Two notes on right node raising ♦

Željko Bošković
University of Connecticut

0. Introduction

Right node raising constructions (RNR), illustrated by (1), have received both movement and non-movement analyses in the literature.¹

(1) John likes, and Peter hates, your best friend

Under the movement analysis (Ross 1967, Maling 1972, Bresnan 1974, Postal 1974, 1993, Hudson 1976, among others), the ‘shared’ constituent in (1) undergoes across the board (ATB) rightward extraction, adjoining to the coordinated phrase.

(2) [IP [IP John likes ti] and [IP Peter hates ti]] your best friend]


Under WC’s analysis of (1), your best friend in the complement of the first conjunct verb

¹ This paper is somewhat old; it was written in 1996. I have changed nothing from the original version. The paper is a shortened version of my paper ‘On right node base-generation’, written in February 1996. For helpful comments and suggestions, I thank Howard Lasnik, Colin Phillips, and the participants of my fall 1995 syntax seminar at the University of Connecticut.

² I am using the term RNR in a neutral fashion without committing myself to a particular analysis of this phenomenon.

² Note that the purpose of this paper is to compare the movement and the non-movement approach to RNR, and not different non-movement approaches.
is deleted at PF under identity with your best friend in the second conjunct, which is located in the complement position of the second conjunct verb, the same position as in Peter hates your best friend.³

(3) [John likes [your best friend]] and [Peter hates your best friend] PF deletion

In this paper I present new data pertaining to RNR and examine how the movement and the base-generation approach fare with respect to these data.⁴

1. Right node raising and VP ellipsis

In this section I will show that there are a number of similarities between RNR and VP ellipsis that can be more naturally accounted for under the PF deletion analysis of RNR than under the movement analysis.⁵

It is well-known that VP ellipsis can take place under strict identity of the VPs involved in the process, as illustrated in (4):

(4) a. John can win, and Peter can (win) too
    b. John is entering the championship, and Bill is (entering the championship) too

In addition, VP ellipsis can ‘ignore’ certain inflectional differences between the antecedent and the elided verb (see Quirk et al 1972, Sag 1976, Williams 1977, Fiengo and May 1994, Lasnik 1995a, among others). This is illustrated in (5), which shows that

---

³ If, as argued by Koizumi (1993, 1995) and Lasnik (1995b,c), among others, direct object NPs in simple transitive constructions in English are located in SpecAgroP at SS, your best friend in (1) would be located in the second conjunct SpecAgroP.

⁴ Note that the goal of this paper is not to provide a comprehensive account of the RNR construction, but simply to compare how the two existing approaches fare with respect to the data discussed in this paper. The strongest argument previously offered either for or against one of the two approaches to RNR seems to me to be WC’s observation that the shared constituent in RNR can be buried within an island, as illustrated by Mary knows a man who buys, and Bill knows a man who sells, pictures of Fred, which is unexpected under the movement, but not under the base-generation analyses of RNR. One of the arguments against the movement analysis of RNR given in Bošković (1996) concerns the fact that otherwise completely immobile elements can undergo RNR, as illustrated by John asked when, but he didn’t ask why, Mary left and I like expensive, and you like cheap, dresses, whose RNRed elements cannot undergo other movement operations. I will not repeat here other arguments given in the literature for or against one of the two approaches to RNR, or discuss the technicalities of these approaches in any detail. The reader is referred to the references given above. For additional arguments against the movement analysis, see also Levine (1985) and McCloskey (1986).

⁵ I will confine myself here to discussing morphological properties of RNR and VP ellipsis and ignore their interpretational properties such as those pertaining to binding and scope, since it is not clear what predictions different theories of RNR would make with respect to these, given the peculiar interpretational properties of RNR constructions. (Note that the shared constituent in RNR receives a strong non-contrastive focus, and the coordinated phrases receive contrastive focus. Precedence may also be relevant here.)
Two notes on right node raising

an infinitive can be deleted under identity with a progressive and a participle, and that a participle can be deleted under identity with a progressive and an infinitive.

(5)  a. ?John was sleeping in her office, and Peter will (sleep in her office) too
    b. John has slept in her house, and now Peter will (sleep in her house)
    c. John may be questioning our motives, but Bill hasn’t (questioned our motives)
    d. John will sleep in her house, and Peter already has (slept in her house)

A sort of sloppy identity is at work in (5a-d). ‘Sloppy identity’ VP ellipsis is, however, not always allowed, i.e., not all inflectional differences between verbs involved in VP ellipsis can be ignored. Thus, according to Lasnik (1995a), a progressive cannot be anteceded by an infinitive, and be cannot be anteceded by a different form of be.6

(6)  a. *John won’t enter the championship, but Jane is (entering the championship)
    b. *John was being obnoxious, and Jane will (be obnoxious) too

Turning to RNR, as shown in (7), RNR can affect VPs under strict identity of the verbs involved in the process.

(7)  a. John can (win), and Peter must, win
    b. John is (entering the championship), and Bill isn’t, entering the championship

In addition, VP RNR can also take place under sloppy identity. In fact, sloppy identity RNR is allowed exactly in those cases in which sloppy identity VP ellipsis is allowed. Where sloppy identity VP ellipsis is not allowed, sloppy identity RNR isn’t either. In other words, VP RNR can ignore only the inflectional features that can be ignored by VP ellipsis. (An adverb is added to some examples to make them more natural.)

(8)  a. ?John will (sleep in her office), and Peter definitely was, sleeping in her office
    b. John will (sleep in her house), and Peter already has, slept in her house
    c. John hasn’t (questioned our motives), but Bill may be, questioning our motives
    d. John has (slept in her house), and Peter definitely will, sleep in her house
    e. *John is (entering the championship), but Jane won’t, enter the championship
    f. *John will (be obnoxious), and Jane actually was, being obnoxious

The parallelism between VP RNR and VP ellipsis strongly suggests that a similar process is at work in both operations. If VP ellipsis involves PF deletion (Chomsky 1955, Harris 1957, Ross 1969, Grinder and Postal 1971, Postal 1972, Sag 1976, Hankamer and Sag 1976, Chomsky and Lasnik 1993, Lasnik 1995c, among others), RNR should then

---

6 Lasnik (1995a) provides a principled account of the data in (5-6) that readily extends to the RNR data discussed below.
also be taken to involve PF deletion, as in WC’s analysis.\textsuperscript{7} Note also that there is some variability in judgments for the relevant examples, particularly the RNR constructions. (Certain amount of variability in judgments is often found with RNR constructions, see, for example, Abbott 1976.) For example, some speakers find some of the good examples in (8) somewhat marginal. Note, however, that absolute judgments are not important here. What is important is that (8a-d) are better than (8e-f) ((8a) actually has an intermediate status for most speakers) and that the same pattern is found with VP ellipsis. ((5a-d) are better than (6a-b) with (5a) having an intermediate status for most speakers.) This pattern is not found with VP fronting, as discussed below. On the other hand, it is difficult to see how the parallelism between VP ellipsis and RNR can be captured under the movement analysis of RNR. The problem that the parallelism raises for this analysis becomes even more serious when we take into consideration the fact that VP preposing, a movement process, differs from VP ellipsis and RNR with respect to the possibility of sloppy identity of relevant elements. Thus, (9a-c), which indicate that the relevant inflectional differences cannot be ignored under (ATB) movement, clearly contrast with (8a-c), which in turn indicates that RNR does not involve ATB movement.\textsuperscript{8}

RNR constructions with complex verbal forms confirm this conclusion. Consider (10):

(9) a. *[Sleeping in her office], (Peter was t and) John will t
b. *[Slept in her house], (John has t and) Peter will t
c. *[Questioning our motives], (John may be t and) Peter hasn’t t

RNR constructions with complex verbal forms confirm this conclusion. Consider (10):

(10) John must have been hassled by the police, and Peter must have been hassled by the police too

(11) shows the possibilities for RNR in the construction in question:

(11) a. ?*John must, and Peter could, have been hassled by the police
b. John must have, and Peter could have, been hassled by the police
c. John must have been, and Peter could have been, hassled by the police

\textsuperscript{7} Note that in an RNR counterpart of a VP ellipsis construction the missing material in the first conjunct (given in parenthesis) corresponds to the missing material in the second conjunct of the VP ellipsis construction. Thus, (8a) but not *John was, and Peter definitely will, sleep in her house is a RNR counterpart of (5a), the latter being the RNR counterpart of *Peter will sleep in her house, and John was.

\textsuperscript{8} Changing the order of the conjuncts in (9) does not improve the constructions. Interestingly, as noted in Oku (1996), most speakers allow either a participle or an infinitive to appear in the complement of have under VP preposing (cf. Win/won the race John has), though only the participle is allowed without VP preposing (cf. John has won/*win the race). Given Oku’s observation, the grammaticality of Sleep in her house, John has and Peter will is not surprising.
Significantly, VP ellipsis has the same possibilities as RNR:

(12) a. *John must have been hassled by the police, and Peter must too
     b. John must have been hassled by the police, and Peter must have too
     c. John must have been hassled by the police, and Peter must have been too

VP preposing again differs from RNR and VP ellipsis:

(13) a. *Have been hassled by the police, John must
     b. *Been hassled by the police, John must have
     c. Hassled by the police, John must have been

That RNR patterns with VP ellipsis rather than VP preposing is even clearer in more complex constructions. Consider, for example, the following construction:

(14) Mary must have been being hassled by the police, and Bill must have been being hassled by the police too

Sag (1976) notes the possibilities for VP ellipsis in (14) shown in (15). Again, RNR turns out to pattern with VP ellipsis (16), rather than with the movement operation of VP preposing, which is not fully acceptable in the construction under consideration (17).

(15) a. *Mary must have been being hassled by the police, and Bill must too
     b. Mary must have been being hassled by the police, and Bill must have too
     c. Mary must have been being hassled by the police, and Bill must have been too
     d. *Mary must have been being hassled by the police, and Bill must have been being too

(16) a. *Mary must, and Bill could, have been being hassled by the police
     b. Mary must have, and Bill could have, been being hassled by the police
     c. Mary must have been, and Bill could have been, being hassled by the police
     d. *Mary must have been being, and Bill could have been being, hassled by the police

(17) a. *Have been being hassled by the police, Bill must
     b. *Been being hassled by the police, Bill must have
     c. *Being hassled by the police, Bill must have been
     d. *Hassled by the police, Bill must have been being

To summarize, I have shown that RNR of VPs patterns with VP ellipsis in a number of respects. VP preposing, on the other hand, differs from RNR and VP ellipsis in the relevant respects. The parallelism between RNR and VP ellipsis, as well as the
differences between these operations and VP preposing, raise serious problems for the
movement analysis of RNR, but can be accounted for under the PF deletion analysis.\textsuperscript{9} Howard Lasnik (p.c.) notes that certain facts concerning adverbs that can be
base-generated in right-adjoined but not in left-adjoined positions, such as this week,
provide evidence that heavy NP shift, a rightward movement operation (see n. 15), cannot
affect VPs, which can be interpreted as providing additional evidence against the
movement analysis of RNR. Note, e.g., that heavy NP shift, which despite its name is not
restricted to NPs, cannot affect the VP in *John has bought a house this week, as indicated
by the impossibility of the VP occurring following the adverb (cf.*John has bought this week
[bought a house]). The impossibility of other rightward movement operations affecting
VPs casts a doubt on the rightward movement analysis of RNR.

2. \textbf{Right node raising and heavy NP shift}

The most important difference between the movement and the base-generation analyses
of RNR is that under the latter analysis the shared constituent cannot be dislocated from
its base-generated position by RNR. If the shared constituent is not located in its
base-generated position, under the base-generation analysis it must have been removed
from there by an operation distinct from RNR, which is not the case under the movement
analysis. To illustrate this with an example, consider (18):

\begin{enumerate}
\item (18) Mary kissed (yesterday), and John hit last week, the man you met in Paris
\end{enumerate}

Given that direct objects are generated adjacent to verbs, the shared constituent in
(18) cannot be located in its base-generated position. Under the movement analysis, the
constituent could have still been dislocated from its original position by RNR. This is not
the case under the base-generation analysis, on which the man you met in Paris must have
been removed from its original position by an operation distinct from RNR. The only
candidate seems to be heavy NP shift (HNPS), which under standard assumptions (but
see Kayne 1994 and Larson 1988) moves heavy constituents to the right (see n. 15).
There are two ways of analyzing (18) under WC’s analysis: (i) the man you met in Paris
undergoes HNPS within the second conjunct, after which the man you met in Paris in the
first conjunct, which can be either located in situ or itself undergo HNPS within the first
conjunct, is deleted under identity with the corresponding phrase in the second conjunct.
(ii) the man you met in Paris undergoes ATB HNPS. Under the base-generation analysis,
the shared constituent in (18) thus must undergo HNPS at least within the second
conjunct, which is not the case under the movement analysis. Since HNPS is subject to
several constraints that do not affect other movement operations, this provides us with
another way of teasing apart the movement and the base-generation analysis of RNR.

\textsuperscript{9} As Colin Phillips (p.c.) observes, the same actually holds for other base-generation approaches to
RNR cited above.
Two notes on right node raising

It is well-known that, as shown in (19), RNR is compatible with preposition stranding, whereas HNPS is not (see Ross 1967).\(^\text{10}\)

(19) a. John talked about, and Mary ignored, the man you met in Paris
   b. Mary ignored, and John talked about, the man you met in Paris
   c. *John talked about yesterday the man you met in Paris

If rightward dislocated shared constituents must have undergone HNPS within the second conjunct, we would expect that the dislocation will not be able to strand a preposition. As shown in (20), the expectation is borne out.

(20) *Mary ignored and John talked about yesterday the man you met in Paris

Since, in contrast to RNR, HNPS cannot strand a preposition, the ungrammaticality of (20) indicates that the shared constituent is ‘removed’ from its base-generated position by HNPS, and not some kind of a movement operation particular to RNR. If RNR were to involve rightward movement, it would be difficult to account for the contrast between (19b) and (20). Under the base-generation analysis, on which RNR does not involve a distinct movement operation and elements that appear to the right of their base-generated position must have been heavy NP shifted, the contrast in question is readily accounted for.\(^\text{11}\) Note that Wilder (1995) independently reaches the conclusion that constructions with rightward dislocated shared phrases involve HNPS.

Certain facts concerning extraction out of the shared constituent provide more evidence for this conclusion. The relevant contrasts are, however, more subtle here. WC observe that, as (21a-b) illustrate, extraction from heavy NP shifted phrases is degraded, whereas extraction from RNR complements is fine.

(21) a. Who\(_i\) did Mary buy, and Bill sell, pictures of \(t_i\)
   b. ?*Who\(_j\) did Mary sell \(t_i\) to Peter [a picture of \(t_j\)]

Bearing in mind that extraction is allowed out of RNRed but not heavy NP shifted constituents, let us return to constructions in which a shared constituent direct object NP in what could be RNR is not adjacent to the verb. As (22), which contrasts with (21a), illustrates, extraction out of such constituents is degraded. This indicates that the

\(^{10}\) Rochemont and Culicover (1992:191, n. 34) claim that prepositions that permit pseudopassivization can be stranded under HNPS. However, Baltin and Postal (1996) dispute this claim, and my informants agree with them.

\(^{11}\) The same point can be made with respect to (ii), if (ia-b) are taken to indicate that RNR differs from HNPS in that the affected constituent does not have to be heavy. One could, however, relativize the notion of heaviness to the amount of intervening material, in which case (ia), where the direct object is PF adjacent to the verb, would not necessarily indicate that RNRed constituents do not have to be heavy.

(i) a. Mary kissed, and Peter hit, Bill
   b. *Mary kissed yesterday Bill
(ii) *Mary kissed (yesterday) and John hit last week Bill
construction must involve ATB HNPS, as expected under the base-generation analysis, but not under the movement analysis of RNR.

(22) ?*Who, did Mary buy (yesterday) and Bill sell last week pictures of ti

Recall now that constructions with rightward dislocated shared constituents can be analyzed in two ways under the base-generation analysis: they can either involve HNPS within the second conjunct, followed by RNR, i.e., PF deletion of the relevant material in the first conjunct, or they can simply involve ATB HNPS. Given that both options are available, we can conclude that under the base-generation analysis of RNR, HNPS must take place within the second conjunct in the relevant constructions, but not necessarily within the first conjunct. That this is indeed the case is confirmed by the grammaticality of (23), with P-stranding within the first conjunct.  

(23) ?Mary talked about, and John ignored yesterday, the man you met in Paris

(23) contrasts with (20) and (19c), which provides evidence that HNPS does not have to take place within the first conjunct of the relevant constructions, i.e., they can be derived through the interaction of HNPS and RNR. Whereas the contrast between (23) and (20) is readily accounted for under the base-generation+PF deletion analysis of RNR, it is difficult to see how it can be accounted for under the movement analysis.

Interestingly, as noted in Oehrle (1991), if the gap in the first conjunct of constructions such as (23) is followed by an adverb, we get a degraded sentence.

(24) ?*Mary talked about yesterday, and John ignored, the man you met in Paris

The ATB HNPS derivation for (24) is ruled out because HNPS cannot strand a preposition. The RNR derivation is apparently also illegitimate. This is not surprising, given WC’s claim (p. 298, 303) that only conjunct final elements can be deleted by RNR. To be elided by RNR, the man you met in Paris then must undergo HNPS within

---

12 The lack of parallelism between the two conjuncts, a result of the adverb being present only in one conjunct, which was necessary to complete the paradigm (see below), is probably responsible for the slight marginality of (23). To control for the interfering factor, the adverb is also present only in one conjunct in (20) and (24), which are to be compared with (23).

13 Note that moved phrases can license deletion of phrases in situ, as shown by Buy that house I never will, although you claim that I should (buy that house).

14 See also Wilder (1995), who argues that quite generally, an ellipsis site must be right-peripheral in its domain (conjunct in the relevant cases). Assuming some kind of a parallelism requirement on deletion, WC’s requirement follows from the fact that the antecedent in RNR constructions must be conjunct final (cf. *John likes e, but he couldn’t give your neighbor a good grade), which in turn is most likely a result of the requirement that the antecedent bear non-contrastive focus. (Note that in the good examples discussed above the antecedent is located in the right-edge of VP, which is a typical focus position in English.) One might try to impose a conjunct-final requirement on the movement analysis by stipulating that only conjunct-final elements can be moved by RNR. Recall, however, that the corresponding assumption with the deletion analysis follows from the focus requirement on the RNR antecedent. A similar requirement
the first conjunct stranding the preposition, which is not allowed. The contrast between (23) and (24) is thus accounted for. On the other hand, it is difficult to see how the contrast can be accounted for under the movement analysis of RNR.

Turning now to ECM constructions, notice that under the base-generation analysis, (25) should be analyzed as involving HNPS, given that the shared constituent cannot be located within its base-generated position within the second conjunct.

(25) John believed to be innocent, and Peter proved to be guilty, the man you met in Paris

As with (18), we would expect HNPS to be forced to take place only within the second conjunct. This is confirmed by (26a), which, like (23), can be derived by applying HNPS within the second conjunct and RNR (PF deletion) within the first conjunct. The construction degrades if the element affected by RNR is forced to undergo HNPS within the first conjunct (26b). This can be accounted for in the same way as (24).

(26) a. John talked about, and Peter proved to be guilty, the man you met in Paris
   b. ?*John talked about yesterday, and Peter proved to be guilty last week, the man you met in Paris

To summarize, we have seen in section 2 that RNR cannot dislocate elements to the right of their base-generated position, as expected under the base-generation, but not under the movement analysis of RNR.

with the movement analysis would not follow from anything. In fact, it would not resemble any other constraint on movement. Furthermore, the stipulation would be falsified by (23), which under the movement analysis must be analyzed as involving RNR.

There are contexts in which ECM constructions must involve HNPS within both conjuncts. Postal (1974) notes that there is a class of verbs that cannot ECM the subject of their infinitival complement unless it undergoes A*-movement from the infinitival SpecIP. This is illustrated in (i) with respect to allege and wager. (For an account of the peculiar behavior of this class of verbs with respect to ECM, see Bošković (1997). Note incidentally that the fact that (id) patterns with (ib-c) rather than (ia) favors the standard rightward movement analysis of HNPS over Larson’s (1988) and Kayne’s (1994) analyses, which leave the heavy NP in situ.)

(i) a. *Jim alleged/wagered that man to have stolen the money
   b. That man, Jim alleged/wagered t_i to have stolen the money
   c. Who, did Jim allege/wager t_i to have stolen the money
   d. John alleged/wagered t_i to have stolen the money the man she fell in love with,

Postal (1993) claims that RNR also improves (ia) on the basis of (ii).

(ii) John alleged to have stolen the money, and Peter wagered to have won a lottery, the man she fell in love with

The grammaticality of (ii) provides evidence that the infinitival subject moves from the infinitival SpecIP. Given this and the above discussion, there are two ways of deriving (ii). One way is by ATB HNPS. Alternatively, the infinitival subject could move from the infinitival SpecIP separately within each conjunct via HNPS, with RNR deleting the element undergoing HNPS within the first conjunct under identity with the heavy shifted NP in the second conjunct.
Željko Bošković

References


Two notes on right node raising


Željko Bošković

University of Connecticut
Department of Linguistics
341 Mansfield Road Unit 1145
zeljko.boskovic@uconn.edu