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STUDIES IN THE SYNTAX OF PRONOUNS AND FEATURES WITH PARTICULAR REFERENCE TO HEBREW

by

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Abstract

STUDIES IN THE SYNTAX OF PRONOUNS AND FEATURES
WITH PARTICULAR REFERENCE TO HEBREW

by

Ivy Sichel

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The thesis presents a thorough investigation of major aspects of pronominal syntax and interpretation. The main goal of the study is to motivate multiple dimensions of pronominal analysis, including morphosyntactic and structural properties, and to delineate their significance through examination of a variety of major pronominal phenomena with the aim of identifying the relevant parameter(s) at each point. These include binding and interpretive phenomena, movement phenomena, and the relation between pronoun movement and agreement systems.

Chapter 2 presents an analysis of complex anaphoric properties--both syntactic and discourse related--of demonstrative pronouns, a pronominal class which has received little attention in the syntax literature, and it is claimed that the inclusion of a [definiteness] feature, transparent in one Hebrew demonstrative pronoun, subjects d-pronouns and nominals more generally to Principle C of the binding theory. Additional discourse related restrictions on coreference interpretation, observed in the absence of

c-command, are captured through the notion of Identity and the system of (co-)indexation developed by Fiengo & May (1994), and d-pronouns are argued to provide strong support for grammatical representation of covaluation in terms of coindexation.

The significance of [person] is the focus of chapter 3, where consideration of the syntax of 'tonic' pronouns doubled by clitics/'rich' inflection in French, Standard Arabic, Welsh, Breton, and Irish, leads to a theory of pronoun movement as Attraction, triggered by a [person] feature associated with a functional head. Chapter 4 extends the analysis of pronominal syntax to Hebrew pronominal Verb-Subject order and a number of new clitic cluster facts are presented. It is argued that post-verbal pronominal subjects are syntactically identical to inflectional material and that verbal syntax is closely related to verb syntax. Only pronouns trigger obligatory V^o raising in Hebrew, with implications for the syntax of verb raising and its crosslinguistic link with rich morphology.

The fate of $F^o_{[person]}$ when DP is lexical and incapable of checking [person] is taken up in chapter 5. An examination of pronominal syntax in North Italian dialects and Salish languages, which exhibit systematic expletive/pronominal alternations in pronominal transitive clauses, leads to the postulation of an $EPP_{[person]}$ feature in the CP domain, in addition to CP [force] and [type] features with which [person] in these languages interacts. Assuming $CP_{[person]}$ to be universal, to this position unchecked $F^o_{[person]}$ arguably raises when DP is lexical.

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Studies in the Syntax of Pronouns and Features with particular reference to Hebrew

Chapter One

Chapter Two

Interlude

Chapter Three

Chapter Four

Chapter Five

Chapter One

Introduction

1 Size Isn't Everything

Perhaps the very first syntactic fact we learn is that pronouns are noun phrases, making them good measures of constituent structure. In terms of content they are underspecified, a flexibility that makes constituency and substitution tests meaningful insofar as *she* can mean the same as a previously mentioned *the tallest woman in Alabama*. Pronouns are typically little words, with little content, which nevertheless take up quite a bit of structural space. The plot starts to thicken as it turns out that pronouns cannot in fact always mean the same as a previously mentioned noun phrase expression; so pronouns are little words with little content that exhaust the same category as infinitely long noun phrases and cannot be bound in a local domain.

By now we know that whatever the pronominal properties turn out to be, the class of pronouns is itself heterogeneous, and the category *pronoun* too superficial. It is useful at best descriptively, as a heuristic category that distinguishes little words with little content from other little words with slightly more content (some reflexives and reciprocals); from combinations of bigger words with more content (full noun phrases); from bound morphemes with little content (agreement morphemes), and so on. But the phenomena covered by these distinctions are varied and classifications apply to multiple dimensions of pronoun syntax and interpretation. What counts as a pronoun for one classification may not count as a pronoun for another. And just as it turns out that there are different ways in which little words qualify for membership in the class of pronouns, so are there different kinds of little words that superficially look alike. A few well known examples illustrate this point. If pronouns are defined as noun phrases lacking in descriptive content, they do not necessarily occupy the same positions as lexical noun phrases, in (1); do not necessarily exhaust a maximal noun phrase constituent, in (2); are not necessarily subject to Principle B of the Binding Theory, in (3) and (4); do not necessarily allow bound variable anaphora, in (5)[1]:

(1) a. Rina looked the number up
b. Rina looked it up
c. Rina looked up the number
d. *Rina looked up it

(2) a. *She with braids looks like Rina
b. *hi im ha-camot doma le-rina (Hebrew)
she with the-braids resembles to-rina
c. ha-hi im ha-camot doma le-rina
the-she with the-braids resembles to-rina
d. tiisai kare / kono kare (Japanese)
small he / this he
e. han med r2d hatt / han som går der (Norwegian)
he with red hat / he who walks there

(3) a. Mary washed him
b. Je me lave (French)
I me wash

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[1]Japanese examples from Noguchi (1997), Norwegian from Hestvik (1992).

c. Je te lave
I you wash
d. *Je se lave
I him/her/they wash

(4) a. *hi$_1$ xoSevet Se-ha-hi$_1$ tacbia le-barak (Hebrew)
she thinks that-the-she will.vote for-barak
b. ze Se-diber ita$_1$ axaron xoSev Se-ha-hi$_1$ tacbia le-barak
the.one that-spoke to-her last thinks that-the-she will.vote for-barak
The one who spoke to her last thinks that one will vote for Barak

(5) a. Everyone$_1$ loves his$_1$ mother
b. *Daremo$_1$-ga kare$_1$-no hahaoya-o aisite-iru (Japanese)
everyone-nom he-gen mother-acc love-pres

The examples obviously cover different empirical domains, and the relevant generalizations are likely to be different, so it is not very surprising to find a little word behaving as a pronoun in one context, as a noun in another, and as an anaphor in another. One could of course give up on explanatory attempts and universal assumptions and proceed with description: *it*, *kare*, *han*, *ha-hi*, *se* are not translations; *kare* is a pronoun that cannot be construed as bound variable; *se* is a pronoun that must be bound; *ha-hi* is a pronoun that obeys Principle C and can be modified, and so on. But assuming some degree of generality, that the definitions are facts to be explained, then once it is acknowledged that *pronoun* is not a stable or homogeneous class, the problem becomes one of identifying the relevant property in each case, possibly restricted to a subset of pronouns, potentially shared by non-pronouns.

Restricting attention to syntactic properties, the options are numerous and fairly abstract: in terms of content and the grammatical features encoded by a pronoun; in terms of syntactic category and the position into which a pronoun is merged; in terms of movement trajectory and the position it reaches; in terms of phrasal category and amount of containing structure. The main goal of this study is to show that multiple dimensions of analysis are necessary, and to delineate their significance through examination of a variety of major pronominal phenomena with the aim of identifying the relevant parameter(s) at each point. These include binding and interpretive phenomena, movement phenomena, and the relation between pronoun movement and agreement systems. A more

fine-grained approach to pronominal characterization directly sheds light on the components of grammar involved, in this study Principles B and C; discourse anaphora and the role of grammatical and extra-grammatical knowledge in anaphoric resolution; pronoun movement, its motivation and conditions; inflectional material as the product of pronoun movement and its relation to verb syntax. Conversely, a finer-grained approach to these empirical domains is inevitably also a study in morphosyntax, i.e., of the grammatical effects of [person], [number], [definiteness], and so on. But before proceeding any further, a brief survey of major aspects of pronominal syntax and interpretation introduces the tools available for pronominal analysis.

2 A Brief History of Pronominal Syntax and Interpretation in Generative Grammar

The study of pronouns has figured prominently in generative grammar from its inception to the present. Work on pronouns within the ST and EST models focused on their interpretive properties, since the role of structural factors in determining referential distribution was recognized early on and interpretive contrasts provided strong motivation for the significance of relatively abstract structural conditions. Continued examination and refinement of these factors has revealed over the years many more anaphoric patterns than a simple pronoun/reflexive classification would lead one to expect, including logophors, long distance anaphors of various sorts, bound variable pronouns, pronouns that cannot be construed as bound variables, and so on. The increase in referential types highlights the need to further refine the binary categories *pronoun* and *anaphor* and to seek principled explanations for class membership and anaphoric pattern.

From the beginning of inquiry into the syntax of languages other than English it has also been recognized that besides interpretive properties, pronouns differ from lexical noun phrases in terms of displacement and the positions they may or must occupy in a given phrase marker. Again, it has been realized early that neither in terms of movement are all pronouns created equal; some pronouns obligatorily appear in non-theta positions,

others never appear in non-theta positions, and still others appear in non-theta positions on certain conditions. Ongoing research has led to the discovery of multiple derived positions, some shared by full noun phrases, as well as refinements concerning the landing sites and structural parameters of movement operations available to pronouns. The reduction of the transformational component to Move alpha, and the further restriction of movement triggers to properties of the target, sharpens the need to provide principled explanations for pronoun displacement, to determine the extent to which pronoun movement and lexical noun phrase movements are similar or distinct, and if distinct, to explain why only some pronominal subclasses seem to be affected. More generally, the observation that pronouns differ from noun phrases interpretively in terms of referential properties, and syntactically in terms of position, raises the possibility that the two may be related. If not, a clearer definition of what it means to qualify as a pronoun on either count is required.

Later developments have invigorated the study of pronouns with further questions and empirical concerns. The evolution of Principles and Parameters out of LGB (Chomsky, 1981) and the insight that cross-linguistic variation may reduce to language-specific inflectional properties focused attention on inflectional systems, agreement phenomena, and their syntactic correlates. Since pronouns are similar to inflectional material in content new empirical domains became relevant. Borderline cases like clitics became progressively significant along with null subjects, clitic doubling, and configurationality phenomena. In turn, attention to pronominal content and morphosyntactic features such as [person], [number], and [case] have contributed to the study of anaphora by providing an independently motivated inventory through which to articulate referential categories.

Study of the syntax of inflectional systems has similarly lead to an extension of X-bar schema to functional categories. Its extension to noun phrases and nominal functional projections opens yet another perspective on pronouns, as it introduces categorial distinctions between nouns and pronouns and between pronominal classes,

undefinable on a single-headed noun phrase approach. The possibility that functional / lexical nominal classes may be represented structurally has led in turn to renewed interest in the relation between pronouns, determiners, and other nominal functional material, and to new approaches to clitic doubling phenomena. Given the proliferation of pronominal classes, the potential for categorial classification is a promising development. At the same time, the progressive increase in structural options presents a challenge particular to the study of pronouns. Since pronouns tend to appear all alone in their containing maximal phrases, the usual argumentation from positions and interpretations of better understood ingredients is typically unavailable.

One way to meet that challenge is to restrict the structural options available to pronouns a priori. If morphosyntactic features associated with pronouns such as [case], [person] and [number] necessarily project structure, then grammatical content determines the structure in which the pronoun is embedded and possibly, given additional assumptions, the precise location of the pronoun as well. Crucially, on this approach morphosyntactic feature inventory and syntactic category are conflated: features associated with pronouns are distributed (uniquely) across DP projections and the feature projected highest determines pronominal phrasal identity; to the extent that pronouns are associated with features other than lexical noun phrases, and different pronouns with different features, so will their maximal phrasal identity differ. And to the extent that projected features must be checked, a pronoun will be situated in its highest projection[2].

An alternative, pursued here, is that morphosyntactic inventory and structural characterization are independent factors in pronominal classification, not necessarily reducible. Morphosyntactic features capture some generalizations, pronominal position accounts for others, and identity of containing phrase for yet others. On this approach,

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[2]See, for example, Cardinaletti & Starke (1999), who propose CP, SigmaP and IP pronominal projections, the former associated with [case]; Dechaine & Wiltschko (2000) for DP, φP, and NP pronouns, the second projection associated with pronominal phi-features (though not uniquely); Wiltschko (1999) for DP and AgrP pronouns. See Koopman (1999) for a movement approach to DP vs. NumP distinctions in which all pronouns are merged as DPs, movement necessarily proceeding by NumP extraction.

structural position cuts across morphosyntactic classification, as it is possible for pronouns with identical features to occupy distinct positions, and for pronouns with distinct features to occupy the same position. If the choice between these alternatives is to have any significance it should be decidable on empirical grounds. Another general goal of the thesis is to show that the issue is an empirical one and to indicate what some relevant facts of the matter may be.

3 Features, Categories, and Overview

The thesis argues indirectly against conflation of features and projections by showing that the pronominal empirical domain is sufficiently rich to warrant at least two relatively autonomous dimensions of analysis: in terms of morphosyntactic features; in terms of position within DP; and possibly also in terms of phrasal identity. The most interesting cases are those in which these dimensions cross-classify, producing pronouns similar in some respects and different in others. Chapter 2, which focuses on binding and discourse-referential properties, argues for a feature characterization of R-expressions in terms of inclusion of a [def] feature; yet differences between [+def] pronouns and definite articles or Romance clitics, presumably located in D^0, suggest that the two cannot be merged into the same position, so features and merge position cannot be conflated. Further differences among varieties of [+def] pronouns suggest that some, but not all, raise from N^0 to D^0, implying that neither can feature and final destination be fully conflated; position and feature specification are both important.

Chapter 3 argues that the trigger for pronoun movement is [person] associated with a functional target, and so all $\text{pronominal}_{[\text{person}]}$ DPs will be attracted by $F^0_{[\text{person}]}$. Nonetheless, not all pronouns specified for [person] raise in fact. The introduction of a structural distinction (Num^0 pronouns vs. N^0 pronouns) within the class of feature-identical pronouns ensures, given Shortest Move, that only those pronouns closer to $F^0_{[\text{person}]}$ will raise, i.e., only those positioned in the higher Num^0. Once again,

position is important in addition to features, and morphosyntactic [person] arguably does not project DP-internal structure. Finer distinctions within the class of Num° pronouns, between those that can fail to be attracted (weak pronouns) and those that cannot (clitics), re-introduces the significance of features and the possibility that clitics, as opposed to weak pronouns, do not have all features checked internal to DP. Here too syntactic category and feature inventory are not necessarily reducible.

It is further argued that while [person] triggers movement phenomena, it is irrelevant for A-binding purposes, as 'BT-pronominal' turns out to be a heterogeneous class (the residue of Principle A) and some anaphors have [person] too. That different features should be relevant in distinct empirical domains is straightforward--distinct grammatical effects is precisely what is expected if the morphosyntactic inventory includes features that are different. A consistent reduction of features to categories, however, will conflate feature content with feature value and so non-symmetry among features becomes potentially problematic since it would be difficult to limit the significance of a structural property to a specific empirical domain or a restricted set of structures. Everything else being equal, complementarity effects are expected[3].

The extension of pronominal attraction to Hebrew, in chapter 4, points to a distinction internal to the class of clitics. While in many languages, though not all, clitics are sensitive to verbal positions, Hebrew attests to a class of enclitics whose position depends on the variable position of the main verb, suggesting that pronouns independently attracted by $F^{o}_{[person]}$ may subsequently attract verbs to their left. It is proposed that clitics associated with a v-feature trigger obligatory V^{o}-raising, from which point on V+clitic raise as a complex constituent. The interaction between pronominal and verbal syntax observed in Hebrew reintroduces the possibility of a link between rich

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[3]A geometry of abstract features arranged in terms of binary hierarchies as proposed in Harley & Ritter (1998) for morpho-phonological phenomena would, however, be expected to produce complementarity effects if extended to syntax. The question whether morphologically motivated feature abstractions and binary values (such as +/- participant; +/- speaker) are necessary or adequate for syntactic phenomena will not be directly addressed.

agreement, specifically [person], and verb raising lost on Minimalist approaches in which v-features in I^0 have no obvious morphological correlate.

The broader implications of the proposal for an attracting $F^0_{[person]}$ are considered in Chapter 5, more specifically the fate of $F^0_{[person]}$ when DP is lexical, hence incapable of [person] checking. Evidence from expletive / pronoun movement alternations in Salish and Friulian transitive pronominal clauses attest to a high pronominal position within CP, and it is proposed that in addition to features of temporality, extended CP encodes [person] which in some languages must be checked by an overt expletive in the absence of pronoun movement. In others, it is argued, it is sufficient that $CP_{[person]}$ be checked by a null element, unchecked $F^0_{[person]}$. Lexical DP arguments, from this perspective, make available a phonetically null [person] feature, attractable by CP.

4 Theoretical Background

The studies of pronouns pursued in the following chapters are carried out in the Minimalist framework as developed in Chomsky 1995 (chapter 4) and Chomsky 1998, though a number of significant modifications are introduced and motivated at various points. A central point of departure is that all movement is triggered by properties of an attracting target and candidates for attraction are selected on the basis of Shortest Move. Indeed, the goal of chapter 3 is to show that an Attraction approach to pronoun movement turns out to be empirically superior to previous Greed-based approaches. It therefore strongly supports the Minimalist hypothesis that target-driven movement with its implied reduction in search space is the only option provided by UG. The distribution of pronoun movement shows in addition, that a further restricted computational component which precludes LF or FF-movement (as argued in Kayne 1998) and long-distance Agree (Chomsky 1998) is in fact most adequate. This leads to the assumption that features of an attracting target must be checked in the syntax, potentially by a phonetically null element. An a priori restriction of pronoun movement to the overt

component eliminates the need to specify feature strength, and [person] is assumed to be specified for interpretability only, [person, -INT].

The proposal that pronoun movement is triggered by a functional target entails the presence of a functional node specified [person, -INT], and it is argued in chapter 5 that there exist pronominal landing sites designated for pronouns, as expected if the trigger is a morphosyntactic feature unique to pronouns, [person]. For convenience, $F^{o}_{[person]}$ is labeled Agr , and the possibility that F^{o}'s hosting [person] are T^{o} or v^{o} nodes, though not pursued in any detail, is not precluded. To the extent that pronoun movement phenomena do motivate functional heads associated with φ-material only, the study of pronouns restricts the occurrence of φ-material in the functional domain to [person]. If in all languages some pronouns turn out to occur in special positions, then [person] always attracts, eliminating the need to specify [+/- interpretability] and recasting the question: why does [person] appear in the functional domain?

Clitic cluster phenomena and pronoun/expletive alternations studied in chapters 4 and 5 attest to absolute locality constraints on pronoun raising beyond those imposed in contexts of candidate competition by Shortest Move. In both empirical domains, it turns out, a pronoun initially attracted within a vP phase cannot be further attracted by a higher $F^{o}_{[person]}$. Following Chomsky (1999) it is assumed that derivations proceed cyclically, cycles determined by v*P and CP phases; I also assume, following Pesetsky & Torrego (2000), that feature deletion is cyclic, at the phase level, allowing a checked feature to remain active for further attraction within that minimal phase. The extension of phase cyclicity to feature deletion ensures that a feature checked within vP is inert for attraction by a vP-external head, while allowing a feature initially checked in TP to be subsequently attracted by CP.

The analysis of discourse-anaphoric restrictions on demonstrative pronouns in chapter 2 represents a significant departure from the proposal made in Chomsky (1993) to eliminate indices in favor of an interpretive approach to the Binding principles. While the distribution of coreference might be thought of, in principle, as deriving from conditions

on interpretation rather than conditions on representation, the distribution of demonstrative pronouns in non-binding environments shows, among many other facts discussed in Fiengo & May (1994 and 1998), that the Minimalist perspective on coreference distribution is too simplistic if taken to hold of covaluation generally. The distribution of covaluation as determined by principles of interpretation implies that covaluation is semantically uniform, yet demonstratives reveal a significant difference between covaluation determined by virtue of grammar and covaluation determined by extra-grammatical factors, as these expressions are restricted to the latter. The deictic nature of demonstratives is captured here by *excluding* coindexation with names and descriptions without excluding covaluation, and provides strong support for a theory of reference in which these modes of interpretation are representationally discernible.

Chapter Two

Pronouns and the Syntax of Definiteness Features

The chapter examines the referential properties of two varieties of Hebrew third person pronouns by comparing their Binding Theory status (henceforthe, BT) and the anaphoric restrictions they impose within a discourse. It is shown that one variety (henceforth, H pronoun) may corefer with other nominals subject to Principle B. The other variety (henceforth, demonstrative-pronoun) is subject to Principle C and is further restricted by the kind of nominal expression with which it may corefer in a discourse.

The existence of pronominals subject to Principle C raises a question regarding the criterion for distinguishing the class of expressions subject to Principle B from those subject to Principle C. If it is assumed that BT principles are universal, and it is further assumed that the BT-relevant definition of 'pronominal' refers to absence of descriptive content, why should some pronouns be subject to the more stringent Principle C, and how is it best to characterize the difference between these pronominal classes? It is argued

that a more fine-grained definition than 'descriptive content' is required, and that similar to the characterization of morphologically simple reflexive anaphors (SE anaphors), the binding theoretic difference between pronominals and r-expressions makes reference to internal feature composition. Only those pronouns subject to Principle C will be specified for a morphosyntactic feature of definiteness. Since anaphoric epithets, definite descriptions and names similarly include [+/-definiteness] specification, it is claimed that this feature, and not descriptive content, subjects a nominal to Principle C generally. Further examination of anaphoric epithets leads to the conclusion that r-expressions may be subject to Principle B in addition to C, suggesting that BT-pronominal is a heterogeneous, undefined class, the residue of Principle A. And so it turns out that while [+/- def] defines class membership for purposes of A-binding, [person] does not.

The next section examines more carefully the distribution of [+/-def], especially in its relation to semantic notions of pronominal definiteness and syntactic associations of [+/-def] with D^0. The internal composition of two Hebrew d-pronouns is compared, since only one transparently shows the definiteness feature in the form of the definite prefix. It is claimed that [definiteness] may vary morphologically, represented either inflectionally as an affix, or lexically as a stem, and that syntactic conditions such as Principle C are oblivious to morphological distribution, as expected if [+/-def] is morphosyntactic in nature. Further consideration of these [+def] pronouns in relation to definite articles and standard pronouns leads to a two dimensional characterization of pronoun / article connections, and a three-way classification. Assuming definite articles to realize D^0, pronouns may be similar to articles in category (pronouns merged into a DP functional position, such as clitics) or in content (pronouns specified as [+def], such as demonstrative-pronouns), or neither (pronouns merged into a lexical position and not [def] specified, such as tonic pronouns).

Further anaphoric restrictions on d-pronouns are observed in the absence of binding, the focus of section 3. These discourse anaphora constraints exceed the scope of Principle C, roughly corresponding with notions of deixis or obligatory referential

autonomy. It is argued that obligatory autonomy is best understood within a theory that represents indexical value grammatically and restricts the kind of nominals which may share indexical value (Fiengo & May (1994) and (1998)). Obligatory referential autonomy is captured at the level of expression identity, such that d-pronouns are never identical to names and definite expressions, hence cannot bear the same indexical value as these expressions. A variety of potential counterexamples are examined, and it is shown that referential identity in all these so-called anaphoric uses is mediated by extra-grammatical factors: by assertion, by speech act and communicative purpose, by knowledge of discourse boundaries, by knowledge of discourse strategy. To the extent that it directly discriminates grammatical and extra-grammatical modes of valuation, the referential distribution of d-pronouns provides strong support for indexical representation in the grammar.

1 Binding Theory Properties

There are three distinct third person subject pronominals in Hebrew, seen in (1) and (2):

(1) a. **hu** avad
H-m.s worked-3m.s
He / it worked

b. **hi** avda
H-f.s worked-3.f.s
She / it worked

(2) a. **ha-hu** avad
the-H-m.s worked-3.m.s
That one worked

b. **ha-hi** avda
the-H-f.s worked-3.f.s
That one worked

c. **ze** avad
Z-m.s worked-3.m.s
This one worked

d. **zot** avda
Z-f.s worked-3.f.s
This one worked

e. ***ha-ze** avad
the-Z-m.s worked-3.m.s

f. ***ha-zot** avda
the-Z-f,s worked

In what follows I will refer to the pronouns in (1) as standard or personal pronouns, and to the two pronominal varieties in (2) as demonstrative-pronouns (d-pronouns). All three varieties trigger 3rd person agreement on the tensed verb, and all three encode gender

and number distinctions[1]. The pronouns in (2a) and (2b) are similar to the ones in (1) with the addition of the prefix *ha-*, the invariant morpheme which encodes definiteness in lexical nominals:

(3) a. ha-yeled; ha-yalda; ha-yeladim; ha-yeladot
the-boy the-girl the-boys the-girls
b. ha-yeled ha-tov; ha-yalda ha-tova
the-boy the-good the-girl the-good
the good boy the good girl
c. ha-yalda ha-hi; ha-yalda ha-zot
the-girl the-H,f.s the-girl the-Z,f.s
that girl this girl

The prefix *ha-* attaches to adjectives which modify definite nouns as seen in (3b). Postnominal demonstratives, as in (3c), are prefixed with *ha-* as well. I will refer to structures as in (3c) as the demonstrative construction, to distinguish them from d-pronouns. One reason to believe that the two should be kept distinct - that d-pronouns are not elliptical demonstrative constructions - is that *zot* cannot occur with a definite prefix in neutral contexts, as shown in (2e) and (2f)[2].

Despite the morphological similarity between the pronouns in (1) and the ones in (2a) and (2b), I argue that the classification in (1) and (2) between personal pronouns and

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[1]The full paradigm for the pronoun in (1) is *hu* (m.s); *hi* (f.s); *hem* (m.p); *hen* (f.p), glossed as 'H' throughout. The paradigm for the pronouns in (2a) and (2b) adds the prefix *ha-* (="the") to each member, and is glossed as 'the-H'. The paradigm for the pronouns in (2c) and (2d) includes three feminine variants *zot / zu / zoti* (f.s), and two plurals *ele / elu*, glossed as 'Z'. Feminine examples will be used from this point on to avoid ambiguity with a distinct pronoun homophonous with masculine singular *ze*. See below for discussion.

[2]The non-contrastive (2e) and (2f) should be distinguished from cases in which *ha-Z* without an immediately preceding noun is possible. These bear the hallmarks of elliptical demonstrative constructions, as in the following fragment:

i. tir'e et ha-xulcot Se-rina hevi'a habayta hayom. ha-hi meza'aza'at, aval ha-zot davka beseder.
look at the shirts Rina brought home today. the-H-f.s horrendous, but the-Z-f.s actually OK (= that one's horrendous, this one's actually OK).

The preference for contrastive conjunction and explicit mention of the nominal element suggest an ellipsis analysis for *ha-zot*. *ha-hi*, from this perspective, might be taken to be ambiguous between an elliptical construction and a d-pronoun. Thanks to Aldo Salvi for bringing this fact to my attention.

d-pronouns correctly represents the syntax of these pronouns. Below it will be claimed that the *Z* pronominal in (2c) and (2d), just like the pronoun in (2a) and (2b), encodes a definiteness feature though not in the form of a prefix. The pronoun in (1) (and its non-nominative counterparts) is a true pronominal, the d-pronouns in (2) are pseudo-pronouns: like pronouns in general, they encode only grammatical information, but syntactically they pattern with lexical nominals. The distribution of these borderline pronouns sheds further light on the nature of true pronominals and reveals a relation between pronominal morphology and pronominal syntax more complex than 'lack of descriptive content' would imply.

1.1 BT and pronominal H

The pronoun *hu* and its accusative counterpart *oto* obey Principle B. They cannot be bound within their governing category, but may be bound by an antecedent outside of their governing category:

(4) a. **Dani**$_i$ ohev **oto**$_{k/*i}$
Dani likes him
b. **Dani**$_i$ xaSav Se-**hu**$_{i\,/\,k}$ yacbi'a le-bibi
Dani thought that he would vote for-bibi

H pronouns may also occur in a variety of A-bar binding contexts. They may be bound by a quantifier, as in (5a), and as a resumptive pronoun in a relative clause, in (5b):

(5) a. **kol student**$_i$ xoSev Se-**hu**$_{i\,/\,k}$ yacbi'a le-bibi
every student thinks that he will-vote for-bibi
Every student thinks he will vote for Bibi
b. **ha-sefer** Se-kiviti Se-**hu** ye'anyen oti
the-book that-hoped-I H-m.s would-interest me
The book that I hoped would interest me

1.2 BT and D-pronouns

D-pronouns, on the other hand, may not be A-bound. In (6a) a d-pronoun is bound within its governing category, in (6b) and (6c) it is c-commanded by a coreferential expression outside the relevant domain:

(6) a. *$\mathbf{hi_i}$ ohevet et $\mathbf{zot_i}$ / $\mathbf{ha\text{-}hi_i}$
H-f,s loves Z-f,s / the-H-f,s
b. *$\mathbf{hi_i}$ xoSevet Se-$\mathbf{zot_i}$ / $\mathbf{ha\text{-}hi_i}$ tacbi'a le-barak
H-f,s thinks that-Z-f,s / the-H-f,s will-vote for-barak
c. *$\mathbf{hi_i}$ ohevet et ima Sel $\mathbf{zot_i}$ / $\mathbf{ha\text{-}hi_i}$
H-f,s loves Et mother of Z-f,s

Thus the crucial contrast between standard pronominals and d-pronouns can be seen in contexts of binding across a governing category:

(7) a. $\mathbf{hi_i}$ xoSevet Se-$\mathbf{hi_i}$ tacbi'a le-barak
H-f.s thinks that-H-f.s will-vote for-barak
She thinks she will vote for Barak
b. *$\mathbf{hi_i}$ xoSevet Se-$\mathbf{zot_i}$ / $\mathbf{ha\text{-}hi_i}$ tacbi'a le-barak
H-f.s thinks that-Z-f.s / the-H-f.s will-vote for-barak

The ungrammaticality of the examples in (6) can be explained as a binding theory violation. D-pronouns are subject to Principle C, as can be seen from the contrast between (6) and (8). In (8a) the preceding coreferential expression is embedded within a relative clause and cannot c-command the d-pronoun. Neither is the d-pronoun bound in (8b), in which the standard pronoun is object of the matrix clause:

(8) a. anaSim Se-mekirim $\mathbf{ota_i}$ tov ohavim et $\mathbf{zot_i}$ / $\mathbf{ha\text{-}hi_i}$
people that-know her well like Et Z-f,s / the-H-f,s
People who know her well like this one / that one
b. anaSim Se-mekirim et $\mathbf{zot_i}$ / $\mathbf{ha\text{-}hi_i}$ tov ohavim $\mathbf{ota_i}$
people that-know Et Z-f,s / the-H-f,s well like her
People who know this one / that one well like her

Similar facts obtain when the expression with which the d-pronoun is coindexed is a prepositional pronoun, in (9). Again, coreference between the d-pronoun and standard pronoun is grammatical only in the absence of c-command:

(9) a. ha-baxur Se-diber **ita$_i$** etmol batuax Se-**zot$_i$** / **ha-hi$_i$** hicbi'a le-barak
the-guy that-spoke to-her yesterday certain that-Z-f,s / the-H-f,s voted for barak
The guy who spoke to her yesterday is certain that this one / that one voted for Barak

b. ha-baxur Se-diber **im zot$_i$** / **ha-hi$_i$** etmol batuax Se-**hi$_i$** hicbi'a le-barak
the-guy that-spoke to-Z-f,s / the-H-f,s yesterday certain that-H-f,s voted for barak
The guy who spoke to her yesterday is certain that this one / that one voted for Barak

In addition, d-pronouns cannot be bound by quantifiers or function as resumptive pronoun, in (10a) and (10b):

(10) a. ***kol studendit$_i$*** xoSevet Se-**zot$_i$** / **ha-hi$_i$** tacbi'a le-barak
every student-f,s thinks that-Z-f,s /the-H-f,s will-vote for-barak

b. ***ha-matana*** Se-kiviti Se-**zot$_i$** / **ha-hi$_i$** tesame'ax otax
the-gift,f.s that-hoped.I that-Z-f,s / the-H-f,s will.please you

Examples (6) - (10) show, first of all, that *zot* and *ha-hi* pattern identically with respect to binding properties. Neither can be A-bar bound and both obey Principle C, in contrast to the standard pronominal which obeys Principle B and may function as bound variable and resumptive pronoun. This justifies classifying *zot* and *ha-hi* together, in a category distinct from standard pronominals.

I will argue, however, that evidence suggests that sensitivity to Principle C and the inability to be A-bar bound are not a single phenomenon. Given that these effects are discriminable, d-pronouns must be distinguished from standard pronouns on two counts, one determining BT status, and the other determining A-bar bindedness. The distribution of the French pronominal *ce* studied in Authier & Reed (1997) suggests that indeed two distinctions are required. Like d-pronouns, *ce* is subject to Principle C (example (18) in A&R):

(11) a. *Yannick$_i$ est convaincu que c$_i$'est un genie
Yannick is convinced that CE is a genius

b. Le vieux pecheur qui a eleve Yannick$_i$ est convaincu que c$_i$'est un genie
The old fisherman who raised Yannick is convinced that CE is a genius

c. Le vieux pecheur admire Yannick$_i$ parce que c$_i$'est un genie
The old fisherman admires Yannick because CE is a genius

(11a) is ungrammatical due to c-command of *ce* by the matrix subject, but in (11b) and (11c) no c-command obtains and coreference is possible. Unlike Hebrew d-pronouns, however, *ce* can function as bound variable and resumptive pronoun (the latter in colloquial French):

(12) a. Jean a reprimande [chaque voyou]$_i$ en public tout en laissant entendre que c$_i$'etait un mecompris en prive
Jean reprimanded every juvenile delinquent in public while implying that CE was just a misunderstood kid in private
b. Voila un prisonnier$_i$ que tout le monde il sait bien que c$_i$'est un cas perdu
Here is a prisoner that everyone knows that CE is a lost cause

The distribution of *ce* only partially overlaps with Hebrew d-pronouns. From this it can be concluded that the inability of Hebrew d-pronouns to be A-bar bound should not be directly related to their status as R-expressions; if it were, the examples in (12) would be expected to be ungrammatical, on a par with (10). In other words, d-pronouns are different from standard pronominals on two counts, and in section 2.3 an analysis is proposed in terms of the phi-features specified by the various nominal forms involved. D-pronouns possess a definiteness feature absent in standard pronominals, pronouns possess a person feature missing in d-pronouns[3]. Before proceeding further with the analysis I first show, in section 2.1, that morphosyntactic [definiteness] is present in the *Z* pronominal series, and in section 2.2 clarify what it means for some pronouns, but not all, to include [def] specification[4].

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[3]An alternative which will not be argued against directly concerns the internal DP-structure of the pronominal forms involved. Crosslinguistically, the DP-internal position of nominals seems irrelevant to their BT status - definite descriptions, for example, obey Principle C whether or not N^0 raises in the overt syntax and to what extent. See Wiltschko (2000) for the proposal that pronouns obeying Principle C are full DPs, pronouns obeying Principle B are AgrPs. See also footnotes 13, 14, and 24, for discussion of facts relevant to a structural analysis.

[4]Here and throughout, [def] is intended as a binary morphosyntactic feature whose value may be either plus or minus, 'morphosyntactic' because it is a sublexical ('morphological') entity with syntactic effects as will be demonstrated. The distinction therefore is between nominals which are specified for this feature in their morphological makeup, including both definites and indefinites, and nominals which do not have this feature as part of their morphological makeup, interpretation aside. See the discussion in section 2.2.

2 Internal Features and BT Classification

2.1 Feature composition in D-pronouns

We have seen so far that the two d-pronouns, repeated in (14), pattern identically with respect to A and A-bar binding, in contrast to personal pronouns. This justifies a syntactic classification which groups the two together, contrary to superficial similarities which would group *ha-H* d-pronouns with personal pronouns.

(13) **hi** avda
H-f,s worked-3rd,f,s
She / it worked

(14) a. **ha-hi** avda
the-H-f,s worked-3rd,f,s
That one worked
b. **zot** avda
Z-f,s worked-3rd,f,s
This one worked
c. ***ha-zot** avda
the-Z-f,s worked

The pronoun in (14a) transparently encodes a definiteness feature absent in the personal pronoun. Without precluding the possibility of additional derivative differences, I assume this to be the basic distinction between the two. Since the BT classification of *ha-H* as an r-expression is learnable, it must correlate with a visible property, and [definiteness] seems to be the only candidate available. Following Borer (1989), and independently supported in Siloni (1997) and Sichel (1999), I take *ha-* to realize a [def] feature as part of the inflectional make-up of the category N^0, whereby raising of N^0 to D^0or its specifier transports this feature, via checking, to a position from which it scopes over DP[5]. Now, if *ha-H* encodes morphosyntactic [def], and [def] is what subjects this

[5]The location of phonetically realized [def] features may vary (crosslinguistically, and within a language, see below) between D^0 and N^0, similar to variation in overt realization of Case features (as part of N^0, in D^0, sometimes both) and similar to fluctuations in the location tense morphology (sometimes within the V^0 complex and sometimes, as in Creoles, as a separate morpheme). I assume that abstract [def] in D^0 is

pronoun to Principle C, it follows that *Z* pronouns do too even though here the feature is not directly visible. In what follows I argue that the inventory of features in both pronouns is identical, including definiteness, number and gender.

Note first that *Z* d-pronouns, though they lack a prefix, must be morphosyntactically [+definite]. A definite prefix cannot attach to a *Z* pronoun, as in (14c), which makes sense if the d-pronoun already includes morphosyntactic [def][6]. Second, d-pronouns in object position require *et*, a marker of morphosyntactic definiteness in direct objects, shown in (17). *et* marking correlates with a morphosyntactic, not strictly semantic, notion of definiteness. In (15), the definite-marked universal quantifier requires *et*, the non-definite marked QP is incompatible with *et*; in (16) the overtly *ha-* marked demonstrative construction requires *et*, the non-*ha-* marked one is impossible with *et*:

(15) a. kvar niSakti et kol ha-yeladim
already kissed-I et all the-children
I already kissed all the children

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universal, and leave open whether abstract [def] is universally present on N^0 as well. See more on the distribution of [def] across N^0 and D^0 in section 2.2. See Ritter (1995) and Shlonsky (2000) for the view that Hebrew *ha-* is located in D^0.

[6]Raising a host of questions regarding *Z* in the demonstrative constructions in (i):

i. a. ani ohev et ha-yalda ha-zot
I like et the-girl the-Z.f.s
I like this girl
b. ani ohev (*et) yalda zot
I like et girl Z.f.s
I like this girl
c. ani ohev xamiSa yeladim elu
I like five children these
I like these five children

The possibility of prefixing *ha-* in the demonstrative construction (i.a.) suggests that the bare form in (i.b) is not morphosyntactically [+definite]. This is supported by the incompatibility of *et*, and the non-construct form of the numeral in (i.c), facts which nevertheless do not determine whether *Z* is [-def] or lacks the feature altogether. Pending further study of this construction, it seems plausible to take the compatibility with *ha-* as evidence that (i.b) lacks the feature, and more closely resembles the inflected copular Z forms studied in Sichel (1997) than d-pronouns.

b. kvar niSakti (*et) kol yeled
already kissed-I et every child
I already kissed every child

(16) a. dina baxra le-rina et ha-xulca ha-zot
Dina chose for-rina et the-blouse the-Z.f.s
Dina chose this blouse for Rina
b. dina baxra le-rina (*et) xulca zot
Dina chose for-rina et blouse Z.f.s
Dina chose this blouse for Rina

(17) a. kvar niSakti et ha-hi
already kissed-I et the-H.f.s
I already kissed that one
b. kvar niSakti *(et) zot
already kissed-I et Z.f.s
I already kissed this one

The d-pronoun in (17b) does not pattern with other semantically definite DPs which like it lack [def] marking by prefixation: the universal quantifier in (15b) and the demonstrative construction in (16b)[7]. This shows that *Z* d-pronouns do include a component, besides their definite semantics, which is not represented by *ha-* yet patterns with *ha-* marked expressions. I refer to this component as morphosyntactic [+def] - not strictly semantic, because not all semantic definites include it, as in (15b) and (16b), and not strictly morphological, because it is not associated with a unique morpheme (i.e. *ha-*). But it is visible to the grammar, shown by the distribution of *et*, hence the feature is

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[7]'Semantic definiteness' is used here informally, to highlight a discrepancy between the morphosyntactic notion relevant to the text discussion and and the notion relevant to other paradigms such as existentials:

i. yeS SloSa yeladim / me'at yeladim / kama yeladim ba-gina
are three children few children a few children in.the-garden
There are three children / few children / a few children in the garden

ii. yeS *kol ha-yeladim / *rov ha-yeladim / *kol yeled / *(ha-)yalda (ha-)zot ba-gina
are all the-children most the-children every child the-girl the-Z.f.s in.the-garden

As seen in (ii), the strong quantifier and demonstrative construction of (15b) and (16b) pattern with strong quantifiers and definites in the existential construction, as expected, and in this sense they pattern with definites semantically. The discrepancy between the type of definiteness relevant to existentials and the morphosyntactic notion developed in the text, however, is not directly relevant beyond the contrast given in (15)-(17), which shows that what *et* is sensitive to does not straightforwardly reduce to either semantics or visible morphology. Since nothing of what follows hinges on the *interpretation* of the [+/-def] feature I set this issue aside.

morphosyntactic, in the sense of Chomsky (1993) and (1995). I propose, then, that like *ha-H* and lexical nominals generally, *Z* d-pronouns do encode morphosyntactic [def], and in both d-pronouns the value of the feature is positive. Unlike other [+def] nominals, in *Z* the feature is represented within the stem, rather than by prefixation. While in *ha-H* [num] and [gen] are represented within the stem and [definiteness] is a prefix, a *Z* pronoun encodes [number] and [gender] inflectionally and [definiteness] in its stem, as is schematized in (18)[8]:

(18) a. ha-hi = ha + hi
"inflection" "stem"
[+def] [fem/sg]
b. zot = ze + ot
"stem" "inflection"
[+def] [fem/sg]

Motivation for the morphological analysis given in (18b) comes from independent cases in which the stem morpheme is attested. A bare, noninflected, form of *Z* occurs, in fact, in the thematic position of right-dislocated material, as in (19a)[9]. Bare *Z* is restricted to right-dislocation, as shown by the contrast with (19b)[10]:

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[8]See Borer (1996, 1999) for the claim that lexical construct nouns encode definiteness within the stem rather than by prefixation. If the above is correct, *Z* d-pronouns have obligatory construct morphology, unlike lexical nouns but similar to numerals. Numerals (without plural morphology, see Danon (1997)) obligatorily occur in the construct state when contained within a definite DP. The -t ending on the numeral in (ii) is a sign of construct morphology as shown in (iii):

i. asara yeladim
ten children
ii. aseret ha-yeladim
ten the-children
iii. malka / malkat ha-kita
queen queen of the class

From this perspective, construct morphology, though associated with possession in lexical nouns, does not imply possession or even a more abstract relation represented by genitive Case assignment; the possibility of genitive Case assignment when the construct is lexical must not be linked too directly to the morphological alternation in [def] realization per se.

[9]I set aside the expletive occurrence of bare Z since its syntactic position, feature composition, and hence relevance to the analysis of d-pronoun *Z* are less clear. Being an expletive, it is possible that it does not include [def] features, and at least some

(19) a. **ze** oved mecuyan, **ha-maxSev** Selax
Z-m,s works excellent the-computer-m your
It works excellently, your computer
b. ***ha-maxSev Selax, ze** oved mecuyan
the-computer your Z-m,s works-m,s excellent

Dislocation structures provide a good test for the non-inflected status of the *Z* stem because lack of agreement between the pronoun in argument position and the dislocated material is directly observable. Although both the pronoun and dislocated DP in (19a) are masculine singular and appear to agree, obligatory lack of agreement becomes evident when the dislocated element is not masculine, singular:

(20) a. **ze** nose'a mecuyan, **ha-mexonit** Selax
Z-m,s drives the-car-f your
It drives excellently, your car
b. ***zot** nosa'at mecuyan, **ha-mexonit** Selax
Z-f,s drives excellent the-car-f your

(21) a. **ze** ala me'a Sekel, **ha-mixnasayim** ha-ele
Z-m,s cost hundred shekel the-pants these
They cost a hundred shekels, these pants
b. ***ele** alu me'a Sekel, **ha-mixnasayim** ha-ele
Z-m,s cost hundred shekel the-pants these

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occurrences of expletive *Z* may be copular (see also fn. 6). With predicate nominals an inflected form surfaces :

i. zot hayta xucpa le-axer
Z-f,s was disrespect-f to-late
It was disrespectful to be late (from Doron, 1988)

ii. Etmol pagaSti baxur Se-lamad iti ba-yesodi.
Yesterday I met a guy who was in elementary school with me.
ze haya dani / *ze lomed axSav be-nu york
Z was dani / Z studies now in New York

The grammatical occurrence of *Z* in the context of (ii) strongly suggests a copular analysis, since intersentential anaphoric *Z* is severely restricted (see section 3 for discussion). See Hazout (1994) for the claim that expletive *Z* is in fact argumental.

[10]Suggesting that examples such as (19a) do not contradict the above claim that *Z* forms cannot function as resumptive elements. According to the LCA (Kayne (1994)) and developed in Sharvit (1996), right and left-dislocation are not mirror images, a view that is further supported by the restricted distribution of *Z* in dislocation. See Sharvit (1996) for arguments that the personal pronoun in Hebrew right-dislocation is not a resumptive pronoun.

(20) and (21) show that the form of *Z* in right dislocation does not vary with choice of dislocated material. Since a rule requiring agreement with a masculine singular dislocated DP and non-agreement with a feminine or plural DP seems highly implausible I propose that this instance of *Z* is [+definite] but unspecified for number and gender features, though homophonous, as is often the case, with a masculine singular form. In *ha-H* pronouns, in contrast, the stem is specified for [number] and [gender], and definiteness is inflectional. The prediction is that *ha-H* can shed [def] -- confirmed by the form of third person pronouns -- but not [num] /[gen]. An H pronoun in left and right dislocation, in contrast to *Z*, must match the features of the dislocated element:

(22) a. **ha-maxSev** Selax, **hu** oved mecuyan
the-computer-m your H-m,s works-m,s excellent
Your computer, it works excellently
b. **hu** oved mecuyan, **ha-mexaSev** Selax
H-m,s works-m,s excellent the-computer-m your
It works excellently, your computer

(23) a. **ha-mexonit** Selax, **hi** nosa'at mecuyan
the-car-f,s your H-f,s drives-f,s excellent
Your car, it drives excellently
b. **hi** nosa'at mecuyan, **ha-mexonit** Selax
H-f,s drives-f,s the-car-f your
It drives, your car
c. ***(ha-mexonit** Selax,) **hu** nose'a mecuyan (,**ha-mexonit** Selax)
(your car-f,s) H-m,s drives-m excellent (your car-f,s)

(24) a. **ha-mixnasayim** Se-kaniti, **hem** alu me'a Sekel
the-pants that-bought.I, they cost hundred shekel
The pants I bought, they cost a hundred shekels
b. **hem** alu me'a Sekel, **ha-mixnasayim** Se-kaniti
They cost a hundred shekels, the pants I bought
c. ***(ha-mixnasayim** Se-kaniti,)**Hu** ala me'a Sekel(,**ha-mixnasayim** Se-kaniti)
the-pants that-bought.I H-m,s cost hundred shekel the-pants that-bought.I

(23c) and (24c) are impossible, according to (18a), because [num] and [gen] in *H* pronouns exhaust its stem - there is no morphological residue beyond these features, unlike the situation with *Z* d-pronouns which contain a [+def] stem[11].

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[11]This still leaves open the question why a *Z* pronoun in right-dislocation must be

Further support for the claim that *Z* of right-dislocation is distinct from the homophonous masculine, singular d-pronoun is that the former is restricted to inanimates, but the masculine singular d-pronoun shows no such restriction[12]:

(25) a. ***ze** nos'e le-nu york, **ha-baxur Se-dibarti ito kodem**
Z going to new york, the-guy that-spoke.I to before
b. **ze** nose'a le-nu york
Z-m,s going to-new york
That one's going to New York

In other words, as soon as a dislocated DP is inserted into the structure, only the bare form is possible. (25a) is ungrammatical because only bare *Z* is licit in dislocation (20-21), and bare *Z*, unlike the homophonous d-pronoun, is limited to non-human or inanimate referents. Bare *Z* is also licensed without dislocated material and here too it is restricted to inanimates. Since right-dislocation is degraded with direct objects, direct object *Z* in non-dislocation environments allows us to test its [def] status. The contexts given in (26a) and (27b), with a non-agreeing antecedent, ensure that the pronoun is in

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non-inflected, as pointed out by M. den Dikken (p.c.). Interestingly, neither can *ha-H* pronouns occupy the thematic position in right dislocation unless the dislocated material is construed as an afterthought (the same goes for inflected *Z*, in (ii)):
i. ?? ha-hi alta li me'a Sekel, ha-xulca ha-cehuba
ha-H.f.s cost me hundred shekels, the-blouse the-yellow
That one cost me a hundred shekels, the yellow blouse
ii.?? zot alta li me'a Sekel, ha-xulca ha-cehuba
Z-f.s cost me hundred shekels, the-blouse the-yellow
This one cost me a hundred shekels, the yellow blouse
The fact that *ha-H* pronouns are no better than inflected *Z* in right dislocation (compared with the good *H* examples in (23) and (24)) indicates that the problem with inflected *Z* is not [num] and [gen] per se, but rather that the addition of these features creates a d-pronoun, and d-pronouns are impossible in right-dislocation constructions, as in (i) as well. The ban on d-pronouns in right dislocation seems to suggest some anaphoric connection, not of the resumptive pronoun type, between pronoun and dislocated DP, difficult to construe with d-pronouns given general restrictions on their anaphoric use (see section 3 for detailed discussion).

[12]I have no explanation of the source of this restriction. Note that individuation in this case is exactly the opposite of the human/animate restriction vs. flexibility pattern found with weak and strong pronouns: strong pronouns are restricted to human/animate reference, d-pronouns are flexible; weak pronouns are flexible, bare *Z* is restricted to inanimates.

fact bare *Z* and not the masculine singular d-pronoun[13]. Since *et* is required, in (26b) and (27b), bare *Z* must be [+def]:

(26) a. Dina: eyfo ha-**ma'amarim** Se-hiS'arti po?
where the-article.m.pl that-left.1st here
Where's the articles I left here?
b. Rina: kvar Salaxti ***(et) ze** le-dani le-nu york
already sent-1st et Z to-dani to-new york
I already sent it to Dani to New York

(27) a. Dina: at makira et ha-bdixa al adraba?
you know et the-joke.f.s about adraba
Do you know the joke about adraba?
b. Rina: zina kvar sipra li ***(et) ze** etmol
zina already told me et Z yesterday
Zina already told me it yesterday

From the non-agreement between the *Z* in the response and its antecedent in the question, this instance of *Z* is clearly the non-inflected sort seen also in the right-dislocation examples, and it requires *et*, a signature of morphosyntactic [+def]. If *Z* is morphosyntactically [+def], it follows that it includes a morphosyntactic [definiteness] feature.

In conclusion, the morphological analysis given in (18), together with the [+def] status of bare *Z* demonstrate that *ha-H* and *Z* d-pronouns are composed of the same set of morphosyntactic features, [def], [num], and [gen]. We can now conclude that from the point of view of grammar and grammatical mechanisms such as BT, the existence or absence of a particular feature is significant, and its particular morphological manifestation as prefix, suffix, stem is not. Morphosyntactic features are characterizable by their syntactic effects, the particular morphology of their realization being grammatically irrelevant. In what follows *ha-H* and inflected *Z* pronouns will be treated as identical in the relevant sense, i.e. morphosyntactically.

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[13]Thanks to M. den dikken for pointing out the potential ambiguity.

2.2 The Pronoun / Definiteness relation

The claim that certain pronominals are [+def] raises a general question regarding the relation of pronouns to definite articles, and requires clarification given the significance of [def] in the analysis which follows. Studies of pronominal structure within the DP-hypothesis framework have often argued, following Postal's (1966) lead in *On the So-called Pronouns in English*, that there is a class of pronouns that is identical to the definite article (the class of Romance/Germanic clitics in Cardinaletti (1994), Uriagereka (1995); Ritter (1995) and Shlonsky (1997) for Hebrew first and second pronouns; Koopman (1999) for French clitics and a class of Welsh pronouns, among many others). Given the characterization of d-pronouns as including a positively set [def] feature, it becomes important to restrict the sense in which clitics and definite articles are 'identical'. Otherwise, if definite articles are specified [+def], as is reasonable to assume, and clitics are identical to articles, the prediction would be that clitics, like d-pronouns, are subject to Principle C, but they are not. In other words, if it is correct to take some pronouns to be like articles, that similarity must now be further analyzed to avoid incorrect predictions.

Postal (1966) says that pronouns are underlyingly definite articles. The gist of the proposal is that pronouns are like definite articles in the sense that they could in principle occur with a nominal element, but N^0 happens to be elided whenever the article surfaces as *you, she, they,* etc. The claim, in other words, is that pronouns, nominal in some sense, do not occupy the position of lexical nominals. They occupy the position of articles. Updating to DP terminology, some pronouns occupy the same position as determiners, namely D^0. Needless to say, approaches that distinguish classes of pronouns along these lines -- D^0 pronouns vs. N^0 pronouns -- have proven fruitful for the study of pronominal DPs. All these approaches capitalize on *categorical* identity between (some) pronouns and articles.

An early response to Postal (1966) is Sommerstein's (1972) *On the So-called Definite Article in English.* Sommerstein argues the opposite -- that the proper characterization and direction of analogy in the pronoun-article relationship is the reverse of Postal's proposal - pronouns are NPs and the English definite article, underlyingly pronominal, is also an NP. Both Postal and Sommerstein are attempts to reduce pronouns and articles to one; in DP-terminology the issue translates into height: if articles are basic, and pronouns are like articles, pronouns are functional and generated high; if pronouns are basic, and articles are like pronouns, articles are generated low[14]. From Sommerstein's perspective, the question is not why pronouns cannot, generally, be followed by instances of N^0, but why articles, as instances of full NP, can ever be followed by N^0 and why in English they must. As initial motivation for the idea that the English requirement for post-article (i.e. post-'pronominal') nominal material is the exception, Sommerstein notes that that requirement is not universal. The following examples are cited:

(28) a. hoi peri Kleona
the around Cleon
the associates of Cleon
b. hoi ekei
the there
the people there (=those there) (Attic Greek dialect, 400 B.C.)

The morpheme translated as an article functions in Attic Greek as a pronoun, in the sense that it is interpreted referentially and need not be followed by a lexical noun. This raises the possibility that indeed the pronominal function of certain articles is related to their status as full NP. Updating again to current terminolgy, the article in (28) must exhaust a full NP; since this NP can also be followed by lexical material, and an NP distinct from

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[14]In the pre-DP terms of this debate the assumption that pronouns are instances of head N^0 is straightforward. This is the possibility considered here, that certain pronoun-articles are N^0, but within an articulate DP structure such that pronoun-raising of N^0 into DP's functional domain is available, giving more than a two-way distinction: pronoun generated in D^0, pronoun generated in N^0, N^0 pronoun raised to D^0. See footnote 16 for possible consequences.

the head noun may only occupy specifier position within NP, articles must in general occur in specifier position. Applying to Sommerstein's analysis the line of reasoning that has been applied to Postal's gives the result that some articles occupy NP (the 'pronominal' variety), but probably not all articles are so positioned.

Now the notion 'NP article' requires clarification. If articles, like pronouns, are NPs, in what sense are they still articles? At this point it may begin to seem as if the two views are mutually exclusive -- why not now characterize Romance clitics as articles that may exhaust NP -- as NP articles sitting in spec NP/DP -- rather than take English pronouns to be articles (occupy a higher position than lexical nouns)? Or the reverse - why not take Greek articles and all pronouns to occupy D^0? The question is whether '*he* is an article' and '*the* is a pronoun' are empirically empirically distinguishable, or more modestly, whether the facts on which the claims are based are distinct. And it seems that they are, the pronoun-articles used to typify these analogies being quite different. The ability to be modified, as in (28), attests to a similarity between Attic Greek articles and lexical nouns; the ability to occur with lexical nouns, Postal's evidence, attests to the similarity of pronouns to articles. But Romance clitics cannot generally be directly modified, and Greek articles, unlike Romance clitics, cannot occur bare, with neither lexical N^0 nor modifying material. If it is correct that these phenomena are indeed distinct, then the pronoun-article relation operates on two dimensions. Following Cardineletti (1994) and Uriagereka (1995) I assume that Romance clitics are instances of D^0 - they are identical to articles in syntactic category, and other pronouns are not. By the same token, some articles are in D^0, but others -- Sommerstein's articles -- are low, instances of N^0. But if Greek pronominal articles are indeed N^0s, in what sense are they articles - what do they share with other D^0 articles? Here the similarity of pronouns to articles can be understood in terms of identity in morphosyntactic feature, rather than category - an N^0 article is an N^0 specified for [def], possibly [num] / [gen] as well.

From this perspective, no direct BT prediction is made with regard to Romance clitics - they are not expected to obey Principle C because unlike d-pronouns they do not

possess [def] features[15]. D-pronouns, on the contrary, are claimed to be similar to Greek pronominal articles, both being specified for [def]. The similarity is observable in the acceptability of d-pronouns with various types of modifiers, in contrast to standard personal pronouns (and most Romance clitics)[16]:

(29) a. *hi Se-dibra iti
H-f.s that-talked to-me
b. zot / ha-hi Se-dibra iti

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[15]With consequences for the D^0 system well beyond the scope of this discussion which here can only be sketched out (in the system of MP chapter 4): if indeed French articles and pronominal clitics are identical, then if the clitic lacks [def], as in the text, so does the article. Assuming this to be correct, it follows that [def] is a feature of the syntactic node D^0 and it must be [+INT]; from this perspective the article/clitic checks only [num/gen] in D^0. This raises the question how does D^0 associated with lexical material come to be associated with [def], an association precluded with the D^0 which hosts pronominal clitic. Assume that D^0 of pronominal clitics is indeed intrasitive - then the correlation is between a [def] D^0 and an accompanying N^0 (related to the speculation in fn. 5 about [def] on N^0). The correlation can be cashed out either as subcategorization as with transitive V^0 and accusative Case features - only a D^0 which selects N^0 has [def]; or else [def] originates in N^0 and raises from N^0 to D^0, as part of category movement in Hebrew, as abstract FF movement in a language like French. The general idea that [def] is associated with a syntactic node and is not part of the content of the article recalls proposals which structurally distinguish the position of definite and indefinite articles, as in Perlmutter (1971) and more recently Zamparelli (1996).

[16]I leave open the analysis of (28)-(31) which most likely requires a structural implementation of [def], the main point being that even if structure and not only morphosyntax is involved, d-pronouns fall on the side of Greek pronominal articles. At the same time, d-pronouns differ from Greek articles in that they do not *require* modification, highlighting a question regarding obligatory modification (see also French *celui*) - what requires it? If it can be shown that pronouns requiring (not simply allowing, as in Norwegian (Hestvik, 1992)) modification remain in N^0, the modifier requirement may be related to features of D^0, modificational XPs being able to check features which remain unchecked when there is no article in D^0 (as there is with lexical nouns) and the N^0 pronoun remains in-situ. This would give the correct result that a Hebrew D^0 head of DP with *raised* d-pronoun does not require an XP modifier.

Regarding the possibility of modification - what allows it with some pronouns and disallows it with others - it is possible that structural height plays a role here too. If modification involves a structural relation between a modifying head and a less-than-DP constituent, its D^0 layer external to modificational XP (as in Kayne (1994), Simpson (1998), and many others) we come closer to an explanation of restrictions on modification of DP-high elements, if it can also be shown that XP-external D^0 imposes restrictions not present when D^0 is NP-contiguous.

Z-f.s / the-H-f.s that-talked to-me
The one that talked to me

(30) a. *hi Sel rina
H-f.s of rina
b. zot / ha-hi Sel rina
Z-f.s / the-H-f.s of rina
The one that belongs to Rina

(31) a. *hi im ha-camot
H-f.s with the-braids
b. zot / ha-hi im ha-camot
Z-f.s / the-H-f.s with the-braids
The one with braids

Taken with existential scope, Postal's and Sommerstein's views turn out to be compatible. The combination of the two is empirically motivated and produces a three way distinction: there exist pronouns which are similar to determiners in syntactic category (clitics), and there exist pronouns which are similar to articles in morphosyntax (N^0 articles, d-pronouns). In addition, there are pronouns which are not at all like articles, the class of independent pronouns, neither functional in category nor [+def] in morphosyntax[17].

2.3 Phi-features and BT Categories

Having established that the *Z* d-pronoun variety is morphosyntactically identical to *ha-H* (it is [def] specified), and that not all pronouns are necessarily identical to articles in this sense, we turn to analysis of the R-expression status of d-pronouns. The basic paradigm is repeated in (32) and (33):

(32) a. **hi**$_i$ xoSevet Se-**hi**$_i$ tacbi'a le-barak
H-f.s thinks that-H-f.s will-vote for-barak
She thinks she will vote for Barak
b. ***hi**$_i$ xoSevet Se-**zot**$_i$ / **ha-hi**$_i$ tacbi'a le-barak

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[17]Independent pronouns are non-clitic personal pronouns, such as the pronouns Cardinaletti (1994) claims are in N^0, or the non-clitic 'weak' and 'strong' pronouns discussed in Cardinaletti & Starke (1999), for example the French moi/toi/lui/elle series, as opposed to clitic me/te/le.

H-f.s thinks that-Z-f.s / the-H-f.s will-vote for-barak

(33) a. anaSim Se-mekirim **ota$_i$** tov ohavim et **zot$_i$ / ha-hi$_i$**
people that-know her well like Et Z-f,s / the-H-f,s
People who know her well like this one / that one
b. anaSim Se-mekirim et **zot$_i$ / ha-hi$_i$** tov ohavim **ota$_i$**
people that-know Et Z-f,s / the-H-f,s well like her
People who know this one / that one well like her

A standard personal pronoun, in (32a) may be bound from outside its governing category, as expected, but a d-pronoun may not, as in (32b). (33) shows that the ungrammaticality of (32b) must be a Principle C effect, since d-pronouns may be covalued with pronouns as long as they are not bound: in (33a) the pronoun within a relative clause does not c-command the d-pronoun in matrix object position, and neither does the pronoun in matrix object position c-command into the relative clause in which the d-pronoun is situated in (33b).

The existence of pronominal forms which do not fall under Principle B is not an unfamiliar phenomenon. As is well known, Romance and Germanic languages possess morphologically similar pronominal forms which nevertheless do not obey the same BT principles. SE clitics are anaphors, but (for example, French) *me*, *te*, and *le*, clitics as well, obey Principle B. Beginning with Burzio (1991) the contrast has been accounted for in terms of referential deficiency of SE clitics, which in turn correlates with phi-feature inventory. The consensus reached is that SE anaphors encode fewer features than pronominal clitics, from which their anaphoric status derives[18,19].

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[18]The precise characterization of SE impoverishment differs in detail. Burzio (1991) proposes that SE is radically impoverished, Reuland & Reinhart (1995) that SE anaphors are referentially deficient due to unspecification for number/gender features, Kayne (2000) that the morpheme *S* is unspecified for number, this property being a necessary condition for anaphoric status.

[19]Obviously a gross oversimplification, overlooking the existence of complex anaphors of the pronoun + self/meme/bodypart type which do encode a full inventory of phi-features within the pronominal component. See Safir (1996), for example, for the claim that variation in locality restrictions on SE/SIG forms vs. relative steadiness of complex forms merits separate treatments, according to which the former may be reduced to an agreement relation together with constraints on movement, but the latter fall under an irreducible Principle A which includes reference to accesible subjects. For the immediate point in the text the possibility that at least some anaphors and some

In this section it is proposed that pronominals and R-expressions be distinguished along similar lines, in terms of feature inventory. However, in contrast to previous proposals regarding anaphors, the present analysis does not attempt to derive BT status -- the requirement for referential disjointness within a local domain vs. the requirement for referential disjointness from all c-commanding DPs -- from feature specification. Nor does it directly relate feature inventory to referential properties such as referential deficiency (the requirement for an 'antecedent') and autonomy. This is because the referential status of a pronoun, unlike that of an anaphor, depends on its use: a standard pronoun may be used 'demonstratively' in which case it is referentially autonomous -- similar to d-pronouns -- or not. Similarly, definite descriptions may be used anaphorically, as epithets, or not. Yet Principles B and C, at least under standard assumptions, discriminate expression types, not tokens of use[20]. Referential status, here dependent on use, therefore seems not to be individuated by Principles B and C. The class of pronominals and the class of R-expressions, unlike the class of anaphors, do not easily map onto distinct referential types. Hence, a direct correlation between features and referential status from which the relevant binding principles might be derived seems rather hopeless[21]. Setting aside the relation between referentiality and BT category, and continuing to assume that BT categories discriminate expression types not tokens, it is still worth considering whether the classic LGB [+/- pronominal] feature, or [+/- R] feature (as in Lasnik, 1991) are replaceable by grammatical features independently

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Principle A effects reduce to phi-feature inventory is sufficient, as it its invoked as a precedent for the idea that phi-inventories are relevant to binding phenomena and binding-theoretic class distinctions.

[20]The empirical issue, difficult to judge, is whether there exists a contrast between the following, in which upper case indicates 'demonstrative' use:

i. HE_i thinks he_i will win

ii. he_i thinks HE_i will win

If BT is sensitive to use, (ii), with backwards anaphora, should be substantially worse than (i) (on a par with *he_i thinks $John_i$ will win), the result of a Principle C violation.

[21]See Demirdache (1997) for the view that GC-external Principle C effects discriminate interpretive properties of DP. On that view presuppositional DPs are subject to a disjointness requirement but non-presuppositional DPs freely allow coreference anaphora.

required by the grammar such as [person] and [definiteness], and what such a replacement may imply.

Assuming with the proposals mentioned above that (at least some) anaphors are characterizable by phi feature deficiency, the issue regarding pronominals and R-expressions can be broken down into three subquestions:

(34) a. Are there two independent criteria for membership in the class of pronominals and R-expressions, each defined positively, or is one class defined as the residue of the other?
b. Can pronominals be defined positively, as possessing some feature, R-expressions as the residual class, or is it the other way around?
c. If the latter, and R-expressions are definable, is it by lexical content or grammatical feature?

A negative reply to (34a), which I will assume, represents the minimal assumption that a single criterion defines membership in one class, and the other class is defined by default. Turning to (34b), I will assume, following (Ritter, 1995), that H pronouns, being personal pronouns, encode person features[22], and that d-pronouns encode [definiteness], transparently represented on *the-H* forms. The question in (34b) then is whether inclusion of [person] distinguishes pronominals, or [definiteness] distinguishes R-expressions. It is unlikely, however, that [person] discriminates the BT status of pronominals, especially if SE anaphors may or do specify person features, as argued in Reinhart & Reuland (1995) and Kayne (2000). Another piece of evidence highlighting the irrelevance of [person] for A-binding is provided by Lebanese Arabic anaphoric epithets.

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[22]See Ritter (1995) and Shlonsky (1997) for a theory about the specific location of person features, according to which the H pronoun itself encodes only num/gen features, and person features are provided by a null morpheme in D^0. On that analysis, the morphological detachability of person from H explains why H can be prefixed by *ha-*, [person] and [definiteness] being complementary in D^0. The present analysis also takes [person] and [definiteness] to be in complementary distribution, though both features are inflectional components of (possibly pronominal) N^0. For present purposes, the precise location of [person] features in an H DP is immaterial.

The distribution of Lebanese Arabic anaphoric epithets shows that [person] has no effect on A-binding, though it does allow A-bar binding. An epithet in this language may function as bound variable or resumptive pronoun when prefixed by a morpheme (*ha-)* which encodes person features (from Aoun & Choueiri, 2000)[23]:

(35) a. **l-walad** yalli zeena SahaTit ***(ha-)l-mazduub** men l-madrase harab
the-boy that Zeina kicked 3rd-the-idiot from the-school ran away
The boy that Zeina kicked the idiot out of school ran away
b. l-m?allme ma ba?atit **wala walad** ?end l-mudiira ?abl ma tnabbih
***(ha-)l-maS?uum** ?an l-?aSaaS
the-teacher neg sent no boy to the-principal before neg warn
3rd-the-unlucky about the-punishment
The teacher didn't send any boy to the principal before warning the unlucky one about the punishment

Crucially, the addition of a person feature by prefixation has no BT effect. The anaphoric epithet, an R-expression, does not, as a result, switch to pronominal status. It cannot be c-commanded by a coindexed expression:

(36) ***Layla**$_i$ fakkarit ?enno **ha-l-mazduube**$_i$ rahtes?ut
Laila thought that 3rd-the-idiot will.fail

The distribution of person-specified anaphoric epithets suggests therefore that person features are relevant to A-bar binding (or more broadly to Dependency in the sense of Fiengo & May (1994)), as argued in Aoun & Choueiri (2000)[24]. But the class of elements that can be A-bar bound does not align neatly with a BT category, since reflexives, reciprocals, anaphoric epithets and *ce* may be A-bar bound. Person features therefore cannot be a sufficient condition for pronominal BT status. Since the remaining grammatical information encoded by personal pronouns, their number and gender

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[23]Lebanese *ha-* must be kept distinct from Hebrew *ha-*, though a diachronic relation seems likely.

[24]The analysis in Aoun & Choueiri is more finegrained than suggested above. Comparing the *ha-* morpheme in Lebanese demonstratives with the *ha-* morpheme in Morrocan demonstratives, A&C show that the *ha-* which induces bound variable interpretation in epithets is necessarily associated with demonstratives that allow anaphoric uses. The relation between discourse anaphoricity and bound variable interpretation will not be further pursued.

features, are also found in d-pronouns and r-expressions generally, pronominals cannot be defined positively, and R-expressions must be.

The fact that d-pronouns (and French *ce*) are subject to Principle C shows that descriptive content cannot be a necessary condition for R-expression status. As far as I know this has never been argued for, but it has sometimes been assumed[25]. The analysis in Authier & Reed takes the problem to be that *ce* is an R-expression for proper name antecedents, and a pronominal for definite descriptions and quantificational antecedents. A quantifier binding *ce* cannot be "too close" to it (example (23) in A&R)[26]:

(37) a. *Quand un chercheur$_i$ pretend / regrette que c$_i$'est un genie, il ne faut pas le croire
If a researcher contends / regrets that CE is a genius, don't believe him
b. Quand un chercheur$_i$ pretend / regrette qu'on trouve que c$_i$'est un genie, il est atteint de megalomanie
When a researcher contends / regrets that people think CE is a genius, he exhibits megalomanic behavior

Following Lasnik (1991) A&R assume that there is a class of expressions that obey Principles B and C (have the features [+p, +r]) and claim that *ce* belongs to this class. Binding *ce* by a quantifier has the effect of eliminating the [+r] feature of *ce*. Elimination of [+r] is subject to the following condition:

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[25]Higginbotham (1983) proposes to reduce Principle C to the interpretive condition in (i):
i. The interpretation of an expression is given in one and only one way
which implies that since the interpretation of r-expressions is given by their lexical content, it follows that they cannot tolerate antecedents. In other words, r-expressions are assumed to be distinguished by their lexical content, from which their distribution follows. Besides the fact, discussed above, that for both pronouns and descriptions mode of interpretation varies with use and seems not to be consistent with expression type, the problem with (i) is that it fails to account for all the grammatical cases ruled in by Principle C, unless 'antecedent' is defined syntactically by c-command. But then (i) begs the question: why is a syntactic notion like c-command relevant to the interpretive autonomy of r-expressions such that non c-commanding 'antecedents' somehow wouldn't count? See also Freidin (1997) for a recent reformulation within Chomsky's index-free approach to BT which faces a similar problem.

[26]The definition of the antilocality constraint is taken from Aoun (1986):
Condition B':
An overt pronoun cannot be bound by a quantificational NP in the minimal clause or NP containing this pronoun and a c-commanding subject.

(38) *Condition on BT Feature Value-Switching*
In the case of an expression of type [+p, +r], LF binding by a quantificational expression switches the value of the [r] feature from plus to minus iff the expression bearing [+p, +r] lacks 'lexical content'.

(39) *Definition of Lexical Content*
A nominal expression has lexical content if it has inherent semantic content beyond that provided by it phi features

Thus, the [+r] feature may be eliminated from *ce* but not from anaphoric epithets since only the former lack lexical content.

The condition stated in (38) refrains from explicitly identifying [r] with 'lexical content'. It only says that [+r] is necessary when lexical content is present and not necessary if lexical content is not present. This analysis of *ce* explains why it can switch and why the switch is to pronominal, but fails to explain what makes *ce* [+r] in the first place.

Given the fact that d-pronouns and *ce* are subject to Principle C, the criterion for membership in the class of R-expressions cannot be 'lexical content'. The property shared by d-pronouns, anaphoric epithets, definite descriptions and names is a value for a definiteness feature, positive or negative. I propose, then, that R-expressions be defined as possessing this feature[27]. The class of BT pronominals, from this perspective, is a

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[27] It seems likely that *ce* too obeys Principle C for this reason. Some motivation for the view that *ce* realizes morphosyntactic [def] is provided by the fact that inflected *ce* makes a demonstrative modifier, and *ce* + independent pronoun makes a near equivalent of a d-pronoun:

(i) a. ce chapeau; cette chemise; ces chapeaux; cettes chemises
this hat (m.s) this blouse (f.s) these hats these blouses
b. celui / celle / ceux / celles de Jean
the one (m.s) (f.s) those (m.p) those (f.p) of John

A fuller analysis of French *ce* as encoding morphosyntactic [def] is beyond the scope of the present discussion, but a few comments are in order to avoid confusion. First, note again that morphosyntactic [def] does not in and of itself determine interpretation: the demonstrative modifiers in (i) may be used deictically, but the pronominals in (ii) may not and seem to contribute to the associated XP modifier only referential presuppositionality / uniqueness. Picking up from fn. 15, the difference between French *le* and *ce* is that the former lacks and the latter realizes [def] morphosyntax. Continuing with the thread of the hyposthesis that [def] comes to be associated with D^0 via N^0, [def]

residual, undefined, class[28]. It includes nominals which are neither impoverished with respect to some phi-feature (not anaphors), nor specified for [definiteness] (not R-expressions)[29].

The behavior of Thai epithets, as discussed in Lasnik (1989), further clarifies the default status of expressions subject to Principle B, and the necessary condition imposed by [def] (DP is an R-expression if it is [+/-def]). Compatible with the claim that [+/-def] subjects nominals to Principle C, Thai epithets show that inclusion of [+/-def] does not prevent a nominal expression from obeying Principle B as well. Principle C effects show up in Thai only with pronominal antecedents, revealing a distinction masked in most languages. Anaphoric epithets are subject to Principle B, hence may be bound external to their GC, in (40c). They are also subject to Principle C, effective with a pronominal antecedent, in which case binding from outside their GC is impossible, in (41):

(40) a. *coon choop khaw
John likes him
b. *coon choop ?aybaa
John likes the nut
c. coon khit waa ?aybaa chalaat
John thinks that the nut is smart

(41) *khaw khit waa ?aybaa chalaat
He thinks that the nut is smart

---

ce of (ii) is an N° pronominal. If *ce* like French N° generally fails to raise as high as D° an explanation for obligatory modification may be available along the lines sketched in fn. 16 - D° has a feature which can only be checked by an XP modifier when the relevant feature fails to raise from N° to D°, and realization of this feature as *ce* precludes the type of abstract feature raising available when N° is lexical and the feature is phonetically null.

[28]See Hoji (1995) for a similar conclusion on independent grounds.

[29]Personal pronouns, referred to at times as 'definite pronouns' (Bloomfield, 1933) are not necessarily *morphosyntactically* definite as discussed in section 2.2. This use of 'definite' may be relevant to an opposition in presuppositionality between personal pronouns (and generic pro) and indefinite pronouns such as French *on*, existential pro, etc. I will assume that these *interpretive* differences are tangential to the morphosyntactic effects discussed in the text and that they are best handled by the syntax of scope in the spirit of Condoravdi's (1989) Mapping Hypothesis treatment of existential vs. generic pro.

While Principle B effects of R-expressions are usually subsumed under Principle C, these effects are discernable in Thai. The contrast between (40) and (41) suggests at the very least that some [def] expressions are also subject to Principle B, whether or not Thai epithets are representative of R-expressions generally. In Lasnik's system the dual nature of epithets is captured by assigning epithets the feature composition [+p, +r], but in the present system such features are unavailable; furthermore, [person], which might have been thought to correlate with Lasnik's [+pronominal] was shown to have no A-binding effect and no binding-theoretic significance. So in terms of the present analysis (40) and (41) actually force the stronger conclusion, that [definiteness] does not prevent a nominal from obeying a Principle other than C, extending most likely to r-expressions generally. That [def] does not subject an expression to Principle C exclusively is actually commensurate with the previous conclusion that pronominals are an undefined BT class, 'pronominal' now understood -- more broadly -- as the class of elements falling under Principle B: personal pronouns but also epithets and possibly other [+/-def] nominals as well. Nothing defines this class beyond their display of 'non-impoverished' phi-feature inventory[30]. And [def] features, from this perspective, impose only a necessary condition: a nominal expression is subject to Principle C if it is specified for [def].

The picture of BT categories emerging from the analysis is as follows. All nominal epressions are subject to Principle B unless they must be locally bound, and in addition, [+/-def] subjects a nominal to Principle C. This suggests that the three binding principles actually cover distinct empirical domains: forced coreference vs. forced disjointness imposed on the complement of anaphors, and a more stringent requirement for disjointness imposed only on [+/- definite] nominals[31]. The first part of the picture is identical to the classification given in Reinhart & Reuland's (1993) reformulation of BT

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[30]Or lack of a relational meaning atom, along the lines of Safir (1996).

[31]The division originally argued for in Reinhart (1983). See also Grodzinsky & Reinhart (1993), Hoji, (1995), and Demirdache (1997) for different accounts of Principle C effects and its relation to Principles A and B.

in terms of reflexive marking. Their Condition B says that a non-reflexive DP – a pronoun or r-expression – cannot mark a predicate as reflexive, from which disjoint interpretation internal to GCs defined as CFCs follows. Assuming with Reinhart & Reuland (1993) that GC internal disjointness effects derive from the interpretation of reflexive marking, the disjointness effect imposed by the residue of Principle C – its GC *external* effects – must have a distinct explanation since its domain is not reducible to the notion of CFC. Here it is proposed that the residue is syntactic, mediated by [definiteness][32].

The above analysis treats Principle B as independent of the nominal expressions that fulfill it, in contrast to explanatory approaches to Principle A which *derive* the condition from properties of the class of expressions to which it applies, i.e. anaphors. Principle B exists, and because the class of 'pronominals' is heterogeneous its content could not conceivably be derived from the class of elements to which it applies. According to the Reflexivity approach, both the content of this principle and the class of elements within its scope follow from formal constraints on reflexive interpretation.

With respect to r-expressions, I have tried to define class membership without eliminating Principle C as such - no attempt has been made to explain why morphosyntactic [def] features do not tolerate binding. The question is whether Principle C could be thought of as reducible to properties of the expressions to which it applies, along the lines of a derived Principle A. The analysis of pronominals and the scope of Principle B have revealed so far that the scope of Principle C is clause/GC/CFC external, that the disjointness it imposes is unrelated to the disjointness imposed by Principle B, and that it applies to expressions defined by morphosyntactic, as opposed to referential, properties. In other words, if there is a deeper principle underlying Principle C effects, it applies only to [def] expressions, and the possibility that Principle B also applies to these expressions is an independent phenomenon. So in fact a reduction of Principle C to

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[32]See Demirdache (1997) for the proposal that GC-internal Principle C effects are subsumed under Principle B, and a syntactic account of the residue of Principle C as Strong Crossover effects created by QR of presuppositional DPs.

another mechanism sensitive to [def] does seem reasonable and it looks as if this mechanism must be different in nature from the interpretive mechanisms underlying Principles A and B[33]. I leave open for future work the precise nature of this mechanism and its relation to [+/-def][34].

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[33]The conclusion that Principle C effects have a distinct source squares well with binding asymmetries between Principles A/B vs. C. These are seen most clearly in the domains of scrambling / object shift and relative clause reconstruction. As is well known, Object scrambling or pronoun movement across a subject does not license subject anaphors, but it does induce Principle C violations. At the same time, anaphors within relative clause heads do show reconstruction effects, but R-expressions do not:
i. The picture of herself$_1$ that Mary$_1$ saw on the wall was flattering
ii.The picture of Mary$_1$ that she$_1$ saw on the wall was flattering

[34]See Wiltschko (1999) for the proposal that only R-expressions, including German and Halkomelen d-pronouns, are DPs, that standard personal pronouns are less than full DPs, and that BT is sensitive to the category label of XP. While certainly a plausible structural implementation of morphosyntactic [+/-def], independent facts are required to determine whether Hebrew d-pronouns are full DPs as opposed to personal pronouns which are not. For example, it remains unclear whether the modification facts and sketched analysis alluded to in fns. 15, 16 and 27, reveal only variation in position internal to DP - in which case all pronouns are contained within full DP, the minimal hypothesis - or whether they also merit conclusions regarding the category of maximal XP containing a pronoun (see for example Ritter (1995) who positions personal pronouns in a position lower than D^0 yet contained within a DP with phonetically null D^0). Pending a more developed theory of DP-internal modification I leave the structural implications of [def] to future work.

3 D-pronouns and Identity

3.1 D-pronouns and Covaluation

The referential nature of d-pronouns is not fully captured by Principle C. If it were, a d-pronoun would be expected to be able to freely corefer with other expressions as long as there is no c-command[35]. Facts presented in this section show that coreference is not free in the absence of c-command, and depends in part on the type of nominal with which the d-pronoun is construed. In particular, an anaphoric connection between a d-pronoun and non c-commanding name or definite description is much more restricted than an anaphoric construal of a d-pronoun and non c-commanding personal or reflexive pronoun, which are always possible. This leads to the conclusion that the grammar precludes an anaphoric interpretation of d-pronouns. The characterization of this restriction is then developed in terms of the framework of indexation of Fiengo & May (1994) and (1998): d-pronouns cannot be coindexed with names and descriptions because they are not occurrences of the same expression as any name or description. A number of potential counterexamples which do seem to involve anaphoric d-pronouns are discussed, and these are claimed to involve pragmatic coreference, not coindexation. The discussion of these cases, which include a discourse defined anti-locality constraint on coreference and a discourse strategy which allows coreference, takes them as evidence for conditions on pragamatic coreference, supporting the basic distinction made in F&M between coreference by virtue of grammar (=coindexation) and pragmatic coreference which is not represented by index identity.

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[35] For expository reasons the term 'coreference' and actual coindexation are used in a pre-theoretic sense to indicate covaluation. See discussion below for difference between covaluation by virtue of grammar (represented by coindexation) and pragmatic covaluation (represented as 'not-coreference' in F&M's terms).

The basic restriction to be accounted for is that coreference between a d-pronoun and a non-commanding name or definite description is generally impossible, as in (42) and (43):

(42) a. ha-anaSim Se-mekirim et **rina$_i$** tov ohavim **ota$_i$** /***et zot$_i$** /* **ha-hi$_i$**
the-people that-know Et rina well like her / Et Z-f,s / the-H-f,s
The people who know Rina well like her
b. ha-anaSim Se-mekirim **ota$_i$** /***et zot$_i$** / ***ha-hi$_i$** ohavim et **rina$_i$**
the-people that-know her / Et Z-f,s / the-H-f,s love Et rina
The people who know her well like Rina

(43) a. ha-anaSim Se-mekirim et **ba'alat ha-bayit$_i$** tov ohavim **ota$_i$** /***et zot$_i$** /* **ha-hi$_i$**
the-people that-know Et the landlady well like her / Et Z-f,s / the-H-f,s
The people who know the landlady well like her
b. ha-anaSim Se-mekirim **ota$_i$** /***et zot$_i$** / ***ha-hi$_i$** ohavim et **ba'alat ha-bayit$_i$**
the-people that-know her / Et Z-f,s / the-H-f,s love Et the landlady
The people who know her well like the landlady

In (42a) the name is embedded within a relative clause and does not c-command the d-pronoun in matrix object position. A coreferent standard pronoun is grammatical, but an anaphoric interpretation of the d-pronoun is not[36]. Precedence does not seem to play a role in these cases; (42b) with the d-pronoun preceding, and again not c-commanding the name, is still ungrammatical. The examples in (43) show the same restriction between a d-pronoun and a non c-commanding definite description. Crucially, the restriction on coreference seen in these examples falls beyond the domain of Principle C since no c-command is involved.[37] And more generally, the pattern in (42) and (43) is not

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[36]The discussion of these examples is restricted to 'intended coreference'. A scenario in which the speaker is not aware that the reference of 'zot' = the reference of 'rina' is always possible, and I will assume that in such utterances the two expressions are indeed not coindexed. Accordingly, (i) with a potential Principle C violation seems no worse than (41) when coreference is not intended:
i. zot hichira Se-dina lo macbi'a le-barak
Z-f.s declared that-dina neg vote for-barak
This one declared that Dina was not voting for Barak
See below for further discussion of anaphora without coindexation.

[37]Suggesting that Principle C should not be understood interpretively, as a restriction on having an antecedent (as in Higginbotham (1983) and Freidin (1997) discussed above),

reducible to any rule at the level of sentence-grammar, since it holds across sentences as well:

(44) a. pagaSnu etmol et **rina$_i$**. **hi$_i$** /***zot$_i$** / ***ha-hi$_i$** gara axSav be-xeyfa.
met.we yesterday Et rina. she / Z-f,s / the-H-f,s now lives now in Haifa.
Yesterday we met Rina. She now lives in Haifa.

b. pagaSnu etmol **[baxura Se-lamda iti ba-yesodi]$_i$**. **hi$_i$** /***zot$_i$**
met.we yesterday girl that-studied with-me in elementary school. She/Z
/ ***ha-hi$_i$** gara axSav be-xeyfa
/ the-H lives now in Haifa.
Yesterday we met Rina / a girl who was in elementary school with me. She now lives in Haifa

In (44a) and (44b) a sentence boundary separates a d-pronoun from a name and description, but covaluation is no better than in (42) and (43)[38].

Contrasting with (42) and (43), coreference between a d-pronoun and personal pronoun is fine as long as it obeys Principles B and C. The relevant type of example is repeated below:

(45) a. ha-anaSim Se-mekirim et **zot$_i$** / **ha-hi$_i$** ohavim **ota$_i$**
the people that-know et Z-f,s / the-H-f,s like her
The people who know this one / that one like her

b. ha-anaSim Se-mekirim **ota$_i$** ohavim et **zot$_i$** / **ha-hi$_i$**
the-people that-know her / et rina like et Z-f,s / the-H-f,s
The people that know her like this one / that one

Similar facts are found in Lebanese Arabic and Moroccan Arabic, as discussed in Aoun & Choueiri (2000). A non-reduced demonstrative pronoun in these dialects cannot corefer with a name:

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because restrictions on antecedents may exceed the domain of c-command.

[38]The examples become grammatical with a *nonverbal* main predicate in the second sentence:

i. ... zot hayta xavera haxi tova Seli ba-yesodi
Z,f.s was friend best my in-elementary school
That was my best friend in elementary school

ii. ... zot hayta rina
Z,f.s was rina

The contrast between (i) and (ii) and the examples in the text suggests that these are copular sentences (on a par with *dina zot xavera haxi tova Seli* [= Dina is my best friend]) with a null subject. Since copular elements are non-referential, no anaphora restrictions are expected. See fns. 6 and 9.

(46) a. *l-bent yalli htammit bi-**karim**$_1$ 9aalit 9enno **hayda**$_1$/ **haydaak**$_1$ zake
the-girl that cared in-karim said that this / that smart
(Lebanese Arabic)
b. *l-9ustad lli thella f-**karim**$_1$ gal belli **hada**$_1$/ **hadak**$_1$ adi yesqet -le-mtiham
the-teacher that cared in-karim said that this / that will fail in the test
(Moroccan Arabic)

Examples (42), (43), and (46) show that d-pronouns cannot corefer with names, but they can with pronouns, as in (45). Coreference is also possible between a d-pronoun and a reflexive:

(47) a. **zot**$_1$ / **ha-hi**$_1$ ohevet rak et **acma**$_1$
Z-f,s loves only et herself
This one loves only herself
b. dibarti im **zot**$_1$/ **ha-hi**$_1$ al **acma**$_1$
spoke-1st with Z-f,s about herself
I spoke with this one about herself

Summarizing, d-pronouns show restrictions on the type of nominal expression they can be covalued with and these restrictions seem to be independent of structure (c-command) and grammatically defined locality (sentence boundaries). A d-pronoun with a name or description is generally impossible[39], but a d-pronoun may be covalued with either personal or reflexive pronoun, schematized in (48):

(48) I *d-pronoun ..... name ..... d-pronoun
*d-pronoun ..... description ..... d-pronoun
II d-pronoun .....anaphor ..... d-pronoun
d-pronoun .....pronoun ..... d-pronoun

3.2 D-pronouns and Indices

Any analysis of (48) must distinguish the class of expressions under (I) from those under (II). Intuitively, the class of expressions in (I) must function as the 'antecedent' in an anaphoric relation; the class of expression in (II) need not be 'antecedents', and the d-pronoun may function as 'antecedent' in the anaphoric relation. The restriction in (I)

[39]See below for discussion of some counterexamples.

then follows from the incompatibility of names, descriptions, and d-pronouns with an anaphorically determined interpretation. In other words, the d-pronouns in the examples discussed so far are restricted to deictic use and interpretation. But the notion of referential 'antecedent' has no theoretical status within symmetric approaches to anaphora, including the index-free binding theory of Chomsky (1995)[40], so it still remains to be seen how exactly the incompatibility of d-pronouns and linguistic antecedents could be stated.

Notice first that the problem cannot be easily reformulated via the notion of dependency. This is because the ban on linguistic antecedents does not directly reduce to the non-dependent interpretation of d-pronouns. Put slightly differently, the status of a d-pronoun needs to be distinguished from the status of an *in*dependent pronoun: pronouns used to independently refer are nevertheless compatible with covalued names and descriptions -- subject to BT -- but d-pronouns are not. The view that referential dependency of pronouns is conditioned by rule ('a term can be referentially dependent upon an NP iff it does not precede and c-command that NP', from Evans (1980)) is irrelevant because the rule imposes no conditions on non-dependent pronouns. Even if dependency status were theoretically significant it turns out not to be useful for the problem at hand.

So it looks as if conditions on non-dependent use are required in order to capture the distribution in (48). The theory of indices developed in Fiengo & May (1994), (1998) is particularly well suited to this task because of the complex structure it assigns to indices. Indices are specified for both indexical type (dependent / independent) and indexical value, the latter component being most relevant to the characterization of d-pronouns. Both components represent modes of interpretation, the idea being that the

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[40]Rules such as 'interpret a pronoun as disjoint from any c-commanding noun phrase within domain D' and especially 'interpret an r-expression as disjoint from any c-commanding noun phrase' are impartial to dependency status. Even for an 'interpretive' Principle C it remains irrelevant whether or not the c-commanding pronoun is construed as dependent on the c-commanded r-expression.

grammar provides two routes to covalued interpretatation: the value of an independent index may be identical to the value of an index borne by another expression, in which case the expressions refer to the same individual; when an index is a dependent occurrence, its value is the value borne by the expression upon which it is dependent. In both cases the interpretive result may be covaluation, and both indexical ingredients -- value and type -- are determined and conditioned by grammar.

Such structuring of indexical representations lends itself to a three-way classification of anaphoric possibilities - dependent, non-dependent, non-identical. Non-identical expressions do not bear the same indexical value, by definition, hence cannot be covalued by virtue of grammar. This gives a way to distinguish non-dependent pronouns, which are compatible with coindexed names and descriptions, from non-identical d-pronouns, which are not. D-pronouns are noun phrases which, like names and definite descriptions, are identical only to expressions which pronominalize them. Because no d-pronoun and name or description are identical expressions, indexical value can never be identical, and covaluation by virtue of grammar is excluded.

Representing the restrictions in (48) at the level of indexation relates the phenomenon to mode of interpretation directly. It also straightforwardly accounts for the irrelevance of c-command and sentential boundary, repeated below:

(49) a. pagaSnu etmol et **rina$_i$**. **hi$_i$** /***zot$_i$** / ***ha-hi$_i$** gara axSav be-xeyfa.
met.we yesterday Et rina. she / Z-f,s / the-H-f,s now lives now in Haifa.
Yesterday we met Rina. She now lives in Haifa.

b. pagaSnu etmol **[baxura Se-lamda iti ba-yesodi]$_i$**. **hi$_i$** /***zot$_i$**
met.we yesterday girl that-studied with-me in elementary school. She/Z
/ ***ha-hi$_i$** gara axSav be-xeyfa
/ the-H lives now in Haifa.
Yesterday we met Rina / a girl who was in elementary school with me. She now lives in Haifa

Covaluation of name/description and d-pronoun in the absence of c-command and across a sentential boundary is severely restricted, represented here as lack of coindexation between name/description, in contrast to the grammatical standard pronoun which may be coindexed. This in turn implies that identity in indexical value does hold across

sentences, supporting the view presented in Fiengo & May who distinguish dependency, structurally licensed and restricted to phrase-markers, from identity in indexical value which may span sentential boundaries as long as the sentences are part of the same discourse[41].

Before elaborating any further consider an alternative which would involve a notion of anaphoric dependency more restricted than identity. The class of expressions compatible with a covalued d-pronoun, reflexives and pronouns, also have in common the ability to be interpreted as bound variables. It is possible that pronouns and reflexives can be covalued with d-pronouns because they can be referentially dependent on a d-pronoun; because they can bear a dependent ('beta') index in the terminology of Fiengo & May. If that were the case, dependency and not mere identity would necessarily be involved in the covaluation of d-pronouns and pronouns, in which case a d-pronoun would have to be thought of as something like a quantifier. In other words, the prediction of the dependency approach to (48) that pronouns covalued with d-pronouns are always interpreted as bound variables. That prediction can be tested in VP ellipsis contexts. As is well known, the interpretation of the elided phrase is identical to the antecedent phrase, including the dependency of its pronoun:

(50) a. Dina_1 loves her_1 mother and Rina_2 does too
(Rina_2 loves $\text{her}_{1/2}$ mother)
b. Everyone_1 loves her_1 mother and Rina_2 does too
(Rina_2 loves her_2 mother)

In (50a), the interpretation of the elided phrase is either that Rina loves Dina's mother or her own ('strict' and 'sloppy' identity), but the interpretation of the elided phrase in (50b) is only that Rina loves her own mother ('sloppy' identity). The interpretive contrast reflects the dependency of the pronoun in the antecedent phrase: in (50b) with a

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[41]The discourse-defined boundary on coindexation is achieved through an assignment function which assigns individuals to indices and sets a context for the utterance of S. The assignment function is thus a *context* for a set of sentences and this set of sentences constitutes a *discourse*, the domain relevant to the Linking Rule ('The coindexing of NPs in S contributes to the meaning of S that the NPs are covalued').

quantifier the pronoun can only be dependent. Similarly, if pronouns covalued with d-pronouns must be dependent, only a sloppy interpretation of the elided phrase is expected.

Turning to Hebrew, I take sentences such as (51) and (52) to be instances of VP-ellipsis (following Doron, 1990) even though the main verb in the second conjunct is overt[42]:

(51) **dina**$_1$ ohevet et ima **Sela**$_1$ ve-gam Rina$_2$ ohevet
dina loves Et mother of-her and-also rina loves
Dina loves her mother and Rina does too
Rina$_2$ loves her$_{1/2}$ mother

(52) **kol exad**$_1$ ohev et ima **Selo**$_1$ ve-gam **dani**$_2$ ohev
every one loves Et mother of-his and-also dani loves
Everyone loves his mother and Dani does too
Dani$_2$ loves his$_2$ mother

(51), and especially (52), show that the Hebrew construction shares with English the property that the interpreted pronoun has the same dependency status as the overt pronoun. Given its sensitivity to dependency, we can now test with a d-pronoun. When a d-pronoun is inserted as subject, 'strict' and 'sloppy' interpretations of the elided pronoun are available, as with the referential subject in (51):

(53) **zot**$_1$ ohevet et ima **Sela**$_1$ ve-gam **rina**$_2$ ohevet
Z-f,s loves Et mother of-her and-also rina loves
This one loves her mother and Rina does too
Rina$_2$ loves her$_{1/2}$ mother

The possibility of a 'strict' interpretation of the elided pronoun demonstrates that the pronoun in the antecedent clause is not necessarily referentially dependent on the d-pronoun subject, though it may be. Furthermore, interpretation of the elided VP associated with the d-pronoun may be strict, unexpected, again, if a d-pronoun imposes dependency:

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[42]The test is actually neutral with respect to exact the analysis of (49) and (50). Even if these sentences turned out to involve not VP-ellipsis but null pro, pro would have to be restricted to the indexical type of the pronoun in the first conjunct.

(54) **rina**$_1$ ohevet et ima **Sela**$_1$ ve-gam **zot**$_2$ ohevet
rina loves et mother of-her and-also Z-f,s loves
Rina loves her mother and this one does too
This one$_2$ loves her$_{1/2}$ mother

The hypothesis that dependency of pronouns and reflexives determines their ability to be covalued with d-pronouns is not particularly revealing unless it can be shown that pronouns must be dependent order to be covalued with d-pronouns. But d-pronouns in this regard pattern with referential, and not quantificational, noun phrases, unsurprisingly, actually, given their semantics. What (53) and (54) show, then, is that there exists a relation of 'sameness' between pronouns and d-pronouns but not between names/descriptions and d-pronouns, and that this kind of 'sameness' is broader than dependency, allowing but not enforcing it. 'Sameness' is expression identity according to F&M, which includes identity in indexical value. To the extent that the facts discussed so far require a notion of identity they directly support the three way distinction yielded by the combination of indexical value and indexical type: dependent, non-dependent, non-identical. Pronouns and d-pronouns can be identical, names/descriptions and d-pronouns cannot.

While much work has been devoted to the study of conditions on dependency, the idea that identity in indexical value underlies (48) suggests conditions on identity as well. Why can't names and d-pronouns count as occurrences of the same expression but pronouns and d-pronouns can? Regarding the latter, I follow the condition given in F&M (1998):

(55) Two or more phrase-markers are occurrences of the same expression iff:
i. they have the same phonetic matrix, where 'same' includes variation known to speaker (i.e. *Noo Yawk* and *New York* for some speakers, but *New York* and *New Haven* for no speakers).
ii. one or more are pronominalizations

What's special about pronouns, according to (55ii), is that they can be referentially autonomous without being distinct. A pronoun may count as an occurrence of a

d-pronoun by virtue of (ii) without implying referential dependency of the pronoun on the d-pronoun.

Regarding non-identity of names/descriptions and d-pronouns, it must be shown that neither of the conditions in (55) are met. (i) excludes identity between a d-pronoun and a name/description just as it does for *New York* and *New Haven - ha-H* or *Z* are not phonetically identical to any name or description, and no dialectal alternation relates them. (ii) will also exclude identity to the extent that d-pronouns are not pronominalizations of names/descriptions, raising the need, once again, to define 'pronominalization' beyond the intuitive 'lack of descriptive content' which would predict no restrictions beyond BT on the coindexation of names/descriptions with d-pronouns. But because 'pronominalization' in (55ii) must cover anaphors as well as pronouns the characterization of BT-pronominal developed in section 2 turns out not to extend to (55). Furthermore, recall that the conclusion reached regarding BT-pronominal was that the class was undefined and inlcudes all expressions that are not defined as anaphors, inlcuding epithets and possibly all r-expressions. The task then is to limit the class of pronominalizers to exclude d-pronouns, and at the same time to explain how d-pronouns are interpreted. I will show that the mode of interpretation of d-pronouns falls out of the semantics of referentially autonomous pronouns if (55ii) can be properly restricted to exclude d-pronouns.

As a point of departure, note that (55) embodies the idea that coindexation, rather than being free as in other systems, must be licensed. In other words, there is no 'accidental' coindexation: if nothing in the system authorizes identity of two nounn phrases, those noun phrases will not be coindexed (though they may happen to be covalued in a particular context, see below). Since coindexation has to be licensed, it is sufficient to ensure that (55ii) does not hold for d-pronouns . Before doing that, I show how the semantics of autonomous pronoun given in Fiengo & May accounts for the interpretation of d-pronouns, i.e. the association of word-index-individual.

The formal discourse sequence developed in F&M is a function from positions, represented by numerical indices, to individuals. Different positions may be associated with the same individual, as in a sequence in which position *i* and position *k* are both associated with the individual *Dina Stein*. By the same token, even if coindexation of d-pronoun and name is successfully excluded, they may be covalued in pragmatically determined circumstances[43]. The discourse sequence is thus a 'context' for a set of sentences, a linguistic discourse. The sequence is constructed via categorial and lexical axioms which relate linguistic structure, including content and indices, to individuals. Truth conditions of S are calculated on the basis of a context so constructed. Crucially, though, there are no axioms in the system directly matching third person pronouns and individuals, because pronouns are not 'expressions' in this sense - their referent is not fixed by content. Rather, the value of a pronoun with a particular index is the value assigned to that position by the discourse sequence function - the interpretation of a pronoun depends on the context, here made precise. By virtue of its index a pronoun is associated with a particular position, but the position-individual link is determined independently, by context.

Fiengo & May discuss two ways in which the context, the assignment function from indices to individuals, may come to provide the index-individual association required for interpretation of autonomous pronouns. One of them is mediated by (55ii) - the index-individual link is determined by the utterance of $[\text{name/description}]_{NP/I}$, hence $[\text{pronoun}]_{NP/I}$ will necessarily refer to that individual. This is the mode of interpretation that is unavailable to d-pronouns. Autonomous pronouns though may be used in the absence of a linguistic expression, in which case there must be another way for the context to set up the relevant index-individual link. F&M call this method of valuation 'demonstration': the assignment function is stipulated to have a particular value relative to particular utterances of autonomously referring pronouns[44]. If so, each utterance is

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[43]See following section for discussion of some pragmatic circumstances which may determine covaluation in the absence of coindexation.

[44]'Demonstration' here refers to a method of valuation of the function associating

associated with a different index, and each index will evaluate to the individual stipulated to be associated with that index. That this method is required is straightforward for pronoun utterances which lack antecedents, and especially for cases in which different utterances of pronouns refer to different individuals, but it implies that distinct utterances referring to the same individual will also be not-coindexed. Repeated utterances of covalued pronouns in a context in which the speaker is talking about a present third party may thus be represented either as in (56a), by virtue of (55ii), or as in (56b) when the method of valuation involves 'demonstration':

(56) a. She_3 has a great sense of humor, she_3's an ardent feminist, and she_3 always has something interesting to say
b. She_2 has a great sense of humor, she_7's an ardent feminist, and she_4 always has something interesting to say

In (56a) the same expression is used three times, in (56b) distinct expressions, associated with distinct demonstrations and distinct sequence positions, are used. Covaluation in (56b) is possible because the assignment function may associate the same individual with distinct positions .

I will assume that the mode of evaluation termed in F&M 'demonstration' and represented in (56b) captures the semantics of d-pronouns: each utterance of a d-pronoun is associated with a distinct index. Pronouns and reflexives may be coindexed with a d-pronoun just as they may be coindexed with names, by virtue of (55ii). Assuming that 'pronominalization' in (55ii) does not include d-pronouns, it follows that there is no way for a name and d-pronoun to end up with the same index[45]. As noted throughout this discussion, lack of coindexation does not in principle preclude covaluation. The next section discusses cases in which coindexation is excluded yet covaluation is possible.

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positions and individuals, not a manner of use.

[45]I leave open the question regarding conditions for qualifying for 'pronominalization' in (55ii). Note that it does not suffice to say that pronouns which refer autonomously are not 'pronominalizations' because non-dependent pronouns refer autonomously yet may be coindexed. Neither does it reduce to compatibility with a dependent index, because there exist pronouns, plausibly Japanese *kare* and Icelandic *hann*, which can be identical (co-indexed) yet do not function as bound variables.

In conclusion, the classification of expressions which allow anaphora with d-pronouns does not reduce to dependency status. More generally, the class of theories of anaphora which appeal to a notion of referential dependency are of no use here because what needs to be captured is a notion of 'obligatory autonomy' which such theories fail to provide. Because the notion of autonomy involved holds across sentences and is independent of c-command, it has been proposed that the restrictions be captured at the level of indexation. Pending a more fully developed explanation of the relevant notion of 'pronominalization', it has been suggested that a theory of identity in indexical structure along the lines of Fiengo & May (1994, 1998) is well suited to the task. The anaphoric distribution of d-pronouns supports the need for syntactic representation of indices, as well as the claim that there exists a significant difference between covaluation which is part of the semantics of a sentence, determined and regulated by grammar, and covaluation determined extra-grammatically.

3.3 D-pronoun anaphora in the absence of coindexation

The previous section has suggested that the best way to restrict the type of expressions that d-pronouns can be identical to is through the notion of index and conditions on coindexation, and it has been claimed that d-pronouns cannot be coindexed with names and descriptions. At the same time, non-coindexation does not entail non-covaluation; the assignment function may be so structured that the same individual is associated with distinct sequence positions. In such cases covaluation is not part of the linguistic meaning of the containing expression, and is not regulated by grammatical conditions such as BT, as in the following examples from Fiengo & May:

(57) a. John_1 is Mr. Smith_2
b. He_1 put on John_2's coat

In both sentences Principle C rules out coindexation. The fact that coindexation is excluded explains, in fact, how (57a) can be informative: the sentence asserts identity

between distinct expressions, *John*$_1$ and *Mr. Smith*$_2$. If, on other hand, covaluation were part of the linguistic meaning of (57a) (i.e. if these expressions were coindexed), an assertion of identiy would give rise to a tautology, which it clearly does not. The claim that these expressions are not coindexed thus explains the informative import of (57a) (that NP_1 and NP_2 are covalued; that the assignment function is such that the same individual is assigned to distinct postions), and at the same time accounts for the absence of Principle C effects. Principle C rules out coindexation of *he* and *John* in (57b) too, yet the sentence can be used in contexts in which these expressions are covalued. Why would a speaker choose to utter (57b) instead of *John put on his coat* in which coindexation is grammatically sanctioned, hence part of its linguistic meaning? In a situation in which she wishes not to commit herself to the identity of *he* a speaker may do well to utter (57b), precisely because here covaluation is *not* linguistically represented. Suppose you are in a crowded place and asked *Was that John?* (57b) prefixed by *I'm not sure but...* may well serve your communicative intent: by virtue of world knowledge that people usually put on their own coats you have implied that that person is John, but you haven't *said* that, coindexation being excluded (by Principle C) in your utterance of choice. The premise based on world knowledge would be reversed in a society where people wear only stolen coats, so that to say *he put on John's coat* is to imply the opposite, that *he* probably isn't *John*. In either case it is knowledge of how the world works that will ultimately determine whether *he*$_1$ and *John*$_2$ are the same or not. (57b) uttered here and now determines that *John* is associated with both indexical positions, and it is enough to say just that to communicate to your hearer the identity of *he*$_1$.

Similar examples can be constructed for d-pronouns. When covalued d-pronouns and names/descriptions are involved, covaluation will always (not just in binding contexts) be determined pragmatically. Here again the choice to use a d-pronoun instead of a coindexed standard pronoun may be the optimal expression of particular referential intents. Imagine a Purim party with everyone costumed from head to toe. We are looking for Dina. A facetious identification might run something like:

(58) a. ha-taba'at Se-zot$_1$ onedet Sayexet le-dina$_2$
the-ring that-Z-f.s wearing belongs to-dina
The ring that one's wearing belongs to Dina
b. zot$_1$ onedet et ha-taba'at Sel dina$_2$
Z-f.s wearing the-ring of dina
That one's wearing Dina's ring

Coindexation of *dina* and the d-pronoun is excluded whether or not c-command is involved, as in (58a) and (58b). A speaker may choose one of the utterances in (58) precisely because they fulfill the double function of identifying Dina without stepping out of the game. The speaker could not be saying that *zot* = Dina since covaluation as part of the linguistic meaning of (58) is precluded. Yet (58) does serve the purpose of identifying Dina because (speakers assume that hearers know that) people usually wear their own rings and can be expected to overlook such things when dressing for masked balls)[46].

Now compare (58a) with similar examples in which a standard pronoun substitutes for the d-pronoun. Here, coindexation is sanctioned grammatically, and covaluation is determined by virtue of grammar:

(59) a. ha-taba'at Se-hi$_1$ onedet Sayexet le-dina$_1$
the-ring that-Z-f.s wearing belongs to-dina
The ring she's wearing belongs to Dina
b. ha-taba'at Se-dina$_1$ onedet Sayexet la$_1$
the-ring that-dina wearing belongs to-her
The ring Dina's wearing belongs to her

Both sentences assert that the ring worn belongs to the wearer, Dina. Crucially, neither sentence fulfills as well as (58) the communicative purpose of identifiying the wearer of

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[46]If lack of coindexation does not entail distinct reference, covaluation of *Rina* and the d-pronoun must be excluded in the following representation:

i. ha-anaSim Se-mekirim et **rina$_i$ / ba'alat ha-bayit$_i$** tov ohavim et **zot$_k$ / ha-hi$_k$**
the-people that-know Et rina / the landlady well like Et Z-f,s / the-H-f,s

Following a suggestion of R. Fiengo, covaluation is impossible due to a competition between the d-pronoun and name/description for first mention - roughly, both expression types are 'unfamiliar':

ii. Speaker uses expressions of class D first when co-mention involves distinct phrase-markers. (Class D = names, descriptions, non-anaphoric epithets, d-pronouns)

The hearer would not assign coreference to (i) because on that reading the d-pronoun is not mentioned first.

the ring. Because coindexation is licit, covaluation is assumed, and the assertion that own-ring wearing is involved proceeds from the assumption of covaluation. In other words, (59) is less informative than (58). It asserts a specific case of what (58) presupposes, that people usually wear their own rings. Although a non-coindexed standard pronoun would also be possible in (59), a speaker who wishes to use (59) without coindexation for the purpose of identification would do much better to utter (58), in which coindexation is precluded in principle. Because coindexation is precluded (58) cannot be taken as a statement about Dina's own-ring wearing; it can only be taken as an assertion about the individual referred to by *zot*, through the premise that people normally wear their own rings: if *zot* is wearing Dina's ring, *zot* can only be *Dina*.

3.3.1 Discourse and d-pronoun anaphora

In the masked ball example use of a d-pronoun is a good choice because the speaker wishes to establish identity, above and beyond the content of the assertion. In this sense (58) is similar to the English examples in (57) with potential Principle C violations. There are additional conditions besides the intent to communicate identity which determine possible covaluation with names/descriptions. In these cases covaluation is not determined by world knowledge, as it is in (57b)/(58), but by discourse structure and strategies. Since the felicitious use of a covalued d-pronoun is sensitive to discourse properties, examination of these cases should tell us something about the relation between sentences containing covalued d-pronouns and the discourse in which they are embedded.

One example of possible covaluation of a d-pronoun and a name is observed in the following discourse fragment:

(60) ha-anaSim Se-mekirim et **dina**$_1$ tov ohavim **ota**$_1$ lamrot Se-**hi**$_1$ /**zot**$_2$/**ha-hi**$_2$
the-people that-know Et dina well like her despite that-H-f.s /Z-f.s/the-H-f.s
lo maxzira telefonim.
neg returns calls.

The people who know Dina well like her even though she doesn't return calls

In (60) the d-pronoun cannot refer to the same individual as the previous name and pronoun even though it is three clauses away. This shows that simple locality is not at issue, as has been demonstrated in examples such as (49) with sentential boundaries between name/description and d-pronoun. But a continuation with a covalued left-dislocated (or right-dislocated) d-pronoun, as in (61), is perfectly acceptable. Covaluation of a d-pronoun in-situ, as in (62), is much less accessible if not impossible:

(61). . . .**zot$_2$/ ha-hi$_2$** solxim **la$_1$** tamid (**le-zot$_2$**)
Z-f.s forgive-pl to-her always (to-Z-f.s)
This one, people always forgive her

(62). . . .solxim **la$_1$ / le-zot$_2$ / la-hi$_2$** tamid
Forgive to-her / to-Z-f,s / to-the-H-f,s always.
People always forgive her

The left- or right-dislocated d-pronoun in (61) may be covalued with *Dina* in the preceding fragment given in (60). That in fact is its most natural interpretation, that the d-pronoun in (61) is referentially related to (60) and does not introduce a new referent. That anaphoric connection is in contrast to the two in-situ d-pronouns spanning (60) and (62), for which there is no easily available covalued interpretation, forcing an interpretation in which a new referent is introduced. Interestingly, neither does a continuation with d-pronoun topicalization, in (63), readily yield covaluation of d-pronoun and *Dina* from the preceding fragment in (60):

(63). . . .**le-zot$_2$** solxim tamid
to-Z,f.s forgive-pl always
This one, people always forgive

These contrasts suggest that there is something about left-dislocation beyond a simple definition of distance which sanctions an anaphoric connection between a d-pronoun and a not-coindexed name. Following Keenan (1977), Ochs & Duranti (1979), Ziv (1994) (among others), I take one of the discourse functions of dislocation to be introduction or

re-introduction of a new discourse topic. That effect seems to be produced in (61)[47]. Although the individual denoted by the d-pronoun is already familiar, (61) with left-dislocation shifts the focus from the people who know Dina and their tolerant attitude towards her, to Dina herself. Assuming that such changes in focus mark discourse boundaries, the intuition to be captured is that a d-pronoun in a discourse constituent distinct from a name may be covalued with it because coindexation across discourse boundaries is never an option. In other words, a covalued interpretation which spans discourse boundaries could never be represented as coindexation, on pain of violating the coindexation restriction.

The intuition that inter-discourse covaluation is possible due to a principled ban on coindexation, can be integrated into the theory of indexation via the relation of 'context' (the assignment function from indices to individuals) to discourse. Recall that Fiengo & May claim that identity of expression holds within a 'context': only within the same assignment function may occurrences of indices evaluate to the same position. The linguistic scope of a 'context' corresponds to a set of sentences spanning a discourse. If it is assumed that the relevant discourse constituent is defined by topichood, it follows that no two expressions flanking a change in discourse topic could ever be coindexed in the relevant sense: even if indexical value happened to be represented by the same numeral, these indices would evaluate to distinct assignment functions, hence different positions. It follows, in other words, that a name and a covalued d-pronoun in another discourse could never violate the conditions on coindexation if coindexation is only possible within

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[47]Prince (1998) claims that left-dislocation has at least three distinct discourse functions, neither of which can be defined as the introduction of a new discourse topic. These include 'simplifying' left-dislocations, left-dislocations which trigger a poset inference, and left-dislocations which amnesty island violations which a topicalization would incur. (61) however seems to correspond to neither of these: it is not simplifying, because the source of the d-pronoun is not in subject position; there is no poset relation between the individual denoted by *zot* and a larger set; (61) is not a veiled topicalization in the sense of Prince, and in addition the topicalization example given in (63) violates no island condition. I stick therefore to the more traditional function (or effect, causality being irrelevant) discussed in the text.

a discourse - when covaluation crosses discourse constituents, a potential violation of conditions on coindexation is not an issue. Therefore, covaluation is unrestricted. When left-dislocation is used, the relevant assignment functions may assign the individual Dina to the position associated with $Dina_1$ and to the position associated with zot_2 without entailing any particular communicative intents. As in the identifying utterances discussed in section 3.2, covaluation here too is pragmatically determined via the assignment function and is sanctioned by discourse structure.

A different type of example involving covaluation of a d-pronoun and name/description is observed in sentences containing multiple potential antecedents, as discussed in Ariel (1990) and Reinhart (1995). Given the claim that coindexation between a d-pronoun and name/description is impossible, these anaphoric effects must be represented as non-coindexation which nevertheless allow covaluation.
Consider the following English example and the Hebrew examples below[48]:

(64) First multiply 4 by 3 and then divide **it / that** by 2

(65) a. klinton nifgaS etmol im barak ve-**hu** / **ze** lo zaz millimeter
Clinton met yesterday with barak and-H / Z not budge millimeter
Clinton met yesterday with Barak and he / that one wouldn't budge a millimeter

b. rak israelit axat macbi'a rak avur mu'amedet axat ve-zot pe'ila beinyanei Sikun
only one israeli,f votes only for one candidate,f and-Z,f active,f housing issues
Only one Israeli votes for only one candidate and that one is active in housing

In (64), *it* refers to 4, giving 2 as a result, and *that* refers to 12, giving 6. In (65a) (unstressed) H preferably picks out *Clinton*, and the sentence with an embedded Z subject means that Barak wouldn't budge. In (65b) the Z pronoun is interpreted as coreferring with the candidate, not the voter[49]. Ariel (1990) argues that demonstratives

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[48]Thanks to Aldo Salvi for example (65a) and Tanya Reinhart for (65b).
[49]I find the examples in (65) stilted, and speakers I have consulted agree that these are found only in journalistic Hebrew, never in speech and probably not in most writing styles. Distinct valuation is the preferred reading, but when told that the d-pronoun can

can be anaphoric and that their anaphoric function is to refer to noun phrases of intermediate accessibility. NP expressions are characterized by the degree of accessibility of their antecedents, and accessibility is partially defined by locality and topichood (from Reinhart 1995) - NPs closer to a pronoun are more accessible to it than NPs further away, but an NP which is a topic is more highly accessible than a non-topic NP closer to the pronoun. According to Ariel (1990) *it*, a standard pronoun, will refer to the highly accessible 4 in (64), but *that*, which as a demonstrative is specialized for NPs of intermediate accessibility, will refer to the less accessible 12.

The examples in (65) highlight the role played by topichood in the theory. The d-pronoun in both cases refers to the closer direct object because it is still less accessible than the subject, a topic for purposes of accessibility computation. So a speaker who wishes the denotation of *candidate* to function as subject of the predication within the embedded clause in (65b) but does not want to repeat the NP expression would do well to use the demonstrative - it is the best tool for the communicative task at hand. Crucially, though, the d-pronoun can only be used anaphorically when more than one possible antecedent is present because only then can there be another NP with respect to which the NP referred to by the demonstrative is 'less' accessible. If accessibility status of d-pronouns fully determined their anaphoric use, multiple antecedents are a necessary condition. Intermediate accessibility can be calculated only if there exists another, more accessible, antecedent.

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be anaphoric to one DP, intuitions are consistent. Reinhart (1995) cites Dutch examples such as the following as completely natural:

i. Max was walking down the street pondering the meaning of life . . .
Al snel kwam hij Felix tegen en **hij / deze** suggereerde dat ze naar bar zouden gaan
And soon met he Felix and hij / deze suggested that they stop at the bar

in which *hij* for most speakers refers to Max, but *deze* unequivocally refers to Felix. Similarly with possessive pronouns (attributed to Postma, 1984):

ii. Lubbers begroet Mitterand bij **zijn / diens** aankomst op het vliegveld
Lubbers welcomed Mitterand on his (zijn/diens) arrival at the airport
zijn = Lubbers or Mitterand diens = Mitterand

Reinhart (1995) characterizes this use of demonstrative pronouns as an interface strategy whose purpose is to disambiguate: while use of a non-stressed personal pronoun in the examples in (65) would be compatible with coreference with either one of the preceding NPs, use of a demonstrative is coreferentially compatible only with the lesser accessible NP. The essence of this proposal does not seem to be in conflict with the analysis of d-pronouns developed so far[50]. In fact, because Reinhart's characeterization of demonstratives proceeds in terms of a strategy for use, and not as a restriction on its possible interpretation, it actually supports the general claim that covaluation between a d-pronoun and name/description is always determined pragmatically, by context, never represented as coindexation. In terms of the present analysis nothing prevents the d-pronoun and topic/subject from being covalued -- nothing prevents the assignment function from being so structured; interpretations, in other words, are not excluded. In the context of multiple NPs an agreement between speakers to use demonstratives only for certain NPs ensures that in (65) the d-pronoun and direct object are covalued in fact - that the assignment function has the same individual in the positions associated with *Barak* and *ze* in (65a) and *one candidate* and *zot* in (65b).

In other words, it is an agreement on how to use the demonstrative which ensures covaluation, yet another example of covaluation determined by factors other than grammar. Indeed it seems unlikely that this use of d-pronoun could be related to a particular grammatical property - all that seems relevant is that they are not standard pronouns. They are good for disambiguation simply because of what they are not,

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[50]Though there do exist significant differences in important details. On the Ariel/ Reinhart view, pronouns refer to linguistic expressions (and non-linguistically represented entities are considered less accessible than linguistically expressed ones, as in the contrast between *4* and *12* in (64)). On the F&M view adopted here, there is no anaphoric connection between (non-dependent) expressions (no expression receives its reference from another expression) - covaluation, whether grammatically or pragmatically determined, results from a relation between individuals and positions within the assignment function. Because in this framework anaphora is not a relation between expressions, degrees of accessibility (which relate to expression positions) cannot, in principle, have an effect on interpretation.

standard pronouns being coindexable, by virtue of grammar, with either NP. When disambiguation is called for the best choice is a demonstrative - a standard pronoun would be no good.

Summing up, four examples of covaluation in the absence of coindexation have been presented. In all cases covaluation is determined pragmatically but in different ways: in the equative example the sentence asserts that the same individual is associated with both sequence positions; in the masked ball example the assertion implies identity via inference from a known premise; in the left-dislocation example knowledge of discourse boundaries and their relevance to coindexation allows covaluation; in the multiple antecedent example an upon discourse strategy determines covaluation of a d-pronoun and a particular NP. While these examples certainly do not exhaust the range of possible anaphoric uses of d-pronouns, they illustrate a clear pattern: anaphoric uses of d-pronouns, though possible, must be sanctioned extra-grammatically, by speech act, discourse structure, or interface strategy. The study of these pronouns points, more generally, to a significant difference between grammatical and extra-grammatical covaluation. Anaphoric properties of d-pronouns provide therefore a strong argument for a syntactic representation of covaluation through indices and coindexation - only a theory with grammatical representation of covaluation can distinguish grammatical from extra-grammatical covaluation.

4 Conclusions

Examination of the referential properties of d-pronouns shows that conditions imposed by BT must be kept distinct from restrictions on the kinds of expressions that can be coindexed. The proposed division between binding and identity casts doubt on a reduction of Principle C to an interpretive principle along the lines of Higginbotham (1983, 1985) and Freidin (1997). It has been proposed that Principle C is sensitive to morphosyntactic [+/-def] and that the presence of this feature distinguishes d-pronouns

and other r-expressions which possess it, from standard pronouns, which lack the feature altoghether. [person] features, associated with standard pronouns, were shown to be relevant to A-bar binding only. It follows that BT-pronominal is an undefined class. Combined with the analysis of Thai epithets, the undefined nature of BT-pronominal suggests that Principles A and B cover all nominal expressions. Principle C, from this perspective, must be thought of as an independent principle. Assuming a Reflexivity approach to Principles A and B, the disjointness imposed by Principle C must indeed have a distinct source.

Further restrictions on the referential distribution of d-pronouns were argued to be best captured at the level of indexation. Each utterance of a d-pronoun is associated with an index of its own because of the way in which it is interpreted; a d-pronoun will never be coindexed with a name or description because it cannot count as an occurrence of a name or description. Standard pronouns and reflexives, on the other hand, may be coindexed with d-pronouns. By virtue of pronominalization they may count as occurrences of the same expression as a d-pronoun.

Covaluation between d-pronouns and names/descriptions, when possible, must be determined extra-grammatically as the two expression types cannot be coindexed. The cases of so-called anaphoric d-pronouns all share this property, whether covaluation is determined by predication, inference, discourse structure, discourse strategy. To the extent that extra-grammatical covaluation has been empirically distinguished from its grammatical counterpart, syntactic representation of covaluation should not be easily dismissed. D-pronouns show that coindexation as a syntactically significant relation is important not only because of the knowledge that it does represent, but also because of the linguistic knowledge that absence of indices would fail to capture.

Interlude

D-pronouns and Strong Pronouns

The anaphoric restrictions imposed on d-pronouns have been claimed to follow from their resistance to coindexation with names/descriptions. As discussed, resistance to coindexation does not in priciple preclude anaphora, but it does imply restrictions not found with standard pronouns. Because covaluation in the absence of coindexation is not determined grammatically, a speaker would choose to use a d-pronoun anaphorically in a limited set of circumstances, partially illustrated above. A possible objection to the claim that anaphoric restrictions on d-pronouns are to be captured at the level of coindexation is that d-pronouns are in fact strong pronouns. As is well known, strong pronouns are generally limited to deictic use. Independent reference in the framework of F&M is represented as indexical type, so strong pronouns on their deictic use could in principle be coindexed with another expression, as long as the index is of the independent type.

The system proposed in Cardinaletti & Starke (1999) does not formally individuate deictic use: some pronouns are formally restricted to anaphoric use, but the

possibility of deictic reference entails, by virtue of pronominal structure, anaphoric reference as well. It is argued that deictic force is represented at the highest functional node, and because the structure of a strong pronoun contains the structure associated with weak pronouns, the former are inherently both anaphoric and deictic. The restriction of strong pronouns to deixis derives in that framework from a principle which prefers morphologically weaker forms whenever possible. Because weak pronouns must have discourse antecedents, the strong version will be chosen when deixis is called for, but when it is not, a weaker version of the pronoun is preffered. So if d-pronouns are strong pronouns, their anaphoric properties reduce to a general preference for weaker forms and need not be captured at the level of coindexation. It can be shown, however, that d-pronouns and strong pronouns, though similar in many respects, are not identical. In particular, the analysis proposed by C&S to account for the deictic nature of strong pronouns cannot be directly extended to d-pronouns[51].

If anaphoric properties were all we had to go by it would be difficult to tell the difference between strong pronouns and d-pronouns. The theory presented in Cardinaletti & Starke builds on a number of distinctions between strong pronouns and clitics originally observed in Kayne (1975). Relevant to the present discussion is that the analysis in C&S correlates deicitic use with other syntactic, semantic, and prosodic features. These properties will be used as tests for the status of d-pronouns, for if d-pronouns share these properties, they indeed are 'strong'. As it turns out, however, d-pronouns and strong pronouns diverge in [+/-human] interpretive restrictions, a property directed related in C&S to referentaility. Therefore, the restriction to deixis in d-pronouns and strong pronouns most probably has a distinct source.

Following is a selection from the properties used by C&S to distinguish weak and strong pronouns[52]:

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[51]The argument below is not intended as a counterexample to C&S. They explicitely acknowledge that the empirical coverage of their theory excludes demonstratives.
[52]C&S argue for a tripartite distinction: clitics, weak pronouns, strong pronouns. Whether or not clitics have independent status is orthogonal to the present point (see

(1) **Coordination** - only strong pronouns can be coordinated:

a. ***Il** et celui de Jean sont beaux
b. **Lui** et celui de Jean sont beaux
He and the one of Jean are pretty

(2) **Peripheral positions** - only strong pronouns can occur in dislocated positions:

a. ***Essa**, lei e bella
b. **Lei** / Maria, lei e bella
Maria/ she, she is pretty

(3) **Interpretation** - strong pronouns are always interpreted as human:

a. **Il** est beau
He / it is pretty
b. **Lui** et celui de Jean sont beaux
He and the one of Jean are pretty

(4) **Anaphora** - weak pronouns require discourse antecedents[53]:

a. *J'ai vu Marie puis je ==>**l'**a vu
b. Mets-toi ici et regardes cette maison$_1$. Tu ==>**la**$_1$ vois bien maintenant?
Come here and look at this house. See it well now?
c. J'ai vu Marie$_1$ puis j'ai vu ==>**elle**$_2$
I saw Mary, and then I saw her

(5) **Modification** - weak pronouns cannot occur with c-modifiers (such as only, also):

a. **lui** seul / aussi
him only / also
b. ***il** seul / aussi

(6) **Structure** - strong pronouns are CPs, weak pronouns sigmaPs, clitics are I^0 heads

As illustrated in (6), the structure of a strong pronoun includes that of weak pronouns and clitics. Its distinctive properties are directly related to projection of CP which is guaranteed by an economy principle of Morphological Choice. Strong pronouns on this

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chapter 2 for discussion). 'Weak' in the text includes clitics and phonologically independent pronominal forms.

[53]The arrow "==>" indicates ostension. The point is that a weak form with ostension is good as long as it has an antecedent.

view are impossible whenever a comparable weak pronoun is licensed. When the pronoun is not coordinated, not in peripheral position, not introducing a new discourse entity, etc, only weak pronouns are grammatical, and the weaker the better[54]. Weak pronouns without strong counterparts are predicted to exist (English *it*), but the status of strength from this perspective is necessarily relative - in order to guarantee a CP projection along with its distinctive properties there must exist a weaker element over which the strong pronoun is chosen. For the choice procedure to be sufficiently restrictive no more than one strong pronoun per set is possible. So if d-pronouns are strong they must have weak counterparts, and they must be positioned uniquely relative to their weak versions. For the purposes of these tests I hypothesize that the d-pronoun *ha-H* is strong to weak *H*, and inflected *Z* is strong to bare *Z*. These pairs are now examined in turn.

1 *H* and *ha-H*

The syntactic category of d-pronouns must be sufficiently similar to that of strong pronouns. Inserting a d-pronoun into the positional contexts which distinguish weak and strong pronouns gives a grammatical result:

(7) a. **ha-hu** ve-ze Se-leyado gvohim
the-H and-it that-next to him tall
That one and the one next to it are tall
b. rak **ha-hu** gavoha
only the-H tall
Only that one is tall
c. et **ha-hu** kvar lavaSti etmol
Et the-H already wore.I yesterday
That one I already wore yesterday
d. et **ha-hu** kvar niSakti etmol
That one I already kissed yesterday

[54]See Kayne (2000) for arguments against this principle.

In (7a) the d-pronoun is conjoined, in (7b) it is c-modified, and in (7c) and (7d) it is topicalized. As discussed extensively, it need not have a discourse antecedent and can be used with ostension:

(8) **ha-hu**==> gavoha.
the-H tall
That one is tall

However, in none of these uses though is the pronoun restricted to human interpretation. In (8), for example, the d-pronoun refers to a piece of furniture just as easily as it refers to a person, and the same holds for the examples in (7) (see especially (7c) and (7d)).

The ability of d-pronouns to equally refer to human and non-human entities contrasts sharply with interpretations available to H pronouns in strong positions. As discussed in Shlonsky (1997), an H pronoun and its accusative counterpart are restricted to human interpretation when they occur in characterisitically strong positions. Compare (9) with the conjoined pronoun in (10). In (9) the pronoun is not used deictically and occupies a position open to weak pronouns. The conjoined pronoun, in (10), however, can only be interpreted as referring to a human entity:

(9) **hu** me'anyen, ha-seret ha-ze / ha-baxur ha-ze
He / It is interesting, this film / this guy

(10) **hu** ve-ze Se-leyado gvohim
he and-the one that-next-to-him tall
He and the one next to him are tall

The correlation between strong position and exclusive human interpretation is systematic, thus:

(11) a. **hu** ba-cad ha-Seni
He / It is on the other side
b. rak **hu** ba-cad ha-Seni
Only he is on the other side

(12) a. kvar ra'inu **oto** etmol
We already saw him / it yesterday
b. **oto** kvar ra'inu etmol

Him, we already saw yesterday

The c-modified pronoun in (11b) can only be strong, and as predicted it is limited to human interpretation. Likewise in (12) with a dislocated object pronoun. Shlonsky (1997) argues that personal pronouns in Hebrew are ambiguous between strong and weak status. Since conjunction, dislocation, and c-modification require the strong version, the restriction to human interpretation follows straightforwardly. If correct, the prediction is that H pronouns introducing new discourse entities can only introduce human ones, confirmed in (13):

(13) A: →Hu haxi gavoha. B: Ma pitom - →hi haxi gvoha
he / * it most tall No way - she / *it most tall
He's tallest *No way - she's tallest*

The ambiguity of H pronouns between weak and strong status automatically disqulaifies *ha-H* from strong status in C&S's system. Since weak *H* has its strong counterpart in homophonous strong *H*, and no more than one strong form per series is allowed, *ha-H* could not possibly be the strong version of weak *H*. In fact, the general claim that each pronominal series contains unique weak and strong elements is empirically confirmed in (7) and (8), since the d-pronoun lacks a crucial property of strong pronouns, not being restricted to [+human] interpretation, though it probably shares its syntactic category.[55] The mechanism which restricts it to deixis in neutral contexts does not simultaneously restrict its reference to human. Thus, *ha-H* is not a strong pronoun, and a propensity for independent reference must have more than one source.[56]

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[55]Without implying that the relevant category is CP. The approach to pronominal structure developed in chapter 3 is closer in spirit to earlier work by Cardinaletti (1994) and suggests that a crucial factor is the position in which a pronoun is generated (N^0 vs. Num^0), as opposed to the amount of containing structure and the XP label of the pronoun. I leave to future work whether and to what extent XP label may interact with the proposed N^0/Num^0 distinction.

[56]The last conclusion is not forced if, on the contrary, strong pronouns on their deictic use are analyzed like d-pronouns as non-coindexed. Then some other explanation for their necessary human reference must be found. This option is not pursued any further.

That deixis must have another source beyond its workings within the personal pronoun system is attested by numerous other pronouns which may be conjoined yet do not require a human interpretation. Bayer (1999) mentions German *die*, Diesing (1999) cites English *they*, and Holmberg (1999) refers to Swedish *den*, as potential counterexamples to the claim that conjoined pronouns are always [+human]:

(14) a. **Die** und die daneben sind groS
they and they nearby are big
b. The tomatoes$_1$ rolled away after **they**$_1$ fell off the table
c. Jag gillar varken **den** eller dess agare
I like neither it nor its owner

C&S (1999) respond to these examples with the claim that these pronouns are in fact demonstrative, exhibiting special demonstrative morphology (*th-* in English, *d-* in German and Swedish) and resisting accidental coreference as do demonstratives[57]. Because demonstratives have deictic force without a human restriction being imposed, they are free to refer to humans and non-humans alike, just as we have seen for Hebrew *ha-H*. For C&S's account of strong pronouns to work, demonstratives must belong to a separate category so that the choice procedure which favors strong pronouns over weak ones in relevant contexts is oblivious to demonstratives, giving rise to a [+human] restriction when a weak form is impossible[58]. Demonstratives are licensed in strong pronoun positions because no competition between the two arises.

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[57]The factual claim that demonstratives resist accidental coreference is actually not accurate, as witnessed by the cases examined above in which a demonstrative is coreferent with, though not coindexed with, a name or definite description. Why personal pronoun accidental coreference should be sensitive to focus properties (*John saw only him in the mirror)* and demonstratives to discourse properties must await further work.

[58]A more challenging counterexample to the conjunction - human correlation is provided by the Malagasy pronominal system. As shown in Zribi-Hertz and Mbolatianavalona (1999), the human restriction cuts across morphological class (affix vs. independent pronoun), limiting itself to pronouns which include [number] and are referentially free. Bound pronouns which lack [number] may equally refer to humans and non-humans, but they are conjoinable, contrary to expectations. Yet there seems to be no reason to suppose that demonstrative morphology plays any role in the division between free and bound pronominals - *azy*, for example, is ambiguous between a 3rd person singular free form and a 3rd person bound form which may take singular or plural antecedents:

While the claim that demonstratives show no human restriction is entirely compatible with the claim that d-pronouns are not strong pronouns, the morphological characterization allows for demonstratives to exhibit heterogeneity when it comes to binding; as is well known, *they* obeys Principle B and so does Swedish *den* (from Holmberg, 1999):

(15) Jag kopte inte bilen$_1$, for jag gillade varken **den$_1$** / ***den dar$_1$** eller dess agare
I bought not the-car, because I liked neither it / that or its owner

Whether (15) attests to a relaxation of Principle C or to a removal of the restriction on coindexation with the definite description *the car*, the role that morphology plays in the characterization of demonstratives turns out to be uneven[59]. It does have a necessary effect on human interpretation and availability of accidental coreference but apparently not on binding category / coindexation restrictions.

Based on the observation that demonstratives obey Principle B only when there exists no third person personal pronoun, C&S propose that Principle B must apply to some pronominal form, and the language opts for a personal pronoun first, a weak demonstrative second, and when neither exist, a complex demonstrative. This view implies that binding principles have requirements, at odds with the idea that binding principles embody restrictions on independently definable expressions. According to the view of BT adopted here an alternative without special assumptions about Principle B is

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i. Mijery **azy** aho
prs-watch 3sg-acc 1sg-nom
*I am watching him / *it*

ii. Mieritreritra [ireo ankizy ireo]$_1$ fa miresaka **azy$_{1/5}$** aho
prs-think dm-pl child dm-pl that prs-discuss 3(sg)-acc 1sg-nom
Those children$_1$ think that I am discussing them$_1$ / {him / her}$_5$

Since they most certainly attest to the interaction of deixis, conjunction, and interpretation internal to the personal pronoun system, I set the questions raised by this system aside.

[59]The contrast between simplex *den* and complex *den dar* actually suggests that coindexation is at issue and not BT, because the demonstrative in the adjunct clause is not c-commanded by the matrix object, and Principle C would rule the complex demonstrative in.

available. If Principles A/B are indeed distinct from C and exhaust the range of nominal expressions independently of the additional restriction imposed by C, the susceptibility of *they / den* to Principle B is expected, supporting the division of labor between A/B vs. C. The question raised by (15) from this perspective is what prevents *they / den* if indeed demonstrative in some sense, from obeying Principle C[60].

2 Bare and inflected *Z*

The distribution and interpretation of inflected Z patterns with *ha-H*. It too can be coordinated, dislocated, c-modified, but in no case is it restricted to humans. This is expected if inflected *Z* is not a strong pronoun:

(14) a. **zot** ve-ze Se-leyada gvohim
Z,f.s and-the one that-next-to-her tall
This one and the one next to it / her are tall

b. et **zot** kvar lavaSti etmol
Et Z,f.s already wore.I yesterday
This I already wore yesterday

c. et **zot** kvar niSakti etmol
Et Z,f.s already kissed.I yesterday
Her I already kissed yesterday

d. rak **zot** higi'a ba-zman / higi'a ba-do'ar
only Z.f,s arrived on time / arrived in the mail
Only she arrived on time / only this arrived in the mail

Unlike H, an inflected *Z* pronoun is not itself ambiguous between a strong and weak form. Rather, it patterns exactly like *ha-H*. It may occur in strong contexts, but no reference restriction is entailed. The conclusion is that it cannot be a strong version of

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[60]The uneven effect of demonstrative morphology highlights the difference between morphological make-up and morphosyntactic features. Assuming the analysis of r-expressions given above, it is likely that the demonstrative morphology of *they / den* is a historical residue which is no longer syntactically active - like personal pronouns they would lack morphosyntactic [+/- def], explaining their BT distribution, leaving open questions of accidental coreference and human interpretation. Pending a better understanding of what allows demonstratives to independently refer with no range restriction (which C&S assume but do not explain) I set that aside.

between (very roughly, but not identical to) weak and strong status. Without focal stress, its position is adjacent to the verb, similar to weak pronouns / clitics:

(17) a. kvar hivtaxt et ze elef pa'am
already promised.you et Z thousand time
b.??kvar hivtaxt elef pa'am et ze
already promised-you thousand time et Z
c. kvar hivtaxt elef pa'am et ZE
already promised-you thousand times et Z
You've already promised that a thousand times

Focalized *Z* can also be dislocated and modified by C-modifiers[61]:

(18) Dina: maxar holxim li-knot bgadim
tomorrow go.we to-buy clothes
Tomorrow we're going clothes-shopping
Dani: aval et ze kvar hivtaxt li elef pa'am
but et Z already promised.you to-me thousand time
But that you've already promised a thousand times

(19) Dina: ani omeret Se-kamatim lo zazim be-el ef
I say that-quantifiers neg move-pl at LF
I say that quantifiers don't move at LF
Dani: Naxon. Rak ze oved
True. Only Z works
True. Only that works

The stressed version of bare Z in (15c) is not restricted to humans, nor is it in (16) and (17), the environments predicted by C&S to warrant a strong pronoun, hence [+human] interpretation. So either bare Z is neither weak nor strong, or else it exhibits some sort of

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[61]Bare Z does not easily coordinate:
i. Dina: Ani xoSevet Se-milot Se'ela lo zazot be-el ef
I think that-words question neg move at LF
"I think that wh-words don't move at LF"
Dani: Ani maskim im ze (*ve-Se-kamatim lo zazim)
I agree with Z and-that-quantifiers neg move
Ani maskim im ze ve-gam im ze Se-kamatim lo zazim
I agree with Z and-also with Z that-quantifiers neg move
"I agree with that and also with the fact that quantifiers don't move"
It is likely that direct coordination of non-gendered Z with a clause is impossible due to non-categorial identity. The difficulty with coordination is not in itself problematic, as it is not claimed that bare Z is strong, merely that it doesn't pattern fully with weak pronouns.

The stressed version of bare Z in (15c) is not restricted to humans, nor is it in (16) and (17), the environments predicted by C&S to warrant a strong pronoun, hence [+human] interpretation. So either bare Z is neither weak nor strong, or else it exhibits some sort of weak / strong alternation not fully compatible with C&S's theory[62]. Crucially, neither interpretation implies strong status of *inflected Z*. If the domain of strong / weak alternations proposed in C&S is stretched to include bare Z alternation phenomena, then weak bare Z already has its strong counterpart in the homophonous form. If not, and 'strong' status is exclusively associated with human-reference pronouns, inflected Z, on a par with *ha-H*, cannot be analyzed as a strong pronoun.

The conclusion that Hebrew d-pronouns, and demonstratives generally, are not the same as strong pronouns implies that a propensity for pronominal deixis must have more than one source[63]. The proposal that anaphoric uses of d-pronouns are constrained at the level of indexation does not in itself explain what allows them to be used with ostension in the first place. C&S argue that ostension requires a restrictive range, implying that d-pronouns are also restricted though not by [+human]. But [+/- def], the formal property of d-pronouns, does not seem sufficient. Empirically, because modified d-pronouns lose their deictic force without a concommitant loss of [+def], and more generally, not all pronouns formally classified as demonstrative necessarily 'demonstrate' (see fn. 61); and semantically, because definiteness - whether understood in terms of uniqueness or discourse familiarity - does not seem directly related to independent reference. If a correlation between independently referring demonstrative pronouns and locative restrictions (the 'here' / 'there' distinction) exists, it is possible that demonstrative ostension indeed is dependent on the possibility of its restriction, provided

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[62]Holmberg (1999) suggests that some sort of deficiency may underlie the relationship between demonstrative pronouns, which are 'strong', English definite articles, which would be 'weak', and affixed articles which may resemble clitics. C&S (1999) also point to a division within the class of demonstratives, between simplex and complex demonstratives (French *ca* vs. *celui-ci*; English *them* vs. *those*; Swedish *den* vs. *den dar*)

[63]It also suggests that the imposition of a human restriction on strong pronouns may depend on a structural factor.

by a locational range. A better understanding of the syntax-semantics of that ingredient might take us a step forward towards capturing the difference between independent pronouns and demonstratives, and the workings of independent reference more generally[64].

[64]For analysis of the syntax of locative demonstrative reinforcers in Romance and Germanic demonstrative constructions, see Bernstein (1997), where it is proposed that the reinforcer (Swedish *dar*, French *ci / la*, Non-standard English *here / there*) is a high head to whose specifier N+modifiers raises. If it is correct that independent reference requires a deictic distinction, and if the analysis of the demonstrative + N construction extends to demonstrative pronouns, then a reinforcer would be obligatory, possibly null.

Chapter Three

Person Features and Attraction

The central goal of the Minimalist Program developed in Chomsky (1993), (1995), and subsequent work has been to explore whether it is possible to derive properties of grammar from interpretive conditions imposed by its interfaces with the language-external conceptual and articulatory modules, roughly LF and PF. The challenge faced by the program therefore is to account for grammatical phenomena without recourse to rules of grammar proper. While the study of syntactic movement, and similarities and differences between its various types have been at the core of all generative frameworks, the Minimalist Program approaches the phenomenon of movement from a fresh perspective: if grammars constitute optimal solutions to externally imposed conditions, why should displacement exist at all? i.e., in what sense and to what extent can syntactic movement be viewed as a means towards satisfying interface conditions?

Putting the question this way shifts the strategy of analysis significantly. The approach to displacement as an exception to a hypothesized optimality of grammatical operations heuristically abstracts away from differences among particular manifestations of movement insofar as it seeks a principled explanation for movement in general. The generalization across movement types has been expressed within MP in terms of the trigger for movement: given that movement involves a relation between a constituent and a target position, and if it is assumed that all movement operations are similarly driven, there exist, roughly, two options. Either properties of the moved consituent drive movement, or else movement is driven by properties of the target position. The properties assumed to be relevant to movement are morphosyntactic features of two types ([+/- interpretable]; [+/- strong]) associated with lexical items and functional heads.

In Chomsky (1993) the assumption was that LF and PF impose distinct interpretive conditions for convergence, the LF interface requiring grammatical features to be semantically interpretable ([+INT]), the PF interface requiring grammatical features to be non-strong. From this it follows that [-INT] features required elimination by LF and strong features by PF. Syntactic movement, from this perspective, serves to eliminate grammatical features through a procedure of feature checking under identity constrained by structural configuration, i.e. the result of movement.

The approach to strong features and the direct relation to PF interpretive conditions is slightly modified in Chomsky (1995), in which strong features must be checked as close to the point in the derivation in which they are introduced as possible - here the intolerance for strong features is a property of the computational component, not PF. The link with PF, however, is reestablished in the Derivation by Phase model in which bottom-to-top computations bifurcate to PF and LF at various consituent boundaries or phases, with the result that strong features must be checked within a given phase, prior to spell-out.

The shift from earlier Greed to an Attract approach to movement in Chomsky (1995) further constrains potential accounts of movement by stating that the trigger for

movement is always a property of the target. Where movement takes place, its purpose is to eliminate a feature of the target. Without denying that features of moved constituents may also get eliminated in the process, the Attract approach entails the existence of a feature on the target requiring checking; given that checking is accomplished by feature identity, that feature must be associated with the moved constituent as well.

In the framework of Chomsky (1995, chapter 4) there are two types of features which require checking: [-INT] features and 'strong' features. The former must be checked at some point in the derivation, the latter prior to spell-out, forcing movement in the overt syntax. Though the interpretability of a feature relates supposedly to its semantic contribution, feature strength, as has often been noted, does not directly correspond to morphological visibility and remains highly stipulative. From a more 'minimalist' perspective the problem of having two feature properties, interpretability and strength, is that taken together they produce distinct movement types, overt and covert, raising a question regarding the necessity of both. But even if both feature properties are maintained, there still remains an issue regarding the choice between overt and covert movement, underdetermined when the relevant feature is 'weak'. A preference for covert movement has been captured in the earlier work by the Procrastinate principle, derived in Chomsky (1995) from a preference for moving as little material as possible. Given that covert movement is necessarily only feature movement, and overt movement affects entire categories, a preference for procrastination follows.

Kayne (1998) presents a different view, according to which all movement is overt. The immediate advantage is that the Minimalist issues raised above become moot. Feature strength can be eliminated from the apparatus: if overt movement is in principle the only option for eliminating undesirable features the weak/strong parameter becomes redundant, and so does a principle whose business is to prefer overt or covert movement. The claim that all movement is overt comes, however, at the cost of enrichening overt computations to the extent that subsequent syntactic operations which 'mask' expected word order effects are required. Alternatively, and perhaps in addition, overt movement

of null elements may be necessary to check features of a functional target in lieu of consituents which appear in-situ. It remains to be seen therefore, to what extent the syntactic operations required by an exclusively overt computation can be justified on empirical grounds, and more generally whether we learn more about syntax in the process.

The chapter approaches these issues through the syntax of pronoun movement and argues for an Attract approach to pronoun movement. It is claimed that the raising of pronouns to derived positions is triggered by features of a functional target and not features of the pronoun itself, though in some cases (Romance clitics for example) it turns out that the pronoun too must undergo checking for the derivation to converge. In addition, it is argued that an analysis which restricts pronoun checking to the overt component is empirically preferable to alternatives which allow covert pronoun movement as well, though in some languages overt raising of null elements does seem to be involved.

The distribution of pronouns across syntactic positions in languages such as Swedish, Italian, and Hebrew appears at first glance to be recalcitrant to a theory of movement triggered by features of the target. In these languages clitics and/or unstressed pronouns may occupy positions distinct from those occupied by strong pronouns and lexical DPs[1]:

(1) a. Anna sag kanske inte **DEN / *den**
Anna saw maybe not it
b. Anna sag **den** kanske inte
Anna saw it maybe not (Homberg & Platzack, 1995)

(2) a. Il professore diede l'autorizzazione **a loro / *loro**
the professor gave the authorization to them
b. Il professore diede **loro** l'autorizzazione
the professor gave them the authorization (Cardinaletti, 1994)

(3) a. rina tazmin be-hexlet **et dani / OTO / *oto** la-mesiba

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[1]For the strong / weak pronominal distinction see Cardinaletti & Starke (1999) and discussion in the interlude following chapter 2.

rina will-invite certainly et Dani / HIM / him to the party
Rina will certainly invite Dani / HIM to the party

b. rina tazmin **oto** be-hexlet la-mesiba
rina will-invite him certainly to-the-party
Rina will certainly invite him to the party

In these examples weaker pronominal forms occur higher than stronger forms and lexical DPs. The main challenge for an Attract approach, in which features of the target force movement, is that if there exists a target feature in need of checking, how exactly the derivations in (1a), (2a), and (3a) converge with a strong pronoun or lexical DP in-situ remains unclear[2]. A common approach has been that weak pronoun raising is triggered by features of the pronoun: weak pronouns lack a Case morpheme (Cardinaletti & Starke, 1999); weak pronouns cannot procrastinate because lacking any content they disappear at LF (Roberts & Shlonsky, 1996); weak pronouns, which signal given information, need to be associated to lexical material with a [+FOC] feature (Holmberg, 1999). These analyses, significantly different in detail, converge on the view that a Greed approach to pronoun movement is inevitable.

In this chapter I argue that an attract approach to pronoun movement is in fact within reach, especially if richer pronominal / inflectional systems are considered. Languages like French, Arabic, Welsh, and Breton show that strong pronouns in most environments must be doubled by a special inflectional element[3]. It is claimed that the

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[2]The analysis in this chapter is concerned exclusively with pronominal syntax and the distribution of pronouns across derived and non-derived positions. See chapter 5 for a proposal regarding feature checking by lexical arguments. As will become apparent, the view presented here is that target checking by pronouns is to be distinguished from target checking by lexical arguments, in the spirit of analyses of Scandinavian object shift which distinguish between pronominal and non-pronominal instances of object shift.

[3] Cardinaletti & Starke include in-situ position as one of the characteristics of 'strong' pronouns, and here I will follow that practice using the term 'strong' to refer to pronouns which remain in-situ, as opposed to weak pronouns which raise. It will turn out, however, that the 'weak' / 'strong' distinction is significant only in those syntactic contexts in which a functional target triggers pronominal attraction (the environments based upon which the various criteria had been proposed) - when there is no attraction and pronouns remain in-situ and fail to be doubled the weak / strong distinction appears to dissolve, as discussed towards the end of the chapter. Since the conclusions reached there presuppose the theory of attraction to be developed, I continue to use the terminolgy of strength / weakness descriptively to refer to pronouns which remain in-situ, can be coordinated,

inflectional material which doubles these pronouns raises from within a DP which contains both the independent pronoun and its inflectional double. Raising of a doubling inflectional element from within DP parallels, by assumption, clitic and weak pronoun raising. These show therefore that a pronominal DP occurring in-situ is not, in fact, exempt from a checking relation with a functional target, though checking in these cases is established by an inflectional double and not by the pronoun itself. But if all pronominal DPs are involved in one way or another in a checking relation with a functional target, the most compelling evidence in support of a Greed approach to (weak/clitic) pronoun movement dissolves.

The observation that all pronouns enter into checking relations with functional targets does not however in and of itself decisively discriminate between Greed and Attract approaches to the phenomenon. It could still be argued that all raised pronominals necessarily have some [-INT] feature requiring checking against a functional target. At this point some distinction between strong pronouns and their doubles would have to be introduced, to explain why strong pronouns fail to raise. For example, strong pronouns have no [-INT] features, their doubles do. Such a distinction would account for the raising of inflectional doubles without illuminating the syntax of strong pronouns since it falls short of explaining why doubling is required of strong pronouns in the first place. The attract approach, on the other hand, suggests that an inflectional double is required by the target.

More generally, I will show that pronoun movement as attraction by a target is supported by various grammatical configurations in which doubling and cliticization do not, and could not, occur. These restrictions suggest that more syntax - in particular, the syntax of a target - is involved in pronoun checking than predicted by a Greed approach, the latter predicting non-convergence in the absence of checking off features of pronouns. Gapping constructions, oblique PPs, and conjunctions give rise to in-situ non-doubled pronouns, and are analyzed as absence of an attracting head. Another type of example is

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modified, bear stress, etc.

provided by Swedish particles and French and Standard Arabic 'except' clauses, in which an intervening element seems to prevent a strong pronoun from doubling and a weak pronoun from raising. These effects suggest, first of all, a unified approach to weak pronoun movement and pronoun doubling. Second, and more directly to the point, intervention effects are unexpected within a Greed approach to weak pronoun movement. If pronouns must raise but cannot, the expectation is for non-convergence. But if pronoun movement is triggered by attraction, intervention of certain elements can be analyzed as a Minimality effect, Shortest Move requiring the closest candidate to raise. Because there exists a candidate for attraction closer than the pronouns, it remains in-situ and no doubling is required. Cases such as these, in which non-raised so-called 'weak' pronouns are grammatical provide direct support for the claim that pronouns previously considered 'weak' do not necessarily have special needs of their own. When they raise they do so in service of a functional target.

The chapter is organized as follows. First, a Hebrew paradigm is introduced which shows that free-standing standard pronouns are limited to subject position, in contrast with the d-pronouns discussed in chapter 1 which occur freely. Greed based theories as well as theories which allow LF movement cannot easily explain the absence of free-standing strong pronouns. A theory based on overt attraction of [person] features is proposed instead, according to which a functional head associated with [person] attracts pronominal material to head or specifier position overtly. The rest of the chapter is devoted to motivating the theory. It is shown that although strong pronouns in many Romance and Germanic languages do not seem to overtly check features of a clausal functional head, pronouns which exhibit 'strong' properties in Celtic languages and Arabic must be doubled by 'synthetic' inflection, suggesting a similar, though null, inflectional element in languages such as Swedish and Italian. Synthetic inflection is argued to be best analyzed as attraction of pronominal material from within DP. In section 2.2 I show that a variety of restrictions on pronoun doubling are also exhibited by pronoun movement, suggesting that the trigger for these processes is identical. The

proposed unification of pronoun doubling and pronoun movement takes both to be triggered by an $F^{o}_{[person]}$ in the functional domain: T^{o}/Agr_{S}; $v^{o}/Agr_{O}/Agr_{IO}$; Agr_{P}. Various cases in which pronouns fail to be attracted are analyzed in terms of the syntax of the attractor. In some cases $F^{o}_{[person]}$ is absent, in others there exists a candidate closer to F^{o} than the the pronoun itself.

1 Pronouns and Clausal Positions in Hebrew

Free standing standard pronouns are impossible in all but subject positions in Hebrew[4]. D-pronouns are good in all basic positions, just like lexical nominals[5]:

(4) a. **hi / dina / ha-hi / zot** ma'arica et bibi
she / the-H-f,s / Z-f,s admires bibi
She / that one / this one admires Bibi

b. bibi ma'aric **ota** / *et **hi** / et **dina** / et **ha-hi** / et **zot**
bibi admires her / et she / et dina / Et the-H-f,s / Et Z-f,s
Bibi admires her / Dina / that one / this one

c. bibi diber **ita** / *im **hi** / im **dina** / im **ha-hi** / im **zot**
bibi spoke with her / with H / with dina / with the-H-f,s / with Z-f,s
Bibi spoke with her / Dina / that one / this one

d. ha-xulca **Sela** / *Sel **hi** / Sel **dina** / Sel **ha-hi** / Sel **zot** nora yafa
the-shirt of-her / of H / of dina / of the-H,f.s / of Z,f.s very nice
Her / Dina's / that one's / this one's shirt is very nice

In (4a) an independent personal pronoun is possible, alongside lexical subjects and d-pronouns, but in (4b) - (4d) the independent H form is impossible. Instead, inflectional material encoding pronominal phi-features is affixed directly to a preposition, *et*

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[4]Another position which allows free standing pronouns which will not be further addressed is within subjects, as in:

i. **atem** ha-morim tamid me'axrim / dina ra'ata *et atem / ??otxem ha-morim
you teachers always late dina saw you teachers

ii. **atem** kulxem ayefim / dina ohevet *et atem / ?? otxem kulxem
you.pl all.you tired dina likes you.acc all.you

I attribute the possibility of pronouns within subjects to the same mechanism which allows them as subjects. For an analysis of pronouns with inflected quantifiers, see Shlonsky, 1991.

[5]The 3rd person pronouns given in (4) are representative of the entire personal pronoun paradigm.

(=accusative marker), *im* (=with), and *Sel* (=of) in (4b)-(4d)[6]. In contrast, no such affixation is necessary or possible with a d-pronoun. The paradigm in (4) raises two questions: why d-pronouns are good, and why H pronouns are impossible in (4b) - (4d)[7]. The impossiblity of an H pronoun cannot be directly attributed to its Nominative status. As discussed extensively below, so-called nominative pronominal forms are found in a variety of non-nominative contexts, as in the Syrian Arabic examples below (from Borsley, 1995):

(5) a. Safet **hiyye** kamal
saw,3f she kamal
She saw Kamal
b. kamal Saf-ha **hiyye**
kamal saw,3m-3f she
Kamal saw her
c. sourt-ha **hiyye** la kamal
picture-3f she of kamal
her picture of Kamal

Neither can it be claimed that the d-pronoun is good in these examples because it is a strong pronoun, and strong pronouns generally occupy the same position as lexical DPs, as in the Swedish and Italian examples repeated here:

(6) a. Anna sag kanske inte **DEN / *den**
Anna saw maybe not it
b. Anna sag **den** kanske inte
Anna saw it maybe not (Homberg & Platzack, 1995)

(7) a. Il professore diede l'autorizzazione **a loro / *loro**
the professor gave the authorization to them
b. Il professore diede **loro** l'autorizzazione
the professor gave them the authorization (Cardinaletti, 1994)

D-pronouns are not strong pronouns, as argued in the interlude between chapters 2 and 3, so an explanation relying on a weak / strong syntactic distinction is not applicable[8].

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[6]Ignoring phonological changes in the prepositional form when pronominal material is affixed.
[7]For the second question, see Roberts & Shlonsky (1996).
[8]The terms 'weak' and 'strong' are used here descriptively to refer to the set of characteristics discussed in chapter 1 (conjunction, modification, dislocation, etc) and should not be taken to imply the structural analysis proposed in C&S nor the existence of

Recall that the argument was based in part on the fact that d-pronouns are not restricted to human interpretation, and in part on the fact that H itself is ambiguous between 'weak' and 'strong' status. So even if it were correct to take the weak / strong pronominal distinction as directly relevant, at least the strong version of H should be possible in these contexts, contrary to fact:

(8) a.*ra'inu etmol et **hu** ve-dina
saw.we yesterday et H-m,s and-dina
b.*Et **hu** ani makira mi-tel aviv
et H-m,s I know from-tel aviv
c.*Ani makira po et rak hu / rak et **hu**
I know here et only H-m,s / only et H-m,s

The H pronoun in (8) occurs in contexts which force it to be 'strong'. In (8a) it is conjoined, in (8b) it is topicalized, in (8c) it is c-modified. It has been shown above that in these contexts a *subject* H is necessarily animate, confirming its status as 'strong'. (8) shows that strong H cannot occur as complement to Et, and we've already seen that neither can weak H. [9]

The paradigm in (4) suggests that d-pronouns are more like lexical nominals than strong pronouns are. In terms of the analysis proposed in chapter one, d-pronouns can occur in non-subject positions, because like lexical nominals, they encode a [definiteness] feature and lack a [person] feature. Assuming that the [def] feature can only occur on N^0, d-pronouns have the structure of lexical nominals, and nothing further need be said about the free-standing status of d-pronouns per se[10]. The fact that d-pronouns may occur free standing in (4) adds another piece of evidence to the

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a tripartite distinction. The conclusions reached here are in fact closer to the binary division between clitics and independent pronouns proposed originally in Kayne, (1975).
[9]For the sake of simplicity I have restricted attention to complement of Et. Similar facts obtain with other prepositions and in possessives.
[10]That [def] can only be generated on N^0 is not uncontroversial. Numerical expressions may occur in construct-state form, and display some form of definiteness agreement. See Ritter (1991) for the claim that lexical numbers are instances of Num^0, and Danon (1997) for the claim that construct numbers are in N^0.

argument made in chapter 2 that d-pronouns are not syntactically pronominal, though they lack descriptive content.

Given the analysis of H pronouns as personal pronouns and the proposed analysis of the difference between personal and d-pronouns, the ungrammaticality of an independent non-subject H pronoun must be related to person features. More specifically, I propose that person features must raise in the overt syntax. When [person] occurs within a subject DP the containing DP consituent raises to specifier position, hence independent pronominal forms are allowed. But in cases in which [person] is generated within a non-subject, raising of person features via movement to specifier position is impossible[11]:

(9) a. *ra'iti hu et
saw.I he et
b. saw.I ... $[_{etP}$ hu ... [et [... $[_{DP}$ t_{hu}]]]]]

(10) a. *ra'iti hu beit
saw.I he house
b. saw.I ... $[_{beitP}$ hu ... [beit [... $[_{DP}$ t_{hu}]]]]]

Following Roberts & Shlonsky (1996) I assume that (9a) and (10a) are excluded due to the fact that the relevant specifiers are not projected in Hebrew. That analysis takes the highest functional head in (9b) and (10b) to be Agr, and argues that Agr in 'true' VSO configurations has weak N features, precluding overt raising to its specifier[12]. The Agr which dominates T^0, on the other hand, has been re-analyzed in Hebrew as a functional head with strong N features, allowing pronouns to raise to its specifier.

The present proposal too restricts overt raising in the nominal / prepositional cases to head movement, and in addition excludes LF feature checking. Following

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[11]For expository purposes the structures in (6) and (7) are neutral with respect to the identity of the head of the relevant specifier.
[12]Equivalent to saying that Agr in VSO doesn't project a specifier if LF raising is always FF raising, as in Chomsky (1995).

Chomsky (1998) which eliminates categorical features, [N] is specified as [person]. Pronominal affixation as 'attraction' has the following properties:

(11) Agr^{o} has an attracting [person] feature

(12) a. Prepositions and nominals are dominated by a functional category Agr^{o} which attracts person features
b. Agr dominating prepositions and nominals does not project a specifier

(11) and (12a) are intended as universal claims regarding the consititution of these nodes and their structural positions, (12b) reflects a parametric choice regarding the structure of AgrPs[13].

1.1 The Structure of Affixed Pronouns

The requirement that attraction be overt as in (11), together with (12b), correctly excludes free standing strong pronouns. On this analysis, a pronominal element within DP must raise to the head of AgrP to check [person], resulting in pronominal affixation in all non-subject cases, because in all but the subject functional domain $F^{o}_{[person]}$ must be checked by head-movement if specifiers are not projected[14]. Pronominal direct

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[13]Relativized to particular instances of Agr, not languages. At this point it seems plausible that Semitic languages are not unique in their non-uniform array of AgrP internal structure; in French, for example, the position of weak pronominal subjects, as constrasted with both French object clitics and some North Italian dialects' subject clitic position, seems to be an XP or specifier position.

[14]Feature checking by a head and feature checking by XP in specifier position are distinguished, indirectly, by N and V features in Chomsky (1993) and (1995), as it was assumed that V features are only checked by V^{o} movement and N features by DP movement. The move to elliminate categorial features in Chomsky (1999) implies, on its strong interpretation, that so is the head / XP distinction superfluous. One way to ensure that nominals raise as DPs to specifier positions is to delegate head movement to the PF component, the approach taken in Chomsky (1999). Another would be to freely allow verbal projections to raise as specifiers and nominal material to raise via head-movement, denying the relevance of lexical category for determining the extent of pied-piping. Here I take the latter approach, allowing pronominal material to raise as X^{o} or XP by

objects and oblique / possessive pronominals are composed of a prepositional element plus pronominal affix:

(13) a. dina niSka **et** yosi
dina kissed ET yosi
Dina kissed Yosi
b. dina niSka **oto**
Dina kissed him

(14) a. dina katva **le**-yosi
Dina wrote to Yosi
b. dina katva **lo**
Dina wrote to him

(15) a. zot ha-xulca **Sel** yosi
this the-shirt of yosi
This is Yosi's shirt
b. zot ha-xulca **Selo**
This is his shirt

(13), (14), and (15) are representative of the non-subject pronominal paradigm in Hebrew, in which pronominal affixes (underlined in the (b) examples) are attached to prepositional elements. If pronominal affixation of this sort necessarily involves an attracting Agr node as proposed in (11) and (12), how does pronominal material come to follow, rather than precede, the preposition? Assuming the LCA (Kayne, 1994), once pronomimal material left-adjoins to Agr, further adjunction (of the preposition) to this node is impossible[15]. The structure proposed for Hebrew pronominal prepositions is illustrated in (16) and the derivation in (17):

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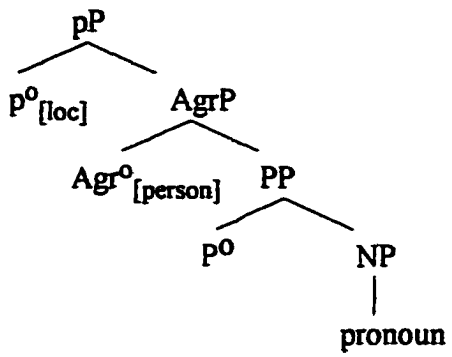
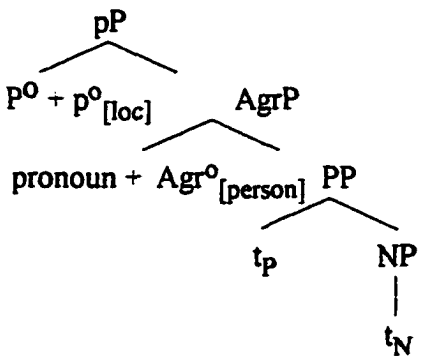
stipulation, with the hope that further work will provide a principled explanation for the choice between the two.

[15]See Roberts & Shlonsky (1996) for an analysis according to which inflectional material is base generated in Agr, allowing P^0 left-adjunction to Agr^0 to proceed unproblematically from an LCA perspective.

(16)



(17)



The structure in (16) includes a functional prepositional element, similar to the little v° of Chomsky (1995). The idea that little p° may dominate an additional functional head above PP is close in spirit to proposals for an Agr/Asp node between vP and VP[16]. Agr itself is null, but has a strong [person] feature checked by left-adjoining pronominal N°[17]. The functional prepositional element has a [locative] feature which attracts the

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[16]See Travis (1991), Duffield (1995), Den Dikken & Sybesma (1998), Den Dikken (1999a) for further discussion of inner Asp/Agr_O.

[17]In the structure given in (16) the pronominal originates as N°, suggesting a similarity to noun incorporation. Anticipating somewhat, the representation in (16) with the affix as N° assimilates this type of cliticization to Bantu-style incorporation, to be distinguished from the Celtic/Arabic brand of pronominal incorporation discussed extensively below (Thanks to M. den Dikken for pointing this out). The crucial difference between the two is that pronoun affixation in Hebrew leaves no DP-internal double but the latter do allow a free standing pronoun in A-position. Assuming (as will be argued in detail below) that pronoun doubling in Celtic / Arabic starts out as $[_{NumP}$ pronoun $[_{NP}$ pronoun]], a possible explanation for Hebrew lack of pronominal doubling is that P° dominates only NP. The absence of functional material between P° and N° is compatible with Li (1990) who argues that N° incorporation cannot cross functional material. If correct, Hebrew extended PPs are different from both Celtic / Arabic and Rom/Ger (see section 2.2.2 below): Hebrew has functional structure only above PP; Rom / Ger have functional structure only below PP; Celtic / Arabic have functional structure both above and below PP.

preposition, similar to the V feature of T^o/ v^o[18]. The outcome of (17) produces adjacency between the prepositional complex and the pronominal affix within AgrP without the two being dominated by the same minimal category[19].

The assumption that phi-feature material necessarily raises to an Agr head -- rather than directly merging -- together with the assumption that only left-adjunction is possible (Kayne, 1994), requires the presence, in pre-positional languages such as Hebrew, of an additional functional layer to which P^o left-adjoins . Direct evidence for p^o is provided by *pronominal* PPs which include a special morpheme, absent when the prepositional complement is lexical and no raising to Agr occurs. As an example, Welsh inflected prepositions include a connective morpheme, discussed in Rouveret (1991):

(18)	a.	am	*about*	am-dan-o	*about him*
	b.	o	*of*	o-hon-o	*of him*
	c.	yn	*in*	yn-dd-o	*in him*

Only non-inflecting prepositions occur when the complement is lexical, but with a pronominal complement affixation is mediated by a morpheme which varies with choice of preposition. On the assumptions outlined above the presence of a special morpheme

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[18]Other alternatives are possible. The structure proposed in Roberts & Shlonsky (1996) posits a single functional projection above PP, AgrP, in whose head pronominal material is generated, and to which P^o left-adjoins. The generation of pronominal material in Agr becomes problematic on the Minimalist lexicalist assumptions adopted here. Alternatively, both functional projections are present though in the opposite order - AgrP dominates deixP (see Den Dikken (1999) for Dutch and Welsh PPs) in the spirit of Jonas and Bobalijk for AgrP dominating TP in clausal structure. On that analysis, P^o raises to $deix^o$ and Agr^o, and the pronominal is in spec deixP. But if a specifier position is available as landing site for the pronoun, a free-standing pronoun is expected, as in the subject case.

[19]The idea that pronominal material reaches Agr via N^o movement raises another problem not encountered by the base-generation approach. Given that [person] in the subject domain attracts XPs, why couldn't a pronominal affix raise as XP to subject position? The assumption that the affix is an N^o which projects a bare NP, as in (16), might explain this restriction, given the consensus that subject bare NPs are generally impossible. This in turn suggests that Hebrew independent (subject) pronouns instantiate Num^o and raise as NumPs to check [person]. See the discussion of postverbal pronouns in pro-drop contexts in chapter 4 for further support for the idea that Hebrew independent pronouns are Num^o.

with pronominal complements supports the proposal in (11) and (12) that pronominal material raises to an Agr head.

Some evidence for a mediating morpheme exists internal to Hebrew as well, though less systematic than in Welsh. A number of prepositions undergo morphological changes in the presence of pronominal complements:

(19)	a.	le-dani	*to dani*	**lo**	*to him*
	b.	el dani	*to dani*	**elav**	*to him*
	c.	al dani	*about dani*	**alav**	*about him*
	d.	mi-dani	*from dani*	**mimeno**	*from him*

(19a) is the unmarked case. The pronominal *-o* attaches directly to (a phonologically reduced form of) the dative preposition. The variations observed in the remaining examples can be analyzed as cases of morphological complexity, and not simply as phonological alternations. If so, it seems reasonable to take the additional morphology required by pronominal complements as evidence for additional structure, i.e. a p^0 head.

Evidence for morphological complexity is suggested by those cases in which the forms under consideration are independently attested. (19b) and (19c) involve a change in the third person pronominal form from *-o* to *-av*, plausibly due to the presence of an additional morpheme. The pronominal affix *-av* corresponds to the form of the third person singular possessive attaching to a *plural* noun:

(20)	a.	sefer	*book*	**sifro**	*his book*
	b.	sfarim	*book*	**sfarav**	*his books*

In (20b), the *-av* form decomposes into a plural nominal morpheme and a singular third person possessor. Prepositional *-av* also contains possessor-related morphology in addition to something else. Without implying that prepositional *-av* in (19b) and (19c) is semantically related to nominal plurality it seems reasonable to attribute its morphological residue to the presence of a functional head, p^0.

Turning to (19d), the *-men-* morpheme separating the prepositional and pronominal components occurs with a subset of pronouns attaching to *mi-* (=from). It is decomposable into *-m-*, which occurs with all singular pronominal forms and 2nd person

plurals, and *-en-*. The latter is plausibly related to an independently attested morpheme, the *-en-* which optionally occurs on the inflected version of the negative particle *ein*:

(21) a. ein dani oxel
neg dani eats
b. dani ein-o / ein-**en**-o oxel
dani neg-3.m.s eats
Dani doesn't eat
c. eini oxel / ein-**en**-i oxel
neg-1.s eat
I don't eat

Beyond their phonetic identity, prepositional *-en-* and the *-en-* of negation bear a number of striking similarities. Prepositional *-en* is compatible only with singular first and third person pronominals; the *-en* of negation, though optional, is likewise restricted to singular first and third person pronominals. In addition, *-en-* of negation may be semantically significant, in which case it is associated with a locative interpretation. Optional in simple negative contexts, *-en* does become obligatory in implicit locatives such as the following:

(22) a. *dani ein-o hayom
dani neg-3.m.s
b. dani ein-**en**-o hayom
Dani isn't here today

The obligatory presence of *-en-* in locative contexts suggests again a relationship to prepositional *-en-*, implying that the latter is a distinct morpheme[20]. Once again, it seems reasonable to attribute the residual morphology realized as *-men-* to the presence of a functional head in addition to P^o, namely p^o.

Identification of prepositional independent morphemes restricted to pronominal complements suggests a relationship to those Welsh morphemes analyzed by Rouveret (1991, 1994) as instantiations of p^o. Extending the proposal for presence of p^o to Hebrew solves a potential word order problem faced by the Attract approach - if pronominal feature checking material is necessarily attracted by an $Agr_{[person]}$ dominating P^o, the

[20]And perhaps *-m-* is as well, though I set this aside.

presence of a high p^0 to which P^0 must left-adjoin derives pre-positional ordering[21]. Having shown that overt attraction correctly excludes non-subject free standing pronouns in Hebrew, I now turn to motivate the theory on independent grounds, the distribution of weak and strong pronominal forms in languages other than Hebrew.

2 Pronoun Movement as Attraction

The theory of attraction proposed for Hebrew obligatory cliticization (repeated in (23)) is at odds with the often made observation that strong pronouns may remain in-situ.

(23) Agr has a strong [person] feature

In Swedish, for example, a non-stressed pronoun must raise past negation and medial adverbs whenever the main verb raises to V2 position, as in (24b), but a stressed pronoun ('strong' in the tripartite terminology of Cardinaletti & Starke (1999)) is fine in base position:

(24) a. Anna sag **den** kanske inte
Anna saw it maybe not
b. Anna sag kanske inte **DEN / *den**
Anna saw maybe not it

In Italian, strong pronouns and lexical DPs may occur in postverbal position, but weak *egli* cannot:

(25) a. *Ha aderito **egli**
has adhered he
b. Has aderito **lui** / Gianni
has adhered he / Gianni (Cardinaletti, 1997)

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[21] p^0 may be phonetically null, depending on choice of P^0.

Similarly, on the assumption that dative *a loro* is the strong counterpart to weak *loro*, the strong version does not raise, in contrast to the weak (from Cardinaletti, 1994):

(26) a. Il professore diede **loro** l'autorizzazione
the professor gave them the authorization
b. Il professore diede l'autorizzazione **a loro / *loro**
the professor gave the authorization to them

If (23) is correct generally, then the relevant Agr nodes in Swedish and Italian have an unchecked [person] feature in (24b), (25b), and (26b) in which a strong pronoun fails to raise, and the derivation is expected to crash.

Contrasts such as these have led to the conclusion that clitics and weak pronouns have special needs which force them to raise to a higher position. That analysis is in conflict with the theory of attraction in (23), which says that pronoun movement is triggered by features of the target. If (23) is on the right track, than strong pronouns must be implicated in checking against a functional target and weak pronouns may not necessarily require checking at all.

Initial indication that the Greed approach cannot be entirely correct is provided by cases within Italian and Swedish in which weak pronouns do appear in non-raised positions:

(27) a. *Ho visto **lui**
(I) have seen him
b. Ho parlato con **lui**
(I) have spoken with him

(28) a. *Jag kysste inte **henne**
I kissed not her
b. Jag har inte kysst **henne**
I have not kissed her
c. Jag talade inte med **henne**
I talked not with her
d. Jag gav inte Elsa **den**
I gave not Elsa it
e. Dom kastade inte ut **mej**
They threw not out me

The boldfaced pronouns in (27) and (28) are all weak, nonstressed pronouns. In (27b) a weak pronoun is good as complement to a preposition, though impossible as direct object. In the Swedish examples, again the direct object pronoun is impossible in-situ in verb raising contexts, though it is good when the verb doesn't raise, or when it is preceded by a preposition, a particle or a dative complement. The various Greed approaches successfully capture the ungrammatical cases. On that analysis, however, the occurrence of weak pronouns in the positions indicated in (27b) and in (28b-e) remains mysterious, unless it is shown that the grammatical cases do involve some degree of raising which happens not to produce observable word order effects[22]. The challenge for the Greed approach then is to explain why some weak pronouns are good in what appear to be non-derived positions. The challenge for the Attract approach is to explain why any strong pronouns are good in-situ, and also to successfully discriminate between grammatical and ungrammatical occurences of weak pronouns in-situ. As will become clear, the double challenge faced by the Attract approach is only apparent; the analysis of strong forms extends to weak forms in-situ as well.

The following sections motivate the claim that all pronouns, including strong, are involved in [person] checking of a functional target. Based on evidence from languages with richer pronominal / inflectional paradigms than Swedish and Italian, it is argued that pronoun doubling by inflectional material satisfies feature checking, allowing a strong pronoun to remain in-situ. In section 2.1.1 it is argued that Welsh so-called synthetic agreement originates in a DP-internal position from which it is attracted by a functional head, and that raising of this inflectional material is what allows a doubled pronoun to remain in-situ. Section 2.1.2 surveys such doubled pronouns in a number of languages and shows that taken together, doubled pronouns in Welsh, Breton, and Standard Arabic fulfill a range of criteria for strong pronouns proposed in Cardinaletti & Starke. This suggests, as discussed in section 2.1.3, that strong pronouns indeed are implicated in

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[22]An exception is the PF movement analysis given in Holmberg (1999) according to which the [-FOC] feature associated with weak pronouns in-situ is licensed by focalized material in the VP - the non-raised verb, dative preposition, or particle.

feature checking of a target, though such checking is performed by an inflectional double, not the pronoun itself. Section 2.2 presents more conclusive evidence for the attraction approach, showing that restrictions on doubling of strong pronouns can only be analyzed as deriving from properties of the target and not the pronoun itself. The anlaysis is extended to weak pronouns in-situ; as it turns out, the distribution of weak pronouns in-situ is highly reminiscent of restrictions on strong pronoun doubling, suggesting a common approach to both in terms of the syntax of the attractor. The examination of contexts in which pronouns fail to be attracted leads to two conclusions: first, that some of the pronouns previously argued to be weak may in fact have no special needs of their own, and second, that the weak /strong distinction appears to be neutralized in the absence of attraction by a target suggesting that the distinction follows from, rather than determines, syntactic position. Section 2.2 introduces restrictions on French pronoun doubling and analyzes gapping constructions as absence of attractor; section 2.2.1 extends the analysis of gapping to Welsh and Irish incomplete paradigms and blocking effects, section 2.2.2 is devoted to pronominal complements of oblique prepositions in French, Italian, and Swedish, 2.2.3 analyzes Swedish particles and datives as introducing a closer candidate for [person] checking; section 2.2.4 extends the analysis of these intervention effects to 'except' clauses in French and Standard Arabic, section 2.2.5 discusses Standard Arabic and Irish conjoined pronouns, and 2.2.6 summarizes these results. Conclusions from both sections are then integrated in section 2.3.

2.1 Doubling and Strong Pronouns

Among the better known contrasts between pronouns and lexical DPs are movement differences, as in the Italian, Hebrew, and Swedish examples discussed above. As noted, when movement is involved, it is typically a weak pronoun which moves. Another phenomenon which in some languages discriminates between pronouns and lexical DPs is agreement: in Welsh, Breton, and Standard Arabic, full agreement occurs only with

pronominal arguments, and in French and Peninsular Spanish only pronouns can, and in many cases must, be doubled by clitics[23].

From the perspective of Attract$_{[person]}$ it is not entirely surprising that with both movement and inflectional doubling, it is pronouns which seem to be involved in more syntax than lexical DPs, since only pronouns bear a person feature which checks against the feature of the target[24]. The goal of this section is to show that when inflectional splits are present, it is typically a strong pronoun which is involved. That is, just as movement is a strategy for [person] checking by weak pronouns, a certain species of inflection fulfills this function when a strong pronoun is selected[25]. Welsh, with its extremely rich pronominal and agreement system, serves as the basis for an analysis of [person] feature checking by inflectional material.

2.1.1 Welsh Synthetic Agreement as Raised Num^0

Support for the view that inflectional material may check [person] features of a functional target is provided by languages and constructions in which pronominal arguments correlate with special inflectional material. A good example which will serve as the basis for an analysis of pronoun doubling is provided by the Welsh pronominal system in which both the pronoun and its inflectional double are overt. However, the presence of a double does not directly imply feature checking on the assumptions of MP chapter 4 which restrict checking to Move -- such inflectional material must, therefore,

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[23]A uniform analysis of pronoun movement and pronoun doubling is developed in section 2.2.

[24]Chapter 5 discusses the mechanism by which F$^0_{[person]}$ is checked when lexical DP occurs in the relevant argument position.

[25]Recall from fn. 3 that the weak / strong distinction may be significant only in a subset of syntactic environments, those in which pronouns are attracted (see section 2.2 for environments in which pronouns are not attracted). So even though strength may not be a primitive notion as claimed in C&S, I continue to use the term descriptively to refer to pronouns which remain in-situ in the context of an attractor, the main point being that these pronouns are implicated in checking and that they are comparable to strong pronouns of the Romance / Germanic variety which do not appear to be doubled.

reach its functional position via movement, just as an XP pronoun would check [person] via raising to the relevant spec. From this perspective there is a syntactically significant contrast between inflectional material that is base-generated within a lexical head and agreement which originates elsewhere (within DP) and comes to be amalgamated with a lexical head via movement. Only the latter checks [person], and only in some languages is it overt[26].

Welsh exhibits a contrast between pronominal and lexical nominals, and within the pronominal system, between two types of pronouns (Rouveret,1991). First, pronominal subjects require full verbal inflection, but lexical subjects are incompatible with it:

(29) a. Darllenasant (hwy) y llyfr
read-past-3pl they the book
They read the book
b. *Darllenasant y plant y llyfr
read-past-3pl the children the book
c. Darllenodd y plant y llyfr
read-past-3sg the children the book
The children read the book
d. Darllenodd y plentyn y llyfr
read-past-3sg the child the book
The child read the book
e. *Darllenodd hwy y llyfr
read-past-3sg they the book

The inflected verb form in (29a) is termed 'synthetic' by Celtic grammarians. This form occurs with an optional pronominal subject (the 'auxiliary' pronoun), but never with a lexical one, as in (29b). Lexical subjects can only occur with an 'analytic' or

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[26]In earlier frameworks the main distinction was either between 'strong' agreement which licenses pro-drop, and 'weak' agreement which doesn't (as in Italian vs. English, see Rizzi (1982) and Taraldsen (1992)) and or between 'strong' Agr which triggers verb raising, and 'weak' Agr which lowers (as in French vs. English, see Pollock (1989) and Chomsky (1989)). On both proposals Agr contains base-generated inflectional material, in contrast to the present one which suggests another dimension according to which agreement material varies: overt Italian / French agreement is base-generated on the lexical stem and does not check [person], in contrast to inflectional material originating within DP. The pro-drop relevance of this type of agreement, analogous to clitics in languages such as French and Italian, is discussed in chapter 4.

non-inflected verb form (29c), demonstrated by its insensitivity to the number specification of the lexical subject (29d). A pronoun without synthetic inflection is impossible, as in (29e).

The distribution in (29) is predicted by the Attract approach. Put neutrally, the formal difference between analytic and synthetic inflection shows that when the subject is pronominal an extra element is required. Movement as attraction explains why: a strong person feature in the IP domain requires overt checking by a morpheme specified for [person], i.e. synthetic agreement[27]. In languages with a preverbal subject position, this feature is checked by an XP pronoun in specifier position. On the well motivated assumption that functional specifiers in Welsh are inert, the only candidate for person checking is an X^0 category, not an XP pronoun[28]. Raising of this element may or may not strand a pronoun in DP, as in (29a), but crucially, stranding of lexical material in DP is impossible, as in (29a).

The complementarity of synthetic inflection and lexical argument can be taken as evidence for an analysis of synthetic inflection as originating internal to DP, provided there is a systematic explanation of the contrast[29]. According to Rouveret, raising of inflectional material from within DP may strand pronouns but not lexical nominals due to the interaction of two factors, the DP-internal position of synthetic inflection, and a difference in movement within DP. Synthetic inflection instantiates Num^0; lexical nouns must raise by head movement to Num^0, but pronouns which at D-structure fill the NP slot raise by XP movement to spec NumP because thay are not specified for [number].

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[27]Specifying the attracting feature as [person] captures the contrast in the languages to be discussed between pronouns and lexical subjects, implying that checking of target features by lexical arguments is significantly different. In this section the analysis is limited to pronominal syntax, and lexical arguments are discussed in chapter 5. Assume for now that [person] is always present on F^0 and gets checked by a different mechanism when the argument is lexical and postverbal.

[28]The claim is not affected by the possibility that T does project a specifier, as in Bobalijk & Carnie (1996) (for Irish). In that system the subject is in spec TP and the verb in a higher Agr. If correct, higher Agr hosts the relevant attractor.

[29]See Doron (1988) for an early incorporation analysis according to which rich agreement in Irish and Welsh raises from within NP.

Given spec-head agreement between pronoun in spec NumP and Num^{o}, the co-presence of pronouns and inflection, and the complementarity of lexical nominals and inflectional material both follow. Spec-head agreement endows the pronoun with number features and the morpheme in Num with person features, as in (30). The number morpheme subsequently raises to a verb or preposition, stranding the NP pronoun in spec NumP.

(30) a. D-structure: $[_{NumP}$ spec $[_{Num'}$ Num $[_{NP}$ pronoun $]]]$
[+Pers]

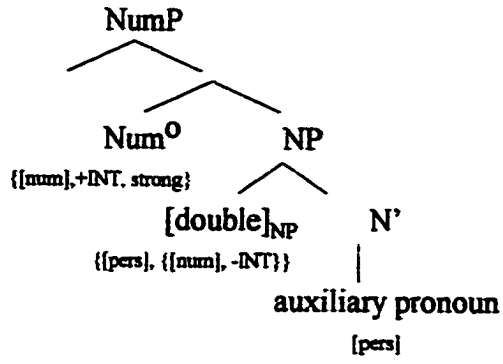
b. S-structure: $[_{NumP}\ [_{NP_i}$ pronoun $]\ [_{Num'}$ Num $t_i\ ]]]$
[+Num] [+Pers]

I adopt the essence of Rouveret's proposal which locates the (non)complementarity of synthetic inflection and lexical argument / pronoun within DP-internal syntax, along with the claim that these pronouns are not specified for [number]. Within a checking theory, spec-head agreement no longer endows an item with features, nor does head raising. Rather, lexical heads are specified for [number], and raising to Num^{o} must be triggered by strong [number] on Num^{o}, as in (31):

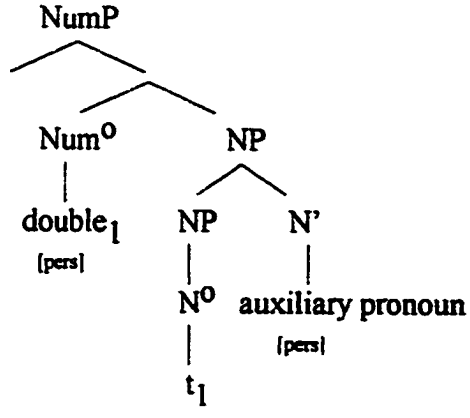
(31) $[_{NumP}\ [_{Num'}\ Num_{\{[num],strong\}}\ [_{NP}\ [_{N'}$ lexical noun$_{[num]}\ ]]]]$

Likewise, the inflectional element appearing in (30) in Num^{o} can no longer be the direct product of raising the auxiliary NP pronoun to spec NumP, because spec-head agreement cannot produce phonological material on a head. Therefore, Welsh must have two distinct pronominal elements: one which is unspecified for [number] (the auxiliary pronoun), and another which is (synthetic inflection). Strong [number] in Num^{o} requires the latter to check its feature in the overt syntax whenever a lexical nominal is not generated. The [number] checking pronoun must also be generated in the presence of an auxiliary pronoun which lacks [number]. The structure of pronominal doubling is given in (32), and subsequent raising of the pronominal in Num^{o} in (33):

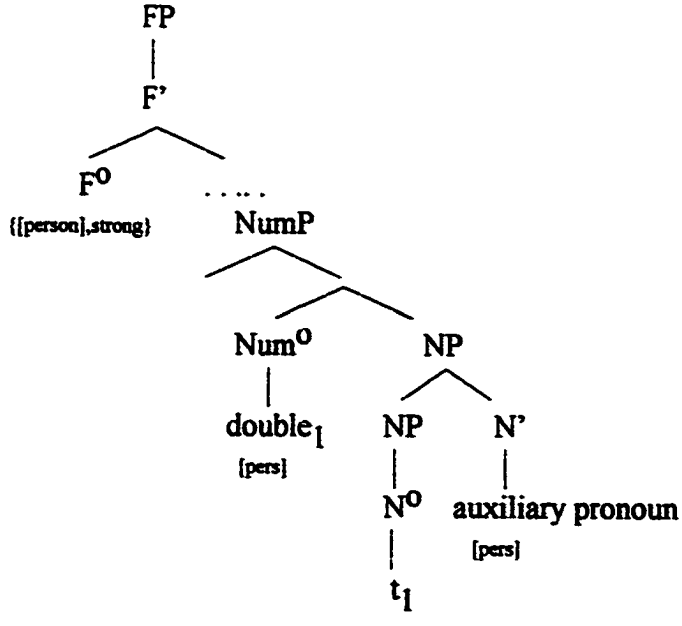
(32) a.



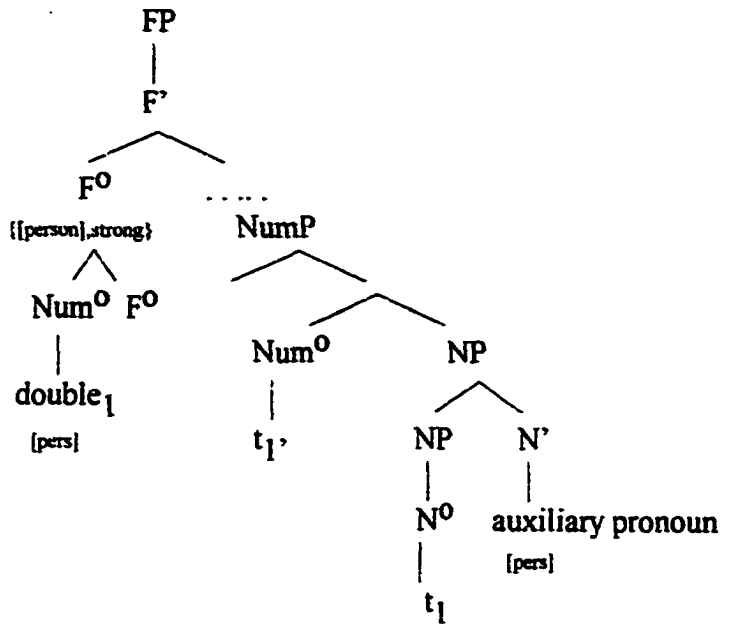
b.



(33) a.



b.



Both pronominal elements are N°s with features, one in spec NP, the other in its head. Spec-head agreement within NP ensures phi-feature identity but checks nothing[30]. Raising of the double from spec NP to Num° checks the strong feature in Num° and eliminates [number] on the pronominal double. This gives the correct result that auxiliary pronouns require synthetic inflection, the reason now being that without the extra pronominal element Num° would have an unchecked strong [number] feature[31]. The complementarity of auxiliary pronouns and lexical nominals follows from the assumption that they are merged into the same position, N°. The complementarity of synthetic inflection - the Num° pronoun - and lexical nominals can also be made to follow from

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[30]I am assuming that agreement without feature checking is possible, though limited to merged (base-generated) configurations, as in (32) with a lexical category in the specifier of another lexical category. An alternative would be to merge the pronoun directly into Num° and to ensure feature value identity through the notion of extended projection, which likewise does not seem to require feature raising. I set aside the choice between the two.

[31]This is one place where feature strength seems difficult to eliminate. On the one hand, [num] on the pronoun must be [-INT] to explain why it is incompatible with a lexical N°, yet Num° must have features in need of checking, to explain why it can never remain empty. So [num] on Num° is either [+INT] and strong or [-INT]. But claiming that [num] is [-INT] on both the pronoun and Num° would eliminate the feature from the derivation upon checking, an undesirable result given that it does have semantic import.

Rouveret's insight that the Num° pronoun is specified for [number] if some details are added. Assume that Num° has only head features. If [number] is [+INT] on Num° but [-INT] on items selected from the numeration, a derivation containing both lexical nominal and pronominal with [-INT] [number] would crash, since both could not check [number] in Num° simultaneously.

Taking synthetic inflection to have as its source a pronominal in Num°, we have seen how DP-internal operations plus the assumption that not all pronouns encode [number] account for the complementarity effects in (29). Crucially, the pronominal in Num° has no unchecked features once [number] is checked in Num°, and raises to a functional target F° only to check [person] in F°. The prediction then is that this instance of raising depends on the syntax of the particular F° involved. Non-raised Num° pronominals are expected, with or without the additional auxiliary pronoun, a prediction confirmed by the existence of what have been termed 'independent' and 'reduplicated' pronouns by grammarians.

Consider first independent pronouns. These pronouns, unlike the auxiliary pronouns examined so far, are in complementary distribution with synthetic inflection. This strongly suggests that independent pronouns and synthetic inflection are one and the same, instances of Num°. Since synthetic inflection, triggered by [person] in the IP domain, is required for subject-verb agreement, independent pronouns -- the non-raised equivalent of synthetic inflection -- are impossible as subjects. They do, however, occur as objects:

(34) a. Gwelodd Mair ***i / mi**
saw Mair me
Mair saw me
b. Darllenais **i / *mi** y llyfr
read-1st,s I the book
I read the book

The first person pronoun *mi* is taken from the independent series, given in (35), and the first person singular pronoun *i* belongs to the auxiliary series, in (36)[32]. The difference between the two pronominal series is observed most clearly in first person singular:

(35) simple independent pronouns

mi / fi	***I***	ni	*we*
ti / di	*you*	chwi	*you*
ef	*he*	hwy / hwynt	*they*
hi	*she*		

(36) auxiliary pronouns

i / fi	***I***	ni	*we*
ti / di	*you*	chwi	*you*
ef / efo	*he*	hwy / hwynt	*they*
fe / fo	*he*		
hi	*she*		

In (34a), in which synthetic inflection is present, the pronominal form is necessarily the auxiliary pronoun, while in (34b), which lacks inflection corresponding to object agreement, the only possible pronominal form is the independent pronoun. From (37) it is clear that the choice between *mi* and *i* depends solely on the presence of synthetic inflection, and not on grammatical function or Case position:

(37) a. Fe welodd y dyn **mi**
PRT saw the man me
b. Fe **'m** gwelodd y dyn **i**
PRT CL saw the man me
The man saw me (Rouveret, 1991)

(37b) includes an object agreement marker attached to the clause initial particle, and the associated object is of the auxiliary type. When no object clitic is present, in (37a), the pronominal form is independent, exactly as in (34a). The infixed object agreement is obsolete in contemporary Welsh, but the contrast it reveals is significant for the present analysis. It shows that the choice between independent and auxiliary pronoun correlates with presence of inflection, not Case. When inflection is absent, the independent pronoun is the only choice, when it is present, the auxiliary pronoun is the only choice. This

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[32]Pronominal paradigms in (35), (36) and (43) are taken from Koopman (1999).

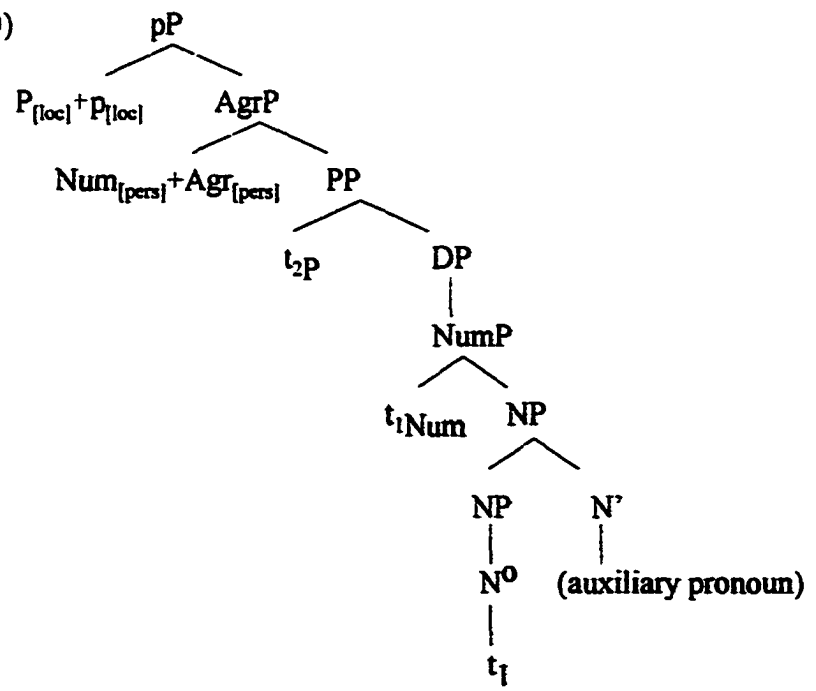
distribution follows directly from the claim that synthetic inflection is a raised Num^0, and so-called independent pronouns are instances of non-raised Num^0. From the perspective of Attract, the difference between contemporary and older Welsh is that Welsh has lost a [person] attracting trigger for objects, so no inflection -- i.e. raising of Num^0 -- is necessary, or even possible, in (37a).

A similar distribution of auxiliary and independent pronominal forms is found within PPs. Some prepositions inflect in Welsh, others do not. Taking an inflected preposition to be one in which Num^0 has been attracted from DP to a prepositional F^0 with [person], the expectation is for these prepositions to be compatible with an auxiliary pronoun (in 39). A non-inflecting preposition (in 38) may occur with lexical complement or independent pronoun. The structure of inflecting prepositions is repeated in (40) with added detail within DP:

(38) a. ag 'with'
b. ag ef 'with him'
c. a Sion 'with Sion'

(39) a. at 'to', 'towards'
b. ato 'to him'
c. ato ef 'to him'
d. at Sion 'to Sion' (from Rouveret 1991)

(40)



Non-inflecting *ag* occurs with either independent pronoun or lexical complement. Inflecting *at*, on the other hand, may not occur in its bare form when the complement is pronominal. These examples, unfortunately, are not optimal because third person singular *ef* is ambiguous between independent and auxiliary form (see 35 and 36), obscuring the expected variation in pronominal form across (38b) and (39c). McCloskey & Hale (1984) give an example of an inflected preposition with a first person singular pronoun[33]:

(41) arnaf **fi / *mi**
on-1st,s I
on me

Here the pronoun of choice is unambiguously from the auxiliary series, as expected[34]. Within DP, a pronominal possessor is necessarily associated with a pre-nominal clitic. Again, an associated pronoun must be of the auxiliary type, showing once again that the choice between independent and auxiliary pronoun depends on the presence of inflection, not Case position:

(42) a. fy llaw i
my hand i
my hand
b. ei hi ef
his dog he
his dog

So far, it has been shown that independent pronouns and inflectional material are in complementary distribution. Taking independent pronouns to be non-raised Num°, they are found in environments in which there is no [person] triggering raising, such as the object domain of contemporary Welsh and some PPs. Since auxiliary pronouns are

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[33]*fi* is a phonological variant, occuring after [f].
[34]Unfortunately, they do not give a contrast with non-inflecting preposition and first person singular pronoun, though they do, and Rouveret (1991) as well, report the fact, that non-inflecting prepositions occur only with independent pronouns.

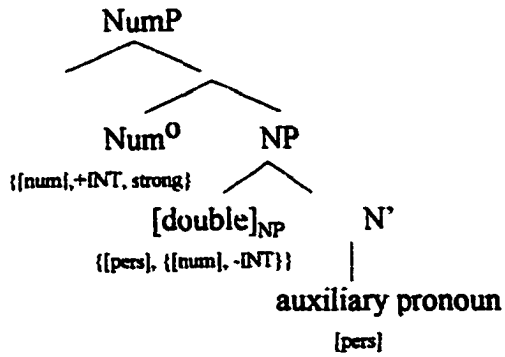
optional with synthetic inflection – when Num° raises – they are expected to occur also when Num° fails to raise on the assumption that synthetic inflection and independent pronouns are one and the same, and they do. The generation of an auxiliary pronoun in NP in addition to its double in Num° gives rise to a third pronominal paradigm, the reduplicated series:

(43)

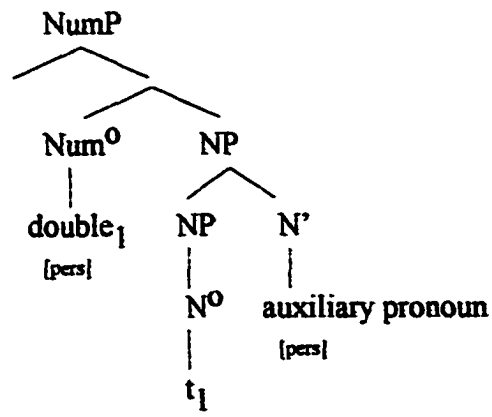
myfi *I*	nyni *we*
tydi *you*	chwychwi *you*
efe /efo *he*	hwynthwy *they*
fe, fo *he*	
hyhi *she*	

Again, first person singular is most revealing. Comparison of its reduplicated form in (43) with the auxiliary and independent variants in (35) and (36) shows that the reduplicated pronoun is composed of an independent pronoun followed by an auxiliary form[35]. This order is predicted by the analysis of pronominal doubling, repeated below, in which the independent form raises to Num°, hence precedes the auxiliary form located in NP:

(44) a.



b.



[35]See Koopman (1999) for the same morphological analysis.

If reduplicated pronouns indeed include a non-raised Num^0, they should be incompatible with synthetic inflection. This prediction is confirmed. In subject initial structures the analytic verb form is used and a reduplicated pronoun is possible (from Doron (1988))[36]:

(45) a. yfi oedd yn cwyno
I-redup be-past in complain
It was I who was complaining
b. *yfi oeddwn yn cwyno
I-redup be-past-1sg in complain

We have seen so far how a raising analysis accounts for the distribution of auxiliary and independent pronouns, synthetic and analytic agreement. An alternative to the Attract + raising approach is the idea that synthetic inflection arises in Agr as a result of spec-head agreement with a DP in its spec, and in this sense the 'agreement' approach assimilates Welsh agreement to Italian or other better known pro-drop languages. A recent agreement based analysis of Welsh synthetic inflection is presented in Koopman (1999), and I will outline the proposal to show that a raising analysis accounts more simply and naturally for the facts[37].

The agreement approach to synthetic inflection argued for in Koopman (1999) takes the relevant morpheme to be based generated in Agr, triggered by raising of a null pronominal contained within DP to its specifier[38]. Since the specifier of an inflected verb form never contains overt material, the structure proposed for the auxiliary pronoun takes it to be an instantiation of D^0 with pro as NumP in its specifier. When a synthetic verb form takes a null subject, the D^0 head is null as well:

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[36]The fact that reduplicated pronouns are restricted to analytic environments is also reported in Atkins (1972) and Koopman (1999).
[37]A similar question arises regarding the derivation of Romance clitics. See Sportiche (1995) for the proposal that clitics are base generated in clitic projections, and Kayne (1989, 1994) for the alternative, that clitics raise from within a DP in argument position.
[38]Koopman's theory is set in pre-MP terms. Specifically, the possibility that raising XP to spec position 'triggers' overt inflection is no longer available. Here I show the problems that analysis faces. A more general question is whether an agreement based analysis could be formulated in MP terms, and pro licensing generally.

(46) a. $[_{DP}\ [_{NumP}$ pro $]\ [_{D'}$ **auxiliary pronoun** $t_{NumP}\ ]]$
b. $[_{DP}\ [_{NumP}$ pro $]\ [_{D'}$ pro $t_{NumP}\ ]]$

pro raises as NumP from spec DP, and triggers synthetic inflection in Agr. In so doing, it strands the auxiliary pronoun in D^0. pro on this analysis is the covert counterpart to independent pronouns. The structure assigned by the agreement analysis to independent pronouns is given in (47a), in which the D^0 head is null. The combination of overt NumP and overt D^0 produces a reduplicated pronoun, in (47b):

(47) a. $[_{DP}\ [_{NumP}$ **independent pronoun** $]\ [_{D'}$ pro $t_{NumP}\ ]]$
b. $[_{DP}\ [_{NumP}$ **independent pronoun** $]\ [_{D'}$ **aux pronoun** $t_{NumP}\ ]]$

On the raising analysis, on the other hand, the independent pronoun is a head in Num^0, and the auxiliary pronoun in NP position.

The agreement analysis succeeds in accounting for the distribution of auxiliary and reduplicated pronouns, but faces a number of problems when it comes to explaining the distribution of independent pronouns, given in (47a). There are at least three facts to be explained: why independent pronouns are excluded by synthetic inflection, why independent pronouns pattern with lexical nominals, except as subjects, in which case they are impossible, and what determines the choice between the two pronominal forms. Within the agreement approach, NumP is extractable from within DP. The expectation then is for independent pronouns -- overt NumPs -- to occur in preverbal position, compatible with synthetic inflection. Neither prediction is borne out - independent pronouns cannot occur in preverbal position as subjects, nor are they ever compatible with inflection. In order to account for this gap Koopman proposes that independently, in Welsh, a NumP raising to spec of Agr must contain a null pronominal. But even so, it remains unclear what would exclude an independent, non-raised, subject pronoun from appearing with analytic inflection, on a par with lexical subjects, a gap which can only be understood in terms of properties of the target. The Attract approach, which at its core addresses targets and potential differences between targets, says that [person] is a head feature on a subject related F^0. Hence independent pronouns -- non-raised Num^0 -- are

impossible. A related disadvantage of the agreement approach is that the parallelism of independent pronouns and lexical nominals remains mysterious. The independent pronoun is in spec DP, as in (47). This gives the correct result for the internal structure of reduplicating pronouns, but a lexical nominal in Num^0 must be prevented from raising to spec DP to avoid lexical N + affix combinations. In addition, the entire DP must be prevented from raising to spec Agr, to avoid overt preverbal reduplicating, auxiliary, and independent pronouns, as well as lexical subjects.

Summarizing, the claim that synthetic inflection is Italian-style agreement triggered by XP raising to spec Agr requires 3 unrelated assumptions: lexical NumP cannot raise to spec DP; a DP constituent cannot raise to spec Agr; a NumP raising to spec Agr must be null. On the raising analysis, synthetic inflection does not depend on XP raising, so the absence of overt subject material to the left of V is much less problematic. The attract approach eliminates all preverbal subjects, lexical, reduplicated, and simple, with the single stipulation that [person] in Welsh is a head feature . Lexical nominals and independent pronouns are incompatible with synthetic inflection because all three are instances of Num^0; lexical nominals are incompatible with auxiliary pronouns because both are generated as N^0; subject independent pronouns are impossible because [person] triggers Num^0 raising to Agr. We now turn to examine the properties of auxiliary pronouns, pronouns which are doubled by special inflection.

2.1.2 The Status of Doubled Pronouns

The theory of pronoun attraction developed so far says that a pronoun in-situ must be doubled by an inflectional element which checks [person] in lieu of the pronoun. In many Romance and Germanic languages this element appears to be null, except French, Peninsular Spanish, and perhaps some of the pronominal doubling Franco-Provencal dialects discussed in Roberts (1993). If the raising analysis proposed for Welsh is correct, auxiliary pronouns are good in-situ because an attracting [person] feature on a functional

head F^0 is satisfied by head movement. But in order to generalize from Welsh to strong Rom/Ger pronouns, it must be shown that pronouns which are overtly doubled show properties characteristic of strong pronouns - that they are emphatic, can be conjoined, can be dislocated, do occur in-situ, etc[39]. If they do not show these properties, and are closer to weak pronouns, there is no way around the conclusion that only weak pronouns require special licensing and that the function of doubling is to license a weak pronoun.

In what follows, the strong/weak status of doubled pronouns in Welsh, Breton, and Standard Arabic is examined. Taken together, evidence from these languages strongly suggests that pronouns doubled by 'rich' or synthetic inflection are in fact strong, implying that pronominal DPs in-situ, contrary to what has previously been supposed, are not exempt from a relationship with a DP-external functional head[40].

2.1.2.a Welsh

First, strong pronouns are said to be emphatic. And indeed, Rouveret (1991) reports on an observation attributed to R. Borsley, that auxiliary pronouns are necessarily emphatic[41]. They can also be conjoined with lexical nominals, a hallmark of strong pronouns:

(48) Gwelais i ac Emrys ddraig
saw-1sg I and Emrys dragon
Emrys and I saw a dragon

Regarding the structural position of auxiliary pronouns, it appears that they occur no higher than lexical arguments, as expected if they are strong. Although Cardinaletti & Starke (1999) claim that strong pronouns occur in their base position, what's at stake is

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[39]See Cardinaletti & Starke (1999), and extensive discussion in the interlude between chapters 2 and 3. Recall from fn. 3 that 'strength' is used descriptively, to refer to pronouns in-situ in the presence of an attractor. See section 2.2 for discussion of contexts of non-attraction and the non-significance of weak vs. strong.

[40]When such a head is present and attracts a pronoun. See section 2.2 for examples in which pronouns are not attracted.

[41]Atkins (1972) makes a similar point.

whether strong pronouns occur in the same position or higher than their lexical counterparts. In other words, the occurence of some extent of raising common to both pronouns **and** lexical arguments should not be taken as evidence against the claim that these pronouns are strong. The position of negation, for example, distinguishes two possible subject positions. Auxiliary pronouns necessarily precede negation, indefinites must follow negation, and definite DPs may precede or follow (from Rouveret (1991)):

(49) a. Weles i ddim y fudde honno ariod
saw-1st I neg the churn that ever
I never saw that churn
b. Ath **'y nhad** ddim i mas i ddrychid
went my father neg to outside to look
My father didn't go out to look
c. A fywodd ddim **'r 'en grwban** bach
and lived neg the old tortoise little
and the little old tortoise didn't survive
d. Nethe ddim **dwr pishtyll** y tro
would-do neg water spring the turn

(49) shows that at least some subjects raise from base position, including pronouns. The fact that raising is not restricted to pronouns could be taken as evidence for a raising requirement independent of pronominal status, especially if the pronouns in (49a) are no higher than the definite subjects in (50b). More conclusive evidence in favor of the hypothesis that the position of auxiliary pronouns is no different from the position of lexical arguments is provided by possessives[42]. Within DP, a pronominal possessive clitic precedes the noun, but a lexical possessive follows the noun and any adjectives (from McCloskey & Hale, 1984):

(50) a. **ei gi**
3ms dog
his dog
b. ci John
dog John
John's dog
c. **llyfr newydd Dafydd**

---

[42]As discussed in Koopman (1999).

book new David
David's new book

Auxiliary pronouns, which double the *ei* form of (50a) appear to occupy a position similar to lexical possessors. In the following example, the pronoun can occupy no position other than post-adjectival (from Koopman, 1999):

(51) ei hanes (*ef) bywiog ef am yr ymfudwyr
Agr3 story his lively his about the immigrants
his lively story about the immigrants

(50c) and (51) show that the position of lexical possessors and pronominal ones is most certainly the same. Even if it turned out that both occur in some derived position, it seems clear that auxiliary pronouns need not raise any further than lexical arguments. This is so because the relevant [person] feature is satisfied by inflectional material doubling the pronoun.

So far, auxiliary pronouns in Welsh exhibit some properties characteristic of the strong Rom / Ger type. They are emphatic, they can be conjoined, and they do occur in the same positions as lexical DPs. Next, we turn to Breton to show that dislocation of doubled pronominals is also possible.

2.1.2.b Breton

The pronominal system of Breton supplies an additional piece of evidence in favor of the claim that doubled pronouns are strong. In Breton, pronouns doubled by synthetic inflection can be dislocated, on a par with strong Rom/Ger pronouns. Inflection is obligatory in dislocation but impossible when the pronoun is in spec Agr_S[43]. Before turning to these facts, the system is briefly described.

Like Welsh, Breton disallows lexical DPs with verbal inflection, and pronouns require inflection (from Doron, 1988):

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[43]This is not an uncontroversial analysis of the facts. I will not directly address Stump's 1989 response as it preserves the central and most relevant claim of Stump 1984, that subjects of negative declaratives are dislocated.

(52) a. bemdez e lennont eul levr
every day PRT read-3p a book
They read a book every day
b. bemdez e lenn / *lennont ar vugale eul levr
every day PRT read / read-3p the kids a book
The kids read a book every day
c. levriou a lennan-**me** / *lenn **me**
books PRT read-1s+1s / read 1s
I read books

Extending the analysis of pronoun doubling to Breton, the pronoun in (52c) is a NumP from which Num^0 has raised to check [person] on a subject related F^0. The prediction is that this pronoun is strong, and in fact Stump (1989) argues at length that the pronoun occuring with inflection in (52c) can only be a non-argumental emphatic pronoun. The emphatic pronoun of (52c) occurs in all inflectional contexts, including object of preposition (in 53) and nominal possessor (in 54). Note that in these cases inflection is obligatory (Stump, 1989):

(53) a. *Ul levr a zo gant-**me**
a book PCL is with-1sg
b. Ul levr a zo ganin-**me**
a book PCL is with+1sg-1sg
I have a book
c. Ul levr a zo ganin
a book PCL is with+1sg
I have a book

(54) a. *Klanv eo breur-**me**
sick is brother-1sg
b. Klanv eo **ma** breur-**me**
sick is 1sg brother-1sg
My brother is sick
c. Klanv eo **ma** breur
sick is 1sg brother
My brother is sick

Note that as in Welsh, the pronominal form doubled by inflection does not vary with case position. This gives another property, not mentioned in Cardinaletti & Starke, shared by some Rom/Ger strong pronouns. French non-clitic pronouns, for example, are invariant across grammatical function:

(55) a. Jean parle de **moi**
Jean talks of me
Jean talks about me
b. Jean me connais **moi**
Jean me knows me
Jean knows me
c. **Moi** je parle de Jean
me I talk of Jean
I talk about Jean

Assuming that pronominal Case distinctions are related to the choice of attracting functional category (i.e. Agr_S, Agr_O, Agr_P or the semi-substantive T^o, v^o, p^o), then lack of Case distinctions in auxiliary, doubled, pronouns would follow from the claim that the pronoun itelf is not directly associated with that functional category, the structural configuration of doubled pronouns being a DP-internal affair.

As opposed to Welsh, Breton does allow a preverbal subject argued in Stump (1984) to be in IP internal position in affirmative clauses[44]. If correct, the projection of a specifier should allow a pronominal element to raise as XP for [person] checking. The prediction made by the present approach is that preverbal pronouns should occur without synthetic inflection, which turns out to be confirmed (from Stump, 1984):

(55) a. **Me** a lenn / *lennan levriou
I PRT read / read-1s books
I read books
b. **Te** a lenn / *lennez levriou
you PRT read / read-2s books
You read books

The pronouns in the above example occur in derived subject position, a position characteristic of weak pronouns in Romance and Germanic. Breton thus supports the general claim that raised inflection and raised pronouns are equivalent modes of [person] feature checking. Weak pronouns, however, cannot be dislocated. Stump argues at length that the sentence initial position of subjects in negative sentences is sentence external,

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[44]In the revised analysis presented in Stump (1989) the difference between negative and affirmative sentences is not as straightforward, subjects of both sentence types being dislocated in spec CP, and differences derived from Minimality and status of C^o. For simplicity I stick to the original idea.

topicalized or clefted. A pronoun in this position, necessarily strong, *must* occur with inflection[45]:

(56) **Int** ne lennont / *lenn ket levriou
they PRT read-3p / read neg books
They didn't read a book

Breton thus provides additional evidence supporting the hypothesis that strong pronouns must be doubled when an attracting [person] feature is present. First, doubled pronouns are Case invariant, similar to Romance strong pronouns. Second, similar to Rom/Ger in which only strong pronouns can be dislocated, Breton shows a correlation between dislocation and inflection: only a pronoun doubled by inflection can be dislocated in negative clauses.

2.1.2.c Standard Arabic

Modern Standard Arabic too shows two types of verbal inflection. The 'poor' form includes only gender marking, and the 'rich' form encodes person and number features as well[46]. As in Welsh and Breton, the presence of 'rich' inflection distinguishes postverbal lexical arguments from pronouns[47]:

(57) a. *ji?-na l-banaat-u
came-3.p.f the-girls-nom
b. jaa?-at l-banaat-u
came-f the-girls-nom
The girls came
c. *jaa?-at **hunna**
came-f they-f
d. ji?-na
came-3.p.f
They(f) came

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[45]Adapted from Stump who reports the fact.
[46]I assume that weak inflection is lexically attached to verb forms.
[47]All Standard Arabic examples are from Fassi Fehri (1993).

The inflection on the verb in (57a) specifies number and person features, and is incompatible with a lexical subject. Assuming that as in Welsh Arabic nouns must check [number] in Num°, doubling by a raised pronominal in Num° is excluded. Only the weaker inflectional form is possible, as in (57b). Pronouns, on the other hand, are incompatible with weak inflection because a strong [person] feature would remain unchecked. In the pro-drop example (57d), a 3rd person plural inflectional morpheme has raised from within DP, checking [person].

The ungrammaticality of (57c) with a pronominal subject and weak inflection parallels the Welsh example with an independent pronoun, analyzed as non-raised Num°. Recall that Welsh independent pronouns are impossible as subjects, the explanation being that the relevant Agr necessarily attracts $Num_{[person]}$. In Standard Arabic, a postverbal pronominal subject is grammatical with rich inflection, provided the pronoun is taken to be *emphatic:*

(58) a. *jaa?-uu **hum**
came-3.p.m they-m
b. jaa?-uu **hum** laa xuddaam-u-hum
came-3.p.m they-m not servants-nom-their
They came, not their servants
c. **hunna** laa y-ubaalii ?-ahad-un bi-hinna
they-f not 3-care one-nom about-them-f
As for them(f), nobody cares about them

The negated DP in (58b) creates an environment in which the pronoun is necessarily emphatic. In (59c) a dislocated pronoun is doubled by inflection within PP. These examples show, first, that pronouns do require rich inflection, and second, that an occurrence of a doubled pronoun is licensed only if it is of a certain type. In Welsh these types happen to be distinguished phonologically (the *mi* / *i* alternation of independent / auxiliary pronouns). Since emphasis and dislocation are two of the contexts which allow only strong pronouns, the contrast between (58a) and (58b)/(58c) suggests that in Standard Arabic as well, a pronoun doubled by rich inflection must be strong. Assuming that weak pronouns are identical to Welsh independent pronouns, the incompatiblity of a

weak pronoun and rich inflection follows from the fact that both are instances of Num°, and Num° is attracted by [person] in F°. Strong pronouns, on the other hand, have a distinct source, the NP position associated with Welsh auxiliary pronouns:

(59) a. weak pronoun: $[_{NumP}$ pronoun]
b. strong pronoun: [NumP rich inflection $[_{NP}$ pronoun]

A pronominal in Num° raises to check the relevant [person] feature. This gives the pro-drop sentence in (57d). Lack of raising results in ungrammaticality, as expected.

Another property characterizing the pronoun described here as strong is its formal invariance. Like auxiliary pronouns in Welsh and Breton, this pronoun may occur in a variety of syntactic environments, including direct object position (in 60a), possessive position (60b), and complement of preposition (in 60c). In all contexts it requires overt agreement[48]:

(60) a. ?-antaqid-u-**ka** **?anta**
I-criticize-ind-you you
I criticize you
b. ?-as?al-u an xabar-i-**ka** **?anta** laa an xabar-ii
I-inquire about news-gen-you you not about news-me
I am inquiring about your news, not about mine
c. marar-tu bi-**hi** **huwa** laa bi-?axii-hi
passed.by-I with-him he not with-brother-his
I passed by him, not his brother

So far, Arabic doubled pronouns appear to bear significant similarities to Welsh/Breton auxiliary pronouns. Their form is invariant, they are emphatic, and they can be dislocated. As opposed to Welsh, however, and similar perhaps to Breton SVO affirmative clauses, Standard Arabic allows preverbal subjects in addition to the postverbal position. The syntax of preverbal subjects presents a significant departure from the VS pattern examined so far. In preverbal position the contrast between lexical and pronominal subjects breaks down, and rich agreement is obligatory with both. Not surprisingly, non-emphatic pronominal subjects become possible:

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[48]Similar doubling phenomena are found in Syrian Arabic, described in Borsley (1995).

(61) a. al-bana:tu **ji?-na**
the-girls came-3,p,f
The girls came
b. *al-bana:tu **ja:?-at**
the-girls came-f

(62) a. **hum ja:?-u:**
they came-3,m,p
They(m) came
b. *hum **ja:?-a**
they came-m

A lexical subject is not expected to be compatible with rich agreement, nor is a weak pronoun, since both occur within DP in the source position of rich inflection. Following Fassi Fehri (1993) and Roberts & Shlonsky (1996), the status of rich inflection with preverbal subjects must be different. In the terms of the present analysis, it could not have raised from within DP, rich inflection, weak pronouns, and lexical arguments all being instances of Num°. In the spirit of these proposals I assume that non-pronominal inflection correlates with XP (as opposed to head) nominal features on F°[49]. Non-pronominal inflection is generated on the lexical head it is associated with and does not have a [person] feature to check against $F_{[person]}$. The entire NumP containing $Num_{[person]}$ is forced to raise, giving rise to a weak preverbal pronoun.

2.1.3 Conclusions

Languages such as Welsh, Breton, and Standard Arabic provide empirical support for the claim that pronoun movement, in general, is triggered by an attracting $F^{o}_{[person]}$. First it was shown that the most straightforward analysis of Welsh synthetic inflection takes it to have raised to its clausal position from a DP-internal site, an analysis which is compatible the idea that inflectional material checks a feature associated with clausal F°. Second, it was shown that the type of pronoun associated with such inflectional material is sufficiently similar to in-situ pronouns of the Italian / Swedish variety, exhibiting

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[49]See chapter 4 for detailed discussion and analysis in the context of Hebrew preverbal and postverbal pronominal subjects.

characteristics of 'strong' pronouns. By hypothesis, strong pronouns in languages such as Italian and Swedish are also doubled by an inflectional head, the difference between these languages and Welsh / Breton / Standard Arabic being that in the former the relevant head is phonetically null. If the approach is on the right track then strong pronouns are involved in a relation with a functional target albeit in the form of an inflectional double, possibly null, which raises in lieu of the pronoun.

The observation that a checking relation is established in the presence of strong pronouns removes one of the most compelling arguments in favor of a greed approach, for if all pronouns undergo checking with a functional target it need not be a deficiency particular to weak pronouns which explains their occurence in derived positions. On the contrary, the attract approach suggests that there need be no fundamental difference between pronominal types. And in fact, the examination of contexts in which pronouns fail to be attracted, pursued in section 2.2, leads to the conclusion that deficiency, rather than being an inherent property, depends on position and is relevant only when pronominal material is attracted - a non-attracted pronoun neither raises, like weak pronouns, nor doubles, like strong pronouns.

The next section studies contexts in which what appear to be weak forms fail to raise and what appear to be strong forms fail to double. These are found in Swedish, previously understood in terms of the extent of verb raising (Holmberg's generalization), but also in Italian, French, Irish, Welsh, and Standard Arabic, where the extent of verb raising does not seem to play a role. The study of these contexts addresses the different predictions made by Greed and Attract approaches and shows that not only is an Attract approach to pronoun movement feasible, it is also fares better empirically in its ability to unify pronominal movement and doubling, and to account for various types of restrictions attested in these domains.

2.2 Restrictions on Pronominal Doubling and Raising

Italian and Swedish do not show licensing by doubling in any obvious way, but cases of pronominal doubling do exist within Romance. Kayne (2000) discusses pronominal doubling by clitics in French, as in the following examples[50]. French doubling seems particularly relevant because similar to the type of rich inflection analyzed above, doubling by a clitic is restricted to pronouns[51]:

(63) a. Jean connait Marie
Jean knows Marie
b. *Jean **la** connait Marie
Jean her knows Marie

(64) a. Jean **me** connait
Jean me knows
b. *Jean connait **moi**
Jean knows me
c. Jean **me** connait **moi**
Jean me knows me

(65) a. Je vois Marie
I see Marie
b. *Moi / MOI vois Marie
I see Marie
c. **Moi, je** vois Marie
I I see Marie

(66) a. Jean me parle
Jean to-me speaks
b. *Jean parle a moi
Jean speaks to me
c. Jean **me** parle a **moi**
Jean me speaks to me

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[50]I set aside doubling of third person pronouns in order to concentrate on cases where restrictions are seen clearest.

[51]As is well known, clitics in many languages may double lexical DPs (Greek, River Plate Spanish, Lebanese Arabic, etc.) I assume that these clitics have a different source and function than clitics in French and Peninsular Spanish (likewise restricted to pronouns), just as the kind of agreement restricted to pronouns is distinct from full agreement with lexical DP (Welsh vs. Italian).

Similar to a Welsh lexical DP which does not tolerate synthetic inflection, French lexical DPs may not be doubled by a clitic. And similar to Welsh auxiliary pronouns, the independent object pronoun in (64b) is ungrammatical without a clitic double, and so are the independent subject pronoun in (65b) and the dative in (66b). And as in Welsh, Breton, and Standard Arabic discussed above, the form of a French independent pronoun remains constant regardless of Case position.

The range of facts presented in Kayne (2000) includes grammatical and ungrammatical cases of French pronominal doubling. Taking these facts as a point of departure I show how they can be captured in terms of $\text{Attract}_{[\text{person}]}$. The analysis is then extended to similar restrictions found in Welsh, Irish, and Standard Arabic, and to restrictions on weak pronoun movement in Italian and Swedish.

Kayne observes that the requirement on doubling is relaxed in a number of contexts, partially given bellow:

(67) Jean parle de **moi**

(68) Marie n'aime que moi
Marie neg loves than me
Marie loves only me

(69) a. Jean aime la physique, et **moi** la chimie
Jean likes physics, and me chemistry
b. *Jean aime la physique et **moi je** la chimie
Jean likes physics and me I chemistry

(70) a. ***Moi** ayant resolu le probleme, tout va bien
me having solved the problem, all goes well
b. Jean ayant resolu le premier probleme et **moi** le second, tout va bien
Jean having solved the first problem and me the second, all goes well

(71) a. *Une fois **moi** parti...
once me left
b. Une fois Jean entre et **moi** sorti...
one time Jean entered and me left
Once Jean has entered and I

(67) involves an oblique preposition, (68) an 'except' clause and (69) - (71) involve gapping in the second conjunct. Doubling in the gapped conjunct is impossible, shown in (69b). In (64) - (66) the pronouns are in positions of structural case marking (accusative, nominative and dative, respectively), but the preposition *de* in (67) is not a structural case marker. Kayne proposes that if gappping constructions include gapping of the TP layer, then neither do the non-doubled subjects in the gapped constituents of (69) - (71) occur in structurally case marked positions. To account for the observed contrasts between obligatory and impossible pronominal doubling Kayne proposes the following generalization:

(72) Pronominal arguments that are structurally Case-marked in French must be doubled by a clitic.

Pronominal doubling by a clitic and the restriction expressed in (72) support an attract approach to pronoun movement[52]. The restriction of doubling to structurally case marked positions suggests that the ingredient underlying pronominal doubling is associated with the kind of functional head typically involved in structural case assignment: T^o/Agr_S; v^o/Agr_O; v^o/ Agr_{dat}. This is the kind of distribution one would expect on an attract approach because it involves the syntax of the moved consitituent and the syntax of the target, and on the analysis developed so far it is precisely these functional heads which host attracting [person]. If T^o/Agr_S; v^o/Agr_O; v^o/ Agr_{dat} host [person] features, and if these features cannot be checked directly by the independent pronoun, the pronoun must be doubled by an element which can, namely a clitic. Thus the generalization in (72) correlates only indirectly with the XP ('structurally case-marked') position of the independent pronoun; it follows, rather, from the morphosyntax of the functional heads associated with these positions.

Gapping constructions, from this perspective, simply lack the functional structure required to host an attracting person feature. If the TP layer is absent, it follows that [person] associated with the subject is also absent. Therefore, nothing is attracted and

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[52]As discussed in Kayne (2000) in the context of Chomsky (1998).

doubling becomes superfluous[53]. Were (72) interpreted literally to imply that the mechanism of Case assignment, as opposed to [person] checking, was involved, it would be difficult to avoid the conclusion that independent pronouns and lexical DPs in gapping constructions can be Caseless. But if [person] and not [Case] checking underlies (72), the idea that some functional material is absent in gapping has no direct Case-related implications[54].

Although the syntax of the attractor explains the redundancy of doubling in gapping constructions it has little to say about the ungrammaticality of the clitic occurrence in (69b). The fact that a clitic is ungrammatical (as opposed to optional) in the absence of an attractor suggests a mutual licensing relationship between $F^{o}_{[person]}$ and clitic. Note that the clitic presents a special case: in Welsh for example (see above) a non-attracted pronominal Num^{o} may in principle remain in-situ (producing independent and reduplicated pronouns) but a French clitic cannot fail to be attracted, just as it cannot remain in-situ when the relevant functional material is present. The simplest way to accommodate the special requirement on French clitics, which I will adopt, is to assume that clitics of the French variety have uninterpretable features which delete upon checking with an attractor. Hence sentences containing clitics without the appropriate structural configuration in which the clitic feature can be checked are ungrammatical, as in (69b). That is not to say that in general, the moved pronominal has features in need of checking (a Greed approach), only that clitics constitute a particular type of pronoun (a

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[53]See Lasnik (1999) for a related effect in pseudo-gapping and sluicing. Features of a target may be checked in the absence of overt phonological material precisely because ellipsis removes the (potentially non-convergent) phonological residue of a head from which F has been attracted.

[54]Though it does raise a question regarding Case-licensing of DPs in gapping contructions, and more generally the kind of argument licensing traditionally accounted for via the mechanism of Case-checking - the idea that gapping removes functional material explains non-doubling at the cost of obscuring DP Case licensing, which appears to be satisfied independently of functional structure. If EPP checking and Agree (including Case-agreement/checking) are fundamentally distinct it is possible that distinct functional heads are involved such that gapping removes a node associated with [EPP]/[person] and leaves intact the node associated with Agree allowing [Case] of the subject DP to be checked at a distance.

pronoun with a feature which does not check internal to DP), compatible with the Attract approach developed so far. After showing how the analysis of gapping extends to cases of obligatory / impossible Num° raising in Welsh and Irish, I turn to discuss the resriction on doubling with oblique prepositions (given in 67) and 'except' clauses (in 68).

2.2.1 Blocking Effects

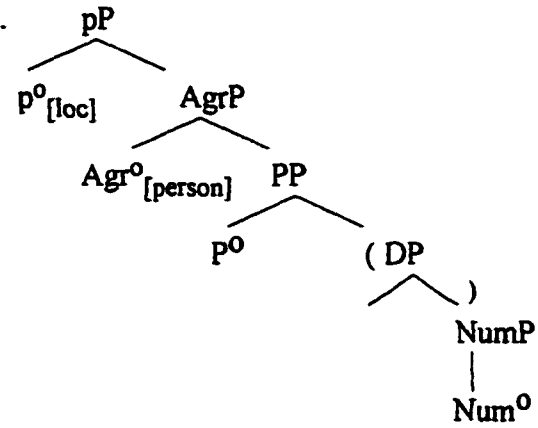
The analysis of non-doubling as absence of an attractor can be extended to Welsh and Irish. Consider the Blocking Effect (discussed in McCloskey & Hale (1983) and McCloskey (1986) among others) found in languages such as Irish and Welsh in light of the analysis of non doubling in gapping as absence of an attractor. As is well known, Welsh and Irish possess incomplete paradigms of synthetic inflection of varying degrees of complexity. In Welsh some prepositions may occur with synthetic inflection, others occur only in non-inflected form; in the Irish verbal paradigm no form of subject synthetic inflection is available for some person - number combinations. In both languages an independent pronoun is used instead. Crucially, however, whenever a synthetic form is available it 'blocks' grammaticality of the corresponding analytic form + independent pronoun combination. In terms of the analysis in 2.1, when pronominal Num° raising is possible it is also obligatory (recall that the independent pronoun is an instance of non-raised Num°). From an attraction perspective this pattern is expected - failure to raise precludes checking on the attracting head and crashes the derivation, on a par with non-doubling in French case-marked positions. But if synthetic inflection is attracted Num° then cases of so-called unavailable synthetic inflection are simply cases in which Num° is not attracted, a phenomenon which clearly derives from the syntax of its attractor, the F° hosting [person].

Welsh has both inflecting and non inflecting prepositions, as discussed above. A pronominal complement to a non-inflecting preposition is expressed as an independent pronoun (from Rouveret, 1991):

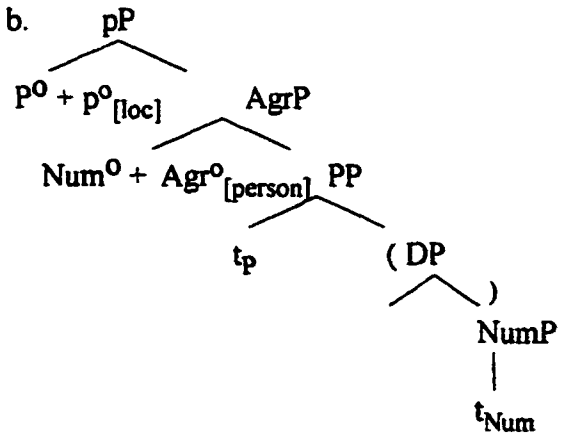
(73) a. am *about* am-dan-o *about him*
b. ag *with* a Sion / ag ef *about Sion / him*

The preposition in (73a) inflects hence a pronominal complement is represented inflectionally; the preposition in (73b) does not and a pronominal complement, like a lexical DP occurs with a non-inflected form. An equivalent representation of (73a) is impossible. Suppose that what triggers incorporation in (73a) is a person feature associated with a functional layer above PP, along the lines of the analysis of Hebrew pPs given above and repeated below:

(74) a.



b.



[person] on Agr° attracts pronominal Num°, and p° attracts the preposition producing the Welsh order of morphemes in pronominal prepositions, P° + connective morpheme + synthetic inflection. While in Hebrew all PPs are dominated by p° and Agr° and hence inflect, the difference between Hebrew and Welsh can be assimilated to gapping, such that in Welsh some PPs are not dominated by a pP - AgrP sequence. If $Agr_{[person]}$ is absent there is no attractor and Num° is free to remain in its base position.

The situation in Irish is considerably more complex but it shares with Welsh the property that the availability of an inflected form blocks the grammaticality of analytic form + independent pronoun though these combinations are possible in principle. In this language paradigmatic gaps occur within the verbal paradigm, and unlike the Welsh prepositional example, it is not a particular verb which is either analytic or synthetic. Rather, within a particular paradigm not all synthetic forms are unavailable. The paradigm for conditional *cuir* 'put' is typical (from M&H):

(75)

chuirfinn	*I would put*	chuirfimis	*we would put*
chuirfea	*you would put*	chuirfeadh sibh	*you.p would put*
chuirfeadh se	*he would put*	chuirfeadh siad	*they would put*

In the case of *cuir* synthetic verb forms exist only for first person singular and plural and second person singular, and with all other verb forms the analytic form of the verb is used in combination with an independent pronoun. An extension of the gapping analysis to Irish verbal paradigms says that [person] is absent in third person singular and plural and second person plural of *cuir*, either because Agr itself is not generated or because Agr lacks [person]. Though the factors determining the presence of Agr / [person] are complex and can be gleaned neither from structure (as in gapping) nor from lexical choice (as with Welsh prepositions), indication that syntactic attraction is involved is provided by its obligatoriness whenever possible. When a synthetic form is available the analytic form with independent pronoun is ungrammatical:

(76) *Chuirfeadh me isteach ar an phost sin
put (cond) I in on that job

Difficult as it may be to learn the particular person/number combinations within the particular verbal paradigms for which [person] is absent, the stipulative nature of these combinations is a challenge to any theory (and learner) which seeks to account for the distribution in (75). Most likely, however, the attract approach misses nothing by stipulating the relevant person / number combinations as there is nothing in particular to explain. What does require explanation is (75) in relation to (76) which is completely regular and expected on the attract analysis.

These Welsh and Irish examples provide, at the very least, another piece of evidence against a Greed approach to pronominal raising, since the pronouns are grammatical in-situ as long as they are not attracted. If the distribution of independent pronouns is indeed determined by presence / absence of an attracting element, they show that the syntax of pronominal doubling and the syntax of pronominal raising are one and the same, triggered by the same factor and restricted in similar ways.

2.2.2 Oblique Prepositions

Consider now another type of environment which precludes pronoun doubling in French. As observed in Kayne (2000) pronominal complements to oblique prepositions need not double, in contrast to pronouns in structurally case marked positions (in 76). Significantly, the restriction on doubling in this context seems not to be a restriction on doubling per se; Italian *weak* pronouns remain in-situ in precisely this configuration. An Italian accusative non-stressed, non-conjoined, non-modified non-clitic pronoun is impossible in-situ, but the same non-stressed, non-conjoined, non-modified, non-clitic pronoun complement to oblique preposition is fine:

(77) a. *Jean voit **moi**
Jean sees me
b. Jean parle de **moi**
Jean speaks of me
c. Jean parle avec **moi**
Jean speaks with me (French)

(78) a. *Ho visto **lei**
(I) have seen him
b. Ho parlato con **lei**
(I) have spoken with him (Italian)

Note, first of all, that (78b) is unexpected on a Greed approach: weak *lui* raising is driven in the general case by the need to check features of *lui*. But then it remains a mystery how these features are checked unless it could be shown that the weak pronoun does

raise to some (phonologically non-observable) extent even in (78b). Yet the analogy with French non-doubling suggests that the function of clitic doubling and the function of weak pronoun movement are the same, leading to the conclusion that since the French pronoun does not double (as is directly observable), neither does the Italian weak pronoun raise. Given the consensus that strong pronouns require no particular operation for their licensing, whatever sanctions non-doubling in (77b) and (77c) must be external to the status of the pronoun. By analogy, non-raising of the pronoun in (78b) is likewise sanctioned by factors external to the status of the pronoun itself. To the extent that the restriction imposed by oblique prepositions derives from the syntax of the attractor it is similar to the gapping and blocking examples discussed above.

Before proceeding, notice that the Italian relaxation on weak pronoun movement is not an isolated case. Swedish too has weak pronoun movement when the pronoun is structurally case marked accusative (and the main verb raises) as in (79), but weak pronouns remain in-situ (follow negation) when accompanied by an oblique preposition, in (80)[55]. As in Italian, the pronoun following the preposition is non-stressed, non-conjoined, non-modified, and qualifies as 'weak' in the terminology of Cardinaletti & Starke (1999).

(79) Jag kysste **henne** inte
I kissed her not

(80) a. *Jag talade **henne** inte med
I spoke her not with
b. Jag talade inte med **henne**
I spoke not with her

Why should oblique prepositions preclude attraction? According to the the traditional view the case assigned by oblique prepositions is intimately connected to theta-role assignment, not structural configuration. In MP terms, oblique PPs are not associated with functional material in the clausal domain (such as Agr_O / Agr_{iO}/ accusative assigning v^o). Extending the analysis of Welsh non-inflecting prepositions to Italian,

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[55]Raising of a weak dative pronoun is also impossible. I return to these later.

French, and Swedish, the extended projection of oblique prepositions in these languages lacks functional layers above PP [56]. But if neither Agr_O / v^O nor Agr_P / p^O are present in the context of oblique prepositions, then no attractor is present. If no attractor is present, weak pronouns need not raise and strong pronouns do not double. A non-doubled pronoun therefore must remain in-situ whether or not it bears the hallmarks of strength. It can be conjoined, modified, etc. but it need not because nothing attracts it[57].

2.2.3 Swedish particles

Similar at first glance to oblique prepositions, Swedish weak pronouns remain within VP in the context of particles as well (from Holmberg 1999):

(81) a. *Dom kastade **mej** inte ut
They threw me not out
b. Dom kastade inte ut **mej**
They threw not out me

The distribution of weak pronouns in Danish and Norwegian reveals, however, a significant difference between the functional landscape of particle constructions and that of oblique PPs. In these languages weak pronouns in particle constructions raise to a position preceding adverbs and negation. In other words, the Agr_O / v^O functional domain must be present. [person] associated with this node attracts the pronoun in Danish and Norwegian, as expected:

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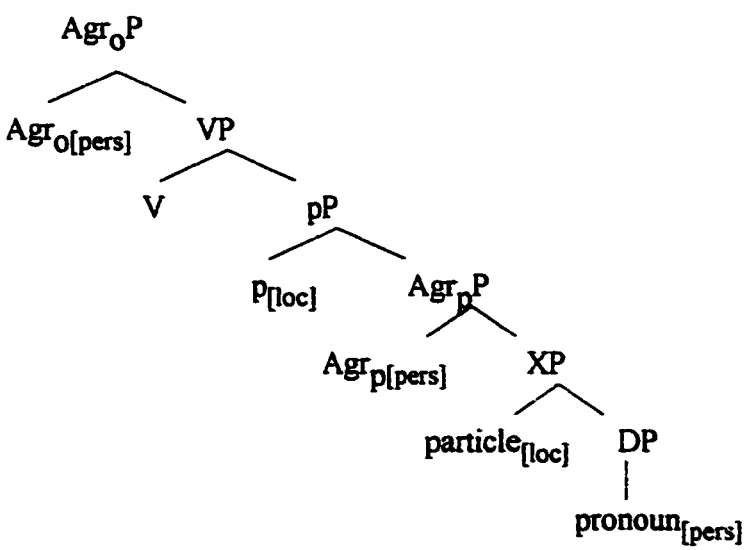
[56] In this sense, no Hebrew prepositions are oblique because they are dominated by functional layers as in (16) above, and the Welsh prepositional system is mixed.
[57] If we continue to refer to non-stressed, non-conjoined pronouns as in (78b) and (80b) as 'weak', these examples suggest that 'Minimize Structure', the procedure in C&S responsible for selecting the weakest form possible, breaks down in contexts of non-attraction, and similarly in the SA conjunction structures discussed below. A different way to characterize the distribution of the cluster of properties associated with pronominal strength and weakness would be via position: only attracted pronouns show 'weak' properties. If Koopman's approach to pronoun movement as NumP extraction from DP, a link with structure is still possible, raised pronouns being necessarily NumPs. Such an analysis derives structural differences from movement and does not define 'weak' and 'strong' pronouns inherently.

(82) a. Jeg skrev **det** maske ikke op
I wrote it maybe not up
Maybe I did not write it up (Danish)
b. De kastet **meg** ikke ut
they threw me not out
They did not throw me out (Norwegian)

Assuming that the structure of particle constructions in Swedish similarly contains a functional layer associated with the matrix object, and assuming that the content of this node is no different in Swedish and likewise contains attracting [person], the question is how that feature gets checked in Swedish in the absence of pronoun raising.

Following Den Dikken (1995) and Svenonius (1996) among others, I will assume that particles project a clausal structure containing the particle and its argument. In keeping with the structure proposed for inflecting prepositions (perhaps oversimplifying), suppose that that clausal structure includes functional material, p^0 and $Agr_{[person]}$. The relevant portion of a clause containing a particle is then as follows[58]:

(83)

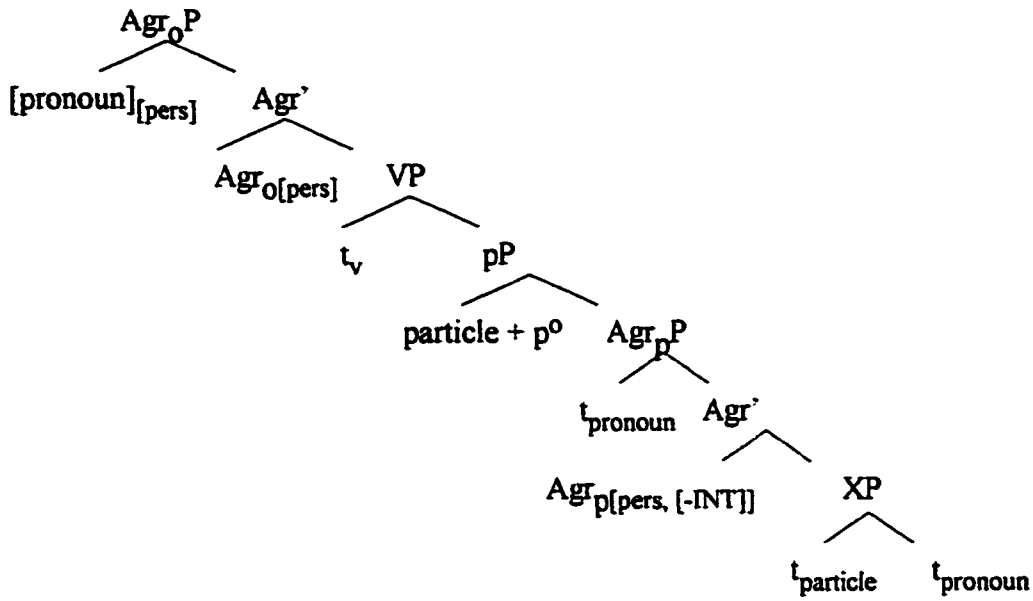


I will assume that [loc] on p^0 is [-INT] in the languages under consideration, and always attracts the particle. In Norwegian and Danish, [person] on Agr_p attracts the pronoun to

[58]Abstracting away from structural details below Agr_p which at the moment do not seem directly relevant.

its specifier, and raising of the pronoun to spec Agr_p erases the feature on Agr_p. The higher Agr_o also attracts [person], the closest candidate being the pronoun in spec Agr_pP. Raising to spec Agr_o produces the order V-pronoun-negation-particle:

(84)



Suppose that the only difference between Swedish and Danish / Norwegian is that [person] on Swedish Agr_p is [+INT] and does not attract the pronoun[59]. Then the pronoun will not raise from its position in XP. But [person] on Agr_o still needs to be checked, and the closest candidate is $Agr_{p[person]}$. By Shortest Move, $Agr_{p[person]}$ raises to check $Agr_{o[person]}$ and the pronoun remains put in XP, giving the order V-neg-particle-pronoun. As in the previous cases, nothing special need be said about the pronoun. It raises only when attracted, and here it fails to be attracted due to the presence of a closer candidate bearing [person].

The analysis of Swedish particles extends to another instance of Swedish weak pronouns in-situ. Similar to particles, a dative complement precludes raising of an accusative pronoun (from Holmberg, 1999):

(85) a. *Jag gav **den** inte Elsa
I gave it not Elsa

---

[59]Assuming no LF movement, weak would not need to be stipulated on Swedish Agr_p [[pers], +INT]. If 'strong' in the context of Welsh in section 2.1.1 is inevitable, then Danish, Norwegian, Swedish $Agr_{p[person]}$ may well be [+INT], strong in Dan / Norw and weak in Swedish, where 'weak' is understood as non-attracting.

b. Jag gav inte Elsa den
I gave not Elsa it
I did not give it to Elsa

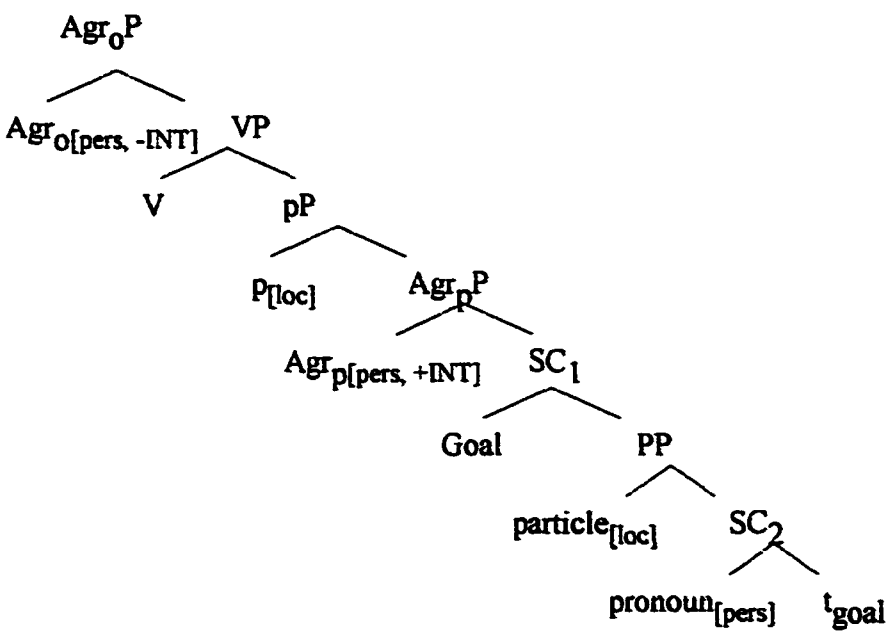
Following the analysis of dative shift given in Den Dikken (1995), I will assume that dative PPs front to the specifier of a hidden particle, overtly present in examples such as (86). The structure of double object constructions in Den Dikken (1995) is as in (87):

(86) a. John sent a package off to Bob
b. John sent Bob off a package

(87) $[_{VP}\ V\ [_{SC1}\ spec\ [_{VP}\ [_{V}\ BE+P^{O}]\ [_{SC2}[_{PP}\ t_{P}\ Bob]\ [_{PP}\ Prt[_{SC3}\ package\ t_{PP}]]]]$

According to (87) triadic verbs contain a particle, possibly null, which selects a small clause containing the Theme and Goal. Raising of the PP Goal to spec of the particle plus incorporation of dative P^{O} to abstract BE derives a double object construction. Adopting the essence of Den Dikken's analysis of double objects as containing hidden particles which select small clauses, I will assume that particles which select small clauses are dominated by the same functional material as particles which occur with a DP argument, as given in (83). The relevant portion of a Swedish double object construction with a pronominal Theme is then roughly as in (88)[60]:

(88)



[60]Setting aside the fate of dative P^{O} and the final position of the particle.

As in the simple particle construction, [person] on Swedish Agr_pP is [+INT] and doesn't attract the pronoun. [person] on Agr_o is an attractor, as usual, and will attract $Agr_p{}^o$, the closest candidate, giving the order V-neg-dative-pronoun[61].

2.2.4 Ne...que and except phrases

A further exception to the requirement that French independent pronouns must be doubled are cases such as the following (from Kayne, 2000):

(89) a. Marie n'aime que **moi**
Marie neg loves than me
Marie loves only me
b. Marie connait mieux Jean que **moi**
Marie knows Jean better than me

Kayne proposes that if these are gapped structures in which the v^o layer is present, they must involve a null counterpart to clitic *me*, licensed specifically in gapping constructions. That is because if v^o is present the pronoun is in a structurally case marked position, and so must be doubled. But from an attract perspective it is unclear why gapping should have an effect on the phonological content of a pronominal checker which is otherwise overt, especially if these examples do not gap a portion of the relevant functional domain, in this case v^o.

Before considering an alternative consider a related restriction attested in Standard Arabic. Free standing object weak pronouns are generally impossible and incorporation into an attracting element is obligatory (from Fassi Fehri, 1993):

(90) a. *ra?ay-tu **?iyyaa-ka**
saw-I you
b. ra?ay-tu-**ka**
saw-I-you

---

[61]The fact that dative pronouns do raise to pre-neg position suggests that the Goal argument raises higher than spec SC_1, passing Agr_pP, hence counting as a closer candidate than Agr_n (thanks to M. Den Dikken, p.c.).

In 'except/only' phrases, however, the weak independent form is the only possibility:

(91) a. maa ra?ay-tu ?illaa **?iyyaa-ka**
not saw-I except you.acc
I saw only you
b. *maa ra?ay-tu-**ka** ?illaa
not saw-I-you except

First, note that (91a) shows that the weak form is not impossible in principle, and so cannot be the reason for the ungrammaticality of (90a). Once again, we see direct evidence for an attract approach since properties of the pronoun do not seem relevant to the forced raising in (90a). In terms of attract, Agr_O / v has a head [person] feature which must be checked overtly but is not when Num° fails to raise -- the weak independent pronoun[62]. And again we find a similarity between pronoun raising and pronoun doubling: a pronoun fails to raise in exactly the same environment in which a French pronoun fails to double. At the same time, the parallelism between SA Num° in-situ and French absence of doubling lends further support to the idea that in (89) the clitic is absent, rather than phonologically null. The question is what precludes pronoun doubling and raising in these cases. Unlike the gapping and oblique PP examples, it seems unlikely that an attractor is absent, as the verb is transitive in both French and SA examples, hence includes an Agr_O / v° layer, which by hypothesis attracts [person].

By minimality or Shortest move, $F^{o}_{[person]}$ attracts the closest candidate. Since features associated with the pronoun in the exceptP are not implicated, there must be a closer [person] available, consistent with the transitivity of these verbs. I will assume that a pronominal direct object equivalent to 'nobody/personne' is deleted at PF, and that PF deletion is licensed in this case by recoverability in the context of 'except DP'. Following

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[62]Fassi Fehri (1993) attributes the grammaticality of (91a) to a potential head movement violation of a pronominal head across 'except'. Agreeing with the idea that these heads create an intervention effect, the details of that analysis are difficult to reconcile with the ungrammaticality of (90a) which is left unexplained: if an independent object pronoun can be licensed in-situ, it should be equally good in the absence of conjunction everything else being equal.

the analysis of verb raising in gapping and pseudo-gapping given in Lasnik (1999), PF deletion of pronominal 'nobody/personne' should allow [person] to raise to Agr_0/v^0 by removing potentially non-convergent phonological material, the residue of [person] extraction from *nobody*. As in the analysis of Swedish particles, pronouns need not raise or double because there exists a candidate for attraction closer than the pronoun[63].

2.2.5 Conjunction

Another Standard Arabic context which licenses a non-attracted pronoun is conjunction. A weak pronoun is licensed in a conjoined DP and incorporation is impossible, as in (92b):

(92) a. ra?ay-tu **?iyyaa-ka** wa zayd-an
saw-I you and zayd-acc
I saw you and Zayd
b. *ra?ay-tu-**ka** wa zayd-an
saw-I-you and zayd-acc

According to the criteria for pronominal strength in Cardinaletti & Starke (1999), the conjoined pronoun in (92a) should be strong, yet formally it resembles the weak pronoun found in the context of *?illaa*, as well as other contexts lacking attraction such as the Person Constraint (Fassi Fehri, 1993) which requires the [person] value of a raised accusative to be 'higher' than that of a raised dative (1st<2nd<3rd)[64]. When accusative and dative pronouns fail to conform to the hierarchy, the accusative pronoun remains in-situ:

(93) a. ?a^{c}tay-tu-**ka-hu**
gave-I-you-him
I gave him to you

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[63]If French *que* is in fact a complementizer in (89), then queP is a gapped clausal constituent lacking Agr_0 / v^0, and no attraction takes place internal to queP.
[64]Setting aside an explanation of this restriction, it does seem compatible with an attract approach. First, because it clearly derives from the status of attractor, not pronoun, and second, because the interaction of Agr_0 and Agr_{io}, however it is captured, must make reference to particular [person] values.

b. ?a^{c}taa-**nii-ka**
gave-me-you
He gave you to me

(94) a. ?a^{c}taa-**hu** l-?ustaad-u **?iyyaa-ka**
gave-him the-teacher-nom you-acc
The teacher gave you to him
b. ?a^{c}taa-**ka ?iyyaa-ya** l-?ustaad-u
gave-you me-acc the-teacher-nom
The teacher gave me to you

The correlation drawn between pronominal form and pronominal strength is essential to Cardinaletti & Starke's tripartite division of pronouns, because on that proposal different forms are contained within distinct structures, from which the various properties derive. From that perspective it is surprising to find what appears to be a weak form within a conjunction. Thus in SA, unlike French, the form of a doubled pronoun (repeated from above) is distinct from the form of a conjoined pronoun:

(95) a. ?-antaqid-u-**ka ?anta**
I-criticize-ind-you you
I criticize <u>you</u>
b. ?-as?al-u an xabar-i-**ka** **?anta** laa an xabar-ii
I-inquire about news-gen-you you not about news-me
I am inquiring about <u>your</u> news, not about mine

It seems therefore that the invariant pronominal form in SA is determined by doubling (as opposed to strength) such that non-doubling produces a pronoun of the *iyya-* series. But if *iyya-* pronouns are necessarily 'weak' they should not be conjoinable. While it is arguable that conjunction is simply not reliable enough a criterion for strength, an alternative would be to question strength as an inherent status. *iyya-* pronouns do, after all, share a significant property with other conjoinable pronouns - they are not attracted to a functional position. The idea that structural position determines conjoinability (and perhaps other properties associated with strength) is still consistent with the Rom/Ger generalization that only strong pronouns can be conjoined because only strong pronouns remain in-situ (as long as the empirical scope is limited to attracting contexts). But stating the generalization in terms of position implies that the cluster of properties associated with strength and weakness is determined by the interaction of pronominal

properties and the syntax of the containing clause, and not exclusively by the amount of structure containing the pronoun. Thus, in contexts of non-attraction, the strict of division of pronominal forms into deficient and non-deficient breaks down and the cluster of properties appears to transcend pronominal form[65].

A remaining question, though, is why SA and French should differ in this respect, given that the form of *moi / toi* is not affected by absence of a double. Continuing to assume that *iyya-* pronouns constitute non-raised Num° (prefixed perhaps by *iyya* located within the D° domain), the difference between French and SA/Welsh revolves most probably around the syntax of Num°: SA / Welsh Num° has a feature in need of checking by overt material, French Num° does not. Hence SA / Welsh Num° must be filled whether it raises or not, but French Num° need not be when Num° is not attracted. This gives the result that pronominal form correlates with position, such that *moi / toi* and SA / Welsh doubled pronouns are instances of N°, raising pronouns are instances of Num°. The conclusion that French Num° lacks checking potential directly relates to the discussion of French clitics from section 2.2. French clitics, unlike SA / Welsh pronominals in Num°, must raise, now understood as a consequence of French Num° impoverishment. If Num° lacks features, features of the clitic are never checked internal to DP. The derivation therefore crashes if no attractor is present against which clitic features check.[66]

Returning to the analysis of conjunction, whether the pronoun in (92) is weak or strong the example shows that conjunction of a pronoun precludes attraction in SA, the

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[65]The situation is not unlike the Swedish and Italian non-stressed pronouns with oblique PPs and particles discussed above. There too, though perhaps less strikingly since no change in form is involved (Num° in Italian and Swedish being null), the strong/weak distinction and the preference for weak forms seems to break down. Crucially, both cases occur in contexts of non-attraction in which a pronoun fails to raise or double. See section 2.3 for further discussion.

[66]Alternatively, the difference between French and SA / Welsh is in the phonological content of [num] on Num°. In both cases the feature requires checking; only in French is it phonologically overt i.e the clitic itself, in contrast to SA / Welsh in which phonological content is associated with features drawn from the numeration.

question being why. Kayne's generalization regarding doubling (interpreted as attraction) says that only pronouns in structurally case marked positions are doubled / attracted. In (92) the constituent containing the pronoun is in a structurally case marked position, but the pronoun itself is not. Since the containing conjoined structure is not itself pronominal, doubling is not expected since in general non-pronominal DPs do not double. Thus, by minimality, the containing DP is the closest candidate for attraction, but non-pronominal arguments never qualify for $F^{o}_{[person]}$ checking.

This however cannot be the entire story. In some languages, and even within SA, conjoined pronouns are attracted. In Irish, for example, conjunction seems to have no effect on the requirement for raising[67]. Num° raising out of a conjoined consituent continues to be obligatory as long as the pronoun originates in the first conjunct (from McCloskey 1986)[68]. When the pronoun occurs in the second conjunct the head of the verb / preposition is non-inflected, as in (98)[69]:

(96) a. Bhios [$_{NP}$ fein agus Eoghan] i lathair
be-past.1st EMPH and Owen present
Owen and I were present
b. liom [$_{NP}$ fein agus Eoghan]
with-1st EMPH and Owen
with me and Owen
c. mo ghabhaltas [$_{NP}$ fein agus mo mhathar]
my holding EMPH and my mother
my own and my mother's holding

(97) a. *Bhios [Eoghan agus fein] i lathair
b. *liom [Eoghan agus] fein
c. *mo ghabhaltas [mo mhathar agus fein]

(98) a. Bhi [Eoghan agus **me** fein] i lathair
be-past Owen and I EMPH present
Owen and I were present
b. Labhair se le [hEoghan agus **me** fein]
spoke he with Owen and me EMPH

---

[67]See McCloskey (1986) for detailed discussion.
[68]I take the EMPH particle to be the Irish counterpart to the Welsh auxiliary pronoun.
[69]I take the emphatic particle *fein* to be the Irish equivalent of an auxiliary pronoun, and synthetic inflection to be the result of Num° raising, as in Welsh and Arabic.

He spoke with Owen and me

If Minimality is the explanation for non-attraction in SA, it must be the case that an Irish conjunction does not constitute a minimality barrier and a pronoun in a left conjunct remains the closest candidate for attraction. When the pronoun occurs in the second conjunct, the containing DP is closest, as indicated in (98) by grammatical absence of synthetic agreement.

Yet a third pattern is found in Lebanese Arabic, Moroccan Arabic, and Standard Arabic subject conjunctions[70]. In VS configurations with a conjoined subject, the verb may agree either with the first conjunct or with the containing DP, as in the following representative example from Lebanese (from Aoun, Benmamoun, and Sportiche 1994):

(99) a. Neemo [**huwwe w hiyye**] bi l-bet
slept.pl he and she in the-house
They slept in the house
b. Neem [**huwwe** w hiyye] bi l-bet
slept-m.s he and she in the-house
They slept in the house
c. *Neemit [huwwe w **hiyye**] bi l-bet
slept-f.s he and she in the-house

Aoun, Benmamoun, and Sportiche (1994) argue that in the partial agreement cases only the first conjunct is in a spec-head relation with the inflected verb. In the ordinary cases conjunction is internal to DP, but in the first conjunct agreement cases, conjunction is clausal, with elided material in the second conjunct. In terms of the present analysis, these dialects present two options. Either the containing DP is associated with or only the first conjunct is associated with $F^{o}_{[person]}$, by virtue of clausal conjunction and ellipsis within the second conjunct, schematized roughly below[71]:

(100) [$_{IP}$ slept-m.s he] and [$_{IP}$ ... null ... she] in the house

---

[70]See Aoun, Benmamoun and Sportiche (1994) for details.
[71]Setting aside the status of PP, whether part of the second conjunct and ellided in the first, or topicalized out of the first and subsequent raising of conjoined IP past it.

Ellipsis in the second conjunct directly explains the assymetry between first and second conjuncts without appealing to assymetry internal to conjoined DP. The second pronoun is exempt from feature checking because nothing in its domain attracts it. It also suggests that the minimality approach to DP-conjuction is on the right track, since when a containing conjoined structure is absent pronominal material is attracted.

Assuming clausal conjunction to be the correct analysis for first conjunct agreement, it suggests that in Irish only clausal conjunction and never DP conjunction is available, which I will adopt.[72] It also suggests that the availability of a clausal conjunction analysis depends on structural position, since SA subjects allow it but objects apparently do not, as in (92). That this approach to SA objects may be correct is suggested by the fact that *preverbal* subjects in SA, LA, and MA do not allow first conjunct agreement, as in the following MA example. Linearity alone is not sufficient to explain absence of clausal conjunction with preverbal subjects, since one would expect second conjunct agreement to be grammatical when the subject is preverbal, but it is not:

(101) a. [?umar w ?ali] mSaw
Omar and Ali left-p
Omar and Ali left
b. *[?umar w ?ali] mSa
Omar and Ali left-m.s

So in contrast to Irish which lacks DP conjunction, dialects of Arabic allow DP conjunction generally, and in addition allow clausal conjunction when a subject is postverbal. If clausal conjunction is derived by a sluicing-type operation which depends on prior topicalization of the apparently conjoined DP, it may be possible to explain its limited availablity on the basis of constraints on pre-sluicing topicalizations. A clausal

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[72]With clear predictions for interpretation. Sentences with negative quantificational subjects and conjoined objects (*Nobody likes me and him*), for example, are expected to be non-ambiguous, meaning only 'nobody likes me and nobody likes him' (thanks to M. Den Dikken, p.c.). See also a host of tests for plurality of conjoined DP in Aoun, Benmamoun, & Sportiche such as modification by 'both'; quantification by 'each'; verbs such as 'meet' which necessarily take plural subjects; and plural reciprocals. I leave this question for future work.

analysis of preverbal subject conjunction, for example, would require in addition to subject topicalizations, VP topicalization out of the first conjunct, an operation which may not be cross-linguistically available and which may not be a necessary step in the derivation of post-verbal subject conjunction.

Setting aside many important details regarding the source of variation in patterns of conjunction, the pronominal facts discussed show, once again, that pronominal raising is determined by syntactic conditions beyond properties of pronouns. In Irish, first conjunct pronouns raise, and second conjunct pronouns are grammatical in-situ; in Standard Arabic, a postverbal first conjunct pronoun can be attracted, but a conjoined object pronoun is not. Insofar as an analysis of first conjunct agreement in terms of clausal conjunction is feasible, it supports a minimality approach to DP-conjunction, assimilating SA conjoined object pronouns to Swedish particles and datives, and French and SA 'except' clauses, shown to preclude pronominal attraction by virtue of intervention effects.

2.2.6 Summary

After having established in 2.1 that strong pronouns in a variety of languages are implicated in a checking relation with a functional head, this section has taken French pronoun doubling as a point of departure for examining restrictions on this relation. The observation that weak pronoun raising is precluded in contexts surprisingly similar to contexts which proscribe pronoun doubling in French suggests that these operations have a common explanation. Given that doubling of strong pronouns is not triggered by properties of the pronouns, it follows that neither is pronoun raising. On the contrary, the sheer variety in contexts which cross-linguistically allow weak pronouns to remain in-situ directly supports the claim that pronoun movement is never *triggered* by properties of the pronoun, though some pronouns, like French clitics, may require checking, independently.

The analysis of gapping, oblique PPs, particle and dative constructions, except phrases, and coordination, suggests that the syntax of the attractor is determined by more than one factor. In some cases it has been claimed that the attracting head is absent, due to ellipsis (French gapping), lexical specification (Welsh oblique prepositions), or something like phi-specification (Irish incomplete verbal paradigms); in others, it has been argued that minimality / shortest move favors an attractee closer than the pronoun (French and SA ne...que; Swedish particle and dative constructions; SA object conjunctions). Both mechanisms, however, are independently motivated, reducing the cost of rejecting a potentially uniform analysis along the lines of Holmberg's Generalization.

3 Conclusions

Languages with 'rich' inflection such as Welsh, Breton, and Standard Arabic, and clitic doubled pronouns in French, provide direct support for the claim that all pronouns, including the 'strong' variety, are involved, in one way or another, in feature checking with an attracting element. The first part of the chapter has been devoted to establishing the relevance of the inflectional/pronominal systems of these languages to languages (like Italian and Swedish) in which the implication of strong pronouns in the feature checking procedure is obscured due to absence of overt doubling material.

First, it has been shown that an analysis which takes 'rich' inflection to have a DP-internal source is to be preferred, for independent reasons, over a base-generated agreement analysis, implying in turn that raised inflectional material is attracted by a functional head. Having shown that the class of pronouns which must be associated with such inflection shares a significant number of properties with 'strong' pronouns of the Romance/Germanic variety it becomes possible to bring these results to bear on the syntax of pronoun licensing generally. If in the context of an attracting [person] feature

strong pronouns must be doubled by an inflectional element which fulfills checking requirements, pronoun movement and cliticization may be integrated into the theory of movement as attraction by a target; in addition, a unified approach to the syntax of all pronominal classes, including pronouns in-situ, becomes tenable.

The approach is further supported by numerous environments in which pronouns need not double and may not raise. The examination of these environments has led to the conclusion that there do exist pronouns with checking needs of their own, such as French clitics which are never licensed in-situ. Nevertheless, the treatment of clitics is compatible with the attract approach which says that the trigger for raising is external to the clitic. In the better known cases in which attractor and clitic are present, a derivation with a non-raised clitic cannot converge due to unchecked features of both; in cases with a clitic but no attractor, unchecked features of the clitic cancel the derivation.

Contexts of non-attraction also pose a challenge to a rigid division between strong and weak forms. Since movement is not triggered by pronouns, a movement requirement could not be what distinguishes weak from strong forms. And indeed it has been shown that formal correlations and Minimize Structure may break down precisely where movement is not an issue. Accordingly, the pronominal typology proposed here is quite different from the tripartite distinction argued for by Cardinaletti & Starke. On that analysis there is one kind of difference - amount of structure containing the pronoun - with three values: CP (dominates strong pronouns), SigmaP (dominates weak pronouns), IP (dominates clitics). Descriptively, one can still speak of three classes of pronouns. But the present approach implies two cross-cutting independent factors. On the one hand, clitics and weak ('attracted') pronouns group together as Num^0 pronouns, doubled pronouns are N^0 pronouns; and within the class of Num^0 pronouns some have a [-INT] feature and some have no checking requirements. A non-raised Num^0 pronoun contained in NumP turns out to be equivalent to a doubled pronoun in N^0: both can be conjoined, modified, emphasized, carry deictic force etc. All that seems to matter is that the pronoun

is in-situ, but that, as we have seen, is determined by factors external to pronominal structure.

Is the weak/strong distinction then entirely spurious? Within the present approach it is still maintained in the guise of doubling but only in contexts of attraction: when attracted, N^0 are doubled by Num^0 which head raises and residual N^0 in-situ shows characteristics of strength; weak forms raise as NumPs. Although the choice between head raising and XP raising is not entirely understood, it seems to be determined, again, by the nature of the attracting element. In VSO configurations head attraction is the only option; French is mixed, forcing subject XP attraction and accusative/dative head attraction; Germanic languages with pronominal movement allow both accusative XP attraction and null head attraction. Thus, what has been called a strong pronoun is the N^0 residue of Num^0 raising. But when the pronoun is not attracted by [person] the distinction dissolves and so does the choice procedure which favors weak elements: a pronoun in-situ, Num^0 or N^0, may, quite simply, be stressed or non-stressed, deictic or not, modified or un-modified, conjoined or not.

Chapter Four

Hebrew Pronominal Attraction and the Syntax of Verb Raising

Languages with rich inflectional systems such as Welsh, Breton, and Standard Arabic, provide central evidence for the claim that pronoun movement can be analyzed as an instance of attraction by a functional head; in these languages, it has been shown, it is precisely in-situ pronouns, in contrast to DP_{lex}, which impose a special inflectional requirement analyzed as Num^{o} attraction by $F^{o}_{[person]}$. If so, then the pronominal element which turns up in these languages as verbal inflection is syntactically similar to clitics and weak pronouns in languages such as French, Swedish, and Italian. Rich inflection of the Italian type must be syntactically distinct from Welsh inflection since the former is compatible with weak pronominal arguments (hence cannot itself originate in Num^{o}) and DP_{lex} arguments. Given the set of structural assumptions developed in

chapter 3 Italian rich, i.e. pro-drop licensing, third person agreement does not have an argumental source[1].

In essence, then, the kind of rich agreement found in Celtic and Standard Arabic (henceforth SA) is syntactically similar to clitics of the Romance/Germanic variety, and the proposed derivation parallels the clitic movement analysis originating with Kayne (1975). Rich agreement as attracted Num^0 raises therefore a question not encountered by lexical approaches to V+infl combinations: how do Num^0 and V^0 come to be amalgamated and to what extent does the proposal for independent Num^0 attraction by $F^0_{[person]}$ illuminate the syntax of verb raising. The chapter approaches these questions through a detailed study of the Hebrew inflectional / pronominal system and its myriad verbal positions. The Hebrew pronominal system differs minimally from the pattern previously discussed. Postverbal pronominal subjects are generally strong, as in Welsh and SA; yet inflectional material sometimes *is* compatible with a weak pronoun, a distribution shown to support the general claim for complementarity and syntactic identity between inflection and weak pronouns/clitics. Furthermore, rampant variability in Hebrew verb positioning illuminates the significance of pronominal material for verb

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[1]Unless a less restrictive structure for DP-internal doubling is adopted. If, for example, a DP is allowed to occupy the specifier of a clitic as in the Torrego-Uriagereka analysis, then clitics doubling DP_{lex} and by extension inflection compatible with DP_{lex}, could in principle be argumental (see Schmitt (1998) for a possible twist, according to which the clitic is argumental in terms of its base-position, yet expletive for purposes of theta-assignment, the reverse of Sportiche (1992)). Such an analysis leaves open numerous cross-linguistic contrasts between nominative / accusative pronoun and DP_{lex} doubling, most significantly that often pronoun doubling is available but DP_{lex} doubling is not, and that in a variety of languages doubled DP_{lex} but not doubled pronouns occupy dislocated positions or fall under Kayne's generalization. The analysis of pronoun doubling as N^0 doubled by Num^0, coupled with the assumption that all doubling has its source in argumental DP predicts that DP_{lex} doubling will proceed from a distinct DP structure, and so will exhibit different properties. Dative DP_{lex} doubling, which in languages such as peninsular Spanish appears to resemble pronoun doubling (no dislocation or obligatory interpretive effects) may suggest that DP_{lex} doubling does require extra functional/prepositional structure within the argumental constituent (provided in Spanish by *a*), along the lines suggested by the possessive doubling analysis given in Den Dikken (2000).

syntax, for verb raising is obligatorily triggered only when arguments are pronominals in F^o.

The chapter is organized as follows. The uneven distribution of weak pronominal subjects is presented in the first section, and it is argued that weak postverbal subjects and rich agreement are syntactically identical. Pro-drop licensing agreement and weak postverbal pronouns are both instances of Num^o attracted to $F^o_{[person]}$, with further left-adjunction of V^o creating an enclitic structure. Section 2 presents a preliminary discussion of optional verb-raising and argues that preverbal pronominal subjects, in contrast to postverbal ones, are maximal projections attracted to specifier position; the difference between the preverbal and postverbal pronominal paradigm reduces to whether F^o projects a specifier or not, in the spirit of previous work on the topic. Based on the observed optionality in V^o raising it is proposed that V^o raising in the subject enclitic structure is triggered by verbal properties of the pronoun independently attracted to $F^o_{[person]}$. Pronouns in all languages are attracted to $F^o_{[person]}$ as heads or XPs, yet some appear to have the additional property of attracting verbal material; independent attraction by $F^o_{[person]}$ explains the insight due to Rouveret (1991) that lexical and inflectional material can only be combined in the functional domain. The analysis of obligatory verb raising as triggered by properties of the raised pronoun is further pursued in sections 3 and 4, which seek to establish the empirical generalization that obligatory verb-raising is triggered by pronominal material specified for [person]. Section 3 examines a variety of contexts which exhibit variable verb positioning, among them raising across a subject, across adverbs, and in copula inversion, and movement is shown to be optional beyond the position delineated by manner adverbs. The observation the verb movement is to a large extent optional in the absence of pronominal arguments is surprising given that richly inflected verbs generally raise. Since manner adverbs appear lower than the lowest subject position, whether or not Hebrew consititutes a counterexample to the claim that richly inflected verbs necessarily raise to I^o ultimately depends on the characterization of the higher reaches of extended VP, and whether

raising within vP and raising from vP should be sharply distinguished. Section 4 returns to pronominal configurations and examines weak object pronouns, whose distribution is shown to be best understood if these too are analyzed as enclitic to the main verb. If so, the claim that pronominal material attracts the verb generalizes to the object domain, and the presence of pronominal material distinguishes optional from obligatory verb raising. Though no explanation of optionality is attempted, the uneven distribution of Hebrew verb raising is fortunate to the extent that it highlights the role of [person] in verb raising generally. The chapter concludes with implications for the syntax of verb raising more generally. It is speculated that abstract [person] in better behaved languages may have the type of verbal properties which in Hebrew can only be activated by Num° attraction of a pronominal argument.

1 The Distribution of Weak Pronominal Subjects

In preverbal position, Hebrew pronominal subjects may bear stress or not, in (1), much like in English. Yet in postverbal position, a first or second person pronoun must be stressed or conjoined, originally observed and discussed in Doron (1988)[2]:

(1) a. ani / ANI iSanti yoter miday ba-Sana Se-avra
i / I smoked.1sg too much last year
b. at / AT iSant yoter miday ba-Sana Se-avra
you / YOU smoked.2sg too much last year
c. hu / HU iSen yoter miday ba-Sana Se-avra
he / HE smoked.3sg too much last year

(2) a. ba-Sana Se-avra iSanti ANI / *ani yoter miday (lo at)
last year smoked-1sg I too much (not you)
b. ba-Sana Se-avra iSant AT / *at yoter miday (lo ani)
last year smoked.2sg YOU too much (not me)
c. ba-Sana Se-avra iSantem at ve-dani yoter miday
last year smoked.2pl you and dani too much

Following Shlonsky (1997), the requirement that these pronouns bear stress or be conjoined indicates that only pronouns of the strong variety are possible in the

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[2]See Doron (1988) for an incorporation analysis of rich agreement in Hebrew and Celtic.

post-verbal positions in (2)[3]. The restriction to a strong pronoun recalls the Celtic / SA pattern discussed in detail in chapter 3. In these languages synthetic or rich inflection is compatible with strong pronouns but not with DP_{lex} or a weak pronoun. Strong pronouns, furthermore, require the additional inflectional ingredient.

(3) a. *jaa?-uu **hum** (Standard Arabic)
came-**3pm** they-m
b. jaa?-uu **hum** laa xuddaam-u-hum
came-**3pl** THEY-m not servants-nom-their
They came, not their servants

(4) levriou a lennan-**me** / *lenn **me** (Breton)
books PRT read-**1s**+1s / read 1s
I read books

The complementarity of synthetic inflection and a weak pronoun has been shown to follow from an analysis in which both are instances of Num^0, potentially attracted by $F^0_{[person]}$. An extension to (2) implies that Hebrew inflection, like its Breton and SA counterparts, is similarly an instance of attracted Num^0. The situation, however, turns out to be more complex. First, the preverbal subject paradigm is unremarkable (like Italian) in this respect, as in (1)[4]. Restricting attention to postverbal subjects, Hebrew shows no inflectional complementarity with DP_{lex} subjects, which require full inflection unlike Celtic / SA, in (5). More significantly, the pronominal paradigm is itself heterogenous. In

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[3]Recall from the appendix to chapter 1 that Hebrew strong and weak pronouns are formally identical, yet show the kind of correlations that distribute across distinct forms in languages such as French. For example, a stressed or dislocated third person pronoun can only refer to a human individual, in (i), conforming to the generalization that strong pronouns can be dislocated, bear stress, and are restricted to refer to humans.

i. a. oto kvar ra'inu etmol
him already saw.we yesterday
Him we saw yesterday (cannot refer to a film)
b. et zot / *ota lavaSti etmol
et this-one her I wore yesterday
That one I wore yesterday

[4]Like SA and unlike Celtic. See chapter 2, Fassi Fehri (1993) and Roberts & Shlonsky (1996) among others for inflectional contrasts between pre- and post-verbal subjects.

all third persons, in (6), and when the verb occurs in its participial present tense form postverbal weak pronouns are allowed[5]:

(5) a. matay hifti'u rina ve-dina et mina?
when surprised.3p rina and-dina et mina
When did Rina and Dina surprise Mina?
b. matay hifti'a rina et mina?
when surprised.3s rina et mina
When did Rina surprise Mina?

(6) a. matay iSen hu yoter miday?
when smoked.3ms he too much
When did he smoke too much?
b. matay tafti'a hi et rina?
when surprise she et rina
When will she surprise Rina?

(7) a. matay me'aSenet at / ani / hi yoter miday?
when smoke.fs you / i / she too much
When do you / I / she smoke too much?
b. matay me'aSnot aten / anaxnu / hen yoter miday?
when smoke.fp you.p

Shlonsky (1997) observes that the distribution of weak postverbal pronouns correlates with argumental pro-drop. The contexts licensing weak postverbal pronouns seen in (6) and (7) are precisely those in which a null subject would be impossible. Hebrew first and second person past and future tensed clauses do license pro-drop (in (8a)) and postverbal pronouns must be strong; with third person tensed clauses and all present tense verbs argumental pro-drop is not licensed (in (8b) and (8c)) and weak postverbal pronouns are available.

(8) a. ba-Sana Se-avra iSanti / iSant / iSantem yoter miday
last year smoked.1s/2s/2pl too much
b. *ba-Sana Se-avra iSen yoter miday

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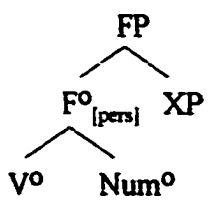
[5]Postverbal weak pronouns are also pragmatically restricted to contexts in which the verb can be construed as 'old information'. When the subject is lexical its focussing will render the verb 'old enough', but a presupposed weak pronoun requires the topic to be more contrastively stressed, or focussed, than V^0, as in the examples throughout the chapter. The availability of postverbal pronouns, though restricted, suggests that the pragmatics of VS involves relative parameters of information status revolving around the verb and only indirectly implying the subject.

last year smoked.3s too much
c. *ba-Sana Se-avra me'aSenet yoter miday
last year smoke.fs too much

The correlation with pro-drop maintains the analogy between Hebrew and SA/Celtic: in all these languages weak postverbal pronouns are impossible in pro-drop contexts. Since pro-drop is uniformly available across persons and tenses in SA/Celtic, so are weak pronouns uniformly excluded; the partial distribution of Hebrew pro-drop correlates with its partial distribution of weak postverbal pronouns.

The Hebrew paradigm thus supports an analysis that directly correlates the availability of a weak pronoun with the non-availability of a null subject. The relation is indeed straightforward on the Num° attraction analysis developed in the previous chapter, according to which synthetic inflection is Num° attracted by a head feature of $F^{o}_{[person]}$. Since Num° is a pronoun, synthetic inflection produces a null subject effect even though in fact there is no null XP in specifier position (i.e. *pro*) requiring licensing; synthetic inflection is syntactically identical to a Swedish or Italian weak pronoun except for its positioning as a head. Licit weak postverbal pronouns, from this perspective, are instances of Num° which are not spelled out as part of verbal morphology. While the reason could in principle be syntactic - that they are not attracted to $F^{o}_{[person]}$ - I will argue for the structure in (9), in which Num° attracted by $F^{o}_{[person]}$ may instantiate a bound inflectional morpheme or a weak pronoun[6].

(9)



Conversely, the possibility of a weak pronoun implies that verbal inflectional morphology associated with it is not raised Num°, similar to English and Italian: all third person inflection and all present tense agreement morphology which lacks [person]

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[6]To be motivated in detail in the section 2. See Shlonsky (2000) and Cinque & Beninca (1993) for the general claim that enclisis is tighter than proclisis, and an adjunction analysis of the former.

features entirely. The non-pronominal status of third person inflection immediately explains the compatibility with a lexical subject discussed above.

Hebrew then is similar to Welsh and SA in the sense that Num° must be phonetically overt, although only in Hebrew does third person Num° necessarily have the morphology of an independent word, a weak pronoun[7]. The challenge faced by the approach is the full availability of weak pronouns in preverbal position. No contrast correlating with position is expected if first and second person inflection is necessarily raised Num° -- weak first and second person should always be excluded due to complementarity with inflectional material. And more generally, the full availability of weak pronouns in preverbal position militates against a derivational relation between pronominal SV and VS: an SV derivation which necessarily proceeds from VS by subject raising across the verb leaves no source for weak preverbal first and second pronouns. Similarly, if VS is invariably derived from SV by verb raising across the weak pronominal subject first and second weak postverbal pronouns fail to be correctly excluded.

Before proceeding with the analysis of pronominal SV and VS, consider an alternative explanation of restrictions on postverbal pronouns, which like Num° attraction correlates weak pronoun distribution with pro-drop. Rather than taking it to indicate complementarity between weak pronoun and inflection, Shlonsky (1997) views the limited availability of weak postverbal pronouns as an Economy effect, deriving from

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[7]Setting aside the conditions governing the availability of null argumental Num°, as in Spanish, Italian, etc, and its limited distribution in Hebrew (non-referential generic and existential subjects). Note however that the analysis of null argument phenomena becomes more complex with both Num° and N° pronouns: Italian allows both to be null; French allows either null Num° or null N° but not both; in Welsh etc. N° may be null but Num° must be overt. The difference between French and Welsh/SA regarding Num° was attributed to properties of Num° and its inertness for feature checking in the former (causing the derivation to crash when a clitic fails to be attracted); since the explanation does not straightforwardly extend to all null Num° (weak object pronouns in Italian and Swedish can fail to be attracted yet can be phonetically covert, the latter, as in French, only when N° is overt) the general conditions on null Num° and N° licensing remain an open question.

a preference for a null subject whenever possible, Avoid Pronoun. Weak pronouns, on this approach, alternate with *pro*: a weak pronoun may surface when *pro* is independently excluded, but a potentially licensed *pro* in first and second past/future clauses excludes a weak pronoun by Economy. Strong pronouns being non-equivalent to *pro* are incomparable with it for purposes of Economy calculations and so are freely licensed. Note that Avoid Pronoun, in its reference to numerations and their ultimate arrangements, relies on the availability of global economy calculations beyond the comparison of individual steps sanctioned by local Economy (Collins, 1997). The pro-drop sensitivity of postverbal weak pronouns provides therefore a testing ground for the necessity or availability of global comparison; to the extent that Num^0 raising is empirically superior to Avoid Pronoun, Hebrew postverbal pronouns provide evidence against the availability of global considerations, a welcome result given the computational burden such comparisons impose.

The approaches differ in the status they assign to inflection and *pro*: on the Economy approach Hebrew inflection licenses a null element in specifier position, exactly as in Italian and Spanish. Though both approaches fare equally well with respect to the simple clauses given in (2), (5), and (6), predictions diverge in other contexts presented below. In positing a *pro* which is always valued more highly than its overt counterpart, the Economy approach leads to the expectation that all potential null subjects should exclude overt ones; the raising analysis, by positing Num^0 attraction from argument position (and no null pronoun), implicates structural factors as well. Setting aside the distribution of preverbal pronouns (problematic for both) empricial differences do emerge in postverbal contexts with expletives and embedded subjects. The former show that an overt pronoun is not automatically licensed by the independent unavailability of its null counterpart; the latter show that a licensed null subject does not in and of itself exclude a postverbal weak pronoun.

Consider the distribution of expletives. First, overt expletives are optional with a subset of predicates, as in (10a). The optionality is problematic for an economy approach

for it is unclear why null expletives, unlike null argumental pronouns, do not automatically exclude overt ones. Suppose then that the optionality in (10a) is no different from preverbal optionality with argumental weak pronouns (in (1)). The validity of that analogy can now be tested in contexts in which a covert expletive is impossible: while *lo* negation has no effect, negation by *ein* requires the expletive to be overt (from Shlonsky (1999))[8]. (10c) is therefore on a par with the third person and present tense clauses in (8b) and (8c) which fail to license a covert subject, but here economy seems irrelevant. Avoid Pronoun would predict a postverbal overt expletive to be possible but it is not, in (10d). The expletive can only precede the verb:

(10) a. (ze) dey mafti'a Se-dina lo hitya'aca im rina
(it) quite surprises that-dina neg consulted with rina
It's quite surprising that Dina didn't consult with Rina
b. (ze) lo mafti'a Se-dina lo hitya'aca im rina
(it) not surprises that-dina neg consulted with rina
It's not surprising that Dina didn't consult with Rina
c. *ein mafti'a Se-dina lo hitya'aca im rina
neg surprises that-dina neg consulted with rina
d. *ein mafti'a ze Se-dina lo hitya'aca im rina
neg surprises it that-dina neg consulted with rina
e. ein ze mafti'a Se-dina lo hitya'aca im rina
It's not surprising that Dina didn't consult with Rina

Since *pro* is independently excluded in (10c) Avoid Pronoun predicts *ze*, a weak pronoun, to be licensed in postverbal position; more generally, economy considerations do not appear to play the same role when it comes to expletives[9]. Though it could be stipulated

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[8]See Hazout (1994) for the distribution of expletive *ze* in affirmative clauses. With some predicates it is optional, with others it is impossible, rendering its obligatory appearance under *ein* negation all the more striking. For analysis see Shlonsky (1999).

[9]A possible solution compatible with an economy approach to (10c) vs. (10e) might take *ein* to be the verb of which the expletive is the subject, in which case the expletive does turn up postverbally. That *ze* is the subject of *ein*, however, is unlikely given the ungrammaticality of the following with the expletive in pre-*ein* position:
i. *ze ein / eino mafti'a Se-dina lo hitya'aca im rina
it neg / neg+3ms surprises that-dina neg consulted with rina
Yet structural factors - the point at which expletive is merged, see text and following fn. - may independently explain (i). Non-inflected *ein* embedded under a wh-complementizer is worse than inflected *ein*, itself degraded compared with *lo* negation:
i. *dina lo yoda'at im ein rina mitya'ecet im mina

that Avoid Pronoun does not apply to expletives, notice that contrasts between argumental and expletive null subjects follow from a Num° attraction analysis of inflection. Only argumental pronominal material is attractable, by definition, so verbal inflection associated with expletives is not analyzable as Num° raised from theta-position. Num° attraction provides for cooccurence of inflection and *ze*, while the scope of Avoid Pronoun would have to be restricted especially. Since expletive pronominals are not merged into spec vP, positional contrasts between argumental and expletive pronominals of the sort seen in (10d) vs. (10e) are to be expected. Assuming expletives to be merged higher than the postverbal pronominal position, the contrast between V-weak arg.pron and V-expletive follows[10]. Though structural assumptions are certainly compatible with an economy approach, they come at the considerably higher cost of obviating the need for economy altogether. If expletives are too high for VS, weak pronouns in null subject contexts could now be argued to raise higher than weak pronouns in non-pro drop environments, coming very close to the proposal developed below.

Consider now the reverse kind of case, in which a null subject *is* possible and a postverbal weak pronoun is nevertheless available. Although third person inflection does

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dina neg knows whether neg rina consults with mina
ii.?dina lo yoda'at im rina **einena** mitya'ecet im mina
dina neg knows whether rina neg+3fs consults with rina
iii. dina lo yoda'at im rina **lo** mitya'ecet im mina
Dina doesn't know whether Rina isn't consulting with Mina

[10]Further indication that merge position is a significant factor, and not simply postverbal position, is provided by periphrastic contructions in which an overt expletive may precede or follow the auxiliary (and in the latter, without the need for an XP trigger):
i. (ze) haya (ze) barur Se-dina tafti'a et rina
it was it clear that-dina would.surprise et rina
The possibility of a post-auxiliary overt expletive distinguishes Hebrew from German and Icelandic in which overt expletives are preverbal. The possibility of an overt expletive following an auxiliary and not a main tensed verb could indicate either that the auxiliary is higher than tensed verbs, high enough for a highly merged expletive to follow it; or else that the auxiliary and *ein* are in their merge position, a position which tensed verbs fail to reach when blocked by *ze*. Since structural factors, whatever these may be, could independently exlcude postverbal expetives, the economy approach is not clearly disproved by (10), and so I leave open the questions surrounding the syntax of *ze*.

not license null subjects in root clauses, null embedded third person pronouns are good in the presence of an antecedent in a higher clause (from Borer (1989)):

(11) a. *maxar titakaSer le-mina
tomorrow will.call.3fs to-mina
b. dina hivtixa Se-maxar titkaSer le-mina
dina promised that-tomorrow will.call.3fs to-mina
Dina$_i$ promised that tomorrow she$_i$ would call Mina
c. dani xoSed be-rina Se-maxar titkaSer le-dina
dani suspects in-rina that-tomorrow will.call.3fs to-dina
Dani suspects that tomorrow Rina will call Dina

On the economy approach, the availability of a null embedded subject should exclude a weak postverbal pronoun, but it does not. Once again, complementarity between overt and covert pronouns breaks down. In this case both are licit, as shown by comparison of (11b) / (11c) with (12) :

(12) a. dina$_i$ hivtixa etmol Se-MAXAR titkaSer **hi**$_i$ le-mina
dina promised yesterday that-TOMORROW will.call she to-rina
Dina promised yesterday that tomorrow she'd call Rina
b. dani xoSed be-rina$_i$ Se-MAXAR titkaSer **hi**$_i$ le-dina
dani suspects in-rina that-tomorrow will.call.3fs she to-dina
Dani is suspicious of Rina that tomorrow she will call Dina

Num^0 attraction predicts the grammaticality of (12). Since third person inflection is not an instance of raised Num^0, the availability of a weak pronoun is not excluded, exactly as in root clauses. The economy approach, on the other hand, is forced to posit a null embedded anaphor in order to circumvent comparison between weak postverbal pronoun and null subject. Yet although the anaphoric possibilities of the null subjects in (11) are more stringent than their overt counterparts', they appear not to be identical to those imposed by BT anaphors or by null subjects in infinitives[11]. First, c-command by the antecedent is not an absolute requirement. A possessor within a subject can serve as antecedent for a null subject in a tensed clause, but not for the null subject of an infinitive:

(13) a. ha-yeladim Sela$_i$ hivtixu Se-hi$_{i/2}$ titkaSer maxar
the-children of-her promised that-she will.call tomorrow

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[11]Thanks to Richard Kayne for these examples.

b. ha-yeladim $Sela_1$ hivtixu Se-$pro_{1/*2}$ titkaSer maxar
the-children of-her promised that will.call tomorrow
Her children promised she'd call tomorrow

c. [ha-yeladim $Sela_1]_2$ hivtixu $pro_{*1/2}$ le-hitkaSer maxar
the-children of-her promised to-call tomorrow
Her children promised to call tomorrow

Similarly, the distance between antecedent and a null subject in a tensed clause can be greater than the distance between antecedent and anaphor or null subject of infinitive, even when other potential antecedents intervene:

(14) a. $dina_1$ bikSa mimeni le-hodi'a le-$rina_2$ Se-maxar $pro_{1/2}$ titkaSer eleya
dina asked me to-inform to-rina that-tomorrow will.call her
Dina asked me to inform Rina that she would$_1$ / should$_2$ call her tomorrow

b. $dina_1$ bikSa mimeni le-hodi'a le-$rina_2$ $pro_{*1/2}$ le-hitkaSer eleya
dina asked me to-inform to-rina to-call her
Dina asked me to tell Rina to call her

(15) a. $dina_1$ bikSa mimeni le-hodi'a le-$kulam_2$ Se-maxar pro_1 titkaSer eleyhem
dina asked me to-inform to-everyone that-tomorrow will.call them
Dina asked me to inform everyone that she would call them tomorrow

b. $dina_1$ bikSa mimeni le-hodi'a le-$kulam_2$ $pro_{*1/2}$ le-hitkaSer eleya / $eleyhem_3$
dina asked me to-inform to-everyone to-call her
Dina asked me to tell everyone to call her

Since the null subject of embedded tensed clauses does not require binding for coreference, and since its antecedent need not be the closest one, it could not be a BT anaphor. If not, the economy approach cannot avoid comparison of the examples in (11b) and (11c) which license a null subject, with the examples in (12) in which an overt postverbal pronoun is nonetheless available.

(13) - (15) show that the null subject requires an antecedent, though not a local one and not a binder - it seems sufficient that it be associated with a phi-feature compatible noun phrase within the linguistic discourse, recalling restrictions on weak pronouns which can only refer to previously established discourse referents. The difference between a third person null and overt pronoun, then, is that the null pronoun is grammatical only if identified and an overt pronoun requires identification for interpretation, yet grammatical without it. Following Borer (1989), I take the difference to follow from the condition that empty categories be identified, above and beyond the interpretative conditions imposed by overt pronouns.

The greater challenge faced by Num^{o} attraction is the grammaticality of (11) with a null embedded subject, as it raises a question regarding $F^{o}_{[person]}$ checking without pronoun raising (recall that third person inflection is argued based on (11a) not to be the product of Num^{o} raising). At the same time, some subject must be present in the embedded clause for theta-role assignment, and I will assume a null pronoun with the discourse properties discussed above. Since $F^{o}_{[person]}$ appears to be satisfied here, though not in root clauses with no antecedent, a null third person pronoun must be allowed to check $F^{o}_{[person]}$ when licensed by an antecedent. In other words, the antecedent identifies *pro*, and once licensed, *pro* checks $F^{o}_{[person]}$, much like an Italian or Spanish null third person pronoun checks $F^{o}_{[person]}$ in root clauses[12].

Summarizing, the distribution of weak postverbal pronouns confirms the idea that economy based calculations should not exceed individual steps within a given computation. To the extent that Avoid Pronoun requires global comparison, such comparison is empirically unwarranted; some of its predictions are too strong and an alternative, according to which weak postverbal pronouns have the status of inflection rather than XP *pro* is available, to be further developed below. While the first argument from the unavailability of postverbal overt expletives in non-pro drop contexts could be

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[12]In essence, the reverse of the system argued for in Borer (1989) in which anaphoric Agr, once bound by a matrix argument, identifies the pronoun. A direct translation to [person] checking would run into the technical difficulty of having embedded [person] raise to a matrix $Agr_{[person]}$ in order to be checked, crossing a CP boundary. While head raising across a clausal boundary seems dubious, pronominal identification across clausal boundaries, as in discourse anaphora, is clearly available. The null pronoun must, however, be excluded in present tense embedded clauses, as these cannot be licensed by an antecedent:

i. $dina_1$ hodi'a le-$rina_2$ Se-maxar $pro_{*1/*2/*3}$ mitkaSeret eleya

Since properties of $F^{o}_{[person]}$ are invariable across tenses - it always attracts a pronoun - the difference between third person past / future embedded clauses in (11) and (i) with a present tense verb must follow from properties of the null subject. Suppose Borer's claim that present tense Agr has no person slot is shifted to the null pronoun postulated in (i): a null subject of a present tense verb (unspecified for person) is unspecified for person features. Then, assuming with Kayne (2000) and Kayne & Pollock (2000) that null pronouns can only be third person, we derive the incompatibility of a null subject with (i), ruled out as a violation of the theta criterion.

countered by an independent, structural explanation of the ungrammaticality of postverbal expletives, the argument from grammaticality of weak postverbal pronouns in embedded pro-drop contexts presents a serious challenge to an economy based approach insofar as the relevant null subjects are not BT anaphors and incomparable. More generally, the weakness of the economy approach is in its need to invoke additional mechanisms not only to explain these exceptions, but also to explain why these exceptions in particular should exist. For Num^0 attraction, cases in which a null subject and weak pronoun are not complementary are not exceptions; only cases in which pro-drop licensing inflection and weak pronouns coexist are problematic. But the latter are also problematic for Avoid Pronoun, which can only deny the existence of preverbal weak first and second pronouns. In what follows I show that the raising approach has more leeway when it comes to preverbal pronouns and on that count too should be preferred.

2 The Syntax of Preverbal and Postverbal Pronominal Subjects

Recall the paradigm opening the chapter, the fact that in preverbal positions pronouns may or may not bear stress, but in postverbal position a pronoun in a pro-drop context is necessarily strong, stressed or conjoined:

(16) a. ani / ANI iSanti yoter miday ba-Sana Se-avra
i / I smoked.1sg too much last year
b. at / AT iSant yoter miday ba-Sana Se-avra
you / YOU smoked.2sg too much last year
c. hu / HU iSen yoter miday ba-Sana Se-avra
he / HE smoked.3sg too much last year

(17) a. ba-Sana Se-avra iSanti ANI / *ani yoter miday (lo at)
last year smoked-1sg I too much (not you)
b. ba-Sana Se-avra iSant AT / *at yoter miday (lo ani)
last year smoked.2sg YOU too much (not me)
c. ba-Sana Se-avra iSantem at ve-dani yoter miday
last year smoked.2pl you and dani too much

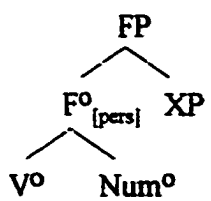
The restriction of postverbal position to a strong pronoun, in (14), follows from an analysis of Hebrew tensed first and second inflection as attracted Num^0, coupled with the

claim motivated throughout that so are weak pronouns instances of Num°. *Preverbal* first and second weak pronouns are not expected everything else being equal. Furthermore, the contrasts in pronominal availability in (16) and (17) suggest that pronominal SV and VS may not be derivationally related. In view of the consensus that DP_{lex}-V° / V°-DP_{lex} alternations are derivationally related, either by raising subject across a derived V° position, or by raising V° across a derived subject position, the possibility that pronominal SV and VS are derivationally independent is worth pursuing. In what follows I show that the syntax of pronouns is indeed to some extent distinct from DP_{lex} syntax, and that pronominal syntax also produces a distinct pattern of V° raising.

2.1 Postverbal pronouns

The previous section has shown that postverbal weak pronouns have the status of inflectional material in pro-drop environments. Hence, the minimal assumption regarding V-weak pronoun is that its structure is entirely parallel to an inflected verb with raised Num°. Assuming the standard analysis according to which a verb and inflection constitute a single word as in the V+infl adjunction output of a Pollockian derivation, a pro-drop licensing inflected verb and a non pro-drop licensing verb with a weak pronoun will both have the following adjunction structure, the eclitic structure given in Cinque & Beninca (1993) and Shlonsky (2000)[13]:

(18)



Num° in (18) is independently attracted from argument position by $F°_{[pers]}$ and V° left-adjoins to it. If postverbal weak pronouns have the same syntax as morphological

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[13]See Koopman & Szabolcsi (2000) for the claim that inflection and verb do not make a constituent; by analogy, neither would weak pronoun and verb make a consituent. See arguments below that in Hebrew at least, they must, given a relatively parsimonious inventory of functional projections.

inflection, then here too the verb raises to adjoin to the pronoun producing an enclitic structure. That minimal hypothesis still leaves open the hierarchical location of FP. The ungrammaticality of an overt expletive in this position (see (10) and fn. 6) already suggests that FP cannot be too high, confirmed by additional evidence attesting to its relatively low position.

At first glance pronominal VS seems akin to VS with lexical subjects. Lexical subjects may follow non-unaccusative verbs provided there is a trigger in initial position such as adverbial, topic, or wh-phrase. Unlike Dutch V2 and German V2 in non-subjunctives, Hebrew V-lexical subject can be embedded under a complementizer, in (20):

(19) a. (etmol ba-caharayim) dina hifti'a et mina
(yesterday in.the-afternoon) dina surprised et mina
b. etmol ba-caharayim hifti'a dina et mina
yesterday in.the afternoon surprised dina et mina
Yesterday in afternoon Dina surprised Mina
c. matay hifti'a dina et mina?
When surprised dina et mina
When did Dina surprise Mina?

(20) a. rina hayta betuxa Se-etmol ba-caharayim hifti'a dina et mina
rina was certain that-yesterday in.the afternoon surprised dina et mina
Rina was certain that Dina surprised Mina yesterday afternoon
b. rina lo yad'a matay hifti'a dina et mina
rina neg knew when surprised dina et mina
Rina didn't know when Dina surprised Mina

Borer (1995) argues that embeddability in (20) cannot be due to CP recursion, and that consequently, V^{o} does not raise as high as C^{o}. That is because embedded VS is much freer than predicted by a CP recursion analysis that would restrict it to selecting bridge verbs. As seen in (21) a postverbal subject is possible in relative clauses, adjunct clauses, and embedded questions (from Borer, 1995):

(21) a. zot [ha-ne'eSemet Se-axrey ha-miSpat Salxa ha-miStara balaSim be-ikvot ba'ala]
this the-defendant that-**after the-trial sent the police** detectives after her husband
This is the defendant who the police sent detectives after her husband after the trial

b. [keyvan Se-baxufSot ozvim hastudentim et hauniversita] hexlita hahanhala lenatek et haxaSmal
since that-**on.breaks leave the-students** the-university decided the administration to disconnect the electricity
Since the students leave the university during breaks, the administration decided to disconnect the electricity

c. rina lo betuxa im ba-kayic ha-ze tagi'a dodata lebikur
rina not certain **whether this summer will.arrive her-aunt** to.visit
Rina is uncertain whether her aunt will come visit this summer

Following Borer, I take the VS verb to be somewhere in the I^0 domain[14]. The subject is no lower than the position delineated by low manner adverbs. A postverbal subject must precede a manner adverb (in (22b)), though its position is variable relative to a higher adverb of the 'already' class, in (23):

(22) a. be-ce'iruta yad'a mina be-al pe et kinat david
in-her.youth knew mina by-heart et elegy david
In her youth Mina knew by heart David's elegy

b. *be-ce'iruta yad'a be-al pe mina et kinat david
in-her.youth knew by-heart mina et eulogy david

(23) a. be-ce'iruta yad'a kvar mina be-al pe et kinat david
in-her.youth knew already mina by-heart et eulogy david

b. be-ce'iruta yad'a mina kvar be-al pe et kinat david
in-her.youth knew mina already by-heart et eulogy david
In her youth Mina already knew by heart David's eulogy

c. *be-ce'iruta yad'a mina be-al pe kvar et kinat david
in-her.youth knew mina by-heart already et eulogy david

A pronominal subject in VS, on the other hand, must be higher than a lexical subject. While some adverbs may intervene between a verb and lexical subject, as in (23a) and (24a), they may not intercept a verb and a weak pronominal subject, in (24c) (from Shlonsky 1997). (24c) shows that strong pronouns, those associated with a separate Num^0 amalgamated with V^0, pattern with DP_{lex}, as expected.

(24) a. betax le-dina **hitkaSra** etmol **rina**
probably to-dina called.3s yesterday rina
It's probably Dina that Rina called yesterday

b. betax le-dina **hitkaSra hi** etmol

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[14]Adoption of Cinque (1999) and the proposed multitude of I^0 positions loosens this characterization significantly. See section 3 for discussion of verb placement relative to various adverbs and its implications for the relevant definition of V-to-I raising.

probably to-dina called she yesterday
Its probably Dina that she called yesterday

c. *betax le-dina **hitkaSra** etmol **hi**
probably to-dina phoned yesterday he

d. betax **hitkaSart** etmol **AT** le-dina
probably called.2s yesterday YOU to-dina
It's probably you who called Dina yesterday

So can weak pronominal objects intervene between a verb and a postverbal DP_{lex} (Shlonsky, 1997). Again, a weak postverbal subject pronoun must immediately follow the verb, and strong subject pronouns pattern with lexical subjects. The grammaticality of V-subj-obj should be compared with the ungrammatical V-subj-dative sequence, in (25e):

(25) a. maxar **tenaSek** oto **rina**
probably tomorrow will.kiss.3s him rina
Tomorrow Rina will kiss him

b. maxar **tenaSki** oto **AT**
tomorrow will.kiss.2s him YOU
Tomorrow it will be you who will kiss him

c. *betax maxar **tenaSek** oto **hi**
probably tomorrow will.kiss.3s him she

d. betax maxar **tenaSek hi** oto
probably tomorrow will.kiss.3s she him
Probably tomorrow she'll kiss him

e. *betax maxar **tiSlax hi** lo praxim
probably tomorrow will.send.3s she to-him flowers

It appears therefore that weak pronouns in VS are necessarily closer to the verb, hence higher than their strong and lexical counterparts. The higher position of weak pronouns follows from Num^0 attraction by a $F^0_{[person]}$, a feature designated for pronominal material, conforming with the consensus that weak pronouns occupy high derived positions. But the higher position of weak pronouns does not, on its own, confirm the enclitic structure hypothesized in (18), for the pronoun could occupy the highest subject position, with the verb having raised past it to yet a higher position[15]. Therefore, what

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[15]As in, for example, Dutch, in which postverbal lexical subjects can be separated from the verb by adverbs but clitic pronouns cannot (in (i), from Zwart (1993)), yet the tensed verb in these structures is most likely in C^0.

i. a. Waarom (*altijd) kust (altijd) Jan Marie?
why always kisses always Jan Marie

b. Marie heb (*gisteren) 'k niet gekust

needs to be shown is that the verb does not, in pronominal VS, reach any of the high head positions. The observation that it does not, coupled with a relatively parsimonious inventory of functional projections, will indirectly support the enclitic structure in (18) and the head status it assigns to a postverbal weak pronoun insofar as an XP specifier analysis depends on the availability of such a specifier position below V^o.

That V^o in pronominal VS does not reach C^o can be easily demonstrated by replicating for pronouns the relative clause, adjunct clause and embedded questions shown by Borer to argue against a CP recursion analysis. Embedded pronominal VS is just as free as its DP_{lex} counterpart, illustrated by the grammaticality of the following with weak pronouns in non-pro drop contexts:

(26) a. zot [ha-be'aya Se-tamid menase hu liftor]
this the-problem that-always tries.ms he to-solve
This is the problem that he always tries to solve
b. [keyvan Se-ha-kayic nosa'at at le-amerika], hexelita dina le-hiSa'er be-tel aviv
because that-the.summer go.fs you to-america, decided dina to-stay in tel aviv
Since this summer you are going to America, Dina decided to stay in Tel Aviv
c. rina lo betuxa [im ba-kayic ha-ze tisa hi le-amerika]
rina not sure whether in.the-summer will.go she to-america
Rina is not sure whether she will go to America this summer

Another relatively high head position to consider is Agr_1 in the system developed in Cardinaletti & Roberts (1993) to account for various word order contrasts across Germanic. Most relevant to Hebrew is their proposal that V2 in Icelandic, similar to Hebrew in the sense of (22) and (26), revolves around the Agr_1P projection. If the verb in Hebrew pronominal VS reaches Agr_1 and the weak pronoun immediately follows it, it is entirely plausible that the pronoun is in spec Agr_2, a position argued by Cardinaletti (1997) to host weak subject pronouns in non-pro drop languages such as English and French. The hypothesis that Hebrew weak postverbal pronouns occupy spec Agr_2 may seem particularly attractive as it would align the partial non-pro drop paradigm attested

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Marie have yesterday I not kissed

in Hebrew with pronoun syntax in fully non-pro drop languages like French. Hebrew would turn out to have Icelandic verb syntax and French pronominal syntax.

In developing the proposal for two overt pronominal positions correlating with the availability of *pro*, Cardinaletti (1997) observes that a weak Italian pronoun can be separated from the verb by a parenthetical, but a weak French pronoun may not:

(27) a. Gianni / lui / egli, secondo me, e molto simpatico
Gianni / HE / he according to me, is very nice
b. Jean / lui / *il, je crois, aime beaucoup la musique
Jean / HE / he I think like much the music

Assuming that adverbial material attaches at the phrasal level, the position of Italian and French weak pronouns must be separated by a phrasal boundary; Cardinaletti (1997) further assumes that the phrasal boundary is Agr_2P. Parentheticals then distinguish two derived subject positions shown in (28). The reason for French overt subjects being lower than in Italian correlates with the presence of *pro* in the latter: a weak pronoun in a non-null subject language occupies the same position as Italian *pro*.

(28) $[_{Agr1P}$ Gianni / lui / egli Agr_1 $[_{xp}$ as you know $[_{Agr2P}$ il_{fre} / pro_{ital} is [a nice guy....]]]]]

The positioning of parentheticals in (28) can be used to test the hypothesis that the verb in Hebrew pronominal VS is in Agr_1 and the subject in a lower specifier position, spec Agr_2, by analogy with non-pro drop French. If so, parentheticals should intercept verb and pronominal subject, but they cannot. Note again the compatibility of DP_{lex} and strong subjects with a postverbal, post-parenthetical, position[16]:

(29) a. *zot ha-situacia Se-eleya **mesarev** le-da'ati **hu** le-hikanes
this the-situation that-into.it refuse.ms in my opinion to-enter
b. zot ha-situacia Se-eleya **mesarev hu** le-da'ati le-hikanes
this the-situation that-into.it refuse.ms he in my opinion to-enter
This is the situation which, in my opinion, he refuses to get into

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[16]The optionality in relative positioning of V-paranthetical, as in (29b), (29c), (29e), (29f) fits into the general pattern of variable verb positioning before or after most adverbial material. See section 3 for further discussion of optional verb raising beyond a certain point.

c. zot ha-baxura Se-le-da'ati **mesarev hu** lifgoS
this the-girl that-in my opinion refuse.ms he to-meet
This is the girl who, in my opinion, he refuses to meet

d. *rak hayom **mitkaSeret** le-da'ati **at** le-dina
today phone.fs in my opinion you to-dina

e. rak hayom **mitkaSeret at** le-da'ati le-dina
only today phone.fs you in my opinion to-dina

f. rak hayom le-da'ati **mitkaSeret at** le-dina
Only today, as far as I can tell, you're phoning Dina

(30) a. etmol **hitkaSra** le-da'ati **rina** le-mina
yesterday phoned.3s in my opinion rina to-mina
Yesterday, in my opinion, Rina phoned Mina

b. etmol **hitkaSart** le-da'ati **AT** le-mina
yesterday phoned.2s in my opinion YOU to-mina
It was you, in my opinion, who phoned Mina yesterday

The impossibility of a parenthetical intervening between verb and weak subject implies, on Cardinaletti's assumptions, that the structure of pronominal VS is not Agr_1-spec Agr_2P. Assuming the position of the parenthetical to be constant, (29b) and (29e) vs. (29c) and (29f) show that the verb may indeed raise past the parenthetical to Agr_1, but only if the pronoun also precedes the parenthetical; crucially, the optional step of V-raising cannot compromise adjacency with pronominal subject. In other words, VS - parenthetical derives from parenthetical - VS and so the FP within which V and pronoun cliticize is lower than Agr_1; that V^o cannot strand the subject on its way up to Agr_1 further supports the enclitic structure proposed.

More generally, the comparison with lexical VS shows that a pronominal subject is necessarily higher than a lexical subject ((24) and (25)), yet the verb in pronominal VS is most likely no higher than the verb in lexical VS, somewhere within the I^o domain. Taken together, these facts imply that verb and pronominal subject must be closer to each other, or more tightly connected, than verb and lexical or strong pronominal subject. Proceeding by elimination and assuming the verb to occupy a head position, the verb and the pronoun can be shown to occupy the same head position; i.e. the tighter connection between verb and weak pronoun is represented as head-adjunction, and the site of

adjunction no higher than Agr_2[17]. Free embeddability precludes V^o in C^o with a slightly lower subject; parantheticals preclude the option of V^o in Agr_1 and the subject in the maximal projection immediately below; ungrammaticality of adverb intervention excludes the option of having the verb in Agr_2 and a phrasal boundary intervening between Agr_2 and the weak pronoun. Without assuming still lower functional projections, positioning of the pronoun lower than Agr_2 would not be high enough to guarantee its derived position higher than DP_{lex} and strong pronoun. Furthermore, the optional positioning of V+weak pronoun before a paranthetical, presumably in Agr_1, suggests that V+weak pronoun raise past a paranthetical as a unit; therefore, they must form a complex head below Agr_1.

Following Cardinaletti's characterization of Agr_2P as a pronominally designated projection, we need not descend any further in the hierarchy of potential host projections. Agr_2 hosts attracting [person] to which Num^o raises by substitution and V^o left-adjoins:

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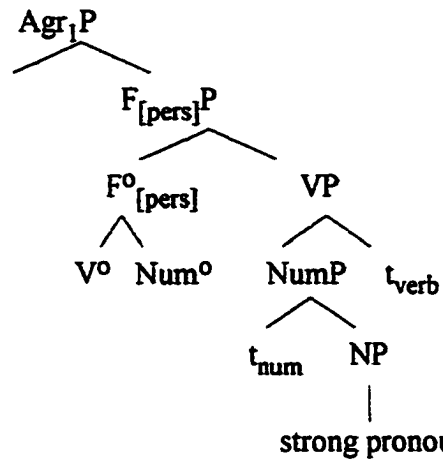
[17]The alternative, that the verb occupies a phrasal position (see Pollock (2000) and Sportiche (2000)), and the pronoun the corresponding head, will not be pursued. The interaction with subject pronouns suggests in fact the opposite - that the verb does not raise as a complex constituent across a pronominal subject (without excluding the option that it raises as a phrase or other complex constituent to a lower position, or across a lexical subject, see below). In French subject clitic inversion the verb raises across the subject pronoun along with object clitics; even though Hebrew object pronouns follow V^o, an accusative or dative pronoun clearly cannot raise along with V^o across a weak subject pronoun:

i. Les as-tu lus?
   them have you read
   Have you read them?
ii. Les lui a-t-il portes?
   them to-him has-t-he taken
   Has he taken them to him?
iii.*rak etmol niSka oto hi
   only yesterday kissed him she
iv.*rak etmol Salxa lo hi praxim
   only yesterday sent to-him she flowers
v. rak etmol niSka hi oto
   only yesterday kissed she him

(31)



The structure in (31) applies equally to a Num° morphologically bound to V° (so-called pro-drop licensing inflection) and to those weak pronouns found in non-pro drop contexts. Thus, the minimal structural hypothesis generated by the complementarity of weak pronouns and pro-drop licensing inflection is empirically motivated. Conversely, to the extent that the structure is confirmed by the syntax of weak pronouns, it supports the claim that inflectional material, which on standard assumptions would be associated with V° along the lines of (31), is indeed related to an argument position via movement.

The idea that Num° is independently attracted to F° by [person] has already been motivated in detail. Since the enclitic structure is obligatory, the immediate question raised by (31) is the trigger for V° raising to Agr_2. Attraction by $F°_{[person]}$ precludes an analysis of enclitic pronouns as combining with V° by right adjunction internal to VP, a welcome result on anti-symmetric assumptions[18]. Assuming multiple adjunction to be impossible, V° in (31) could only be adjoined directly to the pronoun. Therefore, verb raising to Agr_2 must be triggered by properties of the pronoun which reaches Agr_2 independently. Given the apparent optionality of Hebrew verb raising in most contexts, the structure in (31) has the additional advantage of presenting a case of obligatory verb raising closely related to pronominal syntax.

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[18]See also the hypothesis in Rouveret (1991) that suffixal inflectional material can only attach to lexical X external to XP, understood here as a consequence of pronominal attraction.

2.2 Preverbal pronouns

Before pursuing the significance of (31) for the syntax of V^o raising consider the derivation of pronominal SV, which is also a good starting point for discussion of optional verb raising. Recall that first and second weak *preverbal* pronouns are licit in pro-drop environments, an impossible situation if inflection here too is the product of Num^o raising. I will assume then, in the spirit of previous work on Hebrew and Standard Arabic SV/VS alternations (Fassi Fehri, 1993; Borer, 1995; Roberts & Shlonsky, 1996, among others) that Hebrew inflection is ambiguous. Since we have already seen that Hebrew third person and the gender/number inflection associated with present tense forms are never the product of raised Num^o, the ambiguity is restricted to first and second person inflection of past and future verbs, the environments licensing referential pro-drop in root contexts:

(32) a. axalti / axalt / axalta
ate.1sg ate.2fs ate.2ms
I ate *You.f ate* *You.m ate*

b. axalnu / axalten / axaltem
ate.1p ate.2fp ate.2mp
We ate *You.fp ate* *You.mp ate*

c. oxal / toxli / toxal
eat.fut.1s eat.fut.2fs eat.fut.2ms
I'll eat *You.f will eat* *You.m will eat*

d. noxal / toxlu
eat.fut.1p eat.fut.2p
We'll eat *You.p will eat*

One possible analysis of these verbal forms is given by (31); (31) is in fact the only representation of the null subject examples in (32). Alternatively, a first or second person tensed verb is fully formed in the lexicon on a par with third person tensed verbs and English, Icelandic, and Italian inflection, and merged into V^o. Attracting $F^o_{[person]}$ gives rise to a pronoun in addition to verbal inflection, and in this case the pronoun is potentially weak, just as it is in languages in which inflection is lexical and independent of Num^o: Swedish, Icelandic, English, Italian. The minimal hypothesis regarding the structure of preverbal weak pronouns then would have them attracted by the same

functional head that attracts pronominal material to post-verbal position, Agr_2. Yet evidence suggests that placement of a pronoun preceding V is not the mirror image of a pronoun following the verb, as argued in Cinque & Beninca (1993) and Shlonsky (2000). Strict adjacency is not required and parentheticals, high (non-manner) adverbs or negation may intervene:

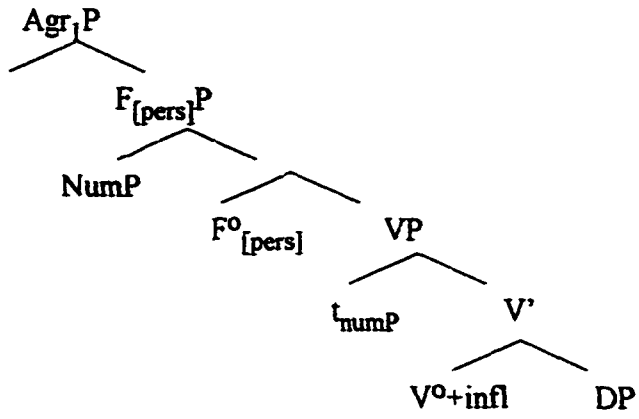
(33) a. **at** le-da'ati lo **taclixi** le-hafsik le'aSen baSana ha-krova
you in.my.opinion neg will.succeed.2fs to-stop to-smoke in.the.year the-next
You will not, in my opinion, be able to stop smoking this coming year
b. **ani** kvar etmol **amarti** Se-**ani** afilu lo **anase**
I already yesterday said.1s that-I even neg will.try.1s
Already yesterday I said that I won't even try

That pronoun-V could not be the mirror image of V-pronoun follows from the ban on right adjunction of V to pronoun. Neither do these intervention effects seem to attest to a necessarily lower verbal position preceded by an Agr_2^0 pronominal head. Setting aside *lo* which necessarily precedes V^0, the verb can precede these adverbs and still be preceded by the pronoun:

(34) a. **at** lo **taclixi** le-da'ati le-hafsik le'aSen baSana ha-krova
you neg will.succeed.2fs in.my.opinion to-stop to-smoke in.the.year the-next
You will not, in my opinion, be able to stop smoking this coming year
b. **ani amarti** kvar etmol Se-**ani** lo **anase** afilu
I said.1s already yesterday that-I neg will.try.1s even
Already yesterday I said that I won't even try

Assuming that adverbs in (33) and (34) are stationary, the examples suggest that the verb may reach a position maximally close to the pronoun without the two actually forming a constituent, in other words that the pronoun is an XP specifier, a positioning which would, in principle, allow the distance between pronoun and verb to be variable:

(35)



If indeed a preverbal pronoun is in spec Agr_2P and a postverbal one is in the head $Agr_2°$, then correlating with an ambiguity in inflection there is also a change in the size of constituent attracted by Agr_2, necessarily XP when inflection is lexically attached to V°, and a head when the verb is not lexically inflected. Instead of trying to determine which factor is primary, I will simply assume that verbs are always merged into V° fully inflected. The only consequence is that syntactically overt Num° movement to $Agr_2°$ will have no phonological effect when the verb is tensed and first or second person. If the distinction between inflected and non-inflected verb forms can be eliminated, then the crucial difference between preverbal and postverbal pronouns is their X-bar status, XPs in the former, heads in the latter, deriving from properties of $F°_{[person]}$[19].

The structure in (35) remains neutral regarding the position of the verb, within VP or in Agr_2, and also regarding the positions that the XP pronoun and verb may ultimately reach. All it says is that the pronoun is initially attracted to spec Agr_2P from its base position. On the assumption that incorporation hosts cannot excorporate, movement of the pronoun from postverbal to preverbal position is correctly prevented[20]. Taken

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[19]See Roberts & Shlonsky (1996) for a similar analysis of SV / VS in general, such that the highest AgrP optionally licenses a specifier, producing SV. The present approach is restricted to pronouns and in particular to $F°_{[person]}$; since the third person inflection associated with DP_{lex} is always lexical there would be no way to prevent F° from projecting a specifier. See also Anagnostopoulou & Alexiadou (1998) for EPP checking by head movement in pro-drop languages vs. EPP checking by XP in non-pro drop and the discussion of that proposal in chapter 5.

[20]See Kayne (1994) for the ban on movement of incorporation hosts, these being segments of multi-segment categories.

together (31) and (35) correctly allow those weak pronouns not attested in VS by excluding, in principle, a derivational relation from VS to SV. Precluding the inverse derivation of VS from SV by V^0 raising across its XP subject is a much more delicate matter however. First, there seems to be nothing in the spec-head configuration of pronominal SV to bar V^0 raising beyond the pronoun or to restrict it to cases in which the specifier is *obligatorily* filled by an XP pronoun (non-pro drop environments). And indeed, V^0 in (35) does seem to be moveable, as is the preverbal pronoun initially attracted to spec Agr_2. To see this, consider the interaction of wh-movement and quantifier float in (36). These provide core evidence for the claim in Borer (1995) that simple DP_{lex}-V is structurally ambiguous. Floating quantifiers are possible with preverbal subjects, in (36a), but not when a fronted wh-phrase precedes the preverbal subject, in (36b). A wh-phrase is compatible with a preverbal subject only if the quantifier is not separated from *the children* by V^0, in (36d):

(36) a. **ha-yeladim** Salxu **kulam** praxim le-rina
the-children sent all.3p flowers to-rina
b. *le-mi **ha-yeladim** Salxu **kulam** praxim?
To-who the-children sent all.3p flowers
c. le-mi Salxu (etmol) **ha-yeladim kulam** praxim?
To-who sent (yesterday) the-children all.3p flowers
To who did the children all send flowers yesterday?
d. le-mi **ha-yeladim kulam** Salxu (etmol) praxim?
To-who the-children all.3p sent (yesterday) flowers
To who did all the children send flowers yesterday?

Assuming with Sportiche (1988) that floating quantifiers indicate that V^0 has crossed (at least) the subject base position with subsequent subject raising, (36a) shows that V^0 may cross a subject position and so may the subject raise to a derived position. (36b) indicates that this derived subject position is shared by wh-phrases, and additionally that this is the only position available above a verb that crosses a quantifier. Spec IP in Borer's system is an A-bar position hosting wh-phrases, topics and derived subjects[21]. Incorporating the

[21]Similar to spec IP in Yiddish, Icelandic, and Old English as argued in Diesing (1992), Thrainsson & Rognvaldsson (1992), and Pintzuk (1993), and to Icelandic spec Agr_1P in Cardinaletti & Roberts (1992). Note however that Hebrew is not identical to Icelandic

proposal that $F^{o}_{[person]} = Agr_2$, a pronominally designated projection, I assume that the relevant high position hosting topics, derived subjects and serving as the initial landing site for wh-movement is spec Agr_1P. If so, the possibility of SV order following a wh-phrase can only mean that the subject in (36d) is lower than in (36a), and so must the verb be lower, Q-float now being impossible. (36) attests therefore to the structural ambiguity of simple SV in Hebrew, and (36c) demonstrates that V^{o} raising does not entail subject raising.

Consider in this light the pronominal pattern, almost identical to (36). Q-float is possible with a pronominal subject, in (37a), indicating again that both V^{o} and subject may raise. And as in (36) Q-float is severely degraded when SV is accompanied by a wh-phrase, in (37b):

(37) a. **hem** Salxu **kulam** praxim le-rina
they sent all.3p flowers to-rina
They all sent flowers to Rina
b. *le-mi **hem** Salxu **kulam** praxim
to-who they sent all.3p flowers
c. le-mi Salxu (*etmol) **hem kulam** praxim (etmol)
to-who sent (yesterday) they all.3p flowers (yesterday)
d. le-mi **hem kulam** Salxu (etmol) praxim
to-who they all.3p sent (yesterday) flowers
To who did they all send flowers yesterday?

Given that the weak pronoun must occur in derived position, and in any case higher than VS DP_{lex}, an immediate question is whether S and V in (37a) are located within the Agr_2P domain, a positioning which would be sufficiently high to give rise to Q-float; if so, V^{o} in (37a) is also in Agr_2. (37b), however, shows that they are not: if pronominal SV had the subject in spec Agr_2P and the verb in Agr_2^{o} a wh-phrase fronted to spec Agr_1P would have no effect; since it does, the pronoun and verb must raise to Agr_1P for Q-float to be possible, similar to lexical subjects. The grammaticality of (37d) with pronominal SV and a fronted wh-phrase suggests that pronominal SV is similarly ambiguous,

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and Yiddish, XP topics and triggers in Hebrew but not Icelandic/Yiddish creating barriers for wh-extraction. For further discussion see Shlonsky & Doron (1992) and Borer (1995).

allowing a representation in which the subject is in spec Agr_2P. In this configuration, the verb must be lower, presumably as low as in (36d).

The ungrammaticality of (37b) can now be taken as evidence that V^o is not attracted to Agr_2^o unless the pronoun is itself in Agr_2^o, further supporting the conclusion surrounding the enclitic structure in (31) that the pronoun itself, and not Agr_2, triggers obligatory left-adjunction of V^o. While the pattern clearly indicates that V^o may raise across the specifier hosting the pronominal subject (the Q-float example in (37a)), it apparently cannot do so unless the subject itself raises to precede it. This is seen in (37c) in which a postverbal pronoun, as expected on the obligatory enclitic analysis, cannot be separated from V^o by an adverb[22]. The question then is how to exclude V^o raising to Agr_1 across a pronoun which stays put in spec Agr_2. Such a derivation would give rise not only to the full gamut of pronouns in postverbal position, it would also overgenerate in sentences with pronominal subjects and datives. A preverbal pronominal subject with a dative pronoun is grammatical, but in contrast to accusative pronouns, a postverbal pronominal subject is incompatible with a dative in any order. Note that raising of a dative pronoun along with V^o is not excluded in principle, as shown by the grammaticality of (38d):

(38) a. la-axrona hi Salxa lo praxim
recently she sent him_{dat} flowers
She recently sent him flowers
b. *matay la-axrona Salxa hi lo praxim?
When recently sent she him_{dat} flowers
c. *matay la-axrona Salxa lo hi praxim?
When recently sent him_{dat} she flowers

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[22]The enclisis analysis of (37c) implies that the pronoun and quantifier cannot form a constituent, though they could in (36c) with a postverbal lexical subject. This is supported by the possibility of having an adverb intervene between pronoun and quantifier. With DP_{lex} the preferred position of the adverb precedes the subject:

i. a. le-mi Salxu hem kvar kulam praxim
to-who sent they already all.3p flowers
b. *le-mi Salxu ha-yeladim kvar kulam praxim
to-who sent the-children already all.3p flowers
c. le-mi Salxu kvar ha-yeladim kulam praxim
to-who sent already the-children all.3p flowers

d. matay la-axrona Salxa lo rina praxim?
when recently sent him$_{dat}$ rina flowers
When recently did Rina send him flowers?

A preverbal subject with a dative pronoun is unproblematic, in (38a). But if a derivation with the subject in specifier position proceeding from (38a) were possible, the incompatibility of both pronouns in postverbal position would remain mysterious given the grammaticality of (38d) with a lexical subject. The proposal that VS has a distinct derivational history is compatible with the contrasts in (38), and suggests that the incompatibility of postverbal subject and dative derives from their head status and cliticization properties[23].

Summarizing, the consituent attracted by $F^{o}_{[person]}$ varies, and attraction of a Num^{o} head results in obligatory left-adjunction of the verb, producing VS pronominal order. The syntax of pronominal VS shows again that the Num^{o} analysis of inflection and postverbal weak pronouns is empirically superior to an economy approach which would assimilate a postverbal weak pronoun to an XP *pro* in specifier position. But more importantly, the enclitic analysis of VS highlights a close relation to verb syntax lost on an XP analysis of postverbal pronouns. While the verb in VS is in Agr_2, in simple SV orders it is lower or higher, in Agr_1. That optionality in itself strengthens the conclusion that V-raising in pronominal VS is different. Not only is it to a special position, it is also obligatory, unlike the optionality attested in simple SV. At the same time, the variability in verbal position when pronoun is in specifier position reinforces the need to exclude an alternative derivation of VS in which the pronoun is *not* enclitic.

2.3 Verb-raising, rich agreement, and [person]

Consider the implications of the proposal that the pronoun attracted to head position triggers a kind of raising that is distinguishable from V-raising in the absence of a pronominal head. Obligatory enclisis as triggered by a pronominal recalls the Pollockian view that strong inflectional material in I^{o} brings the verb to this position, with the

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[23]See section 4 for more detailed discussion.

addition that the material reaches I^0 syntactically, via [person] attraction. The functional head is associated only with [person] and no v-feature, and the attracted pronominal transports its v-feature to I^0. On this analysis 'rich agreement' must mean [person] since it is [person], mediated by pronominal material, which ultimately brings the verb to Agr_2. Similarly, the proposal re-introduces a straightforward link between rich agreement and V-raising lost in the Minimalist analysis in terms of a strong v-feature in I^0, since v-features have no obvious morphological correlate (Chomsky (1993)). Yet the link established here by Num^0 raising to Agr_2 cannot be too simple. All verbs, including those in which inflection is lexical, will raise to Agr_2 when the latter hosts pronominal material; in the enclitic structure discussed at length a weak pronoun emerges as a distinct word and triggers raising precisely when verbal morphology is *not* the product of raised Num^0.

A simple correlation between rich agreement and verb raising has recently been challenged by Bobalijk & Thrainsson (1998) and Alexiadou & Fanselow (2000) based on the observation that non-inflected verb forms do raise in a variety of languages. Crosslinguistically, rich inflectional morphology appears to correlate with raising, but non-inflected verb forms may raise or stay put. Related to this and also to the refinement of 'rich agreement' as [person] is Holmberg & Platzack's (1991) claim based on Germanic, that presence of [person] in verbal morphology correlates with raising, but absence of [person] is neutral. A uni-directional correlation between rich inflection and raising fits well with the syntax of enclisis: a pronoun in Agr_2 will always trigger verb raising, but an empty Agr_2 triggers no verb raising at all: there is no verb raising without [person] checking. Suppose then that person specified inflection always has as its source an enclitic structure in which the pronoun triggers V-raising.

Alexiadou & Fanselow show that only *suffixal* rich inflection correlates with verb-raising, an observation captured diachronically: suffixal rich inflection derives from an enclitic structure which triggered verb raising; once verb raising to I^0 is triggered in a grammar it is difficult to lose even if the enclitic structure is reanalyzed as lexical

inflection. The difficulty in losing V-to-I can now be explained if reanalysis of the enclitic structure can include a shift of the v-feature from pronoun, now part of the verbal word and no longer an appropriate vehicle for feature specification, to I^{o}. If person specified inflection necessarily has a pronominal origin, then [person] specified verbs (of the Celtic/Semitic (synchronically pronominal) or Romance/Germanic (diachronically pronominal) varieties) will be associated with a v-feature in I^{o}[24].

Hebrew, from this perspective, represents synchronically two derivations that are more commonly related diachronically, an enclitic VS structure and a homophonous verbal form lexically amalgamated with inflectional material. Crucially, only in the former is V-raising obligatorily triggered. Though instrumental for establishing a close link between pronouns and obligatory raising, the non-raising option is problematic for the empirical generalization made by Bobalijk & Thrainsson and Alexiadou & Fanselow since neither would predict a verb with rich inflection to remain low[25]. Optional movement may or may not present a counterexample depending on its scope and the precise characterization of V^{o}-to-I^{o} movement, whether to highest or lowest I^{o}, or to functional heads within an extended VP. The next section presents additional contexts of optional V-raising, and section 4 returns to pronominal syntax to show that object pronouns, like subject pronouns, are found in obligatory V-raising enclitic configurations.

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[24]In the latter, assignment of a v-feature to I^{o} shifts [person] to the XP-attraction component of F^{o}. This gives the result that person-inflected suffixes correlate with raising and remains neutral regarding raising of non-person inflected verbs. When raising is observed its trigger is independent of [person].

[25]Verb-raising optionality derives, according to Borer (1995), from the transitional nature of Hebrew grammar. Though certainly plausible, its transitional nature should not a priori disqualify Hebrew from consideration as a potential counterexample. After all, transitional grammars are learnable, and not all imaginable transitional grammars are attested.

3 Optional Verb raising

The previous section has demonstrated that attracted pronominal heads trigger obligatory verb movement, and that movement in the absence of these heads is optional and distinct. To the extent that the pattern can be shown to hold generally, it establishes a close correlation between pronominal and verbal syntax, regardless of the motivation, trigger, or analysis of optional verb movement. On the assumption that adverbs occur in designated positions and mark multiple head positions within an articulated IP (Cinque, 1999), the section further delineates the structural boundaries within which optional verb raising occurs, and shows that optionality of verb-raising to Agr_1 does generalize to individual landing sites on the trajectory from VP to Agr_1P.

The interaction of wh-movement and floating quantifiers, as discussed in section 2, attests to two possible verbal positions. The high one has been identified as Agr_1, a position which may also host topics and wh-phrases. The lower one, though certainly lower than Agr_2, is yet to be identified. The impossibility of Q-float with a fronted wh-phrase suggests that V^o may remain in a position lower than all subject positions[26].

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[26]The possible VP-internal position of V^o is supported in Borer (1995) by analogy with copula-inversion structures. Here too raising of the adjectival or participial predicate to a pre-copular position is optional, in (ia) and (ib). Furthermore, the participle+copula combination may itself occur high or low: the combination in which the participle is preceded by its modifier (in (ie)) must be relatively low, as seen by its incompatibility with an inverted subject in (if), in contrast to inversion in a structure in which the modifier follows the copular+participial combination (id).

i. a. dani haya yoter miday asuk be-avodato
dani was too much busy in-his.word
b. dani asuk haya yoter miday be-avodato
dani busy was too much in-his.work
c. ba-Sana Se-avra haya dani yoter miday asuk be-avodato
last year was dani too much busy in-his.work
d. ba-Sana Se-avra asuk haya dani yoter miday be-avodato
last year busy was dani too much in-his.work
e. dani yoter miday asuk haya be-avodato
dani too much busy was in-his.work
f. *ba-Sana Se-avra yoter miday asuk haya dani be-avodato
last year too much busy was dani in-his.work

The low position may or may not present a counterexample to the generalization that richly inflected verbs raise, depending on a number of theory internal considerations discussed below[27].

Variation in verb placement relative to adverbs suggests quite generally, and independently of movement to Agr_1, that V-raising in the absence of pronominal heads is optional[28]. Assuming the classification of adverbs given in Cinque (1999), it can be shown that unless the adverb is exceptionally high (speech act adverb) or exceptionally low (manner adverb), the position of the verb relative to adverb is variable. This is

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Here too, the location of the low verbal position is measured relative to the subject: the verbal complex in verb+infl and pred+copula combinations may appear below the lowest subject position. Although a phrasal analysis of (ie) in which the participle pied pipes its modifier and subject across the copula, if available, would avoid the necessity of copula-lowering, the more point that verbs/predicates do not necessarily raise past the subject base position would remain unaffected.

[27]That V^0 may remain low is further supported by contexts in which it *must*. Consider for example the following restrictions on inverted subjects. Inverted subjects are impossible in double object construction when PP precedes NP unless NP is heavy (from Belletti & Shlonsky (1995)), and impossible with a possessive dative unless NP is heavy:

i. a. rina Salxa le-dina et ha-orxide'ot (Se-kibla mi-mina)
rina sent to-dina et the-orchids (that she got from-mina)
b. rak etmol Salxa rina le-dina et ha-orxide'ot *(Se-kibla mi-mina)
only yesterday sent rina to-dina et the-orchids *(that she got from mina)
c. rak etmol Salxa rina et ha-orxide'ot le-dina
only yesterday sent rina et the-orchids to-dina

ii. a. rina ibda le-dina et ha-orxide'ot (Se-kibla mi-mina)
rina lost to-dina et the-orchids (that-she.got from-mina)
Rina lost Dina's orchids (that she got from Mina)
b. Suv ibda rina le-dina et ha-orxide'ot *(Se-kibla mi-rina)
again lost rina to-dina et the-orchids *(that-she.got from-mina)

The analogy with possessive datives suggests that (i) and (ii) be viewed in terms of impossible verb raising across the subject in the context of PP-NP rather than subject/PP argument competition for FocP (Belletti & Shlonsky, 1995), for it is difficult to see why subject extraction from vP would stand in the way of possessor raising if possessive datives raise to a vP internal position lower than the subject (Landau, 1997). Setting aside many details, an alternative would exclude verb-raising around a low subject if [V+dative+t_{obj}] must form a constituent remnant-moved to a specifer position when the object is light. See also fn. 42.

[28]See Pollock (1989) and Cinque (1999) for variable placement of French lexical infinitives relative to low adverbs; Belletti (1990) and Cinque (1999) for variable placement of Italian active participles relative to low adverbs above light adverbs, and Cinque (1999) for variable placement of auxiliaries relative to high adverbs.

demonstrated with a limited selection of adverbs, proceeding from low to high (manner adverb<almost<already<perhaps<subject oriented adverb<speech act adverb):

(39) a. *rina heytev **makira** et mina
rina well knows et mina
b. rina **makira** heytev et mina
rina knows well et mina
c. rina **makira** et mina heytev
rina knows et mina well

(40) a. *mina be-al pe **zoxeret** et kinat david
mina by heart remembers et elegy david
b. mina **zoxeret** be-al pe et kinat david
mina remembers by heart et elegy david
c. mina **zoxeret** et kinat david be-al pe
mina remembers et david elegy by heart

(41) a. rina kimat **makira** heytev et mina
rina almost knows well et mina
b. rina **makira** kimat heytev et mina
rina knows almost well et mina
c. *rina **makira** heytev kimat et mina
rina knows well almost et mina

(42) a. rina kvar **makira** kimat et mina
rina already knows almost et mina
b. *rina kimat kvar **makira** et mina
rina almost already knows et mina
c. rina **makira** kvar kimat et mina
rina knows already almost et mina

(43) a. dina ulay be-xoxma **titpater**
dina perhaps wisely will.resign
b. *dina be-xoxma ulay **titpater**
dina wisely perhaps will.resign
c. dina ulay **titpater** be-xoxma
dina perhaps will.resign wisely
d. dina **titpater** ulay be-xoxma
dina will.resign perhaps wisely

(44) a. rina be'emet ulay **titpater**
rina honestly perhaps will.resign
b. rina be'emet **titpater** ulay
rina honestly will.resign perhaps
c. *rina titpater **be'emet ulay**
rina will.resign honestly perhaps

A manner adverb cannot precede the verb, though its position relative to the object is variable, seen in (39) and (40). *Almost*, *already*, *perhaps*, and subject oriented adverbs may precede or follow the verb, as in (41) through (43). The high pragmatic speech-act adverb is the only one that cannot follow the verb, in (44)[29]. Interpreting adverb placement relative to the verb as a measure of V-raising, the adverbial facts show that the verb must raise past the lowest adverb, and from there on movement is optional. Based on the conclusion from subject placement that verbs may reach Agr_1, I will assume that speech act adverbs are higher, and that this position delineates the upper bounds of optional raising[30]. It appears then that optional verb-raising to Agr_1 past the subject base

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[29]The order V-*be'emet* becomes possible if the adverb is interpreted as 'actually' or 'really' in which case it seems closer to an epistemic adverb, and lower in the hierarchy. The two interpretations are disambiguated when the adverb in initial position is followed by complementizer and subject. Here only the speech act interpretation is available:

i. be'emet Se-rina (ulay) titpater (ulay)
   honestly that-rina perhaps will.resign perhaps

[30]A more precise conclusion, that verbs stop at Agr_1, could be drawn if these adverbs occupy spec Agr_1. The evidence is mixed. Shlonsky & Doron (1992) show that inversion triggers disallow wh-movement, in (i). Yet unlike other inversion triggers, wh-movement and topicalization may cross the adverb, in (ii):

i. a. *le-mi harbe sfarim natan dani etmol?
      to-who many books gave dani yesterday
   b. *et ha-pe'ilim ha-politiim ba-pSita ha-leylit acra ha-miStara
      et the-activists political in.the-raid night arrested the-police

ii. a. le-mi be'emet hitkaSra dina?
      to-who honestly phoned dina
   b. le-rina be'emet hitkaSra dina
      to-rina honestly phoned dina

At the same time, the adverb appears to focalize the consituent to its left. A pre-adverb subject is incompatible with wh-movement, in (iii), and good with topicalization, in (iv):

iii. a. *le-mi dina be'emet hitkaSra?
      to-who dina honestly phoned
   b. le-mi be'emet dina hitkaSra?
      to-who honestly dina phoned

iv. a. le-rina dina be'emet hitkaSra
      to-rina dina honestly phoned
   b. le-rina be'emet dina hitkaSra
      to-rina honestly dina phoned

In further support of a focalization analysis of pre-adverb material, note a subtle yet consistent difference in interpretation between (iia) and (iiib) and again between (iib) and (ivb). In non-inverted structures, the question becomes rhetorical (implying nobody) and

position in VS or in the high SV compatible with Q-float is part of a broader phenomenom which requires only that V raise beyond the lowest adverbial position[31].

The availability of multiple landing sites within an extended inflectional domain complicates predictions regarding V^o-to-I^o raising. Hence, the observation that Hebrew unlike Italian and French tensed verbs do not necessarily reach the highest available position may not in itself be problematic if the generalization requires only that a richly inflected V^o raise to somewhere in I^o, minimally its lowest reaches as delineated by low adverbs. The fact that verbs must cross manner adverbs suggests that the minimal requirement holds in Hebrew as well. Yet it is far from clear that the position of manner adverbs is qualitatively similar to that of higher adverbs - it is not external to vP if vP dominates the lowest subject position. When the subject is forced into its low position by wh-movement it cannot be preceded by a manner adverb, in (45) and (46). Similarly, a floating quantifier necessarily precedes a manner adverb, in (46) and (47), though other adverbs may precede the quantifier, in (48)

(45) a. et mi makira (*heytev) **rina** (heytev)?
who knows well rina well
Who does Rina know well?
b. ma yoda'at (*be-al pe) **rina** (be-al pe)
what knows by heart rina by heart
What does Rina know by heart?
c. im mi nifgeSa etmol **rina**?
with who met yesterday rina
Who did Rina meet with yesterday?

(46) a. *et mi heytev **rina** makira?
who well rina knows
b. *ma be-al pe **rina** yoda'at

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the topic becomes contrastive. So, if the different effect on extraction between spec Agr_IP adverbs and triggers can be independently neutralized (only movement to spec Agr_I can create a barrier), then the focalization facts suggest that speech act adverbs are indeed in spec Agr_IP and optional verb movement stops at Agr_I^o.

[31]Optional Hebrew tensed verb raising differs in this respect from French lexical infinitives, which optionally raise up to a point, but which are also possible to the right of manner adverbs and *bien*, and possibly also from Italian active participles which raise optionally up to a point and are required to precede only light manner adverbs like *bene* and *tutto*.

what by heart rina knows
c. im mi pitom **rina** nifgeSa?
with who suddenly dina met
With who did Rina suddenly meet?

(47) a. *ha-yeladim makirim heytev **kulam** et mina
the-children know.p well all.3p et mina
b. ha-yeladim makirim **kulam** heytev et mina
the-children know.p all.3p well et mina
The children all know Mina well
c. *ha-yeladim yod'im be-al pe **kulam** et kinat david
the-children know by heart all.3p et elegy david
d. ha-yeladim yod'im **kulam** be-al pe et kinat david
the-children know all.3p by heart et elegy david
The children all know David's Elegy by heart

(48) a. ha-yeladim Salxu pitom **kulam** praxim le-mina
the-children sent.p suddenly all.3p flowers to mina
The children all suddenly sent flowers to Mina
b. ha-yeladim Salxu kvar **kulam** praxim le-mina
the-children sent.p already all.3p flowers to mina
The children all already sent flowers to Mina
c. ha-yeladim Salxu betax **kulam** praxim le-mina
the-children sent.p probably all.3p flowers to mina
The children all probably sent flowers to Mina

To the extent that wh-movement forces the subject into its lowest position and the quantifier may be associated with that position, (45)-(47) show that manner adverbs, and not only light ones, occur in a position lower than the subject. Therefore, whether V^o in crossing the manner adverb can be said to reach I^o depends on the merge position of the subject and the definition of I^o. Assuming that external arguments are merged into the specifier of a functional projection above lexical V^o (voiceP in Kratzer (1988); vP in Chomsky (1993)), manner adverbs are possibly associated with functional material below $voice^o/v^o$. On that approach, the verb obligatorily raises from its base position to v^o[32].

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[32]If v^o is a functional head Hebrew does not present a counterexample to the claim that richly inflected verbs necessarily raise to I^o; on a multiple specifier analysis which would allow object raising to the outer specifier of vP, v^o is also associated with object Case checking, and raising from V^o to v^o may well be morphosyntactically driven like raising to I^o generally. If v^o is lexical, part of the extended VP, raising from V^o to v^o might be better understood thematically, for purposes of theta-role assignment. In that case, the

(48) $[_{vP}$ subj v^{o} $[_{FP}$ manner adverb F^{o} $[_{VP}$ obj V^{o} ...]]]

Adverbial placement facts and finer discrimination within IP, then, support the generalization that verb raising in the absence of attracted pronominal material is distinct from obligatory verb raising to $F^{o}_{[person]}$ / Agr^{o}_{2} when the latter hosts a pronominal head. Optional movement to Agr_{I} is part of a general pattern that in the absence of pronominal arguments requires only that the verb reach v^{o}. The analysis of weak pronominal objects presented in the final section supports the converse - that pronouns in head position in general trigger obligatory verb-raising, i.e. enclisis.

4 Pronominal Objects and Obligatory V^{0} Raising

4.1 Variable positioning and binding properties

We have seen above that subject pronominal heads trigger verb-raising, captured by the idea that the pronoun itself, rather than the position, carries verbal features. Though the possession of verbal features is not a necessary pronominal property (attracted pronouns are not uniformly verb-adjacent), the syntax of weak object pronouns in Hebrew can be shown to involve encliticization as well. As discussed extensively in Shlonsky & Laenzlinger (1996) and Shlonsky (1997) Hebrew weak pronominal objects appear to be sensitive to the actual position of the main verb[33]:

(49) a. dina natna otam le-rina
dina gave them to-rina
b. *dina natna le-rina otam
dina gave to-rina them
c. dina hayta notenet otam le-rina
dina was give.fs them to-rina
Dina would have given them to Rina

Hebrew facts would suggest that the only requirement on richly inflected verbs is that they vacate their merge position.

[33]unlike Romance clitics associated with the highest verbal position, potentially hosting an auxiliary.

d. *dina hayta otam notenet le-rina
dina was them give.fs to-rina

The previous section has established variable verb positioning. And indeed, the weak object immediately follows the verb regardless of its position relative to other adverbs and the subject (Shlonsky, 1997).

(50) a. dani yazmin be-hexlet et rina la-mesiba
dani will.invite certainly et rina to.the-party
b. *dani yazmin et rina be-hexlet la-mesiba
dani will.invite et rina certainly to.the-party
c. dani yazmin ota be-hexlet la-mesiba
dani will.invite her certainly to.the-party
d. *dani yazmin be-hexlet ota la-mesiba
dani will.invite certainly her to.the-party
e. dani be-hexlet yazmin ota la-mesiba
dani certainly will.invite her to.the-party
f. *dani ota be-hexlet yazmin la-mesiba
dani her certainly will.invite to.the-party

(50b) shows that lexical objects cannot precede a high epistemic adverb, yet a pronominal object must if the verb similarly precedes that adverb, in (50c)-(50f). Similarly, when the verb raises past the subject, a pronominal object must precede the subject, though a lexical object would be impossible in that position, in (51b):

(51) a. matay yazmin dani et rina la-mesiba?
When will.invite dani et rina to.the-party
b. *matay yazmin et rina dani la-mesiba?
When will.invite et rina dani to.the-party
c. matay yazmin ota dani la-mesiba?
When will.invite her dani to.the-party
d. matay dani yazmin ota la-mesiba?
When dani will.invite her to.the-party
e. *matay ota dani yazmin la-mesiba
when her dani will.invite to.the-party

The adjacency facts receive a natural explanation if the weak object pronoun is enclitic to the verb at the point at which V^o raises past adverbs or subjects. Barring V^o excorporation, optional verb-raising beyond the point of cliticization will pied-pipe the weak object pronoun up the tree. The sensitivity to main verbs rather than highest verbal position also receives a natural explanation if, as in the subject configuration, it is the

object in its derived position that triggers left-adjunction of V^o to pronoun, auxiliaries being generated too high to be probed by the clitic in v^o / Agr_O.

The claim that the pronominal object and main verb raise as a constituent beyond subjects and adverbs is independently supported by absence of typical A or A-bar movement effects. Pronoun movement fails to license a parasitic gap, unlike wh-movement, in (52); neither does it trigger a weak-crossover violation, again in contrast to wh-movement[34]:

(52) a. et mi rina niSka t_{wh} mibli lehakir e?
who rina kissed without knowing
b. *rina hizmina oto behexlet (lamesiba) mibli lehakir
rina will.invite him certainly (to.the-party) without knowing
c. *etmol hizmina oto rina mibli lehakir
yesterday invited him rina without knowing

(53) a. *et mi_1 ima $Selo_1$ niSka
who mother his kiss
b. etmol niSka oto_1 ima $Selo_1$
yesterday kissed him mother his
His mother kissed him yesterday
c. rina her'ata oto_1 betax le-ima $Selo_1$
rina showed him probably to mother his
Rina probably showed him to his mother

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[34]Absence of weak crossover effects in (45) may well have an independent explanation. Note that weak-crossover is never attested with a postverbal subject (see Borer 1995), in (i), and raising across a dative (regardless of further raising across adverb) patterns with A-movement, as the anaphoric distribution in (ii) shows:

i. a. *im mi_1 ima $Selo_1$ rakda?
with who mother his danced
b. im mi_1 rakda ima $Selo_1$
with who danced mother his
With who$_1$ did his$_1$ mother dance?

ii. a. rina her'ata le-dani et acmo
rina showed to-dani himself
b. rina her'ata et dani le-acmo
rina showed dani to-himself

The combination of the two properties, absence of weak-crossover and absence of parasitic gaps, clearly distinguishes weak pronoun object raising from wh-movement across a postverbal subject. The latter does license a parasitic gap:

i. et ma gihaca rina mi-bli le-xabes?
et what ironed rina without washing

Neither does weak pronominal object raising exhibit typical A-movement effects. It does not license a subject anaphor, in (54a). The ungrammaticality of (54b) shows that the raised possessive dative pronoun cannot c-command the subject from its derived position[35]. Principle B effects cannot be tested because the sequence V-obj. pron - subj pron is independently excluded (see above). The Principle C violation in (54c) is ameliorated by the addition of focus material, in (54d)[36].

(54) a. *etmol ra'ata ota acma ba-mar'a
yesterday saw her herself in.the-mirror
b. *etmol racu li ha-yeladim
yesterday ran me$_{dat}$ the-children
c. *etmol ra'ata ota$_1$ ima Sel dina$_1$ ba-mar'a
yesterday saw her dina in.the-mirror
d. Suv etmol, ba-pa'am ha-me'a, niSka ota$_1$ doda Sel rina$_1$ al ha-lexi be-fumbi
again yesterday, for the hundredth time, kissed her$_1$ aunt of rina$_1$ on the cheek in public
Yesterday again for the hundredth time Dina's aunt kissed her on the cheek in public

Suppose that the grammaticality of (54d) can be interpreted as lack of c-command by the pronoun in its derived position[37]. Then, (52)-(54) consistently show that the raised pronoun never binds an argument. Inability of the pronoun to bind is expected if it cannot c-command from its derived position, and it will not if it raises as part of a constituent containing the verb as well[38]. While raising of [$_{VP}$ V^o weak pronoun] is a possibility, note that such a derivation would require all material *except* weak object pronouns to extract from VP, an assumption incompatible with the claim made throughout that weak

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[35]The possessive dative must c-command the possessed or its trace. See Borer & Grodzinsky (1986) and Landau (1997) for extensive discussion.
[36]See Holmberg & Platzack (1995) and Holmberg (1999) for similar facts regarding Swedish pronoun movement, including the contrsast between Principles A/B and C, and Ordonez (1997) for a Principle C effect in Spanish VOS.
[37]Setting aside an explanation for (54c).
[38]Non c-command of the pronoun in derived position will follow only on a simple definition of c-command based on first branching node. The pronoun with the verb adjoined to its left will c-command out of a higher position [$_{pron}$ V + pron] P] on the segment-sensitive definition of c-command in May (1985) and Kayne (1994). Alternatively, it is the head status of the pronoun in derived position barring binding, rather than adjunction per se.

pronouns are attracted by $F^{o}_{[person]}$. It would also require that V^{o} remain in VP if VP contains a weak object pronoun. Yet is difficult to see how presence of a pronoun keeps V^{o} in VP unless the pronoun attracts the verb. But that, essentially, is the configuration argued to be formed in the functional domain.

The difference between a VP raising and a V^{o}+obj^{o} complex formed in the functional domain revolves around the point in the derivation at which verb and object combine to form a necessary constituent. On the former approach, relatively early, prior to raising into the functional domain; on the latter approach later, following obj attraction to $F^{o}_{[person]}$. On the former approach adjacency should be rigid - even if independent verb and object movements took place within an extended VP, all other VP-material extracts by the time [$_{VP}$ V^{o} weak pronoun] raises. Therefore, no material should be able to intervene between verb and pronominal object. On the latter approach, intervention effects are not absolutely precluded, provided the intervening elements can be said to have similar verb adjacency requirements. And indeed, other pronouns do intercept V^{o} and weak object pronoun. When the accusative pronoun is accompanied by a dative pronoun or postverbal subject pronoun, the latter two must be immediately adjacent to the verb:

(55) a. rak etmol pagSa hi oto
only yesterday met she him
b. *rak etmol pagSa oto hi
only yesterday met him she

(56) a. dina natna lo ota be-matana
dina gave him$_{dat}$ it for-keeps
b. *dina natna ota lo be-matana
dina gave it him$_{dat}$ for-keeps

The possible intervention of subject and dative weak pronouns shows that the constituency of V+weak pronoun cannot be absolute. If the verb and pronominal object form a constituent within VP by extraction of residual material, predictions are the reverse of (55): (55b) should be possible (as in French subject -clitic inversion, modulo placement of object clitic relative to V^{o}) and (55a) could not be derived. The

grammaticality of (55a) provides direct evidence against having V^o and object amalgamate at the phrasal level. (56) shows a similar pattern with dative pronouns; and again, the dative can and must intervene between the accusative object and verb. Crucially, the only kind of material that may intercept a weak accusative pronoun and the verb is other weak pronouns, suggesting that the accusative may be preceded by subject and dative weak pronouns precisely because the latter have v-features just like the accusative. If so, the claim that accusative pronouns have v-features is not challenged by (55) and (56), in which v-features of the accusative pronoun may be checked by a dative or subject with left adjoined V^o. The existence of these clusters, then, argues in favor of an explanation of variable positioning and binding properties as cliticization external to vP; if so, object pronouns, like subject pronouns, trigger obligatory verb raising. The analysis of clitic clusters sketched below identifies the site of object encliticization and further supports the argument for independent pronominal attraction by $F^o_{[person]}$.

4.2 Clitic Combinations

That postverbal weak subject pronouns have verbal features has been discussed at length in section 2; dative weak pronouns are no different. They too must be adjacent to the verb. On a par with the accusative raising examples in (50) and (51), verb-raising past a subject or adverb will pied pipe a dative pronoun along its optional trajectory of movement:

(57) a. dina tiSlax be-hexlet le-rina praxim
dina will.send certainly to-rina flowers
b. *dina tiSlax le-rina be-hexlet praxim
dina will.send to-rina certainly flowers
c. dina tiSlax la be-hexlet praxim
dina will.send to-her certainly flowers
d. *dina tiSlax be-hexlet la praxim
dani will.invite certainly her to.the-party
e. dina be-hexlet tiSlax la praxim
dina certainly will.send to-her flowers
f. *dina la be-helxlet tiSlax praxim
dina to-her certainly will.send flowers

(58) a. matay tiSlax dina le-rina praxim?
When will.send dina to-rina flowers
b. *matay tiSlax le-rina dina praxim?
When will.send to-rina dina flowers
c. matay tiSlax la dina praxim?
When will.send to-her dina flowers
d. matay dina tiSlax la praxim?
When dina will.send to-her flowers
e. *matay la dina tiSlax praxim?
when to-her dina will.send flowers

The idea that all pronouns have identical v-requirements implies that in (55) and (56) subj-acc and dat-acc clitics form a cluster in which verbal features of both clitics are checked by V^0. Furthermore, if subject, accusative, and dative clitics are equivalent in isolation, the reason for their relative ordering can only be structural. Recall that in addition to (55) and (56), a postverbal subject and dative pronoun are incompatible in any order, repeated in (59):

(59) a. la-axrona hi Salxa lo praxim
recently she sent him_{dat} flowers
She recently sent him flowers
b. *matay la-axrona Salxa hi lo praxim?
When recently sent she him_{dat} flowers
c. *matay la-axrona Salxa lo hi praxim?
When recently sent him_{dat} she flowers
d. matay la-axrona Salxa lo rina praxim?
when recently sent him_{dat} rina flowers
When recently did Rina send him flowers?
e. matay la-axrona Salxa hi le-dani praxim?
when recently sent she to-dani flowers
When recently did she send Dani flowers?

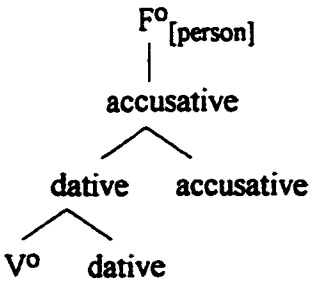
In what follows I briefly show how an enclisis analysis would approach the distribution of clitic combinations by illustrating the ingredients that a structural approach would entail. Note first that the ordering phenomena in (59) are restricted to cases in which both arguments are pronominal, a pattern which confirms the hypothesis that what's at stake is the ability of pronominal clitics to have verbal features checked. Just like datives and

accustives necessarily occur in that order only when both are pronominal, so are a postverbal subject and a dative clitic incompatible when both are pronominal[39].

Continuing to assume adjunction to the left, the grammatical combinations show an accusative with [V^o + subj] or [V^o+dat] left-adjoined. Having excluded the option that accusatives have less stringent cliticization requirements, non-adjacency of the accusative must mean that it is higher than subject or dative at the point at which $F^o_{[person]}$ is merged and attracts pronominal material. To illustrate with datives, the accusative must be higher than dative and verb at the relevant stage in the derivation, in (60a). $F^o_{[person]}$ attracts the accusative for [person] checking, and the accusative attracts the dative for verb-feature checking. Assuming the definition of phases given in Chomsky (1998) and the proposal developed in Pesetsky & Torrego (2000) that features checked may await deletion until completion of their minimal phase, the dative pronoun left-adjoined to the accusative attracts V^o to its left, resulting in the cluster in (60b):

(60) a. $F^o_{[person]}$ . . . accusative . . . . dative . . . . V^o

b.



The ungrammaticality of the equivalent of (60b) with a subject clitic initially attracted to $F^o_{[person]}$ suggests that a dative cannot check v-features of the subject; neither can an accusative (*V-acc-subj). The result is guaranteed if the $F^o_{[person]}$ attracting subjects, Agr_2, is located within a higher phase and dative v-features are no longer available for cluster formation with the subject attracted to Agr_2. This is because, as argued in the

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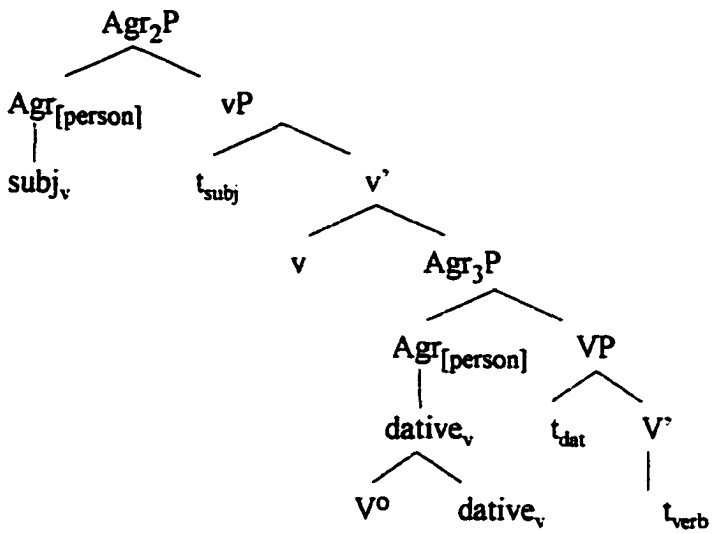
[39]See fn. 27 for ungrammatical V-subj-PP-NP sequences when subject and dative are both lexical. An analysis of lexical *V-subj-PP in terms of V^o-extraction may extend to pronominal *V-subj-dat, but given the grammaticality of (59d) with dative clitic preceding a lexical subject, the expectation is for pronominal V-dat-subj to be grammatical everything else being equal. See below for futher discussion.

previous chapter in the context of Germanic particles and datives, a dative argument is introduced by an $F^{o}_{[person]}$ internal to vP which I will label Agr_3[40]. A dative pronoun attracted by Agr_3 will subsequently attract V^{o}, but by the time the derivation reaches vP v-features are no longer available for further attraction by the subject in Agr_2, schematized in (61)[41,42]:

(61)



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[40]See Den Dikken (1995) and Collins & Thrainsson (1996), and the structure of Semitic and Celtic inflected prepositions in chapter 3. Agr_3 is not, on present assumptions, designated to attract datives; it needs a [person] feature and will attract the closest candidate, as in (60) with the higher accusative pronoun initially attracted.

[41]An accusative with a dative will be generated within the lower VP since in the presence of a dative it must be below Agr_3, as in the structural portion depicted in (60). The most simple derivation of (60) from (61) would have the accusative as complement to V^{o} (as in Collins & Thrainsson 1996), with subsequent raising of the accusative pronoun to a derived position below Agr_3 (see the following fn.). If the dative merges lower than the accusative (Den Dikken 1995) than an additional step of PP raising will derive the order acc-dat-V at the point in which Agr_3 is merged. On the structural assumptions adopted, the requirement that V^{o} precede pronouns means that V^{o} is sufficiently low at the relevant point, a parameter not directly relevant to Germanic particle and dative derivations.

[42]Some evidence for vP-internal accusative raising is provided by contrasts between light and heavy NPs in the presence of preceding datives/possessive datives and inverted subjects discussed in fn. 27; if so, accusative pronoun movement is an instance of light object movement, not pronoun attraction (see Belletti & Shlonsky for light object movement in Italian). Contrasts between light and heavy objects object suggest that V^{o} cannot crosss the subject in the presence of a dative, following from a structure in which [V^{o} dative] make a constituent in specifier position when the object is light, derivable if light objects necessarily extract from lower VP.

Once V° left adjoins to the dative pronoun in Agr_3, verbal features are checked and deleted at the point at which v° is merged, at the latest. The subject in Agr_2, then, is left with unchecked v-features, crashing the derivation, hence *V-dat-subj. Similarly, the subject in Agr_2 cannot attract V° alone, stranding the dative in vP. Since V-attraction by the dative in Agr_3 is obligatory, the verb cannot skip the dative on its way to the subject in Agr_2; if adjunction excludes excorporation (Roberts, 1991), no independent V°-raising past Agr_3 will be possible, hence *V-subj-dat.

The assumption that datives are introduced by Agr_3 can now explain the asymmetry between accusatives and datives with respect to cluster formation with the subject. Recall that an accusative may follow V+subj, but a dative may not. On the structural assumptions surrounding (60), the positioning of the accusative relative to the subject means that at the point at which Agr_2 is merged, the accusative has reached a position higher than the subject, and so will be the closest candidate for initial attraction by Agr_2, schematized in (62)[43]:

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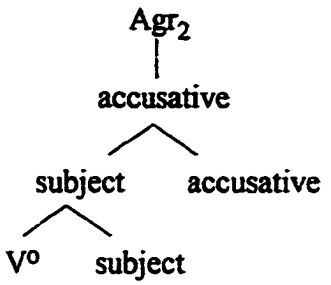
[43]I leave open the identity of this position and the trigger for accusative movement. Agr_o with attracting [person] features is an unlikely candidate. If $Agr_{o/person}$ is always active in the presence of an accusative, a derivation including accusative and dative pronouns is expected to crash given vP-internal dat-acc formation, as in (60), and feature erasure at vP. While position relative to manner adverbs suggest that objects may raise beyond internal VP, it is unclear whether that instance of movement crosses the subject, as discussed in section 3.Suppose instead that the position hosts all light object DPs, including pronouns (see Belletti & Shlonsky for light object movement in Italian). Some indication that light object movement may be obligatory is provided by contrasts repeated from fn. 27 between heavy and light objects in the context of a possessive dative and inverted subject:

i. a. dina ibda le-rina et ha-et (Se-hi haxi ohevet)
dina lost to-rina et the-pen (that she most likes)
Dina lost Rina's pen / Rina's favorite pen
b. *Suv ibda dina le-rina et ha-et
again lost dina to-rina et the-pen
c. Suv ibda dina le-rina et ha-et Se-hi haxi ohevet
again lost dina to-rina et the-pen that-she most likes
Dina lost again Rina's favorite pen

The contrast between light and heavy objects object can be understood as the impossibility of V° raising past the subject with a possessive dative; this in turn would follow if [V° dative] make a constituent in specifier position when the object is light, an analysis which would require light object extraction and remanant [$_{vn}$ V poss.dat t_{obi}]

(62) a. Agr_2 . . . accusative . . . [$_{vP}$ subject . . . V^o . . .

b.



That the accusative *can* reach a vP external position with its features intact follows from the absence of vP-internal Agr_3 in the absence of an accompanying dative. Datives, on the other hand, are never viable candidates for attraction by Agr_2, the presence of Agr_3 ensuring feature erasure at vP.

The picture which emerges is as follows. Hebrew has two $F^o_{[person]}$ separated by a phase boundary, vP. A pronominal subject will always be attracted by Agr_2, a pronominal dative will be attracted by Agr_3, and an accusative will be attracted by Agr_2 in the absence of a dative. These positions correlate with two cluster sites, Agr_2 hosting V-subj-acc clusters, and Agr_3 hosting V-dat-acc clusters. Consistent with the theory of pronominal attraction pursued throughout, neither position is designated to attract a particular argument: when subject and object are both pronominal and no pronominal dative is present, Agr_2 initially attracts an accusative, not a subject. Similarly, Agr_3 introduced by a dative initially attracts an accusative pronoun when one is present. In both clusters the initial attractee (the rightmost pronoun in a cluster) is chosen on the basis of Shortest Move, as expected if the trigger for pronoun movement is associated with its target, $F^o_{[person]}$. $F^o_{[person]}$, though not unique, is similar to $C^o_{[wh]}$, and ungrammatical clitic combinations are akin to superiority effects and violations of Shortest Move generally. Clitic clusters and the positioning of accusative pronouns provide strong support for pronoun movement as attraction by target, and more generally for a top-to-bottom perspective on movement.

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movement to some specifier.

4.3 Summary

The distribution of weak accusative object pronouns, in terms of variable position relative to subjects and adverbs and in terms of binding properties, receives a straightforward explanation if object pronouns cliticize to verbs by triggering left-adjunction of V^o once in $F^o_{[person]}$, now identified as Agr_3 when accompanied by a dative, and Agr_2 in the absence of datives. Since verb raising necessarily pied-pipes the pronoun in its optional course of movement, raising of V^o to the object pronoun must be obligatory; if it were not - if the pronoun was an XP in a specifier to whose head the verb optionally raised - it would be more difficult to see why the object pronoun follows course and why it fails to c-command from derived position[44]. Given independent object attraction of pronoun by $F^o_{[person]}$ and a general ban on mulitiple adjunction to a single head, it is necessarily the object pronoun, not the position, which forces verb raising, highlighting again the significance of pronouns for obligatory verb-raising.

5 Conclusions

Starting out with the analysis of preverbal and postverbal pronominal subjects, the chapter has provided independent evidence for the proposal that inflectional material not compatible with a lexical argument is the result of Num^o attraction; that a certain type of verbal inflection is syntactically identical to a weak pronoun, and that both are attracted as heads. The analysis of weak postverbal subject pronouns as syntactically equivalent to rich inflectional material is supported by the distribution of postverbal pronouns in embedded clauses, not predicted by an economy approach which would take postverbal pronouns to be XPs in specifier position. More decisive evidence for the head status of postverbal pronouns was gleaned from the structural location of pronominal VS and a

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[44]See Shlonsky & Laenzlinger (1996) for an analysis along these lines which captures similarities between Hebrew and German pronominal positions.

variety of facts which taken together restrict the options to an enclitic structure. Since left-adjunction of V^o to pronoun is obligatory, this instance of raising must be distinct from optional V-raising in the absence of pronominal material. More specifically, it was proposed that the pronoun itself is endowed with a verbal feature; since pronouns are independently attracted to $F^o_{[person]}$ so will the verb raise to $F^o_{[person]}$ although the latter has no verbal requirements. Since it is [person] which ultimately albeit indirectly triggers verb-raising, the notion of 'rich agreement' relevant to verb raising can be refined to [person]. Furthermore, reanalysis of enclitic structures as inflectional material can now be understood in terms of a transfer of v-feature from pronoun to I^o, and a concommitant shift in [person] from a head to an XP feature.

The analysis of verb-raising as triggered by properties of non-verbal items taken from the numeration may extend to other instances in which verb fronting cannot be easily attributed to properties of a structural position. One might attempt to derive various Affect-Criteria (wh, neg, foc, etc.) which raise verbs only when corresponding specifiers host operators from properties of XPs such that verb raising to Op^o checks a v-feature of an XP operator in specifier position, and perhaps to V2 requirements more generally[45].

The generalization that pronouns trigger obligatory verb-raising was then shown to extend beyond the syntax of subjects. Optionality of V^o-to-Agr_I cannot be attributed to Agr_I itself; broken down into individual steps delineated by adverbials, optional raising characterizes the entire movement trajectory beyond manner adverbs and v^o. The final section has shown that at least in Hebrew, the pronominal requirement for verbal material is not specific to subjects. Weak accusative and dative pronouns are similarly positioned right-adjacent to main verbs, the result of encliticization and left-adjunction of V^o to a pronoun independently attracted to $F^o_{[person]}$. Clitic ordering restrictions and the proposal for two $F^o_{[person]}$ further support the claim made throughout that pronouns are

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[45]Thanks to M. Den Dikken for pointing out this possible extension which might circumvent technical difficulties with attributing the attracting feature in Affect-criteria to a piece of structure.

attracted to their derived positions. Variability in the site to which accusatives are attracted shows, in particular, that the sites of pronominal attraction and cluster formation are unspecified for the particular argument to be attracted. As with C^{o}_{wh} and multiple wh-phrases, the candidate for attraction is determined by Shortest Move.

Many important questions still remain unanswered. Optional verb raising has been presented primarily as a background against which the significance of pronouns for verb raising has been assessed, and its trigger remains open. Interesting in itself, comparison with optional movement of Italian active participles and auxiliaries and French lexical infinitives suggests that the low portions of optional movement may be no less important than its upper boundary, a conclusion awaiting closer investigation. Similarly, the question whether Hebrew tensed verbs, rich in inflectional material, present a counterexample to the generalization that inflected verbs necessarily raise to I^{o} requires further research. Although tensed verbs necessarily vacate their merge position, it remains unclear whether obligatory raising past manner adverbs qualifies as movement to I^{o}, and whether the nature of v^{o} can be clarified empirically in the context of V^{o}-movement. Hopefully, future work will address these questions more adequately.

Chapter Five

[Person] Features and the EPP

Empirical and theoretical arguments have been presented in Chapter 3 in favor of an attraction approach to pronoun movement, leading to the postulation of an $F^{o}_{[person]}$ located in the functional domains of subjects, objects, and datives. Chapter 4 has extended the anlaysis to Hebrew, highlighting interactions between pronoun movement, v-features, and verb syntax. The goal of the present chapter is, first, to provide external evidence for $F^{o}_{[person]}$, and to show how the feature can be integrated into the functional landscape hosting EPP and Case / agreement features.

So far, pronominal attraction has been motivated by the syntax of pronouns, the fact that pronoun raising and doubling must be determined by the syntax of a target. Yet postulation of $F^{o}_{[person]}$ and the restriction of attraction to the overt component carries implications beyond the syntax of pronouns, most immediately that pronoun and lexical DP raising do not target the same position. In this respect too an attraction analysis differs

from Greed-based approaches, which tend to discriminate less sharply between pronominal and general DP movement. Cardinaletti & Starke (1999) and Roberts & Shlonsky (1996), for example, assume that the position targeted by pronouns in overt syntax is reached by all DPs at LF, meaning that the trigger and landing site for these movements is the same[1]. On these approaches what's special about pronouns (more accurately, a subset of pronouns) is that they move overtly. But if attraction is necessarily overt as has been assumed so far, covert raising of lexical DP or its formal features to that position ceases to be an option. When pronouns are observed in special positions it must be because pronominal attractors are specified for features which preclude lexical DPs along the lines of the postulated $F^{O}_{[person]}$. Or conversely, when DP A-movement is observed, its trigger must be distinct, located in a position other than the position hosting the trigger for pronoun movement. The question then is whether the postulation of $F^{O}_{[person]}$ and its corollary, that covert DP raising is unavailable, are empirically justified - whether there exists evidence favoring the proposal that restricts raising to position P to pronouns over the alternative that all DPs reach P by LF. The first section presents positional contrasts between weak and strong pronominal subjects in Pembrokeshire Welsh and West Flemish suggesting that general DP raising into the IP domain targets a position lower than the position of attracted pronouns. That DPs generally do not raise as far as pronouns supports the idea that pronoun movement is triggered by a unique pronominal feature, [person].

If correct, another question arises regarding the manner in which $F^{O}_{[person]}$ comes to be checked in the absence of pronominal material, i.e. when the corresponding argument is lexical. On the structural assumptions developed in chapter 3, when N^{O} is lexical Num^{O} cannot raise because it checks [number] of N^{O} and does not contain an

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[1]The assimilation of pronoun movement to general DP movement is not a necessary property of Greed approaches; it is conceivable, for example, that only a subset of pronouns raise overtly to a position designated especially for pronouns, i.e. $F^{O}_{[person]}$ and greedy movement.

attractable [person][2]. To the extent that weak pronoun / clitic movement occurs in some language or within some functional domain within a language, so is $F^{o}_{[person]}$ expected to be active within that language or restricted domain. The question applies therefore to all functional domains in which pronominal material finds itself in positions other than those hosting lexical arguments.

The inclusion of $F^{o}_{[person]}$ in the functional landscape hosting raised DPs raises another question, concerning the nature of the EPP. Assuming EPP to be universal (at least for subjects), is it satisfied by pronoun movement or DP movement? Given Chomsky's (1998) proposal to detach EPP from the Agreement/Case system such that only EPP is a direct trigger for the Merge component of Move (which I adopt), the question regarding possible interactions between $F^{o}_{[person]}$ and EPP must be formulated slightly differently. To the extent that multiple instances of movement are observed within a functional domain 'EPP' ceases to be unique; DP raising and pronoun raising could both, in principle, be thought of as EPP driven in this generalized sense. More relevant to the present study is the *position* designated as EPP in pre-1998 versions of the Minimalist Program, the highest subject position as delineated by overt expletives in languages with TECs such as Icelandic and German. The assumption that $DP_{[person]}$ is not available when N^{o} is lexical restricts the options for $F^{o}_{[person]}$ checking to a DP-external candidate, and I will argue that $F^{o}_{[person]}$ may be checked from above, via raising to a CP position akin to that hosting an overt expletive in a TEC.

The first section argues for detaching [person] checking by pronouns from lexical DP movement, and presents evidence for distinct landing sites in configurations in which weak pronouns and tonic pronouns raise within the same derivation. Section 2 begins to present [person] / EPP interactions through discussion of Alexiadou & Anagnostopoulou

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[2]The structural account predicts DP_{lex} doubling to be distinguishable from pronoun doubling (see chapter 4 for discussion), but does not explain why N^{o}_{lex} is not associated with [person], which must be stipulated at present. The approach to [+/-def] as an inflectional feature associated with N^{o} may be relevant if it could be shown that [+/- def] is no other than a binary articulation of lexical [person], and if only the most highly specified value counts ([+/-def] neutralizes the superordinate [3rd person] value of N^{o}_{lex}).

(1998) who argue that pronominal material, in the guise of verbal inflection in pro-drop languages, checks EPP. Evaluation of the arguments for EPP checking by pronominal material leads to identification of this position as relatively high, plausibly within the CP domain, and it is shown how proposals for extended / --complete CP as in Rizzi (1997) and Chomsky (1999) may provide, with slight modifications, a framework for [person] attraction from the IP domain higher up into CP. Section 3 presents empirical evidence for CP-internal [person] based on interactions between expletives and wh-movement and finiteness in Friulian and Salish respectively.

1 The Independence of Pronoun and DP_{lex} Movement

A common Greed-based approach to pronoun movement says that pronoun movement is identical to lexical DP movement except for the level at which it applies. When only pronoun movement is observed, that is because pronoun movement must be overt and lexical DPs can procrastinate. A related view is presented in Sportiche (1995), where it is argued that Romance clitic placement and Dutch DP scrambling are essentially identical, both involving DP movement to the specifier of a clitic projection. Romance phonetically null pronouns raise to the clitic in the syntax, and DP_{lex} at LF, and in Dutch DP_{lex} raising to the clitic is always overt. Though the clitic is argued to be base generated in its surface position, the similarity to Greed revolves around the claim that pronouns and DPs ultimately reach the same position, due to a [specificity] feature common to pronouns and raised DPs which must be checked in spec/head configuration[3].

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[3]The often made observation that accusative and nominative DPs doubled by clitics are presuppositional does not necessarily warrant a morphosyntactic implementation as [+specificity] checked on clitics and DPs in spec-head configuration on a par with [wh] and [neg] features. If, independently, weak pronouns and clitics require discourse antecedents and their doubles cannot qualify as such (because clitics and doubles share a theta-role), the relation between the clitic and its DP double might suffice to guarantee a discourse antecedent for the doubled DP, eliminating the need for [specificity] as a feature requiring checking in a particular configuration.

Part of the motivation for this class of theories comes from the similarities and differences in object shift between Icelandic and Mainland Scandinavian. Although in Icelandic pronouns and definite DPs can raise to a VP external position, and in Mainland Scandinavian only pronouns may (in fact must) so raise, the fact that in both language types object raising is predicated on main verb raising may suggest that MSc pronoun movement and Icelandic DP_{lex} movement are syntactically similar (examples from Collins and Thrainsson (1996) and Vikner (1995)):

(1) a. Jon las **bækurnar** ekki (Icelandic)
John read the-books not
John did not read the books
b. *Jon hefur **bækurnar** ekki lesith
John has the-books not read
c. Jon hefur ekki lesið **bækurnar**
John has not read the-books
John has not read the books

(2) a. I gar læste Peter **den** uden tvivl ikke (Danish)
yesterday read Peter it without doubt not
Yesterday Peter did not read it without doubt
b. *I gar læste Peter uden tvivl ikke **den**
yesterday read Peter without doubt it
c. *Hvorfor læste studenterne **artiklen** ikke?
why read the-students article-the not

(3) a. Hvorfor har Peter ikke købt **den**?
why has Peter not bought it
Why hasn't Peter bought it?
b. *Hvorfor har Peter **den** ikke købt?
why has Peter it not bought

A Greed-based explanation is also readily available for cases in which pronouns and lexical DPs both appear to occur in derived positions, as in the German examples in (4) and (5), from Vikner (1995). Here again it could be claimed that the additional step obligatorily taken by pronouns and optionally by DP_{lex} is always accomplished at LF when DP is lexical.

(4) Gestern hat Peter...
yesterday has Peter...
a. **das Buch** ohne Zweifel nicht gekauft
b. ohne Zweifel **das Buch** nicht gekauft

c. ohne Zweifel nicht **das Buch** gekauft
the book no doubt the book not the book bought
Peter has no doubt not bought the book

(5) a. Peter hat **sie** ohne Zweifel nicht gelesen
b??Peter hat ohne Zweifel **sie** nicht gelesen
c. *Peter hat ohne Zweifel nicht **sie** gelesen
Peter has them no doubt them not them seen
Peter has no doubt not seen them

The pronominal attraction approach, on the other hand, could say that $F^{O}_{[person]}$ is located in the highest position, seen in (4a), and that movement to intermediate landing sites is triggered by a distinct feature which is optional and compatible with both pronouns and DP_{lex}, say the EPP of Chomsky (1999) whose presence is predicated on interpretive effects. Contrasts such as these are therefore insufficient to determine whether the requirement for obligatory pronoun raising stems from a special feature or from an incompatibility with procrastination.

More decisive evidence for a special attracting feature is provided by the position of strong pronouns, especially in languages in which they are overtly doubled. In Pembrokeshire Welsh, for example, pronominal subjects raise obligatorily to a derived position delineated by medial negation. To this position definites raise optionally, and indefinites remain low (from Rouveret, 1991):

(6) a. Chwrddes i ddim ag e (Pembrokeshire Welsh)
met-1st I neg with him
I didn't meet with him
b. Ath **'y nhad** ddim i mas i ddrychid
went my father neg to outside to look
My father did not go out to look
c. A fywodd ddim **'r 'en grwban bach**
and lived neg the old tortoise little
... and the little old tortoise didn't survive
d. Nethe ddim **dwr** pishtyll y tro
would-do neg water spring the turn
Water from the spring didn't do the trick

Assuming the analysis of synthetic inflection as raised Num^{O} motivated in chapter 3, (6a) shows two instances of movement: of pronominal Num^{O} to a pronominal attractor, and of the doubled pronoun to a derived subject position. The former is an instance of attraction

by $F^{o}_{[person]}$. Placement of the doubled pronoun in pre-medial position, on the other hand, is not an instance of pronominal attraction, even though it is obligatory just like weak pronoun raising. It is precisely in these cases that synthetic inflection (raised Num^{o}) is required, analyzed as a [person] checker in lieu of the 'strong' pronoun which stays put. I will assume therefore that the position of the doubled pronoun in (6a) and the position of the definite DP in (6b) are exactly the same[4]. On this assumption, the first instance of movement, Num^{o} to $F^{o}_{[person]}$, is akin to weak pronoun movement in Danish or German in the examples above. Similarly, Welsh doubled pronouns and definite DPs seem to be in a position akin to the position of strong pronouns and DP_{def} in other languages. As in the Icelandic object domain in which definites optionally raise past adverbs/negation and indefinites do not, in (7) (from Svenonius (1996)), Welsh definite subjects optionally raise and indefinites do not.

(7) a. Eg sa (bilinn) oft (bilinn)
I saw the-car often the-car
I often saw the car
b. Eg sa (*nokkra bila) oft (nokkra bila)
I saw some cars often some cars
I often saw some cars

More important than the precise trigger and landing site for Welsh subject / Icelandic object DP_{lex} movement is the fact that, unlike the Danish / Icelandic and German-internal pairs, movement of the strong pronoun in (6a) is clearly distinguishable from Num^{o} attraction[5]. This is because both movement types are observable within a single derivation: the strong pronoun raises to a position preceding negation, and Num^{o} to a higher position immediately following V^{o}.

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[4]The obligatory nature of doubled pronoun raising past negation may well derive from the syntax of Num^{o} extraction, such that attracted Num^{o} must pied-pipe NumP out of VP, head raising of Num^{o} to $F^{o}_{[person]}$ being limited to one movement step.
[5]Positional contrasts between attracted pronouns and strong pronouns is obscured in languages such as Icelandic and German in which pronoun doubling is by a null morpheme. See chapter 3.

A paradigm sufficiently similar to Pembrokeshire Welsh is also attested within Germanic. West Flemish subjects pattern similarly to Welsh and French, clitic doubling being impossible with lexical subjects (in (8)) , but obligatory with null subjects, in (9), and with a subset of tonic pronoun subjects, in (10) (from Shlonsky (1994))[6]:

(8) a. *da-tze Marie werk-t
that.3sf she Marie work.3sf
b. *Werk-t ze Marie?
work.3sf she Marie

(9) da-t *(ze) werk-t
that.3sf she work.3sf

(10) a. da-n *(-k) ik werk-en
that.1s I I work.1s
b. da-t *(-j) gie werk-t
that.2s you you work.2s
c. da-t *(-j) ij werk-t
that.3sm he he work.3sm
d. da-t (-ze) zie werk-t
that.3sf she she work.3sf
e. da-t (-t) tet werk-t
that.3sn it it work.3sn
f. da-n (-me) wunder werk-en
that.1p we we work.1p
g. da-t *(-j) gunder werk-t
that.2p you you work.2p
h. da-n (-ze) zunder werk-en
that.3p they they work.3p

(10a)-(10c) and (10g), with a tonic pronoun necessarily doubled by a clitic, look exactly like Welsh (modulo the fact that the clitic is post-complementizer rather than post-verbal), while in third person singular feminine and neuter, and first and third person plurals, the clitic may be absent. The incompatibility of a clitic with a lexical subject and its necessary appearance when the subject is null recall the pattern seen so far, so I will take the requirement for a double seen in (10a)-(10c) and (10g) to be more representative of the syntax of tonic pronouns than those cases in which the clitic is optional. Suppose

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[6]See also Haegeman (1990) for extensive discussion. Clitics in these examples are boldfaced, tonic pronouns are underlined.

then that in third person singular feminine/neuter and first/third person plurals a clitic is always present, potentially null[7] . If so, the West Flemish subject paradigm shows overt evidence for attraction by $F^{O}_{[person]}$ and is similar in this respect to Welsh, Breton, Standard Arabic and French previously discussed. As in the Welsh paradigm given in (6), the overt presence within the same derivation of both tonic pronoun raising from VP and weak pronoun raising to yet a higher position shows that weak pronouns and DP_{lex}/strong pronouns target distinct positions. At the same time, a number of notable differences between West Flemish and these languages provide a direct argument against further LF DP_{lex} movement to the position occupied by raised Num^{O}.

The compatibility of clitic doubling with verbal or complementizer agreement supports the idea that what shows up, morphologically, as verbal or prepositional 'agreement' in Welsh, Breton, Standard Arabic, is syntactically more like a Romance/Germanic clitic, and strengthens the conclusion that it should not be assimilated with subject-verb inflection found in English, West Flemish, or even Italian. Second, West Flemish embedded clauses show that pronominal attraction by $F^{O}_{[person]}$ is not limited to VS configurations, though contrasts between preverbal and postverbal paradigms in Standard Arabic and Breton appear to point in that direction. Most crucially, West Flemish shows that pronoun doubling by a clitic and attraction by $F^{O}_{[person]}$ is not necessarily by head movement. As shown in Shlonsky (1994), the ability of subject clitics to precede the verb in V2 contexts implies that subject clitics are XPs on a par with lexical subjects and tonic pronouns, which may also trigger V2. Their incompatibility with a fronted adverb, in (12), confirms the XP status of subject clitics[8]:

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[7]Setting aside the conditions on phonetically null clitics, about which the proposal has nothing to say.

[8]The fact that the tonic pronoun in (11b) can fail to be doubled is not likely to be due to the presence of a phonetically null clitic, unlike the post-complementizer cases examined in (10) or the following postverbal subject in a root clause:

i. Werk-t (-ze) zie?
work.3sf she she

When the tonic pronoun is preverbal, a doubling clitic is impossible, in (ii), suggesting that no phonetically null clitic is present in (11b).

(11) a. Marie werk-t
Marie work.3sf
b. Zie werk-t
she work.3sf
c. Ze werk-t (zie)
she work.3sf she

(12) *Morgen ze werk-t
tomorrow she work.3sf

The possibility that an attracted pronoun overtly doubling a tonic pronoun is an XP is directly relevant to the argument against LF raising of strong pronouns and DP_{lex} to position to which Num^0 is attracted overtly. Recall that in Welsh $F^0_{[person]}$ arguably attracts a head, with Num^0 adjoining to F^0; in that configuration it would still be possible for tonic pronouns/DP_{lex} to raise at LF as XPs to spec $F^0_{[person]}$, as in Sportiche's analysis of DP_{lex} raising to spec of the clitic. But if $F^0_{[person]}$ can attract an XP clitic to its spec in overt syntax, as it must given (11c) and (12), the likelihood of additional LF XP movement to the very same specifier diminishes even further.

In conclusion, languages with overt doubling of tonic pronouns provide important evidence for a unique landing site for attracted pronouns. Examples (6a) and (10a)-(10c), (10g), demonstrate Num^0 attraction and DP_{lex} raising within the same derivation and

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ii. *Zie werk-t ze
she work.3fs she
The existence of a tonic pronoun which cannot be doubled is surprising given the claim that tonic pronouns do not themselves raise to $F^0_{[person]}$. In (11b), however, the tonic pronoun has raised past $F^0_{[person]}$ and appears to have checked [person] in the course of its independently triggered movement to initial position. The incompatibility with a postverbal subject clitic suggests that the tonic pronoun must raise through spec $F^0_{[person]}$ on its way up and cannot skip spec $F^0_{[person]}$ filled by the clitic, though possible apparently in the French *Moi j'aime Marie*. Assuming that extraction of the tonic pronoun from NumP is impossible, the structure excluded in WF is roughly:
iii. *$[\ t_{ze}\ [\text{tonic pronoun}]_{NP}]_{NumP}\ V\ [ze]_{NP}\ F^0_{[pers]}\ t_{NumP}$
Why can't the remnant NumP containing *zie* cross *ze* in spec $F^0_{[pers]}$? Following Shlonsky (1994) it is possible that a preverbal subject in WF, as opposed to other non-subject initial phrases, is in an A-position (see Travis (1984) and Zwart (1993)); if so, NumP crossing *ze* in spec $F^0_{[pers]}$ incurs a minimality violation. If NumP extraction possibilities in French are identical to WF, movement of $[moi]_{NumP}$ across *je* must not be to an A-position; alternatively, the difference between WF and French may reduce to a difference in minimality effect induced by clitic due to its enclitic vs. proclitic status.

reveal distinct landing sites. If LF raising is thought of as [FF] head adjunction and multiple adjunction is barred as in Kayne (1994), than the Welsh configuration is sufficient to preclude covert raising to the position occupied by raised Num^{o}. XP pronominal attraction in West Flemish militates against an analysis of covert full category raising along the lines of Sportiche (1995) since the attracted clitic already occupies its putative landing site. And if LF movement is necessarily FF movement, the Welsh example with Num^{o} in head position combined with a ban on mulitple adjunction, militates against FF raising.

The exclusion of LF movement to the same position targeted by clitics and weak pronouns strongly suggests that these instances of movement are exclusively pronominal and so must its trigger be. The inclusion of an $F^{o}_{[person]}$ in the functional landscape hosting Case, phi, and EPP features raises a host of questions to which the remainder of the chapter is dedicated.

2 Pronoun movement and the EPP

If indeed $F^{o}_{[person]}$ is part of the functional landscape associated with nominatives, accusatives, and datives, how is it checked when DP contains lexical N^{o} and no attractable [person] in Num^{o}? A possible solution might deny the presence of $F^{o}_{[person]}$ when DP is not pronominal--if $F^{o}_{[person]}$ is absent when DP is lexical, the question doesn't arise. That approach assimilates the selection of [person] to selection of finiteness, [+wh], or topic / focus related features, features with sentential scope which may or may not be selected depending on propositional interpretation. If it is assumed, for example, that wh-phrases bear [+wh] features which must check against a higher [+wh] feature, then derivations containing a wh-phrase but no [+wh] in C^{o} crash, and derivations containing $C^{o}_{[+wh]}$ and a wh-phrase converge. Because selection is free, no problem arises when DP is [-wh]: the derivation crashes if C^{o} is [+wh] , if it lacks [+wh] the derivation converges. So in these cases selection of the feature in the clausal domain

can in principle be free, and the assumption that [f] on DP must check against $F^{o}_{[feature]}$ guarantees its selection when DP is [+f].

That approach, however, is unlikely to solve the problem of [person] and non-pronominal DP. Unlike most classes of wh-phrases, pronouns do not necessarily have checking needs of their own. As shown extensively in chapter 3, derivations containing pronouns and no attractor are in many cases perfectly grammatical, unlike derivations with wh-phrases and $C^{o}_{[-WH]}$[9]. The empirical generalization from the pronominal domain strongly suggests that [person] selection is determined by syntactic factors *external* to DP. Therefore, unlike [wh] selection, it is unlikely that it is in principle free, and so cannot be independently enforced when DP is pronominal; [person] must be present and active with lexical arguments as well. Because there is no choice, and clauses containing lexical arguments do converge, the checking requirements of $F^{o}_{[person]}$ must be satisfiable independently of pronominal Num^{o} raising from DP. The alternative, pursued below, is that unchecked [person] of $F^{o}_{[person]}$ may itself raise and check against a higher head with an EPP feature. The following is limited to subject-related $F^{o}_{[person]}$. To the extent that the approach is feasible, [person] / [EPP] interactions may extend to accusative and dative domains as well, supporting the idea that EPP is not an exclusive feature of subjects (Chomsky, 1999).

2.1 On the Nature of EPP

A brief digression on the status of the EPP is necessary before proceeding to consider its interaction with [person] checking. In the framework of Chomsky (1998) and (1999) the presence of specifier positions is paired down to the EPP alone, conceived of as a feature which requires an XP to be merged to its specifier, and agreement and Case-assignment no longer trigger movement directly. Where movement is observed it is triggered by EPP;

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[9]Marcel Den Dikken (p.c.) points out that Wh-expressions in some languages, such as German and Hungarian, can fail to be attracted by $C_{[wh]}$, in which case they are interpreted as indefinites.

phi/Case features figure only indirectly in activating particular choices of probe and goal. The conception of the EPP as the sole trigger for Merge/Move generalizes the EPP not only from a property of the subject functional domain to CP and object domains, it also suggests that to the extent that there exist 'multiple subject' constructions and multiple object landing sites, there can be no unique EPP feature per functional domain. In TEC languages with two VP external subject positions, for example, it must be possible for there to be two EPP features in the subject functional domain; in object scrambling languages with two VP external landing sites, two object-related EPP features must also be available, and so on. This implies that EPP is heterogeneous and multiple, and movement is overt, by definition - EPP is a generic overt attractor[10].

If all movement is EPP-triggered, the observation that pronominal DP is always attracted can only be expressed via appeal to an EPP feature. The proposal that pronoun movement is independent of full DP movement is compatible with multiple EPP features within a particular domain, yet raises once again the question how to distinguish the EPP that targets full DPs from the EPP that selects pronouns. The replacement of categorial features by phi-features as the substance of EPP - that the requirement expressed by 'EPP' is for a phi-feature rather than D^0 or N^0 - could be taken to correlate 'generic EPP' with multiplicity in the inventory of phi-features, such that landing sites are associated with particular features[11]. If so, the proposal for distinguishing full DPs subject to Principle C from pronouns subject to Principle B along a phi-dimension may be relevant. Lexical DPs might be attractable by $EPP_{[definiteness]}$ and pronouns by $EPP_{[person]}$. Assuming the distinction to be statable in principle, EPP should now be understood as an overt attractor, a requirement for some specifier or head, and [person] as shorthand for $EPP_{[person]}$.

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[10]The conclusion reached independently in Kayne (1998), that movement is always overt.
[11]Supporting an articulate functional landscape associated with distinct features as in for example Shlonsky (1989), Cinque (1999).

2.2 Verb-raising and the EPP (Alexiadou & Anagnostopoulou (1998))

Alexiadou & Anagnostopoulou (1998) (henceforth, A&A) argue that raising of a verb with pronominal inflection specified in the lexicon as [+INT] may satisfy the EPP if the parameter for EPP checking is set for heads. Movement of the verb is parasitic on attraction of pronominal material to a higher position labeled EPP, recalling the proposal for pronominal attraction by [person]. The EPP designates for A&A spec AgrP or its head, the position above TP as in Jonas & Bobalijk's (1996) analysis of Icelandic transitive expletive constructions. It is possible then that what has been claimed to be a [person] attractor is in fact EPP as proposed by A&A: pronouns raise to satisfy EPP[12]. But if Chomsky's approach to Merge and Agree is adopted, then EPP does not designate a unique position, and the relevance of A&A's proposal lies not so much in the label of the trigger (EPP vs. person) as in the position to which V^0+infl raises and its interaction with other clausal heads. As I will show, the facts presented favor a high position beyond the derived position of lexical DPs. Comparison with overt expletive positions in Icelandic and German suggest that this position be thought of as internal to CP.

A&A present two arguments in support of V^0-raising in pro-drop languages as triggered by the EPP. Both attest to the absence of a null XP expletive selected from the numeration in pro-drop VS orders, and if EPP is universal, then it must be the verb itself which satisifies this requirement. First, preverbal subjects in languages such as Spanish, Catalan, and Greek appear to occur in a clitic left-dislocation position (henceforth, CLLD) based on the following: adverbs in Greek can intervene between a preverbal subject and the verb, and a preverbal subject may precede an *if* complementizer (in 13); a Spanish preverbal subject competes with a clause initial adverb (in 14); preverbal subjects

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[12]With the qualification, introduced by West Flemish XP clitics, that head raising is not the only parameter determining whether EPP is satisfied by pronominal material.

have unambiguous wide scope just like CLLD'd objects (in 15); Catalan preverbal pronouns, unlike postverbal ones, cannot function as bound variables (in 16):

(13) a. O Petros xtes meta apo poles prospathies sinandise ti Maria
Peter yesterday after from many efforts met Mary
b. ti Maria kthes meta apo polles prospathies ti sinandise o Petros
Mary yesterday after from many efforts cl-acc met Peter
After many efforts, Peter met Mary yesterday
c. *Jean probablement / hier a recontre Marie
Jean probably / yesterday has met Mary
d. Epidi o Petros an erthi i Maria tha figi
because Peter if comes Mary fut leave
Because if Mary comes Peter will leave

(14) a. Temprano salia Julia de casa
early left Julia the house
b. *Temprano Julia salia de casa
early Julia left the house

(15) a. #Enas oreos andras pandreftike kathe sinadelfo mu persi
A handsome man married every colleague mine last year
#A certain handsome man married every colleague of mine last year
b. Persi pandreftike enas oreos andras kathe sinadelfo mu
last year married a handsome man every colleague of mine
A handsome man married every colleague of mine last year

(16) a. *Tots els estudiants$_1$ es pensen que ells$_1$ aprovaran
all the students think that they pass
b. Tots els jugadors$_1$ estan convencus que guanyaran ells$_1$
all the players are persuaded that win they
All the players are persuaded that they are the ones who win

On the assumption that only identical numerations can be compared for convergence (Chomsky (1995)) the observation that preverbal subjects in pro-drop languages are CLLD'd argues against the presence of a null expletive in VS orders; a derivation raising a subject to A-position can violate Procrastinate only if that numeration is distinct from the one including the expletive. A-raising of the subject depends on the availability of an alternative derivation with an expletive, but in a language lacking expletives subject A-raising violates Procrastinate and is cancelled in favor of VS. The CLLD'd position of preverbal subjects in Spanish and Greek attests therefore to absence of a lexical expletive in VS order.

The CLLD'd status of preverbal subjects is also compatible with the analysis of pronominal inflection as raised Num°. The crucial difference between A&A's analysis of pronominal inflection as lexically determined (amalgamated with V° and specified as [+INT] in the lexicon) and the present approach hinges on the status of third person inflection with lexical arguments: for A&A the status of the latter and the status of third person associated with a pronominal DP(null or overt) are no different; on the present approach the two are compatible only if one is not generated in a theta-position. Thus, the observation that preverbal subjects are CLLD'd suggests that pronominal NumP is generated in a theta-position and lexical DP is merged higher up in a non-A position. If so, the problem posed by non-checked $F^{o}_{[person]}$ is solved, at least in the context of preverbal subjects in pro-drop languages: Num° raises from a NumP in subject position, just as it does when the subject is pronominal.

At the same time, the analysis of Spanish and Greek subject inflection as raised Num° does not easily extend to postverbal subject positions. On the assumption that weak pronouns are instances of raised Num°, the presence of a postverbal weak pronoun, in (17), means that Spanish inflection could not itself be an instance of raised Num (from Ordonez, 1997):

(17) a. Que les compro el a sus hemanos?
what cl-bought he for his siblings?
b. Que les compro a sus hermanos EL / ??el
what cl-bought for his siblings HE / he

If a uniform analysis of Spanish inflection is to be maintained, (17a) with a weak pronoun suggests that its status is similar to English. Continuing to maintain the idea that (null) Num° checks $F^{o}_{[person]}$, the CLLD facts now suggest that a NumP merged into theta position is phonetically null when DP is lexical.

The crucial question for the Num° raising analysis is whether pronominal NumP, merged into a theta-position, is *always* available for $F^{o}_{[person]}$ checking. If it is, then all Spanish/Catalan/Greek subjects sould occur in non-A positions, on a par with the fully polysynthetic configurations discussed in Baker (1996). The question hinges on the

position of postverbal DP_{lex}, and whether there is any indication that it is not merged into spec vP.

Following Ordonez (1997), Spanish subjects in VXS configurations occupy FocP, a position which I will assume is compatible with NumP merged in spec vP. Yet Greek/Spanish subjects in VSX configurations do appear to have been merged into spec vP. For Greek, adverbial placement facts show that the subject must be relatively low. VS sequences can be interrupted by non-aspectual adverbs, and subjects in participial constructions follow participles and aspectual adverbs:

(18) a. an pandreftike ktes i Maria ton Petro
if married yesterday Mary Peter
If Mary married Peter yesterday
b. an ehi idhi diavasi$_i$ [$_{VP}$ kala [$_{VP}$ o Petros t$_i$ to mathima]]
if has already read well Peter the lesson
If Peter has already read the lesson well

Taking these facts to indicate a relatively low subject position, lexical DPs must be allowed to merge into spec vP[13]. If so, NumP may be included in the numeration of a pro-drop language such as Spanish or Greek, or not, just like an expletive may or may not be included in a numeration of English, Dutch, Icelandic. When it is, it is merged into a theta position, from where it raises to $F^o_{[person]}$ and possibly higher[14]. Summarizing so far, $F^o_{[person]}$ may be checked in languages of the Greek / Spanish / Catalan type by a NumP, optionally included in the numeration. When it is not, DP merges low (the VSX

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[13]A similar conclusion can be drawn for Spanish DP_{lex} subjects in VSX order, though less directly. Some indication that these subjects may raise to a derived A-position (and so must have been merged into spec vP) is provided by a number of facts due to Francisco Ordonez (p.c.): VSX subjects do not easily intercept verb+object idiom chunks, difficult to explain if subject and object are both in base position; determinerless objects correlate with decreasing acceptability of increasingly heavy subjects, another fact more compatible with a subject movement analysis, see Ordonez (1997) for further details.

[14]The difference between languages that optionally allow NumP into a numeration and languages that optionally allow an expletive into the numeration can be understood in terms of merge position: , the pronominal in the former is merged into theta-position and DP_{lex} merges high; in the latter DP_{lex} merges into theta-position and the pleonastic element higher.

pattern) and $F^{o}_{[person]}$ must be checked independently, by a higher position, the hypothesis pursued further below. A&A's proposal for V^{o} raising in the service of the EPP becomes directly relevant, for V^{o} provides the necessary vehicle for transporting [person] to a higher position in the absence of NumP. The identity of that higher position is further clarified by consideration of definiteness restriction effects (henceforth DR).

The second set of facts A&A present against null expletives in VS pro-drop orders relate to definiteness restriction effects with transitive postverbal subjects. In an Icelandic TEC the postverbal argument must be indefinite (in (19c), from Jonas & Bobalijk (1996)); if VS orders include a null expletive, the expectation is for an indefinite subject, on a par with Icelandic and Dutch. Although transitive VS is possible in Spanish and Greek (and Arabic and Celtic languages), the postverbal subject is not necessarily a weak indefinite, in (20), in contrast to Icelandic clauses lacking overt expletives, in (21) ((20) and (21) are from A&A (1998)):

(19) a. I gær klaruðu (þessar mys) sennilega (*þessar mys) ostinn
yesterday finished these mice probably the-cheese
These mice probably finished the cheese yesterday
b. I gær klaruðu (?margar mys) sennilega (margar mys) ostinn
yesterday finished (many mice) probably (many mice) the-cheese
Many mice probably finished the cheese yesterday
c. það luku sennilega einhverjir studentar alveg verkefninu
there finished probably some students completely the-assignment
Some students probably completely finished the assignment (Icelandic)

(20) a. eftase ena pedi / o Jorgos / kathe filos mu (Greek)
arrived a child / George / every friend mine
A child / George / every friend of mine arrived
b. diavase ena pedi / kathe pedi to vivlio
read a child / every child book
A / every child read the book

(21) a. *Um nottina hafði *pro* sokkið baturinn (Icelandic)
in the-night had sunk the-boat
b. Um nottina hofðu *pro* sokkið nokkrir batar
in the-night had-pl sunk several boats
In the night had sunk several boats

A&A's explantion for DR effects in Icelandic and the lack thereof in pro-drop languages proceeds from the set of structural assumptions developed in Jonas & Bobalijk

(1996) and Chomsky (1995) who take Icelandic preverbal subjects and overt expletives to be located within IP. Icelandic has two VP external subject positions, in (19a) and (19b). The higher one is reserved for strong Milsarkian DPs which qualifiy as EPP checkers, the lower for weak DPs; only weak subjects are possible when an expletive is present because the expletive merges into the higher subject position. The presence of a covert expletive in Spanish/Greek should block strong subjects just as it does in Icelandic; since strong subjects are possible, Spanish/Greek must not have a covert expletive. On slightly different structural assumptions, however, the absence of DR effects could be taken to imply that pro-drop verbs precede the IP domain, hence satisfy a requirement independent of that imposed by derived subject positions. A&A's results could be re-interpreted to suggest V^0 raising as [person] checking at the CP level.

First, consider the fact that German, unlike Icelandic, does not exhibit DR effects with overt expletives (examples from Cardinaletti & Roberts (1993)):

(22) Es hat ihm **ein / dieser** Mann das Buch gegeben
it has him a / this man the book given
A / this man has given him the book (German)

Yet German does show evidence for two VP external subject positions along the lines of Icelandic. Sentential particles like *ja doch* delineate a high position, and manner adverbs and the shifted object delineate the VP boundary:

(23) a. ... weil Linguisten ja doch Kammermusik spielen
since linguists PRT PRT chamber music play
since linguists play chamber music (generic)
b. ... weil ja doch Linguisten Kammermusik spielen
since PRT PRT linguists chamber music play
since linguists are playing chamber music (existential)

(24) a. Es essen ja doch Kinder sorgfaltig Apfel
there eat PRT PRT children carefully apples
There are indeed children carefully eating apples
b. *Es essen sorgfaltig Kinder Apfel
there eat carefully children apples
c. Es essen ja doch brave Kinder grune Apfel [$_{VP}$ immer sorgfaltig [...]]
there eat PRT PRT well-behaved children green apples always carefully
There are indeed always well-behaved children eating green apples carefully
d. *Es essen Kase einige Mause in der Kuche
there eat cheese some mice in the kitchen

Following Cardinaletti & Roberts (1993) the absence of DR effects in German may reduce to the availablitiy of a high subject position above strong and weak subject positions, spec Agr_1, available as a subject position in German but not Icelandic. Into this position the German expletive is merged, hence the absence of DR effects. Following their analysis, Icelandic spec Agr_1 is a topic position, precluding expletive merge[15]. Lower merge will block strong subjects and produce DR effects exactly as in A&A's proposal. The significance of C&R's proposal is in the claim that the position in which what A&A call EPP is satisified may vary crosslinguistically depending on factors such as V-raising.

The proposal for V-raising to satisfy an IP-internal EPP requirement relies on a particular analysis of Icelandic TEC's, in which the surface position of the expletive is assumed to be identical to its merge site and the site into which strong subjects are merged. That is debatable, however, since overt expletives must precede the verb and strong subjects may follow, as in (24). If Icelandic V-raising is taken to be syntactic and its scope is held constant, the contrast between (25a) and (25c) indicates a higher expletive position[16]:

(25) a. I gær klaruðu þessar mys sennilega ostinn
yesterday finished these mice probably the-cheese
These mice probably finished the cheese yesterday
b. I gær klaruðu (?margar mys) sennilega (margar mys) ostinn
yesterday finished (many mice) probably (many mice) the-cheese
Many mice probably finished the cheese yesterday
c. það luku sennilega einhverjir studentar alveg verkefninu
there finished probably some students completely the-assignment
Some students probably completely finished the assignment

But if A&A's basic argument is correct, that pro-drop verbs raise to the projection hosting Icelandic expletives and verbs, then pro-drop verbs may well raise to Agr_1 as in

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[15]The nature of spec Agr_1 as topic or subject position is determined by the extent of V raising - German V^0 raising to C^0 designates spec Agr_1 as an additional subject position; Icelandic V^0 raising to Agr_1 designates its specifier as a topic position. See also discussion of Hebrew in chapter 4.

[16]See C&R (1993) for further discussion.

Icelandic, a position beyond strong and weak subject specifiers[17]. As in German, no DR effects are expected; as in Icelandic, pro-drop VS is freely embeddable. Adopting the essence of the proposal that pro-drop V-raising satisfies an EPP requirement, that requirement now seems to be independent of the requirement that derived subject A-positions be filled, associated instead with the extended CP domain[18]. If so, the syntax of pro-drop V-raising may provide initial evidence for $F^{o}_{[person]}$ checking when DP is lexical and NumP is unavailable. V^{o} adjoins to unchecked [person], and V+[person] is further attracted into the CP domain where [person] is checked.

This analysis of Icelandic TEC's relates pro-drop V-movement to V2 syntax, raising the possibility that some aspects of V2 are more general than a typology in terms of V2 effects and object shift would imply. This hypothesis, more specifically the relation between $F^{o}_{[person]}$ and an attracting [person] feature in the CP domain, is further pursued in section 4, which presents further evidence for a relatively high EPP/person feature independent of overt V2 effects. In some non-V2 languages, it is shown, an overt expletive element is obligatory in transitive clauses with pronominal subjects. To the extent that expletives in typologically diverse languages are situated close enough to the location of Icelandic expletives and verbs, high EPP should not be parametrically restricted to overt V2 languages (those in which V^{o} is in second position)[19]. More concretely, pronominal syntax in Salish languages and North Italian dialects (NIDs) such as Basso Polessano and Friulian provide evidence for an attracting [person] within CP, in addition to [finiteness] and [wh] features, in the guise of a highly merged expletive which alternates with raised Num^{o}.

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[17]According to C&R the overt expletive merged into spec Agr_2 raises to the topic position spec Agr_1, where it can be licensed overtly because the position is Caseless.
[18]Supported by restrictions on the content of X in VSX configurations in Spanish vs. Catalan/Italian/French discussed in Ordonez (1997) which suggest subject extraction and Light-predicate raising of TP to a higher specifier. If correct, a Light-predicate raising analysis of the Greek adverbial / participial facts in (17) should also be possible.
[19]This is already suggested in Poletto (1999) where vocalic clitics are seen as the residue of V-raising into the CP field. See below for analysis of vocalic clitics as expletives, at least in some NIDs.

The proposal that $F^{o}_{[person]}$ raises into CP is part of the more general study of T^{o}/Agr^{o}- C^{o} interactions initiated by work on Germanic V2, which have since been generalized and claimed to have universal scope in work on the CP field (Rizzi, 1997), and more recently in Chomsky's (1999) approach to selection of finite T^{o} by a phi-complete C^{o}, and Pesetsky & Torrego's (2000) discussion of that-trace effects in terms of T^{o} to C^{o} raising. If the approach to [person] is feasible, it suggests that the status of [person] is on a par with [finiteness], active as an attractor in TP and CP domains.

Since finite forms are associated with [person] inflection and non-finite forms typically are not, [person] may be thought of as one of the IP features associated with FinP in Rizzi's (1997) system. Slightly modifying the approaches to extended / ϕ-complete CP in Rizzi (1997) and Chomsky (1999) respectively, suppose that FinP has some syntax correlating with its potential morphology; more concretely, that $Fin_{[person]}$ must be checked. Like EPP features in general, the requirement can be met by Move or Merge. In some languages, to be discussed below, a pronominal may be merged directly into CP; in others, plausibly West Flemish and Bavarian, [person] must be satisfied by Move from within IP[20]. Independent motivation for $CP_{[person]}$ is provided by Friulian and Salish expletive / pronoun movement alternations discussed immediately below.

3 CP-internal [person]

Systematic alternations between high pronouns and high expletives motivate a relatively high [person] feature, suggested already by the scope of V-raising in pro-drop languages. On the assumption that this feature has the EPP property, Merge and Move should both be possible in principle, and this turns out to be confirmed in two unrelated language families. A high expletive in transitive clauses with pronominnal subjects is found in some North Italian dialects as well as Salish languages. First, expletive-pronominal

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[20]Producing overt complementizer agreement in Bavarian and West Flemish. For further discussion see Bayer (1984), Haegeman (1990), and Shlonsky (1994) among others.

alternations in Friulian are discussed, in which $CP_{[person]}$ interacts with the [wh] system. Then we turn to Salish which shows interactions between $CP_{[person]}$ and the tense/mood system.

3.1 North Italian Dialects[21]

The pronominal systems of some North Italian dialects (henceforth NIDs) include an overt expletive in pronominal transitive clauses that lack an independent 'tonic' pronoun. NID vocalic clitics (analyzed below as expletives) interact with CP Force properties and the syntax of verb raising in interrogatives. The analysis of these interactions in Friulian argues for an alternation between a pleonastic merged in the CP domain and pronoun raising to that position, the latter transported in some interrogative contexts from IP to CP via V-raising . It appears, then, that in this dialect vocalic clitics may accomplish what V^{o}+Num^{o} raising does in other languages (i.e., Spanish, Greek, Catalan, discussed above) and in other configurations within the dialect, allowing us to abstract away from the presence of the verb. But if the verb is inconsequential, pleonastic / pronominal alternations can only mean that CP requires a pronominal, $CP_{[person]}$, a requirement satisfied by Merge or Move, i.e. $EPP_{[person]}$.

Based on a sample of 100 NIDs, Poletto (1999) identifies four phonologically defined classes of clitics and four syntactic positions, two above negation and declarative CP, and two below. Each position is also associated with a particular set of features, implying that a given phonological type is generated in a unique position and its paradigm includes or varies with a restricted set of features. The phrase structure and clitic positions emerging from comparison of the dialects is schematized in (26):

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[21] All data except where noted are from Poletto (1995) and (1999).

(26)	XP	YP Neg	CP_1	ZP	WP
	vocalic	vocalic		C+V	consonantal
	invariable	[+/-deictic]		[+/-hearer] [+/-plural]	[+/-hearer]
	uniform	1st2nd/3rd		2sg+pl 3fsg; 3pl	2sg; 3msg

The position of the clitic relative to negation distinguishes XP andYP from ZP and WP; omissability under VP coordination distinguishes XP from YP; omissability under V^o coordination (same verb different tense/aspect) and subjec clitic inversion distinguish ZP and WP clitics. In some cases a clitic occurs displaced relative to (26), but since the discrepancy is always upward and spans one notch, Poletto argues for one step of clitic movement. Note the absence of [+speaker] from the feature set: 1st person is never represented by a post-negation clitic.

CP_1 in (26) is a declarative CP hosting complementizers (and some exceptional clitic wh-words), and wh-phrases are located in a higher CP situated above XP[22]. The location of CP_1 between Neg and ZP situates XP and YP within the CP field. The evidence for low CP comes from obligatory clustering between complementizers and prenegative clitics in Friulian and Polessano, vs. optional clustering with a postnegative clitic ((28c) and (28d))[23]:

(27) a. *I sai **ke i** ti sos zut a Pordenon (Friulian)
you know that *i* you are gone to Pordenon
b. I sai **ki** ti sos zut a Pordenon
you know that+*i* you are gone to Pordenon

(28) a. *Vara **che a** vegno (Polessano)
look that *a* come.1sg
b. Vara **ch'a** vegno
look that+*a* come.1sg
c. Vara **che i** vien

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[22]See below for examples.

[23]Poletto glosses the vocalic clitics in (27) and (28) as a personal pronouns, in (27a) as *I*, in (27b) as *it*, etc. Here vocalic clitics will not be glossed, as I believe they are pleonastic, following early work on Polessano *A* presented in Poletto (1995)); in the (1999) paper the idea is mentioned in passing only in footnotes. I limit myself to Polessano and Friulian in which there seems to be evidence for an expletive analysis, leaving open the possibility that vocalic clitics are not necessarily pleonastic in all dialects.

look that *i* come.3pl

d. Vara **ch'i** vien
look that+*i* come.3pl

Assuming the obligatory clustering to be syntactic, either the complementizer raises to the clitic, or the clitic raises to the complementizer. Since the LCA ban on right-adjunction excludes the latter, Poletto argues for a complementizer raising analysis and a structure in which complementizers are merged lower than vocalic clitics, as given in (26)[24].

Of immediate relevance to the proposal for $CP_{[person]}$ is the pre-negative vocalic clitic found in some NIDs. In Polessano it is the invariable type dominated by XP, and in Friulian it is the [+/-deictic] type generated under YP, meaning that its form is invariable for all first and second persons and distinct for third persons:

(29) a. **A** no magno (Polessano)
a not eat-1st.sg
I don't eat

b. **A** no piove
a not rains
It doesn't rain

(30) a. **I** no mangi (Friulian)
i neg eat-1st.sg
I don't eat

b. **I** no mangin
i neg eat-1st.pl
We don't eat

c. Dula **a** comprial il pan?
where *a* buys-he the bread
Where does he buy the bread?

In both dialects the clitic is vocalic and precedes negation. The pre-negative clitic associated in Polessano with first person subjects is the same as the expletive found with weather verbs, in (29). In Friulian, third persons are formally distinct from first and

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[24]See also Pesetsky & Torrego (2000) for English *that* raising, claimed to raise from the $Infl^0$ domain. If the proposals are empirically distinguishable and English *that* does start out lower than NID *che* (and Standard Arabic *?anna*, see Shlonsky (1994)), then Rizzi's claim that the CP and IP domains are distinct may be imprecise. If complementizers are always merged within CP, then English embedded subjects with *that* are CP-internal.

second persons, in (30). Besides positioning relative to negation and syntactic interactions with CP elements (discussed below), Poletto mentions a couple of other vocalic clitic properties: (1) vocalic clitic paradigms make fewer distinctions than post-negative clitics, and (2) vocalic clitics are often optional or conditioned by pragmatic factors, while post-negative clitics are obligatory in all null subject contexts (those lacking a tonic pronoun). In Friulian interrogatives, for example, the presence of a vocalic clitic distinguishes a request for information from a rhetorical question expressing some other speech act:

(31) Parse (i) **sotu** vignut cusi tars?
why i are-you come so late
Why are you so late I'm annoyed that you're so late

The presence of vocalic clitics is also conditioned by syntactic factors related to the extent of V-raising with different types of wh-phrases[25]. The optionality of these clitics suggests a status distinct from post-negative clitics, underdetermined by positioning alone. If these clitics are pleonastic elements with no semantic function their optionality would follow. Post-negative clitics, on the other hand, fulfill a referential function, just like pronouns and pronominal inflection, and are therefore indispensable. The fact that vocalic clitics make fewer distinctions, none in the case of the XP clitic, also falls into place if these are expletives[26].

Evidence for the expletive status of vocalic clitics is relatively straightforward in Friulian[27]. Vocalic clitics clearly co-occur in this dialect with post-negative clitics, underlined in (32). Assuming post-negative clitics to be merged into a theta-position

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[25]See below for details and analysis.

[26] The fact that vocalic clitics express fewer distinctions than lower pronominal clitics might also follow from their placement internal to CP. According to Rizzi (1997), CP features are in general more rudimentary than the corresponding Infl features. An extension to CP-internal [person] would give the same result as the expletive analysis defended here. To the extent that 'expletive' means 'merged high' (more specifically, satisifies EPP by Merge), the two analyses are identical.

[27]I use *expletive* here and throughout, to refer to the property of being merged in a high non-theta position without any necessary relation to a theta-position (to distinguish these clitics from clitics generated in voice-projections which attract XPs from within vP, as in Sportiche (1995)).

from which Num^{o} is attracted by the post-negation $W^{o}_{[person]}$ or $Z^{o}_{[person]}$, the only option for the vocalic clitic is to merge into a high, non-theta, position. The second and third person post-negative clitics in (32b)-(32d) are postverbal as well due to interrogative subject-clitic inversion:

(32) a. A no**l** vien
a neg-he comes
He comes
b. Dula a compri**al** il pan?
where a buys-he the bread
Where does he buy the bread?
c. Dula i va**tu**?
where i go-you
Where are you going?
d. Quant i mangi**tu**?
when i eat-you
When do you eat?

Second and third person singular clitics raise from subject NumP in spec vP to $W^{o}_{[+/-hearer]}$, the lowest head in the Agreement field. Since neither the [+/- hearer] clitic nor the vocalic clitic is a strong pronoun, no doubling analysis is available according to which the vocalic clitic might have also raised from NumP, and this is consistent with absence of feature agreement between vocalic and pronominal clitic. Therefore, the vocalic clitic must have been merged directly into its position, similar to overt expletives in more familiar languages. Recall that the post-negative field excludes first person pronominal clitics. This means that a first person clitic will never cooccur with a vocalic clitic, as in (30a) and (30b) above. Still, it is unlikely that the vocalic clitic is a highly positioned 1st person pronoun; assuming a uniform analysis of the [+deictic] vocalic clitic *i*, first person verbal *inflection* must qualify as pronominal, raising from NumP on a par with second and third person subject clitics[28]. If correct, pronominal syntax in

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[28]By the same token, second person singular inflection may never be pronominal, forcing a subject clitic in null subject contexts in all dialects with subject clitics. That first person pronouns are necessarily enclitic may suggest either a v-feature on a par with Hebrew, or that first person pronouns raise to a relatively low position.

Friulian is surprisingly similar to the Celtic and Semitic languages discussed so far, with the significant difference that Friulian marks overtly, in the form of an overt pleonastic, an additional pronominal field in the CP domain. Constructions in which the vocalic clitic and V+pronoun cooccur make visible the initial pronominal landing site $F^{o}_{[person]}$. The general argument for $F^{o}_{[person]}$ raising to CP is supported by cases in which Friulian pronouns initially attracted to $F^{o}_{[person]}$ can be shown to raise further to CP, discussed immediately below.

3.1.2 Friulian interrogatives

Friulian wh-phrases group into three classes with respect to the presence of a vocalic clitic in main interrogatives. Monomorphemic wh-phrases, in (33), exclude a clitic; others, in (34), require the clitic, and with a third class the appearance of the clitic is optional, in (35):

(33) a. Do (*a) vanu ?
where go-they
Where do they go?
b. Se (*a) fanu?
what do-they
What do they do?

(34) a. Quant *(i) mangitu?
when *i* eat-you
When do you eat?
b. Quantis caramelis *(i) atu mangiat?
how-many candies *i* have-you eaten
How many candies have you eaten?

(35) a. Dula (a) vanu?
where *a* go-they
Where do they go?
b. Coma (i) atu fat il compit?
how *i* have-you done the task
How have you done the task?

As mentioned briefly above, the interpretation of an interrogative in (35a) and (35b) as a real question is only available without the clitic. When the clitic is present the interrogative is interpreted as expressing a speech act other than a request for information. The same holds in yes-no questions generally. Only (36b) can be uttered when the speaker already knows the hearer is eating an apple:

(36) a. Mangitu un milus?
eat-you an apple
b. I mangitu un milus?
i eat-you an apple
Are you eating an apple?

In yes-no questions there are no special restrictions imposed by particular wh-phrases of the kind seen in (33) and (34), suggesting that interpretation of the interrogative as a question is predicated on the syntax imposed by the vocalic clitic or its absence. Following Poletto (1999) I will assume that the presence of the vocalic clitic indicates the extent of verb-raising - the clitic must be absent when the verb reaches a high position, either the clitic position itself or higher up; when a vocalic clitic is present, the verb must be lower. The speech act contrasts in (35) and (36) show then that high verbs include a component which determines the interpretation of the interrogative as a request for information - verbs contribute a force factor missing in clitics. This suggests that 'force' has a syntax, in addition to the syntax of [wh] features and phrases[29].

Going back to the wh-interrogatives in (33) and (34), the classification of wh-phrases into those that require verb-raising and those that prohibit it can now be attributed to the syntax of [force]. Assume that all question CPs have an attracting force feature, [force], in addition to [+wh]. Obligatory V-raising in the context of monomorphemic wh-phrases may follow from the absence of a [force] feature on these phrases; I will assume that the monomorphemic wh-phrases in (33) are syntactically defective in the specific sense that they lack [force], so v-raising is obligatory, triggered by $CP_{[force]}$. The wh-phrases in (34) include [force]. Both wh-phrases include in addition

[29]For detailed discussion of syntactic force, see Cheng (1991) and Rizzi (1997).

a [+wh] feature which triggers wh-movement. Following Pesetsky & Torrego (2000), I assume that the fewer instances of movement the better. In (34) the wh-phrase including both [+wh] and [force] features will be targeted by CP for raising. Hence, verb raising is excluded and a vocalic clitic occurs.

That the vocalic clitic is obligatory and not just possible in the absence of V-raising indicates that it fulfills a necessary syntactic function, just like expletives generally. But since $CP_{[force]}$ attracts verbs only when a wh-phrase lacks [force], a vocalic clitic must lack [force]. The requirement for a clitic can only mean that the clitic and [+force] wh-phrase accomplish together what V^o raising does on its own, and the relevant clitic contribution must be independent of [force]. Interrogative verb-raising in Friulian involves subject-clitic inversion of the low pronominal which piggy-backs on the verb on its way up to CP. A verb attracted to CP by [force] brings a pronoun along, necessarily substituted for by an expletive in the absence of V-raising. This means that pronoun raising, though not independently triggered, is no less important than V^o raising: CP has [person] in addition to [force].

In the verb raising configuration, V+pronoun check CP [force] and [person] features from a single head position; in the vocalic clitic configuration the clitic checks CP [person] from its head position and the wh-phrase checks [force] from specifier position. The restriction of V-raising to cases in which the specifier is [-force] supports the more specific formulation of $CP_{[person]}$ as an EPP feature, as it conforms to the general Furthermore, the analysis of V^o raising triggered by $CP_{[force]}$ conforms to a general preference for Merge over Move, pronouns never raising to $C^o_{[person]}$ without verb raising. This is because $CP_{[person]}$ can be satisfied by Move only if V^o raising is independently triggered by $CP_{[force]}$. Otherwise, Merge is the only option and a vocalic clitic must be inserted.

The syntax of monomorphemic wh-phrases in embedded questions further supports the argument for an independent $EPP_{[person]}$ within CP. In embedded questions monomorphemic wh-phrases become grammatical with vocalic clitics, in contrast to

main interrogatives where V-raising was seen to exclude a clitic (see (33)). Embedded interrogatives also include an obligatory complementizer, and the subject-clitic inversion pattern seen in main interrogatives is impossible. The pattern holds for monomorphemic wh-phrases too, as in (37b) (from Poletto (2000)):

(37) a. A mi an domandat par'se ch'**a** nol riveva
a to-me have asked why that+*a* neg+3sg arrived
They asked me why he did not come

b. No sai se chi la mama a vepi crompaat par sena
not know what that the mom *a* have.subjunc bought for dinner
I do not know what mom has bought for dinner

c. A mi an damandat dula ch al era sut
a to-me have asked where that *a*+3sg was gone
They asked me where he had gone

A similar pattern is found in root subjunctives which also require complementizers. Here again, monomorphemic wh-phrases are good with the vocalic clitic and a low verb:

(38) a. Se ch'**al** vedi fat?
what that-*a*+3sg have-subjunc done
What has he done?

b. Dula ch'**al** vedi mitut chel libri?
where that-*a*+3sg have-subjunc put that book
Where has he put that book?

It seems then that the appearance of the vocalic clitic with [-force] wh-phrases is conditioned by the complementizer, which in turn correlates with absence of verb-raising. Judging from the main clause subjunctives in (38), root complementizers alternate with verb-raising, suggesting that complementizers are specified for some of the IP features: [modality] to account for (38), and [force] to account for embedded complementizers with [-force] wh-phrases in (37). It follows from Shortest Move that a complementizer generated in C^{o}_{I} will be attracted by $CP_{[force]}$ since it is closer to CP than the verb. If so, non-attraction of V^{o} seems to be the factor responsible for the clitic in embedded interrogatives with [-force] wh-words, just as in main interrogatives with [+force] wh-phrases, in (34) and (35). Because the complementizer merges higher than post-negative clitics it raises on its own and stranding the pronoun in its initial attraction

position. Complementizer raising, in this respect, is identical to a [+force] wh-phrase: both require the vocalic clitic, since unlike a raised V+pronoun complex, they do not contain material attractable by $CP_{[person]}$[30]. Therefore, checking of $CP_{[person]}$ can only proceed by expletive merge.

Summarizing, NIDs attest to a high [person] feature in the CP domain because in these dialects two pronominal fields, distinguishable by negation, are directly observable. While not all dialects which realize pronouns in the lower field also realize a pronoun in the higher field, some, such as Basso Polessano and Friulian do. It has been argued that pronouns in the lower field are attracted from their vP position, and the vocalic clitics of the higher field are expletives: they are merged high and have no relation to a theta position (they are not instances of Num^0 doubling an N^0 pronoun). The interaction of vocalic clitics and V+pronoun raising in Friulian interrogatives further isolates the [person] component of CP. Once [force] factors are set aside, the vocalic clitic is seen to be necessary precisely where a fully specified pronoun has not reached this position, strongly suggesting that $CP_{[person]}$ determines an obligatory pronominal function fulfilled by vocalic clitics upon merge, i.e. $EPP_{[person]}$.

Salish languages, to which the chapter turns next, show a surprisingly similar expletive / pronominal alternation. In both language types two pronominal domains are observable, and like Friulian, raised pronouns systematically alternate with high expletives. Comparison of the two language groups sheds further light on the lower pronominal field and the site of initial pronominal attraction, in NIDs in IP and in Salish in v*P.

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[30]Leaving open why wh-phrases specified [+force] are compatible with an embedded complementizer, yet not with raised V in main clauses. Given everything said so far, the expectation is for embedded [+force] wh-phrases to require a vocalic clitic but not to allow a complementizer.

3.2 Salish languages[31]

Salish languages show two pronominal fields and systematic expletive / raised pronoun alternations, supporting the evidence for $CP_{[person]}$ as an EPP feature satisfied by Merge or Move. Differences in the syntax of this alternation further clarify the nature of the low field - the site of initial pronominal attraction - and confirm the insignificance of V-raising for the phenomenon at hand, since in Salish languages pronouns may raise to CP without main verb raising. While Friulian high expletives and raised pronouns interact with the force system, high expletives and pronouns in Salish interact with modality and clause type and vary morphologically across this dimension.

A more significant departure from the NID system has to do with the expletive / pronoun raising alternation itself. Recall that unlike English and other better known languages the choice in Friulian between pronoun raising and expletive merge is determined syntactically, by $CP_{[force]}$ and [force] properties of the wh-phrase. Neither is it in Salish a simple matter of inclusion in the numeration. Though more complicated than the syntax of [force] the relevant parameters are clearly syntactic. The choice between pronoun raising and expletive merge is determined by a variety of factors: transitive / intransitive; main / subordinate clause; nominalized subordinate / non-nominalized subordinate; 3rd person / 1st and 2nd person. In addition, there is also a copy pattern. Examples are given in (39) and the patterns are schematized in (40)[32]:

(39) a. ...det nom=fut(aux)=**3sg.cl** visit-rel(tr)-**1sg.suf** (Thompson)
I'm going to visit (him/her)

b. already(aux)=**1sg.cl** went(aux) see-tr that det=man (Lillooet)
I already went to see that man

c. loc(aux) where det **2sg.cl**=nom=loc(aux) see-tr-**2sg.suf** (Squamish)
Where did you see him?

(40) a. expl.CL V+suffix 'expletive pattern'

b. aux / V CL 'raising pattern'

c. $CL_{[\alpha\ pers/num]}$ $V+suffix_{[\alpha\ pers/num]}$ 'copying pattern'

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[31]All data and many conclusions are taken from the detailed description of cross-Salish pronominal syntax given in Davis (1998).

[32]Salish examples are glossed morpheme for morpheme. See Davis (1998) for the original Salish morphemes.

In (40a) an expletive clitic precedes the inflected main verb; in (40b) a pronominal clitic replaces verbal inflection and is associated with the highest verbal element, possibly an auxiliary; in (40c) the pronominal clitic and verbal inflection co-occur. Of immediate relevance for $EPP_{[person]}$ is the configuration in (40a), in which an expletive clitic co-occurs with a lower inflected verb.

Davis argues for two derived pronominal subject positions in Salish. Affixes invariably attach to main verbs and occur in the lower position. Clitics attach to a higher functional head, as they take as their host the highest verbal element, possibly the main verb when no auxiliaries are present, as in the following Lillooet example (2 in Davis):

(41) a. already(aux)=**1.sg.** went(aux) see-tr that det=man
I already went to see that man
b. foc that det=man det=already(aux)=exis went(aux) see-tr-**1.sg**
That's the man I already went to see

In all Salish pronominal patterns the high position must be filled, by either a pronominal clitic or an expletive. That the expletive and pronominal clitic are of the same functional category can be seen from the fact that expletive forms and clitic forms vary with clause type -- indicative, conjuctive, and possessive -- and the affix form is invariant. Clause-type variation is shown in (42) for 1st person clitics (from Lillooet), and in (43) for expletives, which are identical to third person singular clitics (from Squamish):

(42) a. indicative pronoun (= **¬kan**) (Lillooet)
already(aux)=**¬kan** went(aux) see-tr that det=man
I already went to see that man
b. possessive subject pronoun (= **n**)
det=**n**=nom=already(aux) went(aux) see-tr that det=man
...that I had already been to see that man
c. conjunctive subject pronoun (= **an**)
if=prog(aux)=**an** desire-app
if I want (it)

(43) a. indicative expletive (= Ø) (Squamish)
how.many det loc(aux)=Ø prog(aux) make-tr-2sgsuf
How many are you making?
b. possessive expletive (= **s**)

ptc prog sore heart-s det=nom=aux=s leave-tr-as det hous-his
He was sorry to leave his house

c. conjunctive expletive (= ÷as)
Irr-÷as get-tr-as
If he gets it

The form of the pronominal clitic attached to the highest pre-predicative auxiliary, seen in (42), varies according to clause type: for first person singular Lillooet pronouns, the indicative form is *–kan*, the possessive form is *n*, and the conjunctive form is *an*. The expletive clitics in (43) show the same variation, though the suffixal forms attaching to main verbs are invariant, *as* for all third person types, seen in (43b) and (43c). Following Davis, expletive clitics and pronominal clitics occupy the same position, and affixes are lower. Assuming with Davis that pronominal clitics reach the high position via raising, (41a) with the pronominal clitic attached to the auxiliary *already* shows that clitic raising is independent of verb raising in Salish. Since expletive merge and pronoun raising satisfy the high position equally, it must be an EPP position satisfied by Merge or Move, on a par with Friulian. So far, Salish differs from Friulian in its verb syntax, confirming that Friulian expletives alternate with raised pronouns, not raised verbs; and in the morphology of the pronoun associated with the expletive, an invariant suffix in Salish. Following Davis and others, Salish languages are pro-drop. Extending the analysis of Hebrew pro-drop as Num^{o} attraction to $F^{o}_{[person]}$ and subsequent left-adjunction of V^{o} to the clitic, Salish main verb suffixes are pronouns attracted from their merge position in vP. Now the structural analogy with NIDs is complete: Salish like NIDs have two domains of pronominal attraction. Attraction to the low field produces suffixation; pronoun movement to the higher position alternates with an expletive.

The factors figuring in the pronoun / expletive alternation further identify the low positions as v*P. Similar to Friulian, and unlike English and many better known languages, the expletive pattern does not coexist side by side with a raising alternative[33].

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[33]The only exception is found in Lillooet nominalized embedded clauses, which allow either raising or expletive with all persons, in contrast to other embedded clauses which follow the expletive pattern, and main clauses which show a person split. Other than that

Davis (1998) argues from the distribution of the expletive pattern across contemporary Salish languages that Proto-Salish transitives invariably followed the expletive pattern and intransitives followed the raising pattern. In contemporary Salish the raising pattern in (40b) characterizes all intransitives in all Salish languages, and is also found in some transitives, alongside the expletive pattern of (40a) and the copying pattern of (40c). Setting aside the copying pattern, the distribution of raising and expletive patterns is governed by progressive intersections of transitivity, person, and embeddedness: in Thomspon (like Proto-Salish) all transitives follow the expletive pattern; in Lillooet transitive main clauses, third persons follow the expletive pattern and 1st/2nd person clitics raise and in transitive embedded clauses all persons require an expletive; in Halkomelem all third person transitives require an expletive and 1st/2nd persons follow the raising pattern; and finally, all transitives (and intransitives) in Lushootseed follow the raising pattern.

In other words, variation across Salish is limited to transitives. Some transitives allow a low pronominal verbal suffix in the expletive and copying patterns; intransitives which invariably follow the raising pattern never have a pronominal in a low position. Its restriction to transitive contexts suggests that the location of a pronominal suffixes is v*, the light verb which selects a VP with full argument structure, including experiencer and agentive subjects (Chomsky, 1999)[34]. Since v* is associated with transitivity and not an external theta-role, I will assume that external theta-roles are associated with spec VP and that subjects of transitives and unergatives are merged into that position[35]. If so, v* is a

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the patterns are in complementary distribution across all Salish.

[34]Den Dikken (class lectures, 1999) locates these suffixes in vP. Chomsky's definition of v* as either experiencer or transitive v^0 fully matches Davis' observation that transitivity alone, not the theta-status of the subject, is relevant: experiencer subjects of psych verbs, not assigned an external theta-role, do allow the suffix pattern just like agentive subjects. The difference between v* and v^0 forces subjects to be base generated in VP on the former, without which a configurational approach to external theta-role assignmentis impossible, and leaving the suffix status of the pronoun mysterious.

[35]See Wiltschko (2001) for the role of transitivity in Halkomelem in determining subject properties such as agreement, extraction, and distribution of determiner types, and an analysis of Halkomelem so-called ergativity as derived from the presence of vP in

derived subject position, and pronominal 'suffixes' are attracted by $v^*_{[person]}$. When attracted by $v^*_{[person]}$, a pronominal Num^0 will raise to v*, as will the verb, resulting in suffixation.

In intransitives, on the other hand, v*P is not projected. The pronominal subject in VP (in either specifier or complement position, depending on whether V^0 is unergative or unaccusative) will necessarily raise to the higher position, precluding suffixation with the main verb which remains low when auxiliaries are present. Setting aside the precise nature of the high position, postulation of v*P and its absence in intransitives accounts for obligatory raising in intransitives across all Salish languages. Davis argues that in Lushootseed, in which all transitives raise, the inner position is obsolete. Extending the possibility to Lillooet and Halkomelem, the variation within the class of transitives regarding suffixation hinges on the presence of v*P, and I will assume that *raising* transitive constructions lack the v*P layer[36].

3.2.1 The pronoun / expletive alternation and CP[type]

Turning to the high position, recall that high clitics vary for clause type, including indicative, conjunctive, and possessive forms. The conjunctive clitics occur in negated,

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transitives.

[36]Reasonable for Lushootseed in which all transitives raise, suggesting that v*P in this language is inert. Working this out for the mixed transitive systems of Lillooet and Halkomelem, in which the suffix option depends on additional person and embeddedness factors, is much less straightforward. For Halkomelem, in which all 1st/2nd raise, transitive v*P would be licensed only if it is third person. But in Lillooet embeddedness also plays a role, such that only main clause 1st/2nd raise, suggesting that v*P is present in conjuctive/indicative (optional in nominalized) embedded clauses, and only if third person in main clauses. I leave open how exactly to relate person and embeddedness to presence of v*P since the main point of interest is the higher position. See Davis (1998) for further details and analysis.

hypothetical, and optative clauses, more generally termed 'subjunctive' by Salish grammarians:

(44) a. ... if=prog(aux)=1sg.conj desire-app
... if I want it (Lillooet)
b. not irr=prog(aux)=1sg.conj go irr=3conj rain tomorrow
I won't go if it is raining tomorrow (Squamish)
c. ... irr=go(aux)-1pl.conj find-tr-2pl.obj
... when we go find you folks (Halkomelem)

Possessive clitics occur in embedded clauses, in which a determiner and a nominalizer attach to the highest verbal element (including auxiliaries):

(45) a. (said=1.sg.ind)
det=1sg.pos=nom=already(aux) went(aux) see-tr that det=man
I said that I had already been to see that man (Lillooet)
b. (loc(aux) say-3pl)
det=1.sg.pos=nom=loc(aux) prog(aux) audible
They said that I was audible now and then (Squamish)
c. ...foc **det=1.sg.pos=nom**=already(aux)=exis see-tr
... because I have already seen him (Lillooet)

Clause-type variation within the class of raised clitics specifies modality features and embeddedness, in addition to the person features that make these forms 'pronominal'. These are among the features associated in Rizzi (1997) with an extended CP, and I will refer to them as [type] features, understood as shorthand for modality and subordination.

Explaining why 'clause type' clitics are found in the higher position Davis says that clause type is usually selected by complementizers, and assuming local selection, clause type must be realized close enough to C°. But given a selection relation between C° and the TP domain, clause-type features could in principle be overtly realized in either C° or T°, especially if the relation is expressed as some form of Agree (Chomksy 1999, Pesetsky & Torrego 2000). Two facts argue in favor of [type] features in (finely articulated) C°[37]. First, tense and modality features are not represented within the verbal

[37]The precise label of the high position is not crucial. If it were labeled TP it would still be sufficiently similar to NIDs in the sense that it is the higher of two *derived* pronoun positions, still attesting to a pronominal attractor above the position of initial attraction. For convenience I will refer to it as CP, keeping in mind that quite generally, a TP/CP

complex or on auxiliaries, pronominal clitics being the primary indicators of these distinctions. Assuming that T^o is universal, it is conceivable that in Salish it attracts a nominal category, the clitic; assuming that so is C^o universally an attractor, its closest candidate will be the clitic. Second, there appear to be no other complementizers in these clauses, main or embedded[38]. If the proposal is on the right track, Salish clitics are 'nominal complementizers' merged into theta-position and sufficiently specified to satisfy requirements associated in other languages with verbs or highly merged complementizers[39].

The significance of transitivity and absence of other complementizer or verbal elements specified for [type] suggest that the two pronominal fields, those hosting pronominal affixes and clitics, are the strong phases v*P and (plausibly) CP respectively. Pronominal and expletive clitics end up in CP, the former from its merge position in VP, the latter from a higher position. Assuming T^o features like [modality] to be universal, the expletive is merged in T^o and the pronoun stops there on its way to C^o[40,41]. If the approach is more or less correct, the absence of a clear V/N distinction in these languages corrrelates with $T^o_{[mod]}$ and $C^o_{[mod]}$ attracting pronominal clitics rather than predicative categories, driven by the morphology of potential attractees. The syntax of features and

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boundary may ultimately not turn out to be as clear cut as has previously been supposed.

[38] Note that complementizers are not restricted to a subordinating function crosslinguistically. Some languages (German and Irish, discussed in Duffield (1995)) require complementizers in root subjunctive clauses. The presence of clitics in root clauses, in other words, does not argue against the possibility that like complementizers they are situated in C^o.

[39] Pesetsky & Torrego (2000) argue that T^o to C^o movement and nominative DP raising to spec CP equally satisfy [tense] checking in C^o, the latter in virtue of $DP_{[Case]}$ being in fact a tense feature. The analysis extends to modality and subordination features, transparently represented on Salish pronominal DP. Assuming that pronominal clitics independently reach T^o, Salish T^o to C^o raising takes the form of clitic raising to C^o. If this is correct, Salish collapses the verbal and DP options available in English for C^o checking.

[40] If auxiliaries or main verbs reach T^o then the expletive is merged in C^o.

[41] Since TP is only a weak phase, all clitic features remain available for attraction by CP.

functional domains, on the other hand, turns out to be ordinary, conforming to the general idea that language variation is limited to the morphology of lexical items.

3.2.2 The expletive / pronoun alternation and $CP_{[person]}$

The proposal that obligatory raising to CP is conditioned by absence of v*P requires a couple of additional assumptions which now can be spelled out, leading to the conclusion that CP must also be specified for an attracting [person].

Given the availability of expletives and a general preference for Merge over Move, the alternation shows that that preference cannot be absolute; it is overriden in intransitives. In addition, Salish expletives are limited to transitives, surprising in view the crosslinguistic tendency for expletives in intransitives. The Salish facts therefore present a double question - what, in the face of Merge, forces raising and excludes expletives in intransitives; what allows the expletive and precludes raising in transitives. Assuming v*P presence to be a factor, raising becomes obligatory when v*P is absent, and impossible when when v*P is present. Obligatory raising of the pronominal clitic to $C^{o}_{[type]}$ cannot derive entirely from properties of C^{o}, equally satisfiable by a highly merged expletive clitic. Pronominals must therefore have a feature which forces them to raise, to v*, and when v* is absent to C^{o}. The invariant form of low pronominal suffixes means that v* is satisified by [person] alone; that pronominals must reach C^{o} when v* is absent implies that C^{o} is also specified for [person] in addition to [type]. Similarly, the impossibility of further raising from v*P, forcing expletive merge, suggests that once a pronominal reaches v* it becomes inert for further attraction by C^{o}. The inertness of a pronoun in v*P for further attraction from above follows from the definition of v*P as a strong phase, and the proposal made in Pesetsky & Torrego (2000) for cyclic feature deletion at the phase level: features checked within v*P are not available for further attraction by a v*P external head. But inertness of a pronoun in v*P can be relevant only if C^{o} requires the only feature specified by the suffix, [person]. So again, C^{o} must have [person] in addition to [type]. Salish clitic pronouns and expletives qualify for the double

task of [type] and [person] checking by virtue of their morphology, specified for features more commonly distributed across verbal and nominal categories.

4 Summary and Conclusions

The analysis of Friulian declarative and interrogative clauses suggests that vocalic clitics check $CP_{[person]}$ when a V+pronominal clitic complex is not independently attracted by $CP_{[force]}$. Similarities between Salish and Friulian pronominal transitive expletives argue for an isolable [person] feature in CP, in addition to [force], [wh], and [type] features.

Differences between Salish and Friulian expletive/raising alternations shed light on the location of $F^{o}_{[person]}$, the initial pronominal attractor. In Salish we have taken that position to be at the v*P level, since once a pronoun reaches $F^{o}_{[person]}$ it is inert to further attraction, understood as feature deletion at the phase boundary. In contrast, a pronoun in the pro-drop languages discussed in Alexiadou & Anagnostopoulou may continue to raise from $F^{o}_{[person]}$ piggy backing on the verb as it does in interrogative V+pronominal clitic raising in Friulian. Therefore, the pronominal clitic initially attracted by $F^{o}_{[person]}$ in the low pronominal field must *not* be inert for attraction by $CP_{[person]}$. Continuing to assume feature deletion at the phase level, the availablity of [person] implies that no strong phrase intervenes between a pronoun's initial attractor and its final destination in CP. That result is guaranteed if the initial attractor is located in the area of the weak phase TP in these languages and dialects. Features checked in TP remain active until cyclically deleted at the strong phase CP, and pronominal features checked at TP are candidates for further attraction by CP. If so, $F^{o}_{[person]}$ is sometimes v*, and sometimes between v*P and CP, plausibly T^{o}.

Rizzi's observation that CP internal features are more rudimentary than IP features explains the correlation between high merge and feature deficiency in vocalic clitics and Salish expletives. This then suggests a significant difference between

DP-internal [person] features, which are maximally specified, and CP-internal [person] features, which are minimally specified. Suppose we take feature deficiency in CP a step further and assume, in the spirit of Chomsky (1999), that features of the target are not specified for any value at all. If so, all that is required by $CP_{[person]}$ is some person feature.

The conclusion that CP contains a non-valued $EPP_{[person]}$ feature provides an answer to the question opening the chapter, the fate of unchecked $F^{o}_{[person]}$ when DP is lexical and $Num^{o}_{[person]}$ is precluded. $F^{o}_{[person]}$ is attracted by $CP_{[person]}$ in that case, just like an overt pronoun in Friulian and Salish raising constructions.

The postulation of $CP_{[person]}$ is an initial step towards generalizing across Icelandic overt expletives, V-raising in pro-drop languages, and the two pronominal fields directly observable in NIDs and Salish. As such, it leaves open many questions. Most significantly, why should UG have [person] features associated with v*P/TP replicated in CP, and more generally, why should any features at all be replicated in CP? Comparison of NID and Salish pronominal systems raises another question regarding variation in the location of the initial attractor, v* in some languages, in a higher phase between v* and CP in others - why should this variation exist, i.e., why should transitivity play such a central role in the pronominal syntax of some languages but not in others? Finally, the proposal for unchecked $F^{o}_{[person]}$ raising to CP may place unchecked $F^{o}_{[person]}$ on a par with null expletives, a null expletive made available by the computation by virtue of DP_{lex} not having the appropriate [person] feature. If that is so, then all languages will sometimes have a null expletive, including those like English that typically do not license phonetically null subject positions. Hopefully, these questions will be further addressed in future research.

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