i. Lucy is pretty to look at Ø.
i'. *Lucy's prettiness to look at Ø
ii. This computer is suitable for doing statistics with Ø.
ii'. ??this computer's suitability for doing statistics with Ø
iii. The chicken is ready to eat Ø.
iii'. *the chicken's readiness to eat Ø

(The asterisk in iii' relates only to the interpretation in which *the chicken* is coreferential with the understood object of *eat;* iii' is acceptable as an Equi construction, with *the chicken* controlling deletion of the subject of *ready*).
  28. *Painting* differs from *portrait* in not allowing an analog to (24b):

  *Lincoln's painting (= the painting of Lincoln) is in the governor's office.

CHAPTER THIRTEEN

||||||| Relative Clauses

a. Restrictive Relative Clauses

Restrictive relative clauses in English can take any of three surface forms, leaving aside for the moment the reduced relative clauses that were taken up in §12b and the infinitival relatives that will be taken up later in this section. In the first of these forms—the **Wh-relative**—the relative clause consists of a **relative expression** (either a relative pronoun such as *who* or *which* or a more complex expression such as *for which* or *during whose reign,* in which a relative pronoun is combined with other material) followed by a truncated S, that is, something having the general form of a S except for lacking a constituent corresponding to the relative expression: [1]

(1) a. the person who I talked to
    b. the book which I was reading
    c. the place where I found the money
    d. the day when I went to the zoo
    e. the reason why I left early
    f. the woman who John went to the concert with
(2) a. the woman with whom John went to the concert
    b. the conditions under which I'll sign the contract
    c. the pope during whose reign America was discovered
    d. the president despite whose opposition the Taft-Hartley Act was passed
    e. the way in which he tricked me

   The second form that a restrictive relative can take, the ***that*-relative,** is a form in which it is introduced by *that:*

(3) a. the person that I talked to
    b. the book that I was reading
    c. the place that I found the money
    d. the day that I went to the zoo
    e. the reason that I left early
    f. the woman that John went to the concert with

That is not simply a substitute for a relative pronoun, since it cannot replace a relative pronoun in relative expressions that consist of more than a relative pronoun:

(4) a. *the woman with that John went to the concert
   b. *the conditions under that I'll sign the contract
   c. *the pope during that's reign America was discovered
   d. *the president despite that's opposition the Taft-Hartley Act was passed
   e. *the way in that he tricked me

Moreover, subject to some exceptions such as *in which* in (2e), it cannot replace a complex relative expression either:

(5) a. *the woman that John went to the concert
   b. *the conditions that I'll sign the contract
   c. *the pope that America was discovered
   d. *the president that the Taft-Hartley Act was passed
   e. the way that he tricked me

The third form for restrictive relatives, the **bare relative,** is one in which neither a relative pronoun nor a *that* appears:

(6) a. the person I talked to
   b. the book I was reading
   c. the place I found the money
   d. the day I went to the zoo
   e. the reason I left early
   f. the woman John went to the concert with
   g. the way he tricked me

In all cases where a bare relative is possible, a corresponding *that*-relative is also possible, though (as will be shown below) not vice-versa.

It will emerge later that bare relatives are subject to a number of restrictions, relating both to external syntax and to internal syntax, that do not apply to Wh-relatives and *that*-relatives. The latter two forms, however, appear to be identical with regard to external syntax: Wh- and *that*-relatives can be mixed freely when restrictive relatives are stacked (7a–a''') or conjoined (7b–b'''), and they can be extraposed under apparently the same conditions (7c–c'):

(7) a. the book which I bought which Ann had recommended
   a'. the book that I bought that Ann had recommended
   a''. the book which I bought that Ann had recommended
   a'''. the book that I bought which Ann had recommended
   b. all the books which Ann praised and which Lester ridiculed
   b'. all the books that Ann praised and that Lester ridiculed
   b''. all the books which Ann praised and that Lester ridiculed
   b'''. all the books that Ann praised and which Lester ridiculed
   c. A book appeared which all the critics praised.
   c'. A book appeared that all the critics praised.

Moreover, they share the same gross internal syntax, both consisting of something (the relative expression in the one case, *that* in the other case) that is a

sister of a S that contains a gap, a claim for which arguments will be given later in this section.

Since the *that* of *that*-relatives is neither a relative pronoun nor (obviously) a demonstrative, the most obvious thing to identify it with, if it is not to be something sui generis, is the complementizer *that,* which is what Jespersen (1885 and subsequent works) took it to be. Let us in fact follow Jespersen's proposal, which has the obvious virtues of providing the correct constituent structure (*that* is likewise a left sister of a complement S) and of correctly implying that *that* cannot occur within complex relative expressions the way that relative pronouns can. Since the relative expression of the Wh-relative appears to occupy the same surface position as the *that* of the *that*-relative, a fairly obvious proposal to make, and one that has met with widespread acceptance, is that both Wh-relatives and *that*-relatives have a deep structure containing the complementizer *that* and that in the derivation of Wh-relatives the relative expression is moved into the "Comp position" occupied by *that.* The principal questions that need to be answered in order to convert this suggestion into a real analysis of restrictive relative clauses are: (i) What underlies the relative pronoun? (ii) What is responsible for the gap in the *that*-relative—is an element such as would underlie a relative pronoun simply deleted, or does such an element undergo conversion into a relative pronoun and movement into the Comp position before being deleted? and (iii) What is the relationship of bare relatives to Wh- and *that*-relatives—do they have the same deep structure and undergo deletion of the *that,* or do they not have any *that* in their deep structures (in which case an analog to question (ii) must be answered: what is then responsible for the gap in bare relatives?)?

There are a number of conceivable answers to question (i). In early transformational grammar, a relative pronoun was generally held to be derived from a corresponding "full" NP, such as *the person* in the case of (1a). If "corresponding full constituent" is taken as requiring that the item have the same determiner as the host constituent, that answer can be dismissed as semantically absurd; it would imply, for example, that the S that underlies the relative clause in (8) would correspond to *Hardly any persons voted for Clinton,* even though (8) has nothing to do with the proposition that hardly anyone voted for Clinton:

(8) Hardly any persons who voted for Clinton are happy with his foreign policy.

The only viable version of that answer is one in which "corresponding full NP" is taken to mean *the* or *that* plus a copy of the head N of the host (e.g., here *Those persons voted for Clinton*). However, that version of the first answer differs only insignificantly from a second answer, namely, that a corresponding personal pronoun underlies the relative pronoun: in both cases, the relative pronoun is derived from an anaphoric constituent, and the two answers would differ only with regard to what anaphoric constituent has that special role. A third possible answer would eliminate lexical matter entirely from the constitu-

ent underlying the relative pronoun and would take it as derived from the appropriate referential index. In the remainder of this section, I will treat the third answer as essentially the same as the second; I alert the reader, however, that in §13b a difference between restrictive and nonrestrictive clauses will be taken up that requires that a difference be drawn between an indexed personal pronoun and a bare index. For the moment, though, let us note that relative pronouns count as identical to corresponding personal pronouns in sentence such as (9):

(9) We should nominate a person who is a Republican and is proud of it.

Proud of it here means 'proud (of) that he is a Republican', and if this use of *it* requires a linguistic antecedent (which I wish to maintain), the most plausible candidate for that antecedent is the first conjunct in the structure *[a person [that [[he$_i$ is a Republican] and [he$_i$ is proud that [he$_i$ is a Republican]]]]]$_i$* that will underlie the NP according to the proposal that personal pronouns underlie relative pronouns. In addition, personal pronouns (stretching the term so as to include such words as *there* and *then*) are the counterparts to relative pronouns in paraphrases of relative clauses in terms of the *such that* construction ('the person such that [I talked to him]'; 'the place such that [I found the money there]').

A personal pronoun bears a referential index, either a constant index, if the pronoun has a determinate reference, or a variable index, if the antecedent is a quantified expression that binds the variable in question. The *who* of (9) presumably has as its referential index the variable that is bound by the existential quantifier manifested as *a*, just as the relative pronouns in the following examples presumably bear indices corresponding to the variable that the quantifier binds:

(10) a. Every person who knows Diane admires her.
   b. No person who has studied Sanskrit thinks it is easy.
   c. All concerts at which Mahler symphonies are played are well attended.
   d. Most persons who love their mothers admire their fathers.

However, it is implausible to suggest that the relative pronoun has as antecedent the whole quantified NP that it is contained in; indeed, the only syntactic constituent that could plausibly be an antecedent of the relative pronoun in (9) is the N' to which the relative clause is adjoined. I will accordingly adopt the device of indexing the host N' with the same index that is borne by the pronoun that is to be manifested as the relative pronoun. Where the NP containing the relative clause has a determinate reference, the referential index of the whole NP can be attached as an index to an N' that hosts a restrictive relative. In both cases there will be an [N' S] combination in which the N' bears an index that appears on a pronoun within the S (actually, an [N' Comp'] combination, in view of the conclusion reached below that relative *that* is a Comp), and a pronoun bearing that index will be what underlies the relative pronoun.[2] (There

can be more than one such pronoun, as in (10d), where *he$_x$ loves his$_x$ mother* underlies the relative clause; in such cases, one occurrence of the pronoun is manifested as the relative pronoun, and the other occurrences of it have the relative pronoun as antecedent, subject to the usual restrictions on where pronouns can be in relation to their antecedents.) These decisions then force us to adopt a transformation of **Relative Pronoun Formation**, which applies with an [N' Comp'] combination as its domain, converting a pronoun in the Comp' that bears the index of the N' into a relative pronoun. The transformation, **Relative Wh-movement**, that moves the relative expression into the Comp position of the relative clause will also have the [N' Comp'] combination as its domain, since it too is contingent on identity between the index of the N' and the index of the pronoun.[3] For example, in a structure like (11), the conditions for converting a personal pronoun into a relative pronoun and for moving it into a Comp position are not met in Comp'$_1$, Comp'$_2$, or Comp'$_3$ because the N' whose index determines what item those transformations affect is not within those Comp's:

(11) [$_S$ I'm looking for the man$_i$ [$_{Comp'_1}$ that someone told me [$_{Comp'_2}$ that Ann thinks [$_{Comp'_3}$ that Marcia offered the job to him$_i$]]]]
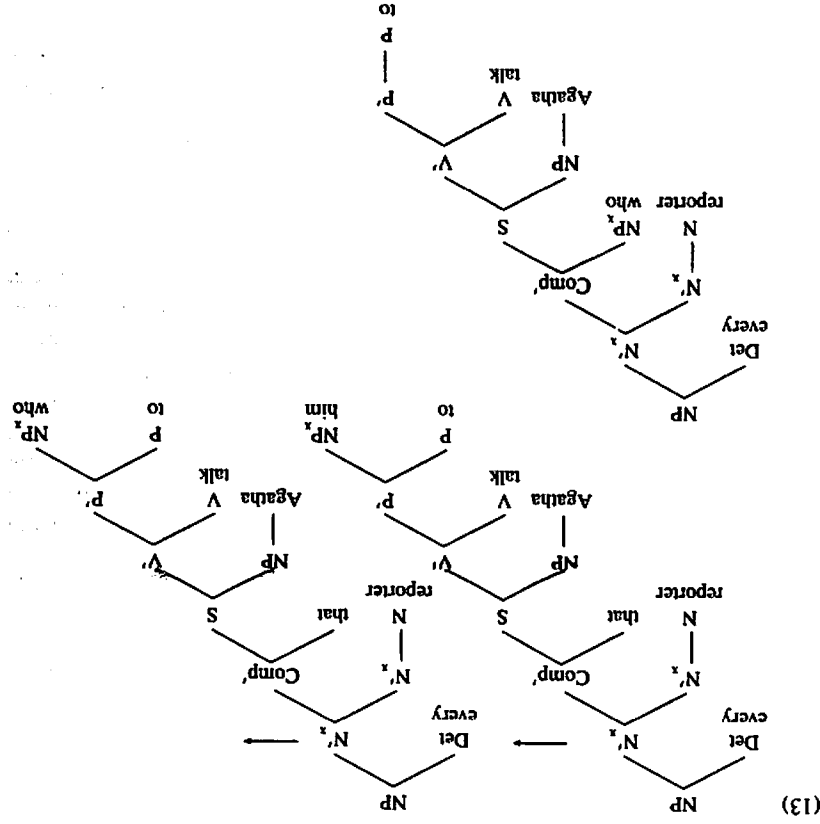
I now turn to question (ii). There are two possible treatments of the gap in *that*-relatives: either the relative pronoun is deleted in situ, that is, without being moved to the front of the relative clause, or the relative pronoun is moved to the Comp position of the relative clause and is deleted from that position. Since deletion of the relative pronoun is supposed to result in retention of the *that*, the latter alternative requires that one take Relative Wh-movement as creating a derived structure in which both the *that* and the relative expression occupy the Comp position, with subsequent derivational steps deleting one or other of them. For example, in the version of this analysis adopted by Chomsky and Lasnik (1977), (12a) goes through an intermediate stage *the person [[who that] I talked to]*, either *who* or *that* can be deleted, and unless at least one of them is deleted, there is a violation of a constraint against a "doubly filled Comp position" in surface structure.

There is little basis for a choice between these two alternatives. An observation that at first glance may appear to require movement rather than deletion in situ is that *that*-relatives are subject to the same "constraints on movement transformations" (to be discussed in §15b) that Wh-relatives are:

(12) a. *the person who/that [you talked to Oscar and a friend of 0]
   b. *the policeman who/that [the FBI is looking for the person who killed 0]
   c. *the reporter who/that [[that John talked to 0] is likely]
   d. *the person who/that [John says that [0 talked to you]]

That is, the possibilities for both types of relative clauses appear to be constrained by restrictions excluding extraction from a coordinate structure (12a), from a dependent S in a NP (12b), from a sentential subject (12c), or from the

subject of a S with a nonempty Comp position (12d). Thus, if the oddity of the *that*-relatives in (12) reflects violation of constraints specifically excluding ex-traction from coordinate structures, then the derivations must involve the same movement of the relative pronoun that gives rise to the unacceptability of the Wh-relatives, and thus the derivation must involve movement rather than de-letion in situ. To give such an argument, however, we must justify the claim that the constraints that are violated in (11) are specific to **movement** transfor-mations, that is, that they do not also apply to deletion transformations. If de-letions as well as movements are subject to these constraints, then both deri-vations account equally well for the unacceptability of (12: *that*). I will in fact eventually argue in §15c that these constraints constrain deletions as well as movements, which means that both versions of the derivation remain worthy of consideration. To simplify the exposition in the remainder of this chapter, I will arbitrarily frame the discussion in terms of deletion in situ, though as far as I know, acceptance of the movement analysis of *that*-relatives would not affect any of the points to be made. The derivations of every reporter *who/that*
Agatha talked to will then be as in (13):

(13)

```
             NP                                    NP
              |                                     |
            N'x  ←  Det                           N'x  ←  Det
           /  |     every                        /  |     every
       Comp'  N'x                            Comp'  N'x
       /  \    |                             /  \    |
    Comp   S   N   that                   Comp   S   N   reporter
           |   reporter                          |
          NPx                                   NPx
         /   \                                 /   \
        N'    V'                              N'    V'
        |    /  \                             |    /  \
     Agatha V    P'                        Agatha V    P'
            |   / \                               |   / \
          talk P   NPx                          talk P   NPx
               |                                     |
               to   who                              to   him
```

I now take up the question (iii) of whether bare relatives are simply *that*-relatives whose *that* is deleted. Bare relatives do not have exactly the same external syntax that Wh- and *that*-relatives do. When relative clauses are stacked, the innermost relative clause can be bare, but the subsequent ones cannot:

(14) a.   The book that I bought that Ann had recommended was boring.
a'. The book I bought that Ann had recommended was boring.
a''. *The book that I bought Ann had recommended was boring.

While Wh- and *that*-relatives can be extraposed fairly freely, extraposition of bare relatives generally results in low acceptability, though they are occasion-ally attested:

(15) a.   John looked up the information (that) Mary had requested.
a'. John looked up the information that/*Ø Mary had requested. (Culicover 1976:
20)
b.   Where did the pencil go you sharpened yesterday? ("Hi and Lois," March
1990)

One well-known restriction on internal syntax that applies only to bare relatives is that the gap may not be the main subject of the relative clause:[4]

(16) a.   the person who/that/*Ø was talking to me
b.   the assumption which/that/*Ø makes his conclusion plausible

Various authors (Culicover 1976, Harris and Vincent 1980, Weisler 1980) have noted an additional restriction on internal syntax, namely that a bare relative cannot begin with an ad-S, nor indeed (in view of the preceding restriction) with anything other than its subject:

(17) I discovered the criteria that/*Ø evidently I had not been meeting. (Harris and
Vincent 1980:805)

These differences have been taken by Weisler as evidence that bare relative clauses do not have any complementizer. However, I see no connection be-tween that conclusion and the above facts, since the behavior of bare relatives noted here is not parallel to that of other clause types that lack a complemen-tizer. For example, finite complements without *that* normally can be extraposed and can have an ad-S before the subject:

(18) a.   It's obvious to me (that) John's lying.
b.   Agnes said (that) until recently the food here was great.
b'. I hope (that) some time soon you'll visit us.

Since the examples in (14), (15), and (17) in which bare relatives are of low acceptability (and also the examples in (16)), though in many varieties of En-glish they are acceptable, cf. n. 4) begin with material that provides no signal that it is to be interpreted as part of a relative clause rather than of the higher clause, the source of their lowered acceptability may be in processing diffcul-

ties that they create, though I must emphasize that one is not entitled to conclude that that is why they sound so bad unless one has shown how an otherwise well-motivated processing scheme would encounter difficulties (such as overloads of short-term memory) with the deviant examples that it would avoid in the normal-sounding examples. I will thus adopt a treatment of bare relatives in which they have the same deep structure as Wh- and *that*-relatives but undergo deletion of *that*, on the grounds that the case for an analysis in which they have no complementizer at all is too weak to justify the difference in deep structure that Weisler and others have proposed.

I turn now to the internal structure of restrictive relative clauses. Only two answers to the question of how the relative expression (e.g., *for whose sake*) or the *that* fits into the constituent structure of a relative clause have been seriously advanced: that the relative expression or the *that* is a sister of the NP and V' of the relative clause (19a) or that it is their aunt (19b):

(19) a.

b.
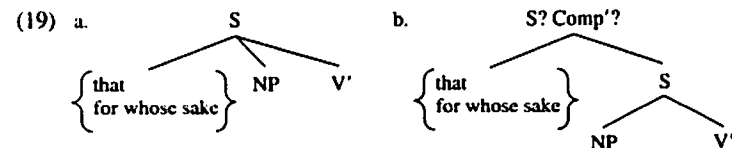
The relevant evidence relates to phenomena where the NP and V' could function as a unit that did not include the *that* or relative expression. For example, we can argue that restrictive relative clauses have a structure as in (19b) rather than (19a) (a similar argument can be given for nonrestrictive clauses) on the grounds that the NP V' sequence behaves as a unit with regard to conjoining:

(20) a. The book which/that [[Smith praised] and [Jones panned]] is on the best-seller list.
  b. A person about whom [[conservatives publish denunciations] and [liberals express serious misgivings]] can't be all bad.

Likewise, the NP and V' of a restrictive relative behave like a unit with regard to Right-node-raising:

(21) The reasons for which and the considerations despite which Wilson called for a declaration of war are poorly understood.

We can thus say with confidence that the surface constituent structure of restrictive relatives is as in (19b).

The gap in a relative clause of any of the three types can be arbitrarily far down in the relative clause:

(22) a. the person who/that/Ø [you talked to Ø]
  b. the person who/that/Ø [John says that [you talked to Ø]]
  c. the person who/that/Ø [they tell me that [John says that [you talked to Ø]]]
(23) a. the city where [the meeting was held Ø]
  b. the city where [it's likely that [the meeting was held Ø]]
  c. the city where [I read somewhere that [it's likely that [the meeting was held Ø]]]

  d. the city where [Violet tells me that [she read somewhere that [it's likely that [the meeting was held Ø]]]]

This is of course not to say that just any position in a relative clause can be the site of the gap corresponding to the relative expression, in view of the restrictions that were noted in connection with (12).

The material that is moved into the Comp position of a relative clause may consist of more than just a relative pronoun:

(24) a. the cook from whom I learned this recipe
  b. the author whose book Joan is reviewing
  c. the poet from whose best-known work I selected that passage
  d. an author most of whose works are completely forgotten
  e. an opera the last three bars of the overture of which contain a fiendishly difficult horn part.

Such examples illustrate a general property of movement transformations, namely, that movement of an item is allowed to affect not merely the item itself but a NP or P' containing it. This phenomenon is referred to as **pied-piping**, to use the term coined by Robin Lakoff (cited in Ross 1967a), in which the item whose movement is called for (here, the relative pronoun) is likened to the Pied-Piper of Hamlin and the material with which it is combined to the rats and/or children. Pied-piping is strictly speaking optional, with the caveat that what is left behind must be able to stand on its own, and thus the option of not doing pied-piping is excluded when the relative pronoun is part of the determiner of a NP:

(25) a. the cook who I learned this recipe from.
  b. *the author [who [Joan is reviewing Ø's latest book]]
 b'. *the author [whose [Joan is reviewing Ø latest book]]

It was argued in §12a that a restrictive relative clause fits into a constituent structure in which it modifies an N'; this is one of the numerous respects in which nonrestrictive relatives will be shown in §13b to differ from restrictive relatives. The structure with the restrictive relative modifying an N' yields the correct prediction that restrictive relative clauses can be stacked, since there is nothing to prevent the N' of an [ₙ· N' Comp'] configuration from itself having the form N' Comp':

(26)
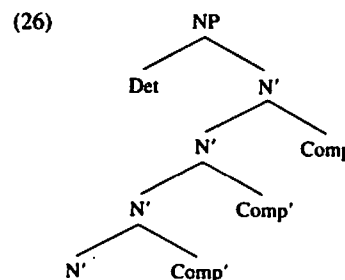
Examples like (27) seem at first to argue that a restrictive relative clause is not a modifier of an N' but is rather attached to a constituent made up of Det and N':

(27) Most linguists and nearly all anthropologists who teach at American universities think the Bureau of Indian Affairs is imperialistic.

However, (27) can alternatively be viewed as the result of applying Right-node-raising to a conjoined NP in which both N's have identical restrictive relatives, in which case (27) would have a derivation as in (28):[5]

(28)
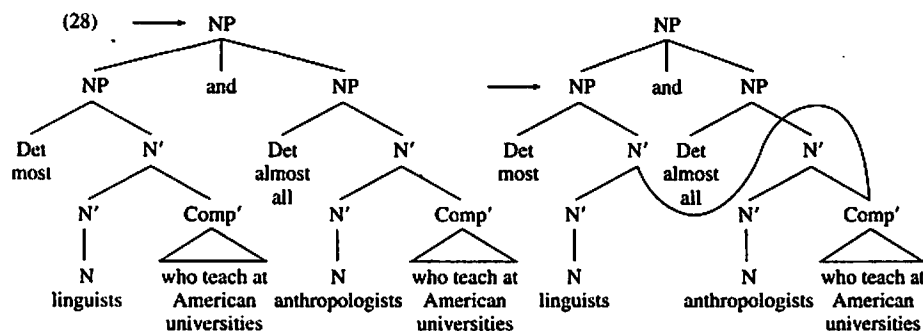
Since the underlying structure posited in (28) fits the meaning of (27) and since the derivation in (28) is available at no cost, a satisfactory account of (27) is available without the positing of any configuration besides [_N' N' Comp'] for restrictive relative clauses.

A more serious problem for an analysis of restrictive clauses as adjuncts to N's is that they can occur in combination with words such as *someone, anything, nobody,* and *who* that appear to be not N's but whole NPs:

(29) a. I've just run into someone that I hadn't seen for years.
  b. Anything that you can do will be appreciated.
  c. Nobody who has ever met John can believe that he's guilty.
  d. Who that you know would make a good candidate?
(30) a. *I've just run into an interesting someone.
  b. *I couldn't find a satisfactory anything.
  c. *The most respected nobody in Scarsdale has just had a heart attack.[6]
  d. *An incompetent who did you ask for help?

If, as many syntacticians assume, each word of a sentence must be a constituent in surface structure, then the relative clauses in (29) cannot be adjuncts to an N', since the smallest constituents to which they could be adjuncts would then be NPs (*someone,* etc.). However, if we allow mismatches between syntactic boundaries and word boundaries, we can treat *someone, anything, nobody, everywhere,* and the like as consisting of a Det (*some-, any-, no-, every-*) and an

N' (*-one, -thing, -body, -where, -time,* . . .) and treat the restrictive clause as an adjunct to that N':

(31)
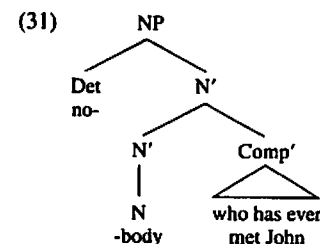
The determiner part of these words is in fact synonymous with the corresponding independent determiner,[7] and the noun part, while generally different in meaning from the homophonous independent word (e.g., the *-body* of *somebody* means 'person', not 'body'), can still be paraphrased by a noun.

In the case of *who* and other interrogative pronouns (29d), the cost of maintaining the N'-adjunct analysis of restrictive relatives would be to allow a mismatch not only between syntactic boundaries and word boundaries but indeed between syntactic boundaries and morphemic boundaries: *who, what,* and the rest would have to be decomposed into parts that do not correspond to separate morphemes in surface structure (32a); such a treatment of interrogative pronouns should not be dismissed out of hand, since something similar will be needed anyway for certain *any-* and *no-* words that likewise fail to split into morphemes in the neat way that *anything* and *nobody* do (32b):

(32) a.

  b. ever = *any- + -times
    never = *no- + -times
    nothing [nəθiŋ] = *no- [no] + -thing
    (dialectal) naught = *no- + -thing

Before deciding to accept or reject such an analysis, however, let us first check how far the parallelism between interrogative words and the various *every-, any-, some-,* and *no-* words goes. I have in fact exaggerated in reporting (29d) as acceptable: there is considerable individual variation in speakers' judgments of the acceptability of examples in which a restrictive relative follows an interrogative word, as contrasted with nearly unanimous total acceptance of examples as in (29a–c) in which an "indefinite" pronoun is followed by a

restrictive relative. "Indefinite" pronouns allow the full range of reduced relative clauses, whereas combinations of an interrogative pronoun with a reduced relative are generally substantially reduced in acceptability (33a', b', c'), and while indefinite pronouns can be combined with all three forms of finite restrictive relatives, interrogative pronouns can only be combined with *that*-relatives (33d–d'):

(33) a.   Someone tall should be cast as Hamlet.
    a'.   ??Who tall can we get to play Hamlet?
    b.   Try something odd as a value of *x*.
    b'.   ??What odd have you tried as a value of *x*?
    · c.   Someone carrying a black briefcase has the bomb.
    c'.   ??Who carrying a black briefcase do you think has the bomb?
    d.   Someone who/that/∅ I know is going to meet me.
    d'.   Who that/*who/*∅ you know would be able to meet you?

I suggest that the difference between the morphological transparency of *someone* and the like and the morphological opacity of the interrogative pronouns is responsible for the ability of the former but not the latter to host reduced relative clauses, for the fact that full relative clauses are uniformly accepted with indefinite pronouns but are accepted with interrogatives only by certain speakers and with great individual variation, and for the fact that indefinite pronouns display the usual range of forms for finite relative clauses, while interrogative pronouns allow only one of those forms. If, as has been argued here, restrictive relative clauses are hosted by N's, then the indefinite pronouns contribute an element (*-one, -body, -where*, etc.) to surface structure that can serve as the host of a restrictive relative, whereas interrogative pronouns do not contain a determinate surface N' to serve as a surface host for a restrictive relative. I emphasize, though, that this point relates to surface structure, not to deep structure, and in view of the accuracy of paraphrases of the interrogative pronouns in the form Det + N (*who* = 'what person(s)', *what* = 'what thing(s)', *where* = 'what place(s)'), I will in fact assume that in deep structure, interrogative pronouns are completely parallel to indefinite pronouns.

I maintain that the variable acceptability of examples such as (29d) is due to what I refer to in §22c as a **patch**, that is, a strategy for extending a mental grammar so as to provide for ways of expressing deep structures that would otherwise not correspond to any surface structure in a way that conforms to the grammar (as here, where (29d) will have a well-formed deep structure irrespective of the acceptability of its surface form). Patches have the following characteristics: (1) they are no more general than they need to be in order to provide surface forms for a class of deep structures that otherwise would not correspond to any acceptable surface forms, and, consequently, forms derived by patches normally do not allow the options that similar syntactic structures normally do, and (2) they arise sporadically and accordingly are subject to considerable individual variation. Combinations of interrogative pronoun and

restrictive relative exhibit these characteristics: the restrictive relative is generally limited to the *that*-relative form, and the acceptability of even that form is much more variable than that of corresponding relative clauses attached to indefinite pronouns.

There are in fact a few modifiers that can appear in surface combinations with interrogative words that parallel combinations with indefinite pronouns (34a–c), and one of them can even combine with an interrogative word whose indefinite counterpart does not allow it (34d):[8]

(34) a.   Everything else is forbidden.
       What else is forbidden?
       *Several activities else are forbidden.
    b.   He found something/*someone of yours.
       What/*Who did he find of yours?
    c.   Where in London can you get authentic Burmese food?
       Somewhere in London you can get authentic Burmese food.
    d.   How else could you fix it?
       *I'll fix it somehow else.

I will leave unresolved the question of how to prevent the account of the difference between *who* and *someone* suggested here from incorrectly ruling out the acceptable sentences in (34).

I turn now to **infinitival relatives**, which I regard as nonfinite counterparts of the finite restrictive relatives that have been considered so far. For most speakers, infinitival relatives allow an overt relative expression only in the form of a prepositional phrase:

(35) a.   a shovel with which to dig the hole
    a'.   a hole (*which) to fill with earth
    b.   a person to whom to show respect
    b'.   a person (*who) to respect
    c.   a day on which to relax
    c'.   a day (*when) to relax
    d.   premises from which to draw interesting conclusions
    d'.   premises (*which) to draw interesting conclusions from
    e.   %an author whose books to buy

I have used parentheses in (35) to suggest that infinitival relatives with no overt relative expression take the place of structures involving a full relative clause with a relative pronoun as the relative expression. This conjecture is supported by the fact that infinitival relatives without an overt relative expression exhibit the same sorts of "incomplete constituents" as do full relative clauses and have interpretations parallel to expressions in which a relative pronoun corresponds to the "gap":

(36) a.   a shovel to dig the hole with ∅
    a'.   a shovel which you can dig the hole with ∅

b. the person to give the money to Ø

b′. the person who you should give the money to Ø

c. a topic to write an article about Ø

c′. a topic which I can write an article about Ø

Infinitival relatives without an overt relative expression, but not those with one, allow *for* plus a subject NP:

(37) a.   a shovel for us to dig the hole with

a′.   *a shovel with which for us to dig the hole

b.   the person for you to give the money to

b′. *the person to whom for you to give the money

c.   a topic for the students to write papers on

c′. *a topic on which for the students to write papers

However, an underlying subject must be posited even for subjectless infinitival relatives, since they can take forms whose derivations require the positing of a S to serve as the domain of application for such transformations as Passive and Raising:

(38) a.   a priest (for us) to be blessed by

a′.   a priest by whom to be blessed

b.   a problem (for us) to start working on

b′.   a problem on which to start working

The combination of N′ and infinitival relative (of any of the above forms) behaves as a constituent:

(39) a.   John bought several [[books for his wife to read] and [records for the children to listen to]].

b.   John bought several [[knives with which to slice vegetables] and [containers in which to store leftovers]].

Indeed, infinitival relatives share many of the properties of restrictive relatives: they can be extraposed (40a–a′), they can be stacked, both with other infinitival relatives and with finite restrictive relatives (40b–b″, c–c″), and they do not allow relative expressions containing *which N* (40d):

(40) a.   A knife has been developed with which to peel grapes.

a′.   A knife has been developed for people to peel grapes with.

b.   I've just found a pad to write on on which to compose my sonnet.

b′.   I've found a pad to write on that I can use for taking my notes.

b″. I've found a pad that has extra-narrow rulings for Alice to take her notes on.

c.   There are several topics on which to do research for us to work on.

c′.   Here's a topic on which to do research that the Bargle Foundation is likely to support.

c″.   Here's a topic that the Bargle Foundation is likely to support on which to do research.

d.   *John was looking for a hammer with which tool to break open the coconut.

One characteristic of restrictive relatives that infinitival relatives obviously do not share is the possibility of having *that* in place of a relative expression. But that is not surprising, since infinitival relatives have the form not of (finite) *that*-clauses but that of *for-to* complements. If finite restrictive relatives have an underlying *that* complementizer, the most plausible way to distinguish between finite and infinitival restrictives in deep structure is to hypothesize that they have different complementizers: *that* in the finite relative and *for-to* in the infinitival relative. We can then generalize the treatment of finite relatives given above by saying that relative expressions either replace the complementizer or are deleted, irrespective of what the complementizer of the relative clause is.

Movement of a relative expression such as *to whom* to the front of the relative clause puts it in place of the complementizer (regardless of whether *that* or *for-to* is the underlying complementizer) and thus leaves no complementizer in the surface form. The proposal accounts for the unacceptability of examples like (37a′, b′, c′), in which *for* cooccurs with a relative expression, but does not in itself account for why there are no corresponding expressions (such as **a shovel with which us to dig the hole*) that simply lack the *for*. I will adopt this proposal, noting that it must be supplemented by some account of why simple relative expressions are excluded (**a book which to read*) and why presence of an overt relative expression in an infinitival relative requires absence of an overt subject.

I return now to finite restrictive relatives and some problems not covered above. The derivations sketched above satisfactorily cover quantified and referential NPs. Let us see whether they are also applicable to NPs in predicate position. One way of extending the analysis to relative clauses on predicate NPs would be to follow the lead of Quine (1960:118), who treats the indefinite article of a predicate NP as a quantifier; for example, he treats (41a) as having a logical form like (41b):

(41) a.   John is a lawyer.

b.   (For some lawyer x)(John = x)

I find that proposal counterintuitive because it reverses the roles of the semantic constituents of the sentence: It treats (41a) as if it said how John fits into the class of lawyers rather than how lawyerhood applies to John. Furthermore, while quantified NPs can enter into scope relations with other elements of a sentence, predicate NPs cannot; for example, while (42a) allows an interpretation (42a′) in which the negation is in the scope of *a friend of mine*, (42b) does not, that is, it does not allow an interpretation 'There is a friend of mine that John is not' (= 'I have a friend other than John'):

(42) a. John didn't talk to a friend of mine (, namely Bert).

a'. (a friend of mine), not (John talked to y) (= 'There is a friend of mine that John didn't talk to')

b. John isn't a friend of mine (*, namely Bert).

I thus wish to treat the articles of predicate NPs as not corresponding to quantifiers; indeed, I would claim that they are semantically empty. There are a number of ways in which this might be done within the framework being developed here. The first is to treat the predicate NPs of such sentences as (43a) as having a deep structure with a variable index (43b), as in the case of non-predicate NPs, treat the N' as denoting a property (here, the property of being a lawyer who wins every case), and treat the predicate NP as a whole as not bearing any index:

(43) a. John is a lawyer who wins every case.

b.
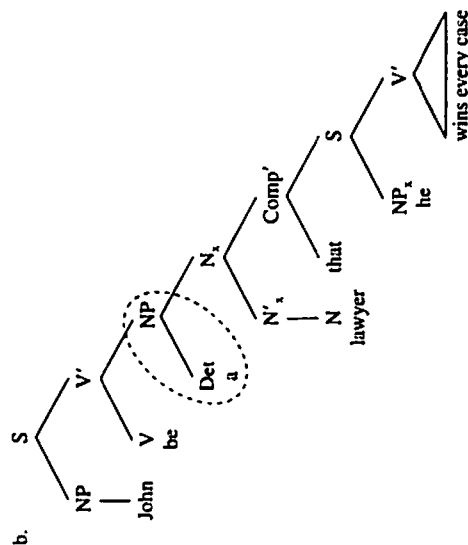
A second possibility, actually a fairly minor variant of the first, is to omit the part of (43b) in the dotted circle, that is, to treat the article as absent entirely from the deep structure (thus in deep structure there is a predicate N' but no predicate NP); in this variant, no stipulation need be made that the predicate NP bears no index (since in deep structure there is no predicate NP to bear an index), and a transformation inserting an article in otherwise articleless NPs must be posited.⁹ I will in fact assume this second proposal in the remainder of this book.¹⁰

Besides gaps in relative clauses, English allows to a limited extent the use of a **resumptive pronoun**, that is, a pronoun occupying the position that a relative pronoun would occupy prior to its being moved into Comp position:

(44) a. the guy who they don't know whether *he* wants to come

b. the lawyer who *he* and his wife had dinner here last night

c. a student who I can't make any sense out of the papers that *he* writes

d. the author who Joan is reviewing *his* latest book

While such relative clauses are fairly marginal in English, they constitute a normal type of relative clause in a number of languages (e.g., Arabic; cf. Keenan and Comrie 1977, 1979).

Kroch (1981) notes that the vast bulk of the attestations of resumptive pronouns in English are in examples in which, as in (45), a "normal" relative clause would violate one or other of the constraints alluded to above:

(45) a. *the guy who they don't know whether ∅ wants to come

b. *the lawyer who ∅ and his wife had dinner here last night

c. *a student who I can't make any sense out of the papers that ∅ writes

Where normal relative clauses are available, Kroch notes, corresponding sentences with a resumptive pronoun generally sound very odd:

(46) a. She's the only woman here that I know ∅/*her well.

b. The student that ∅/*he got the highest score solved the hardest problems.

Kroch argues that English sentences with resumptive pronouns are strictly speaking not "grammatical" but reflect a trick that we employ in order to complete sentences that we may begin but which our grammars do not in themselves provide us with any way of completing.

Resumptive pronouns appear always to correspond to a relative **pronoun**, not to a larger relative expression containing the relative pronoun:

(47) a. the actress who Tom wondered whether her father is rich

a'. *the actress whose father Tom wondered whether *he* is rich

b. the senator who the *Times* has just published the report that protests against *him* have been lodged

b'. *the senator protests against whom the *Times* has published the report that *they* have been lodged

This observation provides an additional, though weak, argument that a relative pronoun corresponds to an underlying personal pronoun. Suppose one makes the (not at all obvious) assumption that the patches by which one extends the coverage of a grammar are restricted to units that figure in the underlying and surface forms of normal instances of the construction in question. Then if personal pronouns underlie all relative pronouns, a patch that retains the personal pronoun underlying a relative pronoun would be possible, but a patch that introduces a new personal pronoun would not; the former sort of patch would suffice to derive (47a, b), whereas it would take a patch of the latter type (i.e., one that inserts *he* or *they* in place of *her father* or *protests against them* as a concomitant to the movement of those expressions into Comp position) to provide "derivations" for (47a', b').¹¹ See §22c for a more protracted discussion of patches.

One final question worth discussing in this overview of the syntax of restrictive clauses relates to cases in which the "relativized" constituent is the subject:

(48) The person who/that bought this car is a millionaire.

In such examples, the *that* or relative expression is followed not by a NP V' sequence but just by a V', and one accordingly has reason to ask whether the V' counts as a S in the syntax.

The V' is the surface counterpart of a proposition and is thus a S with regard to semantics; it also has the external syntax of a S (it combines with a Comp into a Comp'), though it has lost the internal syntax of a S (unlike relative clauses in which nonsubjects are relativized, where the S remains of the form [NP V']). The most obvious test of whether the V' that follows the relative expression still counts as a S is to see whether it can be conjoined with a S in which a nonsubject is relativized:

(49) a. the book which appeared last year and Smith reviewed for the *Post*
    b. *the book which Smith reviewed for the *Post* and won a Pulitzer Prize

If the V' in *the book which appeared last year* or *the book which won a Pulitzer Prize* counts as a S, it should be conjoinable with Ss having the same semantic function. The acceptability of such examples depends heavily on the order of the conjuncts: they are at most mildly odd when the "subject relative" is the first conjunct, as in (49a), but quite unacceptable when it is the second conjunct, as in (49b). The fact that the order of conjuncts makes such a difference leads me to conjecture that the unacceptability of (49b) is due not to the conjoining of items of different categories (a characteristic in which it is no different from (49a)) but from the perceptual difficulty caused by the fact that *won a Pulitzer Prize* in (49b) looks as if it is conjoined with the preceding V' while its meaning requires that it be conjoined with the S. These observations suggest in addition that the requirement that the conjuncts of a coordinate structure be of the same category is sensitive to the semantic and external syntactic dimensions of category membership, but not to internal syntax.

A further respect in which the V' that follows a subject relative pronoun behaves like a S is illustrated by examples such as (50a), in which the relative pronoun is followed by a constituent that can be a left modifier of a S but not of a V':

(50) a. a person who for years has been harassing me
    b. ??He for years has been harassing me.
    b'. For years he has been harassing me.

Examples such as (50a) show that the so-called vacuous Wh-movement of subject relative pronouns is not in general vacuous: the relative pronoun in (50a) is moved from below the S-modifier to above it. I will thus tentatively take examples like (48) to have a (19b) surface structure, with the V' making up a surface S.

b. Nonrestrictive Relatives

Nonrestrictive relative clauses in English differ from restrictive relatives in quite a large number of ways. First, three differences in their internal syntax:

(i) Restrictive clauses allow the option of having *that* or 0 in place of a relative expression, but nonrestrictive clauses do not:

(1) a. The person who/that/0 John asked 0 for help thinks John is an idiot.
    b. Mary, who/??that/*0 John asked 0 for help, thinks John is an idiot.

(ii) Nonrestrictive clauses, but not restrictive clauses, allow the relative expression to have its own head noun:

(2) a. William Allen White spent virtually his entire life as publisher and editor of the Emporia (Kansas) *Gazette*, from <u>which unlikely spot</u> he radiated an enormous influence on both journalism and politics. (H. L. Mencken, *Diary*, editor's note)
    b. The small town from which (*unlikely spot) White radiated an enormous influence was in Kansas.

(iii) Only restrictive relatives have an infinitival form:

(3) a. I'll introduce you to the person to whom to send your receipts.
    b. *This is Fred Horner, to whom to send your receipts.

(iv) As Postal (1994) notes, NP positions that, for one reason or another, cannot be filled by a pronoun, likewise cannot be the underlying position for the relative pronoun of a nonrestrictive relative, whereas the relative pronoun in restrictive relatives does not reflect these diverse restrictions on pronouns:

(4) a. *Mary's car was painted yellow, and Bill's car was painted it/that too.
    a'. *I can't stand the color yellow, which Bill painted his car.
    a". I can't stand the color which/that Bill painted his car.
    b. *Janet was born in Spain, and Alice was born in it too.
    b'. *Spain, which Alice was born in, has become very prosperous.
    b". The country which/that Alice was born in has become very prosperous.
    c. *They wanted to touch him on the left arm and they did touch him on it.
    c'. *His left arm, which I touched him on, felt feverish.
    c". The arm that I touched him on felt feverish.

(v) Unlike restrictive relative clauses, for which the N' + S combination behaves like a syntactic constituent, combinations of N' and nonrestrictive clause do not pass any tests for being constituents. Specifically, while an N' plus a restrictive relative can be deleted or replaced by *one* under the conditions under which repeated N's allow those options, and can be conjoined with an N', an N' plus a nonrestrictive clause cannot:

(5) a. Tom has a <u>violin which once belonged to Heifetz</u>, and Jane has one too.
    a'. Tom has a violin, which once belonged to Heifetz, and Jane has one too.

b. Tom has the <u>violin which once belonged to Heifetz</u> that was auctioned at Sotheby Parke Bernet, and Jane has the one that the Philharmonic used as a raffle prize.

c. Some violins that have been owned by famous performers and flutes that were played by Frederick the Great are going to be sold at auction.

c'. *Those violins, which were made by Cremonese masters, and pianos, which were made in nineteenth-century Paris, are expected to fetch high prices.

In (5a), the pronominalized or deleted material (depending on whether *one* here replaces a repeated N' or is the "strong" form that *a* takes when its N' is deleted; cf. chap. 11, exercise 14) is *violin that once belonged to Heifetz;* by contrast, in (5a') it can only be *violin,* that is, (5a') can only mean '. . . and Jane has a violin too', not '. . . and Jane has a violin, which once belonged to Heifetz, too'. Similarly, in (5b) *one* replaces *violin that once belonged to Heifetz.* This fact provides evidence that while restrictive relative constructions have a surface structure as in (6a), with an N' and a restrictive relative clause making up a larger N', those with a nonrestrictive clause have some other constituent structure in which, as in the possibilities listed in (6b'–b"), the N' and the nonrestrictive clause do not make up an N':

(6) a.

b.
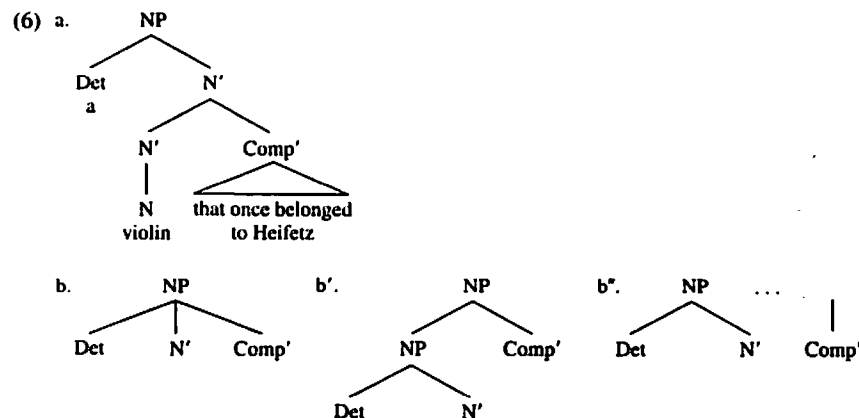
Later in this section we will attempt to find facts that will provide a basis for a choice among the alternatives in (6b–b") for the surface constituent structure of NPs with a nonrestrictive clause. I emphasize that (6b"), in which the NP and the nonrestrictive clause do not even make up a constituent, must be considered seriously, that is, we have as yet no justification for believing that a nonrestrictive clause is a constituent of a NP. There is some sort of syntactic relationship between a nonrestrictive clause and its **target** (as I will henceforth refer to the item that a nonrestrictive clause "modifies"; I say "target" rather than "host," since it proves more useful to reserve "host" for the S within which the nonrestrictive clause appears), but we must not jump to the conclusion that that relationship is manifested in constituent structure, and I will shortly argue that it is not.

Besides (iv)–(v), there are several additional differences in the external syntax of the two kinds of relative clause:

(vi) Only restrictive clauses can be combined with quantified expressions:

(7) a. Everyone who attended the party had a good time.

a'. *Everyone, who attended the party, had a good time.

b. Someone who admires Jespersen should write a book about him.

b'. *Someone, who admires Jespersen, should write a book about him.

(vii) Restrictive clauses can be combined only with N's, whereas nonrestrictive clauses can be combined with Comp's, V's, or A's, or with proper nouns: [12]

(8) a. John told me <u>that Mary's operation was successful</u>, which I was relieved to hear.

b. It says in this book <u>that George Washington was gay</u>, which I think is a lie.

(9) a. Mary has <u>climbed Mount Fuji</u>, which John has too.

b. John <u>looks like Richard Nixon</u>, which my uncle does too.

(10) a. Fred is <u>very confident of himself</u>, which I am not.

b. Vivian is <u>more interested in zoology than I am</u>, which you probably are too.

(11) a. <u>Fred Schwartz</u>, who was playing the harp when you came in, has just been hired at Stanford.

b. Agnes has just moved to <u>Donora</u>, where Stan Musial grew up.

(viii) Restrictive but not nonrestrictive clauses can be extraposed:

(12) a. A man who was dressed in black walked in.

a'. A man walked in who was dressed in black.

·b. Marcia, who you wanted to meet, has just arrived.

b'. *Marcia has just arrived, who you wanted to meet.

(ix) Restrictive clauses can be "stacked" freely, but the stacking of nonrestrictive clauses substantially reduces acceptability: [13]

(13) a. The student who took the qualifying exam who failed it wants to retake it.

b. ??Sam Bronowski, who took the qualifying exam, who failed it, wants to retake it.

(x) Subject to a qualification that will be taken up in connection with (28), when restrictive and nonrestrictive clauses are attached to the same NP, the restrictive clause(s) must precede the nonrestrictive clause:

(14) a. The contestant who won first prize, who is the judge's brother-in-law, sang dreadfully. .

b. *The contestant, who is the judge's brother-in-law, who won first prize sang dreadfully.

(xi) Only nonrestrictive clauses can host interrogative tags:

(15) a. Marcia, who you wanted to meet, didn't you?, has just arrived.

b. *The violin on which Heifetz recorded the Elgar concerto, didn't he?, has been donated to the Smithsonian Institution.

There is one clear phonological difference between the two kinds of relative clause. (xii) A nonrestrictive clause, but not a restrictive clause, takes "comma intonation": the nonrestrictive clause is separated from the preceding and following material by pauses, or at least delays, and the nonrestrictive clause ends on a falling pitch, after which the pitch level of the host sentence is resumed.

Finally, here are two differences in their semantics:

(xiii) The relative pronoun of a nonrestrictive clause on a predicate NP is interpreted differently from that of a restrictive clause in a predicate NP:

(16) a. John is a lawyer who/*which wins every case.

    b. John is a lawyer, which/*who his father is too.

The relative pronoun of the restrictive clause refers to the subject of the predicate NP (i.e., the relative clause in (16a) expresses the proposition that John wins every case), while the relative pronoun of the nonrestrictive clause refers to the property expressed by the predicate noun (i.e., the nonrestrictive clause of (16b) says that John's father is a lawyer, not that he is John).

(xiv) A nonrestrictive clause accomplishes a separate **speech act** from the sentence in which it appears. For example, in (17a) the nonrestrictive clause is not part of the request for information but rather a reminder that one offers in the middle of making that request, and in (17b) the nonrestrictive clause is not part of the order but a separate act of informing that one carries out in the course of giving the order:

(17) a. Has John, who was talking to Mary a minute ago, gone home?

    b. Put the turkey, which is in the refrigerator, in the oven.

Indeed, to a large extent, sentences with nonrestrictive clauses are interchangeable with sequences of sentences, one of which accomplishes the sort of speech act (reminding, giving incidental information) that can be accomplished with nonrestrictive clauses:

(18) a. Has John gone home? He was talking to Mary a minute ago.

   b. Put the turkey in the oven. It's in the refrigerator.

Let us return to the question of how nonrestrictive clauses fit into constituent structure. The selection of possible constituent structures given in (6) is misleading because of the gratuitously central role that it accorded to the category NP. Recall that while restrictive clauses are always associated with a NP, the target of a nonrestrictive clause can be a constituent that is neither a NP nor contained in a NP ((8)–(10)). Thus, if nonrestrictive clauses are to fit into surface constituent structure in a uniform way, their role in relation to NPs in examples like *your father, who I admire* should not involve any structural details of NPs that are not shared by other types of constituents that can support nonrestrictive clauses. This observation provides additional reason for rejecting a structure like (6a) for nonrestrictive clauses and casts doubt on (6b). By

contrast, (6b'–b") are instances of more general structural configurations that are not restricted to NPs: (6b') would conform to a treatment of nonrestrictive clauses as modifiers, that is, as always fitting into an $[_x$ X Comp'$]$ configuration, with NP being only one of several categories that could fill the role of "X," and (6b") would conform to a treatment in which a nonrestrictive clause was positioned after but not adjoined to a constituent of any category that supports nonrestrictive clauses.

The fact that combinations of target and nonrestrictive clause can appear in predicate position in cleft and pseudo-cleft sentences seems at first to suggest a constituent structure like (6b') in which the nonrestrictive clause and its target make up a constituent:

(19) a. It was Fred, who you met at my party, that I was just talking to on the phone.

    b. What Mary likes the most is dancing, which unfortunately doesn't appeal to Roger at all.

However, the acceptability of sentences like (19) is also consistent with the (6b") structure, since under (6b") the sequence "target + nonrestrictive clause" need not be the predicate constituent in (19): the target could be just the predicate constituent and be followed by a nonrestrictive clause just the way that (according to (6b")) nonrestrictive clauses follow but are not adjuncts to their targets. For example, suppose that nonrestrictive clauses are adjuncts to the whole sentence and that they are moved, without change of constituent structure, to a position immediately following the target:[14]

(20)
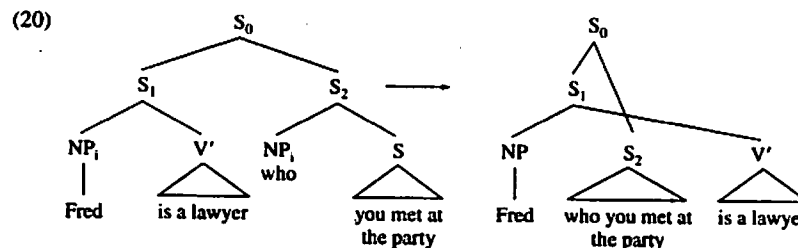
Suppose now that instead of S_1 in (20) we have whatever underlies the cleft sentence *It was Fred that I was just talking to.* Whatever rules are involved in the derivation of the cleft sentence will apply on the S_1 cycle, yielding a derived structure with *Fred* in predicate position, and on the S_0 cycle the rule that positions nonrestrictive clauses applies, moving the nonrestrictive clause to the position immediately following *Fred* exactly the way that it does in derivations such as (20).

A fact that supports a (6b") constituent structure as in (20), with the nonrestrictive clause not even part of the same clause as the target, is that a nonrestrictive clause is ignored in the interpretation of a zero V' whose antecedent has a nonrestrictive clause between its parts:

(21) a. John sold Mary, who had offered him $600 an ounce, a pound of gold, and Arthur did Ø too.

b. John sold a violin, which had once belonged to Nathan Milstein, to Itzhak Perlman, and Mary did Ø too.

In (21a) the understood V' is *sell Mary a pound of gold*, not *sell Mary, who had offered him $600 an ounce, a pound of gold*, and in (21b) it is *sell a violin to Itzhak Perlman*, not *sell a violin, which had once belonged to Nathan Milstein, to Itzhak Perlman*. The zero V's are thus being interpreted as if the nonrestrictive clause is not a part of the antecedent V' that it is in the middle of, as in (22):

(22)
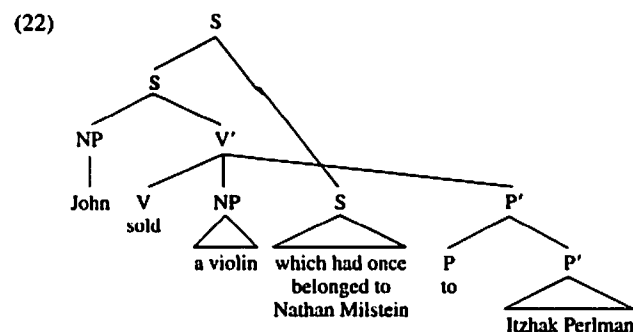
These observations suggest an analysis of nonrestrictive clauses along the following lines: (i) in deep structure the host S and the nonrestrictive clause are separate from one another; (ii) the coreferential item in the nonrestrictive clause is replaced by a corresponding relative expression (e.g., *he* is replaced by *who* and *that unlikely spot* but *which unlikely spot*), which is moved to initial position (Comp position?) in the nonrestrictive clause, and the nonrestrictive clause is moved to a position immediately following the coreferential item (its target) in the host S; and (iii) conversion of one of the two Ss into a nonrestrictive clause is contingent on that S corresponding to a speech act of a type that can be performed in nonrestrictive clauses and on its containing a constituent coreferential to some constituent of the other S; moreover, the speech act performed in uttering the nonrestrictive clause must be subordinate to the one performed in uttering the host S, that is, the two speech acts are parts of a complex act in which one of them is performed as an incidental accompaniment of the other, the way that, for example, giving a turn signal is an incidental accompaniment to an act of making a turn. This sketch is neutral with regard to whether the two Ss even make up a constituent. While I will give diagrams as in (20) that represent them as comprising a constituent, nothing in what follows requires that they do. I in fact regard the connection between a nonrestrictive clause and its host to be in the realm of the structure of complex action; that connection is relevant to syntax, but it is not itself within syntax proper.

It will be convenient to introduce a term for the sort of movement posited in (20), in which a constituent is moved into a position adjacent to a target but is not combined with the target into a larger constituent. I suggest the term **adposition** for this, which will contrast with **adjunction**, in which the moved constituent is combined with another item into a larger constituent. The term "adposition" lends itself to the formation of derivatives analogous to those of "adjunction," for example, one can speak of a nonrestrictive clause as an **adposit** of its target, the way that one speaks of an extraposed complement as an adjunct of the V'.

The conclusion that nonrestrictive clauses are not constituents of the Ss within which they appear has the correct implication that nothing can be extracted from a nonrestrictive clause: [15]

(23) a. *How much money does Mary think that John, who lent Bill Ø, won't be able to pay this month's rent?

b. *The knife that I've just heard from Mary, who carved the turkey with Ø, has a serrated blade.

c. *Crime and Punishment, Mary told me that Dostoyevsky, who wrote Ø, was insane.

For example, *how much money* in (23a) is not part of the question whose Comp position it is to be moved into and is thus not even in the domain to which Wh-movement would apply; the unacceptability of (23b, c) can be accounted for similarly. The unacceptability of extractions as in (23) is commonly but erroneously attributed to the Complex NP Constraint (§15a), which excludes steps in which material is extracted from a S that combines with a N (and possibly other material) into a NP; the CNPC is irrelevant here, since the nonrestrictive clause and its antecedent do not even make up a constituent, let alone a NP.

The condition that there be coreferentiality between items in two separate Ss explains several combinatoric differences between restrictive and nonrestrictive clauses. First, since NPs introduced by such quantifiers as *each*, *every*, and *no* cannot be coreferential with NPs in separate Ss, this condition explains why nonrestrictive clauses cannot appear in combination with such NPs:

(24) a. The doctor gave a lollipop to each child,. *She examined him,.

a'. *The doctor gave a lollipop to each child, who she examined.

b. Susan interviewed every senator,. *He, is crooked.

b'. *Susan interviewed every senator, who is crooked.

c. No person, is perfect. *He, knows everything.

c'. *No person, who knows everything, is perfect.

By contrast, the quantifier plays no role in the acceptability of restrictive relatives, since the quantifier is outside the [N' Comp'] combination that makes up the restrictive relative clause construction, and the relevant coreferentiality is entirely within that combination:

(25) a. The doctor gave a lollipop to each child that she examined.

    b. Susan interviewed every senator who voted for the balanced budget amendment.

    c. No person who has a criminal record can get a job here.

Second, while Ss, V's, and A's do not have the [Det N'] structure in which restrictive relatives occur, they can be the antecedents of pronouns in separate Ss and for that reason can support nonrestrictive clauses:

(26) a. John says that Fred and Ethel are breaking up. I hadn't expected <u>it/that</u>.

   a'. John says that Fred and Ethel are breaking up, which I hadn't expected.

Third, proper nouns make up a whole NP and therefore do not allow for the [$_{N'}$ N' Comp'] configuration of restrictive relatives, but they can be coreferential with NPs in separate Ss and thus can meet the conditions for supporting a nonrestrictive clause:

(27) a. <u>John</u> can't be trusted. You were talking to <u>him</u> a minute ago.

    a'. John, who you were talking to a minute ago, can't be trusted.

Let us run down the list of other differences between restrictive and non-restrictive clauses given above and see which of them are accounted for by the analyses developed so far. The absence of *that* or zero as an introducer of non-restrictive clauses will be accounted for if we can claim that the underlying Ss corresponding to nonrestrictive clauses do not allow a *that*-complementizer.[16] Since nonrestrictive clauses are separate main clauses in deep structure, that is a reasonable enough claim, though we have not worked out the underlying distribution of complementizers in enough detail that we can say more than that yet. The comma intonation around nonrestrictive clauses must be accounted for in terms of a general theory of the relation of intonation to syntax. While significant advances have been made toward the development of such a theory (see, e.g., Ladd 1980, 1983, Bing 1979, and Bolinger 1986, 1989), I will not attempt to present such a theory here. I note, though, the plausibility of interpreting comma intonation as an iconic device for indicating the status of an expression as an "interruption," and observe that in the analysis developed here, nonrestrictive clauses but not restrictive clauses are moved into their host constituents and thus constitute interruptions.

If predicate NPs refer to properties rather than to entities, then a nonrestrictive clause can have a predicate NP as its target only if its relative pronoun refers to that property, as in (6b). The fact that nonrestrictive clauses cannot be stacked is a consequence of our assumption that nonrestrictive clauses are put immediately after the target constituent but are not adjoined to it: since a sequence of target and nonrestrictive clause does not make up a constituent, it cannot be coreferential to an item in another S and thus cannot serve as target to a second nonrestrictive clause. Another possibility for getting sequences of nonrestrictive clauses still has to be considered, though. Could

placement of nonrestrictive clauses put a nonrestrictive clause between a constituent and a nonrestrictive clause of which it was the target?

(28)
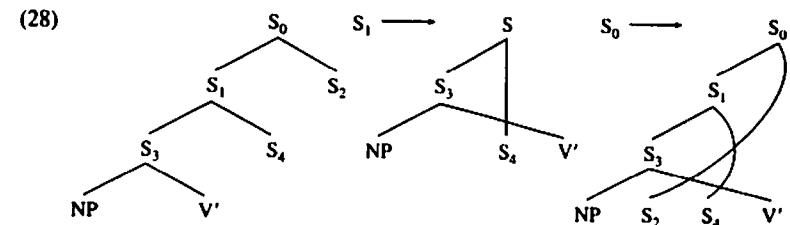
A straightforward way of excluding such derivations, proposed by Emonds (1979), is to require that the nonrestrictive not merely be put directly after its target but that it directly follow its target in surface structure. If nonrestrictive clauses and their targets do not make up constituents, then this constraint rules out sentences in which a putative target is followed by two nonrestrictive clauses: only the first of the two nonrestrictive clauses would directly follow its target and thus the second would violate this condition. Emonds also notes that this condition excludes the extraposition of nonrestrictives: an extraposed non-restrictive clause would not immediately follow its target.[17]

If the target of a nonrestrictive clause is a NP, any restrictive clauses must precede the nonrestrictive clause: the restrictive clauses are constituents of the N' of the NP, and are thus part of the target that the nonrestrictive clause must immediately follow. But what about the possibility of a nonrestrictive clause having an N' as its target? Could a nonrestrictive clause precede a restrictive clause in virtue of being an adposit of the N' of which the restrictive clause is an adjunct? In fact such examples are possible and the generalization given earlier is false—a nonrestrictive clause can precede a restrictive clause in precisely this class of cases:

(29) Most ophicleides, which are a type of obsolete brass instrument, that are on display in museums are of German manufacture.

Nonrestrictive clauses allow relative expressions of the form *which N'* because a NP of the form [Det N'] can be used anaphorically with an antecedent in a separate S:

(30) William Allen White spent virtually his entire life as publisher and editor of <u>the Emporia (Kansas) *Gazette*</u>. From <u>that unlikely spot</u> he radiated an enormous influence on both journalism and politics.

If formation of the nonrestrictive clause converts as much as possible of the coreferential constituent into a corresponding Wh-word, this will yield such expressions as *which unlikely spot* in such cases. By contrast, in the structure underlying restrictive relative clauses, the relative pronoun corresponds to a pronoun that makes up a whole NP, and thus no noun is available to remain in the relative expression.

The absence of an infinitival form of nonrestrictive clauses follows from the fact that an independent S does not have an infinitival form, and the possibility of using a nonrestrictive clause as host of an interrogative tag follows from the possibility of using an interrogative tag in a S that is anaphorically related to preceding S:

(31) a. *For it to rain tomorrow.
 b. Marcia has arrived. You wanted to meet her, didn't you?

The fact that N′ + restrictive clause functions as a constituent with regard to conjoining and pronominalization, while N′ + nonrestrictive clause does not, reflects constituent structures that are built into the analyses adopted here: an N′ and an immediately following restrictive clause make up an N′, whereas an N′ and an immediately following nonrestrictive clause do not even make up a constituent.

I turn finally to the cases noted by Postal in which a NP position cannot be filled by a pronoun and corresponding nonrestrictive clauses are also excluded. If personal pronouns underlie the relative pronouns of nonrestrictive clauses, then we have an explanation of why (4a′, b′, c′) are unacceptable: they do not meet the conditions for the use of the pronoun that must underlie the relative pronoun. But now a problem with the analysis of restrictive relative clauses given in §13a arises: personal pronouns were supposed to underlie the relative pronouns in restrictive relatives, but the unacceptability of the personal pronouns of (4a, b, c) is not reflected in corresponding restrictive relatives. We accordingly need to modify our analyses so as to distinguish between restrictive and nonrestrictive clauses in such a way that only the latter are sensitive to the restrictions on personal pronouns illustrated in (4a, b, c). I tentatively suggest that what underlies the relative pronoun of a restrictive relative is simply a referential index, rather than a pronoun bearing such an index, and that there is no requirement that any personal pronoun be associated with that index before it is given a realization as a relative pronoun (examples such as §13a(9), which were taken earlier as showing that *who is a Republican* and *he/she is a Republican* count as identical, can be taken instead merely as showing that they are nondistinct). Whereas a restrictive relative clause and its host N′ are sisters throughout the derivation, the relative pronoun of a nonrestrictive clause is an anaphoric element with an antecedent in a separate host sentence; if we take such intersentential anaphoric relations as requiring that the anaphoric element be subject to all restrictions to which overt anaphoric elements are subject, then the latter restrictions will indirectly constrain the possibilities for nonrestrictive clauses.[18]

c. Free Relatives

There is a type of constituent that has the superficial appearance of an interrogative complement but is given an interpretation as a NP with a restrictive

relative, as in (1), which can be given a paraphrase such as "I'll buy the things that you tell me to buy":

(1) I'll buy what you tell me to buy.

Such constituents—henceforth, **free relatives**—are often difficult to distinguish from interrogative complements, and indeed many examples are ambiguous between an interrogative and a free relative interpretation:

(2) John saw what Mary was holding in her hand.

Suppose that Mary was holding an emerald in her hand. Interpreted as involving an interrogative complement, (2) says that John saw that Mary was holding an emerald in her hand; interpreted as involving a free relative, it says that he saw the emerald but is noncommittal as to whether he saw that it was an emerald. We can get examples that are unambiguously the one or the other by combining the expression in question with either a verb that demands a complement or one that demands a nonsentential object:[19]

(3) a. I'll ask what he's selling. (interrogative complement)
 b. I'll buy what he's selling. (free relative)

There are two types of free relatives: **simple free relatives**, in which the interrogative pronoun appears unadorned, as in the examples discussed so far, and **-ever free relatives**, as in (4), in which it is combined with *-ever:*

(4) I'll buy whatever he's selling.

The similarity in form and interpretation between (3b) and (4) could easily lead one to treat *-ever* as simply an optional accompaniment of the interrogative pronoun in free relatives. However, it will develop that simple and *-ever* free relatives differ syntactically in some important respects, and I will accordingly take pains to avoid the common error of lumping them together and assuming that characteristics of the one will be shared by the other.

Before going on, it will be worth justifying my statement that the Wh-word that appears in free relatives is an interrogative and not a relative pronoun. *What* and *how* are used in English only as interrogative and not as relative pronouns; however, they both appear in both kinds of free relatives, though with *how* quite restricted in simple free relatives:[20]

(5) a. What did you buy?
 a′. the oysters which/*what I bought
 b. How did Tom behave?
 b′. *the way how Tom behaved
 c. How nasty did their lawyer get?
 c′. *my lawyer is nasty how theirs is[21]
(6) a. I'll buy what(-ever) you want me to buy
 b. I'll get there however/*how I got there last time.

b'. I like how it looks.

c. My lawyer will be however/*how nasty their lawyer is.

Moreover, *what* and *which* differ in meaning in free relatives the same way that they do in interrogatives:

(7) a. What/??Which difficulties did they encounter?

a'. Whatever/??Whichever difficulties they encountered were easy to resolve.

b. Which/*What hand did he hold the chocolate in?

b'. Whichever/*Whatever hand he held the chocolate in must be filthy.

In restrictive relatives, *which* makes up a full NP in the relative clause and cannot serve as the determiner of a N, whereas both in questions and in *-ever* free relatives, *which* is a determiner and can appear without a following N only through ellipsis:

(8) a. The apples which (*fruit) I bought weren't ripe.

b. Which did you buy? (= which one/ones)

b'. I'll serve whichever I buy for dinner tonight. (= whichever one/ones)

In both questions and *-ever* free relatives, though not in relative clauses or simple free relatives, the interrogative or relative pronoun can be accompanied by *else* or by partitive expressions, or by expressions such as *the hell:*

(9) a. What else do you want?

a'. I'll buy whatever else you want.

b. the persons who (*else) he invited

b'. *I'll buy what else he's selling.

c. Which of these computers do you like best?

c'. I'll buy whichever of these computers you like best.

d. *the laptop which of these computers I like best

e. What the hell did he want?

e'. Put it wherever the hell he tells you to put it.

f. *Put it where the hell he tells you to put it.

f'. the place where (*the hell) he told us to put it

While free relatives look like interrogative complements, they differ from them in those respects in which interrogative complements behave like Ss, as is pointed out in Bresnan and Grimshaw 1978. Interrogative complements can be extraposed, while free relatives cannot (10), and interrogative complements but not free relatives allow a preposition (11a–a') to be brought along with the interrogative word through pied-piping:

(10) a. *It's still in the car what(ever) you bought.

b. It isn't important how much he bought.

(11) a. I'll buy what(ever) he was pointing at.

*I'll buy at what he was pointing.

a'. I'll ask what he was pointing at.

I'll ask at what he was pointing.

Simple free relatives do not allow pied-piping of an N' along with a possessive interrogative; however, many speakers allow such pied-piping in an *-ever* free relative:

(12) a. I'll buy *whose/?whoever's books he's selling.

a'. *Whose/?Whoever's books they're selling isn't a very well-known author.

b'. I'll ask whose books he's selling.

Note that the referent of *whoever's books he's selling* can be either the books (12a) or the author (12a'). Interrogative complements take singular number agreement, irrespective of whether the Wh-expression is singular or plural, whereas the grammatical number of free relatives is that of the Wh-expression:

(13) a. What(ever) books he defaced were/*was priceless.

b. What books he defaced was/*were not disclosed. (Bresnan and Grimshaw's examples)

The observations about (10) provide evidence that the Wh-expression and truncated S make up a S in an interrogative complement but not in a free relative, and (11) and (13) provide evidence that the Wh-expression of a free relative is its head, while that of an interrogative complement is not. (It is hard to place any clear interpretation on the observations in (12).)

At least two possible internal structures are consistent with the interrogative expression being the head of free relatives: perhaps the truncated S that follows the Wh-expression is an adjunct of the whole Wh-expression, or perhaps it modifies an N' within the Wh-expression, as in an ordinary restrictive relative construction. These two possibilities have different implications; for example, the latter structure but not the former provides for the possibility of stacking ordinary restrictive relatives on top of a free relative. Here *-ever* free relatives, which support restrictive relatives, differ from simple free relatives, which do not:[22]

(14) a. I'm going to do whatever John wants that I'm able to do.

a'. I'm going to do what John wants (??that I'm able to do).

b. I bought whatever books Mary recommended that I could afford.

b'. I bought what books Mary recommended (??that I could afford).

c. I traveled to wherever I hadn't been before where I expected the food to be good.

c'. I traveled to where I hadn't been before (*where I expected the food to be good).

This observation provides reason to posit for the *-ever* free relative a structure in which the N and the truncated S make up an N' that the restrictive relative can then attach to, but for the simple free relative one in which the N and the truncated S do not make up an N', as in (15):

(15) a.

```
           NP
          /  \
       Det    N'
     whatever /  \
            N'    S
            |      \
            N    Mary recommended
          books
```

b.

```
           NP
          /  \
        NP    S
       /  \    \
  what books  Mary recommended
```
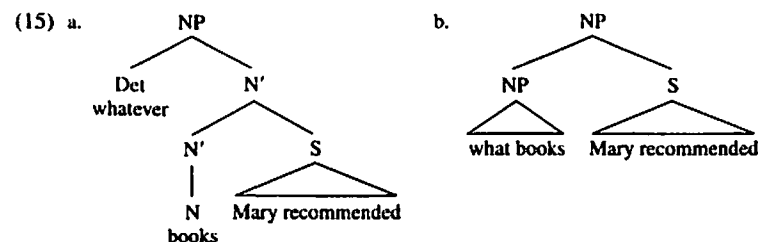
The obvious constituent structure tests yield equivocal results—while replacement of an N' such as is posited in (15a) by *one* yields a fairly acceptable sentence, conjoining of such a combination yields equally unacceptable results for both *-ever* and simple free relatives:
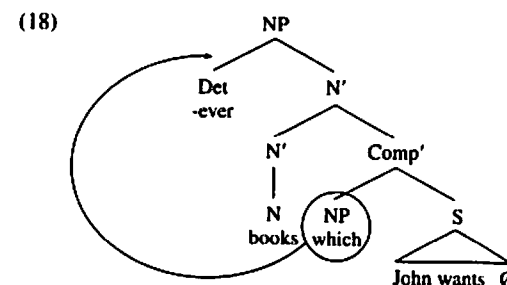
(16) a. Whatever <u>books John wants</u> that are in print will be easier to find than whatever <u>ones</u> that are out of print.

b. ??Whatever/??What [[books John wants] and [records Mary has requested]] are sure to cost us a lot.

Let us nonetheless tentatively adopt these structures and ask what sorts of deep structures and derivations the two kinds of free relatives have. Either kind of surface structure could conceivably call for either a "movement analysis," in which the Wh-expression is an underlying constituent of the S and is extracted from and adjoined to the S, or a "deletion analysis," in which the Wh-expression is outside the S in deep structure and the derivation involves a step deleting from the S a constituent matching the Wh-expression. Bresnan and Grimshaw (1978) argue against a movement analysis, on the grounds that free relatives do not allow pied-piping the way that restrictive relatives do:

(17) a. any books which you defaced the covers of
a'. any books of which you defaced the covers
a". any books the covers of which you defaced
b. You should avoid whatever man you were drawing caricatures of.
b'. *You should avoid of whatever man you were drawing caricatures.
b". *You should avoid [caricatures of whatever man][you were drawing].
c. What books they defaced the covers of were easy to replace.
c'. *Of what books they defaced the covers were easy to replace.
c". *[The covers of what books] they defaced were easy to replace.[23]

However, this is an argument only against derivations in which the Wh-word is moved into a position (such as the Comp position of an embedded S) that allows the extra material that is brought along with the Wh-word by pied-piping. For *-ever* free relatives, the Wh-word occupies a position where it combines with an N' to yield a NP, that is, a position that is otherwise occupied by a Determiner. Thus, an analysis of *-ever* free relatives in which the Wh-word is moved into a determiner position would also exclude sentences such as (17b'–b"), say, an analysis in which the *ever* is taken to be a Determiner in deep structure (a plausible categorization in view of the possibility of identifying its

contribution to semantic structure with that of the quantifier *any*), the sentential part of the free relative is identified with a restrictive relative clause, and the Wh-word is moved out of the relative clause and combined with the *-ever:*

(18)

```
                NP
               /  \
            Det    N'
           -ever   /  \
                 N'    Comp'
                 |     /  \
                 N  (NP)   S
               books which   \
                          John wants  Ø
```

Besides yielding the surface structure argued for above and accounting for the facts cited in (10)–(13) that were offered as evidence for such a structure, this proposal also accounts for the fact that the sentential part of the *-ever* free relative does not allow a relative pronoun of its own and only marginally allows *that*, since the relative pronoun would replace *that* and then be extracted from the relative clause:[24]

(19) You should order whatever books *which/??that John wants.

Against these advantages must be balanced two points which seem to demand ad hoc alterations in the analysis. First, since the analysis calls for an underlying structure having a N as head of the underlying relative clause structure, free relatives without an overt head N (such as *whatever he said*) would require a deep structure with a phonologically zero N whose semantic interpretation fits the Wh-word (e.g., one meaning "person" in the case of *whoever*). Second, and more importantly, the Wh-words that appear in *-ever* free relatives are interrogative (e.g., *what, how*) and not relative pronouns.[25] Thus, it would be necessary to allow the deep structures of restrictive relatives to contain relative analogs to *what* and *how* and constrain them from appearing in surface structure unless they are extracted from the relative clause in a free relative construction.

The discussion so far has presupposed that free relative constructions are always NPs. The following examples (Bresnan and Grimshaw 1978:335) illustrate free relatives that may belong to other categories:

(20) a. John will be however tall his father was. (A'? Measure expression?)
b. I'll word my letter however you word yours. (Adverb)
c. I'll put my books wherever you put yours. (Adverb or P')
d. John will leave whenever Mary leaves. (Adverb or P')

At least some of these free relatives can be analyzed as NPs that are the objects of a zero P, for example, *wherever you put yours* in (20c) can be treated as the object of a zero preposition having the meaning of *at*. Such an analysis (for which Bresnan and Grimshaw argue) is reasonable for expressions like *wher-*

ever you put yours since they can in fact occur as objects of overt prepositions (21), and, since they allow restrictive relatives (22), they indeed must be treated as NPs:[26]

(21) a. I'll move to wherever you want to live.

    b. John got the tapes from wherever he keeps his books.

    c. I'll stay here until whenever Denise asks me to join her.

(22) a. I'll move to wherever you want to live that isn't too far from Boston.

    b. I'll word my reply however I can that won't offend them.

    c. John will be however deceitful his clients want him to be that won't get him disbarred.

I find it much harder to argue for any particular analysis for simple free relatives and will accordingly leave their analysis up in the air beyond the tentative conclusions that were drawn above about their surface constituent structure. Bresnan and Grimshaw (1978) offer an analysis in which the deep structure is roughly the same as that surface structure, with the Wh-expression controlling the deletion of an item (denoting a corresponding bound variable) in the embedded S; such an analysis is at least as viable as any alternative that I am aware of, though, like the analysis of *-ever* free relatives sketched above, it leaves unexplained the fact that the Wh-elements are interrogative and not relative pronouns.

d. Some Clause Types That Look Like Relative Clauses

The position between a N and a following restrictive relative clause is normally a poor "niche" for a parenthetical expression:

(1) a. ??Oprah has interviewed many men, of course, that beat their wives.

    b. ??Paul hates his sister, incidentally, that lives in Toledo.

However, there is a class of sentences in which parenthetical material fits comfortably between a noun and what looks like a restrictive relative clause:

(2) a. There are many Americans, of course, who distrust politicians.

    b. Paul has a sister, incidentally, who lives in Toledo.

    c. Nixon is the only President, as you know, who ever resigned.

    d. I've never met an American, by the way, who didn't like pizza.

The apparent relative clauses in (2), which I will henceforth refer to as **pseudo-relative clauses**,[27] occur in final position in "existential sentences" (taking that term broadly enough to include augmented versions of simple existential sentences, such as negated existential sentences). Pseudo-relative clauses also differ from ordinary restrictive relatives with regard to the Complex NP Constraint (to be taken up in §15a), which excludes extraction of material from (among other things) a relative clause. Extraction of material from an ordinary restrictive relative clause generally results in a substantial reduction in acceptability, while extraction of material from a pseudo-relative may

reduce acceptability somewhat, but not to the extent that extraction from a true restrictive relative does:

(3) a. *Which crimes does Oprah interview people who commit 0?

    b. *What corporation is Nina the lawyer who represents 0?

(4) a. ?Which persons do you think there are many Americans who distrust 0?

    b. ?What company does Paul have a sister who works for 0?

    c. ?How many exam papers is Smith the only instructor who hasn't read yet 0?

    d. What foods have you never met an American who doesn't like 0?

Moreover, extractions from pseudo-relatives occur fairly often in spontaneous speech (5), while extractions from ordinary restrictive relatives do not:

(5) a. This is the one that Bob Wall was the only person who hadn't read 0. (unidentified University of Texas secretary, observed by Susan Schmerling)

    b. Then you look at what happens in languages that you know and languages that you have a friend who knows 0. (Charles Ferguson, lecture, May 1971)

    c. It's a distinction which I'm sure I'm the only person in the world who has 0. (Howard Aronson, May 31, 1984)

In addition, there are fairly acceptable sentences in which a pseudo-relative clause accompanies a proper name, something that normal relative clauses do not allow:

(6) a. ?There was only John that didn't show up at the meeting.

    b. *I cursed (only) John that didn't show up at the meeting.

Since *only John* means 'no one but John', *only NP* is strictly speaking an existential NP and can be the NP that is displaced by *there* in a *There*-insertion sentence.

The existential NP and the pseudo-relative apparently make up a constituent, since such combinations can be conjoined:

(7) There are many Americans who distrust politicians and many Italians who distrust the clergy.

However, the possibilities for inserting parentheticals and the fact that a pseudo-relative can be combined with a proper name suggest that the pseudo-relative is outside the NP, unlike a restrictive relative clause, and thus that the surface structure is roughly as in (8):

(8)
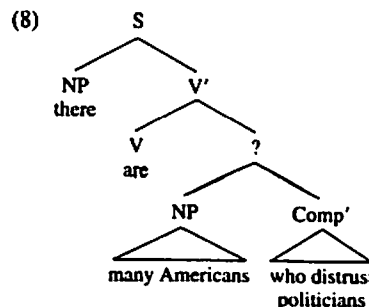
I do not have a fully satisfactory analysis of pseudo-relatives to offer here and have brought them up in this chapter only to alert the reader to their existence and to some differences between them and true restrictive relatives, so that we can guard against wrongly drawing inferences about restrictive relatives from facts about another clause type with which they are easily confused. Let us nonetheless at least speculate about what kind of analysis might make some sense out of the relationship between the form and the meaning of pseudo-relatives. Pseudo-relative constructions can be paraphrased by existential sentences in which the existential NP is the subject, and the material of the pseudo-relative clause appears in the main clause:

(9) a. There are many Americans who distrust politicians.
  a'. Many Americans distrust politicians.
  b. Paul has a brother who lives in Toledo.
  b'. A brother of Paul's lives in Toledo.
  c. Nixon is the only President who has ever resigned.
  c'. Aside from Nixon, no President has ever resigned.
  d. I've never met an American who understood cricket.
  d'. In my experience, no American has ever understood cricket.

Suppose that we set up the same deep structures for pseudo-relative constructions as for these paraphrases. A relatively neat way of relating the deep structure of a sentence such as (9a') to a surface structure such as that of (9a) emerges if one adopts deep structures such as are argued for in chapter 18, in which quantified expressions are outside their host Ss. Suppose that one sets up a deep structure for (9a) in which *many Americans* is separated from *x distrusts politicians* and, in addition, *many Americans* is treated as an existential quantifier combined with a S ("x are many Americans") that defines the values of the bound variable; what we then require is a step in which the S_1 of a structure as in (10) is made the main clause and S_2 is made a subordinate clause in the predicate phrase of S_1:

(10)
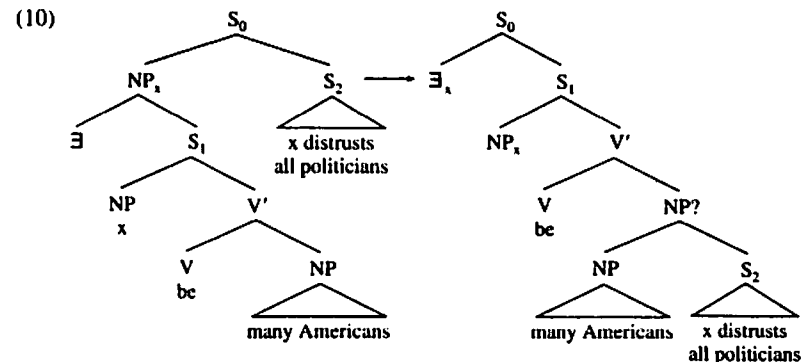
A considerable amount will need to be added to convert this suggestion into a viable analysis, in particular, into a treatment of the various lexical frames (e.g., *Paul has a brother*) in which existential NPs appear. Different pseudo-relative clauses will require derivations that differ with regard to the details of the material that frames the pseudo-relative clause; that will have to involve at least working out the details of how the various S_1 of such structures are realized in different contexts (as where a clause "x is a brother of y" will have a realization as *brother of x* within a NP but as *have a brother* in the predicate phrase of an existential sentence).

Before moving on to another kind of clause that has the internal syntax of restrictive relatives but a very different external syntax, I will mention Prince's (1981 : 247) observation that omission of a subject relative pronoun, which is normally not allowed in modern English, is extremely common in a class of cases that appears to coincide with what I call pseudo-relatives here (examples adapted from those cited by Prince):

(11) a. I have a friend Ø called me yesterday.
  b. We got a lot of fancy Cadillacs Ø don't tip. (Studs Terkel, *Working*)

Prince states that "In [Anthony Kroch's] large corpus of oral discourse, all instances of subject relative marker deletion occur in sentences like those of [(11)]." The surface form of sentences as in (11) is in fact essentially the same as that of a class of Chinese sentences that are used the way that English pseudo-relatives are (Huang 1987) but which are not open to an analysis as relative clauses because in both form and surface position they are unlike relative clauses:

(12) Wo you yige xiongdi zhuzai Shanghai.
  I   have one brother live-at
  'I have a brother who lives in Shanghai'

In Chinese, relative clauses always precede their heads and end with *-de*, unlike the underlined part of (12). In the analysis suggested here, pseudo-relatives can be treated as parallel to their Chinese counterparts, with the use of a relative pronoun being merely a device that (in English but not in Chinese) gives the pseudo-relative clause the surface appearance of a "normal" clause type.

The looseness of the connection of pseudo-relative clauses with their supposed heads is a characteristic that they share with another construction containing an apparent relative clause, namely cleft sentences, to which I now turn. The apparent relative clause in a cleft construction exhibits an incomplete constituent:

(13) a. It was in the drawer that he put the screwdriver.
  a'. *He put the screwdriver.
  b. It was the screwdriver that he put in the drawer.
  b'. *He put in the drawer.

It likewise exhibits the same alternation among relative pronouns, *that*, and zero that a restrictive relative does:

(14) a. It was <u>John</u> who/that/0 I talked to.
    b. It was <u>a pipe-wrench</u> that/0/?which Mary bought.
    c. It was <u>Tuesday</u> when/that/0 I received your letter.
    d. It was <u>out of spite</u> that/?0/*why Bill broke the window.

The relative pronoun, when there is one, matches the focused constituent (thus, *who* in (14a) and *when* in (14c)), though the possibility of having a relative pronoun is sharply restricted and the relative pronoun cannot pied-pipe other parts of a P' or a NP in which it is contained, except where it is a possessive:

(15) a. It was <u>to John</u> that/0 I talked.
    a'. *It was <u>to John</u> to whom I talked.
    b. It was <u>John</u> whose brother was arrested.
    b'. *It is <u>John</u> nasty rumors about whom I keep hearing.

These observations suggest that the derivation of cleft Ss is like that of relative clauses in having a constituent converted into a relative pronoun and either deleted or moved into Comp position, thus leaving a gap. However, we cannot just say that the gap in the cleft clause corresponds to a "relativized" constituent, because there is another constituent that also appears to fill the gap in a cleft clause, namely the **focus** of the construction. The focus can in fact be a constituent (such as a reflexive pronoun or an idiom) that ought to be inside the cleft clause for the normal conditions on its occurrence to be met, and cannot be a constituent (such as *her* in (16a)) whose restrictions are violated within the cleft clause:[28]

(16) a. It was to herself,/*her, that Mary, sent the letter.
    a'. *It was to Mary, that she, sent the letter.
    a". It occurred to Mary, that she, needed more money.
    b. It was my leg that they pulled.

The acceptability of (16a") shows that the unacceptability of (16a') cannot plausibly be attributed to the positions of *Mary* and *she* in surface structure. I accordingly tentatively conclude that **both** the focus constituent **and** the (explicit or implicit) relative pronoun correspond to the gap in the cleft clause, and that in the derivation of the cleft sentence a constituent of what is to be the cleft clause is copied into the focus position, leaving behind a pronoun in the cleft clause that is converted into a relative pronoun and either moved into the Comp position of the cleft clause or deleted.

There is a broad range of possibilities for the focus constituent of a cleft sentence. The possibilities exhibit considerable individual and dialect variation, with Irish English being especially permissive, but examples like the following (taken from Delahunty 1982) are accepted by many speakers:

(17) a. It's nude that Sandy prefers to swim. (A' focus)
    a'. It wasn't quite depressed that he appeared that day, just slightly sad.
    b. How long was it that we stayed under water? (measure expression focus)
    c. It was only reluctantly that he agreed to swim the channel. (Adv focus)

The contrastive negation of (17a') and the *only* of (17c) often raise the acceptability of particular foci. Not only referential NPs (14a–c) and ordinary P's (14d, 15a) can be the focus, but even predicative NPs and P's with a sentential object (examples from Delahunty 1982:106–7):
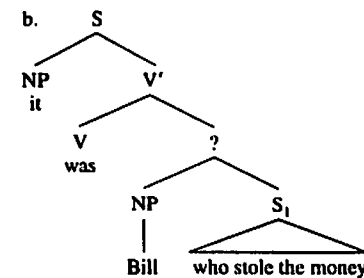
(18) a. It is a gourmet cook that George wants to become.
    b. It was before we left that Mary and Bill got into one of their awful rows.

The focus and the relative-like clause apparently make up a surface constituent. For example, such a combination can be deleted by V'-deletion, can undergo Right-node-raising, and can appear conjoined with another such combination in the output of Conjunction Reduction (examples once more from Delahunty):

(19) a. It wasn't Bill that seduced Mary, although her father is convinced that it was 0.
    b. It could have been, and it probably was, Bill who negotiated the new contract.
    c. It must have been Fred that brought Mary to the party but Bill that left with her.

Since the diverse constituents that can be the focus share no internal structure, and indeed can be units that do not have any internal structure (20a), the only way that cleft Ss could have a uniform constituent structure in which the focus and the relative-like clause make up a constituent would be for the constituent structure to be as in (20b), with the focus and the S as sisters:

(20) a. It was I who chopped down the cherry tree.

b.
```
              S
           /     \
         NP       V'
         it      /  \
               V      ?
              was    /  \
                   NP    S₁
                   |    / \
                  Bill  who stole the money
```

Such a structure is in fact what follows from the one plausible way of integrating the syntax of cleft and of pseudo-cleft sentences, in which a counterpart to the relative-like clause of the cleft sentence is in subject position:

(21) a. What John brought was a bottle of champagne.
    b. What I like to do is take long walks.

Suppose that, as proposed in Akmajian 1970, we assign to both cleft and to pseudo-cleft sentences a deep structure containing a sentential subject and take the application or nonapplication of Extraposition as determining whether a cleft or a pseudo-cleft sentence (respectively) is derived. The constituent structure that would result from Extraposition is precisely the derived structure that we have argued for in cleft sentences, and the constituent made up of the focus and the extraposed S would then belong to the same category as the focus (here, NP; in other Ss, P'), in virtue of the relative-like clause then being an adjunct to the focus. Such an attempt to unify the analysis of clefts and of pseudo-clefts of course encounters the same problem as does an attempt to unify the analysis of free relatives and of ordinary restrictive relatives, namely that it does not account for the difference in internal syntax: pseudo-cleft clauses have interrogative pronouns and have no alternate forms, whereas cleft clauses have relative pronouns and an alternative form with *that* or zero.

I will accept the idea that cleft Ss have a deep structure in which the S that is to undergo "clefting" is a sentential subject but will remain neutral with regard to whether there is any underlying difference in internal syntax between them and pseudo-cleft clauses.[29] What then will the predicate constituent be with which that sentential subject is combined? At the very least, the underlying structure will have to contain some indication of what the focus is. Since the constituent that appears in the focus position evidently has to be within the sentential subject in deep structure, we can plausibly suggest that the predicate constituent contains an index tying it to the constituent of the sentential subject that the construction places in contrast with alternatives. Note that this index will not generally be a **referential** index, since the focus need not be a referential expression; rather it will correspond to a bound variable and the focus will be a value for that variable.[30] Declerck (1983) notes cases in which the focus position is occupied by a constituent that is not strictly speaking the semantic focus of the construction but properly contains the semantic focus. For example, (22) does not contrast *an interesting meeting* with other things that you might have gone to (such as an exciting boxing match or a boring party); rather it presupposes that you went to a meeting and asks whether the meeting was an interesting one:

(22) Was it an interesting meeting that you went to last night?

I conjecture that the derivation of such sentences reflects the pied-piping principle: the predicate index corresponds to the semantic focus *interesting* and the pied-piping principle allows the whole NP *an interesting meeting* to go proxy for the focused adjective that it contains; without pied-piping, no well-formed derivation is possible, because of the lack of any form corresponding to the relativization of a prenominal adjective. Pied-piping would also be involved in (16b): the semantic focus is *me*, but pied-piping allows the superordinate NP *my leg* to fill the focus position.

One further possibility for cleft sentences about which I have nothing of substance to say is the possibility of a double focus, as in:

(23) It wasn't mé that/who insulted yóu—it was yóu that/who insulted mé.

This possibility does not arise with pseudo-cleft sentences.

e. "Appositive" Constructions

Various authors have proposed criteria for identifying a combination of two expressions as "apposition," the most popular ones being (i) that the two expressions have identical reference; (ii) that they be of the same syntactic category; (iii) that either of them can be omitted without affecting the acceptability of the sentence; and (iv) that either of them can be omitted without affecting how the remaining constituents are interpreted.

There is little consensus as to the appropriateness of (i–iv) as criteria for "apposition" or with regard to how to apply the criteria, in part due to a lack of consensus with regard to other related questions (e.g., the lack of consensus as to how to apply criterion (ii) reflects the great diversity of opinion as to what syntactic categories there are and what belongs to them). I in fact regard criteria (i–iv) as being more of a hindrance than of a help to understanding the constructions that are popularly described as "apposition," since they exclude from the putative category of "appositive constructions" combinations that differ in only trivial ways from combinations that they admit. For example, criterion (iii) excludes combinations in which one of the two parts bears an overt mark of what otherwise might be called an appositive construction, thus excluding (1a) while including (1a') (Quirk et al. 1972:627), and criterion (ii) separates the instances of what is apparently the same syntactic construction in which the two parts are of the same category (1b) from instances in which they differ in category (1b'):

(1) a.   the state of New Hampshire
   a'. the star (??of) Sirius
   b.   The reason he gave, his inability to see the car, is unsatisfactory.
   b'. The reason he gave, that he didn't notice the car, is unsatisfactory.

Nonrestrictive clauses are often referred to as "appositive" (though not as being "in apposition with" the expression that they refer to). Since linguistics abounds in poorly chosen terminology, we can't just assume that the name "appositive clause" is appropriate, especially since the various constructions are commonly lumped together under the name "apposition" are quite heterogeneous. The justification for including a section on "apposition" in a chapter on relative clauses is that some of the expressions said to be "in apposition with" something are reduced nonrestrictive clauses, and much of the heterogeneity of so-called appositive constructions will emerge from an attempt to determine

which of them are reduced nonrestrictives. For example, (2a) has a good paraphrase with *who is . . .* , while (2b) does not.[31]

(2) a. Albert Swenson, a recent winner of the Illinois State Lottery, has announced that he plans to move to Bermuda.

 a'. Albert Swenson, who is a recent winner of the Illinois State Lottery, has announced that he plans to move to Bermuda.

 b. A recent winner of the Illinois State Lottery, Albert Swenson, has announced that he plans to move to Bermuda.

 b'. ??A recent winner of the Illinois State Lottery, who is Albert Swenson, has announced that he plans to move to Bermuda.

In deciding which "appositive" expressions are reduced nonrestrictive clauses, it is of course necessary to bring in all peculiarities of nonrestrictive clauses that could conceivably be reflected in their reduced versions. Recall that, unlike restrictive clauses, nonrestrictives cannot be extraposed. We can use this observation to argue that since the "appositive" expression in (3a) can be extraposed, it is not a reduced nonrestrictive, while that of (2a) is one:[32]

(3) a. Three persons, Smith, Jones, and Peterson, attended the meeting.

 a'. Three persons attended the meeting: Smith, Jones, and Peterson.

 b. *Albert Swenson has announced that he plans to move to Bermuda, a recent winner of the Illinois State Lottery.

The "appositive" expression of (3a) can be paraphrased accurately as a *namely*-expression, and it shares at least some of the syntax of *namely*-expressions, since they likewise can be extraposed:

(4) a. Three persons, namely Smith, Jones, and Peterson, attended the meeting.

 b. Three persons attended the meeting, namely Smith, Jones, and Peterson.

I tentatively hypothesize that the "appositive" expressions illustrated in (3a) have the syntax and semantics of *namely*-expressions but just lack any overt marker of the semantic relation between the parts that is expressed by *namely*, and that a distinction between reduced nonrestrictives and unmarked *namely*-expressions is part of the diversity of "appositive" constructions.

Another characteristic of nonrestrictive clauses that was noted in §13b is that their antecedent need not be a NP or part of a NP. We thus should be on the lookout for appositives that have nonnominal antecedents and can be understood as reduced nonrestrictives; one such example is given in (5), which can be paraphrased with a nonrestrictive clause that has the whole host S as its antecedent:

(5) Mercantile's growth is far more broadly based than before, a factor which has enabled the group to live with high interest rates and still keep a firm grip on margins. (Meyer 1992:24)

Quirk et al. (1972:635) note that an "appositive" expression can also be argued to be a reduced S if it can include S-modifiers or V'-modifiers that

would have to be interpreted as modifiers of the presumable underlying S or of its predicate phrase; examples of constructions in which "appositive" expressions do and do not allow such a modifier are given in (6):

(6) a. Albert Swenson, (recently) the winner of the Illinois State Lottery, has just bought a house in Bermuda.

 b. Mexico City, (currently) the world's largest city, is plagued by air pollution.

 c. Maureen, normally a timid girl, spoke rudely to them at the party. (Quirk et al. 1972:635)

 d. The president, currently Bill Clinton, is the commander in chief of the armed forces.

 d'. *President currently Bill Clinton is the commander in chief of the armed forces.

 e. the author, probably H. L. Mencken

 e'. *the author probably H. L. Mencken

Floated quantifiers are modifiers of a predicate phrase, and in (7), the last of the multiple appositive expressions contains the floated quantifier *both*, which confirms an interpretation of that expression as a reduced S, presumably a reduced nonrestrictive clause in view of the paraphrase possibilities:

(7) Sauter is . . . living with his lawyer-wife, Kathleen—the daughter of Pat Brown and sister of Jerry Brown, both former governors of California. (*Parade*, May 10, 1987)

The author of (7) clearly intended *both* as a floated quantifier and not as the determiner of a NP *both former governors of California:* he or she was saying that Pat and Jerry Brown both were former governors of California, not that they were the only two former governors of California. (A third former governor of California occupied the White House at the time the article was published.)

An additional respect in which the final appositive expression of (7) behaves like a reduced nonrestrictive clause is that it has a split antecedent: it refers jointly to Pat Brown and Jerry Brown, even though their names do not make up a syntactic constituent. It is in fact possible for a nonrestrictive clause to have a split antecedent:[33]

(8) Sauter is living with his lawyer-wife Kathleen—the daughter of Pat Brown and sister of Jerry Brown, who are both former governors of California.

Since nonrestrictive clauses have only an anaphoric relation to elements of their host S, a reduced nonrestrictive clause will play no role in agreement phenomena or in complementizer selection in the host S. Thus, if an appositive expression is a reduced relative, it will be the person and number of the first part that is reflected in agreement in the host S, and sentential appositive expressions will not be subject to whatever restrictions the verb of the host S imposes on complement Ss in the position in question. These points are illustrated in (9):

(9) a.   My new shoes, the only souvenir of my trip to Italy, are/*is under the bed.

b.   You, the treasurer of this organization, are/*is responsible for the way that its funds are invested.

c.   The reason he gave, that he didn't notice the car till too late, is unsatisfactory. (Quirk et al. 1972:622)

c'.   *That he didn't notice the car till too late is unsatisfactory.

I argued in §13b that nonrestrictive clauses are not constituents of the Ss within which they appear and showed how that conclusion accounts for the fact that nothing can be extracted from a nonrestrictive clause. Accordingly, those "appositive" expressions that are reduced nonrestrictive clauses should not allow extractions from them into the host S. In (10), I contrast extractions from combinations that are claimed here to be reduced nonrestrictive clauses with an extraction from something that I argue below not to be one:

(10) a.   *Which country did Tom put his shoes, a souvenir of his trip to 0, under the bed?

a'.   *Italy, Tom put his shoes, a souvenir of his trip to 0, under the bed.

b.   *I often play the lottery that my brother knows Albert Swenson, a recent winner of 0.

b'.   ??The Illinois State Lottery, my brother knows Albert Swenson, a recent winner of 0.

(11) a.   The bill that the president denounced ??us/??you supporters of 0 has just been passed by the senate.

a'.   ?The balanced budget amendment, the president has denounced us/you supporters of 0.

The distinction is less than fully clear, since (11a) is neither high enough in acceptability to be clearly free of whatever makes (10a, b) bad, nor low enough to clearly share whatever it is that is wrong with them; at least, the topicalized form (11a') of combinations such as *we supporters of the amendment* is of substantially higher acceptability than that of the reduced nonrestrictives of (10a', b').[34]

The status of *we* or *you* + plural N', as in (11a), as an "appositive" construction is controversial.[35] The relative acceptability of (11a) argues that *we supporters of the bill* is not a reduced nonrestrictive, and that conclusion is confirmed by the fact that its second part is not accurately paraphrased by a nonrestrictive clause (12a–b) and does not combine with a S-modifier (12c):

(12) a.   I've already put up with too much nonsense from you students.
≠ I've already put up with too much nonsense from you, who are students.

b.   They have no respect for us linguists.
≠ They have no respect for us, who are linguists.

c.   *You currently students don't realize how lucky you are.

You students and *we linguists* in (12a–b) are not used to remind or to incidentally inform you that you are students or that we are linguists.

The two parts of these combinations are not of the same syntactic category, that is, a pronoun normally is a NP and not an N', but it is an N' and not a whole NP that the pronoun combines with (13), and the N' need not be one that can make up a whole NP (14):

(13) a.   You [N' people who are standing in the aisles] should sit over here.

a'.   *You [NP Harry Smith and Alice Brown] should sit over here.
≠ You, Harry Smith and Alice Brown, should sit over here.

(14) a.   He didn't sée you guys.

a'.   *He didn't sée guys.

One particularly clear respect in which the two parts aren't on a par is that a possessive inflection goes only at the end of the whole expression, not on both parts:

(15) I want to find out you women's opinion. (≠ your women's opinion)

By contrast, a possessive ending cannot be added to the end of a nonrestrictive clause, though it can be added to the end of a restrictive clause:[36]

(16) a.   ??I refuse to take care of John, who I can't stand,'s dog.

b.   I'm taking care of [the man who lives next door]'s dog.

Postal 1966 argues that the pronoun of these combinations plays the syntactic role of an article and that it also serves the semantic role of a definite article, that of specifying **which** students, linguists, etc., the NP refers to: according to Postal, articles and personal pronouns are positional variants of one another, *the* being the form that a third person pronoun takes when used as a determiner.[37]

Two other supposedly "appositive" constructions that don't involve a reduced nonrestrictive relative are one that combines a title with a proper name (17), and the "journalese" N' + name construction of (18):

(17) a.   President Clinton

b.   Governor Edgar

(18) a.   violinist Nadia Salerno-Sonnenberg

b.   former president of the United States Jimmy Carter

c.   one-time record holder in the Olympic pole vault Hartmut Eierkopf

It is sometimes difficult to distinguish between these two constructions. One clear difference between them is in "register"—while title + name can be used in colloquial speech, N' + name is, as Quirk et al. (1972:635) put it, "generally restricted to newspapers and magazines" (to which should be added radio and TV reportage):

(19) a.   Hey, have you heard what President Clinton's done? He's fired the secretary of defense.

a'.   ??Hey, have you heard what former president of the United States Jimmy Carter has done?

Another is that the first part of the journalese construction can be an N' of considerable complexity, not necessarily a title, while only a title is possible in the colloquial *President Clinton* construction. The journalese construction allows the N' to denote a transient role. In a broadcast of a concert in which Daniel Barenboim alternates between the roles of pianist and conductor, as he sometimes does, a radio announcer will refer to him in whichever way corresponds to his role of the moment.

(20) a. Here are soloist Adolf Herseth and conductor Daniel Barenboim.
    b. Here are soloist Daniel Barenboim and conductor Pierre Boulez.

In this respect, *conductor Daniel Barenboim* is like *the conductor, Daniel Barenboim* and unlike *the conductor Daniel Barenboim*, which demands that the N' denote a relatively permanent property:

(21) a.   Here is the soloist, Daniel Barenboim.
    b.   ??Here is the soloist Daniel Barenboim. ("soloist" isn't an enduring property)
    b'. Here is (??the) violinist Louis Farrakhan, to perform Felix Mendelssohn's concerto for violin and orchestra in E minor, opus 64. (*the* is inappropriate because Farrakhan, who in fact did perform that concerto with a Chicago orchestra in 1995, does not have the property "violinist" as a characterizing property, though he has sometimes assumed the role of violinist)
    b". The violinist, Louis Farrakhan, and the conductor, Paul Freeman, are receiving the audience's warm applause.

The "article N' Name" construction, with the N' denoting a permanent property, can appear as a reduced nonrestrictive relative with an antecedent denoting a transitory property, as in (22a), whose syntactic structure is as in (22b):

(22) a. Here are the piano soloist, the conductor Sir Georg Solti, and the conductor, the tenor Placido Domingo.
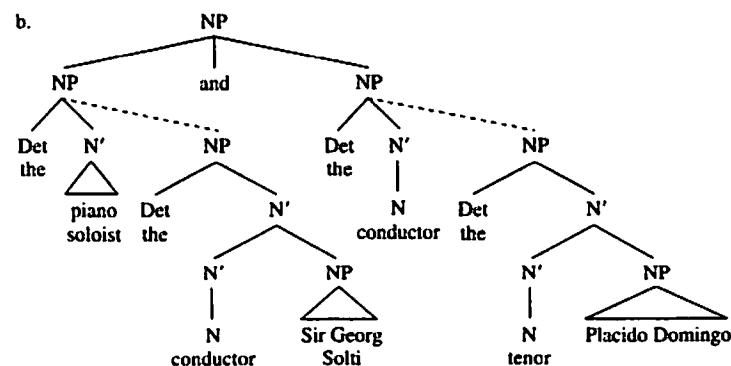
What are the internal structures of the constructions of (17) and (18)? Do they have anything like ordinary NP structure? The journalese construction at least has an N' in it, and the N' functions syntactically at least to the extent of serving as a locus for conjoining (23a): the only obvious evidence of internal structure in *President Clinton* is that the title can bear a plural marking, which argues that it is the head (23b):

(23) a. former president of the United States and onetime Hollywood star Ronald Reagan
    b. Presidents Bush and Clinton

Jackendoff (1984) discusses at some length another "appositive" construction, that of expressions such as

(24) a. the word *apple*
    b. the novel *Fathers and Sons*
    c. the opera *Tosca* (cf. *Tosca* the opera, not the play [by Sardou])
    d. the Japanese postposition *yori*
    e. the disgusting sound _____ (fill the blank with the appropriate noise)
    f. the melody

Presumably the N is the head of an N' in these expressions, since it can bear plural inflection:

(25) the well-known operas *Norma* and *Tosca*
    the Japanese postpositions *yori* and *kara*

Is the other part (name, sound, or whatever) also part of the N'? The obvious test of seeing where restrictive relatives can go is hard to apply, since in most cases a restrictive relative can't be put before or after the name/sound, but there is at least a limited possibility of putting it after the name/sound:

(26) a. *the word you mentioned *apple*
        ≠ the word you mentioned, *apple* (a *namely*-construction)
    b. ??the word *apple* that you mentioned
    c. the banal phrase *in the house* that begins the poem (Jackendoff 1984:31)
    d. A suffix *-vel* that means 'with' is found only in Hungarian.

These observations suggest [_NP_ the [_N'_ word *apple*]], but some doubt about that is raised by the observation that the As in (25) seem to modify an N' that doesn't include the name/sound, that is, one Japanese postposition is contrasted with others, one disgusting sound with others, and whatnot.[38] However, as Jackendoff notes, *word* can't be pronominalized with *one*, though to a limited extent the larger combination can:

(27) a. the word *apple* and the word/*one *rhododendron*
    b. the poem *The Raven* that Edgar Allan Poe wrote, and the one that my cousin Sam wrote

I tentatively conclude that the whole combination is an N', though for semantic reasons I'd like to say that expressions such as *disgusting sound* are also N's.

There are also many NPs in which the semantic relations between the parts are like those in *the word "apple"* but the parts are linked by *of*, as in *the city of Toledo*. Predicting whether *of* occurs is difficult, since there are numerous divergences between seemingly similar items: [39]

(28) the city of/?Ø Toledo   the country (of) Canada

                               the country *of/??Ø the United States

     the country of Russia   *the country of the Soviet Union

     the planet (?of) Mars   the star (??of) Sirius

     the poet (*of) Robert Frost   the name (of) Robert Frost

     the role of/?Ø Hamlet   the office of/??Ø president

     the amount of/?Ø $10   the number (*of) 10

     the year (of) 1971   the date (??of) November 3, 1971

     the sin of/??Ø gluttony   the feature (of) stridency

     the vowel (*of) /a/   the word (*of) *apple*

     the key of/?Ø E♭ major   the note (??of) E♭

The combinations with *of* allow prenominal adjectives with the same freedom as do those without it:

(29) the lovely city of Toledo   the distinguished name of Robert Frost

     the momentous year of 1971   the tranquil key of A major

For the moment, the best I can do is to say that Ns differ idiosyncratically with regard to whether they require the name(/sound?) to be marked with *of*.

One reason for feeling uneasy about the [Det N'] structure that I have just argued for for expressions such as *the word "apple"* is that, with the important exception of NPs like *his son Jerry*, the N' does not coordinate as readily as it ought to; however, I will not pursue the question further:

(30) a.   his daughter Kathleen and son Jerry

     b.   ?his friend John Smith and enemy Sam Taylor

     c.   ?the [poet W. H. Auden and composer Leonard Bernstein]

     d.   ??the noun *apple* and preposition *under*

     e.   *the pleasant sound ____ and disgusting noise ____

There are several ways in which a noun, a name, and an article can be combined:

(31) a.   Robert Frost the poet   a'.   Robert Frost, the poet

     a''.   the poet Robert Frost   a'''.   the poet, Robert Frost

     b.   *Robert Frost a poet   b'.   Robert Frost, a poet

     b''.   *a poet Robert Frost   b'''.   a poet, Robert Frost

We have just been talking about the construction of (31a''). Examples (31a''') and (31b''') are presumably instances of the *namely*-construction. Let us then

turn to (31a). This construction is commonly used in cases of explicit or implicit contrast between two entities bearing the same name or between two facets of one entity, as in (32), though it also occurs in combinations such as *Felix the Cat* in which no contrast plays any role:

(32) a.   I meant Paul Newman the linguist, not the actor.

     b.   We can love Eisenhower the man even if we consider him a mediocre president. (Meyer 1992:85)

     c.   We were talking about Italy the football team, not Italy the country.

The second part of these apparent Name + NP combinations usually has the article *the*, though to a limited extent *that* and possessives can also occur:

(33) a.   I meant Jimmy Carter your cousin, not the former president.

     b.   We were talking about Engelbert Humperdinck that guy who sings the sappy songs, not the German composer.

A paraphrase with a nonrestrictive clause is not available for (31a, 32a); some such expressions can be paraphrased in terms of a restrictive clause, though with *the* on the name rather than the N', and even that paraphrase fails for examples such as (32b, c):

(34) a.   the Robert Frost who is a poet

     b.   *We can love the Eisenhower who is a man.

     c.   *the Italy which is a football team, not the one that is a country

The possibilities for the N in the combination with the name first are different from those in the combination with the name last; for example, Ns that pick out an aspect of a known entity rather than a property of entities sound quite odd when they precede the name:

(35) a.   Eisenhower the man deserves more respect than Eisenhower the president.

     b.   ??The man Eisenhower deserves more respect than the président Eisenhower.

     b'.   *The man Éisenhower deserves more respect than the man Trúman.

This observation constitutes a weak argument that in the combinations with the name first, it is the name and not the common noun that is the head of the NP.

The possibility that the proper name is the head of NPs such as *Robert Frost the poet* brings us close to a question that I, like nearly all syntacticians, have dodged, namely, what exactly is the syntactic role of a proper name within a NP such as *John* that has no other overt parts? Does the proper name simply make up a NP with no further internal structure, the way that I have argued that personal pronouns do? Or is it perhaps syntactically an N' that is combined with a zero definite article, in the way that proper names in Catalan and modern Greek are normally accompanied by overt articles? Actually, there are quite a few cases where names in English are combined with a definite article: [40]

(36) a. the late Jacqueline Onassis

     b. the former Jacqueline Bouvier

c. the future [King Henry IV] (cf. the [future king], Bolingbroke)

d. Bill Clinton is the same Bill Clinton that he's always been.

In all of these cases too, the article is obligatory. This provides at least a weak argument that proper names always have an underlying (definite?) article that gets deleted unless there is extra stuff (As, relative clauses) that force its retention, ignoring here nonrestrictive modifiers such as *poor John, old Harry, little Sammy*, where no article appears.[41]

Let's now turn to some complex examples and see what sort of syntactic structure they have, for example,

(37) a. Sauter is . . . living with his lawyer-wife, Kathleen—the daughter of Pat Brown and sister of Jerry Brown, both former governors of California.

b. In the dead of winter he and Henri de Tonty, son of Lorenzo Tonty, who invented the tontine, his lieutenant, started down the Illinois. . . (Mark Twain, *Life on the Mississippi*)

I haven't said anything yet that would correspond to a specific treatment of *his lawyer-wife Kathleen*, though the other two "appositive" parts look like reduced nonrestrictives (and can be so paraphrased). I accordingly so represent them in (38), using dotted lines as before for the antecedent relation:

(38)
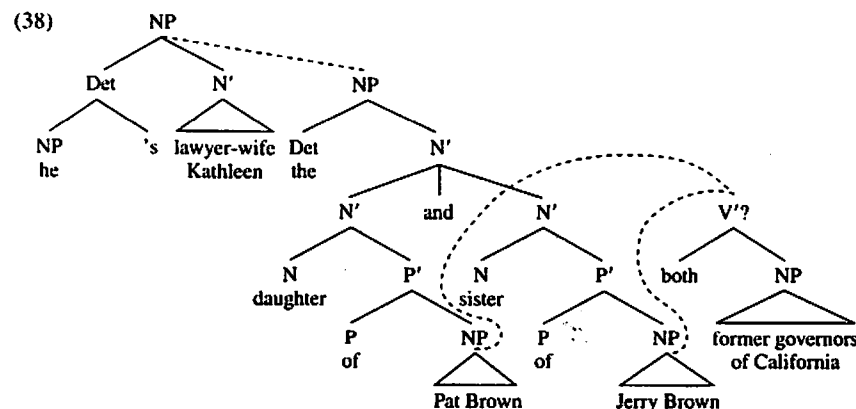
His lawyer-wife, Kathleen (the original had a comma in it) says that she is his wife but not that she is **his** lawyer, only that she is **a** lawyer. That, and the corresponding fact that leaving out *lawyer* wouldn't change how the rest of the sentence was interpreted, while leaving out *wife* would change it, is evidence that *wife* and not *lawyer* is the head. But note that *lawyer-wife* is pronounced with end-stress, that is, like a coordinate structure rather than like a compound; perhaps it corresponds to an underlying structure with "she is a lawyer and she is his wife."

Son of Lorenzo Tonty in the Mark Twain example isn't a NP but rather an N′; this is no problem, since reduction of a nonrestrictive clause as in (39)
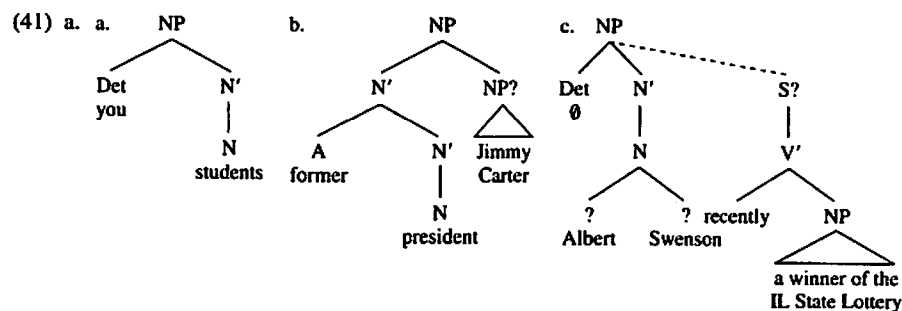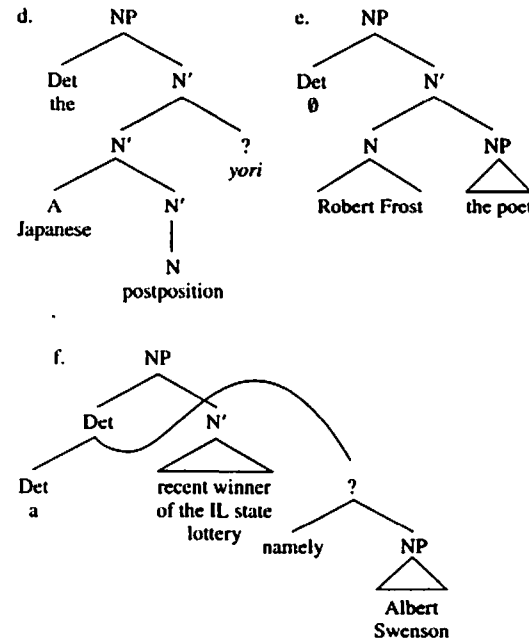
yields such an N′ as a residue:

(39) Henri de Tonty, who was son of Lorenzo Tonty

The nonrestrictive clause of course has *Lorenzo Tonty* as antecedent, and the two "appositive" expressions apparently are reduced nonrestrictives and both have *Henri de Tonty* as antecedent. I note, though, a serious problem that this suggestion raises: nonrestrictive clauses normally can't be stacked, but here we appear to have stacking of what otherwise looks like reduced nonrestrictives. Leaving that problem as an unresolved worry, I obtain (40) as a surface structure of (37b):

(40)
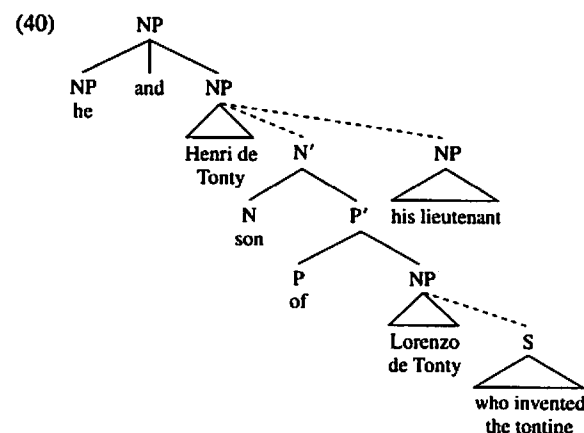
Finally, I will give a summary of the surface syntax structures that I have at least tentatively argued for for the various putatively "appositive" constructions that I have taken up. For one construction for which I did not propose an explicit structure and found little from which I could infer any details of structure—the *namely*-construction, with or without an overt *namely*—I will also give the guess that I currently find most appealing—a structure in which the *namely*-expression is a modifier of an existential quantifier:

(41) a.

d.
```
              NP
            /    \
         Det      N'
         the     /  \
               N'    ?
              /  \   yori
             A    N'
          Japanese  |
                    N
               postposition
```

e.
```
              NP
            /    \
         Det      N'
          0      /  \
               N     NP
              / \     /\
         Robert Frost  the poet
```

f.
```
              NP
            /    \
         Det      N'
          |      /  \
         Det   recent winner    ?
          a    of the IL state  / \
               lottery      namely  NP
                                    /\
                                  Albert
                                  Swenson
```

EXERCISES

1. Give derivations for the following sentences according to the analyses adopted so far in this book:

   a. The speaker punched the obnoxious heckler who had insulted him.

   b. Expensive furs, which are hard to identify, are stolen frequently.

   c. We have identified the gangster by whose henchmen Smith was murdered and Jones was tortured.

   d. Ken bought some toys with which to amuse the children.

   e. I've found a pad to write on that has wide margins, which most pads don't have.

   f. I want to buy whatever books you have that were given good reviews by Buckley.

2. Using examples comparable to those in §13c in which free relatives supported restrictive relative clauses, check whether free relatives can be modified by reduced relative clauses.

3. a. Examine a selection of the combinations in which restrictive relatives can occur (e.g., extraposed, stacked) to see whether there are any combinations in which *that* cannot be deleted (i.e., contexts in which *that/who I talked to* is possible but *I talked to* is not).

   b. Under certain conditions, *that* may be omitted from a *that*-complement. Deter-

---

mine whether the restrictions on the omission of *that* from relative clauses that you found in exercise 3a can be interpreted in such a way that they also apply to its omission from complements.

4. Using examples as in §13a(50), determine whether Wh-movement of subject pronouns is "vacuous" in its application to free relatives, pseudo-relatives, and cleft clauses.

5. Jespersen (1924:113) applies the term "continuative relative clause" to examples such as *He gave the letter to the clerk, who then copied it.* Determine what properties such relative clauses have in common with restrictive or nonrestrictive relatives.

6. Do the analyses argued for in this chapter imply that English should allow infinitival free relatives? (Infinitival free relatives are found in Spanish, e.g., *No tengo con que pagarte*, literally 'I do not have [with which to pay you]'.)

7. An alternative hypothesis for the low acceptability of combinations such as *who tall* and *what even* is that they sound bad because the stressed interrogative pronoun is immediately followed by a stressed syllable. Construct examples that will provide a test of that hypothesis and, on the basis of acceptability judgments for those examples, decide whether the hypothesis fits the facts.

8. There are in fact some counterexamples to the generalization that a sentence with a nonrestrictive clause is interchangeable with a sequence of separate sentences, one corresponding to the host S and one corresponding to the nonrestrictive clause:

   Has John, who is on Mary,'s thesis committee, approved her, thesis proposal yet?
   Has John approved her, thesis proposal yet? *He is on Mary,'s thesis committee.

What does it take to reconcile the analysis of nonrestrictive clauses given in §13b with such examples? In your answer, pay attention to the division of labor between restrictions on where a pronoun can appear in relation to its antecedent and restrictions on what syntactic positions can be filled by a pronoun, irrespective of where its antecedent is.

9. a. For the language other than English that you know best, give a sketch of the forms that relative clauses can have.

   b. Discuss whether the language shows any difference between restrictive and nonrestrictive clauses in internal or external syntax. Do not confine yourself to details of structure that are analogous to those on which English restrictive and nonrestrictive clauses differed: bring in any special characteristics of your language that might be relevant.

10. Check whether pseudo-cleft clauses possess any of the interrogative properties that *-ever* free relatives do.

11. a. Determine whether the analyses of nonrestrictive clauses and of cleft sentences given in this chapter correctly imply that agreement should work as in the following examples:

   I, who am the owner of this company, have the right to decide who to hire.
   You, who are the owner of this company, have the right to decide who to hire.
   It is I who am responsible for making the decisions.
   It is you who are responsible for making the decisions.

If any missing details of the analysis need to be supplied in order for there to be clear implications, supply them.

b. Agreement in cleft sentences is not quite as simple as the examples in exercise 11a might suggest, in that only nominative focus expressions show fully acceptable first or second person agreement in the cleft clause:

It isn't me who shaves himself with a straight razor. (Akmajian 1970: 155)
It's me who is/*am the owner of this company.
He insulted mé, who ?am/*is the owner of this company.

Say what problems such sentences cause for the analysis of cleft sentences given in §13d, and suggest how that analysis might be altered or supplemented so as to accommodate those facts.

12. For any two of the putatively appositive constructions discussed in §13e, determine whether each of them can be "stacked," and determine whether each of them can be embedded within the other. Do the fragmentary analyses given in §13e imply that those combinations should be possible?

13. Determine whether combinations such as *up here* or *out in Wyoming* involve any of the kinds of "apposition" that were discussed in §13e. Include discussion of whether one of the two parts of the combination is dependent on the other.

14. If proper names are analyzed as having an underlying article, as was suggested in §13e, how will we need to revise what was said about proper names in the discussion in §13b of differences between restrictive and nonrestrictive RCs?

NOTES

1. Throughout most of this chapter, we will concentrate on finite relative clauses, ignoring infinitival relatives (such as *a good person to whom to tell your troubles* or *a good person to tell your troubles to*). In the places where infinitival relatives are taken up, some attempt will be made to determine which of the generalizations about relative clauses that are drawn in this chapter apply to infinitival as well as finite relatives, and which ones apply only to finite relatives.

2. Since personal pronouns must generally be taken to be unspecified for person, number, and gender in deep structure (§11f), this means that for all practical purposes what underlies the pronoun is a referential index.

3. This means that relative pronouns are moved in a single step from their position within the relative clause to the complementizer position of the whole relative clause and are not (as claimed by, e.g., Chomsky 1973) moved up the tree one S at a time, thus moving into the Comp position of Comp$'_1$ via those of Comp$'_2$ and Comp$'_3$. Note that in rejecting Chomsky's conclusion that movement of relative pronouns is "successive cyclic" I am not rejecting the conclusion that it is cyclic (as opposed to postcyclic). I reject as flawed the arguments that have occasionally been given (e.g., McCawley 1970) for the conclusion that this and the other kinds of Wh-movement are postcyclic.

4. There is considerable dialect variation with regard to whether this restriction is operative. It does not apply in Old, Middle, or Early Modern English, nor in such current dialects as American urban Black English. Examples such as the following are widely attested:

My father had a daughter [Ø loved a man]. (*Twelfth Night* II.iv.107)
That's the one thing [Ø can make her cheerful]. (O'Neill, *Long Day's Journey into Night*)

5. The output of RNR is given here in accord with the conclusions of §9b, where it is argued that the "raised" constituent remains a daughter of whatever nodes it had been a daughter of, so that the output is a discontinuous structure in which that constituent has multiple mothers.

6. There is an acceptable interpretation of (30c) in which *nobody* does not have the meaning and syntactic function that it has in (29c) but functions as a noun meaning 'person who is not of any importance'.

7. A qualification must be made for the *every-* of *everybody*, etc., which is ambiguous between the senses of *every* and of *all*. Words of the *every-* series can be used even in contexts that allow *all* but not *every:*

Köchel compiled a catalog of everything that Mozart wrote.
*Köchel compiled a catalog of every work that Mozart wrote.
Köchel compiled a catalog of all of Mozart's works.
Everyone is alike.
*Every linguist is alike.
All linguists are alike.

8. Chomsky (1964: 69–70) and Katz and Postal (1964: 93–94) use examples like (25a–b) as the basis of arguments that the underlying structures of interrogative words contain the corresponding *some-* words.

9. The inserted article is not always indefinite, e.g., I would posit insertion of a definite article in *Scott is the author of Waverley*. The article that is inserted is the one that would be less misleading if it were given its normal semantic interpretation. See Pentheroudakis 1977 for detailed discussion of a language (Modern Greek) that draws a three-way distinction among articleless NP, indefinite NP, and definite NP, with the articleless NP generally corresponding to English NPs with a semantically empty indefinite article.

10. A third possible analysis of relative clauses on predicate NPs, which is defended in McCawley 1981b, 1993 but will not be pursued further here, is to derive relative clauses on predicate NPs from underlying coordinate structures (e.g., derive (43a) from a structure *[John$_i$ be lawyer and he$_i$ wins every case]* by adjunction of the second conjunct to the predicate N' of the first conjunct) and treat nonpredicate N's as corresponding to deep structure [$_s$ x be N'] constituents. Since conjoined Ss are possible wherever simple Ss are, the latter part of this proposal would automatically make available deep structures in which the [$_s$ x be N'] was conjoined with a S such as would underlie a relative clause on a predicate N' and would thus provide derivations for relative clauses on nonpredicate NPs.

11. See, however, Haiman 1990 for arguments that *that* in subject relatives is a relative pronoun rather than (or in addition to?) a complementizer.

The point that Wh-movement of a subject relative pronoun is nonvacuous can also be made for nonrestrictive clauses; note attestations such as the following:

I'm still on the lam from my last ex, who for the last five years has been following and harassing me. (letter to *Dear Diane*, Aug. 12, 1992)

12. This restriction relates only to proper nouns that are used as proper nouns. A proper noun that is used as a common noun can host a restrictive relative as well as any inherently common noun can:

The Harry Smith who took your phonetics course last year has transferred to Cornell.

13. Multiple relative clauses are said to be "stacked" when they have the same head; the statement that nonrestrictive clauses cannot be stacked thus does not exclude sequences of nonrestrictive clauses that do not modify the same host:

> Sam Bronowski, who took the qualifying exam, which almost everyone failed, did brilliantly on it.

It likewise does not exclude the conjoining of nonrestrictive clauses:

> Sam Bronowski, [who took the qualifying exam, who failed it, who took it again, and who failed it again], wants a third chance.

14. This will result in a discontinuous structure if the target is not at the end of the sentence. The question of what exactly underlies a nonrestrictive clause is ignored for the moment. I argue below that it corresponds to an underlying S containing a constituent coreferential with the target constituent.

The label S at the top of (20), and indeed the node bearing that label, are fudges motivated by a desire to avoid temporarily a digression into the question of whether the nonrestrictive clause and its host even make up a syntactic unit, and if so, what the syntactic category of that unit is. They clearly make up some sort of unit, but it might be a unit of action rather than strictly speaking a syntactic unit—note in this regard the point made below that the nonrestrictive clause and its host correspond to separate speech acts. The nonrestrictive clause is labeled S rather than Comp', in view of the implausibility of an underlying structure in which it has a Comp: nonrestrictive clauses do not normally allow a Comp (*that*) as an alternative to a relative pronoun, and, under the analysis sketched here, are not subordinate in deep structure. The only sense in which the position occupied by the relative expression in a nonrestrictive clause is a "Comp position" is that it is analogous to the position occupied by a Comp in complements and restrictive relative clauses.

15. A further difference between restrictive and nonrestrictive clauses, though one whose implications will not be completely clear until the relationship of syntax to intonation and rhythm is better understood, is in the acceptability of sentences in which a parenthetical expression breaks up the construction.

> i. *Fred was just talking to the person incidentally who asked John for help.
> i'. *Dorothy arrived on the day of course when I was in Toledo.
> ii. ?Fred was just talking to Mary, incidentally, who asked John for help.
> ii'. ?Dorothy arrived on Wednesday, of course, when I was in Toledo.

It at least is plausible to take this difference as evidence that nonrestrictive clauses are "less tightly" connected to the preceding material than are restrictive clauses. With cleft clauses, which presumably do not have any connection with the preceding constituent (the predicate constituent), there is not even the mild awkwardness that one finds in examples like (ii–ii'):

> iii. It was Fred, incidentally, who asked John for help.
> iv. It was Wednesday, of course, when I was in Toledo.

16. An important deficiency in this account is its failure to distinguish between the total unacceptability of a bare nonrestrictive and the marginal status of nonrestrictives

with *that*. It is not uncommon for speakers of English to spontaneously produce nonrestrictive relatives with *that*, whereas to my knowledge bare nonrestrictives are totally unattested.

17. It will be convenient to introduce the term **neighbor** for a constituent that is immediately adjacent to a given constituent, that is, two constituents are neighbors if one precedes the other and there is no constituent that follows the one and precedes the other. Emonds's constraint can then be restated as a requirement that every nonrestrictive clause be a surface neighbor of its target. We might indeed generalize Emonds's proposal to a universal constraint that all adposits be surface neighbors of their targets, though I know of so few clear cases of adposition that I cannot make that suggestion with much confidence.

18. Postal (1994) notes that two other constructions besides the nonrestrictive relative, namely topicalization and the cleft (but not the pseudo-cleft) construction, reflect the restrictions on personal pronouns that are seen in (31):

> ??Yellow, Mary painted her car.
> *Spain, Alice was born in.
> *Mongolian, Jane spoke to them in.
> *Wealth and status, you can tell about people from the way they dress.

The account suggested here of the difference between restrictive relative pronouns and nonrestrictive relative pronouns thus needs to be integrated into an account of the more general distinction that Postal draws between two different kinds of extractions.

19. These and many other examples in this section are from Bresnan and Grimshaw (1978). For valuable discussion of the issues taken up in this section, I am grateful to John Richardson.

20. While *what* in standard English does not function as a relative pronoun, its German and Russian counterparts do when the head is an indefinite pronoun:

> everything which/that/*what he said
> alles, was er sagte
> vse, čto on skazal

21. Conceivably *as*-comparatives could be analyzed as relative clauses such as one might expect to be expressed with *how*, e.g., *My lawyer was as nasty as their lawyer was* would involve a relative analog to *How nasty was their lawyer?*. In some languages the same word (e.g., German *wie*) is used both for interrogative *how* and for the *as* that introduces the "standard of comparison."

22. What is at issue here is interpretations in which the parenthesized expressions are restrictive relatives. Not surprisingly, the analog to (14c') in which that expression is a nonrestrictive clause is perfectly normal. To my knowledge, the possibility of restrictive relatives modifying free relatives was first noted in Weisler 1980.

23. With a different constituent structure, namely *the covers of [what books they defaced]*, (17c″) is acceptable, but then it refers to replacing the covers; what is at issue in (17c–c″) is interpretations having to do with replacing the books.

24. This implication may be a liability rather than a virtue, in view of the extent to which a *that* is acceptable in such examples as this (Bresnan and Grimshaw 1978:346):

> Whatever food that there may be in that pantry is probably infested with moths.

25. With regard to one Wh-word, *-ever* free relatives diverge from both interrogatives and restrictive relatives, in that *why*, which both the latter allow, is excluded:

I asked why he had called me.
the reason why he called me
*I'll lend you money whyever you want me to. (cf. for whatever reason)

26. Note that (20b, c) involve what is referred to in §22a as "Telescoping," e.g., the relative clause in (20b) means not 'that way won't offend them' but 'wording the reply that way won't offend them', and the one in (20c) means not 'that degree of deceitfulness won't get him disbarred' but 'being deceitful to that degree won't get him disbarred'. Telescoping is also seen in paraphrases with restrictive relatives:

I'll word my reply in any way that I can that won't offend them.
John will be deceitful to any degree that his clients want him to be that won't get
· him disbarred.

27. When I introduced the term pseudo-relative (McCawley 1978b), I was unaware that it had already been used by Radford (1975) as a name for the apparent relative clauses that appear in such French sentences as *J'ai vu Marie qui pleurait* 'I saw Marie crying'.

28. This point appears to have first been made in Lees 1963.
The focus constituent of a cleft construction has to bear contrastive stress. In (16b), the contrastive stress has to be borne by the possessive NP rather than by *leg*, since it is the possessive rather than the noun that is being contrasted with an alternative. The meaning of (16b) can also be expressed as *it was mé whose leg they pulled*, where *X's leg* appears as the relative expression rather than as the focus.

29. Some puzzles about pseudo-clefts are worth noting here. Green (1971) has noted that pseudo-cleft Ss can contain expressions for which there is no room in a corresponding noncleft S:

What I like <u>about John</u> is his sense of humor.
*I like his/John's sense of humor about John/him.

Declerck (1983) observed that the "reverse" form of pseudo-clefts is subject to fewer restrictions than the "normal" form and allows some foci that are not possible in the "normal" form:

This is where I have to get off.	Where I have to get off is *this/??here.
That's when it's going to be.	*When it's going to be is that.
Tuesday is when you should come back.	??When you should come back is Tuesday.

One other kind of cleft sentence that has largely escaped the attention of linguists, with the notable exception of Collins (1991), is what Collins calls "*All*-cleft" sentences, such as *All the car needs is a new battery*.

30. The sort of semantic structure that I envision is, e.g., one that will represent (18a) in terms of the predicate $(\lambda x)(x$ is a gourmet cook) being the value of P that satisfies (λP)(George wants (George be P)). The "abstraction operator" λ that figures in these formulas converts an expression into a function from values of the indicated variable to values of that expression, e.g., $(\lambda x)(x$ is a gourmet cook) denotes the property of being a gourmet cook (i.e., the function that associates to each individual the proposition that that individual is a gourmet cook). The λ-notation is heavily exploited in Montague grammar; see, e.g., Dowty, Wall, and Peters 1981:98–110.

31. Another difference is in the forms that one can appropriately use for the name. In the construction of (2a), in which the name comes first, the name can take a reduced form if it otherwise meets the discourse conditions for the use of that form of the name, while the construction of (2b), in which the name comes second, reduced forms are not usually possible:

i. (Mr.) Swenson, a recent winner of the Illinois State Lottery, has announced that he plans to move to Bermuda.
ii. ??A recent winner of the Illinois State Lottery, (Mr.) Swenson, has announced that he plans to move to Bermuda.

The possibility of the reduced name in (i) confirms one facet of the hypothesis that the second part of (2a) is a reduced nonrestrictive clause, namely that the first part behaves like an ordinary NP.

32. The unacceptability of an extraposed form is not, however, sufficient grounds for classing an "appositive" expression as a reduced nonrestrictive clause, since (2b), which is not accurately paraphrased with a full nonrestrictive clause, still does not allow extraposition:

*A recent winner of the Illinois State Lottery has announced that he plans to move to Bermuda, Albert Swenson.

33. The possibilities for split antecedents of nonrestrictive relatives are severely limited; aside from examples such as (8), in which the joint antecedents are in different conjuncts of the same coordinate structure, they appear to be unacceptable:

*A friend of Pat Brown, has brought a lawsuit against a business associate of Jerry Brown, who are both former governors of California.

34. Similarly, while a pronoun in a restrictive clause can be bound by a quantifier in its host S, one in a nonrestrictive clause cannot:

i. Most linguists, are grateful to the person who first introduced them, to linguistics.
ii. *Most linguists, admire Edward Sapir, whose works taught them, how fascinating language can be.

Chris Kennedy and Liz Cowper (personal communication) point out that "appositive" expressions can differ in this regard:

·· iii. *Every student, likes Prof. Jones, his, syntax instructor.
iv. Every student, is allowed to bring one guest to the party, namely his, mother.

While *Prof. Jones, his syntax instructor* and *a guest, (namely) his mother* thus behave (as they should) like, respectively, an expression that is and one that is not a reduced nonrestrictive clause construction, this difference is not a useful test for identifying reduced nonrestrictive clauses, since most of the potentially relevant examples are too specific in interpretation to provide the necessary variables; e.g., since *we admirers of him* would have to denote a specific set of persons, *him* could not be interpreted as a variable and thus *we admirers of him* could not concomitantly vary over different sets containing the speaker. Thus the unacceptability of (v) does not provide any grounds for inferring that *we N'* is a reduced nonrestrictive construction.

v. *Every soloist was grateful to us admirers of him.

35. Postal (1966), a version of whose analysis is adopted here, argues that the personal pronoun of these combinations is syntactically a definite article. A particularly strong case for classing *you* and *we* in these combinations as articles is made by Pesetsky (1978).

Postal's conclusion is disputed by Delorme and Dougherty (1972), who regard the construction as appositive and interpret the second part of the construction not as an N' but as an indefinite plural NP. Among the arguments that Delorme and Dougherty offer in support of their analysis and against Postal's is that their proposal yields an explanation for the (from Postal's point of view) puzzling restriction that the two parts must be plural: only a plural NP lacks an article, and thus only if the second part is plural does an apparent sequence of pronoun + N' arise. Pesetsky rejects this explanation as spurious, on the grounds that the same restriction is found in languages (e.g., Russian) in which singular as well as plural predicate nouns are used without an indefinite article. One piece of prima facie evidence offered by Pesetsky that *we/you* in this combination is an article and not the first part of an appositive construction is the observation that *all* does not combine directly with a pronoun but does combine directly with *we linguists:*

*All us/we read Panini
*All us/we, the linguists of America, understand the riddle of existence.
All us linguists understand the riddle of existence.

The construction of *we linguists* is distinct from combinations involving an epithet such as *you idiot*, which don't fill NP positions but only are used as "vocatives":

*I regret that I hired you idiot.

36. Besides being syntactically odd, (16a) is graphemically odd no matter how one punctuates it; I have arbitrarily chosen one of the graphemically unacceptable placements of the comma and apostrophe. Combinations of nonrestrictive clause and a contracted auxiliary *'s*, by contrast, are syntactically acceptable, though they too have no acceptable written form:

John, who I can't stand, 's been given a promotion.

37. The hypothesis that personal pronouns are articles in *we linguists*, etc., is relevant to the issue of whether the head of a NP is not the N but rather the determiner. If personal pronouns are Dets not only when combined with an N' but even when used alone, then "NP" becomes more homogeneous: NPs consisting of just a pronoun and those of the form [Det N'] then have heads of the same category.

Delorme and Dougherty point out some respects in which the parallelism between *the* and the *we/you* of examples like (12a, b) is less complete than Postal indicates, e.g., elements such as *same* and superlatives that require a definite determiner do not allow *we/they*.

The/*We/*You same people who got drunk didn't get invited back.

For Delorme and Dougherty, this discrepancy has a simple explanation: *we same* would require a structure in which *we* is combined with a NP, and *same people who got drunk* isn't a NP. A further discrepancy between *we/you* and *the* is that the acceptability of (11a) is improved if *the* is substituted for *we/you*.

38. A problem worth noting: (24e) ought to be a reduced restrictive clause, but it doesn't have an alternative form as a full restrictive clause:

*the sound which is disgusting ___

39. I consider here only NPs of the form *the N' of X*. The seemingly parallel combination with an indefinite article is different syntactically, since it allows extraposition (i) and has no variant without *of* (ii):

i. Nome hit a record high Monday of 40—above zero. (*Chicago Tribune*, Dec. 29, 1993)
i'. *He visited the state last week of New Hampshire.
ii. Each compartment can be occupied by a maximum of/*∅ 6 persons.

40. I ignore here NPs such as *the Browns*, where it is difficult to tell whether the proper name is being treated as a common noun.

41. It makes a difference whether *late, former*, etc. modifies an expression containing a proper name (in which case an article is obligatory) or merely a "role" or "title" noun (in which case the rules for the construction in which that noun is used determine whether an article may or must be used):

the late poet Robert Frost
*late poet Robert Frost
former governor James Thompson

A case can also be made for the deletion of an indefinite article in NPs such as *two boys* on the basis of such examples as:

Two of the three Semitic sibilants have fallen together in Hebrew and a different two have fallen together in Arabic.
I spent a measly three months there.
(Cf. I spent three measly months there.)
I'm a mere ten years older than her.
(For the two movies) he reportedly was paid a combined $10 million. (*Parade*, Oct. 14, 1990)

Likewise, common nouns that (irregularly) appear without an article when not modified require one when a modifier is added:

I thank you on (*the) behalf of my colleagues.
I thank you on the /*∅ posthumous behalf of Frédéric Bastiat.