

Bare Nominal Adjuncts*

Michael Barrie and Isaiah WonHo Yoo

Abstract: Emonds (1976) discusses a number of English sentences in which a nominal acts as an adverbial in a sentence but is not introduced by a preposition. Larson (1985) and Emonds (1987) propose different mechanisms. We review their analyses and, in light of additional data, show that they are not tenable. Rather, we propose that the noun in such constructions is structurally deficient (hence does not need a preposition for Case) and has an inherent θ -role (hence does not need a preposition to assign one). Our analysis accounts for a wider set of data and is thus preferable to Larson's and Emonds', albeit very much in the same vein as their original proposals. The current analysis also impinges on the structure of θ -roles and on lexical entries.

1 Introduction

Nominals that modify an event by specifying the location are nearly always introduced by a preposition in English. Consider the following examples.

- (1) a. John ate the apple *(in) the kitchen.
- b. John lives *(in) that place.
- c. Mary is walking *(on) the sidewalk.

As any native speaker of English can verify, the expressions of location in these examples must appear with a preposition. Consider, now, the following examples.

- (2) a. The place that John lives (in) is expensive.
- b. Mary has lived (in) many places.

While the prepositions in (1) are obligatory, the prepositions in (2) are optional. Emonds (1976) first observed that in certain environments adjuncts can appear without prepositions. The goal of this paper is to propose an analysis of these bare nominal adjuncts that renders the preposition optional in some of the observed contexts (namely those related to relative clauses).¹

Larson (1985) proposes that the nouns in bare nominal adjuncts have inherent Case. While we present Larson's proposal in more detail below, along with a detailed critique, we mention the gist of our ideas here. Larson argues that certain nouns, such as *place*, carry inherent Case and thus do not require a preposition. We reject this proposal in favour of Emonds' (1987) idea that *place* carries an inherent theta-role, but still needs Case if it is a DP. One reason for this shift is that Larson's proposal explains the optionality of the preposition in (2), but not in (1)b. We argue that the noun, *place*, in example (1)b is a full DP and thus requires a preposition to satisfy the Case Filter. In example (2), *place* is not a full DP and thus does not require Case. The tacit assumption to be clarified below is that only full DPs require Case. Since the noun *place* comes with its own theta-role, no preposition is needed if Case is not needed.

The remainder of this paper is organized as follows. Section 2 provides a background on prepositionless DP adverbs and on the syntax of relative clauses in English. Section 3 covers additional empirical facts about bare nominal adverbs, some of which have not appeared in the literature before as far as we know. Section 4 presents Larson's (1985) analysis of bare nominal adverbs and discusses some shortcomings of his analysis. Section 5 presents our analysis. Section 6 is a brief conclusion.

2 Background

This section introduces the core set of data that form the basis for the current investigation. Specifically, we discuss the set of adjuncts that consist of a bare nominal without a preposition. Such forms occur only in a restricted environment, which we introduce here and then explicate fully in section 3. Crucially, the licensing environment of such nominal adjuncts is sensitive to the type of relative clause in which it is found. Thus, we cover some background in the syntax of relative clauses below, too. But first, we start with bare nominal adjuncts.

2.1 *Bare Nominal Adjuncts*

Nominal phrases that are not core arguments are introduced into the clause by a variety of means cross-linguistically, including prepositions, postpositions, and applicatives. It is assumed that these elements contribute either a semantic role--that is, a theta-role--and/or Case to the DP. In English, prepositions serve this purpose. Thus, in the sentence *John ate the apple in the kitchen* the preposition *in* provides both Case and a theta-role for the DP *the kitchen*. However, Larson (1985) discusses the following examples of bare nominal adverbs.

- (3) a. I saw John that day/someplace you'd never guess.
b. John was headed that way.
c. Max pronounced my name every way imaginable.

Larson, following Emonds (1976), discusses the following core properties of the bare nominal adverb construction. (i) Only a small, restricted set of nouns can appear in this

construction, and (ii) although the bare nominal adverbs have the overt form of a DP, they have the distribution of an adverbial PP (or AdvP).²

While the distribution of bare nominal adverbs appears to be variable and arbitrary on the surface, there is a subset of such constructions with a remarkably static and clearly definable distribution. This subset, which we describe in detail below, opens a window into the organization of the lexicon. Specifically, we show that bare nominal adverbs are consistently available with a certain set of nouns in bare relative clauses and in *that* relative clauses, but with some restrictions. Thus, we propose an analysis to account for this descriptive generalization.

2.2 *The Syntax of Relative Clauses*

The traditional analysis of relative clauses (stemming from Chomsky, 1977) still holds much ground. This analysis holds that a relative clause is right-adjoined to the NP it modifies and identifies the noun through a relative operator that raises to the left periphery of the relative clause. For convenience, we refer to this analysis as the operator analysis. A competing analysis, however, is traced back to Vergnaud (1974). Here, the head noun originates inside the relative clause and, in externally-headed relative clauses, raises to the left edge of the relative clause. Again for convenience, we refer to this analysis as the raising analysis.

Despite the wide-spread acceptance of the operator analysis of relative clauses (see Borsley, 1997, for a defense of the operator analysis), the raising analysis has garnered much currency (Bianchi, 1999, Cecchetto & Donati, 2015, Kayne, 1994, 2003, 2013). Specifically, the following structures are typical of the raising analysis. First, *that*-

relative clauses in English are derived by movement of the head noun from inside the relative clause to a Specifier position adjacent to the determiner, but the head noun and the determiner do not form a constituent.

- (4) [DP the [CP [NP book]_i [CP [C that] [TP Mary [VP read *t_i]]]]]*

Relative clauses introduced by a *wh*-relative pronoun (hereafter *which*-relative clauses), however, are derived differently, following Bianchi (1999).³

- (5) [DP the [CP [DP [NP book]_j [DP [D which] *t_j*]_i [CP [TP Mary [VP read *t_i]]]]]]]*

The crucial difference between these two structures is the size of the nominal phrase that originates inside the relative clause. *That*-relative clauses contain an NP that raises to the left edge of the relative clause, while *which*-relative clauses contain a full DP that raises to the left edge of the relative clause. Bianchi covers a wide range of facts in support of the two structures above.

Finally, we discuss extraposed relative clauses. Extraposed relative clauses (including *that*-relative clauses) behave differently from their non-extraposed counterparts (Bianchi, 1999). Crucially, the facts below strongly suggest that extraposed RCs are not derived by a Vergnaud-type raising analysis. Consider the following data. Example (6)a contains a canonical *that*-relative clause, while (6)b contains an extraposed RC.

- (6) a. The book that I bought yesterday went missing.
 b. The book went missing that I bought yesterday.
 c. The Toronto that I knew 30 years ago no longer exists.
 d. * The Toronto no longer exists that I knew 30 years ago.

- e. The advantage that we took of that poor fool was unforgivable.
- f. *The advantage was unforgivable that we took of that poor fool.

City names in English do not typically appear with a determiner (**the Toronto*). As such, the appearance of the determiner is unexpected in (6)c. Assuming a raising analysis as developed in Kayne (1994) and Bianchi (1999), however, the mystery disappears. The proper noun *Toronto* originates as the direct object of *know* and appears linearly adjacent to the determiner as a result of movement. Likewise, the determiner in (6)e is also unexpected as it does not appear in the idiom *take advantage*. For the same reason, however, we can explain the presence of the determiner. The forms are conspicuously unavailable with extraposed RCs, however, suggesting that extraposed RCs are not derived by the Vergnaud-type movement discussed above.

Even curiously are hydras (Perlmutter & Ross, 1970), constructions in which the antecedent for the relative clause is split between two positions. Consider the following example.

- (7) John met a man, and Mary met a woman, who were quite similar to each other.
- The antecedent for the relative clause seems to be split between two DPs, [a man...a woman]. Needless to say, a satisfactory analysis of hydras is yet to be found 45 years after their first description in the literature (but see Cecchetto & Donati, 2015, for a recent attempt). Furthermore, given the fact that there is no single antecedent, a raising analysis seems extremely unlikely. Hydras have not been studied in this respect to the best of our knowledge; however, the following data suggest that hydras, along with extraposed RCs, are also not derived by Vergnaud-style raising.

- (8) a. *John loves the Toronto and Mary loves the Montreal that they knew 30 years ago.
- b. * John loves the Toronto and Mary loves the Montreal that once resembled each other.
- c. * John despises the advantage and Mary appreciates the care that Bill took of them.

While it would take us too far afield to offer a full analysis of extraposition, or even extraposed relative clauses, we note other proposals in the literature that deal with this topic in greater detail (Koster, 2000, Sheehan, 2011). Crucially for us, extraposed relative clauses are not derived by raising, but rather the head of the relative clause is a full DP, and the relative clause itself is separate, possibly derived by the traditional operator analysis.

To conclude, we have introduced the core empirical phenomenon under discussion—namely, bare nominal adverbs, which lack a preposition—and have introduced basic aspects of the syntax of relative clauses pertinent to our analysis. We now turn to a full discussion of the properties of bare nominal adverbs.

3 Properties of Bare Nominal Adverbs

This section describes the relevant facts concerning bare nominal adverbs in English. We discuss the set of nouns that can appear in this construction followed by the set of environments which license them.⁴

3.1 *Nouns appearing in bare nominal adverbs*

First, only nouns that are semantically bleached denoting merely a location can appear as bare NP adverbs. Consider the following examples in which a bleached noun appears alongside nouns with fuller lexical content. Only the semantically bleached nouns are licit.⁵

- (9) a. John found a place/*house/*apartment to live.
- b. John found a location/*table/*mantle to put the cactus.
- c. John is looking for a spot/*wall/*post to lean.

Furthermore, only nouns denoting locations are licit in this construction.

Instruments, no matter how semantically bleached, are not found in this environment.

- (10) a. John found a *thing/*pen/*marker to write.
- b. John found a thing/pen/marker to write with.

3.2 *Relative Clauses*

Larson (1985) observes that bare and *that*-relative clauses modifying the same set of nouns in (3) can appear without the associated preposition in the relative clause, as in (11)a. However, *wh*-relative clauses (*which*-relative clause, hereafter) do not allow this option, as in (11)b. Additional corroborating data are shown below.

- (11) a. I saw the place (that) John lives (in).
- b. I saw the place which John lives *(in).
- (12) a. I like the spot (that) John put the cactus (in).
- b. I saw the spot which John put the cactus *(in).

3.3 *Extraposed Relative Clauses and Hydras*

Interestingly, and crucially for the analysis below, bare nominal adverbs are also ungrammatical in extraposed RCs. Consider the following data.⁶

- (13) a. The place is expensive that John lives *(at).
b. The spot has a smudge on it that John leaned *(on).
c. The spot is dirty that Mary put the cactus *(in).

Also, bare nominal adverbs cannot appear in hydras (Perlmutter & Ross, 1970).

- (14) Bill saw the old place and Mary saw the new place that John lives *(at).

3.4 *Summary*

To summarize, bare nominal adverbs with *place* are found in *that*-relative clauses, but not *which*-relative clauses, and only in non-extraposed relative clauses and non-hydras. In the following section, we will review Larson's (1985) analysis of bare nominal adverbs, pinpointing some empirical and conceptual shortcomings.

4 **Previous Analyses**

This section describes the analyses of Larson (1985) and Emonds (1987). We start with Larson.

4.1 *Larson (1985)*

Larson develops an analysis in which certain nouns are lexically encoded as being able to assign inherent Case to themselves. He proposes that such nouns possess an abstract feature, [+F]. Other nouns are [-F] and require a standard Case checking mechanism.

Larson's analysis of the contrast in (11) runs as follows. *That*-relative clauses are introduced by a phonologically null Operator, which Larson assumes has only the feature

[+wh]. In the Government & Binding machinery that Larson employed at the time, a relative clause was assumed to need a Case marked trace. Larson proposed that this need was filled transitively by the [+F] marked noun. Consider example (15). The noun *place* has the feature [+F]. It transmits this feature to the operator, which is not specified for [\pm F]. Since the operator and the trace form a chain, the trace now has this feature and is Case marked.

(15) I saw the place OP_i (that) John lives t_i .

The *which*-relative clause, however, is introduced by an overt *wh*-operator, which Larson assumes has the feature [-F]. As such, the [+F] feature of *place* cannot be transmitted to *which*, and the trace cannot receive Case in the absence of an appropriate preposition. Crucially, the operator is unmarked with respect to the feature [\pm F], and thus when the chain <place, OP, t > is formed, the [+F] feature of *place* spreads throughout the chain. However, the [-F] feature of *which* blocks the formation of the chain <place, which, t > as this chain would contain contradictory specifications for the feature [\pm F].

4.2 Problems with Larson's Analysis

Although Larson's analysis captures the difference between *that*-relative clauses and *which*-relative clauses with respect to the behaviour of bare nominal adverbs, there remain some serious shortcomings that prompt us to propose an alternative analysis. Importantly, there is no way to rule out the following sentences under Larson's approach, the examples in (18) taken from Emonds (1987: 625).

- (16) a. *John lives that place.
b. John lives in that place.

- (17) a. *That place to appear in *Better Homes and Gardens* would be surprising.
 b. For that place to appear in *Better Homes and Gardens* would be surprising.
- (18) a. *It was arranged that place to be cleaned up.
 b. It was arranged for that place to be cleaned up.

Since the noun *place* is [+F] under Larson's account, we expect it to be licit without a preposition in those environments where one is typically needed. The fact that the prepositional complementizer is needed for the infinitival subject is particularly troubling since we cannot attribute the ungrammaticality of (17)a to a putative missing semantic contribution of *for* since certainly there is not one.⁷ The following paradigm illustrates the same point. Under Larson's account, we expect the [+F] feature of *place* to license the DP.

- (19) a. I want that apartment to be cleaned up.
 b. I want that place to be cleaned up.
 c. I would like very much *(for) that apartment to be cleaned up.
 d. I would like very much *(for) that place to be cleaned up.

Furthermore, although Larson's analysis can capture the difference between *that*-relative clauses and *which*-relative clauses, it does not seem to be able to capture the fact that bare nominal adverbs cannot appear in extraposed relative clauses or in hydras.

Another problem we raise for Larson's approach is more conceptual. The notion that nouns such as *place* and *spot* carry their own Case feature does not seem to be conceptually motivated by anything. Rather, what we suggest below is that such nouns do carry their own <locative> θ -role. This seems to us to allow for a more natural account

since these nouns do indeed seem to inherently refer to locations. However, there does not seem to be any inherent property of these nouns to posit a lexical pre-specification for Case.

This section has discussed some of the problems with Larson's (1985) analysis of bare nominal adverbs. We have put forth a proposal, which we spell out in detail below, which captures that same basic insight of Larson's approach—namely, that nouns such as *place* have a lexically specified idiosyncratic property that allows for their appearance without a preposition in certain environments. We depart, however, from Larson in assuming that this property is Case but suggest instead that the relevant property is a theta-role. We spell this out in detail in the next section.

4.3 Emonds (1987)

Emonds discusses the same kind of data under the umbrella of his “Invisible Principle Category,” which runs as follows. Essentially, a functional category, X, can appear phonologically empty if the feature or features contained in X appear in the complement of X. Crucially, akin to our proposal below, nouns such as *place* carry their own [location] feature—the same feature as the null preposition.

We run through Emonds' analysis here. Emonds (1987: 624) discusses the following examples, similar to the paradigm on *that*-relative clauses discussed above in section 3.

- (20) a. The places (that) John lives are expensive.
b. * The towns (that) John lives are expensive.

Under the assumption that the operator in a relative clause carries the same features as the head it modifies, Emonds gives the following structures to the sentences above.⁸

- (21) a. [NP, +Loc The places] that John lives [PP [P, +Loc \emptyset] [NP, +Loc \emptyset]] are expensive.
b. * [NP, -Loc The towns] that John lives [PP [P, +Loc \emptyset] [NP, -Loc \emptyset]] are expensive.

In (21)a, the operator [NP \emptyset] agrees with the [+Loc] feature of the head noun, thereby licensing a null preposition. In (21)b, on the other hand, the operator agrees with the [-Loc] feature of the head noun, and the null preposition is not licensed.

While Emonds' analysis does alleviate the conceptual problems that Larson's analysis faced, it does so at a cost. In Emonds' analysis, there is no principled way to account for the difference between *that*-relative clauses and *which*-relative clauses.⁹ Also, like Larson's analysis, Emonds' analysis cannot account for the lack of bare nominal adverbs in extraposed RCs and hydras. Recall from above that extraposed RCs hydras have been argued not to be derived by Vergnaud-style raising, but by the standard operator analysis.

Before closing this section, we do note, however, that Emonds' analysis may be on the right track for the other kinds of bare nominal adverbs not addressed here. Namely, those not found in relative clauses (see footnote 오류! 책갈피가 정의되어 있지

않습니다.). Consider the following example.

- (22) The group split up into two. They went [that way] and [to the museum].

The fact that the bare nominal adverb can be conjoined with another PP suggests that a null P along the lines that Emonds describes is present. Unfortunately, the converse is

difficult to show—namely, that bare nominal adverbs in *that*-relative clauses are truly prepositionless since extraction out of a conjoined phrase is ungrammatical (Ross, 1967). Furthermore, obligatory preposition stranding with *that*-relative clauses in English makes the test impossible. Nevertheless, the following example strongly suggests that a null P is not available for *place*.

(23) They have lived [*(in) that place] and [in that apartment].

To conclude, we have reviewed the analyses of Larson (1985) and Emonds (1987) and have shown shortcomings with both. We do agree with both proposals, however, that the peculiar nature of this construction lies in the lexical specifications of individual lexical items such as *place* and the like. Specifically, we follow Emonds in assuming that the lexical specification is related to theta-roles rather than to Case, although we depart from the specifics of Emonds' analysis in some minor ways. As we explain below, this lexical specification coupled with an updated view on the structure of relative clauses explains the distribution described above.

5 Proposal

This section discusses the proposed analysis for bare nominal adverbs. Crucially, we propose that nouns such as *place* are lexically pre-specified with a theta-role, an idea that we adopt from Emonds (1987). Thus, no theta-role assigner is needed. Such nouns, however, when they appear in a full DP, must be assigned Case. We assume that bare NPs, however, do not require Case.¹⁰

The ingredients above lead to the following situation. When a noun such as *place* appears in a bare NP, it requires neither Case nor a theta-role. Thus, it is only in this

situation that the preposition is optional. We now go on to show how this situation holds in the environments discussed above.

5.1 The Syntax of Relative Clauses

Recall that the raising analysis, particularly as developed in Bianchi (1999), holds that there is a distinction between *that*-relative clauses and *which*-relative clauses in terms of the category of the nominal category in the head position. Crucially, the head of a *that*-relative clause is an NP, while the head of a *which*-relative clause is a DP. Under standard conceptions of Case theory, only a DP is assigned Case. Thus, we propose the following derivations for the *that*-relative clause and the *which*-relative clause with the bare noun *place*.

(24) a. the place that John lives

b. the place which John lives *(in)

(25) a. [DP the [CP [NP place]_i [CP [C that] [TP John [VP lives *t_i]]]]]*

b. [DP the [CP [DP [NP place]_j [DP [D which] *t_j*]_i [CP [TP John [VP lives [PP in *t_i]]]]]]]*

In (25)b, a full DP appears in the embedded position inside the VP *lives*. This DP requires Case, so the preposition must be present. In (25)a, however, only an NP is present inside the embedded VP. A bare NP does not require Case, so no preposition need be present. Furthermore, since *place* is an inherently locative noun, it does not require the locative thematic contribution of the preposition for interpretation.¹¹

5.2 *The Structure of Theta-Roles*

Recall that our proposal holds that nouns such as *place* have their own theta-role, which we have labelled <location>. There are other thematic relations that can hold over locative arguments and adjuncts, of course. Consider the following examples.

- (26) a. Mary is walking to that place/store/house
b. Fred came from that place/store/house.

The theta-roles involved here are <goal> and <source>, respectively. Observe that the preposition cannot be absent when these appear in *that*-relative clauses.

- (27) a. the place that Mary is walking *(to)
b. the place that Fred came *(from)

This follows from our proposal that nouns such as *place* bear an inherent <location> theta-role, but not a more structured theta-role, such as <goal> or <source>.

A word must be said now regarding the potential conflict of theta-roles.

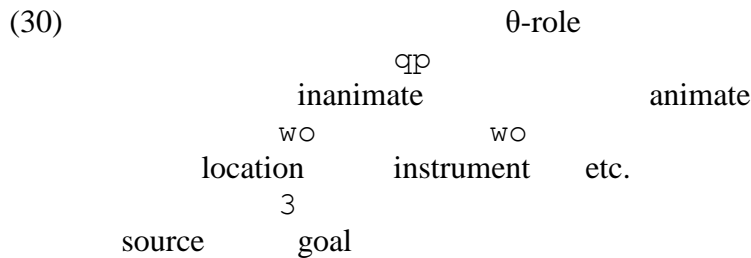
Specifically, in the following sentence, the noun *place* bears an inherent <location> theta-role but is also assigned a <goal> theta-role by the preposition *to*.

- (28) Mary walked to that place.

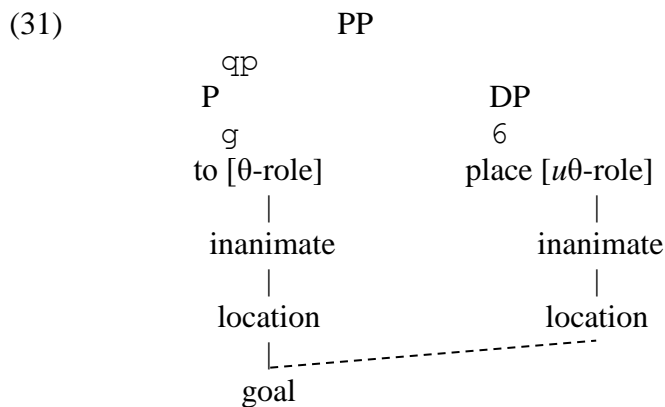
The following discussion offers a tentative suggestion to the structure of theta-roles, the precise details of which we leave open to further research. We adopt Hornstein (1999) and assume that theta-roles are features, which are checked. We implement this as follows. We assume that Probes and Goals can be pre-specified (Béjar, 2003, Béjar & Rezac, 2009). Thus, we assume the following Goals for some of the nouns we have mentioned so far.

- (29) a. place [theta: <location>] apartment [theta:]
 b. spot [theta: <location>] store [theta:]

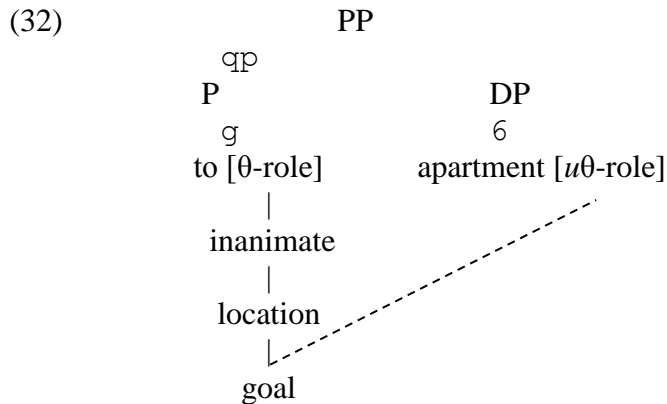
Assuming that θ -roles are indeed morpho-syntactic features, we follow much recent work on the geometry of such features (Cowper, 2005, Harley & Ritter, 2002, McGinnis, 2005) and propose the following partial geometry.



Let's see how these mechanisms allow examples such as (28) to survive. Assume the preposition assigns a <goal> θ -role. That is, the preposition has a structured Probe as follows, which seeks an appropriate Goal. In this case, the Goal, too, is lexically specified as shown. In this case, the Probe values the Goal as shown with the dashed line, and the DP Goal is understood as a <goal>.



With an ordinary DP, not lexically pre-specified with a structured θ -role Goal, the derivation proceeds as follows. The Probe seeks an appropriate Goal, *apartment*, and values the uninterpretable θ -role as shown with the dashed line.



6 Conclusion

We have examined a class of bare DP adverbs in English and have proposed an updated analysis building on Larson's (1985) original proposal. Crucially, we have adapted Larson's idea that nouns such as *place* are lexically marked as containing a special feature that allows them to exist in certain environments without a preposition, but we have argued that it is not Case, as Larson originally proposed, but rather a θ -role. This change was motivated by certain empirical and conceptual shortcomings in Larson's analysis that were remedied in the current approach.

To summarize the current analysis, we have argued that nouns such as *place* are lexically pre-specified with $\langle \text{location} \rangle$ θ -role. Thus, no preposition is needed to assign a θ -role. DPs, however, still require Case. In the absence of a Case assigner, the preposition is still required. Given the analysis of *that*-relative clauses first proposed by Vergnaud (1974) and further developed by Kayne (1994) and Bianchi (1999), we have assumed that

the relativized noun in such clauses is a bare NP (or some higher XP in the extended nominal hierarchy) and does not require Case. It is exactly in this situation that the preposition is not obligatory. As a bare NP, the nominal *place* does not require Case. It is lexically prespecified with a θ -role, so it does not need a θ -assigner. The relativized nominal in *which*-relative clauses and extraposed *that*-relative clauses, on the other hand, is a full DP that requires Case. Hence, the preposition is required.

We end this paper with a brief discussion on the ramifications of our proposal on current syntactic theorizing. In recent years, the role of the lexicon in grammar has diminished dramatically since Kratzer's (1996) claim that the external argument is not selected by the verb. Since this time, it has been proposed that lexical roots themselves are essentially devoid of grammatical information—that is, they possess no formal features, the so-called Chomsky-Borer Conjecture (Borer, 2005). Moulton (2014), however, has argued that at least some roots must include some grammatical information. If correct, our approach adds to the discussion of exactly how bare roots can be by arguing that at least some lexical roots are pre-specified with θ -roles. Thus, the facts discussed here present a problem for a strong version of the Chomsky-Borer Conjecture.

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mikebarrie@sogang.ac.kr

iyoo@sogang.ac.kr

Department of English
Sogang University
35 Baekbom-ro, Mapo-gu
Seoul
Republic of Korea

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¹ We use the term *nominal* to remain agnostic between the label of NP or DP for now until we come back to the issue. These, of course, were called bare NP adverbs by Larson in 1985 as his discussion predates the DP hypothesis. We merely update the terminology here to reflect current understanding on the structure of nominals. Heidi Harley (p.c.) also mentions that the label “adverb” may not be the best since many of these PP/DPs in question have an obligatory flavor to them. For instance, the sentence *John lives in Toronto* is qualitatively different from *John lives*. We abstract away from the property of obligatoriness here and use the label “adjunct” for convenience.

² A reviewer asks about the other nouns such as *way*, *day*, and *time* as they can also appear in bare nominal adverbials. The empirical facts for these are quite different from that of *place*, however, so they will have to wait for future research.

³ A reviewer asks us to clarify the circumstances in which a bare NP can appear in the position of a DP. Beyond the details explicated in Bianchi (1999) we have little more to

add on the syntactic and semantic consequences of her proposal. An in-depth discussion of the syntactic environments that allow an NP to surface in positions otherwise occupied by a DP would take us too far afield. The same reviewer also asks about bare NP plurals (as in *Mary tunes pianos*). We would suggest that such nominals contain a null determiner (hence a full DP). Again, an in-depth discussion of this issue would take us too far off track.

⁴ One environment where bare nominal adverbs are licit, which we will not discuss in this paper, is when they are introduced by certain quantifiers. We provide the examples here but leave the analysis to future research.

- i. I have lived many/few/?some places in LA.
- ii. *I have lived many/few/some apartments in LA.

⁵ One must be careful to control for the reading in which the infinitival clause modifies the superordinate VP rather than the noun. The following sentence has both of these readings as shown.

- i. John is looking for a place to eat.
 - a. = John is looking for [a place in which he can eat]
 - b. = John is [looking for [a place] [in order to eat]]

We are interested only in the reading in ia. here since it is only in this structure that the noun in question is an argument of the verb/preposition in the relative clause. Observe that in sentences with a structure paraphraseable as in ib. there is no restriction on the type of noun since it is not an argument of the verb/preposition in the relative clause.

- ii. John is looking for a pen to write.

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- a. \neq John is looking for a pen with which to write.
 - b. $=$ John is looking for a pen in order to write.
 - iii. John is looking for a restaurant to eat.
 - a. \neq John is looking for a restaurant in which to eat.
 - b. $=$ John is looking for a restaurant in order to eat.

⁶ A reviewer points out that all our extraposed examples are built on definite DPs. We note this fact but do not believe it impinges on our analysis.

⁷ The following paradigm crucially underscores the lack of a semantic contribution of the prepositional complementizer *for*.

- i. I would like very much for John to give Mary the book.
- ii. I would like very much for Mary to be given the book by John.
- iii. I would like very much for the book to be given to Mary by John.

⁸ Evidence for this claim comes from the fact that the operator and the head noun agree in number: *the place that John says is/*are cheap...the places that John says *is/are cheap*. Since the two agree in number, Emonds argues it is not a leap to expect that they agree for all features, including crucially [\pm Location].

⁹ A reviewer suggests that Emonds might be able to capture the difference between *that*- and *which*-relative clauses by taking advantage of the difference in feature composition between these two words. It still does not explain why extraposed relative clauses and hydras behave differently, however.

¹⁰ Unfortunately space constraints limit us from defending the claim that bare NPs do not require Case. A reviewer does remind us, however, that Cecchetto and Donati (2015) make a similar argument for reduced relatives with past participles.

¹¹ A reviewer notes that our proposal predicts that the following example should be grammatical.

- i. I saw the place (that) John is happy.

In fact, we have consulted several English speakers, most of whom judge i. to be either grammatical or only slightly degraded. All the speakers we consulted judged ii. to be ungrammatical, however.

- ii. I saw the apartment/house (that) John is happy.

The few speakers who reported that i. is ungrammatical also found iii. ungrammatical.

- iii. I saw the place that John lives.

Given these facts we conclude that i. is indeed grammatical, as our proposal predicts. We also note that there are speakers who find both i. and iii. ungrammatical and that this fact is likely due to a difference in the lexical specification of the theta-roles of the noun *place*. Nevertheless, some speakers do feel that i. is slightly degraded. We suspect this may be due to the argument/adjunct distinction noted by Heidi Harley (p.c.) in footnote 1. Crucially, *place* is arguably an argument in (24)a, but an adjunct in i. We leave this observation to future research.