[soko de ___ tatteiru] Tanaka san wa isya da
there LOC is.standing TOP doctor COP
"Mr. Tanaka, who is standing there, is a doctor"


29) *Mary wa [John ga naifu o kattekita] no de
TOP NOM knife ACC buy.PAST no with
ringo o kitta
apple ACC cut.PAST
"Mary cut an apple with the knife which John bought"

30) *Watasi wa [Mary ga ringo o kattekita] no kara
I TOP NOM apple ACC buy.PAST no from
pai o tukutta
pie ACC make.PAST
"I made a pie from the apples which Mary bought"
Kim (2004: 101-2) adds that the event described in the HIRC must be in a simultaneity and co-locationality condition with the matrix clause in order to be correct. She claims also that “the content of the IHRC restricts the content of the matrix clause, rather than that of the semantic head” (p. 20). Thus, we can conclude that HIRCs must obey a set of semantic and logical constraints that do not hold for HERCs, and that they resemble more an adverbial clause than a relative one.

HIRCs share one characteristic with **Headless** RCs: the pronoun *no* as an external head. A Headless RC appears superficially as a HIRC with a gap inside, but the two constructions have several differences. A Headless RC is a real restrictive with an indefinite pronoun in place of the external head. A HIRC does not have some features that (restrictive) HERCs have. First, Headless' *no* is replaceable by another indefinite word like *yat"u* 'thing', while HIRCs' cannot be:

31a) John wa [Mary ga ___ mottekita] no/yat"u o
   TOP   NOM   bring.PAST no/thing ACC
   tootte tabeta
   pick up and eat.PAST
   “John picked up and ate the thing that/what Mary brought”
   (Tonosaki 1998: 146)

31b) * John wa [Mary ga ringo a o mottekita] yat"u o
     TOP   NOM apple ACC bring.PAST thing ACC
     tootte tabeta
     pick up and eat.PAST

Headless, like (restrictive) HERCs, are modifiable by deictic pronouns, adjectives, specifications and other relative clauses, while HIRCs are not:
32a) Hanako ga akai/Aomorisan no/sono [Tarō ga ___]
  NOM red/product in Aomori GEN/that NOM
  kattekita] noα o totta
  buy.PAST no ACC pick up.PAST
  “Hanako picked up the red one/the one produced in Aomori/that one that Tarō bought”

32b) *Hanako ga akai/ Aomorisan no/sono [Tarō ga
  NOM red/product in Aomori GEN/that NOM
  ringo o kattekita] noα o totta
  apple ACC buy.PAST no ACC pick up.PAST
  “Hanako picked up the red apple/the apple produced in Aomori/that apple that Tarō bought”

33a) Hanako ga [___ ekimae no yaoya de utteita
  NOM station.front GEN greengrocer LOC sell.PAST
  [Tarō ga ___ kattekita]] noα o totta
  NOM  buy.PAST no ACC pick up.PAST
  “Hanako picked up the one that was on sell at the greengrocer in front of the station that Tarō bought”

33b) *Hanako ga [___ ekimae no yaoya de utteita
  NOM station.front GEN greengrocer LOC sell.PAST
  [Tarō ga ringo o kattekita]] noα o totta
  NOM  apple ACC buy.PAST no ACC pick up.PAST
  “Hanako picked up the apple that was on sell at the greengrocer in front of the station that Tarō bought”

(Hasegawa 2002: 5-6)

Last, I point out that HIRC’s have been believed by many researchers to have an E-type pronoun as external head, which entails
a maximality effect that the corresponding HERCs do not have (34a and 35a from Hoshi 1995, see also Shimoyama 1999):

34a) John wa [Mary ga sanko no ringo o muitekureta]  
    TOP NOM 3.Cl GEN apple ACC peel for him.PAST  
    no o tabeta  
    no ACC ate.PAST  
    “John ate (all) the three apples that Mary peeled for him”

34b) John wa [Mary ga _a muitekureta] sanko no ringo_a o  
    TOP NOM peel for him.PAST 3.Cl GEN apple ACC  
    tabeta  
    ate.PAST  
    “John ate three apples that Mary peeled for him”

35a) Tarō wa [Yoko ga reizōko ni kukkī o hotondo  
    TOP NOM fridge DAT cookies ACC most  
    ireteoita] no o pāti ni motteitta  
    put in.PAST no ACC party DAT bring.PAST  
    “Taro brought to the party the cookies that Yoko put in the refrigerator (which was most of the cookies) / Yoko put in the refrigerator most of the cookies and Taro brought them to the party”

35b) Tarō wa [Yoko ga reizōko ni _a ireteoita] kukkī o  
    TOP NOM fridge DAT put in.PAST cookies ACC  
    hotondo pāti ni motteitta  
    most party DAT bring.PAST  
    “Taro brought to the party most of the cookies that Yoko put in the refrigerator”

22
In 34a (HIRC) Mary peeled only three apples and John ate all of them, while in 34b (HERC) the number of apples peeled by Mary is unknown, but John ate three of them. Similarly in 35a, if Yoko had prepared 80 cookies, she would have put 70 of them in the refrigerator and Taro would have brought those 70 cookies to the party; while in 35b we don’t know how many cookies Yoko prepared, nor how many she put in the refrigerator, but Taro brought to the party most of the cookies he found in the fridge. Thus, the sentences with a HIRC do not share the same truth conditions with the corresponding ones with a HERC. A quantifier inside a HIRC takes scope over the whole HIRC and the external pronoun no refers to an entity already quantified by it; in case of HERC the quantifier remains outside the relative clause by the external head and takes scope over the matrix sentence but not over the RC. In 34a and 35a the external head no refers to all the items inside the HIRC and this is what is meant for ‘maximality effect’ of an E-type pronoun. More recently, Kubota-Smith 2006 refute the thesis that no in HIRCs is an E-type pronoun pointing out some relevant counterexamples. First, there are HIRCs with a non-maximal interpretation:

36) Tarō wa [kan no naka ni ame ga haitteita] no o
   TOP can GEN inside DAT candy NOM in be.PAST no ACC
toridasite nameta
pick out.and eat.PAST
   “Taro picked out and ate one/some of the candies that were in the can”

Then, the authors show that the maximality interpretation is induced by pragmatic effects rather than syntax:
37a) (At the security check of an airport)

Dono zōkyaku mo [poketto ni koin ga haitteita] no o every passenger pocket DAT coin NOM in be.PAST no ACC toridashite torei ni noseta pick out.and tray DAT put.PAST Every passenger picked up the coins that she/he had in her/his pocket and put them on the tray”

37b) (At the ticket gate at a train station)

Dono zōkyaku mo [saifu ni kaisūken ga every passenger wallet DAT cupon ticket NOM haitteita] no o toridasite kaisatu ni ireta in be.PAST no ACC pick out.and ticket cheker DAT put.PAST “Every passenger picked up a coupon ticket that she/he had in her/his wallet and put it in the ticket checker”

(Kubota-Smith 2006: 6-7)

Finally, I agree with the conclusions of Kubota-Smith summarized in the following three points: 1) HIRC s exhibit both maximal and non-maximal interpretations; 2) in both cases, the interpretation depends on context; 3) they receive exclusively maximal interpretations with numerical classifiers and quantifiers with existential presuppositions (p. 11).

1.2.3 Pseudo-relative or gapless and to in type RCs

Setting apart the case of the HIRC s, we have seen relative clauses in which the external head is originally an element of the clause itself. The result is a clause with a gap inside, therefore they are called gapped relatives. However, Japanese shows clear instances of gapless
relatives too, otherwise called 'pseudo-relatives'.\textsuperscript{10} In this case the RC is a full-fledged sentence next to a noun that has no syntactic relationship with the clause. The external noun expresses the content of the RC (38), or a spatial, temporal or cause-effect relation to the content of the RC (40):

38) [sakana o yaku] nioi
    fish ACC grill.NPAST smell
   “The smell of (someone’s) grilling the fish”

39) [____ sakana o yaku] otoko$_a$
    fish ACC grill.NPAST man
   “The man that grills the fish”

40) [orinpikku ga atta] yokunen
    Olympic games NOM exist.PAST the following year
   “The year after having the Olympic games”

In 38 (gapless) the RC sakana o yaku expresses the content of the noun 'smell', answering a question like “a smell of what?” On the opposite, in 39 (gapped) the same RC does not describe the noun 'man', but identifies it answering the question “which man?” On the other hand, in 40 the head yokunen 'the following year' indicates a temporal point defined on the basis of the temporal point in which the event of the RC happens. So, if we pretend that the Olympic games held in 1984, the following year will be 1985. In both cases, the external noun does not find a place inside the RC, but is totally unrelated to it.

Some gapless RCs have an overt complementizer, to $iu$: $iu$ is the verb 'to say' and $to$ is the particle that functions as declarative

\textsuperscript{10} According to the terminology invented by Teramura (Teramura 1975-1978: 192-205), gapped relatives are called 'inner relationship' ($u$ to $kankei$), and gapless relatives are called 'outer relationship' (soto to $kankei$).
complementizer both in direct and indirect speech. Let's see first an example of declarative sentence:

41) Hanako wa keki o tukutta to itta
    TOP cake ACC bake.PAST that say.PAST
    “Hanako said that she baked a cake”

There are no (overt) morphological differences between direct and indirect speech: the sentence above can be translated as “Hanako said I baked a cake” if keki o tukutta is inside quotation marks. Then, let's see an example of to iu-RC:

42) kaigai de nihongo o osieru to iu keiken
    abroad LOC Japanese ACC teach to iu experience
    “The experience of teaching Japanese abroad”
    (Manabe 2008: 53)

The insertion of to iu divides the gapless relatives into three groups: a) clauses in which to iu is necessary; b) clauses in which to iu is optional; c) clauses in which to iu is forbidden. According to Teramura 1975-1978, the presence or absence of to iu depends both on the nature of the external head that follows it, and on the structure of the clause that precedes it. As far as the morphosyntax of the RC is concerned, Teramura claims that the higher is the last projection of the clause (for instance entering the domain of modality), the more necessary is the presence of to iu, while on the contrary the smaller is the predicate of the clause, the more unnecessary, if not even wrong becomes the presence of to iu (p. 267). I will handle this issue in detail in chapters

11 It sounds literally like “the experience that (someone) calls ‘teaching Japanese abroad’”
3.6-3.7-3.8. In addition, to ıu is mandatory if the clause ends with the copula 
da or with an imperative form:

43) [kono zairyō ga fukakétu da] *(to ıu) zyōken
   this ingredient NOM essential COP to ıu condition
   "The condition that this ingredient is essential"

cfr. with

44) [kare ga tuite kuru] (to ıu) zyōken o nonda
   he NOM follow.NPAST to ıu condition ACC accept.PAST
   "I accepted the condition that he follows us"

45) [kotti ni koi] *(to ıu) meirei
   here DAT come.IMP to ıu order
   "The order of come here/the order 'come here'"

As regards the nature of the external head,

a) with nouns that indicate an utterance or a thought (verba dicendi and cogendi), to ıu is mandatory;
b) with nouns that indicate physical perceptions, to ıu is forbidden;
c) with nouns that indicate facts and (abstract) things in general, to ıu is optional (its presence depends on other factors).

It belongs to the group a) nouns like kotoba 'word', monku 'complaint', henei 'replay', sasoi 'invitation', uwasa ' rumor', kangee 'idea', iken 'opinion', katei 'hypothesis', kitai 'expectation', sōzō 'guess', etc. (more examples in Teramura 1975-1978: 269-275). The reason of the presence of to ıu is evident if we consider that the verbs
corresponding to the nouns above bear a declarative clause with the complementizer to:

46a) [sono sigoto o hikiukeyō] to kessin suru
that work ACC undertake.VOL that determination do.NPAST
“To decide to undertake that work”
(Lit. “To decide ‘let’s undertake that work’”)

46b) [sono sigoto o hikiukeyō] to iu kessin
that work ACC undertake.VOL to iu determination
The determination to undertake that work”
(Teramura 1975-1978: 267)

In most cases, these nouns are related to the corresponding verbs by adjoining the dummy verb suru ‘to do’, like in hōkoku - hōkoku suru ‘report-to report’ and irai - irai suru ‘request-to request’. In other cases, the verb takes its nominal form like in omou - omoi ‘to think-thought’ and kangae - kangae ‘to think-idea/thought’.

It belongs to the group b) nouns of perceptions and concepts perceivable with the five senses like azi ‘taste’, oto ‘sound’, nioi ‘smell’, sugata ‘appearance’, katasu ‘shape’ and other things that are seen with one’s own eyes. In this case to iu cannot intervene. It is also easier than in other cases that the subject of this kind of RC is marked by the genitive particle no instead of the nominative ga, but this point will be discussed in detail in chapter 3.6.

47a) [tamago no/ga kusatta] (*to iu) nioi
egg GEN/NOM rot.PAST smell
Lit. “The smell of an egg rotted”
(Teramura 1975-1978: 287)
Teramura notes that in general all the instances of this kind of RC can be scrambled and presented as if the external head were modified by the subject of the clause in a genitive structure, without changes in meaning, like in 47b:

47b) [__a kusatta] tamagō no nioi
rot.PAST egg GEN smell
“The smell of an egg that rotted”

It belongs to the group c) nouns of other things and abstract concepts like zizitu ‘(real) fact’, koto ‘thing, fact’, ziken ‘accident’, unmei ‘destiny’, keiken ‘experience’, syūkan ‘custom’, rekisi ‘story’, yume ‘dream’, kanōsei ‘possibility’, sigoto ‘work’, hōhō ‘method’ and many others. With this category of nouns the presence of to iu is discretionary. As already reported, according to Teramura the higher is the last projection of the RC, the more necessary becomes to iu, but there are also other factor that seem relevant to this matter. Manabe 2008 argues that to iu is fit for general exemplifying expressions, while if the RC expresses a specific, concrete and tensed fact, to iu is not required. Compare 48 and 49 (from Manabe 2008: 54):

48) Taro wa [oya no me no mae de kodomo ga
TOP parents GEN eye GEN front LOC child NOM
ekorosareru] (?‘Ø/to iu) ziken nado arienai to
kill.PSV.NPAST to iu incident etc. inconceivable that
omotteiru
think.NPAST
“Taro thinks that incidents like a child is killed in front of parent’s eyes are inconceivable”
49) Tarō wa [me no mae de Hanako ga korosareta]
TOP eye GEN front LOC NOM kill.PSV.PAST

{Ø/?*to iu} ziken no syōnin to site hôtei de
to iu incident GEN witness as courtroom LOC
syōgen sita
testify.PAST
“Taro testified in the courtroom as witness of the incident in
which Hanako was killed in front of (his) eyes”

48 represents a general, theoretical example, and the sentence is better
with to iu inserted. On the contrary, 49 represents a specific fact and
the sentence improves without to iu. Specificity and generality are
conveyed through different elements like tense, common or proper
nouns, and time specifications. There is not a unique morphological
sign that defines the specificity or the generality of an expression.
Compare the following pair of sentences:

50) [Kaigai de seikatsu suru]{Ø/to iu} keiken wa
overseas LOC live.NPAST to iu experience TOP
dare ni totte mo kityōna mono ni naru de arō
for.everyone precious thing DAT become probably
“The experience of living overseas will be probably a
precious thing for everyone”

51) [Rainen kaigai de seikatsu suru]{Ø/?*to iu} keiken
Next year overseas LOC live.NPAST to iu experience
wa Hanako ni totte kityōna mono ni naru de arō
TOP for precious thing DAT become probably
"The experience of living overseas the next year will be probably a precious thing for Hanako"

(Manabe 2008: 60)

In 50 the sentence has an overall generic meaning, while the sentence in 51 is specified and contextualized by a temporal expression and a proper name. The boundary between the intervention and non intervention of to iu is not clear-cut, though: in 48 the zero morpheme is awkward for Manabe, while in 50 seems acceptable, although both sentences are generic. The judgements about these expressions are divided among the speakers, but it may be said that there is a trend, according to which to iu intervenes more when the sentence expresses a generic meaning and disappear the more specific the sentence is. From this point of view, it is clearer why gapless relatives headed by nouns of physical perception (those of group b) cannot have to iu: in those cases the RC describes exactly the content of that particular sound or smell and there is no way to be treated as a general example of sound or smell.

In addition to to iu, there is also another possible complementizer for gapless RCs: to no, which is formed by the declarative complementizer to and the genitive particle no. As for the function, these two complementizers seem interchangeable, but at a closer analysis some differences emerge. To iu is more suitable to signal a direct speech, for example in case of onomatopoeia:

52) Buzaa {to iu/*to no} oto
    'buzz' to iu/to no sound
    "A sound like 'buzz'"

The difference is noticeable when the quotation entails a bound pronoun:
53a) Karewa [oren ga iku] {to iu/*to no} hanasi
   He  TOP  I NOM go.NPAST to iu/to no discourse
   o  sita
   ACC do.PAST
   “He made the discourse (=He said) ‘I go’”

53b) Hanakowa [kanozyo ga iku] {?to iu/to no} hanasi
    TOP  she  NOM go.NPAST to iu/to no discourse
    o   hitei sita
    ACC deny.PAST
   “Hanako denied the discourse (=She denied) that she would go”\textsuperscript{12}

According to Masuoka 2010, to iu cover a wider range of cases, either of direct and indirect speech, but to no seems prevail on to iu in the indirect speech (like in 53b). In general, to no intervenes in a subset of cases in which to iu does, in particular in sentences with a specific meaning, because in generic expressions it results in unacceptability:

54) [Dansei ga kesyō o suru] {Ø/to iu/*to no} ūsyū
    Men  NOM make-up ACC do.NPAST to iu/to no custom
   “The custom of men making themselves up”

To iu can close large RCs with high projections, like topics and every kind of modality, which are not admissible inside the smaller gapped RCs (we will see this issue in detail in chapters 3.7 and 3.8). The clauses headed by to no are larger than gapped RCs too, but it seems that they are not so wide as those with to iu. Compare the following:

\textsuperscript{12} Examples 53a-b were point out to me by Yoshio Endo (personal communication).
55) [Taifu  ga kuru  rasii zo] to iu keikoku
   Typhoon NOM come.NPAST seem zo to iu warning
   Lit. "The warning that hey, a typhoon seems to come"

56a) [Kikoku sareta] to no koto...
   Return.HON.PAST to no fact
   "The fact that You returned to Your country..."

56b) ??[Kikoku saremasita  ne] to no koto
   Return.HON.POL.PAST ne to no fact
   Lit. "The fact that You returned to Your country, isn't it?"
   (from handouts of Yoshio Endo's lessons)

55 contains rasii, that expresses a speaker-oriented modality, and zo, that is a final particle that functions as hearer-oriented speech act modality. The RC thus ends up with high projections, but is acceptable since it is closed by to iu. 56b contains the polite morpheme -mas-, which is properly used in direct speech, and the final particle ne, that is similar to (and as high as) zo, but the expression is degraded since it is closed by to no. Therefore, I guess that a RCs without complementizer (gapped or gapless) are (relatively) small, RCs with to no are larger than the first, and the RCs with to iu are the largest. I will consider in chapter 3 how small and how large these clauses are.
2. Cinque's theory on the universal structure of relative clauses

In this chapter I describe Cinque's proposal for a unified theory of relative clauses, focusing in particular on the elements regarding the types of RC that Japanese shows, and that I listed in chapter 1.2. For an extensive explanation of the entire theory proposed by Cinque I refer to Cinque 2008a, 2008b and 2010b. It is beyond the scope of this dissertation to discuss the general theoretical framework in which the proposal arose and its validity for every language; I will treat the matter only in relation to Japanese RCs.

A brief introduction to the preexisting theoretical models for the derivation of RCs that led to the present theory will help. We can limit the choice to two models: the *Head Raising* (or *Promotion*) *Analysis* and the *Matching Analysis*. In the earlier version of the Head Raising Analysis by Shachter 1973 and Vergnaud 1974 (among others), the RC is a CP adjoined to an NP dominated by a DP, and C° hosts a relative complementizer (if needed) like *that* in English or *che* in Italian; the head-noun originates inside the RC and raises to SpecCP together with an optional relative pronoun, like *which* in English or *il quale* in Italian, or with an empty operator, and from there the NP-head alone raises again to the NP sister to CP. The relative pronoun is considered a determiner of the NP, so they move together as in an interrogative sentence like "[which book]a did you read tₐ?".
The external determiner takes scope over the entire combination of NP-head+RC below it, it does not originate, together with the NP, inside the relative clause. In fact a sentence like “no book that I read was interesting” does not entail “I read [no book]”.

Kayne 1994 basically agrees with this analysis, but modifies it slightly to make it consistent with his antisymmetric approach (which I also assume in this work). According to the antisymmetric framework, insofar as no right adjunction is allowed, a CP cannot be sister to an NP. Nor can be CP the complement of a bare N, since the head of a relative clause can be a full NP like in “I found the [two pictures of John’s] that you lent me”. Kayne proposes the structure \[ \text{DP} \rightarrow \text{D}^0, \text{NP}, \text{CP} \rightarrow \text{C}^0, \text{IP} \rightarrow \text{rel}\text{John likes }t_1 \]

1) the [book]\(j\) [CP[Op/which ]\(j\)[John likes ]\(t_1\)]

(Bhatt 2002: 45)
Regarding prenominal RCs, about which Kayne claims that they lack relative pronouns, an additional raising of (the remnant of) IP to SpecDP must be considered in the derivation in order to get the correct word order.\footnote{Kayne also quotes Keenan (1985: 160) claiming that “the verbs of prenominal relatives are nonfinite/participial, having reduced tense possibilities as compared with finite verbs” (Kayne 1994: 95).} The fact that in the Head Raising Analysis the NP-head originates inside the RC and then moves out of there explains the correct reconstruction of the meaning of an idiom chunk. For instance, the
expression “to make headway”, even if it is split into a RC and its head, like in “the headway [that John made] is impressive”, is still correctly understood with its idiomatic meaning because this is interpreted in the original location of the head inside the RC. The same reconstruction effect is detectable between an anaphor and its antecedent, although the anaphor appears superficially not c-commanded by the antecedent, apparently violating Condition A of the Binding theory: in “The two pictures of himself$_a$ [that John$_a$ made $t_a$] are very beautiful” the sentence is correct because the meaning of the anaphor himself is interpreted in the original position inside the RC under the c-command of its antecedent John. Another phenomenon that is explained well by a movement derivation is Inverse (Case) Attraction, instantiated for example by sentence 4 in Afghan Persian, where the head of the RC retains the case marker of the original position inside the RC:

3) doxtar ey ra [ke jon mišnose] inja æs
   
girl ART ACC COMP John know.3 here be.3

   “The girl that John knows is here”

   (From Houston 1974: 43, found in Cinque 2010b: 3)

The movement derivation of RCs is parallel to the movement derivation of wh-interrogative sentences, as shown in 4-5:

4a) The headway$_a$ [that John$_a$ made $t_a$] is impressive
4b) What headway$_a$ did John$_a$ make $t_a$?
5a) The two pictures of himself$_a$ [that John$_a$ took $t_a$] are very beautiful
5b) Which pictures of himself$_a$ did John$_a$ show you $t_a$?
But the similarity breaks down when it comes to Condition C of the Binding theory:

6a) *Which picture of John did you think he liked t?
6b) The picture of John that you thought he liked t is on the mantle

(from Vai 2012: 42)

If in both 6a and 6b the constituent with the R-expression John is interpreted in the trace position bound by the pronoun he, we should expect both sentences to be ungrammatical, but the sentence with the RC is not. The grammaticality of 6b is explained by the Matching Analysis, originally proposed by Chomsky 1965 (among others) and extended by Sauerland 1998. According to this model, the structure is the same of that of the Head Raising Analysis, but the NP-head is not moved but base generated externally as well as internally to the RC. The lower copy is then deleted due to c-command by the higher one. What is crucial in this analysis is that the two copies of the NP do not form a chain (the two versions can differ a bit, indeed), so there aren’t transformational relations that potentially block a configuration like 6b.

7) the [book] [cp[Op/which book], John likes t]

(Bhatt 2002: 45)
Another piece of evidence for the Matching Derivation is the full repetition of the head inside the RC, where the NP-head is clearly present in both the external and internal position. See the example in Italian in 8:

8) Non hanno ancora trovato una sostanza, [dalla quale sostanza ricavare un rimedio contro l'epilessia]  

“They have not found a substance from which substance to obtain a remedy against epilepsy”  

(Cinque 1978: 88f, in Cinque 2010b: 4)

It seems therefore that the two approaches, the Head Raising Analysis and the Matching Analysis, are both necessary to explain different types of relative clauses. Cinque (2008a, 2010) proposes a new structural model that incorporates the two previous analyses and provides a unified and consistent account for the derivation of all types of RCs found across languages: externally headed postnominal, externally headed pronominal, headless, internally headed, double headed and correlative RCs. The basic idea is that a RC is one of the several elements that modify a noun, among adjectives, determiners, quantifiers, numerals etc. Assuming a cartographic perspective, everyone of these elements is ordered with respect to the others in a hierarchical (and linear) sequence of projections. Starting from Greenberg's Universal 20 (Greenberg 1963), Cinque states that the basic order between Determiners, Numerals, Adjectives and Nouns is Dem>Num>A>N; other orders are derived by simple raising of NP before one or more elements or by pied-piping, giving as output a (partial or total) mirror image of the initial sequence. These are fundamentally the only two possible movements that originate every word order that distinguishes a language from another. The same pattern is indeed detectable for instance in the sequence of a Noun and the various types
of Adjectives \( A_{\text{size}} > A_{\text{color}} > A_{\text{nationality}} > N \), see Cinque 2010a) or the sequence of a Verb and the various types of Adverbs \( \text{Advno longer} > \text{Advalways} > \text{Advcompletely} > V \), see Cinque 1999. It seems that the two open-class categories of Nouns and Verbs function as the centre of gravity for their modifiers and position themselves at the end of the sequence, raising (or not) from there and reaching higher positions. Following this general setting, let’s look at a RC from the point of view of the NP-head: it is a Noun qualified by e.g. adjectives, numerals, quantifiers and an entire clause. On the base of data from several languages, Cinque (2010b) proposes the following general projection:

9) \[ \text{NRRC} > Q_{\text{all}} > \text{Dem} > \text{RRC} > \text{Num} > \text{RedRC} > A > N \]

For example, German gives evidence for the position of reduced RCs:

10) \[ \text{Diese drei [in ihrem Büro arbeitenden]} \]

\[ \text{these three in their office that are working. NOM.PL} \]

\[ \text{schönen} \quad \text{Männer} \]

\[ \text{handsome.NOM.PL man.PL} \]

\[ \text{“These three handsome men working in their office”} \]

Many languages give evidence for of the order \( \text{Dem} > \text{RC} > \text{Num} > A > N \) or of its exact mirror image \( N > A > \text{Num} > \text{RC} > \text{Dem} \). There are some occurrences also for the orders \( \text{RC} > \text{Dem} > \text{Num} > A > N \) and \( N > A > \text{Num} > \text{Dem} > \text{RC} \). I will face in detail the order of projections in Japanese in chapter 3.1. As for the RC structure, Cinque (2008a) proposes the following configuration:
The NP is in the lowest position of the tree. Above it the modifying items come in succession, following the order depicted in 8. The (restrictive) RC is an IP that is merged most likely above NumP. Above the RC are one or maybe two CPs: the lowest one (CP₂) accommodates the relative complementizers like *that* (for the function of the higher CP₁ see below). Above the CPs comes the DP and then the other projections listed in 8. What is interesting in this model is that the head of the relative expression is the whole portion of tree immediately below the insertion point of the RC, let’s call it *dP₁* or *External Head*. It is not restricted to the sole NP, but it optionally includes NumP and APs (in 10 it is *two nice books*). This entire portion also occurs inside the RC as an argument or circumstantial of the IP, let’s call it *dP₂* or *Internal Head*. 

(Cinque 2008a, 10)
Assuming 10 as a prototypical configuration of an extended projection of NP, the several word order found cross-linguistically are derived by applying a Head Raising Analysis or a Matching Analysis depending on cases.

Raising analysis for externally headed postnominal RCs:

the internal head dP₂ raises to SpecCP₂, from where it deletes the c-commanded copy dP₁. Since the overt head is the RC-internal one, we expect reconstruction effects (like in the headway that he made is impressive).

Matching analysis for externally headed postnominal RCs:

the External Head dP₁ raises to SpecCP₁ becoming the overt head. Reconstruction effects are not expected, since the overt head is not in a
chain with an element internal to the RC. Some languages show evidence for an additional raising of the Internal Head dP₂ for reasons of island effects; if dP₂ moves, Bulgarian offers evidence that it reaches a position (SpecCP₂) lower than that to which the External Head raises (SpecCP₁), because a RC obtained by Matching derivation can have a topic or focus constituent between the raised head and the clause, which is impossible when a Raising derivation is forced. For details, see Krapova 2010. In both cases, the Internal Head dP₂ is deleted because it comes to be c-commanded by the raised External Head (dP₁).
Raising analysis for externally headed *prenominal* RCs:
the Internal Head dP₂ moves to SpecCP₂ and deletes dP₁, then the
remnant of the IP raises over the head (maybe in SpecCP₁).
Reconstruction and island effects are expected.

14)

Matching analysis for externally headed *prenominal* RCs:
the External Head directly deletes the Internal Head backward. No
reconstruction effects are expected.
In chapter 1.2.2 I said that I will not include an analysis of Head-
internal relative clauses in this work, but for the sake of information I
report that the derivation of a HIRC is most likely obtained by forward
deletion of the External Head from the Internal one in a Matching
configuration. There could be a Raising analysis too, but for that see
Cinque 2008a, 2010b.

For the aims of this dissertation the analysis of the derivation of
other types of RCs is not relevant. For further details and discussion, I
refer to the original works mentioned earlier. In the next chapter I
collect data regarding some characteristics of Japanese that will help us
understand the derivation of Japanese RCs, an issue that I will address
in chapter 4 within the general model depicted above.
3. Features of Japanese Relative Clauses

In this chapter I show some data, collected from Japanese informants, in order to point out the syntactic differences between the types of Japanese Relative Clauses introduced in section 1.2. In particular, I focus on the following topics: the position of the RC with respect to other elements of the main sentence like quantifiers, adjectives, determiners and other RCs; the distribution of the head, that is which argumental or circumstantial position occupies originally the relativized head inside the RC; cases of Island Violation; the presence of Reconstruction Effects and Resumptive Pronouns; the possibility of the ga/no conversion in the marking of the RC’s subject; the presence of different Modalities and the presence of Topic inside the RC.

3.1 Position of the Relative Clause

In this section I investigate the position that a RC occupies in front of the head-noun with respect to other elements. As reported in chapter 2, according to Cinque’s model a RC is one of several modifiers of an NP that originate in front of it, like adjectives, numerals, quantifiers and demonstratives. In particular, the hierarchy proposed by Cinque is reported in 1:

1) NRRC>Qall>Dem>RRC>Num>RedRC>A>N

(All elements are intended as extended projections and not as bare heads). Let’s first examine the basic word order of Demonstratives, Numerals, Adjectives and Nouns in Japanese. According to the tests,
four orders appear to be fully admissible without generating differences in meaning. The orders are:

a) Dem Num A N  
b) Dem A Num N  
c) A Dem Num N  
d) Num Dem A N  

Order a) corresponds to the sentence in 2, the other orders are derived by permutation of the three items under examination:

2) [kono] [san-biki no]¹ [kawaii] koneko wa  kinō umareta  
   this 3-cl GEN cute kittens TOP yesterday born.PAST  
   “These three cute kittens were born yesterday”

The orders e-f are less acceptable, but still non impossible for some informants:

e) A Num Dem N  
f) Num A Dem N  

¹ Numerals in Japanese are made by a sortal classifier, that is a bound morpheme that merges with a number. As a modifier of the noun, it precedes it and is followed by the genitive particle no like an apposition or a possessive. When the noun bears a role of subject or direct object in the sentence though, the most natural position for the numeral is after the noun without the genitive particle:

a) hon  a san-satu katta  
   book ACC 3-cl buy.PAST  
   “(I) bought three books”

The same position properties hold for lexical quantifiers too, like hotondo ‘most’ and subete ‘all’. 

48
I must observe that orders b-f should not be admissible according to Cinque 2005 (pp. 319-320), but the tests reveal a strongly consistent judgment of grammaticality, at least for b-c-d. Some problems arise when the demonstrative is close to the noun and other modifiers are in the NP.

Now let's see what happens when a RC enters the phrase. Since it is difficult for a Japanese to process a long phrase with many elements, I tested single combinations of the items I'm examining. I point out schematically the acceptable orders; orders different from these have been judged wrong or highly questionable.

RC>Dem 3) otita kono happa de kazariduke o tukurō
fell.PAST this leaf INS decoration ACC prepare.VOL

Dem>RC 4) kono otita happa de kazariduke o tukurō
this fell.PAST leaf INS decoration ACC prepare.VOL
“Let's prepare a soup with these cropped vegetables”

RC>Q² 5) syuppatsu sita subete no gakusei kara renraku ga kita
leave.PAST all GEN student from message come.PAST
“A message came from all the students that have leaved”

But, interestingly, an indefinite quantifier comes before the RC:

6) nanika [mitai] mono wa arimasu ka
some want see thing TOP there is ?
“Is there something that you want to see?”

RC>Dem>Q 7) otita kono subete no happa de
fell.PAST this all GEN leaf INS

² According to my tests, the reverse order (Q>RC) is not totally out, but much more questionable.
Let's create a decoration with all these fallen leaves

8) otita akai happa o subete totta
   fell.PAST red leaf ACC all pick up.PAST
   "I picked up all the red fallen leaves"

9) otita go-mai no happa o subete totta
   fell.PAST 5-cl GEN leaf ACC all pick up.PAST
   "I picked up all the five fallen leaves"

10) go-mai no otita happa o subete totta
    5-cl GEN fell.PAST leaf ACC all pick up.PAST
    "I picked up all the five fallen leaves"

11) kinō umareta sanbiki no kawaii koneko wa
    yesterday born.PAST 3-cl GEN cute kitten TOP
    kuroi desu
    are black.POL

12) kinō umareta kawaii sanbiki no koneko wa
    yesterday born.PAST cute 3-cl GEN kitten TOP
    kuroi desu
    are black.POL

13) sanbiki no kinō umareta kawaii koneko wa
    3-cl GEN yesterday born.PAST cute kitten TOP
    kuroi desu
    are black.POL
    "The three cute kittens that born yesterday are black"
As for the position of quantifiers, Kameshima 1989 claims that when a RC precedes the quantifier, the interpretation is ambiguous between restrictive and nonrestrictive, while only a restrictive reading is possible if the quantifier precedes the clause:³

14a) [kodomo o motu] hotondo no zyosei wa nanraka no child ACC have most GEN women TOP some kinds of mondai o kakaete iru problem ACC have “Most women(,) who have a child(,) have some kinds of problems”

14b) hotondo no [kodomo o motu] zyosei wa nanraka no most GEN child ACC have women TOP some kinds of mondai o kakaete iru problem ACC have “Most women who have a child have some kinds of problems”

(Kameshima 1989: 209)

According to Kameshima, the same pattern holds for other quantifiers like subete ‘all’, ooku no ‘many’, and numerals. The same judgment pattern has been reported by Ishizuka 2008 about the mutual position of RC and demonstratives: RCs outside a demonstrative are ambiguous, while inside a demonstrative they are only restrictive (pp. 4-6).⁴

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³ See footnote 2.
⁴ I must admit that there is a huge variability in my informants’ judgments (the same problem is recognized also by Ishizuka). For instance, I had a sequence Dem>RC with the RC interpreted as nonrestrictive by most of the native speakers:

a) ano [saikin ninki ga aru] zyoyu wa konban no bangumi ni deru that recently is popular actress TOP tonight GEN program DAT take part “That actress, who has recently become popular, will take part in tonight’s program”
3.1.1 Mutual order between two RCs

A RC can precede or follow another RC, too. In such a case, if both the clauses are restrictive or nonrestrictive, their mutual order is free, provided that they are of the same semantic type in the sense of Larson-Takahashi 2007 (Stage- or Individual-level). The two authors point out a contrast between a clause with a Stage-level interpretation and one with an Individual-level interpretation: when two RCs of different types co-occur, the one with the Stage-level interpretation must precede the other:

(Individual-level)

15a) [Tabako o suu] [sake o nomu] hito wa
    [tobacco ACC inhale][sake ACC drink] person TOP
    Tanaka san desu
    Tanaka COP.POL
    “The person who drinks sake who smokes is Miss Tanaka”

15b) [Sake-o nomu] [tabako-o suu] hito-wa Tanaka-san desu

(Stage-level)

16a) [Watasi ga kinō atta] [sake o nonde ita] hito wa
    [I NOM yesterday met sake ACC drinking] person TOP
    Tanaka san desu
    Tanaka COP.POL
    “The person who was drinking sake who I met yesterday is Miss Tanaka”

16b) [Sake-o nonde ita][watasi-ga kinō atta] hito-wa Tanaka-san desu
(Both)

17a) [Watasi ga kinō atta] [tabako o suu] hito wa
    I NOM yesterday met tobacco ACC inhale] person TOP
    Tanaka san desu
    Tanaka COP.POL
"The person who smokes who I met yesterday is Miss
    Tanaka"

17b) ?*[Tabako o suu][watasi ga kinō atta] hito-wa Tanaka-san
    desu.

(Larson-Takahashi 2007: 102)

On the other hand, when a restrictive and a nonrestrictive RCs co-
occur, Kameshima claims that the order is NRRC>RRC:

(supposing that two groups, from America and from Sweden, both of
whom plan to go sightseeing Kyoto tomorrow, made a reservation in a
hotel)

18a) [Asita Kyoto o kenbutu suru koto ni natte iru] [Amerika
tomorrow ACC sightsee do are supposed to
kara kita dantai ga ima basu de tuita
from come.PAST group NOM now bus INS arrive.PAST
"The group that came from America, who planned to go
sightsee Kyoto tomorrow, now arrived by bus"

18b) ?[Amerika kara kita] [asita Kyoto o kenbutu suru koto ni
    natte iru] dantai ga ima basu de tuita

(Kameshima 1989: 234)

This judgment is shared by my informants, but it is worth noting,
though, that for Ishizuka 2008 and many of her informants the most
natural order is 17b, that means that the mutual order under observation would be RRC>NRRC (Ishizuka 2008: 13).

I investigated what happens if one (or both) of the RCs is a to iu type. In some cases the order seems free, in other there is a tendency for the to iu type to come first:

19a) [Kaigai de seikatu suru to iu] [watasi ga kyonen sita] abroad LOC live to iu I NOM last year do.PAST keiken wa dare ni totte mo kityōna mono ni experience TOP for everyone precious thing DAT naru darō become must

“The experience to live abroad that I made last year will surely become a precious thing for everyone”

19b) [Watasi ga kyonen sita] [kaigai de seikatu suru to iu] keiken wa dare ni totte mo kityōna mono ni naru darō

20a) [ Konbini de götōziken ga fuete kita convenience store LOC case of robbery NOM increase.PAST to iu] [keisatu ga dasita] tūti wa honṭō desu ka to iu police NOM give.PAST notice TOP true COP Q “Is it true the notice that the police delivered that the cases of robbery in the convenience stores have increased?”

20b) ?[Keisatu ga dasita] [Konbini de götōziken ga fuete kita to iu] tūti wa honṭō desu ka

The apposition of two RCs is impossible if one of them is of the to no type; the only way to have it is to leave the to no clause close to the head-noun, to which it must be strongly tied, but the judgment of grammaticality is not shared by many informants:
Finally, when two clauses of the to iu type co-occur, the first one loses the complementizer to iu, which appears only at the end of the second clause:

22) [Kare mo tuite kuru], katu [buki o motte wa ikenai he too come together and weapon ACC must not bring to iu] zyōken o nonda to iu condition ACC accept.PAST

“I accepted the conditions that he comes with us and that it’s not allowed to bring weapons”

As for the mutual order between a gapped and a gapless clause, the example in 22 reveals the superficial order gapped>gapless>A>N:

23) [Kittin kara _ tadayou] [sakana no yakeru] kitchen from waft.NPAST fish GEN5 burn.NPAST kyōretuna nioi strong smell

“The strong smell of a fish burning that wafts from the kitchen”

We will see in chapter 4 how these mutual orders between RCs of different types fit in the cartography of the extended NP.

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5 For the genitive marking of the relative subject, see section 3.6.
3.2 Accessibility

In this section I examine which argumental or circumstantial position might the relativized head occupy inside the RC. In other words, the question is the following: can every type of constituent become the head of a RC? And what type of RC does it generate? This second question is about the choice between restrictive and nonrestrictive gapped RCs, gapless relatives do not enter this topic since their head does not come from inside the clause. A great part of this effort was made by Inoue 1976 and Nitta 2008, from where I report below a schematic list of (non) relativizable constituents (between brackets is the postposition that marks the constituent).

Relativizable
Subject -agent, theme or experiencer- (ga/ni in some cases of experiencer); direct object of stative predicates (ga); direct object (o); indirect object and various instances of dative (ni); goal (ni/e); punctual time (ni/Ø); causee (ni); locative (de/ni with the predicates of existence aru/iru); necessary partner (to)⁶; terms for comparison (to)⁷; means, ways and instrument (de); point of view (kara)³.

Hardly relativizable
Purpose of a movement (ni)⁸; optional partner (to)¹⁰; cause, reason, evidence (de); limit (de); origin of a movement (kara)¹¹.

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⁶ John ga Mary to kekkon sita > John ga kekkon sita Mary, (lit.) 'Mary, with whom John married'.
⁷ John to syumi ga tigau > Syumi ga tigau John, 'John, whom my interests differ from'.
⁸ Kono heya kara Fuzisan ga mieru > Fuzisan ga mieru heya, 'A room from which Mt.Fuji is visible'.
⁹ Sūpā e kaimono ni iku > ?Sūpā e iku kaimono, (lit.) 'The shopping I go to the supermarket for'.
¹⁰ John ga Mary to syokuji sita > ?John ga syokuji sita Mary, 'Mary, with whom John had lunch'.
¹¹ John ga kūkō kara Yoroppa e tabidatta > ?John ga Yoroppa e tabidatta kūkō, 'The airport from where John started off to Europe'.
**Non relativizable**

Proportion (ni)\(^{12}\); passive agent (ni)\(^{13}\); quote (to)\(^{14}\); content of means (de)\(^{15}\); condition (de)\(^{16}\); direction (e)\(^{17}\).

Without seeing examples in detail, it is clear that every relativizable constituent can form either a restrictive and a nonrestrictive RC, depending on the independently referential (or not) head, except for two cases. First, temporal expressions are marked by the particle ni only in case of a specific hour or date, but since it is specific the output can only be a NRRC:

24) Mary ga kekkon suru gogatu mikka wa saizitu desu  
NOM marry.NPAST may the 3rd TOP holiday COP.POL  
"The 3rd of may, when Mary will marry, is a holiday"

Second, expressions of cause, reason, evidence and limit, marked by the particle de, can form grammatical RCs only if the head is a very generic term, so that the result is a restrictive clause:

25) Kanban ga taoret {?kaze/gen’in}  
sign NOM fall.PAST wind/cause  
"(The wind)/The cause for which the sign fell"

\(^{12}\) Issyūkan ni yokka hataraku > *Yokka hataraku issyūkan, (lit.) ’A week I work four days in’.  
\(^{13}\) Mary ga John ni nagurareta > *Mary ga nagurareta John, (lit.) ’John, by whom Mary was hit’.  
\(^{14}\) Tanaka san o sin’yū to yoberu > *Tanaka san o yoberu sin’yū, (lit.) ’A close friend, that I can call Mr. Tanaka’.  
\(^{15}\) Heya ga hito de ippai ni natta > *Heya ga ippai ni natta hito, (lit.) ’People, of whom the room became full’.  
\(^{16}\) Hadasi de sibafu o aruku > *Sibafu o aruku hadasi, (lit.) ’Bare feet, I walk on the grass with’.  
\(^{17}\) John ga kōen e dekaketa > *John ga dekaketa kōen, (lit.) ’The park in the direction of which John went out’. 
26) Siken o keseki sita (*kūbyō/riyū)
exam ACC be absent.PAST sudden sickness/reason
“(The sudden sickness)/The reason because of which I
didn’t take the exam”

27) Obo o simekiru (*sanzyūnin/ninzū)
application ACC close.NPAST 30 people/number of people
(“The 30 people)/The number of people which we close the
application up to”

(Nitta 2008: 56-57)

3.2.1 Genitives and Topics

As for genitives, they are relativizable, both in a restrictive and a
nonrestrictive way, if they express a relation of possession or belonging,
or a nominal expression’s subject or object:

28) [hito no] kami ga nagai hito
   hair NOM long.is person
   “A person whose hair is long”

29) [titi no] kitaku ga okurete iru titi
   return NOM is late  my father
   “My father, whose return is late”

30) [sono yasai no] saibai ga muzukasii yasai
   cultivation NOM difficult.is vegetable
   “A vegetable whose cultivation is difficult”

   (Nitta 2008: 58)

On the other hand, relativization is impossible in case of an apposition,
which is realized as a genitive in Japanese:
31a) Yūzin no Suzuki ga denwa o kakete kita
friend GEN NOM phone call ACC make.me.PAST
“Suzuki, (who is) a friend, called me”

31b) [Suzuki ga denwa o kakete kita] yūzin
NOM phone call ACC make.me.PAST friend

Nitta claims that a genitive that indicates a content is not relativizable too, but I suggest that it becomes more acceptable if a nonrestrictive interpretation is forced: 32b is questionable but not entirely wrong

32a) ?[Daietto no] hon ga yoku urete iru daietto
book NOM well is sold diet

32b) (?) Hon ga yoku urete iru Dukan daietto wa, ninki ga aru to
iu koto desu ne
“The Dukan diet, whose books are being sold well, seems to be very popular, isn’t it?”

Constituents marked by the particle _wa_ are generally labeled as topics, but actually there are several types of topics. The traditional distinction dates back to Kuno 1973 and differentiates the theme of the sentence (Thematic _wa_) from the mark of a contrast (Contrastive _wa_). In Franco 2009 I demonstrated that the position of the topics in Japanese are higher then those of focus, and that the Thematic _wa_ is higher than the Contrastive _wa_. The distinction that I’m interested in now, though, regards the origin of the constituent marked by _wa_. They

18 For example:

a) John _wa_ hon o yonda _ga_ , Mary _wa_ yomanakatta
TOP book ACC read.PAST but TOP read.NEG.PAST
“John read the book, but Mary didn’t read it”
usually are constituents of the thematic structure of the sentence (argumental or circumstantial) “promoted” to the status of topic, which confers a discourse-level positioning to the element. The “promotion” occurs by movement, indeed no resumptive pronoun can occupy the position of the trace:

33) *John₃ wa, Mary ga kare₃ o butta
   TOP NOM he ACC hit.PAST
   Lit. “John, Mary hit him”

But there seems to be also base-generated topics that do not come from any other argumental or circumstantial position.¹⁹ Mikami 1960 brought to light the question with an example like 34:

34) Sinbun o yomitai hito wa, koko ni arimasu
   newspaper ACC read.want people TOP here LOC exist
   “Speaking of those who want to read newspapers, they
   (=newspapers) are here”
   (from Kuno 1973: 253)

Wa in 34 sounds to me more like a vocative, but Kuno gives other interesting examples:

35a) Ano kodomo wa (zibun no) gakkō no sensei ga
   that child TOP self GEN school GEN teacher NOM
   kōtū-ziko de sīnda
   accident INS die.PAST
   “That child, a teacher of (him’s) school died in a traffic
   incident”

¹⁹ From Kuno 1973: 250: “There are thematic sentences for which there are no corresponding themelss sentences”.
36a) America wa California ni itta
    TOP DAT go.PAST
    “Speaking of America, I went to California”

37a) Buturigaku wa, syūsyoku ga taihen da
    physics TOP finding employment NOM difficult COP
    “Speaking of physics, finding jobs is very difficult”

38a) Sakana wa tai ga ii
    fish TOP red-snapper NOM is good
    “Speaking of fish, bream is good”

35a reveals that the topic is not moved from somewhere because a resumptive pronoun can optionally be inserted. Are these base-generated topics relativizable? It depends on a number of factors. To see this, a further classification of these topics is needed. See the following:

35b) Ano kodomo no gakkō no sensei ga kōtū-ziko de sinda
35c) [(zibun no) gakkō no sensei ga kōtū-ziko de sinda] ano kodomo

36b) America no California ni itta
36c) [California ni itta] America

37b) *?Buturigaku no syūsyoku ga taihen da
37c) [Syūsyoku ga taihen na] buturigaku

38b) *?Sakana no tai ga ii
38c) *[Tai ga ii] sakana

In 35-38bwa has been substituted by the genitive particle no and 35-38c are the relative clauses with the topic (or genitive) as head. Let’s
examine the sentences in detail. In 35b the genitive expresses a relation of belonging between ano kōdōmo 'that child' and the following NP; the relative expression in 35c is grammatical and its restrictive or nonrestrictive interpretation depends on the (non) independently referential nature of the head. The genitive in 36b expresses a part-whole relation and the relative expression in 36c has been judged unacceptable until Kuno suggested a nonrestrictive interpretation with the sentence in 39:

39) California ni itta America, Eiffel Tower ni nobotta France, 
    DAT go.PAST DAT go up.PAST
    zoo ni notta Indo no
    elephant DAT get on.PAST India GEN
    kōto ga wasurerarenai
    thing ACC forget.POT.NEG.NPAST
    “I cannot forget about America, as for which I went to
    California, France, as for which I climbed the Eiffel Tower,
    and India, as for which I rode on an elephant”
    (Kuno 1973: 256)

37b is judged wrong by Kuno, maybe because the relationship between studying physics and getting a job is too distant to be bound by a genitive particle, but the meaning is quite clear to me; the relative expression in 37c is grammatical, and to be interpreted as nonrestrictive for me. As for 38b, Kuno claims that it is unacceptable, but I agree with Nakau 1971, who admits the expression as an apposition, with no as substitute for the predicate de aru 'to be' (Sakana de aru tai 'bream, which is a fish'). But, if it is correct, even appositions must be further segmented: see the example in 40 (taken from Nakau 1971 in Kuno 1973: 251)
40a) Sōridaizin no Ikeda si ga sinda
Prime-minister GEN mr. NOM die.PAST
“Mr. Ikeda, the Prime Minister, died”

40b) Sōridaizin wa, Ikeda si ga sinda
40c) [Ikeda si ga sinda] sōridaizin

In this case both the topic-ua version and the relative expression are totally wrong. What differs from 38 may be the fact that in 40 the apposition sōridaizin 'Prime Minister' is non divisible and the following NP, Ikeda-si 'Mr. Ikeda', is highly specific, while in 38 sakana 'fish' is divisible, and tai 'bream' is not very specific, although it refers to the general concept of a species of fish and thus shared in the common knowledge of everyone. So an apposition on a specific NP (40) cannot be topicalized nor relativized, while an apposition on a non-specific NP (38) can be topicalized but not relativized.20

Let’s recap this last matter. I have analyzed some instances of base-generated topics in order to establish if they are relativizable constituents or not. I noted that in every case there is a -more or less-tight connection with a correspondent structure with the genitive

20 I could have almost no sentence of the same kind as 38c judged grammatical by my informants, but I am persuaded that if it were acceptable, it would receive only a nonrestrictive interpretation, since it is in the nature of an apposition to be -exactly nonrestrictive. An interesting example in this case was suggested to me by Aiko Ootuka:

a) furogari wa biru ga umai
   after a bath TOP beer NOM delicious is
   “(in the moments) after a bath the beer tastes delicious”

b) biru ga umai furogari
   “(The moments) after a bath, when the beer tastes delicious”

I believe we can transform the topic into a genitive (or maybe the contrary), obtaining furogari no biru, literally 'the beer of the act of raising from the bath'. The relation between furogari and the beer is a generic aboutness relation, which is at the base of the connection between a topic and its comment as like as a NP and its genitive specification. Although b) is just a nominal expression, I see no interpretation but the nonrestrictive one.
particle *no* in place of the topic particle *wa*. Not every type of topic can be relativized, but among those that can, some types seem to give as output only nonrestrictive RCs. Now, we can put all these kinds of topics along a continuous line of properties:

\[ \text{Diagram showing properties of relativization topics} \]

### 3.3 Island violations

For a long time Japanese has been assumed to allow island violations in cases of long distance relativization, and this became an argument to claim that Japanese RCs are not derived by movement of the head (see Murasugi 2000 among others). The most notorious example of island violation was the expression in 40 (Kuno 1973: 239):

42) \[[ \_ \_ \_ kite iru] yōfuku$^g$ ga yōgorete iru] sinsin$^s$  
   is wearing suit NOM is dirty gentleman  
   “The gentlemen who the suit that (he) is wearing is dirty”

At a later stage it was proposed that what is relativized in 42 is not the subject of the most embedded RC, but a more external topic called
'Major Subject', paired with a pro (or sometimes a resumptive pronoun) in the place of the coindexed subject:

43) (sono) ainsi a  wa [pro/(kare a  ga ___ kite iru] yōfuku a  ga
    that gentleman TOP he NOM is wearing suit NOM
    yogorete iru
    is dirty
    “As for (that) gentleman, the suit that he is wearing is dirty”

Such a case is no more an instance of long distance relativization, and
the possibility of a derivation by movement proves valid again. Although
the constituent that forms the Major Subject is related to the thematic
structure of the cause, it presents at least one characteristic that
suggests that it isn't derived by movement: compare 44 and 45 (taken
from Hoji 1985):

44) Pekin b  wa John ga [ ___ ___ yoku sitte iru] hito a  o
    Beijing TOP NOM well know person ACC
    sagasite iru
    is searching
    Lit. “Beijing, John is looking for a person that knows (it)
    well”

45) *Pekin b  ni wa John ga [ ___ ___ nandomo itta] hito a  o
    Beijing to TOP NOM often go.PAST person ACC
    sagasite iru
    is searching
    Lit. “To Beijing, John is looking for a person that went
    (there) often”

A topicalized PP like that in 45 cannot cross an island, but a topicalized
object like that in 44 (and the subject in 43) can, meaning that a topic
on a subject or object has a peculiar status, at least in cases of islands. Nonetheless, if we consider this Major Subject as base-generated, it is not easy to fill the coindexed place in the clause with a resumptive pronoun:

46) ??Tanaka sanwa [kare ga Tarō o korosita] to iu
    TOP he NOM ACC kill.PAST to iu
uwasa ga hirogatta
rumor NOM spread.PAST
Lit. “Mr. Tanaka, the rumor that he killed Taro has spread”

47) ?*Tanaka sanwa [Tarō ga kare o korosita] to iu
    TOP NOM he ACC kill.PAST to iu
uwasa ga hirogatta
rumor NOM spread.PAST
Lit. “Mr. Tanaka, the rumor that Taro killed him has spread”

Note that a resumptive pronoun on a subject seems not to be as weird as the one on an object.

I examined in better detail the issue of long distance relativization searching for peculiarities and differences between different cases. I observed three levels of asymmetries: between subject and direct object, restrictive and nonrestrictive clauses, and gapped and gapless relatives. Starting from this last point, let’s see first the case of a long distance relativization through two gapped RCs. 48a-b are instances of subject extraction, while 49a-b are instances of object extraction:

48a) [[_a _b katte ita] inu ga}s inde simatta]
    own.PAST dog NOM unfortunately.die.PAST
kodomo ga naite iru
    kid NOM is crying
“The child who the dog he owned unfortunately died is crying”

48b) [[_a__§ katte ita] inu_b ga sinde simatta] Tar_o a ga naite iru
   “Taro, who the dog he owned unfortunately died, is crying”

49a) *[[_a__§ kite iru] hito_a ga sakkii koko ni ita]
   is.wearing man NOM before here LOC was
   suit TOP COP
   Lit. “The suit that the man who is wearing it was here some time ago, is an Armani”

49b) ?[[_a__§ sodateta] hahacya_a ga sinde simatta] Tar_o_b wa
   raise.PAST mother NOM unfortunately died TOP
   fukaku ochikon de iru
   deeply is depressed
   Lit. “Taro, who the mother that raised him unfortunately died, is deeply depressed”

48-49a are restrictive sentences, and 48-49b are nonrestrictive. The long extraction of a subject is possible in both cases, but the extraction of an object is totally wrong in case of a restrictive RC, while it appears slightly more acceptable in case of nonrestrictive RC.21 Thus, there is an asymmetry between subject and object, and between restrictive and nonrestrictive clauses.22 23 I guess that it is a clue in favour of the Major

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21 I made a test on subject extraction with a different sentence, and the judgment was perfectly grammatical for the nonrestrictive version, but questionable for the restrictive one; the judgment was a bit unsure, so I didn’t reported those sentences, but it may be a difference between restrictives and nonrestrictives also in case of subject extraction.
22 The restriction on subject for the long-distance relativization was first observed by Inoue 1976 and then Hasegawa 1981.
23 Murasugi 1991 highlights another asymmetry on long distance relativization between what she calls quasi-adjuncts (PPs of time and place) and true adjuncts (PPs of
Subject theory: the (apparently) long-distantly relativized element is a topic co-indexed with a pro in the subject position of the inner relative. As (base generated) topic, it is a desirable coincidence that it has a genitive relation with the comment associated to it, which is the head of the outer relative. See 50a-b, that are derived from 48a (but the same holds if it is derived by the nonrestrictive 48b).

50a) (ano) kodomo wa [ proα__β katte ita] inuβ ga
    that child TOP own.PAST dog NOM
    sine simatta
    unfortunately.die.PAST
    “Speaking of that child, the dog that he owned
    unfortunately died”

50b) (ano) kodomo no inuβ ga sine simatta
    that child GEN dog NOM unfortunately.die.PAST
    “The dog that child unfortunately died”

The possessive relation between the Major Subject and its comment, and the alleged tendency to form nonrestrictive sentences when

reason and manner), claiming that the former can undergo long distance relativization, while the latter cannot:

a) [[ α__β mensetu o uketa] gakuseia ga minna ukaru] hi/kagisiruβ
    interview ACC took student NOM all pass day/conference room
    Lit. “The day when/the conference room where the students that had the
    interview, all passed”

b) *[[ α__β kubi ni natta] hitoα ga minna okotteiri] riyūβ
    was fired person NOM all are angry reason
    Lit. “The reason because of which the people who were fired (because of that
    reason) are all
    angry”

c) *[[ α__β mondai o toita] gakuseia ga siken ni otiru] hōhōβ
    problem ACC solved student NOM exam DAT fail way
    Lit. “The way in which the students that solved the problem (in that way) all
    failed the exam”

(Murasugi 1991: 130)
relativized, make me guess that this Major Subject must be collocated between the points 35 and 36 in the diagram in 41.

Let’s examine now the extraction of subject and object from a gapped clause embedded in a gapless clause. Compare 51a-b (restrictive and nonrestrictive extraction of a subject) and 52a-b (the same of an object):

51a) [{_a Tarō o korosita] to iu uwasa ga hirogatta] hito_wa ACC kill.PAST to iu rumor NOM spread man TOP Tonaka san desu COP
Lit. “The person that the rumor that he killed Taro has spread is Mr. Tanaka”

51b) [{_a Tarō o korosita] to iu uwasa ga hirogatta] Tanaka wa ACC kill.PAST to iu rumor NOM spread TOP taiho sareta arrest.PASS.PAST
Lit. “Tanaka, who the rumor that he killed Taro has spread, has been arrested”

52a) [{[Tarō ga _b korosita] to iu uwasa ga hirogatta] hito_wa NOM kill.PAST to iu rumor NOM spread person TOP Tanaka desu COP
Lit. “The person who the rumor that Taro killed him has spread is Tanaka”

52b) [{[Tarō ga _b korosita] to iu uwasa ga hirogatta] Tanaka_wa NOM kill.PAST to iu rumor NOM spread TOP mada ikite iru still is alive
Lit. “Tanaka, who the rumor that Taro killed him has spread, is still alive”

In this type of long distance relativization there are no asymmetries between subject and object, but it is clear that it is easier to get a nonrestrictive output than a restrictive one, a characteristic quite shared also by the long distance extraction from two gapped clauses.

3.4 Resumptive pronouns

If we suppose that a relative expression is derived by movement of an element from inside a clause to the outer position of head, we expect that the original position of that element is occupied by a trace and nothing else. On the contrary, if a resumptive pronoun can be detected in the original place of the head, we should presume that the derivation is obtained by direct insertion of the head coindexed with a pro in the clause, and that instead of that pro a resumptive pronoun can intervene. Several authors have dealt with this matter, so I first introduce their suggestions.

Inoue 1976 points out that resumptive pronouns are normally ungrammatical in short distance relativization (sec 53), while they are acceptable in case of long distance relativization (54). However, resumptive pronouns can be inserted in instances of short distance relativization when it is difficult or impossible to recognize the role of the head inside the RC due to the fact that without the (pro)noun the postposition disappears (55-57).

53) [(zibun/sono hito/kare] ga hon o kaita] gakusya
self/ that man/ he NOM book ACC write.PAST scholar
Lit. “The scholar that he wrote a book”
54) [[zibun_no ga ___ kaita] hon_no ga syoten ni dete iru]
self NOM write.PAST book NOM bookshop LOC is.out
gakusya_no
scholar
Lit. “The scholar that the book that he wrote is sold in the
bookshops”

55) [wareware ga kotsi mo sore_no de
we NOM this year too that INS
gaman shinakereba naranai] kuni no hōjo_no
must be satisfied nation GEN support
Lit. “The national aid which we must be contented with it
this year also”

56) [John ga sore_no de gakkari sita] nyūsu_no
NOM that INS was disappointed news
“The news by which John was disappointed”

57) [John ga sore_no karai tyūmon o uketa] kaisya_no
NOM that from order ACC received company
“The company from which John received an order”

(Inoue 1976: 172-173)

About 55-57, Kuno 1980 comments “although these expression have a
slight literary flavor, I do not believe there is anything wrong with them”
(p. 131).

Kosaka 1980 and Kuno 1980 discuss an interesting contrast:

58a) *[watasi ga kare_no o wasurete simatta] okyakusan_no
I NOM he ACC forget.PAST guest
Lit. “The guest whom I have forgotten (him)”
58b) [watasi ga kare no name o wasurete simatte] okyakusan

I NOM he GEN name ACC forget.PAST guest

“The guest whose name I have forgotten”

(Kosaka 1980: 120)

I have to note that Kuno’s comment on 58b is “awkward, but not ungrammatical” (Kuno 1973: 237); it means that it is not usual, but still possible for Japanese to insert a resumptive pronoun if the head of the RC is a genitive.

Kameshima 1989 affirms that resumptive pronouns are ungrammatical if the gap to be filled is an argument position of a restrictive RC (see 62), while they seem slightly more acceptable in case of circumstantial positions (see 59-61):

59) ?[Mary ga sore de ringo o kita] naifu

NOM that INS apple ACC cut.PAST knife

“The knife (with which) Mary cut the apple”

60) ?[John ga soko de benkyo sita] tosyokan

NOM there LOC study.PAST library

“The library where John studied”

61) ?[John ga sono hito to benkyo sita] onna no hito

NOM that person with study.PAST female GEN person

“The woman with whom John studied”

cfr. 62) ?[John ga sono hito to kekkon sita] onna no hito

NOM that person with marry.PAST female GEN person

“The woman (with whom) John married”

(Kameshima 1989: 79-80)
According to Kameshima, another asymmetry is established between restrictive and nonrestrictive RCs: “resumptive pronouns are perfectly grammatical in cases in which only a nonrestrictive reading is possible, while they are marginal in cases in which a restrictive reading is much stronger” (p. 87). See 63:

63a) [Mary ga sore de ringo o kittā] John no naifu ga
NOM that INS apple ACC cut.PAST GEN knife NOM
yuka ni otite iru
floor LOC has fallen
“John’s knifes, with which Mary cut an apple, has fallen on the floor”

63b) ? [Mary ga sore de ringo o kittā] naifu wa
NOM that INS apple ACC cut.PAST knife TOP
dore desu ka
which one is Q
“Which one is the knife (with which) Mary cut an apple?”

(Kameshima 1989: 85-86)

Murasugi 1991 expresses a judgment about the presence of resumptive pronouns in cases of long distance relativization, and her claim is that it is marginal in every case, regardless if a subject (64) or quasi-adjunct (65) or true adjunct (66) is extracted (cfr. footnote 36):

64) ?[[kare ga ___ kite iru] yōfuku ga yogorete iru] sinsi
he NOM is wearing suit NOM is dirty gentlemen
Lit. “A gentleman who the suit that he is wearing is dirty”

65) ?[[___ sono hi ni/ sokō de mensetu o uketa] that day DAT/there LOC interview ACC took
gakusei ga minna ukaru hi/kaisitub
student NOM all pass day/conference room
Lit. “The day when/the conference room where the students that had the interview that day/there, all passed”

66) ?[___ sareb de kubi ni natta] hito ga minna
that because of was fired person NOM all
okotteiru riyub
are angry reason
Lit. “The reason because of which the people who were fired because of that reason are all angry”

(Murasugi 1991: 135-136)

I think that it is not possible to draw a straightforward conclusion about the presence of resumptive pronouns on the basis of the observations of the authors seen above. The reason is mainly that the judgment on the sentences are not clear-cut, for example the same judgment with a question mark is considered in some cases as a degradation of the corresponding correct sentence, and in other cases as improvement from a completely ungrammatical sentence. Thus, I decided to run some tests on my own and come to a conclusion on the base of the average judgments of my several informants, because the opinion of a single speaker seems not to be reliable. I was interested in particular in searching for a correlation between the admissibility of resumptive pronouns in place of constituents different from subject and object, and the hierarchy of modifier PPs proposed in Takamine 2010. Takamine has analyzed the natural order of circumstantial PPs in Japanese, reaching the conclusion that they enter the following hierarchy (p. 94):

67) Temporal > Locative > Comitative > Reason > Source > Goal
    > Instrument/Means > Material > Manner
Thus, I prepared some tests with paired examples of restrictive and nonrestrictive RCs with resumptive pronouns in the place of argumental and non argumental PPs, but I have to report that resumptive pronouns were never allowed by my informants, with a fairly consistent judgment of ungrammaticality. The only two cases that were judged more questionable than wrong are instances of argumental locative PP with verbs of existence (68) and of circumstantial source PP (69), but no difference is detected regarding the (non) restrictivity of the RC:

68a) ![Example](example_a.png)

68b) ![Example](example_b.png)

69a) ![Example](example_a.png)

24 The tests I prepared regard argumental goal, locative, comitative, material and various instances of dative PPs, and circumstantial instrument, source, comitative, reason, goal, manner, material and temporal PPs.
Lit. “I desire a room that from there the Mt. Fuji is well visible”

69b) ?[koko₃ kara Fuzi-san ga yoku miru] kono
here from Mt. Fuji NOM well be visible this
delux roomᵲ ga suteki da
NOM is wonderful
Lit. “This delux room, which from there the Mt. Fuji is well visible, is wonderful”

The judgment slightly improves in case of long distance extraction of Murasugi's quasi-adjunct (locative PP, see 65) and true adjunct (reason PP, see 66), but actually the judgments divide into two opposite groups: it is either correct or wrong, but not uniform, regardless if the RC is restrictive or nonrestrictive. Nonetheless, it is worth noting that Murasugi's quasi-adjuncts (temporal and locative PPs) correspond to the two highest positions of Takamine's hierarchy.

To recapitulate, on the base of my personal observations, I claim that Japanese RCs do not allow the use of resumptive pronouns in almost all cases, no matter if the clause is restrictive or not, if the head is argumental or circumstantial, or if it is high or low in Takamine's hierarchy (except allegedly for temporal and locative PPs, as noted above). The use of pronouns may be admitted in case of (apparent) long distance relativization. If I have to provide an explanation about the cases in which a resumptive pronoun is detected, I would say that it is an extra-support due to the difficulty of computing a long sentence or a sentence with -otherwise- few overt syntactical elements, but not a standard strategy of relativization.
3.5 Reconstruction effects

The presence of reconstruction effects is considered in Cinque's theory on RCs as a tool to determine if a RC is derived by movement, or with better words, if the overt head is the internal one, $dP_2$ (raising derivation). I take into account two types of reconstruction effects, first those which show up between the parts of an idiom chunk, and then those between an antecedent and its anaphora.

3.5.1 Idiom chunks

An example of reconstruction effect of an idiom chunk is 67 (from Brame 1968, in Cinque 2010b: 3); the original idiom is 'to make headway':

70) The headway$_a$ [that John made __] was substantial

An idiom chunk expresses its peculiar meaning only if every part belongs to the same clause. Since 70 is correct, we must suppose that the head of the relative ('headway'), which is external to it, origins inside the clause and then move out leaving a trace beyond. The reconstruction effect is assured by this trace. Thus, the possibility of relativizing successfully a part of an idiom chunk is a diagnostic test to detect a raising derivation of the RC, but actually a characteristic of the idioms must be taken into consideration. Fraser 1970 pointed out that there are various types of (English) idioms: some of them are frozen in their form, and other are more or less transformable by some operation like word order's permutation or insertion of other constituents. The same property is recognized for Japanese by Hashimoto-Sato-Utsuro 2006. Therefore some idioms could be transformable or not (relativization is a transformation) due to their own nature, and not because of derivational patterns. This fact invalidates the strength of
this diagnostic tool; nevertheless, I tried to relativize a casual bundle of eight Japanese idioms. Every sentence was consistently judged ungrammatical by my informants, except for two, which were accepted by some speaker (but not from the majority of them). I report some examples, included the two more acceptable ones.

**Hone o oru**, 'to make an effort' (lit. 'to break a bone')

71) *[Tanaka ga kono mondai no kaiketu ni ___ otta]*

    NOM this problem GEN solution DAT break.PAST

    honex no okage de tiimu wa syõ o eta

    bone GEN thanks to team TOP prize ACC win.PAST

    "Thanks to the effort that Tanaka made for the solution of this problem, the team won a prize"

**Yaku ni tatu**, 'to be useful, serve the purpose' (lit. 'to stand in part')

72) *[Tanaka ga sugoku ___ tatta] yakuex wa*

    NOM very stand.PAST part TOP

    kaisya no saiken no tame desita

    company GEN rebuilding for COP.POL.PAST

    "The purpose that Tanaka served immensely was for the rebuilding of the company"

**Yokeina osewa o yaku**, 'to poke one's nose into other's business' (lit. 'to grill an unnecessary assistance')

73) *(?)[Tanaka ga ___ yaita] yokeina osewaex wa*

    NOM grill.PAST unnecessary aid TOP

    hontõni hana ni tuita

    really be disgusted.PAST

    Lit. "I'm really disgusted by the nose that Tanaka poked into my business"
Kūki o yomenai, 'to not understand the situation' (lit. 'cannot read the atmosphere')

74) (*)[Tanaka ga zenzen ___ yomenakatta]
    NOM at all read.POT.NEG.PAST
    yūbe no kūki wa hontōni mazukatta²⁵
    last night GEN atmosphere TOP really be bad.PAST
    Lit. “The situation that Tanaka didn't understand last night was really bad”

One should try this test on every single idiomatic expression in Japanese in order to establish positively if Japanese idiom chunks show reconstruction effects when relativized, but this is far beyond the aim of this work. Since the information I collected doesn’t allow me to come to a straightforward conclusion, I won’t consider the issue of reconstruction effects on idioms when I reason about the derivation of RCs.

3.5.2 Reflexives

As for reconstruction effects between an antecedent and its reflexive anaphora, I start from a claim of Ishii 1991, who affirms “unlike with zibun, relativization exhibits reconstruction effects with kare-zisin” and compares the two following examples (pp. 28-29):

75) *[Johnₐ ga ___taipu sita] zibunₐ no ronbun
    NOM type.PAST self GEN paper
    Lit. “Self's paper that Johnₐ typed”

76) Mary wa [Johnₐ ga ___taipu sita] kare-zisinₐ no ronbun o
    TOP NOM type.PAST he-self GEN paper ACC
    mottekita

²⁵ This sentence was judged correct by four informants, wrong by six and questionable by three.
bring.PAST
Lit. “Mary brought himself's paper that John typed”

An explanatory backward step must be done at this point. Japanese has three kinds of reflexive pronoun: *zibun*, *zibun-zisin* and *kare-zisin*. These pronouns have the following syntactical characteristics:

**Zibun**
It refers to a subject antecedent;
its antecedent needs not to be in the same clause (no clausemate condition);
it can be modified by adjectives or other qualifying expressions;
it must be c-commanded by its antecedent;
it can appear in the possessive position.

**Zibun-zisin**
It refers to a subject antecedent;
its antecedent needs to be in the same clause, unless *zibun-zisin* is the subject of the subordinate clause (clausemate condition);
it cannot be modified;
it must be c-commanded by its antecedent;
it can appear in the possessive position;
it is interpreted as a bound reflexive (see Zuber 2007).

**Kare-zisin**
It needs not to refer to a subject antecedent (see Ishii 1991: 29);
it is a co-referential reflexive and its antecedent should be interpreted by nominal case extensions (see Zuber 2007).

---

26 This last reflexive expression, contrary to the first two, combines with every personal pronoun: *uwatsa-zisin* (myself), *anata-zisin* (yourself), *kanozyo-zisin* (herself); *uwatsa-tati-zisin* (ourselves), *anata-tati-zisin* (yourselves), *kare-tati/kanozyo-tati-zisin* (themselves). They are very rarely used, though.
27 See Tujimura 1996 when not otherwise indicated.
Thus, although *zibun* is the most common reflexive form, it has different characteristics from English reflexives. *Zibun-zisin* and *kare-zisin* resemble more the English counterpart, but Ozaki 2011 observes some problems on *kare-zisin*. English *himself* is locally bound and takes as antecedent subjects and objects, while Japanese *zibun* is locally or long-distantly bound and takes as antecedent only a subject; according to Ozaki *kare-zisin* shares characteristics both with *himself* and *zibun*, so it is not perfectly overlapped with English *himself*; in addition, *kare-zisin* is not commonly used in normal conversation, has an English-translation flavor and the judgments about its use are not homogeneous (see Ozaki 2011: 57).

Keeping in mind that for the reason written above *kare-zisin* is not an affordable diagnostic tool, I prepared some tests to investigate on my own about the presence of reconstruction effects. Sentences in 77 are instances of restrictive clause (included 75 and 76 reported by Ishii 1991), while those in 78 are nonrestrictives. Sentences in a) are with *zibun*, in b) with *zibun-zisin* and in c) with *kare-zisin*.

**Restrictive RC**

77a) *Mary wa [John no _taipu sita] zibun no ronbun o  

TOP NOM type.PAST zibun GEN paper ACC  
mottekita  
bring.PAST

77b) *Mary wa [John no _taipu sita] zibun-zisin no ronbun o  
mottekita

77c) ??Mary wa [John no _taipu sita] kare-zisin no ronbun o  
mottekita

Lit. “Mary brought himself’s paper that John typed”

---

28 This sentence received everyone of the three possible judgments (right, wrong, questionable) in the amount of one third each.
Nonrestrictive RC

78a) "Hanako wa [Tanaka ga _ teigen sita] ano yûmeina

    TOP NOM propose.PAST that famous

    zibun no kasetu o hitei sita

    zibun GEN hypotesis ACC deny.PAST

78b) "Hanako wa [Tanaka ga _ teigen sita] ano yûmeina zibun-

        zisin no kasetu o hitei sita

78c) Hanako wa [Tanaka ga _ teigen sita] ano yûmeina kare-

        zisin no kasetu o hitei sita

Lit. "Hanako denied that famous hypotesis of himself, that

    Tanaka proposed"

First, I propose not to take into consideration the sentences with

kare-zisin, because the judgments on them are quite a lot

heterogeneous and its use is affected by speaker's knowledge about

English, as Ozaki notes:

"Most Japanese do not use kare-zisin as a reflexive in normal conversation. They pick up this lexical item when they first come across himself in English classes in junior high school. They overuse kare-zisin in junior high school, but later cease to use it, feeling that kare-zisin is a translation-flavor word."

(Ozaki 2011: 57)

In addition, the sentences with kare-zisin may be forcibly attributed to the only one male character because kare 'he' cannot refer to a female noun as Hanako and Mary are. On the base of the judgments on a-b sentences, I would claim that Japanese RCs are derived by matching derivation, but doubts still remain. The sentences in a) are judged wrong (or not right at least) with the intended interpretation because zibun refers not to the subject of the RC, but to the subject of the matrix
clause. Those sentences were grammatical if the reflexive were co-indexed with the matrix subject. Since zibun can be locally bound, the only way to exclude a co-indexing with the embedded subject is to suppose a matching derivation, which deletes one of the two elements in the RC. The same conclusion holds for b) sentences, where in addition zibun-zisin is affected by the clausemate condition, so that the absence of reconstruction effects forces to exclude the raising derivation.

3.6 Ga/No conversion on subject

A well known characteristic of Japanese RCs is the possibility of marking the subject with the genitive postposition no instead of the nominative particle ga, the so-called ga/no conversion (or nominative/genitive conversion, NGC). This possibility is restricted by some constraints and not available for every type of RC (but for most of them). I want to point out which kinds of RC allow this conversion and under which conditions.

The NGC appears only in certain subordinate clauses, and Hiraiwa 2002 asserts that it is licensed by the attributive form of the predicate (for the difference between predicative and attributive form, see chapter 1.1), but I don't agree completely with him, because as the same Hiraiwa notes, the NGC appears in subordinate clauses that are not RCs, but in my opinion they do not use the attributive form (although it is difficult to state, since attributive and predicative forms are identical in most cases):

79) Kono atari wa [hi ga/no kureru ni turete] around here TOP day NOM/GEN go down.NPAST as
hiekondekuru
get colder.NPAST
“It gets chillier as the sun goes down around here” 29
(Hiraiwa 2002: 3)

In Japanese there is a number of subordinate clauses whose complementizer is morphologically a noun, so the clause appears in the form of a relative clause, although function and meaning are those of an adjunct clause. Fujita 1988 noted that in such an adjunct clause the NGC is admitted only if the predicate is unaccusative, while this restriction do not affect ‘real’ RCs:

(Temporal) adjunct clause with unergative predicate:
80) [Tarō no odotta toki] minna mo sō sita
   GEN dance.PAST when everyone also so did
   “When Taro danced, everyone else did also”
RC with unergative predicate:
81) [Tarō no odotta] toki ga insyōteki da
   GEN dance.PAST moment NOM impressive COP
   “The time when Taro danced is the most impressive”

(Temporal) adjunct clause with unaccusative predicate:
82) [Tarō no tuita toki] yado wa suite ita
   GEN arrive.PAST when inn TOP was vacant
   “When Taro arrived, the inn was vacant”

RC with unaccusative predicate:
83) [Tarō no kita] toki o omoidasenai
   GEN arrive.PAST moment ACC remember.POT.NEG.NPAST

---
29 In my opinion, every complementizer realized with the particle *ni* needs the predicative form of the predicate.
"I cannot remember when Taro arrived"

(Fujita 1988: 72-74)

The NGC is available for gapped restrictive and nonrestrictive RCs; I verified that the constraint on unergative predicate does not hold for RCs neither if they are nonrestrictive (91):

84) [Aiko ga/no ___ katta] hona
    NOM/GEN buy.PAST book
    "The book that Aiko bought"

85) [Aiko ga/no ___ yonda] 'Bocchan', wa Natsume Sōseki no
    NOM/GEN read.PAST TOP   GEN
    work COP.POL
    "'Bocchan', that Aiko read, is a work of Natsume Soseki"

86) [Watasi no umareta] Milano wa kita-Italia ni aru
    I   GEN born            TOP North-Italy LOC is
    "Milano, where I was born, is in Northern Italy"

But again Hiraiwa 2002 observes that NGC is blocked in RCs when an overt direct object is in the clause (p. 11):

87) [Kinō John ga/*no hon o katta] mise
    yesterday NOM/GEN book ACC buy.PAST store
    "The store where John bought books yesterday"

The subject marked by no seems to be lower than the subject marked by ga: Inoue 1976 observes that in 88a no is not acceptable, contrary to 88b, where the no-subject is subjacent to the predicate; Miyagawa 2012 points out that clauses with the no-subject are smaller than the others
because they cannot host high adverbials like the evaluative, evidential and speech act ones, but only lower adverbials like the modals (89a, 89b):

88a) [John ga/*no Amerika de syuppan sita] hon wa
    NOM/GEN LOC publish.PAST book TOP
    sappari urenai
    not at all be sold.NEG
    “The book that John published in America doesn’t sell at all”

88b) [Amerika de John ga/no syuppan sita] hon wa sappari
    urenai

89a) [saiwaini Tarō ga/*no yomu] hon
    fortunately NOM/GEN read.NPAST book
    “The book that Taro will fortunately read”

89b) [kanarazu Tarō ga/no yomu] hon
    for certain NOM/GEN read.NPAST book
    “The book that Taro will read for certain”

Another piece of evidence for the reduced size of the RCs under NGC is provided by Akasо and Haraguchi 2010, who note that NGC is blocked also by focus particles; put in other words, a RC with NGC is not large enough to reach a Focus projection:

90) [Tarō DAKE ga/*no nonda] kusuri
    only NOM/GEN take.PAST medicine
    “The medicine that only Taro took”
I have a conjecture about these facts. The low position of the genitive subject, paired with the littleness of the related clause, is compatible with the generation of the subject in the vP area of an unaccusative predicate as seen in the case of an adjunct clause. While the adjunct clauses have crystallized the constraint on genitive subject in case of transitive and unergative predicates, the 'standard' relative clauses have overtaken this constraint as long as a direct object is not expressed, but this is no more than a personal thought. In addition, it must be taken into account that, according to a personal communication by Yoshio Endo, in ancient Japanese (unfortunately I don't know how ancient) and still in contemporary Japanese in case of NGC, no is an old information marker, in opposition to the new information marker ga, but the domain of the old information is higher than the new information one, as far as topics are higher than focuses (see Benincà-Poletto 2004 and Franco 2009). In my opinion, a diachronic analysis of Japanese RCs would make a significant enlightenment on the comprehension of their actual structure.

The NGC is allowed also in gapless relatives without to iu, but for some informants the grammaticality judgment is a bit degraded if the predicate is transitive (91b). This limitation must be related to the ungrammaticality of gapped relatives under NGC with an overt direct object seen above.

91a) [sakana no yakeru] nioi
   fish GEN be roasted.NPAST smell
   "The smell of a fish's being roasted"

91b) (?) [haha no kukkii o yaku] nioi
   mother GEN cookies ACC bake.NPAST smell
   "The smell of my mother's baking cookies"
As for to iu-relatives, it is recognized that this kind of RC do not allow the NGC; see for example 92, taken from Inoue 1976:

92) *[karera no buzī datta to iu] sirase ga  
they GEN safe COP.PAST to iu news NOM  
kazoku o genkizuketa  
family ACC cheer up.PAST  
"The news that they were safe cheered up the family"

This fact is easily explained assuming that the particle to in to iu is a declarative complementizer and the clause in front of it is a full fledged declarative sentence, that similarly to a matrix clause is unsuitable for the NGC. The following contrast makes clear that it is the presence of an overt complementizer that blocks the conversion:

93a) [Syōrai daizisin ga/no okiru]  
in the future great earthquake NOM/GEN occur.NPAST  
kanōsei  
possibility

93b) [Syōrai daizisin ga/+no okiru]  
in the future great earthquake NOM/GEN occur.NPAST  
to iu kanōsei  
to iu possibility  
"The possibility that a great earthquake will occur in the future"

(Hiraiwa 2002: 10)

The constraints that hold for to iu-sentences hold for to no-sentences as well, as the following example, taken from Nitta 2008: 82, shows:
3.7 Modality

In Japanese there is a large amount of grammaticalized modal expressions, some of them are in form of inflexional affix, some other are free morphemes placed by the predicate and other are periphrastic forms of the verb. In a cartographic perspective each modal expression is a projection hierarchically ordered in the linear structure of the sentence. Cinque 1999 proposed a universal hierarchy of clausal functional projections where Mood and Modality phrases are ordered together with Aspectual and Tense projections. In this chapter I want to investigate the size of Japanese RCs by examining up to which modal projection a RC can include.

In order to maintain a strong focus on the Japanese language, I will not refer to Cinque's hierarchy though, but to Larm 2011, Narrog 2009 and Ueda 2008. Narrog proposes his own hierarchy of Japanese modality expression, pointing out some challenges for Cinque's theory, that seems not to fit perfectly the Japanese case (see Narrog 209: 242-243). I think that the main problem concerns the definition of modal categories: under the motto “one feature one head”, a small difference in the meaning of two modal expressions of distinct languages can signify a different position in the functional hierarchy, but their tagging might be misleading. According to Larm 2011 Japanese modality can be divided into three macro-groups: epistemic, evidential and deontic modality; each group contains modal expressions of different morphology. But these groups are not homogeneous in the linear ordering of ModPs; making a parallel with Narrog's hierarchy, it emerges
that Japanese modality is ordered along the degree of subjectivity. The higher degree of subjectivity has the projection, the higher is its place in the hierarchy. See the table in 95, that compares the taxonomy of Larm 2011 with the order of Narrog 2009 (the positions on top are the external ones). Following Larm 2011, who quotes Kindaichi 1953, “subjective modals express the speaker’s state of mind at the time of the utterance”, are not in the scope of past tense and negation, cannot be questioned nor adnominalized, have wider scope than objective modality and cannot be stacked with another subjective ModP (pp. 12-13). The most subjective modalities are imperative (affirmative and negative), hortative (‘let’s do...’) and conjectural (‘I suppose that...’, ‘it must be that (because I think so)...’).30

<table>
<thead>
<tr>
<th>Degree of subjectivity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deontic</td>
<td>(Negative)</td>
<td>Imperative</td>
<td>-ro/-na/-nasai</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Deontic</td>
<td>Hortative</td>
<td>-yō/-masyō</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epistemic</td>
<td>Conjectural</td>
<td>darō</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

95)

<table>
<thead>
<tr>
<th>Larm 2011</th>
<th>Narrog 2009</th>
<th>Ueda 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of subjectivity</td>
<td>Category</td>
<td>Denomination</td>
</tr>
<tr>
<td>Maximum</td>
<td>Deontic</td>
<td>(Negative)</td>
</tr>
<tr>
<td>High</td>
<td>Deontic</td>
<td>Hortative</td>
</tr>
<tr>
<td>Epistemic</td>
<td>Conjectural</td>
<td>darō</td>
</tr>
</tbody>
</table>

30 The epistemic conjectural modality in Japanese is expressed by the free morpheme darō, but this form covers several nuances of meaning; see Larm 2011: 18-20.
<table>
<thead>
<tr>
<th>Intermediate</th>
<th>Evidential</th>
<th>Quotative</th>
<th>sō da</th>
<th>Evidential1</th>
<th>Reportive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Epistemic</td>
<td>Speculative</td>
<td>kamosirena</td>
<td>Epistemic2</td>
<td>Epistemic possibility</td>
</tr>
<tr>
<td></td>
<td>Evidential</td>
<td>Inferential</td>
<td>yō da</td>
<td>Evidential2</td>
<td>Inferential evidentiality</td>
</tr>
<tr>
<td></td>
<td>Evidential</td>
<td>Informal inferential</td>
<td>mitai da</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evidential</td>
<td>External evidence</td>
<td>rasii</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Epistemic</td>
<td>Deductive</td>
<td>ni tigai nai</td>
<td>Epistemic3</td>
<td>Epistemic necessity</td>
</tr>
<tr>
<td>Zero</td>
<td>Epistemic</td>
<td>Assumptive</td>
<td>hazu da</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deontic</td>
<td>Moral obligative</td>
<td>beki da</td>
<td>Deontic1</td>
<td>Weak deontic necessity</td>
</tr>
<tr>
<td></td>
<td>Deontic</td>
<td>Obligative</td>
<td>-naka-reba naranai</td>
<td>Deontic2</td>
<td>Strong deontic necessity</td>
</tr>
<tr>
<td></td>
<td>Evidential</td>
<td>Sensory evidential</td>
<td>-sō da</td>
<td>Evidential3</td>
<td>Predictive</td>
</tr>
</tbody>
</table>

Ueda 2008 starts from the traditional distinction in the Japanese linguistics between Genuine modals and Quasi-modals, the first being unsuitable for the Tense and Polarity differentiation and for the stacking of more than one (Genuine) modal phrase, contrary to Quasi-modals, which can be inflected in Tense and Polarity and can be
stacked. As the table in 95 shows, Genuine modals correspond to the modals with the highest degrees of subjectivity outlined above. Genuine modals are further divided into Utterance and Epistemic modals, following Inoue 2006's labeling; Epistemic modals presuppose neither the existence nor the involvement of addressees, while Utterance modals presuppose not only the existence, but also the involvement of the addressee (see Ueda 2008: 128). Ueda's research comes to the conclusion that Utterance modals, contrary to Epistemic modals, have the following properties: 1) they cannot be embedded in an adversative coordinate clause; 2) they don't allow wa-marked topic subjects; 3) their subject undergoes person restrictions.

Going back to RCs, I prepared a set of tests for every modal expression reported in the table in 95, in particular I fashioned an example of restrictive, nonrestrictive, gapless, to iu and to no-type RC

32 The terms used by Inoue 2006 appears quite rough compared to the fine-grained descriptions of modal projections in Larm 2011 or Narroq 2009, but as long as they are limited to Genuine modals, they are not incorrect at all.
33 Here are in order some examples of the cited properties, from Ueda 2008: 134ff; the sentences a-c1 are samples of Utterance modals, a-c2 are of Epistemic modals:

\[\begin{align*}
\text{a1) } & \text{"Hayaku kotti e koi ga, ikenai} \\
& \text{quickly here to come.IMP but, go.POT.NEG.NPAST} \\
& \text{(Lit.) "Through come here quickly, but I cannot"}
\end{align*}\]

\[\begin{align*}
\text{a2) } & \text{Kimi wa iku darō ga, boku wa ikana} \\
& \text{You TOP go MOD but, 1 TOP go.NEG.NPAST} \\
& \text{"You will go there, but I won't" (surmise)}
\end{align*}\]

\[\begin{align*}
\text{b1) } & \text{*Kimi wa kotti e koi} \\
& \text{You TOP here to come.IMP} \\
& \text{(Lit.) "You, come here"}
\end{align*}\]

\[\begin{align*}
\text{b2) } & \text{Asu wa hareru darō} \\
& \text{tomorrow TOP be sunny MOD} \\
& \text{"It will be (probably) sunny tomorrow"}
\end{align*}\]

\[\begin{align*}
\text{c1) } & \text{*boku/kimi/*kare) ga hayaku kotti e koi} \\
& \text{I you he NOM quickly here to come.IMP} \\
& \text{"(You) come here"}
\end{align*}\]

\[\begin{align*}
\text{c2) } & \text{(boku/*kimi)/kare) ga iku darō} \\
& \text{I you he NOM go.NPAST MOD} \\
& \text{"I/you he will go there"
\end{align*}\]
with each ModP inside. The results obtained by my informants are quite clear-cut:

I) \textit{to iu} and \textit{to no} relatives allow every modal expression;

II) restrictive and nonrestrictive gapped relatives and gapless RCs allow every modal expression except for those called Utterance modals under Ueda’s categorization.

Here are some examples of the tests I conducted (from a to d in order: restrictive, nonrestrictive, gapless and \textit{to iu/to no}-type RC):

\begin{itemize}
  \item \textit{Imperative -ro (Utterance modal)}
  \item 96a) \textit{[omae mo sonkei siro] dōbutu-tachi wa you too respect.IMP animals TOP}
  
  \begin{center}
  daizina sonzai da
  \end{center}
  important being COP.NPAST
  Lit. “Animals that you too show respect!, are important beings”

  \item 96b) \textit{[omae mo miro] Yamada kun ga naite iru you too see.IMP NOM is crying}
  
  Lit. “Yamada, that you too see!, is crying”

  \item 96c) \textit{[hayaku siro] meirei o uketa\textsuperscript{34} quickly do.IMP order ACC receive.PAST}
  
  Lit. “I received the order that do it quickly!”
\end{itemize}

\textsuperscript{34} I must acknowledge that 96c is wrong at least because of another reason, that is that the head \textit{meirei ‘order} does not admit a gapless relative clause without the complementizer to \textit{iu} since it is a noun that indicates an utterance (see chapter 1.2.3), but the intended sentence with an imperative inside cannot be realized with a head different from ‘order’.
97d) [hayaku siro] to iu/to no meirei o uketa
quickly do.IMP to iu/to no order ACC receive.PAST
“I received the order 'do it quickly!’”

Hortative -{(y)ō (Utterance modal)}
97a) *[minna yomō] sinbun wa koko ni aru
everybody let's read newspapers TOP here LOC are.NPAST
Lit. “The newspapers that let's read everybody are here”

97b) *[minna yomō] 'Bocchan' wa
everybody let's read TOP
meisaku desu
masterpiece COP.POL.NPAST
Lit. “'Bocchan', that let's read everybody, is a masterpiece”

97c) *[eiga o mi ni ikō] sasoi o moratta
movie ACC see to let's go invitation ACC receive.PAST
Lit. “I received the invitation that let's go to see a movie”

97d) [eiga o mi ni ikō] to iu/to no sasoi o
movie ACC see to let's go to iu/to no invitation ACC
moratta
receive.PAST
“I received the invitation 'let's go to see a movie'”

Speculative kamoshirenai (Quasi modal)
98a) [asita kuru kamoshirenai] hito wa
tomorrow come might person TOP
nannin gurai desu ka?
how many approximately COP Q
“How many approximately COP Q
“About how many are the people that tomorrow might
come?”
98b) [asita kuru kamosirenai] Tarō wa Hanako ni tomorrow come might TOP DAT syōtai site moratta rasii invite get.PAST it seems
“It seems that Taro, who might come tomorrow, was invited by Hanako”

98c) [asita Tarō ga kuru kamosirenai] uwasa ga tomorrow NOM come might rumor NOM hirogatta spread.PAST
“The rumor that Taro might come tomorrow has spread”

98d) [asita Tarō ga kuru kamosirenai] to iu/to no uwasa ga tomorrow NOM come might to iu/to no rumor NOM hirogatta spread.PAST
“The rumor that Taro might come tomorrow has spread”

Sensory evidential -sō (Quasi-modal)
99a) [taoresō na35 ki kara hayaku hanaremasyō fall.MOD tree from quickly let’s go away.POL
“Let’s go quickly away from the trees that are going to fall”

99b) [taiin dekisō na] Yamada san wa uresii desyō leave the hospital.MOD TOP be happy must
“Mr. Yamada, who is going to leave the hospital, must be happy”

35 The suffix -sō is morphologically a na-adjective, thus its attributive form maintains the particle na.
As a conclusion I would say that the behavior of gapped and gapless relative clauses confirms, at least partially, the hierarchy of modal projections proposed by Narrog 2009, pointing out a dividing line between the two highest modal categories (Speech act for Narrog, Deontic for Larm) and the remaining. The two groups are adjacent and internally consistent: gapped and gapless relatives are clauses large enough to contain modal expressions up to that dividing line, but not larger. On the contrary, to iu and to no-type RCs are boundless, and this fact is clearly due to the matrix nature of a declarative sentence like that which is closed by the declarative complementizer to that is part of the complex complementizers to iu and to no. In other words, the RCs of the to iu and to no-type are as large as a declarative sentence, which has the same status of a matrix sentence, at least as long as it behaves like a direct discourse. For the size of the to iu and to no sentences and the differences between them, I refer to chapters 1.2.3 and 3.8.

3.8 Presence of Topic

In this section I investigated if it is possible to insert a topic inside the RC in order to determine some more clues about the size of the RC itself. Since topics are located in the left periphery of the sentence (see Rizzi 1997 among others), its presence (or absence) would be an
evidence to state either that the RC reaches the CP domain or stops at a lower level. It is generally assumed that a topic cannot enter a RC, whose subject is marked only by the nominative particle *ga*, and this assumption is widely confirmed, but there are some cases in which a topic is admissible.

First, topics are consistently excluded from gapped restrictive and nonrestrictive RCs:

100) [Tanaka san *ga/*wa syōkai site kureta] zyosei wa
    NOM/TOP introduced to me girl TOP
    kare no mei desu
    he GEN niece COP.POL
    “The girl that Mr. Tanaka introduced to me is his niece”

101) [Tanaka san *ga/*wa syōkai site kureta] Hanako wa
    NOM/TOP introduced to me TOP
    kare no mei desu
    he GEN niece COP.POL
    “Hanako, who Mr. Tanaka introduced to me, is his niece”

Gapless clauses are not as straightforward as gapless clauses are: topics are generally excluded, but some informants accept them; 103 and 104 are grammatical for a couple of native speakers.

102) [Zyosei *ga/*wa kesyō suru] fūsyū wa dokonimo
    girls NOM/TOP make-up.NPAST custom TOP everywhere
    aru to omou
    be.NPAST that think.NPAST
    “(I) think that the custom that the girls make up is everywhere”
103) *'[Tanaka wa sakana o yaita] syōko ga
TOP fish ACC grill.PAST evidence NOM
nai
be.NEG.NPAST
"There aren't evidences that Tanaka grilled the fish"

104) *'[Haha wa kukkii o yaku] nioi ga
my mother TOP cookies ACC bake.NPAST smell NOM
suru to kodomo no koro no omoide ga
do.NPAST when child GEN period GEN memories NOM
takusan ukande kuru[^36]
many rise.NPAST
"When I feel the smell of my mother's baking cookies, many
memories of my child period come to my mind"

Oosima 2010 reports an interesting property of the koto-
sentences. Koto means 'thing, fact' and is often used as head of a
gapless RC. According to Oosima, koto-sentences admit a topic if the
clause expresses a condition or a quality about the topic itself. The
condition is tenseless or permanent; the insertion of topic is blocked if
the clause expresses a specific, tensed fact. Compare 105 and 106:

105) [Tikyuu wa taiyō no mawari o mawatte iru] koto o
earth TOP sun GEN around ACC rotate.NPAST fact ACC
sensei ga osiete kureta
teacher NOM explained to me
"The teacher explained to me that the earth rotates around
the sun"

[^36] This sentence is correct if *haha wa* is interpreted as topic/subject of the main
clause: "many memories of her child period come to my mother's mind when she feels
the smell of (someone's) baking cookies".
In my opinion, this possibility of the koto-sentences could be related to the fact that *koto* is used to nominalize verbs and sentences.\(^{37}\) It might be that koto-sentences are no more simple RC, but they transformed into another type of clause with its own set of peculiarities, similarly to the toki-sentences seen in section 3.6, which are morphologically derived from RCs but have the independent status of temporal adverbal clause. Indeed, in koto-sentences with a topic, *koto* cannot be replaced by another abstract term with a similar meaning like *zizitu* 'fact':

\[107\] [Mizu wa 100°C de futtō suru] koto/*zizitu o water TOP 100°C at boil.NPAST fact ACC kansatu sita
observe.PAST

“I observed the fact that water boils at 100°C”

RCs with *to iu* and *to no* allow topics, confirming that their size is larger than the other RCs, since they resembles more a declarative sentence:

\[108\] [Ken wa okane ga aru] to iu/to no
money TOP NOM be.NPAST to iu/to no

uwasa ga hirogatta

---

\(^{37}\) Sentences' nominalization is possible by means of the noun *koto* and the particle *no*:

a) eiga o miru koto/no ga suki desu
movie ACC watch koto/no NOM like COP.POL.NPAST
“I like (the act of) watching movies”
The particle *wa* in Japanese marks the topic as intended so far (that is the theme of the predication), but it marks also a contrastive topic, that corresponds to the so called 'List Interpretation' topic under the labeling of Benincà-Poletto 2004. Benincà and Poletto for the Romance languages and Franco 2009 for Japanese demonstrated that the contrastive topic is lower than the thematic one. According to Oosima 2010 a contrastive-*wa* marked element is allowed even in gapped and gapless RCs:

109) [Syosinsya ni wa muzukasiswa*ri*ru] mondai
   beginners DAT TOP too difficult.NPAST problem
   "A problem too difficult for the beginners (but suitable for experts)"

110) [Nihonsyu wa tasyō nomu] ano hito ga,
   Japanese sake TOP a little drink.NPAST that person NOM
   uisukii wa zettai nomanai to itte i*ru*
   whisky TOP absolutely drink.NEG.NPAST that say.NPAST
   "That person, that drinks a little Japanese sake, says that he absolutely doesn't drink whisky"

111) Sono mura wa [yosomono ni wa matigatta mitizyun o
   that village TOP strangers DAT TOP wrong route ACC
   osieru] fūsyū ga aru
   show.NPAST custom NOM he.NPAST
   "In that village there is the custom of showing the wrong route to the strangers (but not to the locals)"

(Oosima 2010: 43, 50)
As a recap it can be affirmed that thematic topics are forbidden in gapped and gapless clauses and allowed in to it and to no-sentences, while contrastive topics are allowed in every type of RC; or, in other words, that gapped and gapless clauses are large enough to include contrastive topics but not the thematic ones, while to it and to no-sentences are large enough to include both.
4. A cartography for the Extended Nominal Projection

This chapter aims to put in relation the results of the data collection produced in chapter 3 with Cinque's proposal for a unified theory of relative clauses presented in chapter 2. The issues which I will try to give an account for concern the position of every type of RC in relation to the head and the other modifiers of the NP, the derivation pattern of the RCs (namely a Raising or a Matching derivation) and the internal size of the RC itself depending on its type.

4.1 The cartography of the extended projection of the NP

Pace Cinque 2008a and 2010b, as seen in chapter 2, a Noun Phrase is actually seen as an extended projection with the NP in the strict sense at the bottom of the tree, and all the elements that modify it in higher positions in a determined order. The RCs are one of the NP's modifiers located past it. The hierarchy of these elements proposed by Cinque on the basis of a cross-linguistic analysis is repeated here as 1:

1) NRRC>Qall>Dem>RRC>Num>RedRC>A>N

The partial mutual orders of these elements observed in Japanese and explained in detail in chapter 3.1 are reported hereafter for convenience's sake:1

1 Remember that the elements indicated by Dem, Num, A, N and Q are phrases and not bare heads.
2) Dem>Num>A>N
3) Dem>A>Num>N
4) A>Dem>Num>N
5) Num>Dem>A>N
6) RC>Dem
7) Dem>RC
8) RC>Q
9) RC>Dem>Q
10) RC>A
11) RC>Num
12) Num>RC
13) RC>Num>A
14) RC>A>Num
15) Num>RC>A

First, I observe that Num is very free and doesn't allow one to determine its base position. I don't have any clue to explain this behaviour, but it could be related to the fact that Japanese numerals are based on sortal classifiers, which are different from the bare numerals for instance of the Indo-European languages. It might be that they have a different set of properties and a different original position. I propose not to take into account the presence of Num further in the discussion because this issue cannot be treated with enough certainty. The analysis on the position of Num is thus suspended.

I guessed then that the order in 4 can be ignored because there is no morphological difference between an adjective and a RC containing a bare adjectival predicate, hence an adjective before a demonstrative could be interpreted as a RC and not as a simple adjective. The exclusion of 4 limits the possible combination to Dem>A and RC>A, which are consistent with Cinque's hierarchy.

The order Dem>RC takes place mostly when there aren't other elements in the nominal expression; otherwise the prevailing order is
consistently $RC > Dem$. According to Kameshima 1989 for $Q$ and Ishizuka 2008 for Dem, when the RC precedes these two elements the interpretation is ambiguous between restrictive and nonrestrictive, while when it follows them the restrictive one is predominant (although the order $Q > RC$ was rarely accepted in my tests). This fact is easily explained if we accept the order proposed by Cinque, where NRRCs are before, and RRCs are after Dem and $Q$: if the RRC remains in its position it is correctly interpreted only as restrictive; if it raises past Dem/$Q$ it can be interpreted either as a base-generated NRRC or as RRC by reconstruction.

$16) NRRC > [RRC] > Dem/Q > RRC$

As for the order between Dem and $Q$, 9 determine the order $Dem > Q$, which is the opposite of Cinque's claim. I state that the reason resides in the nature of Japanese quantifiers: although the meaning is the same of a universal quantifier, Japanese *subete* 'all' (as *hotondo* 'almost all' and *dono...mo* 'every') is a nominal modifier that behaves just like other numerals (see footnote 1 and 2 in chapter 1.1). Thus, the Japanese $Q$ that I'm writing about is not Cinque's $Q$, but a different projection, which is located namely after Dem. The constituent's order emerged so far is therefore:

$17) NRRC > [RRC] > Dem > Q > RRC > A > N$

This order is quite similar to Cinque's hierarchy. Regarding the mutual position of NRRCs and RRCs, I endorse Kameshima's claim, corroborated by my own tests, that the first precede the second, but I must remember that in Ishizuka 2008 it is affirmed the contrary. In that case I would conclude that the RRC raises higher past the NRRC.
What I believe worth noting is the fact that Japanese RRCs have the strong tendency to leave their original position and raise to a higher one.

Kameshima 1989 cites the following contrast too (pp. 211-212):

18a) [Tako o tabeta] san-nin no gakusei ga sinda
octopus ACC eat.PAST 3-cl. GEN student NOM die.PAST
"Three students(,) who ate octopus(,) died"

18b) san-nin no [tako o tabeta] gakusei ga sinda
3-cl. GEN octopus ACC eat.PAST student NOM die.PAST
"Three students who ate octopus died"

In other words, also in case of Num there is the ambiguity in the interpretation of the RC when it comes first, while after Num it can only be restrictive. If we assume this, we should speculate that the original position of he RRC is after Num, which is the slot of the reduced RCs in Cinque's model. Kayne 1994 affirms that prenominal RCs are all IPs and that their verbs "are nonfinite/participial, having reduced tense possibilities as compared with finite verbs" (p. 95). I had the suspicion that Japanese has reduced clauses in addition to the complete ones, but no test that I ran revealed any difference that proves this distinction. It could be therefore that every RC in Japanese is actually a reduced clause, but I find difficult to assert that a reduced clause can contain up to a quite high modality projection as it came out in chapter 3.7.2 In addition, I just claimed that it is not possible to determine a base position for Num basing on my tests, thus this proposal is limited to a conjecture, but if it is true it has the desirable consequence of making the order of the elements more similar to Cinque's hierarchy:

2 Besides, there is no morphological distinction in Japanese between a finite and a participial form of the verbs.
Regarding the insertion point of the other types of RC, there aren't very strong pieces of evidence from the coexistence of two clauses, partly because Japanese speakers prefer to bind the two clauses with a conjunction between them, rather than pull them together separately, and partly because the tests' results are not clear-cut. Nevertheless there is a tendency for the to に-clauses to precede the gapped clauses, and for gapped clauses to precede the gapless (and the to に) ones. At this stage I haven't enough evidences to propose an ordering of the various types of RC; I will return on this issue after examining other properties of the sentences.

4.2 Derivation of Japanese Relative Clauses

4.2.1 Derivation of gapped clauses

In order to determine the derivational pattern of Japanese RCs, I start from the case of long-distance relativization. In chapter 3.3 we saw that there aren't actually instances of long-distance relativization, but only short-distance relativization of a Major Subject that originates in the outer relative and is coindexed with a pro in the inner clause. By virtue of the genitive relation that holds between the Major Subject, which is a topic, and its comment, which is the head of the inner RC, and of the tendency of Major Subjects to form more easily nonrestrictive RCs, I claimed that these Major Subject must be located between the point 35 and 36 of the diagram 41 in chapter 3.2.1 and updated hereafter as 20:
What is written above is valid for a relativization through two gapped clauses, but the Major Subject that stems from a gapless clause that embed a gapped one enforces the result: in such cases it is slightly clearer that it is easier to form a NRRC than a RRC (see examples 51-52 in chapter 3.3). The topic in these instances must fall mostly in the area where relativization gives as output only nonrestrictive sentences.

I remind the readers that Murasugi 1991 noticed that PPs of time and place too seem to undergo long-distance relativization (see footnote 23 in chapter 3). Therefore there are three constituents that allow (apparent) island violations: topics (of the Major Subject type), temporal and locative PPs. These constituents have a characteristic in common: they are all left-sided in the sentence. Temporal and locative PPs are at the left edge of Takamine’s hierarchy of circumstantial PPs (see chapter 3.4), and topics are notoriously in the CP area, or left periphery. Thus I conjecture that the cases of (apparent) long-distance relativization are actually instances of short-distance relativization of an element of (or close to) the left periphery of the clause. It is not a coincidence, in my opinion, that these are the cases in which Murasugi 1991 (and Inoue

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3 Benincà-Poletto 2004 locate the temporal constituent even at the very left extremity of the series of topics, tagging it as FrameP, a topic in charge of ’setting the scene’ with background temporal information.
1976 before her) admits as marginal—but not totally ungrammatical—the use of resumptive pronouns, like in 21 (repeated from 65 in chapter 3.4):

21) ?[[__ sono hi_ ni/ soko_ de mensetu o uketa] 
that day DAT/there LOC interview ACC took 
gakusei_ ga minna ukaru] hi/kaigisitu_ 
student NOM all pass day/conference room 
Lit. “The day when/the conference room where the students that had the interview that day/there, all passed”

Taking into consideration the relative ease for high elements like topics to form NRRCs, as stated above, the acceptability of resumptive pronouns in cases of apparent long-distance relativization suits the claim of Kameshima 1989 that resumptive pronouns are perfectly acceptable in RCs with a nonrestrictive reading.

The acknowledgment that the instances of island violation in Japanese are only apparent makes available again the possibility of a raising derivation for those RCs, but it doesn’t affirm it positively either. Island violation effects are still detectable when one tries to extract a direct object instead of a subject (see example 49 in chapter 3.3), but to say it with the words of Krapova 2010, “island effects on the other hand do not necessarily imply a raising derivation, they may also be found under matching” (p. 1251). Thus, the issue of long-distance relativization doesn’t give any clue about the derivation of Japanese RCs. At the same time, neither the analysis about the presence of resumptive pronouns in the place of the gap internal to a RC is decisive. The analysis that I conducted in chapter 3.4 led me to assume that Japanese do not admit resumptive pronouns instead of the gap of a RC.

4 The apparent absence of island effects drove several authors like Murasugi 2000 and Fukui and Takano 2000 to affirm that Japanese RCs are derived by base-generation of the external head, or in other words by matching derivation.
and this fact makes me lean toward a raising derivation, because in this case the gap in the clause would be a trace left behind the movement, and a trace cannot be substituted by anything else. But actually there are cases in which a resumptive pronoun is acceptable for some informants (see examples 68-69 in chapter 3.4). It could be therefore that Japanese RCs are derived by matching, that the pro in the clause coindexed with the external head is replaceable by a resumptive pronoun, but that Japanese prefers not to do it (as many native speakers told me, in Japanese pronouns are rarely used in principle, an utterance with many pronouns sounds like an unnatural English translation). There aren't therefore clear-cut pieces of evidence from the investigation on resumptive pronouns to determine the derivation of Japanese RCs, because it isn't a suitable tool for Japanese due to independent reasons.

What about the criterion of the presence of reconstruction effects? The tests exposed in chapter 3.5.2 suggest a matching derivation, because no effect is detectable with the reflexives zibun and zibun-zisin, meaning that the gap of the RC and the overt head aren't in a chain. I already stated that kare-zisin isn't a reliable term for our objective, but if we consider it we must admit that it produces reconstruction effects, at least for some informants and for Ishii 1991, preferably in nonrestrictive clauses. In such circumstances I would conclude that Japanese RCs resort to a raising or a matching derivation depending on the presence of given words and not in a unique and consistent way.

If we assume a matching derivation, there are two possible configurations: in the first one, that coincides with Cinque's proposal for a matching analysis of prenominal RCs reported in chapter 2, the internal head dP₂ is canceled by backward deletion and no movement happens, unless the bare IP of a restrictive RC needs to reach a position before Dom and Q (see 22); in the second one the external head dP₁ raises to the specifier of a CP projection immediately over the insertion point of the RC, from where it deletes the c-commanded dP₂, and then
the remnant of the RC raises to a higher position, eventually overtaking Dem and Q if it is a RRC (see 23).

\[22)\]

\[23)\]

### 4.2.2 Derivation of gapless and to *iu*-clauses

So far was the discussion about the derivation of gapped clauses. Regarding the derivation of gapless and to *iu*-type RCs, Cinque's model
reveals its efficiency providing a simple but effective account. Since there is no gap in them, the raising derivation is excluded a priori. Only a matching derivation is available in these cases, in the literal sense that an external head matches a complete sentence by juxtaposition. A RC of this type can be easily seen as an element that qualifies the head-noun, it doesn't select the head by means of some criteria that the head satisfies being part of the clause (like in I search for a man – Which man? - The one that _ wears a hat), but describes its content and gives additional information ('the story that John came back from Japan', 'the smell of my mother's baking cookies'). The overt head is dP₁, the noun at the base of the NP, and the RC is a complete sentence that qualifies it among other modifiers. No deletion and no movement are required in the configuration of a gapless clause. A slight difference characterizes to iu/to no-sentences, which have an overt complementizer: similarly to the relative complementizer 'that' in English or 'che' in Italian, to iu/to no takes place in the head of the CP above the insertion point of the RC, and then the RC itself raises to SpecCP. 24 depict the structure of a nominal expression that is optionally realized with or without the complementizer to iu.

24) [kaigai de nihongo o osieru] (to iu)
    overseas LOC Japanese ACC teachNPAST to iu
    omosiroi keiken
    interesting experience

    "The interesting experience of teaching Japanese overseas"
Cinque 2008a hypothesizes two CP projections above the RC on the basis of evidences from Bulgarian, reported by Krapova 2010, where a topicalized element of the RC can raise between the Head and the complementizer deto in expressions derived by matching but not in those by raising, leading one to assume two distinct positions, but since Japanese hasn't such a word order and thus cannot provide evidences for a double CP, I won't consider this problem and hypothesize only one projection.

As a recap, regarding the derivation of Japanese RCs there are more pieces of evidence in favour of the matching pattern. Gapless and to iu-sentences can be derived only by a matching configuration due to their intrinsic property of lacking a gap, but this is a logical and semantic property common to every language that has gapless RCs, so it cannot have any influence in the derivation of gapped clauses, or no language would allow a raising configuration. The evidence comes mainly from the absence of reconstruction effects between the head of the relative and the reflexives zibun and zibun-zisin for gapped clauses.
Reconstruction effects with idiom chunks and the insertion of resumptive pronouns have proved not to be valid diagnostic tools for Japanese and thus are useless for our purpose. Nonetheless, I want to point out that research on this issue must face the huge variability in the native speakers' judgments, a problem that puts through the wringer the reliability of any conclusions obtained.

4.3 Relative Clauses' internal size

The sections 3.6, 3.7 and 3.8 of chapter 3 shed light on the internal structure of the RCs and in particular on their extension. Not every type of RC in Japanese has the same structure, some are larger than the others. In section 3.6 about the Nominative-Genitive conversion, I reported that the RCs that undergo NGC are smaller than those with a nominative subject. Akaso and Haraguchi 2010 demonstrate that clauses with a genitive subject aren't larger than TP, while clauses with nominative subject are larger than TP because they reach FocP, which is higher than TP. Contrary to gapped and gapless clauses, to iu and to no-sentences cannot undergo NGC: the latter must be therefore larger than the former, because they cannot stop at TP, but are full-fledged sentences marked by the declarative complementizer to.

As for the presence of modality expressions in the RC, I have already come to a conclusion at the end of chapter 3.7: gapped and gapless clauses have the same extension and reach the epistemic conjectural ModP (they cover the Quasi-modals and the epistemic Genuine modals in terms of Ueda 2008), but not higher projections. On the contrary, to iu and to no-relatives are as large as a declarative sentence and can contain every modal expression, including the highest two (imperative and hortative, or Utterance modals pace Ueda).
Regarding the presence of topics in the RC too, the conclusions are already expressed at the end of chapter 3.8: every type of RC, including the gapped ones, can contain a contrastive topic; gapped clauses cannot contain a thematic topic, and the same holds for gapless clauses but with less consistency; to in and to no-sentences have no restrictions and can include the high thematic topic.

The analyses conducted in the last three sections of chapter 3 give therefore a consistent output: gapped RCs are limited to some extent (the highest projection between FocP, contrastive topic or epistemic conjectural ModP), while to in and to no-relatives haven't such boundaries and are as large as declarative sentences. In chapter 1.2.3 I asserted that to no-clauses are smaller then the to in-ones. Gapless clauses resembles very much the gapped ones about the size, but there are some clues in favour of the hypothesis that they are a bit larger than gapped relatives, because in some cases they accept a thematic topic. The five types of RC that I am treating in this dissertation fit into the following size hierarchy: to in > to no > gapless > (gapped) NRRC/RRC.

4.4 The cartography of the extended NP (reprise)

According to the data collected the ordering of the five types of RC along the scale of their internal size overlaps with the order of their insertion point relative to the NP, or to be more precise, such ordering gives me a clue to complete the proposal for the cartography of the extended nominal projection. We know that NRRCs precede RRCs, and that to in-sentences (tend to) precede the gapped clauses. There isn't clear-cut evidence for the position of a to no-clause with respect to a gapped one: example 21 in chapter 3.1 suggests the order gapped > to no, but it might be that the gapped clause raises over the other one,
because restrictive RCs are usually raised to a higher position. It stands to reason that to no-clauses originate near the to iu-clauses, since they are very similar and in some cases the two complementizers are interchangeable. The same reasoning holds of the mutual order between a gapped and a gapless clause: the surface order is gapped>$gapless, but I consider that it is the result of the gapped clause raising over the gapless one. Such a circumstance might take place following the schemes in 22 or 23. Under 22 the gapped sentence (with dP2 deleted) raises alone above the other one. Under 23 the external head raises first to a position above the gapped clause but not above the gapless one, because there's no need to delete anything by c-command in the gapless clause, but only in the gapped one; then the remnant containing the gapped RC raises to its final position, as depicted in 25:

25)

Regarding the original location of gapless RCs, I guess indeed that they stay in the middle between gapped and to iu/to no-sentences. The reason lies in the fact that they share some properties with the former (the possibility of NGC, the modal projections contained, the
unavailability of thematic topics - but with some meaningful exceptions),
and some others with the latter (the absence of a gap and therefore a
necessary derivation by matching, and the interchangeability with to iu-
clauses in some cases).

In the end, summing up all the issues treated in this dissertation,
I propose the following order of modifiers in the extended projection of a
Noun Phrase:

26) \( \text{to iu} \rightarrow \text{to no} \rightarrow \text{gapless} \rightarrow \text{NRRC} \rightarrow \text{DemP} \rightarrow \text{QP} \rightarrow \text{NumP} \rightarrow \text{RRC} \rightarrow \text{AP} \rightarrow \text{NP} \)

Regarding the derivation pattern, I lean towards a matching
analysis of the type reported in 23 (and 25). Under this configuration
the external head has to raise over the gapped clauses in order to delete
their internal head, and this first movement is the trigger for the
following movement of the gapped RC that raises above other modifiers
(like Dem and Q) or clauses (as seen for the mutual order with gapless and to no-sentences). There is no evidence to exclude the derivation pattern illustrated in 22, but I personally believe it more difficult to uphold the movement of a specifier, such as the IP of a RC, from the middle of a hierarchy, while it is more natural that movements, both by simple raising and pied-piping, start from the bottom of an extended projection and trigger further transformation in a bottom-up fashion.
5. Conclusions

In this work I examined several properties of Relative Clauses in Japanese. The research was inspired by Cinque's proposal for a unified theory of RCs under a cartographic approach. My idea was to apply the linguistic tools described in Cinque 2008a and 2010b to Japanese. The results of the study do not refute in a substantial way Cinque's proposal, but highlight some questions that are worth considering further.

In the introductory chapter I described some general properties of Japanese RCs that I didn't include in the following dissertation, like the form of the predicate and the tense interpretation. Moreover, a categorization of Japanese RCs was provided along three axes: on the semantic level they divide into restrictive and nonrestrictive; on the morpho-syntactic level they divide into Head-External (HERC) and Head-Internal (HIRC); on the structural/logical level they divide into gapped and gapless clauses, and gapless clauses are further distinguished if they have or do have not an overt complementizer. Before going ahead with the investigation, I excluded HIRCs from the study by showing that they have some characteristics that led me to believe that they aren't real relative clauses. In the dissertation the term 'gapped clauses' coincided with the externally headed restrictive and nonrestrictive sentences; gapless clauses without complementizer were tagged barely as 'gapless' RCs, while those with a complementizer were called 'to ifu/to no-clauses'.

In chapter 2 I introduced the universal theory of RCs proposed by Cinque. His model makes available at the same time the two main derivational analyses presented in the past, the Raising one and the Matching one. Cinque includes the RCs among the various modifiers of the NP, and positions them into the following hierarchy:
1) NRRC\textgreater{}Q_{all}\textgreater{}Dem\textgreater{}RRC\textgreater{}Num\textgreater{}RedRC\textgreater{}A\textgreater{}N

(Q, Dem, Num, A and N are phrases and the RCs are of the gapped type). The head of the RC is the modified NP, which is repeated identically inside the RC, the former being called dP$_1$ or External Head, and the latter dP$_2$ or Internal Head. The Raising Analysis implies that the overt head is the internal one that raises out of the RC, while the Matching Analysis considers the overt head the external one. These two derivational patterns are determinable by means of some diagnostic tools, like the presence of reconstruction effects (in favour of the Raising Analysis) and the availability of resumptive pronouns in place of the gap in the relative (in favour of the Matching Analysis).

In chapter 3 I chose eight issues about the behaviour of Japanese RCs that I find interesting and necessary to my goal. In the first section I tested the mutual order between a RC and the others modifiers of the head-noun, including other RCs. Interestingly, it turned out that some orders between Demonstrative, Numerals and Adjectives that must be impossible pace Cinque 2005, are (or at least seem) admissible in Japanese. In the second section I used the correlation between some types of topics and some types of genitives (already pointed out by Kuno 1973 among others) to put them on a continuous line: those high elements, if relativized, either form only a nonrestrictive RC, or cannot form a RC at all. In the third section I treated the well-known issue of the long distance relativization, which is possible in Japanese. The relative island violation is actually only apparent, because the relativized element is the Major Subject of the external sentence, and not a constituent of the most embedded clause. I added the analysis of the same phenomenon between a gapped and a gapless clause. The fourth section is about the availability of resumptive pronouns in place of the RC gap. The opinions in the literature aren’t homogeneous, so I took my stand basing on my personal tests. Resumptive pronouns are not totally out for some informants, but they are generally not used,
because Japanese do not resort to pronouns in principle. Thus, I concluded that the investigation on resumptive pronouns is not a valid diagnostic tool for the Japanese case. Similarly, the research on the presence of reconstruction effects, faced in section five, is not very productive in Japanese. Reconstruction within an idiom chunk is affected by the fact that idiomatic expressions may be not modifiable due to independent properties, while the reconstruction between the relative head and a reflexive suffers from the existence of three types of reflexives in Japanese. Nonetheless there is the slight possibility to conclude that Japanese RCs do not show reconstruction effects, which is an argument against the Raising derivation. The last three sections of chapter 3 helped me to determine the internal size of the various types of RC. The analysis on the possibility of the nominative-genitive conversion, on the presence of modal projections and on the presence of topics inside the RCs divided them consistently into two groups: gapped and gapless clauses can undergo NGC, contain modal expression up to the Genuine Epistemic modals under Ueda 2008 labelling, and cannot host a thematic topic; on the other side to in/to no-sentences cannot undergo NGC, but can contain every modal projection and also thematic topics. Besides, in section seven I compared the categorization of modal expression of Larm 2011 with the hierarchy of ModPs in Narrog 2009 and discovered that (Japanese) modal projections are ordered along the scale of subjectivity.

In the last chapter I matched the information collected in chapter 3 in order to come to a conclusion about the order of the various types of RCs in the hierarchy of the extended projection of the NP, and about the derivational pattern of those clauses. The conclusions are summarized as follows:

1) there are more clues in favour of a Matching derivation, although the diagnostic tools that I chose from Cinque’s study are not appropriate for Japanese;
2) The hierarchy of the Japanese extended NP projection is

\[ to\ iu > to\ no > \text{gapless} > NRRC > DemP > QP > NumP > RRC > AP > NP. \]

The mutual order of the RCs overlaps with the order of their internal size: the larger is a clause, the higher is it above the NP. A gapped (restrictive) RC tends to leave its original place and raise above other modifiers, but it is difficult to overcome the highest and biggest to iu-clause.

From the research on RCs a couple of collateral issues emerged. They concern the status of Quantifiers and Numerals in Japanese: their behaviour and their morpho-syntactic characteristics are different from the corresponding counterpart described in Cinque's works. On one hand, Japanese Quantifiers are basically Adjectives and are consistently found in a position lower than Demonstratives, contrary to the expectations generated by Cinque's model. On the other hand, Numerals, which are formed by sortal classifiers in Japanese, can occupy every position with respect to Demonstratives, Adjectives, Quantifiers and RCs, and this behaviour is considered strange under a cartographic point of view.

RCs are a very extensive subject for a research. This dissertation is no more than a small contribution to the matter and raises more questions than it solves, but it has maybe the merit to handle together every type of Japanese Relative Clause with respect to a bundle of issues, and it does so within the cartographic framework, which is not yet common among the linguistic studies on the Japanese language.
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Dottorato: Scienze del Linguaggio
Ciclo: 25°

Titolo della tesi: A Cartographic Approach to Japanese Relative Clauses

Abstract:

Questo lavoro rappresenta un'analisi delle frasi relative in giapponese nel quadro teorico cartografico. Nel primo capitolo vengono classificati i tipi di frase relativa giapponese. Nel secondo capitolo viene presentata la proposta di Cinque per un modello descrittivo unitario delle frasi relative. Nel terzo capitolo viene analizzato il comportamento di ogni tipo di frase relativa giapponese relativamente ad otto argomenti: la posizione della frase nel sintagma nominale rispetto ad altri modificatori; la funzione sintattica originale del nome-tesi all'interno della relativa; casi di relativizzazione di lunga distanza; la possibilità di inserire pronomi di ripresa al posto dell'elemento relativizzato; la presenza di effetti di ricostruzione tra la testa e la relativa; la possibilità di marcare il soggetto della relativa con il caso genitivo; la presenza di espressioni modali e topic all'interno della relativa. Nel quarto capitolo si esamina se le strategie di relativizzazione in giapponese siano correttamente descritte dal modello di Cinque.

English version

The present work is an analysis of Japanese Relative Clauses within the cartographic theoretical framework. In the first chapter I classify the various types of Japanese Relative Clause. In the second chapter I describe Cinque's proposal for a unified theory of Relative Clauses. In the third chapter I analyze the behaviour of each type of Japanese Relative Clause with respect to eight issues: the position of the Relative Clause in the Noun Phrase compared to other modifiers; the syntactical function of the head-noun in its original position; cases of long-distance relativization; the possibility to insert a resumptive pronoun in place of the gap in the relative; the presence of reconstruction effects between the head and the relative; the possibility of the nominative/genitive conversion for the relative's subject; the presence of modal expressions and topics inside the Relative Clause. In the fourth chapter I examine if Cinque's model describes accurately the relativization strategies in Japanese.

Firma dello studente

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