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0. Introduction

In this paper, we show that many of the dramatic changes that took place in the course of the history of the English complementation system are the result of a simple morphological change in the determiner system. We propose that Old English (OE) evolved from a system in which 'complements' clauses, relatives clauses and DPs were interpreted as adverbials to a system in which they are interpreted as arguments of the verb (in a sense to be defined below). As the determiner acquired certain type of morphological features, a complementation system developed. This hypothesis allows us to resolve the traditional tension between the idea that the passage from OE system to the New English (NE) system is a change from parataxis to hypotaxis, and the conception according to which complementation was already there (see among many others, Small, 1924; Curme, 1911).

The common view on complementation considers it as a primitive of the linguistic system, in the sense that it is identified by a specific grammatical category (e.g. comple-mentizer, subordinator). This view, which is shared by the two apparently opposite con-ceptions of complementation, is in fact misleading. Complementation, we claim, is derivative of the configurational properties of the structure. An important implication of our hypothesis is that, while the structures required for complementation are always pre-sent, complementation involves computational mechanisms that may be blocked, leaving as the only option the interpretation of the structure as an 'adverbial'. Our hypothesis provides a possible account for the apparent directionality of linguistic change without recourse to the controversial increasing '(structural) complexity hypothesis'. In fact the latter hypothesis is incompatible with our analysis. The analysis developed here suggests that linguistic change is far more restricted and involves only changes in the features of elements which determine the level of projections of these elements.

In the conclusion, we show that this claim is reinforced by the fact that apparently unrelated changes (i.e. meaning change of prepositions, emergence of genitive constructions) all follow from the nature of the determiner system of OE, which is reminiscent of similar systems found in typologically unrelated languages.

1. The role of the Determiner in the Licensing of Complementation

The basis of our proposal is that DPs, relative clauses and complement clauses, all share the same basic structure in which a D° determiner licenses a CP complement, a proposal reminiscent of what Kayne (1994), has suggested for the structure of relative clauses and nominals involving overt predication such as genitives, possessives and related constructions. The LF configurations that we propose for NE are illustrated in (1.b), (2.b) and (3.b) for nominals, complement clauses and relative clauses respectively:

(1)   a.   The man
        b. $[_{DP} [man]_i [_{D°} the] [_{CP} [_{DP} [_{NP}]_i]_j C° [_{IP} ... e_j ...]]]]$

(2)   a.   I said that John left
      b. $[_{DP}$ [left$]_i$ $[_{D°}$ that $[_{CP}$ $[_{IP}$ John $[_{TP}$ $]_i]_j$ C°$[_{IP}$ [e$_j$]]]]]

(3)   a.   John bought the picture of himself that Bill saw
      b. $[_{DP}$ [picture of himself$]_i$ $[_{D°}$ the $[_{CP}$ e$_i$ $[_{DP}$ wh $[_{NP}$ $]_i]_j$ $[_{C°}$ that $[_{IP}$ $[_{DP}$ e$_j$]]]]]]

Kayne (1994) made the observation that nominals like (4) share many properties with relative clauses. He expresses this by proposing that they both have a common structure involving a D° taking a CP as its complement. In this theory, the relationship of the determiner with the NP head seems to be expressed by some form of 'predication' which is established by moving the internal NP to the Specifier of CP:

(4)   [DP [two pictures]$_i$ [D° of [CP John$_j$ [C's [e$_i$ e$_j$]]]]]

We propose to extend Kayne's analysis to complement clauses, as well as to all nominals. What Kayne characterizes as 'predication', which he takes to be a relation between an element in Spec CP and the D°, is, in our terms, an instanciation of a Spec-Head agreement relationship between the D° and the IP internal constituent. We claim that first, the IP/DP moves to Spec CP allowing for the determination (by Spec-Head agreement) of the nature of the predicate, i.e. of what element it is predicated of, Tense/Event in complement clauses and Nominals, WH in relative and perhaps questions. This relationship is established at LF, as indicated in (1.b) for nominals, (2.b) for complement clauses and (3.b) for relative clauses. The existence of a CP category is not controversial for complement and relative clauses, but has also been suggested for nominals by a number of researchers (Szabolsci, 1992, 1993; Cardinaletti & Starke, 1994 and Green, 1991; among others).

We show that the movement of the internal constituent to Spec CP proposed by Kayne (Op. Cit.), is not sufficient to license the whole DP as an argument. Further movement of the NP/TP to Spec DP at LF allows the predicate to check its 'deixis' features against those located in the D°, as we argue elsewhere (Bonneau & Pica, 1995; Pica, 1995).[1] This deictic features checking turns the predicate into an argument. Our analysis supports the view that nominals have a clausal structure (Mussan, 1993; Enc 1986). Let's summarize our analysis in the following way:

(I)   An argument is defined configurationally:
        a) It involves a relation of predication which is established by Spec-Head
            agreement with C°
        b) All licensed predicates must check deictic features (with D°)

2. The structure of Complement clauses in Old English

Let us now turn to the analysis of the historical changes that took place in the complement clauses system of OE. We claim that most of the changes in the complement clauses system from OE to NE can be reduced to some morpho-phonological changes affecting the determiner element *that* or its semantic equivalent in OE.

One of the most striking characteristic of complement clauses in OE is their relation with the adverbial system (which we take to be expressed in the notion of parataxis). We will show below that coordination (see section 4), which we consider to be another

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[1] As Irene Heim pointed out to us, it is not clear, why the IP needs to move to the Specifier of CP in (2), in the text, to be interpreted. In particular, traditional semantics does not treat IP as predicate. Our analysis is however supported by the fact that it allows us to provide a uniform semantics and syntactic analysis for both Clauses and NPs and explains the otherwise unexpected parallel diachronic evolution of these elements.

form of subordination, and complementation share these properties in OE. The adverbial properties of complement clauses can be illustrated by several pieces of evidence:

The first piece of evidence relates to the observation that OE had obligatory 'extra-position' of clauses i.e. clauses appeared in a postverbal position, obviously not an argument position in an SOV language. An example of (multiple) extraposition 'from subject' is given in (5), from Lassaut & Dekeyser (1977):
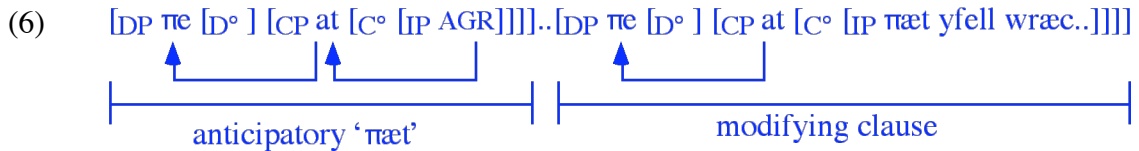
(5)   πæt cu∂ is πæt πæt mid Drihtnes nihte gestihtad wæs, πæt yfell wræc
        come ofer ∂a wiπcorenan
        'it is known that that it was arranged by God's might that evil punishment
        (should) come over the rejected one'   [Bede, Historia Ecclesiastica]

As it is well-known, 'πæt' (as well as other pronouns like 'hit' (it)) in OE, is a demonstrative pronoun and thus does not have the force of the expletive 'it' of NE. The relation between the pronoun and the 'extraposed clause' in examples like (5) is reminiscent of the one between 'it' and the 'extraposed clause' in NE, but differs in some key aspects. We propose that this relationship is characterized by the modification of a (strong) demonstrative pronoun (which is required in OE) by an adverbial clause, a relation reminiscent of what is found in several related constructions often referred to as correlatives (Srivastav 1991, for Hindi), or adjoined relatives (Hale, 1979 for Walpiri and O'Neil, 1977 for OE), among others. This proposal raises the obvious question of how this relationship (e.g. (5)) can be interpreted as a relative clause. We believe that the answer to this question lies in the different interpretation of OE clauses and demonstrative pronouns. It is well-known that OE demonstrative pronoun 'πæt' is composed of two elements, 'π+æt', which we consider to be a demonstrative and a locative preposition respectively. What we would like to demonstrate is that the locative element of 'πæt' turns 'πæt' into what is referred to, perhaps too narrowly, as suggested by Roberts (1987), as a 'switch-reference' marker, [2] (SR), for instance in native american languages (Haiman & Munro, 1983). The relation between SR markers and the locative markers of 'πæt', as well as with the 'clausal' marker 'πe', is clearly suggested by the observations of Allen (1980) and Wiegand (1987) that 'πæt' and 'πe' indicate different interclausal relations. Allen notices that 'πæt' is used 'when nothing in the lower clause, nor the whole clause itself, referred to anything in the main clause', and Wiegand identifies 'πe' with respect to 'πæt' in terms of the figure/ground distinction. Anticipating the discussions in the following

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[2] We agree with Wiegand's (1987) general intuition that the role of 'πe' and 'πæt' relates to their status with respect to the figure and ground discussed by Talmy (1975). However we do not agree with her view that only 'πe', which we take to be related to the locative "πær' (there), is 'evaluative' whereas "πæt' simply refers to the context. In our view both markers are 'evaluative' in the sense that 'πe' indicates a primitive 'figure/ground' dependency (between two clauses), expressed in a configurational way related to two thematic roles Location/Theme (cf. Gruber, 1995). We take this configuration to express a part-whole relationship (the (one) (in) here). This relation is also related to the notion of PATH (see section 3 in the text and Pica, 1995). 'πæt', on the other hand, indicates what we take to be a POINT — perhaps interpreted as a GOAL — (the (one) (at) there). This view explains the observation that 'πæt' but not 'πe', is used after purposives and other clauses expressing related functions (a fact left unexplained by Wiegand). The question that any theory of so-called 'switch-reference' must address is why SR marking appear in languages like OE but does not seem to play a role in NE. The answer to this question, we believe, is related to the 'adjunct structure' of OE. Whereas in this language what is considered as morphological Case marking are in fact thematic markers, SR markers allows to infer the configuration in which thematic roles will be interpreted and in which abstract Case will be checked for NPs. We develop these points and their obvious relationship with the notion proximate/obviation in Bonneau & Pica (1995). Our analysis is supported by the fact that SR markers are often historically related to locative markers (Curme, 1911) or with preposition and Case markers (Jelinek, 1988). Our hypothesis explains that the (lexical) case system and the SR system disappeared at the same time in English.

sections, we propose that nominals like 'πæt' have a structure parallel to the one we assume for clauses. Thus the structure for what is referred to as the 'anticipatory' 'πæt', and for the adverbial clause modifying it in (5) will be as in (6). We assume that AGR (= locative clitic *there*), which is a clitic element, must therefore incorporate into the 'SR' marker 'at' with further incorporation of this complex into 'πe'. These operations allow the 'anticipatory' 'πe' to turned into a 'morphological' word in the sense that is has meaning (much like morpheme or clitics) but is not an argument, as we shall see in section 4. The same incorporation process applies to 'at' in the modifying clause.

(6)   [DP πe [D°] [CP at [C° [IP AGR]]]]..[DP πe [D°] [CP at [C° [IP πæt yfell wræc..]]]]

                    anticipatory 'πæt'   modifying clause

The structure in (6) expresses the common observation that 'πæt' is a 'strong' demonstrative. We propose to identify the 'strong' force of 'πæt', (or part of it) as well as other elements with demonstrative force such as the locative 'SR' marker, as a manifestation of the categorial status of these elements. In particular, we consider these elements to be clitic-like elements in the sense of Chomsky (1994), i.e. that they are both maximal and minimal projections. Thus, as maximal projections they occupy the specifier of DP and CP respectively, but as X° they cliticize, forming the complex 'πæt'. The categorial status of the pronominal elements is what characterizes Old English, and is what defines the morpho-phonological features distinctive of the language. The analysis that we propose in (6) also has a very important implication for the interpretation of both 'πæt' and its modifying clause.

Given that both the specifier of CP and DP are occupied in the modifying clause, the IP cannot move to CP (and ultimately to DP), and thus cannot be turned into an argument in the sense defined in (I). The only alternative is for it to be interpreted 'adverbially'. As we shall develop in section 4, this analysis, hence this adverbial interpretation, extends to the anticipatory 'πæt', which has the interpretation of the deictic 'that (one) there'. The relation between the 'anticipatory' 'πæt' and the modifying clause is therefore a (co)relation between two adverbials. This is, we believe, what characterizes the traditional notion of correlative (or 'adjoined' relatives, O'Neil, 1977; Carkeet, 1976; Wiegand, 1987), and what has been misleadingly analyzed in OE, as related to extraposition. A strong prediction of our analysis is that 'correlation' is only possible where 'switch-reference' markers are present. From what we said above, it follows that a lexical D° implies the existence of a lexical C°. Correlatively, if D is an XP, C must also be an XP. This, in turn, links the existence of a SR system to the presence of XP demonstratives.

The adverbial status of the modifying clause in (5) is confirmed by Curme's (1912) observation that 'πæt' could be substituted by 'πer', an element whose meaning is clearly locative (i.e. 'there') and is found in adverbial clauses:

(7)   πa sceap him fyligea∂ forπam πe hig gecnawa∂ his stefne
         (the sheep follow him, for that there : they know his voice)
         'the sheep follow him for they know his voice'   [John 10.4 Corpus MS]

There is essentially no significant change in meaning in this case, thus suggesting that the so-called complement clauses had the same status as adverbial clauses in OE. Indeed, the use of 'πer' in complement clauses will completely disappear in Middle English (ME) (see Curme, 1913). This is, in our view, a direct reflection of the development of the complementation system in ME which we attribute to the D° acquiring certain features necessary for the identification of the internal TP of the complement clause.

This hypothesis explains several (if not all) of the properties of 'extraposition' in both OE and NE. If, as we assume, clauses in OE are adverbials, it is expected that they would not appear in argument position but rather in postposed position, i.e., where adverbial clauses usually appear. The extent and the obligatoriness of 'extraposition' in OE thus follows straightforwardly (Lassaut & Dekeyser, 1977; O'Neil, 1977; Traugott, 1992). This property of OE, which has disappeared with the advent of the 'argument' system, left however a residue in NE, manifested in extraposition. In particular, the impossibility of *that*-deletion (Stowell, 1981) follows directly from the assumption that the complementizer in extraposed clauses is in fact a strong (XP) demonstrative pronoun. Since the demonstrative pronoun is required to establish the anaphoric modification with the 'anticipatory' pronoun, which in modern English is a D°, its deletion would violate recoverability. [3] The difference between OE on one side and ME and NE on the other lies, we believe, in the status of the pronoun and its relationship with the extraposed clause. In OE the pronoun is a strong demonstrative, part of an adverbial DP structure, which is further specified semantically by a modifier (the 'modifying' clause). Hence the relationship between the anticipatory pronoun (sometimes not expressed overtly) and the modifying clause is a relation between two or several adverbial. In ME and NE on the other hand, the expletive 'it' (and probably the anticipatory 'that') is a D°, (i.e. does not have demonstrative force) and thus requires further specification from the demonstrative of the extraposed clause. This process, we assume, is effected by adjunction of the extraposed clause to the expletive. Our claim is in fact somewhat stronger: we propose that all cases of apparent sentential subject in NE are derived from this adjunction process in Syntax. This implies that sentential subjects are always adverbials and obligatorily adjoin to a null D°. The obligatoriness of this process in Syntax is probably related to the principle of Procrastinate i.e. null elements must be licensed as early as possible whereas overt D° can wait until LF. This hypothesis explains Koster's (1978) observation that clauses in subject position have 'non-subjecthood' properties. Furthermore, and more importantly, it explains the absence of apparent sentential subjects in OE, since the licensing condition suggested above applies only to D°, and, as we have said earlier, OE only has strong Demonstrative pronouns in this context. As we shall show below this characteristic is pervasive throughout the OE grammar. Middle English sentences like (8), from Warner (1982), where the bracketed constituent is in subject position, is never found in OE. This construction begin to occur only in (late) ME and more frequently in NE (Warner, 1982). This follows from our hypothesis that the D° system emerged in middle English.

(8)   And [πat Crist πis leprouse] techiπ us now πat πe manhede of Crist was instrument to his goed hede, ...
        'And that Christ touched the leper teaches us now that the manhood of Christ was the sign for his goodhood'   [Wyclife sermons, i. 90.3]

Another interesting consequence of our analysis relates to the nature of the Tense system of OE. The predicate IP cannot be identified by the features of C° in OE. Furthermore, if TP were to have deictic features, they could not be checked by movement of the TP to Spec DP since it is already occupied by the 'πe'. Thus the only possible type of Tense of complement clauses in OE is 'dependent', which can be defined in our

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[3] A prediction which our theory makes is that extraction out of subordinate clauses in OE should yield a CED/Economy violation. This is so since the 'extraposed' clause does not adjoin to the Demonstrative in this language, and is therefore treated as an adjunct at all levels of representation. That this is the case is suggested by the properties of extraposed clauses in languages like Hindi (Srivastav, 1991). In NE, the 'extraposed' clause has the status of a 'semi-argument', in the sense that IP can check its features as a predicate by moving into CP, but it is the demonstrative of the extraposed clause which bears the 'deictic' features. Thus extraction out of extraposed clauses in NE is predicted to be much more acceptable, as is indeed the case (Stowell , 1981).

system as a correlative tense, i.e. a tense which depends on a deictic pronoun in the matrix, which we assume is always present even in 'true' adverbial clauses, as suggested by Wiegand (1987). [4] As we show in Bonneau & Pica (1995), this type of tense is typical of languages with SR systems which, interestingly, appear to have a structure similar to OE. As 'πe' becomes a D° and the SR marker turns into a C° (and further incorporates into the D°), IP can then moves to SPEC CP and is turned into a predicate. This allows TP to check its features in Spec DP, which turns the whole DP into an argument. We can now define 'independent Tense' as an argumental Tense.[5] Finally, given that all DPs (and clauses) are adverbials, movement that affect arguments such as passives and raising cannot take place in OE. This is indeed the case, as shown in Traugott (1992), Lightfoot (1981). In the next section we shall show that the development of relative clauses and adverbial clauses support our hypothesis. [6]

3. Relative clauses and adverbial clauses in Old and Middle English

In this section, we show that the structure of relative clause in OE is essentially as we propose for complement clauses. OE has basically three types of relatives clauses (RC), which are identified by the type of elements heading the modifying clause. The most common type is headed by 'πe', which as we have shown in the preceding section is an SR marker. Other types have 'πæt' or a combination of the two elements. The latters are, however, much less frequent. An example with 'se (πat nom.) + πe' is given in (9), from Carkeet (1976), who gives this example as an instance of correlative in OE:

(9)   se yica Godes Sunu, se πe ealle πeing gesceop, he eac gesceop his agene moder
        'this same of God Son, who all things created, he also created his own mother'
                                                                        [AE 2.8.33]

As it has been observed by many authors, (Carkeet, 1976; O'Neil, 1977; among many others), the modifying clause in the RC appears in extraposed or 'peripheral' position. It also exhibits the adverbial reading typical of what we have found in complement clauses (Wiegand, 1987), an analysis reinforced by Curme's (1912) observation that 'πer' can head the modifying clause. The extension of our analysis of complement clauses to RCs explains these properties, as well as several others. Since the modifying clause is not an argument, its relationship with the main clause and the DP 'Godes Sunu' must be determined through the SR 'πe/πat', whence the 'adverbial' interpretation of the RC. This analysis also explains straightforwardly the correlative properties of RC in OE, since, as

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[4] Our analysis predicts that even anticipatory (matrix) clauses will be DPs and have dependent tenses. That this may be true is suggested by Andrew (1940), who points out that some non-subordinate clauses are dependent.

[5] We know that in general deixis is organized along a three way distinction, as in the person system (see Gruber, 1976). We have already shown that the OE SR system has at least a two-way distinction in the form of 'πat/πe'. It is therefore likely that there would be a third axis in a SR system. In fact, this seems to be the case. Wiegand (1987) makes several observations which may be interpreted as indicating that the combination of 'πat'+'πe' (at+πe) is the third axis in the SR system of OE, and has the meaning of 'the one over there'. Wiegand also notes that 'πe' may also follow other elements which are traditionally considered complementizers such as 'whether'. However, these elements seem to be pronouns (= 'either this one or this one'), as Wiegand notes also. In our view, such pronouns occupy the Spec DP, just as other demonstrative pronouns in OE. That 'πe' rather than 'πat' follows these pronominals is not surprising in our analysis, since 'πe' indicates the same 'relatedness' than adverbial clauses express with 'πat'+'πe' (at+πe).

[6] We would like to emphasize, that although DPs in OE are adverbially interpreted, this is not to say that they are adjuncts in the sense of Baker (1991). In our analysis, the demonstrative pronoun in Spec DP is the argument. The implication is that DPs in OE are expected to obey word order constraints. This is crucially not the case in Baker (1991), who assumes that the DP itself does not convey the thematic information, but that rather, it is the Pro linked to them which fulfill this function.

we shall show in the next section, DPs like 'Godes Sunu' are adverbial, and therefore require SR marking. The absence of the restrictive/non-restrictive distinction follows from the fact that there is no argument 'head' internal movement in the modifying clause (O'Neil among others). This property is also shown by the type of 'stacking' allowed in OE, as illustrated by (10), from O'Neil (1977):

(10)   and Godrum se norπerna cyning forπferde πæs fulluhtnama wæs AEπelstan se wæs AElfredes cyninges godsunu
'and Godrum the northern King died, whose baptismal name was Athelstane, who was the godson of King Alfred'

As the complementation system emerges in ME, the use of 'πe' in both comple-ment clauses and RCs declined in favor of 'πat'. This is evidence for our view that 'πat' indicates 'non-relatedness' of the embedded or relative clause. As it becomes a C°, 'at', looses its 'deictic' force, and can therefore only indicate the complement status of the clause. 'πe' on the other hand, can no longer indicate 'relatedness', and thus disappears.

The internal structure of RCs in OE we propose is given in (11):

(11) $[_{DP}$ Godes Sunu] ... $[_{DP}$ (se) $[_{CP}$ $[_{IP}$ ... $[_{DP}$ (se/Pronom.) $[_{CP}$ [at/πe$[_{IP}$ AGR]]]]]]]

2   1

where 2 = cliticization of 'at' or movement to Spec DP of [se + at]

The structure in (11) is clearly parallel to (6), with the difference that the adverbial element which is interpreted in context is not the whole modifying clause but the internal adverbial demonstrative. The analysis that we propose suggest a way to resolve an implicit contradiction related to the status of RCs in the context of the parataxis debate. Scholars have taken widely opposing views as to whether RCs are adverbials or subordinates. While the Case on the demonstrative clearly indicates (with some few exceptions (Harbert, 1983) to which we shall briefly return below) that some forms of movement has taken place within the 'modifying clause', the interpretation and the distribution of RCs shows rather that they are adverbial like. Our analysis explains these apparently conflicting evidence, since the element which moves to CP is adverbial and is moved from a position internal to the modifying clause. The DP containing the demonstrative first moves to CP, as indicated in (11), on its way to SPEC DP. This movement is obligatory since the SR marker, which connects the 'relativized' DP and the modifying clause to the matrix, can consequently not be interpreted with respect to the dependent Tense/Event of the IP of the modifying clause. The only position accessible to the matrix Event/Tense is SPEC DP. This readily explains the absence of multiple embedding in OE, something which, to our knowledge, has never been clearly explained. It is important to note that the NE RC formation in the sense of Kayne (1994), one in which the surface order '[Godes Sunu se πe]' in OE is derived by double movement as in (3b), is not possible in our analysis. This is consistent with our analysis of DPs as adverbially interpreted. The NP 'Godes Sunu' could not move to the Specifier of DP where it would be interpreted as a predicate, since the SR marker (demonstrative) already occupies this position. [7]

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[7] R. Kayne pointed out to us that the possibility of Stacking does not necessarily indicates that there is no movement involved (as opposed to what we advocate for OE). Indeed, multiple cyclic movement of the embedded CPs to the higher CP is possible in NE. (10) is therefore also possible in NE. However, a move-ment analysis of Stacking does not explain that RCs in OE have the interpretation of adverbial relatives (or correlatives), as we have shown here (see also Wiegand, 1987). This interpretation is lost in RCs of NE, although some remnants of this old form still exist. Our analysis provides a straightforward explanation for

An interesting consequence of our analysis is that 'argumental' *wh*-phrases cannot exist in OE, since, as NPs, they would require a relation of predication, as we shall explain in section 4 below. This appears to be the case, as is well-known for relative clause (Allen, 1980), and as suggested in note 8; this is also true of *wh*-phrases in questions. *Wh*-phrases are slowly introduced in a stepwise fashion through the ME period. At the first stage, the now indeclinable 'πæt' is used as a general 'relativizer'. In our view, 'πæt' in ME is formed from the incorporation of the C° 'at' into the D° 'πe', thus freeing the specifier of CP and DP for the movement of the predicate NP, yielding the order of the constituent [al πing πat], as in (12), from Graves (1975). This is what we expect given the analysis proposed above.

(12)   Demest πou nat quod she πat [al πing πat profitπ] is good?   [Chaucer's Boethius]
        'Do you not think, she said, that all things that profit are good?'

In the second stage, the relative pronoun 'which' appears, and along with it, several constructions involving the combination of 'πe + which + N/'πæt'. Some examples of these types of relatives are given in (13), from Graves (Op. cit.). Other combinations of 'wh + πæt' such as 'while πæt', 'who πæt' existed in ME, which are not given here for lack of space (see Allen, 1980; Graves, 1975; among others).

(13)   a.   Hus endeth this boke which is named the boke of Consolacion of philosophie
             which that boecieus made...
             'here ends this book which is called the book of Consolation of Philosophy,
             which Boecius wrote)   [Caxton]
        b.   Hir cloπes weren maked of ryt delye πredes and subtil carfte of perdurable
             matere πe wyche cloeπes sche hadde wouen wiπ hir owen handes
             'her clothes were made of very fine threads and subtle craft of lasting material
             which (clothes) she had woven with her own hands'   [Chaucer's Boethius]

The existence of this type of *wh*-constructions is, in our view, evidence that *wh*-words were not completely formed yet in the sense that they are indefinite pronouns which has not yet incorporated an existential quantifier required for the interpretation as quantifiers (Pica & Snyder, 1995)[8]. The structure that we propose for ME 'which-that constructions' is given in (14a), to be compared with NE *wh*-phrases structure in (14b):

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the correlation between the disappearance of this interpretation and the disappearance of SR in ME and NE. A uniform movement analysis would have to attribute this phenomenon to some other unrelated factors.

   Allen (1980) notes some apparent cases of movement, in fact long-distance movement in RCs which involve either 'πe' or an inflected form of 'πat'. However, all the cases she reports seem to involve 'Case-attraction' (i.e. the Case/inflection of the pronoun which is closest to the NP head match the ones assigned by the head governing the relativized NP). This observation suggests that movement may not be involved here, since in the great majority of examples of RCs, the Case of the pronoun in the modifying clause is the one assigned by the verb of the modifying clause, not the matrix. The fact that the Case does not show up on the lower clause, in the examples Allen discusses, may follow from some adjacency requirements specific to this type of construction.

[8] Our analysis raises a general question about the structure of all *wh*-phrases, including those in questions, in OE. Traugott (1992) notes that questions in OE seem to always involve a pre-determined set of possible answers (i.e. are 'discourse' linked), see also Karlsberg (1954) for the 'indeterminacy' involved in OE questions. This observation might perhaps be construed to mean that *wh*-phrases in OE questions were not quantificational but predicational, i.e. closer to what is, in our opinion, a cleft construction. If our interpretation is correct, questions in OE do not involve movement. Rather, the *wh*-phrase is part of an adverbially interpreted DP which is related to the matrix clause by the SR marker. In this sense questions in OE are closer to RCs in their form, with perhaps the difference that questions, like clefts, introduce an existential quantifier of the type discussed in Heim (1982). This analysis also explains the apparent cases of long-distance interrogations discussed in Allen (1980), if one adopts the analysis developed for RCs in note 7.

(14)   a.   [DP (the) [CP at [IP NP AGR *wh*-word]]]]   where NP = 'that' or N

     b.   [DP   [CP   [IP *wh*-word AGR NP]]]]

       The process of formation of *wh*-words operates in two steps: first the *wh*-word must move to CP where it incorporates the indefinite marking 'at' in ME. As we have implicitly assumed, a predicate can only be turned into an argument if the features of C°(expressed by 'at') incorporates into D°. Since 'at' did not incorporate into 'the' in (14a), the *wh*-phrase cannot move to Spec DP to check deictic features and thus be turned into an argument. This 'intermediate step' is evidenced by the presence of overt 'the' in constructions like 'the which that/N' in ME. This implies that the NP in (14a) is interpreted adverbially. Paradoxically, when the *wh*-word incorporates the D° in early NE, it is then interpreted as a quantifier (not as a predicate), and it is the NP which must now play the role of argument (i.e. moves to SPEC CP and DP, as in 14b). As a predicate the NP now appears in the position reserved for this purpose, i.e. in the post-agreement position, as we have explain in the structures in (1). This is what explains that the order wh/NP has changed in (14b). This analysis explains the disappearance of '(the) which that' constructions in NE, given that 'that' in this construction is non deictic (unstressed), and thus cannot stand for a full NP. Our analysis captures the traditional view that *wh*-phrases, at least in relative clauses, are not the argument, but are operators. A step-wise approach to the development of *wh*-phrases such as the one advocated here is also consistent with the hypothesis that their origin is to be traced back to the indefinite *wh*-phrases of the type '*swa-wh-swa*' (*wh*-ever) found in OE free relatives (Johnsen, 1913; Curme, 1912; Graves, 1975). This hypothesis suggests, correctly in our view, that *wh*-phrases in relative clauses in ME did not have the full force of modern definite relative clauses, an idea already implicit in Johnsen (1913).

       Further evidence that *wh*-phrases were not argumental in ME (and OE) comes from their behavior with respect to the phenomenon of preposition-stranding. As the NE 'that', the OE 'πe' (or 'πaet' in ME) obligatorily 'strands' the preposition, and thus does not allow Pied-Piping. This is illustrated in (15a) for OE, from Allen (1980), and (15b) for ME, from Grimshaw (1975). However, OE (inflected) 'πaet', as well as ME *wh*-phrases, do not allow P-stranding, but forces Pied-Piping, e.g. (16a), from Traugott (1992), and (16b), from Grimshaw (1975), respectively.

(15)   a.   ... πam beurgum πe he on gewor hte his wundra
         'the cities that he wrought his miracles in'   [Aelfric homilies, XVII.54]
     b.   Than tok I alle the signes, degrees, and minutes, that I fond direct under the
         same planete that I wroghte for.
         'then I took all the signs, degrees and minutes, that I found right under the
         same planet that I wrote for'   [A Treatise on the Astrolabe. Part 2.45.19]

(16)   a.   ∂u ar∂sunu min leaf, on ∂ec ic wel licade
         'you are my dear son, in whom I was well pleased'   [MkGl (Li) 1.11]
     b.   To knowe... the partie of the orisonte in which that the sonne ariseth
         'to know the part of the horizon in which the sun rises'
                                   [A Treatise on the Astrolabe. 31]

       Jan Vat (1978) and Wiegand (1987) pointed out that the class of prepositions which allow P-stranding with 'πe' in OE are of a restricted type, perhaps all resultative in meaning. This suggests that these prepositions may in fact be particles which are incorporated into the verb, as the surface order clearly indicates. If this is so, then we can conclude that there was no P-stranding at all in OE, as already observed by Allen (1980).

The absence of P-stranding in OE, as well as the rare occurrences of this phenomenon in early ME, can be explained in our theory straightforwardly. Since the DP which contains the pronoun (or the *wh*-phrase in ME) is interpreted adverbially (i.e. is not the argument of the preposition), it cannot go through the Specifier of PP since it would have to be turned into an argument to do so (two obvious contradictory requirements). In late ME, P-stranding spreads to many contexts. This is precisely what we expect, since, as we have shown above, true arguments will form around that period.[9]

The distribution of resumptive pronouns in OE and ME provides the last piece of evidence that we would like to discuss for our hypothesis that DPs containing (wh-) pronouns are interpreted adverbially at this stage of the language. As is well known, the overwhelming majority of cases with resumptive pronouns in OE involve the marker 'πe', as illustrated in (17), from Traugott (1992). The same observation holds with the ME 'πæt' (Fischer, 1992).

(17)   Swa bi∂ eac πam tereo wum πe him (DAT) gecymde bi∂ up heah to standanne
        'so it is also with trees to which it is natural to stand up straight'   [Bo. 25.57.20]

Following the general idea that we have proposed relating to the structure of DPs, we would like to suggest that resumptive pronouns in sentences like (17) are interpreted adverbially (i.e. indicates identification). What this means is that the pronoun is the 'overt' realization of the thematic role identified by the SR marker 'πe' (see note 2). Thus, the resumptive pronoun is simply the manifestation of the 'double identificational role' that 'πe' plays; first as a marker of 'relatedness' of the modifying clause and the anticipatory DP, as discussed in section 2; and second, as the realization of the θ-role of the relativized pronoun. The absence of resumptive pronouns in clauses with 'πæt' follows from the fact that this element does not indicate 'relatedness'. This is confirmed by the observation that resumptive pronouns sharply decrease in use when *wh*-pronouns are introduced in ME. This follows from our analysis of *wh*-phrases as incorporating 'at'.[10]

What we have shown so far is that relative clauses in OE were in fact correlatives, that is, in our terms, a type of relation defined between (at least two) adverbially interpreted DPs. The development of D°/C° system allowed the creation of relatives clauses by clause internal movement (much as in Kayne, 1994). Adverbial clauses have undergone the same change: in OE, the common type of adverbial clauses was expressed as correlatives in which the 'adverbial pronouns' (traditionally called 'connectives', 'mid' in (18)) are doubled, as illustrated in (18), from Carkeet (1976):

(18)   mid πam πe ic hogode helpan πinum wife. mid πam ic forleas min
        'even as I reflected (how to) help thy wife, even then I lost mind'   [LS36.363]

As shown in (18), the marker 'πe' can appear after the 'adverbial pronoun'. This is a relatively frequent phenomenon, in which 'πe' plays essentially the same role as in complement clause (cf. Wiegand, 1987). Carkeet (op. cit.) notices that in OE most non

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[9] There are some exceptional cases of P-stranding with 'πæt' (Allen, 1980; Wiegand, 1987). Once again, these cases appear to involve a limited set of prepositions, which we take to be particles incorporating on the verb. More interesting for our analysis is the fact that neither topicalization, nor interrogations allow P-stranding in OE (see Allen, 1980). We construe these observations as further evidence that DPs were adverbials in OE. The resultative meaning of the preposition involved is clearly consistent with the meaning of 'πe', which implies a notion of 'relatedness' (PATH). This meaning is, however, inconsistent with 'πæt' (see note 2).

[10] There are some rare instances of RPs with 'se + πe' (Allen, 1980). This is expected in our analysis since this composite element does not incorporate 'at', unlike 'πæt+πe'. Hence the notion of relatedness is still expressed, unaffected by 'at'. In fact that construction confirms the analysis discussed in the text.

prepositional conjunction, in our terms 'adverbial pronouns' can be traced back to patterns of oblique NP + relative pronoun. This observation coupled with the observation that there were very few prepositions in OE, suggest that these so-called conjunctions were in fact modified by a nominal which was interpreted adverbially, much as we have proposed for relative clauses. This explains the deictic interpretation of adverbial pronouns in OE adverbial correlatives. In ME, the diversity of prepositions becomes wider, a fact that we explain as a manifestation of the incorporation of nominals heads into the preposition (a process similar to what Hale & Keyser (1995) propose for NE). There is, however, an intermediate step, which involves the 'preposition + that', a step reminiscent of the 'wh + that' phenomenon discussed above for relative clauses in ME. This suggests that the 'adverbial pronoun' is an operator in NE, a stage that it has not yet reached in ME. This state of affair is reminiscent of the development of *wh*-phrases. We come back to this topic, which suggest an analysis of this type of adverbials in terms of movement, as in Larson (1983), in our forthcoming work.

4. The internal structure of DPs in Old and Middle English

In this section, we show that the structure of DPs in Old English is essentially the one we proposed for complements and relative clauses. The parallel with these constructions in OE is clearly evidenced by the split that occurs between the NP and its modifiers, such as, 'floated' adjectives, coordinate NPs (as illustrated in (19) from Reszkiewicz, 1966), 'floated' genitives, floated quantifiers, (see (20a) and (20b) from Schwartz, 1968 and Peltola, 1936), and 'doubling' of the demonstrative pronoun, from Lumsden (1987):

(19) ∂ær he ys bebirged and Sarra his wif
'there he is buried, and Sarah his wife...'   [Gen XXV, 9]

(20) a. Ioseph, se ∂e ging(g)st wæs hys gebro∂a
'Joseph, who youngest was (of) his brother'
b. πa eardiend πære ceas tre wurdon forhergode ealle
'that country's castles were destroyed all'   [DGr. 192 t]

(21) He cwaeπ se apostol Paulus
'he said the apostel Paul...'   [Aelfric Hom. i, 146, 33]

These facts can be accounted for, within our framework, if we assume that DPs in OE have the structure of (cor)relative clauses. The structure that we propose for an example like (20) is illustrated in (22):

(22) [DP Ioseph] ... [DP hy [CP s [IP ....gebro∂a]]]

As we have assumed for other OE DP structures, nominals are composed of two essential elements: in (22), these are the demonstrative pronoun 'hy' and the SR marker 's', which, as Curme (1913) pointed out is related to the preposition 'of' which itself can have the meaning of the preposition 'from'. The appositive element in (22) is treated as an adverbial element modifying, not only the DP, but also the verb (Curme, 1913). We believe (as we have suggested in section 2) that the SR marking in DPs recovers the abstract Case information. In the case of the SR marker which expresses 'proximity', a concept closed to the one of 'approximation' of Pica & Snyder (1995), this marker describes a part-whole relationship. The genitive (and the possessive) markers are the overt manifestation of this relationship in genitive DPs like (22). In fact, this concept is expressed in all the appositional categories represented in examples (19)-(21). Peltola (1936), notes that the appositional use of quantifiers expresses the notion of 'totality'. We interpret this observation to mean that quantifiers, like genitives, express the relation of part-whole as this is shown from the use with 'of' ('all of/from', 'some of/from') (see

also Traugott (1992) who argues that 'some' has a 'presentative function in OE). Thus quantifiers in OE did not express individual quantification, unlike quantifiers in NE. This usage is in fact still possible in NE with floated quantifiers. Interestingly, Peltola points out that the quantifier 'some' lost this 'totality' meaning. Similar changes in meaning have been observed for other categories (see Mitchell, 1981 on coordination, and Curme, 1910 on adjectives). There are evidence in OE that even 'bare' DPs like 'the man' also involve different forms of the SR marker. Although the evolution of the SR system in 'bare' DPs might not necessarily correspond to the change in the determiner system, we will consider that the SR system has been in place at least from late OE. As already noticed by many scholars (Christophersen, 1939; Jespersen, 1949), 'πe' expresses 'closeness' to the Speaker, whereas 'πat' expresses a distance from the Speaker. We take this to indicate that 'πe' incorporates an SR marker which indicates 'proximity', whereas 'πat' incorporates the SR marker 'at', indicating obviation (as already suggested in note 2).[11] In NE the demonstrative pronouns 'πe' (the) and 'πat' (that) looses their deictic force. The SR marker, now a C°, incorporates into the D°, which frees the SPEC CP and DP for the NP to move to. As these elements loose their deictic force, they still retain part of their old meaning, in the form of the so-called 'emotional' vs 'non-emotional' demonstratives' distinction.

5. Conclusion

The analysis proposed in this paper reduces a wide range of linguistic changes to features projection of the determiner system (whether D° projects a maximal category or not). Although lack of space does not enable us to develop into details all the implications of the analysis, it is striking to see that our proposal allows us to derive various changes in many areas of the Grammar, such as the lexicon, the possible operations within the computational system, and the interpretation of several elements at the interface between LF and the conceptual-intentional system.

Breaking with the traditional ideology, according to which the work developed in Functional Syntax shows that the generative enterprise is insufficient, the program developed in this paper shows that systems traditionally studied in functional terms (with few exceptions, see Finer 1984 among few others), can not only be incorporated within a framework such as Chomsky's minimalist program, but also provides a formal account of these phenomena without recourse to independent functional explanations. If our theory is on the right track, Switch-Reference can be reduced to very general mechanisms of the grammar. In fact, our paper suggests that θ-theoretic concepts, as well as reference itself (as implicitly suggested in Chomsky, 1993), may be defined configurationally. Our analysis suggests that very large fragments of the grammar of OE are not very different from the grammar of typologically non-related languages, such as Hindi or Walpiri (where correlatives constructions have been extensively studied). This indicates that variation may be far more restricted than what is generally assumed in the literature, and can perhaps be reduced to X' theoretic concepts.[12] If this enterprise proves to be feasible, we believe that traditional problems that have haunted many theories of linguistic

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[11] As it happens with *wh*-phrases (see section 6), it appears that 'bare' DPs might have undergone changes from OE to ME in different stages. This is suggested by the different interpretations of 'bare' NPs in constructions like 'John is a doctor' .in ME, where the indefinite determiner was not used to express the predicative relation expressed in this construction.

[12] Our analysis implies that variation, may ultimately be the result of underspecification of features (of the X' system), and thus, is not constrained by independent principles such as the Subset Principle (Berwick, 1985), or the Transparency Principle (Lightfoot, 1979; see also Lightfoot, 1991). This is a welcome result since it restricts variation and might resolves the problem of parameters' proliferation without recourse to principles that are not expected to be part of the language faculty.

changes for decades, such as the alleged directionality of linguistic change (an hypothesis explicitly present in the traditional work on grammaticalization, Hopper & Traugott, 1993; Meillet, 1921; Givon, 1979; among many others) or the relationship between the alleged complexity of languages and the complexity of culture (Small, 1924; O'Neil, 1977), can be restated in very different terms: that is, such phenomena can be reduced to the interaction of one cognitive system (one language – hence one variation) with other cognitive systems, whose nature should be investigated within a scientific enterprise. History will tell whether this last hypothesis proves to be feasible and whether the enterprise sketched in this article is on the right track, as we believe it is.

Acknowledgments

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