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Modality and Possession in NPs

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1. Introduction

In the last decade, a number of studies have investigated the similarities in the structure of the functional projections of NP and VP (Abney 1987, Valois 1991, Ritter 1991, Bernstein 1993). More recently, Kayne (1994) has extended this line of thought by assuming that the extended projection of both NP and VP may contain CP/IP. Let us briefly review Kayne's assumptions. Kayne derives possessives, like *a friend of John's* as being a result of an ordinary possessive in which the possessee has undergone movement to SpecCP, as in (1).

(1) [[a friend]$_i$ of [John 's [... t_i ..]]]

(2) The friends that John had

(3) [$_{DP}$ The [$_{CP}$ [friends]$_i$ that [$_{IP}$ John had t_i]]] (Vergnaud 1974, Kayne 1994)

Kayne thus derives the possessive nominal construction in a way that is completely parallel to Vergnaud's (1974) analysis of relative clauses, which Kayne (1994) also adopts. The structure in (1) thus receives a labeling and an analysis that are parallel to the structure in (3):

4) [$_{DP}$ [$_{CP}$ [$_{NP}$ a friend]$_i$ of [$_{IP}$ John 's [... t_i ..]]]

Inverted possessive constructions thus are clausal IPs. The possessor constituent *John's*, having subject properties, resides in specIP of a relative clause. As a null hypothesis, Kayne assumes that the IP-structure underlies not only the simple inverted possessive of (4) but also the simple uninverted possessive such as *John's book* in (5).

(5) [$_{DP}$ [$_{IP}$ John 's ...[$_{NP}$ ...book ..]]]

One of the residual problems of this analysis is the *motivation* for the empty sentential structure beneath possessive DPs. If such a sentential structure truly exists in possessive DPs, we expect to see temporal or modal interpretive effects of such sentential structures. In this paper, we will provide evidence that this is indeed the case.

2. Quantificational possessives

English has possessive constructions in which *every* can occur after the possessive, as listed in (6).

(6) a. John's every thought was devoted to her
b. Their every hope rested with the army of Alexander

The most striking property of this construction is what we would like to call its "intensional" nature: *John's every thought* refers to every possible thought of John's, not to every member of an established set of thoughts. A similar construction exists with light verbs:

(7) a. They had every reason to distrust him
b. They made every effort to save Building 20

These constructions exhibit a number of particularities which we will review first. They have a quite sensitive syntax, and can therefore function as a fine-tuned probe for our investigation of possessive constructions.

2.1. Restrictions on the NP.

A first particular property of the construction is that the NP are restricted to deverbal nouns expressing bodily actions (8), or to relational nouns that are "indefinitely countable". In our opinion, this term refers more precisely to Szabolcsi's (1994:194) observation that these NPs must be what she calls "open ended".

(8) a. She studied Sue's every step/ move/ thought
b. She studied Sue's every *car/ *bike/ *book/ *statue
c. She studied Sue's every *conviction/ *belief
d. She studied Sue's every *contribution/ *lecture / *product
e. They appreciated his every gift/ kind gesture/ thoughful action

(9) a. Sue felt that her every vein/bone/ muscle protested
c. *I was hurt in my every finger
d. The monster's every tentacle seemed to reach for him
e. He wanted to introduce me to his every girlfriend/ *? his every latest conquest
f. The labyrinth's every corner had to be explored
g. She loved her old Saab's every scratch

(10) a. They made every effort/ *attempt to save Building 20
b. They had every reason/ *occasion to save Building 20

(11) a. Jan deed alle moeite/ inspanning/ *poging om te komen (Dutch)
'John made every effort/ effort/ attempt to come'

(12) a. Hans jedweder Gedanke gehörte ihr (German)
'Hans' every thought was devoted to her'
b. Sie hatte jedweden Grund ihm zu mistrauen
'They had every reason to distrust him'

At first sight, the presence of deverbal nouns referring to bodily actions in this construction is reduceable to the relational restriction, in the sense that such nouns can also be viewed as strongly relational: thoughts, moves and steps are "parts" of a person in

a way that cars, lectures, and bikes are not. Similarly, *effort* involves a bodily action in a way *attempt* does not. Dutch has a construction with the quantifier *alle* that exhibits the same restriction.

Interestingly, the deverbal nouns in (8-9) have to derive from stage-level predicates, as the comparison of (8a) and (8c) brings to light. The stage-level nature of *thought* vs *belief* can be checked in possessive verbal constructions such as (13).

(13) I just had a thought/ *a belief/ *conviction.

This stage-level property is also reduceable to a more general property of the construction, more precisely what we have called the restriction to "indefinitely countable" NPs.

This restriction can be captured in more formal terms by stating that the quantification is not D-linked but intensional. The construction in (9d) means: 'every possible tentacle'. The construction has a flavor of modality, more specifically: potentiality. The construction does not refer to a specific set of steps/thoughts/veins or bones, but to any step/thought/vein/bone that potentially might come into consideration. In this sense, there is a minimal difference between (14a) and (14b):

(14) a. They met every girlfriend of John's at the party
b. They met John's every girlfriend at the party

The sentence (14a) refers to the set of actual girlfriends that John has or has had, while (14b) refers to the set of potential girlfriends as well (e.g. women who might have been girlfriends, but for whose girlfriend status we might not have actual evidence). This means that we disagree with Szabolcsi's semantic representation of these constructions. She represents (14b) as follows (15).

(15) For every x, x a girlfriend of John's, they met x (Szabolcsi 1994)

We think that this is the semantic representation of (14a), and that (15) is not complex enough to adequately represent (11b).

2.2. Restrictions on modification

A second property is that the construction does not allow for modification, except by modal adjectives such as *conceivable, possible*: This is exemplified in (16–17).

(16) a. John's every (*profound/ possible) thought was analyzed
b. John's every thought (*that he had yesterday) was analyzed
c. Every profound thought of John's was analyzed

(17) a. They made every (possible/ *laudable) effort to save B20
b. They had every (possible/ *good) reason to distrust him

In fact, the adjectives *conceivable* and *possible* are not true modifiers. If they are absent, the structure retains its modal interpretation. *My every step* means: 'every step which I ever made', i.e. the construction has an implicit modality. The adjectives *possible* and *conceivable* lexicalize this implicit modality rather than modifying the structure. The block on modification can be captured in more abstract terms by saying that the possessed NP is has an "intensional" or "potential" interpretation.

There are however some other restrictions that should be noted. The possessed NP can be modified if the modification specifies an "internal" property of the NP:

(18) a. After 699 situps, Arnold's every abdominal/ *strong muscle ached
b. The skillful anthropologist was able to correctly restore the skull's every facial bone
c. The audience followed the dancer's every (*beautiful) move/ (*light) step
d. The captains of industry benevolently financed the ambitious politician's every upward move.

(19) a. They made every (financial/ *laudable) effort to save B20
b. They had every (imaginable / *profound) reason to distrust him

This restriction on modification is perfectly similar to that observed for other cases where inalienable (IA) possession is involved (Kayne 1975):

(20) a. Jean s'est gratté le (*beau) nez/ l'oreille droite
'Jean scratched the (beautiful) nose/ the right ear'
b. I kissed Mary on the (*beautiful) lips/ the upper lip

Without going into a formal description of the types of modification, (cf. Vergnaud & Zubizaretta 1992), we plan to draw a parallelism between the IA- construction and the possessive and light verb constructions with *every*.

2.3. Restrictions on the determiner.

A third property is that the determiners that can show up before *every* can only be possessives. Replacement of the possessive by a definite or indefinite article or by a deictic pronoun leads to unwellformedness (16).

(21) a. *This/ the/ an every thought

This property sharply distinguishes the construction at hand from other quantifiers occurring after determiners, compare *my few books/those few books/ a few books*, and also from other adjectives that have a 'temporal' interpretation.

(22) a. His/ a former colleague
b. His/a sometime ally/ collaborator
c. Joe Getyagun, a onetime President of the NRA, was shot the other day.

2.4. Sensitivity for the distinction <u>every/each</u>

Remarkably, the quantifier *each*, which is semantically close to *every*, is disallowed in this construction (10).

(23) a. My every/ *each thought
b. They had every/ *each reason to distrust him

Although the semantic distinction between *each* and *every* is far from clear, at least one other formal distinction has been reported in the literature (cf. Seuren 1984). Although *every* licenses negative polarity items, *each* does not.

(24) a. *Each student that has ever visited Paris sings *Paris s'éveille*
b. Every student that has ever visited Paris sings *Paris s'éveille*

According to the theory of Ladusaw/Zwart on the licensing of negative polarity items, this implies that the restrictive set, i.e. the NP-domain of *each man* is not downward entailing while the NP-domain of *every student* allows for downward entailments.

2.5. The light verb nature of the possessive relation

Finally, it must be noticed that the *Poss every NP*-construction has a paraphrase that contains a light verb. Constructions as in (25a) and (26a) are semantically close to the relative clause constructions (25b/c) and (26b/c).

(25)
a. John's every thought
b. every thought that John ever had [ec]
c. whatever thought John ever had [ec]

(26)
a. John's every move
b. every move that John ever made [ec]
c. whatever move John ever made [ec]

If it were possible to fully formalize the idea that the *John's every move* construction involves a light verb construction embedded in a relative clause, it would allow us to reduce these constructions to nominal variants of the fullfledged light verb constructions of the type (27b), where *every* has the very similar paraphrase (27b), with a relative clause that similarly includes the NPI *ever*, responsible for the "intensional" interpretation.

(27) a. They had every reason to distrust him
b. "They had every reason there ever was/ every possible reason to distrust him"

Although paraphrases never constitute a compelling argument for the syntactic structure of a given construction, we would like to argue that in this case the paraphrases do share a common underlying structure with the *John's every move*-construction. The paraphrase suggests that in *John's every move*, the quantifier *every* has scope both over the noun and over the tense of an implicit relative clause, corresponding to the light verb of the paraphrase. The paraphrases in (25bc) and (27b) have two quantificational domains, nominal and eventive. In our analysis of *John's every move*, we would also like to distinguish two quantificational domains: a nominal one deriving the distribution over *moves*, and an eventive one deriving the intensional interpretation.

However, such an analysis would involve the only instance in which a nominal quantifier binds a temporal variable. In *bona fide* sentential complementation, nominal quantifiers are never allowed to bind temporal or event variables: *John ate every apple* cannot mean that 'it was always the case that John ate an apple'. How, then, can it be the case that *every* in *John's every move* seems to have both a nominal and an eventive quantification?

In sum, we find that there are possessive constructions both in the nominal and in the sentential domain, in which *every* evokes an "intensional" meaning: *my every step*/ *John has every reason to go*. This construction has the four properties listed in (28):

(28) a. it is restricted to relational nouns, hence inalienable possession and bodily situations
b. it induces modality/intensionality
c. it requires a quantifier that licenses NPI's
d. it can be paraphrased by a light verb construction

These four properties raise as many problems that need to be solved. This is what we will set out to do in the next sections.

3. Modality and the construal of two quantificational domains

We would like to tackle first the intensional interpretation and the light verb properties (28b-d) of the construction under consideration, and relate it to the morphological derivation of *every*. It is well known that *every* is diachronically related to the temporal NPI *ever*, in the sense that *every* originated as a combination of *ever* and the Old English counterpart of *each* (every < aefr ylc). We therefore assume that *every* should also be viewed synchronically as consisting of two morphemes, /ever/ and /-y/, with /-y/ similar to the indefinite Wh- elements *what, how* and *who* in *whatever*, *however, whoever* The morpheme *ever* is an NPI, i.e. an open variable to be bound by another quantificational element.

Similarly, the corresponding construction in German (12), which has roughly the same properties, also involves the composed quantifier *jedweder*, composed of je+ der+weder that is, the NPI ever (je) + -y (der) + a distributive element (weder). This suggests an analysis as in (29), where the structure contains a nominal and a sentential domain of quantification:

(29) $[_{IP}$ John$_i$'s $[_{NumP}$ $[_{A^0}$ ever] -y] $[_{CP}$ [move] $Ø_{C^0}$ $[_{IP}$ PRO$_i$ t_{ever} $Ø_{make}$ t_{move}]]]

In this structure *ever*, an indefinite variable, moves out of the relative clause to the Num^0 in which /-y/ resides, a distributional quantifier. We have to assume it moves head to head, in a manner resembling clitic climbing where tense also moves out of the embedded clause (Napoli 1981, Kayne 1991, Rooryck 1994). By moving, it incorporates into the Numeral /-y/, deriving the universal distributional quantifier over nouns. As a result of movement, *every* is at the same time a distributional quantifier over *move* in (29), and leaves the trace of the (temporal) variable *ever* in the relative clause. In a way, the quantifier *every*, which is a NPI-licenser, is put together by movement of the NPI *ever* into /-y/. It transforms by a mechanism to be explained, into a universal quantifier, which in turn licenses the trace of the NPI *ever* in the relative clause. (This can be re-stated without circularity, as will be shown below). Importantly, the trace of *ever* left behind in the relative clause continues to play its temporal role. We would like to submit that its role is to ensure the "indefinitely countable" nature of the nouns involved in this construction.

The light verb construction, where *every* has a similar intensional interpretation, can be derived by the structure in (30) that is entirely parallel to the one in (29):

(30)
$[_{NumP}$ $[_{Num^0}$ $[_{A^0}$ ever]-y] $[_{CP}$ reason [$Ø_{that}$ $[_{IP}$ there t_{ever} $Ø_{BE}$ t_{reason} $[_{CP}$ to distrust him]]

At this point, it is important to point out that this construction is a perfect illustration of how the existential quantification of *ever* and the universal quantification of *every* are derived configurationally. It is well known from work by Heim (1982) and Diesing (1992), that indefinites can have intensional meaning when they are in a complement position (31a), whereas they are presuppositional or strong quantifiers when they raise to a subject position.

(31) a. I'm looking for two good plumbers
b. Two good plumber are being looked for

In a similar vein, the NPI *any* is a variable in complement position, to be bound on another quantification, e.g. negation or interrogation, but turns to a universal "free choice" item in subject position, as illustrated in (32). Instead of *any* being licensed by a negative or interrogative quantifier, free-choice *any* is licensed by modality/genericity.

(32) a. **Q** Have you seen any? (□)
b. Anyone can see that (□)

Postma (1995) has argued extensively that such a configurational attribution of meaning should be extended to many other quantificational contexts. In the interpretation of *John's every move*, it is important to see that *ever* receives its universal interpretation by having raised to the higher position in (30). The peculiar context of the *John's every move* construction is such that *every* combines at the same time its universal quantifier status ('every move') in the nominal domain, and its NPI variable status within the relative clause. We then expect that the licensing of the universal reading of raised *ever* will require modality on a par what happens in (32b). Indeed, such a modality is interpretively present but not lexically traceable.

How can the silent intensional "possibility" interpretation be understood? Where does modality reside? How can it be silent? It is in this context not accidental that the light verb structures in (30) have an infinitival complement. In the same way, the 'absent' tense of the relative clause in (29) should be considered as an infinitival. It is well-known that infinitival clauses induce a modal interpretation, for instance in control contexts, infinitival relatives, and tough movement constructions.

(33) a. John tries to read this article
John sees whether he can read this article
b. I look for a plumber to fix the sink
I look for a plumber who can fix the sink
c. This is an easy book to read
This is a book that can easily be read
d. This is an easy book [O_i [PRO to read t_i [ec]$_{eas(il)y}$]]

Two properties are relevant in this context. First, modality in infinitivals is intrinsically silent. Secondly, infinitivals have been described as being construed with a higher domain (e.g. AGR-AGR binding, Borer 1989). The construal of the higher nominal domain and the lower sentential domain is most overtly illustrated in *tough*-movement constructions, where the adjective *easy* receives an adverbial interpretation from the embedded clause. Whether we formulate this construal in terms of movement or in terms of anaphora is not a point of discussion now. What it shows is that the construal of a particular tense domain with a higher domain induces a context of (implicit) modality.

Similarly, the tense of the invisible relative clause present in the complement of *John's every move* is certainly not finite, hence infinitival. Therefore, the intensional "possibility" reading might be a consequence of a similar head-movement process. Raised *ever* is then licensed by this infinitival modality and receives a universal interpretation on a par with (32b). The universal quantification then licenses the NPI *ever* within the embedded clause which, as a open eventive variable, can be held responsible for the open-ended interpretation.

The question now arises as to why *every* in *every car* does not have a temporal interpretation. The reason is, quite simply, that this construction does not involve a

relative clause. Rather, it involves a much simpler configuration in which *ever*, an adjective, also incorporates into Num^0, as given in (34).

(34) $[_{NumP}$ [[ever] –y] $[_{AP}$ t_{ever} $[_{NP}$ car]]]

In this configuration, the trace of *ever* does not play a temporal role simply because no temporal environment is present. In the construction *John's every move*, the adjective *ever* functions as a temporal adverb because it is in a sentential environment of the relative clause. In the absence of such an environment, its temporal role is neutralized. This is similar to the adjective *certain*, in French which plays a modal role as an adverb, while functioning as a quantifier in nominal environments .

(35) a. un certain livre (indefinite)
'a certain book'
b. Il est certainement malade (very possibly)
'He is possibly sick'

3.3. Inalienable possession as construal of two domains

At this point, we still have to answer two questions. First, why does *John's every move* necessarily involve inalienable possession? Secondly, why does this type of inalienable possession only involve inherent modification? Inalienable possession as in *John has a big nose* does allow for non-inherent modification, while inalienable possession of the type exemplified in (20), repeated here, does not:

(20) a. Jean s'est gratté le (*beau) nez/ l'oreille droite
'Jean scratched the (beautiful) nose/ the right ear'
b. I kissed Mary on the (*beautiful) lips/ the upper lip

Inalienable possession has received ample attention in the literature, e.g. Kayne (1975:164), Guéron (1985:50), Pica (1988), Hoekstra (1991), Déchaine, Hoekstra & Rooryck (1995), Vergnaud & Zubizaretta (1992). These studies show that there is a specific relation between a verb and an inalienable noun in its complement that is not only manifested morphosyntactically in the determiners and modifiers allowed in an inalienable DP, (36) but also in the thematic interpretation of the possessors. Only the sentence (37a) can be read with the subject as an experiencer.

(36) a. Je lui ai cassé la jambe
I to-him/her have broken the leg 'I broke his/her leg'
b. J'ai levé la (*belle) main (droite)
I lifted the (beautiful) (left) hand 'I lifted my (left) hand'

		reading of John
(37) a.	John broke his leg	EXP, Ag
b.	John broke Peter's leg	*EXP, Ag
c.	John broke his beautiful legs	??EXP, Ag
d.	John broke his own leg	*EXP, Ag
e.	His leg was broken by John	*EXP, Ag

Importantly, the construction under consideration here does not only involve inalienable nouns in the strict sense, but also bodily actions or situations (*thought, hope, reason, move, step, gift, gesture* (cf. 7-9)). These are not usually subject to the same syntactic restrictions as body part nouns (38), and modification of nouns of bodily action do not yield changes in the thematic interpretation of the subject, as is clear from (39):

(38) Je lui ai repris son idée intéressante
I from-him/her took his/her interesting idea
'I took over his her interesting idea from him/her'

(39) a. John entertained the (interesting) idea that the world was flat
b. The idea that the world was flat was never seriously entertained by scientists
b. John took the (courageous) step to leave the university
c. The step to leave the university was finally taken by John

This suggests that the restriction to inalienable nouns and nouns of bodily action in the *John's every move* construction cannot be due to inalienable possession *per se*. In other words, the restriction noted cannot be reduced to the syntax of inalienable possession alone.

The question then arises whether there are other syntactic phenomena that exhibit similar restrictions to those of the *John's every move* construction, that is other syntactic environments that are restricted to nouns of bodily action and inalienable nouns. It seems that in many languages, the syntax of clitic reflexives (e.g SE-constructions) displays restrictions similar to those of the *John's every move* construction. In these languages, verbs expressing bodily movements or situations involve the construal of a light verb with a clitic reflexive and the noun expressing the bodily movement or situation (40a), the construal of an (inherent) reflexive with a verb of bodily movement (40b), or the construal of a reflexive with a verb that only expresses a bodily movement in combination with the clitic reflexive (40cd).

(40) a. Jeanine se fait des soucis
Jeanine to-herself makes worries
'Jeanine is worried'
b. Max s'évanouit
Max SE faints
'Max faints'
c Max étire le tissu
'Max stretches the fabric'
d. Max s'étire
'Max stretches himself'

Note also that the sentence in (20a) is a combination of inalienable possession and bodily movement. The construal of reflexives with body part nouns is widely attested:

(41) a. Pierre se brosse les dents
Pierre SE brushes the teeth
'Pierre brushed his teeth'
b. Jean se tire les cheveux
Jean SE pulls the hairs Lit: Jean pulls his hair
'Jean is at his wits' end'

It now becomes very tempting to argue that the factor uniting inalienable nouns and nouns of bodily action or situation in reflexive constructions is also at work in the *John's every move* construction: not only do both constructions involve a restriction to relational nouns and nouns expressing bodily situations, they also preclude non-inherent modification. Pica (1992) has argued on independent grounds that genitive /-s/ actually involves a reflexive SE. We would like to follow up on this idea, and give it a precise

syntactic implementation. The reflexive clitic, itself a morpheme without any □-features, resides in AGR_O, a projection that may contain person, gender and number. This gives SE a fundamentally underspecified status. It is only licensed if it enters particular links with its syntactic context.

Let us assume that the *John's every move* construction involves a configuration of the type exhibited in (40–41), where the reflexive construes an inalienable or body-related interpretation of the VP. This can be expressed as follows in a slightly more complex version of the structure (29) above, a structure in which the base position of the /s/-morpheme does not reside in I^0 (an AGR which typically contain person/number, but no gender) but in a lower functional projection, call it AGR_O or D^0 (i.e an AGR which may contain person, number, or gender).

(42)
$[_{IP}\ I^0\ [_{DP}\ John_i\ 's_{D^0}\ [_{NumP}\ [[\ ever]\text{-}\ y\ ]\ [_{CP}\ move\ Ø_{C^0}\ [_{IP}\ PRO_i\ \ t_{ever}\ Ø_{make}\ t_{move}\ ]]]$

In this structure of (42) , we assume that genitive /-s/ is a reflexive D^0 that does not move to the higher IP domain to be interpreted (Pica 1995). In this low position, reflexive /-s/ construes a relation of inalienable possession or bodily movement with the NP in its complement, in a way similar to that in (40-41). As a result, both the restriction to relational/bodily situation nouns on the *John's every move* construction and the restriction to inherent modification are derived by relating them to the reflexive constructions construing inalienable possession and bodily situations.

Movement to the higher I^0 head enables the (anaphoric) reflexive /-s/ to become a possessive pronominal element that can be used for alienable possession. As a result, *John's car* involves the structure $[_{IP}$ John 's $[_{DP}$ ... car]], while the inalienable *John's nose* involves the structure $[_{DP}$ John 's $[_{NumP}$ ... nose]]. The structural relation between the reflexive and the possessive pronominal can be independently motivated: morphosyntactic and interpretive relations between reflexives and possessives are widespread.

This analysis is strongly reminiscent of the analysis of HAVE proposed by Déchaine, Hoekstra & Rooryck (1995). Déchaine *et al* (1995) assume that HAVE has either DP or TP complementation, and that DP complementation of HAVE corresponds to inherent possession ('John's nose'), while TP complementation involves contingent or happenstance possession ('John's car'). Similarly, in the case at hand inalienable possession is derived in the 'stative' DP domain, while contingent or alienable possession is obtained in the 'dynamic' TP domain.

The analysis presented here raises many questions, of which we can only address a few in the space allotted here. A first question is the nature of the projection below /-s/. If /-s/ is in D^0, the projection below /s/ must be NumP, i.e. in a construction like *John's every bone*, the quantifier *every* cannot be a determiner, but must be NumP. We will present evidence for this in section 4. A second question involves preposing the possessed NumP as in (43): why is it that the inalienable reading possible in (43a) disappears in (43b)?

(43) a. $[_{IP/DP}$ John's $[_{NumP}$ bones] A/ IA
b. $[_{CP}$ $[_{NumP}$ A bone] of $[_{IP}$ John's t_{DP}]] A = a piece of John's bone collection
*IA = an element of John's skeleton)

This contrast is repeated with the *John's every move* construction, with a twist: the intensional interpretation disappears, as (44) shows:

(44) a. $[_{IP}$ John's $[_{NumP}$ every move]] (intensional)
b. $[_{CP}$ $[_{DP}$ Every move] of $[_{IP}$ John's]] (extensional)

We suggest that this is due to the fact that moving the NumP to SpecCP 'activates' the IP domain, and that in constructions of the type (43b), genitive /-s/ necessarily moves to I (probably because it moves further to a higher projection, cf. Kayne 1994:105, Den Dikken 1995), deriving alienable possession. Movement of /-s/ to I precludes inalienable possession, since the inalienable possession relation can only be established by reflexive /-s/ in D^0.

The contrast in (44) is related to another question which has to be answered first. The structure we propose in (42) does not prevent the generation of ungrammatical sentences such as **John's a car/ *John's some cars /* John's a nose* etc. Following Kayne (1994), we would like to relate this to the general requirement that quantified alienable NPs must be moved to the SpecCP of the nominal domain. We will assume that this movement takes place to license the properties of the quantifier. *Every* is different from other quantifiers in that it is morphologically complex. As such, we take it that its quantificational properties can be licensed in one of two ways. First, as illustrated in (42), the quantificational properties of *every* can be licensed by the incorporation of *ever* originating in a lower sentential domain. The specific intensional interpretation of *every* ('every possible X') in this construction suggests that its quantificational properties are licensed in the domain of the relative clause. Secondly, *every* can also be licensed in the same way as quantifiers such as *some* in *some cars of John's* , i.e. by movement to SpecCP. This is what occurs in (44b). Alienable possession does not require the presence of an implicit relative clause, and *every move* will hence receive the internal structure of *every car* in (34), that is as in (45):

(45) $[_{CP}$ $[_{TP}$ [[ever] –y] $[_{AP}$ t_{ever} $[_{NP}$ move]]]] of $[_{AGRP}$ John's]]

Our prediction then is that the *John's every move* construction will only be possible in languages that have complex quantifiers that are derivationally related with an adverb, such as *every*. As we have shown in (9-12), this prediction seems to be carried out at least in Dutch, German, and English.

4. The Num^0-status of *every*

At this point we would like to investigate the contrast between *John's every move* and the ungrammatical **John's each move* .

(46) a. John's every/ *each move
b. John has every/*each reason to believe that he was misled

In order to answer this question, it is important to look at some data in Dutch.

Dutch has two distributive quantifiers *elk* en *ieder*. These distributive quantifiers have two forms: an uninflected form (*elk/ieder*), and an inflected form (*elk(e)/ieder(e)*.

The form uninflected for gender, which we will call the D^0-form, is exemplified in (47a), and the form that is adjectivally inflected, which we will call the D^0+A^0 form, is exemplified in (47b).

(47) a. elk/ieder van de jongens (D^0)
'each of the boys'
b. elk-e/ieder-e jongen (D^0+A^0)
'every boy'

The choice between *each* and *every* in the English glosses given in (47) is not without significance. There are two independent indications that puts English *every* on a par with the adjectival D^0 + A^0 form of (47b) and the *each* on a par with the D^0 -form of (47a).

The first correspondence is that the uninflected forms and English *each* can function as a bare D^0 with a partitive PP (46), but the inflected forms and English *every* cannot (48).

(48) a. (....de jongens...); *elke/iedere ging naar huis
b. (....the boys); *every went home

The second correspondence relates to the licensing of Negative Polarity Items. Whereas the inflected forms and English *every* license NPI's, this is excluded with Dutch uninflected forms and English *each*.

(49) elk-e/ieder-e jongen die ook maar een keer in Parijs was geweest,...
every/*each boy that ever visited Paris,....
(50) a.* elk/ieder van de jongens die ook maar een keer in Parijs was geweest,...
b.* each of the boys that ever visisted Paris,....

We conclude that English *every* can be likened to the adjectivally inflected quantifiers in Ducth, *elk(e)*/*ieder(e)*. We assume that such adjectivally inflected forms are adjectives. Since these construction also lacks D^0, which puts them apart from ordinary adjectives, we indicate these forms by [D^0 +A^0].

The adjectival status is confirmed by the obligatory absence of a dummy noun *one* in the case of *every* in English. This is analogous to ordinary adjectives.

(51) a. Every*(one)
b. The/a small *(one)

It must be noticed that the other quantifier that licenses NPI's behaves on a par with respect to the adjectival status, (better the D^0+A^0)-status.

(52) a. Noone of them
b.* No of them

This suggests that only adjectival quantifiers can license NPI's. We will return to this property when we discuss the licensing of *ever* in complement sentences to *every* NP.

The block on modification follows again the now familiar pattern. Descriptive adjectives are banned from the construction, but inherent adjectives are allowed.

(53) John made every (financial/*laudable) effort to save Building 20

The analogy between the PQN-construction and the light-verb construction is further support for the empty light-verb analysis as hinted at in section 2.5.

There is an additional factor involved in the block on *each* in (46). One should notice that there is a general block on *each* constructions to be combined with a infinitival complement with subject control.

(54) a. Ik zoek een timmerman om mijn aanrecht te repareren indef + [-fin]
b.* De/Elke/iedere timmerman om mijn aanrecht te repareren *def + [-fin]
c. De/Elke/iedere timmerman die mijn aaanrecht kan repareren def + [+fin]

The combination of a definite quantifier and an infinitival complement leads to unwell-formedness (54b). Since the English construction in (46) does allow for such an infinitival complement, it indicates that the *every* functions as an indefinite, and cannot be D-like.

5. A similar construction in Dutch

For Dutch, in which the two distributive quantifiers *elk/ieder* are D^0-like (cf. section 4), and, hence, excluded in indefinites, we predict that NP+infinitival cannot make use one of these D^0-like quantifiers. This is indeed the case. Dutch uses the collective quantifier *al* 'all', instead. Remarkably, in this particular case, the quantifier *al*, which usually takes a plural, combines with a singular NP, as shown in (55).

(55) Jan heeft alle reden/*redenen om te denken dat hij misleid werd
John has all reason.sg/reason.pl to believe that he misled was

This indicates that *al* resides in Num^0, i.e. lower than DP.

This use of *al* has another particularity that puts is aside from ordinary cases with *al*. The construction at hand disallows quantifier extraction of *al*, as (56b) shows, while it is possible in ordinary *al* constructions, both with count nouns (57b) and with mass nouns (58b).

(56) a. alle reden om...
all.infl reason to...
b.* al de reden om ...
all the reason to...
(57) a. alle mannen
all.infl men
b. al de mannen
all the men
(58) a. alle melk
all.infl milk
b. al de melk
all the milk

The block on quantifier extraction brings a fundamental property of the intensional *every* construction to light. To see this, it must be noticed that the intensional construction in (58) is similar to another construction, as exemplified in (59–60), which contain an AP-nominalization. This type of construction disallows quantifier extraction too, cf. (59b) and (60b).

(59) a. in alle stilte
in all still-ness
'as silent as conceivable'
b. *in al de stilte

(60) a. in alle vroegte
in all early-ness
'as early as conceivable'
b. *in al de vroegte

Postma (1996) provides arguments that the quantifier *al* does not have scope over the whole DP in these constructions but only quantifies over the adjective within the nominalization. It gives rise to meanings like 'very early' or 'as early as possible' rather than an extensional universal quantification, say 'entire earliness', whatever that might mean. As shown by the glosses of (59), such a quantified universal quantification with scope over an adjective has an open-ended reading, which comes close to MANY/OFTEN/VERY rather than to the truly universal quantifier. Again, we see that *al* is embedded in a lower domain, the domain of the adjective, in the same way as *ever* was embedded in the domain of the relative clause before being extracted. Dutch *alle* means *maximal* and *possible* at the same time. Further research is necessary to see in what way this double quantification can be derived from the analysis presented here.

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