**Nominal Constructions: Approaches and Analyses**

1. **Introduction**

1.1 The aim and content of the present discussion

Nominal constructions come in lots of different shapes and sizes. In what follows an attempt is made to provide some insight into certain aspects of their structure and interpretation through the development of the approaches that have undertaken to establish an account thereby allowing for a more systematized way of viewing the many seemingly distinct expressions. The material presented strives to provide an overview, brief as it is, of the highlights, i.e. main stages of development of the approaches to the structure of nominals as well as to describe answers that have been given to various questions these constructions have raised. The structure of the text and the topics included are shown below:

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1.2 A phone book

Prescriptive approaches to grammar judge usage and recommend or even tell speakers which version of a given construction is correct, e.g. the rule “no split infinitives in English”. But syntax is neutral in terms of what is correct or incorrect English (Miller, 2001).

1.2.1 About nouns and Noun Phrases (Greenbaum and Quirk, 1990, Quirk et al. 1972)

Classes of nouns

 Proper Common

names, unique reference: no determiner and number contrast; can take the form of single-word nouns and lengthy phrases containing a definite article

 Noncount Count

 Concrete Abstract Concrete Abstract

 *milk*, *iron freedom dog, pencil experience*

Number: Singular: ‘one’ for count nouns, the unique referent of most proper nouns and the mass of noncount nouns. Plural: ‘two or more’ for count nouns, the unique referent of some proper nouns and individual units that reflect plural composition.

Gender and Case:

Gender in English relates to the meaning of nouns.

inanimate animate

 personal non-personal

Case in English is divided into common case (unmarked on nouns) and genitive case:

 (i) common case: nominative and accusative, marked on personal pronouns

 (ii) genitive case: premodifying genitive (the Saxon genitive *‘s*) and the postmodifying *of*-phrase

Genitive meanings:

* possessive: *my sister’s son*
* attributive: *John’s mother*
* partitive: *some of his friends*
* subjective: *the prisoner’s escape* cf. *the prisoner escaped*
* objective: *the prisoner’s release* cf. *the prisoner was released*
* genitive of origin: *the girl’s story*
* descriptive genitive: *a women’s magazine*
* appositive genitive: *Dublin’s fair city, city of London*

Double-genitive (post-genitive): *one of Mary’s brothers* – *a brother of Mary’s*

Partitive constructions: These denote part of a whole with both count and noncount nouns: *a slice of cake, a piece of furniture*.

Noun Phrases are phrases whose head (main part) is typically a noun. In a sentence they can act as subject, object, complement, adverbial. They can also function as complements of prepositions.

The structure of the English Noun Phrase:

|  |  |  |  |
| --- | --- | --- | --- |
| Determiner(s) | Premodifier(s) | Head | Postmodifier(s) |
| all those | happy | students | of Physics with long hair |

1.2.2 About pronouns

Subclasses of pronouns (Greenbaum and Quirk, 1990:108-109)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **central** |  |  | **relative** | **interrogative** | **demonstrative** | **indefinite** |  |  |  |
| personal | reflexive | possessive | *who* | *what, who,* | *this, that,* | positive |  |  | negative |
| *he, him* | *herself* | *your, theirs* | *which* | *which, where* | *these. those* | universal  | assertive | non-assertive | *no, neither* |
| *each, every* | *some.**one* | *any, either* |

Central pronouns

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **primary** |  | **reflexive** | **possessive** |  |
| Person | **number and gender** | **nominative** | **accusative** |  | **determiner function** | **nominal function** |
| 1st | singular | *I* | *me* | *myself* | *my* | *mine* |
|  | plural | *we* | *us* | *ourself* | *our* | *ours* |
| 2nd | singular | *you* | *you* | *yourself* | *your* | *yours* |
|  | plural | *you* | *you* | *yourselves* | *your* | *yours* |
| 3rd | singular masculine | *he* | *him* | *himself* | *his* | *his* |
|  | singular feminine | *she* | *her* | *herself* | *her* | *hers* |
|  | singular nonpersonal | *it* | *it* | *itself* | *its* | *its* |
|  | plural | *they* | *them* | *themselves* | *their* | *theirs* |

1.3 Fun facts

* If the order of Demonstrative + Numeral + Adjective + Noun is considered, they yield twenty-four possible orderings. However, out of that twenty-four, some orderings are frequent while some do not actually occur. The orders Dem + Num + A + N and Dem + Num + N + A are found in very many languages while the orders Dem + N + Num + A and A + N + Dem + Num are attested in very few languages. Furthermore, for instance the orders Num + N + Dem + A and N + Num + Dem + A do not occur in any language (Cinque, 2005).
* In English there are two demonstrative pronouns, *this* and *that* (and their plural counterparts). In Japanese there are three: *kono* – near the speaker, *sono* – near the hearer and *ano* – distant from both (in time or space).
* Languages can express plurality in the nominal construction in a variety of ways, for instance English generally exhibits morphological marking on nouns (and some determiners), while in Mandarin Chinese plural is not expressed morphologically either on nouns or on determiners. Moreover, nouns in Chinese are not marked for definiteness. Thus, the sentence in (0) is ambiguous in four ways:

0 wǒ kànjiàn māo le

1sg see cat LE

I saw (a/the) cat(s).

(Vinet, M-T. and Liu, X. 2008:358)

**2 The Structure of Noun Phrases**

2.1 The starting point: Radford (1988)

In what follows Radford’s (1988) account of the structure of NPs is discussed. It serves as a starting point because it provides a detailed analysis of the structure of NPs and, at the same time, highlights issues that this approach does not address, thereby introducing other relevant aspects of the analysis of nominal constructions. This section describes a comprehensive approach to modification inside an NP and it introduces structural notions such as ‘complement’, ‘adjunct’ as well as it highlights main points related to the syntactic behaviour of these constituents in relation to the N head and in relation to each other.

2.1.1 Postmodifying complements and adjuncts

For Radford there exist so-called ‘word-level categories’, e.g. N – Noun, V – verb, Adj – Adjective, M – Modal, D – Determiner, etc… and so-called ‘phrase-level categories’, e.g NP- Noun Phrase, VP – Verb Phrase, etc… However, there is a third type of constituent, N-bar, which represents an intermediate level between the two, i.e. it is a constituent larger than N but smaller than the full NP, see (1):

1. a Who would have dared defy the [king of England] and [ruler of the empire]?

 b The present [king of England] is more popular than the last *one*.

 c \*The [king] of England defeated the *one* of Spain.

 (p. 174-175)

In (1a) the full NP is ‘the king of England’ as that is used as an answer to a wh-question such as *Who would they have not dared defy?*, however, part of that constituent can be coordinated with another sequence that does not contain the determiner. In (1b), again, the full NP *the present king of England* is the equivalent of *the last one*, and these are larger than the constituent replaced by the pronominal *one*, which is reduced to *king of England*. The pronoun *one* is assumed to replace constituents which are larger than just the head, cf. (1c). Thus, coordination and pronominalisation seem to support the idea that there exists an intermediate level between the word-level and the phrase-level constituents: N-bar.

 First, the various structural levels inside the NP are discussed. The following Phrase Structure Rules are introduced:

2 a N’’ → (D) N’ (Determiner Rule)

 b N’ → N’ (PP) (Adjunct Rule: optional)

 c N’ → N (PP) (Complement Rule)

(p.183)

As they stand, the rules capture the following basic generalizations: determiners expand N-bar into N-double-bar, adjuncts extend N-bar into N-bar, while complements extend N (the head, a word-level category) into N-bar. In addition, it must be noted that as opposed to the other two the adjunct rule is recursive, i.e. the same constituent is found on both sides of the arrow. The brackets indicate the optionality of the given constituent. The examples in (3) demonstrate that the two PPs inside the NP are not on the same structural level, the examples in (4) show that PP complements are closer to the head than adjuncts.

3 a the student of Physics with long hair

 b \*the student of Physics and with long hair

 c the student of Physics and of Mathematics

 d the student with long hair and in jeans

The ungrammaticality of (3b) is readily explained if it is assumed that the two PPs *of Physics* and *with long hair* do not have the same structural status: the former is a complement, the latter is an adjunct. The examples containing co-ordinated PPs are grammatical as two constituents on the same structural level are conjoined in them.

4 a the student of Physics with long hair

 b \*the student with long hair of Physics

 c the student with long hair in jeans

 d the student in jeans with long hair

Again, the ungrammaticality of (4b) stems from the mismatch in the structural status of the two PPs. In (4c) and (4d) the order of the PPs can be reversed without loss of grammaticality as both those PPs assume an adjunct status, i.e. both of them are sisters of N-bar. Further differences between complements and adjuncts are that the number of the former is limited while that of the latter is not, it is possible to extrapose an adjunct but not a complement and it is grammatical to prepose the complement of a P heading a complement but not an adjunct, see, (5).

5 a the student with long hair in jeans

 b \*the student of Physics of Mathematics

 c a student came to the office with long hair

 d \*a student came to the office of Mathematics

 e which branch of Physics was he a student of?

 f \*what kind of hair is he a student with?

 In addition, there are so-called co-occurrence restrictions imposed by particular nouns on which P may head the PP complement but no such restrictions are imposed on an adjunct, as shown in (6).

6 a a student of Physics

 b \*a boy of Physics

 c \*a punk of Physics

 d a student with long hair

 e a boy with long hair

 f a punk with long hair

 It is not only PPs that may function as postmodifiers inside a NP, cf. (7)..

7 a the claim [that he made]

 b the claim [that he made a mistake]

In (7) the postmodifying construction is a clause but while in (7a) the type of clause is a so-called restrictive relative clause[[2]](#footnote-2), in (7b) it is a Noun Complement Clause. The terminology already suggests that the two clauses do not share their syntactic status: the restrictive relative clause is analysed as an adjunct (hence, it can be used recursively) whereas the other type of clause functions as a complement. This difference is reflected in the syntax of these clauses: with a restrictive relative clause exemplified in (7a) it is grammatical to use a wh-pronoun (called a relative pronoun) instead of the complementiser *that[[3]](#footnote-3)*, or even to leave out both. On the other hand, the Noun Complement Clause in (7b) is only grammatical if it includes the complementiser.

2.1.2 Premodification

 Premodifiers inside an NP include prenominal NPs and APs (also termed attributes). The distinction between postnominal modifiers in terms of whether they function as complements or adjuncts carries over to pronominal modifiers as well, see (8).

8 a a student of Physics at Cambridge

 b \*a student at Cambridge of Physics

 c a Cambridge Physics student

 d \*a Physics Cambridge student

Just as the ungrammaticality of (8b) is accounted for in terms of the structural status of postmodifying complements and adjuncts, the ungrammaticality of (8d) can be explained if it is assumed that one of the NPs is an adjunct (*Cambridge*) the other is s complement (*Physics*). Often a postmodifying complement PP can have a premodifying NP counterpart, as in (9).

9 a an appeal for charity

 b a charity appeal

 c a campaign against drugs

 d a drugs campaign[[4]](#footnote-4)

Premodifying APs are the most frequent type of attributes. In Radford (1988) these are analysed as adjuncts, since, for instance, they are recursive, see (10).

10 a a tall stranger

 b a tall dark stranger

 c a tall dark intelligent stranger

The ambiguity of examples that contain premodifying NPs and/or APs can be explained in structural terms if the distinction between premodifying complements and adjuncts is considered.

11 a a French teacher

 b a foreign language teacher

In (11a) the premodifying NP can refer to the nationality of the teacher in which case it is an adjunct or the subject taught in which case it is a complement and the difference between them is made explicit in the tree-diagram associated with the two interpretations. Similarly, in (11b) the premodifying AP adjunct can refer to the NP ‘language’ or ‘teacher’.

 In sum, Radford (1988) provides a detailed analysis of the internal structure of NPs: first he demonstrates that there is a structural difference between the various types of modifiers that may occur inside an NP, ie. between determiners (which, in his early analysis, are assumed to occupy the specifier position), complements (which are sisters of the N-head) and adjuncts (which are sisters of the intermediate constituent N-bar). It is demonstrated that both postmodifying PPs and clauses can act as complements or adjuncts and that premodifying NPs can function both as complements or adjuncts while premodifying APs are adjuncts.

 Radford’s claims have been revised since then especially those related to the structural position of adjuncts inside the NP. Later attempts to provide a uniform approach to adjuncts across categories have tried to establish a parallelism between adjuncts in verbal constructions and those in nominal constructions. Therefore similarly to VP-adjuncts, which initially were assumed to occur inside the VP (i.e. adjoined to V-bar) but later to be adjoined to VP (thereby forming a VP-extension), e.g. PP-adjuncts in nominal constructions have been seen as added to a minimal NP-projection. However, one type of clausal adjunct has retained its structural position inside the NP given the difference between restrictive and non-restrictive relative clauses which are both analysed as adjuncts but given the difference between the two, the point of adjunction is assumed to be different (adjoined to N-bar or to NP) (see Newson, 2006). This issue is not explored below in further detail. Another point that merits discussion is the approach to determiners, which are far less uniform a category than what Radford (1988) implicitely suggests. Approaches to the analysis of determiners are presented in the next section.

2.2 Jackendoff, 1977

The structure associated with NPs differs from what has been proposed by e.g. Radford and what has generally been accepted, still, Jackendoff (1977) carries the seeds of what later is to develop into two separate nominal projections, the Noun Phrase and a Determiner Phrase.

It is assumed that instead of an N’’ (=NP) and an N’ (=N-bar) there are three levels inside the nominal construction that involve a bar-notation: N’’’ (N-triple-bar) is introduced in order to represent the structures projected by the various categories. Thus, unlike the ideas presented in Radford (1988) claiming that the specifier of NP position is occupied by members of the category Determiner, Jackendoff recognizes that (i) the category Determiner is not a homogenous one and (ii) it is possible for an NP to contain more than one determiner-like element. By creating two specifier positions inside the NP (one for N’’’ and one for N’’) he attempts to accommodate structures that contain multiple determiners.

Thus, Jackendoff (1977) establishes three classes of specifiers in the NP: demonstratives, which include *the*, *this, that, these, those*, the interrogatives *which* and *what* and, possibly, the indefinite article *a* and singular *some* (e.g. *some man is outside*). The other two are quantifiers including *each, every, any, all, no, many, few, much, little*, and the other uses of *some*, and numerals comprising numerals (including cardinals), *a dozen, a couple, a few, a little*. Further, the following semantic constraint is introduced to distinguish the three different types of specifier roles:

12 The Specifier Constraint

 An NP specifier may contain at most one demonstrative, one quantifier and one numeral. (p. 104)

The phrase structure rule in (13) is assumed to account for the distribution and co-.occurence of the different types of determiners.

13 N’’’ → ({ }) N’’

N’’

Art’’’’

Thus, the NP’’’ specifier contains demonstratives and genitive NPs which are in complementary distribution. As genitive NPs and demonstratives can be followed by certain quantifiers but not others, and given that there is no apparent semantic reason for the ungrammaticality of *\*Fred’s some apples* and the grammaticality of *Fred’s many apples*, the three semantic classes of determiner are divided into two syntactic classes: demonstratives, genitive NPs and one group of quantifiers are termed ’Art’, while another group of quantifiers are termed ’Q’, see (14).

14

|  |  |  |
| --- | --- | --- |
| Art | Q |  |
|  | many |  |
| Fred’s | few |  |
| the | several |  |
| those | \*some | books |
| which | \*each |  |
|  | \*all |  |
|  | \*no |  |
|  | \*any |  |

Accordingly, the specifier of N’’ can be occupied by Q. The ungrammatical quantifiers belong to the category Art, hence they cannot co-occur with another member of the same category as there is only one Art (i.e. N’’’-specifier) position available.in the structure. Examples like *no many men, all several men, any much wine* are ruled out by the Specifier Constraint in (12), which only allows one such element in the specifier position. If the second quantifier is replaced by a numeral the constraint is satisfied and the resulting expressions are grammatical: *no three men, all six men, any dozen men*.

 It is noted by Jackendoff that the picture is far from clear given the existence of examples like those in (15).

15 a \*John’s little food

 b \*the much food

 c Fred’s every word

 d \*the every word

Finally, in Jackendoff’s approach the grammaticality of examples like *you/we three guys* lends further support to the division of NP-specifiers into two syntactic categories Art and Q, where these personal pronouns also belong to the category Art and as such are included in a structure as Specifier of N’’’.

 To sum up, the three semantic classes of NP-specifiers, i.e. demonstratives, quantifiers and numerals are distributed into two syntactic categories, namely Art and Q and as such are generated as N’’’-specifiers and N’’-specifiers. Co-occurrence is constrained by the Specifier Constraint which only allows one member of the three respective semantic specifiers to co-occur with another. Jackendoff (1977) has been shown to contain certain flaws, still, it has been one of the cornerstone analyses that has in turn provoked further questions and at the same time has laid down the foundations for subsequent analyses of the determiner system.

2.3 The dawn of the Determiner Phrase

X-bar Theory has explicitly strived to provide uniform structures across categories, therefore, as inside a VP, for instance, there has been only one specifier position made available, the same has been applied to the structure of the NP. Jackendoff’s three-level system has made an attempt to account for the apparently grammatical sequences of multiple determiners, that is, the grammatical sequences of two or even three determiner-like elements inside a nominal construction. That analysis has paved the way for Abney (1987), who has laid down the foundations for assuming the existence of a functional nominal category, the Determiner Phrase, thereby allowing for the introduction of yet another prenominal position for hosting determiner-like elements that can appear preceding premodifying attributes inside an NP.

2.2 Evidence from Hungarian

As noted by Abney, many languages display agreement between possessor and possessed in person and number, one such language being Hungarian, see (18):

(18) a az én könyv – em

 the I – Nom book – possd 1sg

 the my book

 b a te könyv – ed

 the you – Nom book – possd – 2sg

 the your book

 c (a) Mari könyv – e

 (the) Mary – Nom book – possd – 3sg

(the) Mary’s book

In these constructions the possessor is in Nominative case (like the subject of a finite clause), and Abney assumes that it is assigned by the overtly represented AGR. In the structure of a sentence AGR (in more current terms Inflection) is assumed to occupy a position outside the thematic projection of the VP. Similarly, it is proposed that there may appear a nominal AGR-projection on top of the thematic layer of NP.

2.3 Evidence from Turkish

Abney observes that in Turkish there is also overt AGR inside the NP:

(19) a el

 the/a hand

 b sen - in el -in

 you-GEN hand-2sg

 your hand

 c on - un el-i

 he –GEN hand-3sg

 his hand

 (p. 21)

Thus, there is overt agreement in the noun phrase both in Hungarian and in Turkish the difference between the two being that AGR seems to assign Nominative in Hungarian but Genitive in Turkish. Furthermore, in Turkish a construction identical to the English poss-ing gerund can be found, formed with the help of the suffix –dig, which is added to the verb root. As far as its distribution is concerned, the Turkish gerund also behaves like an NP but its internal structure displays verb-like properties e.g. in that the complement receives Accusative case, which is unavailable inside an NP (cf. 15 a).

On the basis of the data Abney proposes that (i) there is a functional element heading its own projection as an extension of the NP; (ii) the functional head inside finite clauses assigns Nominative to the subject, so, in a similar vein, the functional element inside the nominal projection may be assumed to assign Genitive case; in English the functional element (AGR) is non-overt but its presence is shown by the appearance of *’s* on the possessor. The structure associated with nominals is what is depicted in (20).

(20) XP

 GEN X’

 X NP/VP

If the head marked X takes a nominal complement, the result is a nominal projection, if it takes a verbal complement, the result is the poss-ing gerund. The question arises as to what that X-head might be. Abney’s answer relies on the parallelism between the manifestations of agreement inside the clause (members of the category inflection, e.g modals) and instances of determiners. If X is D, the specifier of D can be filled with the possessor and the complement of D is a thematic category (NP or VP for gerunds).

 The question of whether the nominal functional head Determiner can actually be filled by members of the class known as Determiner is addressed as follows. Abney points out that when determiners stand alone, i.e. they are not followed by an NP complement, they continue to behave like an NP, which is only expected if they are nominal projections. Further, determiners that cannot stand alone are likened to members of other categories like *complementisers* or *prepositions* in that they cannot stand alone either: *if* must obligatorily be followed by a clause, *of* must obligatorily be followed by an NP. Thus, determiners such as *the* or *a(n)*, which strongly require that they be followed by an NP, do not exhibit any special behaviour that is not attested by other categories. In addition, those determiners that can stand alone, e.g. *this, that, which*, even if they are not followed by an NP-complement, retain the distribution of a nominal. Again, that supports the assumption that they are, indeed, nominal, members of a nominal functional category.

 Building on data from languages other than English including Hungarian, Abney points out that in quite a few languages the NP exhibits a much more obvious structural parallelism with the sentence in that it has one or both of the following properties: (i) a possessed noun agrees with the possessor in the same way the subject agrees with a verb and (ii) the possessor receives the same case as the subject of the clause instead of being marked by some special genitive case. Consider the examples in (16) which illustrate both phenomena.

16 a az én könyv – em

 the I – Nom book – possd 1sg

 the my book

 b a te könyv – ed

 the you – Nom book – possd – 2sg

 c (a) Mari könyv – e

 (the) Mary – Nom book – possd – 3sg

 d Mari aludt.

 Mary – Nom sleep – past – 3sg

 Mary slept.

In the Hungarian possessive constructions illustrated in (16) the possessed noun bears a possessive suffix which agrees in person and number with the possessor and subjects of finite clauses receive nominative case (16d). Since for the verbal projection a functional projection, the Inflection Phrase headed by Inflection has been assumed to be erected on top of the thematic verb, this, and other considerations not discussed here, have led Abney to the conclusion that an Inflection-like element heads the NP, probably universally, which he terms Determiner.

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 The status of pronouns is also discussed. Abney notes that it has been generally assumed that pronouns are nouns, however, if that were so, there would be no explanations as to why sequences of nominal modifiers and pronouns are excluded. In other words, pronouns cannot co-occur with noun specifiers, determiners, possessors, adjectives, quantifiers, etc…, consider (17).

17 a \*[the she that I talked to] was nice

 b \*[my she] has always been good to me

 c \*[dependable them] are hard to find[[5]](#footnote-5)

 d \*[many they] make house-calls

(p. 178)

The ungrammaticality of the examples in (17) suggests that pronouns do not belong to the category N, instead it is plausible to assume they are members of the category determiner. A property determiners and pronouns have in common is that both seem to be the site for carrying the basic grammatical features (called phi-features) such as person, number, gender of the NP. The difference between the interpretation of the expressions *the man* vs. *a man* is that the former is definite while the latter indefinite and that property is encoded not in the feature-set of the noun itself but rather in that of the determiner, thus, in this respect determiners can apparently be grouped with other type of functional heads that carry grammatical or syntactic information. In many languages it is determiners that exhibit the largest variation in the form of their declensions, not adjectives or nouns. Also, e.g. in present-day English or French, the pronouns are the only elements which still show a case distinction. All the above considerations point towards the direction of the assumptions that the nominal constituent is in fact headed by the determiner and that the category Determiner includes articles, demonstratives, personal pronouns, etc… The trees in (18) depict Jackendoff’s (1977:105) structure and the structure proposed by Abney (1987:52).

18 a b

 N’’’ DP

 N’’’/Art’’’ N’’ DP D’

Fred’s Q’’’ N’ John’s D NP

the

those several

which many N [poss]

 few book

 dwarves

 2.1 The poss-ing gerund in English

He observes that a construction such as that exemplified in (19) has curiously mixed properties: it displays nominal characteristics in that its distribution coincides with that of NPs. Further, another NP-like property it displays is the presence of what at the time was considered the ’subject’ of the NP, a possessor, see (14).

19 John’s building a spaceship

 (p. 14)

In (20) the distributional observations are shown.

(20) a \*did [that John built a spaceship] upset you?

 did [John] upset you?

 did [John’s building a spaceship] upset you?

 b \*I wondered if [that John built a spaceship] had upset you

 I wondered if [John] had upset you

 I wondered if [John’s building a spaceship] had upset you

 c \*I told you about [that John built a spaceship]

 I told you about John

 I told you about John’s building a spaceship

 (p. 15)

(21) a John destroyed the spaceship

 b John’s destruction of the spaceship

 c John’s destroying the spaceship

 (ibid.)

(20 a) demonstrates that the subject clause cannot undergo subject-auxiliary inversion, (20 b) that the that-clause cannot function as and embedded subject, while (20 c) that the that-clause cannot appear as an object of a preposition.

On the other hand, the construction displays verbal (sentential) properties in that it is constructed via a verbal suffix –*ing,* which can productively attach to any verb, and it participates in certain processes and allows certain structures that appear in the VP. The processes and constructions include case assignment to the object, raising and Exceptional Case Marking to name but three, as shown in (22), (23) and (24).

(22) a \*John’s destruction the spaceship

 b John destroyed the spaceship

 c John’s destroying the spaceship

(23) a \*John’s appearance to be dead

 b John appears to be dead

 c John’s appearing to be dead

(24) a \*John’s belief Bill to be Caesar Augustus

 b John believed Bill to be Caesar Augustus

 c John’s believing Bill to be Caesar Augustus

 (p. 16)

In (22 a) the theme argument is caseless due to the lack of a case-assigning preposition, in

(23 a) raising of the subject of the clausal argument of the deverbal noun is ungrammatical, and in (24 a) there is no case-assignment to the subject of the embedded clause by the deverbal noun, thus it remains caseless and the construction is ungrammatical.

 In sum, the external distribution of the poss-ing gerunds suggests that it is dominated by a nominal projection (NP) but internally it seems to behave like a VP.Also, by using the DP analysis to account for a special characteristic of English gerunds, namely that they exhibit both nominal and verbal properties (see 25), Abney is bound to discuss the status of possessors.

19 a ing-of gerund: John’s singing of the Marseillaise

 b Poss-ing gerund: John’s singing the Marseillaise

 c PRO-ing gerund: PRO[[6]](#footnote-6) singing the Marseillaise

 d Acc-ing gerund: John singing the Marseillaise (p. 141-142)

In English determiners and possessors cannot co-occur, (*\*John’s / the / that / some book* p. 172.). According to standard approaches to the issue at the time, they do not co-occur because they are generated in the same position (Spec, NP). However, given the DP-analysis, Abney places full-DP possessors in the Spec, DP position in a structure associated with a poss-ing gerund (as shown in 20), thus that assumption would have to generalise to other nominal constructions containing a full-DP possessor, so the D-head is theoretically available for other determiners.

20 DP

 John’s D’

 D NP

 -ing VP

 V DP

 sing the Marseillaise

Abney’s way round the problem that lexical determiners and possessors mutually exclude each other is to assume that if a possessor occupies Spec, DP, the D-head position is occupied by AGR, which is responsible for assigning genitive case to the possessor, thereby determiners are excluded from the position.

 In sum, Abney (1987) takes a giant leap forward in the analysis of nominal constructions. Through the introduction of the Determiner Phrase, a functional nominal projection erected on top of the thematic nominal projection, not only does he set the course for future approaches to nominal structures, he also manages to maintain the then much desired parallelism between verbal and nominal structures. Further, the nominal functional projection introduced could replace Jackendoff’s three-level structure in such a way that the two specifier positions made available have been retained in line with the rest of the theory, and an additional position, the D-head position is also established, thereby allowing for space for as many as three determiner-like elements appearing prenominally in a nominal construction (as in, e.g., *all his many friends*).

 Also, he brings possessors into the discussion since they also play a part in establishing the argumentation for the DP-analysis. The nominal functional projection he terms DP is headed by members of the category Determiner, which includes items that are obligatorily followed by an NP complement, e.g. the articles, items that are not obligatorily followed by an NP complement, e.g. demonstrative pronouns and certain quantifiers, and it is also established that personal pronouns, which generally obligatorily lack an NP complement, belong to the category D as well.

2.4 The nominal-verbal projection analogy full-blown

 Seminal work based on Hungarian by Anna Szabolcsi (cf. Szabolcsi, 1992, 1994) further elaborates on the analogy between a verbal projection and a nominal projection. Given that in Hungarian the sequence of a lexical determiner and one type of possessor is grammatical (see (16)), but there exists another type of possessive construction in which the possessor precedes the determiner, *Mari – nak a könyv – e*, (*Mary-poss[[7]](#footnote-7) the book – possd 3sg* meaning *Mary’s book)*), which is assumed to occupy Spec, DP, additional functional structure is necessary in order to be able to accommodate the other type of possessive construction. Thus, in Szabolcsi (1994)’s proposal, the nominal DP is not analogous to the verbal IP but rather to the verbal CP, the even further extended verbal functional projection: the D head position is filled by an element whose structural equivalent in the CP is the C-head. To illustrate the parallelism between the nominal and the verbal projections, see (21).

(21)

a DP b CP

Spec D’ Spec C’

 D FP C IP

 Spec F’ Spec I’

 F NP I VP

In (21a) there is an intervening functional projection labelled FP (Functional Phrase), which may stand for a number of nominal functional phrase-types, e.g. AGRP (Agreement Phrase), DetP (a phrase whose head is a lexical determiner but it is distinct from DP), etc… In actual fact, this step has marked the rise of extending the number of possible functional projections erected between the topmost DP-layer and the lowest NP-layer in a nominal as from this point onwards various additional functional-like projections have started to appear in the various approaches that have attempted to provide uniform yet language-specific accounts of nominal constructions across languages.

**3 The (Relatively) Standard Analysis**

In Section 2 it has been described how the theoretical considerations that have led to the establishment of the parallelism between the structure of nominal and verbal projections have been revised. The aim of this section is to show how that analysis might be extended in order to be applicable to English as well as other languages.

3.1 DP – IP or DP – CP?

As described by Haegeman and Guéron (2001), developments in the assumptions about the structure of the VP-projection have influenced those made about the structure of NP as well. It had been proposed that a thematic VP only contains the V head itself and its respective arguments (that was called a minimal maximal projection), thus, as mentioned above, adjuncts are not added to a V-bar projection to expand it into another V-bar (cf. the rewrite rule for N’-adjuncts in (2b)) but rather are adjoined to VP. That idea has been extended to the structure of NPs, therefore e.g. AP-adjuncts are not adjoined to N-bar, instead they are added to NP, as shown in (22).

22 DP

 Spec D’

 D NP2

 AP NP1

 Spec N’

 N complement In addition, they provide further support for the DP-CP parallelism, consider the examples in (23) (*t* stands for *trace* of a moved constituent).

23 a [AP How important] is [DP this *t* decision]?

 b [DP [AP How important] a decision] is this?

In (23a) the wh-question has been formulated in such a way that the AP[[8]](#footnote-8) moves out of the DP and leaves a trace behind. In (23b) however, the whole DP moves to the front of the clause. The only phrasal position inside a DP which precedes the D-head position, which in the examples in (23) is occupied by the determiner *this,* is Spec, DP. Since in a clause the landing site for wh-movement is Spec, CP, evidence from DP-internal wh-movement seems to lend further support to the analogy between the extended verbal and nominal projections.

 If the structures in (21) and that in (22) are combined, more complex DPs emerge and the approach is applicable to languages other than English. Haegeman and Guerón (2001) use Italian examples to illustrate how the structure of the DP can be broken down into even more functional projections and provide further evidence for the nominal – verbal projections analogy. The starting point is the parallelism between a clause and a nominal construction containing a deverbal noun, and the Italain equivalent of the latter, consider (24).

24 a the Martians invade the city

 b the Martian invasion of the city

 c \*marziana invasione della cittá

25 la prima invasione marziana della cittá

However, as shown in (25), in Italian the adjunct follows the noun head (cf. (24c)), unlike in English, furthermore, immediately follows it, thereby intervening between the noun head and its PP complement, which, as described in section 2.1.1, is ungrammatical in English, see e.g. (4b). Thus, in order for the structure to be applicable to languages other than English an additional nominal functional projection must be introduced to accommodate the noun head which is assumed to move out of its base position into a head position to its left, compare (26).

26 DP

Spec D’

 D NP2

 la AP NP1

 **?**

 prima Spec N’

 marziana N PP

 invasione della cittá

Notice that the tree in (26) places the two AP-adjuncts in distinct positions: the AP *prima* is adjoined to NP in accordance with what has been described above. However, the AP *marziana* is generated in the specifier position of the NP. In languages where the adjective and the noun display agreement in number, gender, case, the latter option is preferred in order to be able to ensure the presence of the structural configuration relevant for this type of agreement, i.e. specifier-head agreement. In a language like English where no such agreement is displayed, at least not overtly, this issue does not arise, or rather, is not foregrounded. Haegeman and Guerón (2001) assume that prenominal adjectival modifiers occupy a specifier position even in English. The uniform treatment of prenominal and postnominal modifiers in nominal constructions across languages is still target to research, however, and is not relevant for the present purposes. What is relevant is that in order for the Italian example in (25) to be grammatical the noun head must precede the AP *marziana* and occupy an intervening head position, as shown in (26). Thus, Haegeman and Guerón (2001) assume the existence of an intervening functional projection whose head position serves as a landing site for the head noun and whose specifier position is available for the AP-adjunct. That way both AP-adjuncts end up in a specifier position, see (27).

27 DP

Spec D’

 D AgrP

 la Spec Agr’

 the

 prima Agr NP

 first invasione

 Spec N’

 marziana N PP

 Martian

 *t* della cittá

 invasion of the city

As shown in (27), in Italian the noun head moves into the Agr head position and leaves a trace behind. Both APs in both English and Italian occupy a specifier position and the complement PPs are sisters of the noun heads. The determiner head position is occupied by the definite determiners. The motivation behind the movement of the N head is explained in terms of a difference between the strength of the nominal agreement features of English and Italian. In Italian the nominal agreement features are strong, hence the noun moves to the Agr head position whereas in English they are weak, thus no movement occurs.

 To sum up, the analysis presented in Haegeman and Guerón (2001) adds some new aspects to the analysis of nominal constructions that provide further insight into the nature of their structures. For one, based on Szabolcsi’s work, they also propose that the DP-IP analogy be replaced by a DP-CP parallelism. Evidence for the extended nominal functional projection comes partly from DP-internal wh-movement in English and partly from nominal structures in languages other than English where the nominal agreement features are strong. In the verbal domain the landing-site of wh-movement is the Spec, CP position. Similarly, in the nominal domain the landing site of wh-movement is Spec, DP.

In languages like Italian, the order of the elements inside the DP is: head – AP-adjunct – PP-complement, which, given the general assumptions of X-bar theory, should be ungrammatical. However, if the existence of a functional projection intervening between the DP and the NP is assumed, the projection is equipped with an extra head position where the N head may move in languages where nominal agreement features are strong (cf. section 1.3, Cinque, 2005). Also, as a consequence of the analysis the position of prenominal AP-adjuncts is reconsidered and it is proposed that they are not adjoined to NP, rather, they occupy the specifier position of the intervening AgrP. It must be noted, however, that given that adjuncts are by definition recursive and, indeed, more than one premodifying AP may be included in a nominal construction, specifiers, on the other hand, are not recursive and there is only one specifier position available per projection, assuming that adjuncts are generated in a specifier position may seem problematic since in case there are, say, three premodifying AP-adjuncts in a structure, three functional projections are erected one on top of the other to provide positions that host them. The other side of the coin is that if these type of adjuncts are assumed to be adjoined to NP, some way of accounting for agreement in number, gender, etc… between the D-head and the A-head and the N-head must be established in a way different from standard assumptions about specifier-head agreement. which is generally seen as underlying agreement phenomena.

3.2 Possessive constructions

3.2.1 The beginning

Of the many questions the status of possessors inside the nominal construction raise two are addressed below: (i) why it should be that possessors can appear both prenominally and postnominally and (ii) whether or not full-DP and pronominal possessors occupy the same structural position.

In English possessors can be expressed by full-DPs or possessive pronouns and they can appear both prenominally or postnominally, see (28).

28 a John’s bike

 b the man living next door’s bike

 c his bike

 d the life of Brian

 e the bike of the man living next door

 f a friend of his

In (28a) and (28b) there is a full-DP possessor appearing prenominally. These examples also illustrate that the Saxon genitive morpheme *’s* attaches to the whole phrase and not to the N head. In (28c) the possessor phrases are substituted by a possessive pronoun. Similarly, the complement of the preposition in (28d) and (28e) is a full DP while in (28f) a pronoun. Note that the pronouns appearing in (28c) and (28f) belong to different paradigms (cf. section 1.2.2), the former can appear only prenominally, the latter only postnominally (or as a predicate, as in *that bike is mine*). According to an early, highly influential analysis (Lyons, 1986), in the preposed construction the genitive phrase (i.e. the possessor) precedes the N head and seems to appear in Det position (that is, Specifier of NP), while in the postposed construction the possessor follows the N head and is inside a PP which is assumed to be generated in the complement position. In general a preposition assigns Accusative case but in these structures it can also assign Genitive case, which is manifested by the appearance of *’s* on full NPs or by the use of the predicative possessive pronoun. In the preposed construction the possessor cannot co-occur with any other lexical determiner and is interpreted as definite. In addition, this type of construction does not generally occur with a restrictive modifier that follows the head. On the other hand, the postposed construction can freely occur in indefinite NPs (e.g. with a bare plural noun or indefinite determiners such as *a(n)*, *some*, etc… but can only occur with the definite article if followed by a restrictive modifier (see 29).

29 a \*the / \*a / \*this John’s bike

 b a / this bike of John’s

 c \*some John’s bike

 d (some) bike of John’s

 e John’s bike that you borrowed

 f \*the book of John’s

 g the bike of John’s that you borrowed

Lyons (1986) proposes three types of frames for the two constructions:

30 a preposed genitive: [NP’s N]

 b postposed possessor without genitive case assignment: [(Det) N of NP]

 c postposed genitive: [(Det) N of NP’s]

He shows that in general the first frame is always grammatical though awkward with some nouns probably for reasons that have to do with animacy:

31 a ?the mountain’s foot

 b ?the ceiling’s colour

If the reading of the construction is determined by context the second frame fails to occur but the other two do, freely:

32 a John’s picture/doctor

 b \*the picture/doctor of John

 c the picture/doctor of John’s

Certain relational nouns such as *brother, friend* and body parts are grammatical in the second frame only with a full NP and ungrammatical with an Accusative-marked pronoun:

33 a the brother of Mary

 b \*the brother of him

 c the hand of a man

 d \*the hand of him

Both (33b) and (33d) are grammatical in the third frame, on the other hand, this frame is hardly acceptable if the NP is heavy:

34 ??the car of the woman who lives next door’s

If the possessive construction denotes part of an inanimate object, the third frame is impossible and with most of those nouns the second frame is preferred to the first:

35 a \*the mouth of a river’s

 b \*a peak of a mountain’s

He argues that the second and the third frames are in almost in complementary distribution and the factors determining the choice between them are extremely complex. Furthermore, when there is no complementary distribution and both are grammatical they appear to be synonymous, thus they represent the same construction (where the first option contains an Accusative NP and the second one is marked Genitive, i.e. has *’s* attached to it, and that is the so called ”double-genitive” construction):

36 this man is a friend of Mary / Mary’s

He concludes that the difference between the second and the third frames is whether or not Genitive case has been assigned by *of*: an animate NP possessor usually gets Genitive case while an indefinite does not (but that also depends on the type of the head noun). Similarly, an animate pronoun must also receive Genitive case but a full NP need not. Genitive is not assigned if the NP is inanimate and for a full NP Genitive case assignment seems optional. Finally, Genitive case assignment is awkward to a heavy NP. The presence or absence of Genitive case assignment and the choice between the three frames thus seems to be influenced by factors such as animacy and the heaviness of the NP.

 Lyons (1986) addresses the question of how to maintain and extend the analysis claiming that possessors occupy the specifier position given data from languages like Italian where the sequence of a definite determiner and a possessive pronoun is grammatical, e.g. *il mio libro – \*the my book*. Furthermore, in Italian the possessive pronoun can co-occur with the indefinite article as well: *un mio libro – a book of mine*. According to Lyons (1986), an expression such as *a teacher’s work* in English is interpreted as *the work done by a teacher* and not as *some work done by a teacher* despite the absence of a definite article. On the basis of these examples he proposes that in English if the Det position is occupied by the possessive pronoun a definite interpretation is forced. On the other hand, in a language like Italian posessive pronouns occupy some position other than Det, which he terms *mod* (modifier), thus the determiner and the possessive pronoun may co-occur. Evidence that the possessive pronoun may be seen as some prenominal adjective-like modifier (and as such is introduced into the structure like a prenominal AP) is provided by the fact that these elements display agreement with the head noun in number, gender, like APs do. In addition, given the above considerations, he also assumes that the indefinite articles *a / an* are in fact cardinality expressions also generated in the *mod* position not encoding ”indefiniteness”, and if the specifier position of an NP is filled by any element, it is interpreted as definite. It follows that for him if the specifier position of the NP is occupied by a genitive phrase of any kind the NP is interpreted as definite. On the other hand, Italian shows that the mere presence of a possessor does not by itself render the interpretation of an NP definite. The difference between the two language types is a consequence of the different positions pronominal possessors occupy: in English Det, in Italian *mod*.[[9]](#footnote-9) In a language like English since the presence of a possessor in Det forces a definite interpretation some other construction must be used to express the indefinite reading and that is exactly what postnominal possessive constructions may do.

 He also discusses the differences between postnominal genitive constructions and partitives and argues that the two constructions are not identical. One of the several arguments he puts forward is as follows. In the partitive the containing NP is practically always headed by an empty N with the exception of group nouns which can fill that head position, see (37).

37 a many of the men

 b several of the books

 c a bottle of water

Non-group nouns can only occur as heads of partitives in expressions like *a man of them* if the NP complement of the preposition is a pronoun and only in non-declarative contexts, as shown in (38).

38 a Not a man of them showed any fear

 b Did you see a man of us shirking his duty?

 c \*A man of them was terrified

 d \*You must have seen a man of us on the way

But nouns seem to be able to occur quite freely as heads taking a PP complement in the postposed genitive construction.

39 a a friend of mine

 b three students of Mary’s

 c that pen of yours

Also, notice that in (39c) the interpretation of the expression allows for a reading where there is only one pen or a reading where there are several.

 To sum up, first and foremost it must be noted that despite the fact that the data is extremely complex Lyons (1986) identifies three patterns for possessive constructions and attempts to establish principles guiding the choice between a prenominal and a postnominal possessor, and those guiding the presence or absence of Genitive case assignment. Two such factors influencing the choices seem to be animacy and the length (heaviness) of the NP. Both full NP and pronominal possessors are assumed to occupy the Specifier of NP position which is also termed Det (that term seems somewhat misleading in the case of full NP possessors because it gives the impression that no phrasal extension can fill it). Parametric variation in terms of the grammaticality of co-occurring determiners and possessors is also discussed and he concludes that in languages where the sequence article – possessive pronoun – noun is grammatical the possessive pronoun does not appear in the Det position, rather it is generated in a position proposed for hosting modifer-like elements. He also proposes that postnominal possessives are a way of expressing indefinite possession. Finally, he argues for a different treatment of partitives and postnominal possessive constructions and claims that the former but not the latter can contain an empty N head.

3.2.2 The structural position of the possessor

As mentioned above originally the structural position associated with both full NP and pronominal possessors was the specifier of NP, but it should be noted that for instance Abney (1987) places the full DP together with *’s* in the specifier position while the D-head position is occupied by an abstract feature *poss*, thereby explaining why possessors and other determiners mutually exclude each other. With the rise of the DP-hypothesis (see section 1.3) the NP specifier view has been challenged and revised, as a result possessors in general have been assumed to occupy the Specifier of DP position.

 That assumption merits comments, though. Full DP possessors are phrases by definition and specifier positions are also phrasal positions, hence it is straightforward to place them there with the *’s* clitic tagging along. However, these assumptions have been challenged mostly for reasons related to accounting for Genitive case assignment and to establishing a formal possessive relationship between the participants. For example, Kayne’s (1993) approach places the clitic into the Agr-head position and the full DP possessor into the Specifier of AgrP while the D head position is filled by the preposition *of* (in a tree like the one depicted in (27)). The preposition *of* is only triggered if the possessee moves to Spec, DP, thereby yielding an expression like *friends of Mary’s*. On the basis of examples such as those shown in (40) and (41) Bernstein and Tortora (2005) argue that the *–s* and *-r* found on possessive pronouns are in fact number agreement markers: the possessive pronominal forms are composed of the nominative pronoun and the form of the copula *be* that agrees with it in number.[[10]](#footnote-10) The possessive interpretation arises from the agreement relationship that is established between the nominative pronoun generated in NumP and the agreement markers generated in the F head position of an FP projection that takes NumP as a complement. NumP moves up to Spec, FP in order to be able to enter into a specifier-head agreement relationship with the agreement markers. The FP, in turn, is the complement of a D head, thus the topmost projection is a DP. They claim that the clitic *’s* appearing with full DP possessors is distinct from the singular agreement marker *–s* found on pronouns i.e. that possessive pronouns and full DP possessors are structurally different.

40 a Jack and Jill’s house

 b Jack and the boy’s house

41 a \*we and their house (cf. our and their house)

 b \*he and your house (cf. his and your house)

p. 1229

In the examples in (40) one clitic per coordinated DP suffices to convey the possessive interpretation, unlike in the constructions involving pronominal possessors in (41). They point out that the examples in (40) can only have a collective reading while those in (41) are ambiguous and as such allow both for a collective and a distributive reading.[[11]](#footnote-11) In order to obtain a distributive reading for (40a) each DP would have to be marked with *‘s* separately (*Jack’s and Jill’s house)*.

42 a ?\*my and Jack’s house (cf. \*Jack’s and my house)

 b ??his and Jack’s house (cf. ?\*Jack’s and his house)

 c me / him and Jack’s house

p. 1230

Furthermore, the examples in (42) show that if a pronominal and a full DP possessor are coordinated the sequence is ungrammatical. ((42c) is grammatical in colloquial English and only the collective reading obtains). As only the coordination of constituents which are structurally parallel yields grammatical results, Bernstein and Tortora (2005) conclude that the agreement marker *–s* and the clitic *’s* are structurally distinct: the former is generated in an F head position (43b), the latter in the Agr head position (43a). The nominative pronoun moves from NumP to Spec, FP, thereby establishing a spec-head agreement relationship, which, in turn, serves as a basis for the possessive interpretation of the pronoun. Full DP possessors are generated in Spec, AgrP while the possessive pronoun occupies the specifier position of FP, as shown in (43a). That is to say, the structure in (43b) sits in the specifier position of the FP in (43a). Thus, *he + s* form a consituent whereas *Mary + ’s* do not and that accounts for the ungrammaticality of the coordinated examples in (42). The *of* in the D head slot only appears if QP or NP moves to Specifier of DP. If the two types of possessors occupy different positions, the analysis can be extended to languages in which both may occur simultaneously.

43 a DP

Spec D’

 D AgrP

 (of)

 Spec Agr’

 Mary Agr FP

 ’s

 Spec F’

 their/his F QP/NP

 friends

b DP

Spec D’

 D FP

 Spec F’

 F NumP

 -r/-s

 they/he

Newson et al. (2006) briefly present an alternative approach to the placement of full DP possessors inside a DP structure. As illustrated by examples like *the man’s book – the man living next door’s book*, given that the definite article is assumed to occupy the D head position, it cannot be in complementary distribution with a full DP possessor, which is a phrasal constituent. Moreover, it is observed that if the *’s* morpheme is indeed a case marker that assigns Genitive case, it is one that behaves differently from other case markers in that it attaches not to the head but to the whole possessor DP (cf. (28a-b)). In this respect it behaves like a contracted auxiliary that cliticises onto the subject in a clause (*the man’ll appear)*. As contracted auxiliaries are generated in a head position, given the analogy, the *’s* morpheme is also assumed to occupy a head position, namely D, whereas the possessor phrase itself is in the slot immediately preceding that, namely the Specifier of DP. Possessive pronouns, which can substitute full DP possessors, should, then, also be generated in the same position. However, with possessive pronouns no *’s* morpheme appears, therefore perhaps it is not that morpheme that is responsible for the assignment of Genitive case.

Also, the question arises as to what occupies the D head position if the possessor is pronominal. One possibility is that with possessive pronouns in Spec DP, an unpronounced element occupies the D head. This solution would automatically explain why possessive pronouns and lexical determiners like *the* cannot co-occur. However, this solution raises another question: why is the possessive determiner overt with full DP possessors and non-overt, i.e. unpronounced, with pronominal possessors? Another possibility is to assume that *’s* is not a possessive determiner but some marker of possession but since pronouns have a possessive form, it need not appear with them. The problem with this approach is that this amounts to claiming that *’s* is a case morpheme yet it has been pointed out above that it does not behave like one. A third possibility is to assume that full DP possessors and pronominal possessors in fact do differ in terms of which structural position they occupy and possessive pronouns appear in D and not in Spec, DP. Unfortunately, this assumption is also problematic if it is considered that the referent of a possessive pronoun is different from the referent of its head.

 The section above addresses the question whether full DP possessors and pronominal possessors occupy the same structural position or not. Bernstein and Tortora (2005) claim that the structure of possessive pronouns contains an agreement marker for singular and another for plural, *-s* and *–r* respectively. Further, based on coordination facts they assume that the singular agreement marker is distinct from genitive *’s* appearing with full DP possessors, hence the structural position of the two types of possessor is distinct: possessive pronouns are generated lower in a nominal structure than full DP possessors.

According to another view presented in Newson et al (2006) the two possessors, given that both express possession, should be generated in the same position, i.e. Spec, DP but the matter is far from straightforward as there are arguments both for and against the two alternative placements of the possessors in question.

**4 A Quick Guide to Binding Theory[[12]](#footnote-12)**

This section is based primarily on Haegemean (1993). The part of the grammar that concerns itself with assigning the right interpretation or reference to DPs is called Binding Theory. There are three types of DPs:

1. full DPs (i.e. R-expressions where ’R’ stands for ’referring’) e.g. *Frank, Delmar*
2. pronouns, e.g. *he, him* and
3. anaphors divided into reflexives, e.g. *himself, herself* and reciprocals, e.g. *each other*.

A full DP refers independently, that is, there is, or thought to be an entity which the DP identifies. Pronouns, however, only allow for identifying a subgroup of possible entities they refer to by virtue of their features, for instance *he* is [+sing], [+male], which restrict the possible referents but do not uniquely pick them out. Anaphors depend on some other DP that supplies some kind of reference for them. Expressed more formally, anaphors must be bound by an antecedent and the binder and the bindee are connected via co-indexation.

44 a Franki / Hei saw Frank\*i / himselfi / \*themselvesi.

 b Franki thinks [that Delmarj saw himself\*i / j]

 c \*They expect [himselfi to see Franki.]

 d [PROi To see oneselfi] is far from an easy matter.

As illustrated by (44a), the full nominal DP cannot be co-referential to itself. On the other hand, the reflexive must be co-referential with the full DP or the pronoun in order for the sentence to be grammatical. If there is a mismatch between the features of the full DP and the reflexive, the result is ungrammatical. In (44b) co-indexation reveals that the reflexive must be bound by an antecedent contained in the same clause as the one containing it, it cannot be co-referential with the subject of the matrix clause. (44c) illustrates that the reflexive must appear lower in the clause than its antecedent. In (44d) the antecedent of the reflexive is the unpronounced subject pronoun PRO, thus non-overt elements may also function as bindees for the anaphor. It seems that a reflexive can be bound if it agrees with the antecedent in number, gender, etc… features and it is preceded by the antecedent. An additional condition must also hold: the antecedent must c-command the anaphor. The definition of the structural configuration called c-command is shown in (45).

45 C-command

 A node A c-commands a node B if and only if

1. A does not dominate B,
2. B does not dominate A,
3. the first branching node dominating A also dominates B.

Haegeman, 1993:198

The examples in (46) demonstrate how binding works once these notions are introduced.

46 a \*John`s [sister]i shot himselfi

b \*[John]`si brother shot himselfi

c [John`s brother]i shot himselfi

The clauses in (46) are all simple sentences thus the reflexive and the binder are clausemates. However, in (46a) and (46b), both ungrammatical, no c-command holds between the possessee or the possessor and the reflexive itself. C-command only holds between the full subject DP and the anaphor, as shown in (46c) given that the subject DP c-commands the whole clause.

47 a Franki saw him\*i / j.

 b Franki thinks that [Delmarj saw himi /\*j.]

 c Hei thinks [that hej saw himi/\*j.]

In the examples in (47) pronouns are used instead of reflexives. In (47a) the pronoun cannot be interpreted as co-referential with the subject DP. As shown by (47b), however, the pronoun in the lower clause can indeed derive its reference from the subject of the higher clause. (47c) shows that even a pronoun can function as an antecedent for another pronoun provided they are not in the same clause. Full DPs, however, cannot be interpreted as co-referential even if they are not in the same clause, see (48).

48 \*Franki thinks that [Delmar saw Franki].

 Given the above considerations, three principles of Binding Theory have been established:

 Binding theory

 Principle A: An anaphor must be bound in its governing category.

 Principle B: A pronoun must be free in its governing category.

 Principle C: An R-expression must be free everywhere.

The question is what is a governing category. To be able to answer that, yet another notion must also be clarified: government. On the basis of the examples in (44) it seems that a reflexive must be bound by a clausemate antecedent. However, given (49) that should be revised.

49 Maryi considers herselfi to be a beauty.

In (49) the reflexive is in the subject position of the lower clause, hence it is not bound by a clausemate antecedent, yet the sentence is grammatical. Thus, the domain must be extended to allow for co-indexation to be established between binders that are not in the same clause as the bindees, the reflexives. That is where government comes into the picture. Governors are thematic categories and finite I. One way to extend the domain in such a way that the matrix clause in (49) is included is to say that the reflexive must be bound in a domain that contains it and its governor. As the embedded clause contains a non-finite I that cannot be the governor, indeed, it must be the matrix verb *consider*, which also case-marks the reflexive in subject position like it does a pronoun in a similar configuration, as in *Mary considers him / \*he to be a beauty.*

The last point to be made is that it is not only clauses that may serve as binding domains, consider the examples in (50).

50 a Delmari believes [DP any descirption of himselfi].

b Delmar\*i believes [DP Frank’si / hisi description of himselfi].

On the basis of the examples in (50) a further refinement of the definition of binding domain is in order. Both sentences contain one clause, hence the antecedent and the reflexive are clausemates. In both clauses the reflexive is c-commanded by a governor, thematic V. Still, in (50b) the antecedent of the anaphor is not the subject but the possessor. Thus, it appears that the presence of a possessor inside the DP containing the reflexive delimits the domain: it becomes the very DP containing both.

On the basis of the above discussion the binding domain can be defined as follows: it is the minimal domain containing the reflexive and its antecedent. If it is a clause, it also has to contain a governor (in finite clauses finite I, in non-finite clauses a thematic V). If it is a DP, it contains a possessor DP. The binding relationship is established through c-command between the antecedent and the bindee and is shown via co-indexation.[[13]](#footnote-13)

Finally, a circularity puzzle: in the following sentence co-indexation yields an uninterpretable result, consider *[Heri husband]j likes [hisj wife]i*. Why should that be? ☺

**5 Closing Remarks**

As shown above through the discussion of the development of the approaches to the structure of nominal constructions, though a relatively standard analysis exists, there are many aspects of the behaviour of nominals that have not yet been explored to the full. As is also demonstrated, the data is extremely complex.

 One of the major goals of the accounts has always been to somehow capture parallelisms between the structure of nominals and clauses, and while there do exist similarities, that analogy has its limitations. For instance, as generally assumed, verbs have an argument structure but that does not carry over to nouns, which do not, with the exception of deverbal nouns that retain the argument structure of the verb they are derived from, cf. (24a) and (24b). In other words, verbs assign theta-roles to their arguments but nouns, except those derived from verbs, do not, and even with those the process is unclear and it could be assumed that it is in fact not the noun but the verb present in the morphological make-up of the word-form that is responsible for the presence of those theta-roles, cf. the genitive meanings in section 1.2.1. In (24a) the verb *invade* takes an ’agent’ and a ’theme’ argument and those theta-roles also appear with the corresponding nominal in (24b). On the other hand, if (32a) is considered, in a DP like *John’s picture* the possessor’s exact status is unclear and is dependent on context to be determined. The expression could mean that (i) John bought the picture, (ii) John painted the picture, (iii) John is depicted in the picture, etc… Hence it seems more plausible to assume that there is no such theta-role as ’possessor’. Another area where the clausal analogy seems more difficult if not impossible to maintain is the presence or absence of subjects. Again, as is generally assumed, every clause must have a subject.[[14]](#footnote-14) However, the presence of a possessor or, indeed, any overt determiner or determiner-like element is not obligatory within the nominal domain.

 Further, it must be noted that quite a few questions regarding issues related to the analysis of nominals have still not been satisfactorily resolved to this very day. To mention but a few, for example, no consensus has been reached on the status of possessive pronouns, some assume that they are prenominal adjective-like modifiers, some assume they are determiner-like elements. Also, it is far from established whether full-DP possessors and pronominal possessors occupy the same position in a structure or not. In addition, whether or not certain postposed genitives are better analysed as partitives is under debate as well. The position where AP-modifiers are generated can be argued to be a specifier or an adjunct position, both views exist across the literature as different languages manifest different types of behaviour regarding agreement between determiners, AP-modifiers and noun heads.

 The development of the approaches have also seen the proliferation of functional projections associated with nominal constructions. Thus, apart from standard DP, AgrPs, FPs, NumP, DetPs, QPs, etc… that have long been assumed to exist, even a KP on top of the DP, which is generally assumed to be the topmost functional projection (cf. Vinet and Liu, 2008), is proposed, and although some of the functional projections erected on top of the thematic projection represent overlaps with each other or manifest only a terminological difference depending on the approach considered, unnecessary complications to the theory might arise if the appearance of functional projections is not constrained in some way and they are allowed to mushroom.

 In sum, although the existing accounts have established a sound approach to the analysis of nominals, there remain many open questions. All the better, since open questions are a key factor in the development of any theoretical, scientific approach to the given field, and the structure of nominals is no exception, there is lots of room for further research.

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1. It must be noted that this is a simplified presentation of the theory. [↑](#footnote-ref-1)
2. It should be noted that there are two other types of relative clause, so-called non-restrictive (non-defining) and free relative clauses. A non-restrictive relative provides extra information and is only grammatical if it is introduced by a relative pronoun (*my sister, who lives in Paris, has two cats*) and a free relative can also be grammatical with the relative pronoun ’what’ (*what he said was true*) and lacks the antecedent noun present in the other types of relatives. The structure of relative clauses is not discussed in detail here. [↑](#footnote-ref-2)
3. That the elements introducing restrictive relative clauses do not belong to the same category, i.e. they are relative pronouns or complementisers, is shown in (i) below.

a the house in which he lives / \*the house in that he lives (Pied Piping)

For further arguments in favour of their distinct categpories, see Radford (1988). [↑](#footnote-ref-3)
4. Notice that with the postmodifying complement PP the meaning of the phrase is not ambiguous whereas with the premodifying NP it is not entirely clear whether it is a campaign ’for’ or ’against’ drugs. [↑](#footnote-ref-4)
5. It is interesting to note that in actual fact certain personal pronouns can, indeed, co-occur with adjectives, as in *silly me/us*, *despicable me, lucky you*. However, the phenomenon seems to be restricted to 1sg pronouns. [↑](#footnote-ref-5)
6. This stands for an unpronounced pronoun appearing in embedded clauses whose interpretation may be coreferential with the subject or object of a matrix clause, but it may also be arbitrary as well. Control Theory concerns itself with the interpretation of PRO but that is not discussed here. [↑](#footnote-ref-6)
7. The exact status and nature of this morpheme that appears on the possessor preceding the determiner in Hungarian is still under debate, some term it Dative, some Genitive, some argue it is neither. [↑](#footnote-ref-7)
8. In more recent terminology this would be a DegP (Degree Phrase). [↑](#footnote-ref-8)
9. He does not include the structural position of full NP possessors in the discussion. [↑](#footnote-ref-9)
10. The possessive pronoun *her* is a suppletive form. [↑](#footnote-ref-10)
11. The collective reading is that they own the same house, the distributive that they own separate houses. [↑](#footnote-ref-11)
12. It must be noted that this is a simplified presentation of the theory. [↑](#footnote-ref-12)
13. In Haegeman (1993) the notion ‘accessible subject’ is used to mark zthe limit of the binding domain. [↑](#footnote-ref-13)
14. That is the so-called Extended Projection Principle. [↑](#footnote-ref-14)