

ELEMENTS OF CYCLIC SYNTAX:

AGREE AND MERGE

by

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This thesis explores the dependency-forming featural operation Agree and its interaction with the structure-building operation Merge in the local, derivational framework of Chomsky (2000).

Chapter II develops a theory of cyclicity where individual instances of Merge can change the search-space of a probe. Such dynamic cyclicity is motivated from cyclic displacement phenomena where search-space expands downwards from one cycle to the next through evacuation of interveners, and the ergative displacement phenomenon in Basque where search-space expands upwards through cyclic construction of the phrase marker.

Chapter III shows how Merge composes with Agree in the derivation to give both movement and copy-raising. The Merge step is constrained by the Agree step because Agree transmits the variable names needed to interpret movement in Heim & Kratzer (1998). Differences between movement and copy-raising reduce to the Binding Theory and copy-deletion in the result, forcing copies in local domains and pronouns in non-local domains. English *tough*-movement exemplifies copy-raising whose pronoun tail is an \bar{A} -operator.

Chapter IV explores the ontology of Agree, departing from Chomsky (2000) where Agree in weak agreement languages manipulates features rather than atoms and has no further consequences. It shows that in strong agreement languages Agree apparently does satisfy the EPP and is visible to the Binding Theory. It demonstrates that the weak/strong distinction does

not reflect an ontological difference in Agree; rather, strong agreement languages make available expletives with ϕ -features (overtly manifested in Czech), yielding more visibility upon base-generation than expletives of weak agreement languages. The ontological ramifications of Agree manipulating subatomic features but interacting with the structure-building Merge are discussed.

Chapter V investigates what happens to the goal under Agree, from the standpoint of Case and deactivation. It proposes a theory where Agree affects the goal by assigning it a shell consisting of the category of the probe, interpreted as Case. The hypothesis derives the fact that deactivation can be partial, that shells ("Cases") can be stacked, and that the same category can assign different Case depending on how its ϕ -probe has been affected earlier in the derivation.

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For the thesis:

To Diane Massam go my warmest thanks. She seems to me to see deep into the heart of syntax; so often over the years has she surprised me with a generalization of elegance and explanation far beyond the reach of the theory in my hands. That worked out great when I decided what I wanted to write about most, and it turned out to have been her own thesis topic. She has shown me with what gentleness, humility, honesty, and cheerful-heartedness our work can proceed; she is a great linguist, but a greater being. Her help has been with me at every step. And she has made me laugh, never more so than in the bleakest days of this labour: next time I have an argument that acquires three hedges, I'll build me a house.

Alana Johns at first saw syntax through a different filter than I. Sometimes it would be lost on me; sometimes, and more often as the years went by, it had suddenly dawned on me that what Alana said the other day makes so much sense, usually provided I lose a bit of the Icelandic-centrism and look wider. So over time I've lost a lot of the Icelandic-centrism, and I think, I hope, that my view has become a lot wider. On the other hand, I've always had the impression that we share virtually the same theoretical aesthetics, and I think that's stayed. Alana is also just a lot of fun.

Elizabeth Cowper introduced me to syntax and semantics in teaching the first courses I took in these subjects. Ross and Conditions on Transformations first impressed me through her, and they became my favourites and the start of this research; I am grateful.

Yves Roberge's work on clitics, which Diane had once pointed out to me, was the germ of chapter four, and of a lost chapter on clitic doubling. During the defense, Yves played for me who have known him little a surprising role; he just seemed to be the center of good will in the room. Gabriela Alboiu I have wanted to share my work with since I first found such pleasure in her thesis, and I am glad of the chance that brought her to Toronto and to my committee.

I got to know Peter Svenonius "around", at conferences and summer schools, and I found him so interested in many of the same issues I was, and so indefatigable, that when the question of an external came up he just seemed perfect. A burden he took up with good humour, and discharged – as I had guessed – with great care. His comments on this work I've found immensely profitable and from the new stack of books beside me right now I think I will keep on finding them such for a while.

For the little time it's been in the world, I've only talked at length about the thesis to Andrew Nevins, who gave just what I needed after a long haul: enthusiasm and keen insight. All the time the thesis spent becoming, Mélanie Jouiiteau was there, and her intellectual influence is everywhere, from the persistent footnotes about the EPP to the role played by Breton. And before and after the thesis comes my work with Susana Béjar, a common vision and a set of ideas. But I have more to say about them later.

I came to linguistics as a phonologist. Elan Dresher and Keren Rice are the phonology core of Toronto. Much of what I ever learned as a syntactician I had learned as a phonologist, and I feel phonology of the classical kind comes to its best in Elan's and Keren's work. Locality, derivational computation, and the nature of features, which play such a role here, first came to me through them. And they, like all whom I thank here, have been a great support and a joy to talk to over the last five years.

For the road to the thesis:

I think the only way I can go about this is to say how and where I came to write a thesis, and the faces and voices that are the brightest in the flame of that lantern as it passes them on its way. Thus I will give my thanks in telling the fragments of my story and theirs, seen through imagination and so true fragments of a true story.

The story begins with Toronto. That's still so, even if I put the very beginning of the story as it took place at the end of the story as it's written, and jump now to the time just after. Three faces come back to me most clearly from that time: Do-Hee, Bettina, and Kristin. Our roads have parted and re-crossed since, and I've never felt lost at those meetings of ways. Nights in the department, the monstrous entrails of that Coruscanesque building meant to house books not people, a frozen winter night's cigarette on the grate behind the library, dawn breakfast at the Montreal Deli, a nap on the back room couch before the syntax project. Volo's and the Dodger and the Duke of York, literature and religion and phonology with Do-Hee over coffee, a cigar and a gin and tonic with Kristin in Windsor Arms. Phonology was still a big part of my life, with Elan and Keren and Daniel in the phonology group, and Peter and Bill and Eric at the billiard-table. There is a magic about beginnings. It was a lot of fun, that first year with Bettina and the Inquiries. What a strange combination! and yet it is thus now, the two in the same breath, that I can taste the odd magic of that year, the Gauloises and cider and local economy... It's still fun.

It was during that year and the days that followed that I slowly got to know Susana. Work was then a fire, and that's a solitary road: full of that marvelous pride and arrogance that perspective tempers but slowly, a growth real and imagined in understanding some of the universe we share and don't, a continuous wonder very personal and unique. So it was a surprise to find a mind that shared it all, a common perspective and a common vision. A word to her was a day's failed explanation, or more often a silence, to another. She was the first syntactician I learned anything from, and the one from whom I've always learned and learn the most, a profound inspiration in all the linguistics I've done since. As the years went by she came to be among my dearest and closest friends, a companion that's been there from the beginning to the end of the road, and I hope will be there wherever it now wanders.

And Susana introduced me to Abdel. I miss him the most as I write this. We talked little linguistics; we talked everything else. The smell of lime leaves, the floods of the Nile, leaves turning in the Lake

District, the soft quiet fall of winter's snow in a Vermont wood, and the Concert in the Park. The look that passed between us around eleven, and it was time to go to the Gloucester, to the magic of companions and talk and just sitting and thinking in peace. Thank you, my friend.

From the Duke of Gloucester it was a skip and a hop to Susana and Abdel's old place, with its mix of good food, Simon and Garfunkel, and Taylor playing "I'll follow the sun" on his guitar. Then Sara came into our lives; she took comfort, she said, for a while, in knowing that no matter the situation in the department, Toronto, or the world, she knew she would find us midnightish on our stools in the first or third berth of the Gloucester, and we took pleasure in knowing that, more often as time went by, she would show up (and sometimes bring Maria).

Probably, Susana had already introduced me to Rudy that very first night in the Gloucester. Probably, it took time for us to talk, though Rudy being Rudy probably also meant it was never halting or unnatural or just polite. I don't really remember, because Rudy is there to me as just Rudy in my memory, and there's none like him. I once tried to explain to Mélanie what I find sympa about the Catholics: their God is, but he is also dead, and that's a heavy burden to be joyful about. Not that Rudy is a Catholic, but it fits. He is a gentle heart. He has profoundly influenced my thinking in matters of philosophy, mathematics, sociology, and charity. I would never understand why I do linguistics without trying to explain to him *What did he buy bread for/*and?*, and why it matters for what humans in the world might be.

It was around that time that my traveling days started. Vancouver cafés came first. It's often misty and drizzly there, of which I am very fond, the cafés have terraces, and – here's the crux – those've got overhead heaters. So you can sit down in the morning, watch the damp snow turn to drizzle and back to snow again as the winter sun never shows from behind the clouds, munch sandwiches over huge lattes, and write a ridiculously long paper. In Boston, NC once passed close by me with the look that (I've been told) he regularly gives to those having a smoke outside the halls of MIT, and said hi. I feel sure it's relevant; and then there's the bit that someone's paper can determine the direction of one's thesis. Boston to me at the time was most of all Cristina and her place that felt like home. Later I came there again; I remember a Greyhound conversation with Bettina about why time slows down as an object approaches the speed of light, and reconstructing them I finally understood all those flashlight diagrams I'd always ignored... There's a turnoff to Ithaca where two statues are said to hold their hands when a virgin passes under them at midnight and a dog found heaven; I haven't been there yet.

The Toronto department I seldom came to after, and I have not stayed for long. But some are very dear to me that I only met then: Kenji, Chiara, and Manami, and Alex who being of lot of fun tempts me to generalize that so are all who are just learning to smell, and Bill and Mary who now watch us come into their lives and leave it while they hold the fort.

I came to Utrecht in a train, because it's Holland and because trains are the way one travels, if one is going from city to city, or if one has forgotten to steal a bike that morning. People like Nicolas Bouvier who are good at it let you understand what there is to learn of human interest in Turkey and Japan, say, but I don't recall anybody doing it for Holland, and I can't really do it here. Maybe you can get a taste of it by reading Beowulf and the Heimskringla, putting that together with the feeling of a post-office, but you'll be missing something crucial unless I add that the first person I met there was a respectable-looking fortyish lady walking her dog and greedily eying a bike that was only shabbily chained to an oak-tree, because, "well, you know, I've had about eleven of my own stolen from me already..."

So there's Patrick in Utrecht showing me a volume of German Romance poetry as we rolled our morning cigarette. Jeroen (Z'qos) persuading me of every place we passed on the way home that it was a good place to lie down and have a little nap, because anyway it is almost morning and he is not sure we can walk so far. Øystein explaining about the bad parts of Oslo (of which there are none, for it is all bad), and ready to help me to a log cabin near Tromsø. Alexis climbing walls. Iannis the poet to whom love is a deep, dark lake with no bottom. Friendschap and Bastaard and Ekko, and double fills of terrible Dutch wine. In a stormy night I fought a battle all alone with a lightning-felled tree on the banks of the Kromme Rein, and showed up with a huge scar the next day. Patrick lent me his bike to take back to the hostel (conveniently ten kilometers out of town), I circled Utrecht five times trying to find my way out, spurred it to a monumental leap over a ditch that incurred barely disguisable structural damage, and was saved from having to explain it all to Patrick by the Dutch free bike exchange system the next day (so now it's out). But these fragments are deceptive in their lack of linguistic content. Without linguistics, Øystein would have never proposed the verb particle accelerator, for example. You put the sentences in, you see, you turn it on, they collide, and bang, you've got verbal particles, if there are any. Jeroen tried (unsuccessfully) to persuade me of the existence and peculiarities of Wambeek Dutch. Or a little more linguistically still, there's meeting Tanya and running off to learn all the semantics I can. It stays in my mind as one of the brightest, warmest places, grey and cold and rainy though it is on the outside, and so full of friends.

Utrecht and that first Serbian summer school go very well together, in time and in mood. To Niš also, I came more or less in a train: first a crowded one across Germany, then a creeping one across Serbia. I had to buy a second (fake) visa at the border, but it didn't bother me. Broadly sketched, I suppose the Serbian days could be seen as rather monotonous. Around seven we would go for dinner, a nod passed between me and that stranger who became Aritz, and there was a bottle of white wine on the table. Elevenish was a good time to gather in the fortress, twoish at the little Tequila place on the hilltop with Andrew already there, five a return to the fortress, and with daybreak off in search of coffee for me (impossible, at that hour in Niš) and kefir for Jorje (doable, but kefir in the morning?). Sometimes we waited for the morning on the stairs of the dorm, with a melancholic Jorje, and Uxana in the lovely

arrogance and splendour of her the youngest among us who hadn't yet crossed that peculiar threshold of absolute disdain for all and the need to be unconditionally liked. Luisa, breathtaking warmth and charm and beauty, and hunting contextual variable. Klaus came into my room one morning, sat cross-legged on the bed, and wondered if he could pick my brains about multiple specifiers. And at Niš, we agree, I first glimpsed Mélanie...

I came to Gasteiz in a long-haul bus, armed with a copy of *The Hobbit* and *The long dark tea-time of the soul*, without Spanish and without Basque. So now I know by memory the former and never learned the latter. It turns out that Douglas Adams uses island violations to produce humour: witness: *The room was painted precisely that shade of green which Raffaello Di Sanzio would have bitten off his right hand rather than use* (from memory, I told you). Susana Huidobro picked up the stranger at the station, bought him coffee, and with Aritz made sure he survived – with a generosity of time and heart that takes my breath away. So much I found of it there. Euri, Alvaro (I've never seen anyone return to smoking with such bliss), Urtzi, and Eider – "spell-out!" Javier, Itziar, Miryam, and Željko (visiting) have profoundly influenced the way I do or want to do linguistics; very important to me, but as important their simple openness and warmth. But what I can say of Euskadi and Euskera that will go into words? The wind on Gorbiea and the beeches and streams of Urbia have little of the obvious to do with linguistics, and Kepa's way of avoiding the Person Case Constraint can't fit into acknowledgements, yet I'm so grateful to and for it all. I don't believe that there is any meaning to sentences like "people fitting to a land, both shaping each other through time" because I don't believe in the relevant meaning of "people" as opposed to "Aritz"; but there, sometimes, I've experienced doubt.

I think I must have been moving up in the world, because to Nantes I came in a TGV. That's one of those noiseless, unshaking, surefooted high-speed trains that cross the bounds between Île de France and the country side of the Province (if you're coming from one point of view) or the lands with oppressed, dying cultures and languages, trampled into the hexagon (from another). From the green hills of Euskadi, the mindful majesty of Libuše's city, and the sky and rock and time gone by of the Peloponnesos, we came to Nantes, and it was in that third-floor flat with Mélanie that I actually started to write. Worlds apart, and so much of my world now. I did not know before how one can get up at seven, sit at a table and write, and finish at midnight, over three months of time, but it did not daunt me then; in retrospect I can imagine it even less, and it does daunt me a lot. The memory of writing is gone. But that leaves so clear, like bright windows open on the day, the little events that make that time such a wellspring of joy, and joy well shared: the smell of the first coffee, the wet dawn filtering through the windows that look on trees, the breakfast shared and compromised on between brioche and cheese, Market Plus, making bread, leeching acorns, dinner at the Scenario, walking through the lands of the Loire and hunting for oysters on the rocky seashore. The seminar with Hamida, and the drinks I'd miss to learn French by watching *La porte des étoiles*. Eric under the leaf and Florian; Nicolaz who appears in in

Prague and Serbia but whose home in my mind is there at the Breton lessons. The gentle patience of Henriette who is in the end so great a person, and the laughter and joy that is Manon.

In Locunole is the house of Mari-Jo and Azenor and Iona and Nelson (who's a dog), and of Fañch when the French state doesn't lodge him for the night. A road goes from there to the Devil's Rock where Gwenole played with stones once upon a time and Fañch introduced me to a donkey; another goes the length of the Laita to Kemperle that I walked alone. Mari-Jo keeps Penn-da-Benn in Kemperle, filled with treasures and a warm inglenook; Fañch is disappointed with us linguists, being made to understand it's not us but a people who keep a language alive, and tells me about trees. In Kemperle too live Crystal and Manalie, who helped me into their world, and Reun, who's like someone out of a dream. But it's Breizh Izel there: Broceliand fences it to the east, northward a castle rises ridiculously out of the sea, and to the west is the World's End; *yez Merzin ha Morigan a gomzer eno c'hoazh*. So it's all like out of a dream. And there the story ends for now, looking with Mélanie over the vast blue-blue bay of Douarnenez where Menez Horn shoulders on the land to one coming from the east, and somewhere Is slumbers beneath the wave.

That's been the story then that led to the thesis, almost from its beginning to almost its end. Into the story, some come I've never met, and they too ought to be here. Linguistics is high lore, an exalted discipline for we seek in it an understanding in our perennial riddle of the incarnate mind. Perhaps we find that the rich and varied array of abilities we possess, innately specified to minutiae it seems yet so anchored in the external world, emerge like crystals from water by the laws of yet unglimped physics governing properties of complex states of matter -- while the riddle of the self-aware recedes still farther into unplumbable depths. It was, of course, Noam Chomsky who helped me see that.

And linguistics reveals no high answers for our daily quest of bumping about in the world, as Rudy would say. It does not answer whence a dragon comes or what it represents. It holds not the key of true understanding for those who want to listen to themselves and outside of themselves, of choice and charity, of the awesome power of a self-aware act. I thank those who taught me that, sharing what we are given to share, the pain of our existence, the candle's pale flame springing from hope's intolerable brightness: the poets and the dreamers and those who seek to be themselves: Arthur and Frank, Luc, Raginwalpeis, and Ursula.

So here I end, and I begin too. To understand a story is to return to its beginning, and try to hold it all in mind and heart. There was a house in a quiet neighbourhood just outside of downtown, one of those long Toronto ravines behind the house filled with reeds and crickets, and wych-elms on the street. The third floor of that house, me and Jean and a little later Franny shared. Also there was a cat, Toffee, that Franny and I once locked into the freezer, a dastardly act that belongs to the very young, but only for a little while. I made a vegetable garden behind that house that's long gone, but one year we had good tomatoes. Jean gave her thesis proposal on Hebrew prosody, Franny wrote her MA thesis on the IPP in

German, and I finished my MA on phonology and wrote my first real syntax paper on Czech clitics for Diane's course on Austronesian syntax. Jean and Franny and I would take long walks under the wych-elms to the ravine, and Jean would tell us stories of the creeks over which Toronto is built. Sometimes the sky was grey with rain and we would sit and read and blame the cat. Franny went to MIT after a while, but me and Jean remained, and we had with us all the worlds of phonology and anthropology and archaeology and Babylon 5 and Tolkien and Myth. Sometimes I still blamed the cat. Unless extraordinary things darken a place, it tends to either vanish in the mist, or it grows brighter in memory as it floats backwards with time. So it's a little of an idyll to me there. It was about this time that Bettina came into my world, and later Susana and Abdel and Rudy, and Patrick and Aritz later still, and last and brightest Mélanie. But in the beginning, there was me and Jean.

To Margaret Jean Balcaen:

Ides, brúcaþ þenden móston, be þissum sǣm twéonum in þissum middangearde, wine léofust.

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List of abbreviations and formats in glosses

CAPS	capitalization indicates focus
strike	deletion (usually of copies at PF/LF)
1, 2, 3	1 st /2 nd /3 rd person
²	2 nd position clitic
A	accusative; absolutive
ABLAT	ablative
ADESS	abessive
ADESS	adessive
ALLAT	allative
AOR	aorist
ASP	aspect
AUX	auxiliary
^c	clitic
C	complementizer
CA	complementizer agreement (Bantu)
D	dative
DFLT	default
E	ergative
ELAT	elative
EXPL	expletive
F	feminine
FOC	focus
FUT	future
FV	"final vowel" (Bantu)
G	genitive
HAB	habitual
I, II...	infinitive classes (Finnish)
I, II...	noun classes (Bantu)
ILLAT	illative

IMPF	imperfect
IMPV	imperative
IND	indicative
INESS	inessive
INF	infinitive
INV	inverse voice
M	masculine
N	nominative
NEG	negation
NMLZ	nominalizer
NT	neuter
OPT	optative
P	polite
PART	partitive
PASS	passive
PL	plural
PRG	progressive
PRS	present
PRT	participle
PST	past
Q	question morpheme
R	verbal particle (Breton)
RX	reflexive
SA	subject agreement (Bantu)
^{sc}	subject clitic (Romance)
SE	subject-oriented anaphor of the Romance <i>se/si</i> type
SG	singular
TA	transitive animate (Algonquian)
TI	transitive inanimate (Algonquian)
TOP	topic
TRANSL	translative

X gloss not relevant and/or unclear

1 Chapter I: Exploring Minimalist Inquiries

I never know which eeding is which, bl or f. -Do-Hee Jung, May 2001[†]

1.1 Introduction and synopsis

This thesis is an exploration of certain aspects Chomsky (2000), *Minimalist Inquiries: The framework* (henceforth MI).¹ Its topics are the operation AGREE, the sole dependency-forming relation of the MI framework, and its interaction with the structure-building operation MERGE:

The conditions on the application of Agree given by a derivational architecture of the grammar, and the evidence Agree in turn gives about this architecture (chapter II).

The interaction of Agree with the structure-building operation Merge, both in base-generation and in movement, which turn out to be the same thing (chapter III).

The ontology of Agree, that is the nature of the elements that trigger it and which it manipulates, formal features, as distinct from the ontology of Merge which manipulates bare phrase structural atoms, and the interaction between the two (chapter IV).

The elements of the operation itself, matching, valuation, and deactivation (chapters V).

Throughout I look at Agree and MI with a particular aim in mind. An attempt is made to explore the "LOCAL ECONOMY" derivational approach of MI (Yang 1997, Collins 1997, Frampton & Gutmann 1999) as explicitly as possible. That requires a lot of spelling out with some surprising conclusions about what empirical data now fall into the theory, where, and how. The derivational architecture of the grammar, the concept of the cycle, undergoes a theoretical refinement in chapter II which turns out to capture a whole class of "agreement displacement" phenomena. Odd constructions such as copy-raising and *tough*-movement are brought into the fold in chapter III as trivial results of the basic Agree-Merge interaction once the hidden entities

[†] Spontaneous utterance, referring to bleeding/feeding rule ordering in phonology.

¹ Abbreviations of works are MI for Chomsky (2000), DBP for Chomsky (2001), MP for Chomsky (1995a), and LGB for Chomsky (1981).

that would make this interaction the extra operation Move are removed. The ontological assumptions about Agree in MI dictate that agreement cannot really have certain properties that null subject languages show it has, forcing the existence of a theoretical construct familiar from earlier approaches such as Rizzi (1982), the agreeing expletives. This construct is shown in chapter IV to exist overtly. The empirical gains go hand-in-hand with elimination of stipulative aspects of the framework, such as fixed search-space and static limitations on cyclicity in chapter II, and of hidden entities that in fact introduce constraints on representation such as short-term derivational memory in chapter III. Finally, the ontology of the framework is of constant concern, coming to prominence in chapter IV as the fundamental tension between Agree as a feature-changing operation, and Merge as an atom-arranging operation.

In this section, I give a brief synopsis of each chapter. The rest of this chapter provides an introduction to selected aspects of the MI framework, indicating which chapters relate to them particularly. It also contains certain general arguments and refinements that are new, for example an argument for the ineliminability of relativized minimality in phase theory (1.7) and an explication of the c-command relation between specifiers and their sisters (1.6). At the end follow an index of the terms and symbols defined in this chapter and which will be used throughout.

Chapter II develops a specific derivational framework in which the Agree operation is embedded. It argues for an approach to cyclicity where individual instances of Merge can change the search-space of a probe on a single locus/pivot H in the derivation. Such dynamic cyclicity is motivated from cyclic displacement and ergative displacement. CYCLIC DISPLACEMENT refers to downward expansion of the search-space of a probe P on H as a consequence of an earlier H-goal relation that displaces an intervener for P to the edge of HP. Dative-nominative/absolute and double object constructions are examples. While the phenomenon has been observed before, chapter II spells out its implications for the cyclic ordering of individual P-probes on H and their feeding/bleeding relations. Two previously problematic facts in cyclic displacement receive an explanation. The invisibility of the trace of a displaced intervener to P is explained as a consequence of Fox's (2002) Trace Conversion which changes the D head of the copy of the intervener. The role of \bar{A} -movement in cyclic displacement is shown to not favour a counter-cyclic approach (contra Anagnostopoulou 2003).

Cyclic displacement is downward expansion of search-space. The second half of chapter II argues that search-space can also expand upward, from the complement to the specifier of H. The expansion is regulated by the Earliness Principle (Richards 1999, Pesetsky & Torrego 2001, Rezac 2003), which requires a probe to trigger an operation as early as possible. The prediction of an increasing search-space for a probe is studied in Basque ERGATIVE DISPLACEMENT, where agreement morphology on v is valued from [Spec, vP] just in case there is no goal in the complement of v . An independent contribution of this study is the demonstration that ergative Case/agreement in Basque must be structural and is assigned under raising, contrasting minimally with Basque dative agreement morphology which is shown to be an instance of dative clitic doubling.

Chapter III develops the MI proposal that movement is no more than the derivational composition of Agree and Merge: the COMPOSITIONAL THEORY OF MOVEMENT. This is not a trivial move, because in MI unlike in MP:IV the Agree operation does not itself involve any syntactic movement. Prima facie, a short-term derivational memory seems required to link Agree and Merge together in the derivation, so that the Merge step can know of which goal to add a copy at the root. However, the theory developed in chapter III shows that this link is the Agree step itself. The proposal is that among the features (ϕ -)Agree values is the index which the semantic interpretation of movement can use to determine the variable that a moved constituent binds: a development of the use of the ϕ -agreement by Browning (1989) in predication theory. The predication theory interpretation of movement in Heim & Kratzer (1998) is developed as a general theory of the interpretation of DPs base-generated in non-thematic positions.

The empirical focus of the chapter is so-called COPY-RAISING constructions like *Kate_i seems like she_i kissed the frog*, whose exact properties turn out to be predicted by the compositional theory of movement as the combination of Agree and Merge. Such a theory predicts that there should be movement-like structures where the top and bottom link in a chain are not copies of each other, so that the lower copy does not delete. Binding theory and the copy-deletion algorithm turn out to predict exactly the distribution of (deleted) copies and (resumptive-like) pronouns in constructions where a base-generated non-thematic DP is linked by ϕ -Agree to a thematic position. The semantics of copies and pronouns correctly predict systematic differences between movement and copy-raising constructions, even though both types of structures are

formed identically by Agree and Merge. The Agree-Merge composition makes a further correct prediction. If a non-thematic DP is base-generated as the sister of a non-agreeing predicate, the choice of the thematic variable to which it is linked is not restricted by the locality of Agree. This gives rise to the BROAD SUBJECT construction of Doron & Heycock (1999). Overall, the system predicts the similarities and differences in both the distribution and interpretation of movement and copy-raising chains from merely the interaction of ϕ -Agree and non-thematic Merge with independent principles such as the binding theory.

The latter half of chapter III studies ϕ -Agree – \bar{A} interaction. In copy-raising constructions \bar{A} -movement can affect the thematic link in the chain (Polinsky & Potsdam 2001 for Tsez, Branigan & MacKenzie 2001 and Bruening 2001 for Algonquian). It is shown that ϕ -relativized locality predicts exactly the role of \bar{A} -movement in the system, without resort to phase theory or altruism: \bar{A} -movement of the thematic link allows it to escape the intervention effect created by the ϕ -features of the D-like complementizer of its clause. This opens a new window on why ϕ -Agree into a clause is usually prohibited; the ϕ -probe is intercepted by the default ϕ -features of the complementizer. When a goal can escape this barrier by \bar{A} -movement and be reached by a higher ϕ -probe from a head that offers a non-thematic position, copy-raising constructions with \bar{A} -tails arise. Of these, the enigmatic *tough*-movement construction of English turns out to be a fully predicted case.

Chapter IV studies the phenomenon of agreeing expletives in Czech as evidence for the ontology of Agree and Merge. Following Lasnik (1999) and MI, ϕ -Agree in "WEAK AGREEMENT" languages does itself not manipulate syntactic atoms; yet certain kinds of agreement, "STRONG AGREEMENT" in null subject languages, seem to satisfy the EPP (Speas 1995, Alexiadou & Anagnostopoulou 1998). Czech offers an opportunity to study strong agreement, because this strong agreement language optionally spells out an expletive in [Spec, TP] which bears the same ϕ -features as those that T receives from an in-situ nominative. The expletive element here is exactly the non-thematic entity posited by Rizzi's (1982) approach to null subject languages and its developments (Rizzi 1986ac, Burzio 1986, Shlonsky 1990, De Crousaz & Shlonsky 2003, contra Borer 1986, Speas 1995). It is argued that the apparent visibility of ϕ -agreement to syntactic conditions such as the EPP and the binding theory is in fact the visibility of the ϕ -set of an agreeing expletive, whether overt as optionally in Czech or covert as more typically in null subject languages. The expletive's ϕ -set is lexically specified, and

expletives vary in their ϕ -specification: from none of Icelandic *það*, to singular number of French *il*, to the fairly complete ϕ -specification of the Czech expletive which varies for gender and number in the 3rd person. Insertion of expletives into a structure is regulated by the Match Condition which requires that the labels of the two arguments of Merge not differ in formal features, independently motivated in chapter III. The localization of the "strength" of strong agreement in the visibility of the lexically-specified ϕ -set of an expletive in [Spec, TP] means that ϕ -Agree is uniformly a feature-valuation relation which does not re-arrange syntactic atoms, as posited in MI. This creates a clash between Agree, which solely manipulates properties of atoms, and Merge which depends on Agree but manipulates atoms. The ontological underpinnings of this clash, and phenomena which bear on it such as the free rider principle, are discussed.

Finally, **chapter V** investigates the Active Goal Hypothesis, whereby a feature that has valued a probe cannot value another probe. MI proposes "activation" features such as Case which are valued/delete as a consequence of Agree and which are required for valuation. Chapter V proposes to do away with activation features; an interpretable feature can value any probe that reaches it. Deactivation is implemented as a shell of unvalued probes left by Agree; in the ϕ -system, this creates KP shells that receive morphological interpretation as Case. Deactivation is therefore relativized minimality. The chapter is a more tentative than the others; but more than others as well, it contains elements that are also independently important for an explanatory understanding of Agree. Important contributions are a study of "nominaccusative" objects with a homogenous class of properties in English, French, Finnish, Icelandic, Faeroese, and Breton defective intervener constructions; last-resort ϕ -probes in Icelandic infinitives which manifest DPs in an "impossible" Case position (Schütze 1997); the interaction of the Case and \bar{A} -systems; and finally the structure of quirky Case, which is argued to be a PP whose P contains a minimally specified person feature only and an internal Case-assigning T-like ϕ -probe under a PP/CP parallelism hypothesis.

The chapters together strive to reach a general picture of the Agree operation, if one delimited by two aspects of its operation largely not considered: its role in the \bar{A} -system, and its interaction with the structure of the features on which it operates. I briefly return to these vistas, as vistas and not as subjects of inquiry here, in **chapter [VI]**. Each chapter may also be read fairly independently, though there are important thematic connections: the core empirical

domains in chapters II and V are similar and if their theoretical aims are quite different, together they offer a detailed understanding of these data-sets; chapters III and IV jointly explore non-thematic base-generation; and the interaction of Agree and Merge is crucial in chapters II, III, IV.

1.2 The derivation

I assume the derivational framework of MI, which I will call LOCUS CYCLICITY and which I detail in this section. None of what follows is an argument for it,² although much is a refinement of it -- just how fine-grained does the cyclicity have to get (chapter II), to what extent can even very short back-tracking be avoided (chapter III), and what kind of odd things happen in it (chapter V). Part and parcel of the MI derivational framework is WEAK REPRESENTATIONALITY: operations of the derivation construct independently existing objects – so the system is representational – but there are no independent constraints on the representations as part of narrow syntax – so the system is weakly representational. For example, there are no output conditions on the operation Merge which force it to conform to X-bar theory or the Proper Binding Condition; what patterns there are in phrase structure or antecedent-trace relation should emerge from the definition of the basic operations and the mechanics of their composition in derivation. There are no stipulated properties of chains (MI:113-117, 120; cp. MP:190, 204-5, 328). This is not quite the same thing as saying there are no chains, which are simply higher-order objects (say, sequences of syntactic objects); the operation Merge could be trivially modified to create chains, or other higher-order objects, without any extrinsic representational conditions on them (cp. DBP:40f. for such a theory).

A DERIVATION is a sequence of cycles, and a CYCLE is a minimal unit of ordering of syntactic operations. Within each cycle, one or more of a set of basic operations applies. Each operation is "triggered" by a property, formal feature, of some atomic item of bare phrase structure (a term or its projection); features on other atoms may be relevant to an operation, but it is not triggered

² LGB:90f. is an important early derivational-representational framework discussion. A sense of the where the derivation-representation debate is at may be had from Brody (1995, 1997, 2002), who introduces the term weak/strong representationality I use next and argues for a representational approach, and Epstein (1999), Epstein et al. (1998), Epstein & Seely (2002), who essay to trivialize representations.

by them. There is also a "work-space" holding the objects that are the output of an operation to be the potential input of another. Boundary conditions on the derivation are boundary conditions on the input/output of the system; in MP, the input is the numeration which constitutes the initial workspace, and the derivation converges once the workspace contains but a single syntactic object to which further operations are inapplicable. Cycles are ORDERED with respect to each other; operations on a cycle, if there can be more than one, are not, by definition. The theory of cyclicity defines the size or "grain" of cycles, which will in turn determine if more than one of the basic operations of a derivational theory may take place per cycle.

The broad effect of the locus cyclicity of MI and related work is that for each term (numeration/lexical item) α , an operation cannot target α if α is embedded in an object that is not a projection of α .³ I will call α the LOCUS of a cycle so described, and LOCUS PRINCIPLE the part of the theory that has the desired effect (to be detailed below), terms due to Collins (2002:46). To illustrate how cyclic ordering determines possible syntactic objects, consider the following examples. In each, a Merge (Move) operation creates or destroys conditions for a different Agree/Merge (Move) operation, because the former is on a cycle that precedes the latter. The interactions of the two cycles, here with one operation each, are given the traditional names of feeding, bleeding, counter-bleeding, and counter-feeding orders:

(1)

- a *Tell me [how many eagles]₁ Dirk did [not successfully evade __₁]
- b Tell me [how many eagles]₁ were [not successfully evaded by Dirk __₁] *Feeding*

(2)

- a Who₁ did Grendel take [a bite out of __₁]? *Bleeding*
- b *Who₁ was [a picture of __₁]₂ taken __₂?

(3)

³ Within MP locus cyclicity originates as the extension condition of MP:190. Contrastive to locus cyclicity are cycles larger than those described, such as phase-cyclicity of MI, DBP -- and the bounding-node cyclicity of Chomsky (1973), barriers cyclicity of Chomsky (1986), to the extent these are considered from a derivational standpoint. As far as I can tell, the "grain" of cyclicity with the broad sense of locus cyclicity is first argued for by Williams (1974), within whose system each of the distinct clausal XPs, S', S, PredP, and VP, defines a cycle.

- a [Which isles]₁ were₁ visited ___₁ by Ged?
 b *[Which isles]₁ was visited ___₁ by Ged? *Counter-bleeding*
- (4) ___₁ was asked ___₁ by Ath [_{CP} who₁ [Q-]_C dragons ever lie]. *Counter-feeding*

In the first example, A-movement feeds \bar{A} -movement by taking a *wh*-phrase out of an inner island; cyclicity can predict this if it predicts that TP-level A-movement happens before CP-level \bar{A} -movement. But A-movement can also bleed \bar{A} -movement, as MP:328 discusses; in the second example, we know that \bar{A} -movement can sub-extract from a DP only if the DP is a complement, and the obligatory application of A-movement at the TP level before C is added makes the DP a specifier. The third example shows that \bar{A} -movement cannot bleed ϕ -agreement and/or A-movement, since they happen at the TP level and \bar{A} -movement happens at the CP level. Finally, the last example shows how cyclicity prohibits downward movement: the \bar{A} -movement must apply as soon as the embedded CP is constructed, and cannot wait until the matrix object is added.

There is a certain intuitive appeal to cyclicity that these examples of locus cyclicity perhaps demonstrate: it gives a uniform answer to the question why conditions on syntactic dependencies between two syntactic objects refer to information within the minimal phrase-marker only containing the two objects. The answer is that the rest of the phrase-marker does not yet exist, so it is not possible to formulate e.g. a condition that will bar *wh*-movement if another *wh*-word c-commands the target of movement.⁴ However, cyclicity neither answers all such questions, in this case particularly why information c-commanded by the foot of the dependency is irrelevant (relativized minimality is one explanatory answer that this has); nor are the answers it gives necessary more intuitively appealing than a representational approach in e.g. path-theoretic terms (Pesetsky 1982, Kayne 1984b). I simply presuppose the derivational approach.

So locus cyclicity imposes an isomorphism for any syntactic object between its growth, or more specifically the change in its label/projection from one numeration/lexical item to the next, and the atom by which operations may be triggered. With this general understanding of locus

⁴ Notice that the latter condition does in fact play a role in conditioning operations, indirectly, and under extremely limited locality: by selection, e.g. by V of a CP with an appropriate escape hatch or feature.

cyclicity and the gains it makes, there are now different ways of implementing it, with both conceptual and empirical differences. The easiest way to see this is by taking the system offered in MI, and the discussing possible alternatives. A background assumption is that each cycle of a derivation is associated with a set of syntactic objects $\{SO_1, \dots, SO_2\}$, where the initial set is the numeration or "lexical subarray" (MP:225f.). This set is the work-space I mentioned above, and its members may be said to be the objects "under inspection".⁵

(5) MI Locus Principle

- a "Properties of the [locus] must be satisfied before new elements of the lexical subarray are accessed to drive further operations." (MI:132)
- b Locus α : " α is the candidate for [triggering an Agree or Merge operation] only if it is the full syntactic object under inspection. [A feature which triggers an operation] has to be [...] in the label $L(\alpha)$ of α , its sole designated element." (MI:134)

The MI definition relies on the assumption that for each syntactic object α , the label of α is determinable upon its inspection. As discussed here in 1.6, this may be either because a label is explicitly represented in bare phrase structure with a simple algorithm to determine if a particular term is a label or not, as in MP; or because for any bare phrase structure object $K=\{\alpha, \beta\}$ there is a general algorithm to determine which of α, β is such that its label is the label of K (with the label of a lexical item being a lexical item), as hypothesized in MI. Given that assumption, the definition of a locus may be said to be intrinsic, because the term locus is defined generally, rather than being a designated item associated with the work-space of each cycle.

Frampton & Gutmann (1999) and Collins (2002) take the opposite approach. In effect, the workspace associated with each cycle is a pair of an object and a set of objects; the first member of the pair is the locus, and the second is the workspace as hitherto construed. We may speak of this as an extrinsically defined locus. A possible advantage of this that for any operation on a cycle which needs to refer to the label it is to project, the locus may be defined as the label.

⁵ I have opted for quotes rather than restatement, since the full intent is not always clear. For example, "lexical subarray" is probably best replaced by "workspace" in the sense I defined it; as it stands, it requires that at each cycle the lexical subarray be recoverable. There is also an empirical difference; use of "lexical subarray" prohibits the formation of a complex head $[_H \alpha \beta]$ from α and β in the lexical subarray, Merging it with γ (in the subarray or previously assembled), and projecting H -- something that quite possibly should be permitted.

However, this by itself does not in fact help much for anything; Collins (2002:55) makes use of it in a richer system which keeps track not only of the current locus but also of the locus of the previous cycle, so that the current locus knows for selection what the label of the last-constructed object is.⁶ I will tend to assume the intrinsic definition.

In either approach, there must be a basic operation *Select*, which introduces a new locus from the workspace (or numeration) when the Locus Principle permits, the combinatory operation *Merge* that constructs new syntactic objects, and then other operations as required; MI explicitly adds only *Agree*, with selection (MI:134f., Collins 2002) and concord (DBP:6) not much touched on.

There are other implementations of the Locus Principle in the literature; aside from the references cited above, the *FEATURAL CYCLICITY* of MP:232-5 (a term due to Richards 1999) is of particular relevance. It requires a strong feature introduced into the derivation to be eliminated "quickly", so quickly as to conform to the intent of locus cyclicity described above. All of these implementations leave the ordering of operations on any single locus free. To be more precise, suppose α is a locus for a cycle x ; then every cycle y whose locus is α is the same cycle as x . All the operations triggered by features of a lexical item while it projects are on the same cycle. This may be exemplified by the discussion of MP:233-5, where the idea is to derive featural cyclicity from other principles. This is reduced to a strong feature having to be checked before the category which hosts it stops projecting. Consider *T* in English, with a strong nominal (EPP) feature. It is argued that this strong feature need not delete immediately upon the operation that inserts *T* into the derivation, *Merge*(*T*, ν P). It can survive successive projections of *T*, including ones which result in the adjunction of adverbs to TP, giving *there probably will be snow tomorrow* with *probably* TP-adjoined before *there* is Merged to check the strong EPP feature. Only once *T* stops projecting, when it is Merged with *C*, would featural cyclicity lead to a crash if *T* retains a strong feature. So featural cyclicity and other versions of the Locus Principle do not say anything about when features on a locus have to trigger operations.

Locus principle is thus explicitly about locus-sized cycles, where each lexical item and its projections are a single locus. The goal of chapter II is to argue that while not incorrect, this is

⁶ Collins (2002:48) also presents another argument for an extrinsic representation of a locus: on an intrinsic approach the label of any object in the workspace may drive operations on any particular cycle, while on an extrinsic one there is a unique locus determinable per cycle. I do not think this either is necessarily a disadvantage.

inadequate, and cycles must be defined so that individual applications of Merge on a single locus fall into different cycles ordered w.r.t. each other: Merge of a complement, Merge of a specifier, and so on. The ordering among the cycles is subject to the Earliness Principle, which requires a feature on a locus to be deleted on the earliest cycle it may be.

1.3 Agree, features, and locality

MI departs from MP:IV and earlier work within minimalism and GB in giving primacy to long-distance relations without movement. The core dependency-forming relation of narrow syntax is AGREE, which takes place between two features. A local relation between them, such as specifier-head or an adjunction structure, is in MI derivative and contingent. I will dub this the AGREE STANCE, which MI itself best clarifies:

(6) The Agree stance

Much work on the topic has taken long-distance effects to be a property of [expletive] constructions, hence of an expletive-associate relation; various ideas have been explored regarding how that relation is established. In MP, chap. 4, a different approach is suggested: the long-distance effects are attributed to a T-associate relation that involves features only and is independent of the expletive. The reasons were theory-internal, but a broader range of cases adds empirical support. Long distance effects are found without expletive constructions [...] and expletive subjects are found without T-associate agreement when there is no accessible nominative [...] More generally, we should not expect Spec-head relations to have any special status. (MI:125-6)

According to this conception, agreement (hence movement) is driven by uninterpretable features of the probe, which must be deleted for legibility. The operation Greed of MP, in contrast, was driven by uninterpretable features of the goal. The principle we are now entertaining is what Lasnik (1995a,b) [Lasnik 1999:IV, VI] calls Enlightened Self-Interest, with the further requirement that a matched probe must delete: we might call the principle Suicidal Greed. [...] With this shift of perspective, structural Case becomes demoted in significance. The Case Filter still functions indirectly in the manner of Vergnaud's original proposal, to determine the distribution of noun phrases. But what matters primarily are the probes, including the ϕ -features of T, *v*. (MI:127)

In MP, both interpretable and uninterpretable features have specific value, e.g. [number = +plural]. The ATTRACT operation is triggered by a feature which is not interpretable on a target, finds a goal, and moves its formal feature bundle into the local neighborhood of the target, its CHECKING DOMAIN. If an uninterpretable feature has an identical (MATCHING) interpretable feature in its checking domain, it is CHECKED. MI finds reasons to give up the idea that the core

feature-relating operation involves giving the interpretable features of the goal a syntactic representation in a local relationship to the target (MI:119, 123, 146-7n71-2). The operation is renamed AGREE. The reasons for this are fully discussed in chapter IV. So Agree truly is not Attract; the interpretable features of the goal are never displaced as a syntactic atom, whereas in MP they (as a formal feature bundle) are re-Merged in the probe's checking domain. As a consequence of this, it is no longer determinable by inspection of the local neighborhood of a probe whether it is checked, that is whether there is a matching interpretable feature(-set) in its checking domain. The fact that an uninterpretable ϕ -set has related to a goal must be encoded differently. MI and DBP propose that uninterpretable features are unvalued, e.g. [number =], and the Agree operation values them from the interpretable features of a goal -- which are themselves never displaced to the target. Agree need not create any local relations involving syntactic atoms, only their properties. This is a move with vast empirical and ontological consequences that are the business of chapter IV. I give the statements of this conceptual change in extenso:

(7) Features and Agree

Manifestation of structural Case depends on uninterpretable features of the probe: finite T (nominative), *v* (accusative), control T (null), on our earlier assumptions. We may therefore regard structural Case as a single undifferentiated feature. The same would be expected for the uninterpretable ϕ -set of the probe. Its manifestation depends on interpretable features (namely, ϕ -features) of the goal, so that it too can be taken to be undifferentiated with respect to the value of individual features of the ϕ -set ([+/- plural], etc.). For both probe and goal, the form of the uninterpretable feature is determined by Agree. To rephrase in traditional terms, verbs agree with nouns, not conversely, and Case is assigned. (MI:123-4)

I will assume that feature chains do not exist, hence that features cannot move or be attracted. (MI:119) ... In *MP* Agree is analyzed in terms of feature movement (Attract) and of concept of matching that is left unclear. Here we take matching to be identity and dispense with Attract, with complications it induces about extended MLIs, feature chains, and other matters. Checking reduces to deletion under matching and ancillary deletion of the uninterpretable features of the goal that render it active. (MI:123)

Interpretability of features is determined in the lexicon, by Universal Grammar (UG) we assume, and the distinction must be indicated not only at that stage but throughout the derivation. The natural principle is that the uninterpretable features, and only these, enter the derivation without values and are distinguished from interpretable features by virtue of this property. Their values are determined by Agree, at which point the features must be deleted from the narrow syntax (or they will be indistinguishable from interpretable features at LF) but left available for the phonology (since they may have phonetic effects). The conclusion is appropriate in other respects: the values of uninterpretable features are redundant, and there is empirical motivation from intervention effects (see MI). Accordingly, Match is strictly speaking not Identity, but Non-distinctness; same feature, independently of value. (DBP:5)

The crucial distinction between interpretable and uninterpretable features within the syntax is determined by whether a feature is valued or not at the insertion into the derivation. The distinction disappears upon valuation. From "outside" the syntax, other principles of UG determine interpretability, so that ϕ -features for example are uninterpretable on T but interpretable on N; but this is not knowable within narrow syntax (DBP:5 and Epstein & Seely 2002 commenting).

Agree takes an unvalued feature F, called a PROBE and notated here [F-] (also F-probe), and finds a matching feature, which I will call a CONTROLLER, following Béjar (2003), and notate [F+].⁷ Probe and controller are both features on the terms (lexical items) of bare phrase structure as given by Merge; the term on which the probe is located I call the TARGET and the term on which the controller is located is the GOAL.⁸ Occasionally, the term that contains a feature will be notated *F, and analogously *probe, *controller for the target and goal respectively. To exemplify, the target T contains the ϕ -probe [ϕ -], seeking the closest matching controller, which is an interpretable ϕ -set on a D or N goal. It is an extension of this terminology to speak of the TARGET as any projection of the term that contains the probe, and the GOAL as any projection of the term that contains the controller. Context usually clearly disambiguates the two uses of *target* and *goal*, but they must not be confused with *probe* and *controller*.

Upon successful Agree, a probe [F-] receives value from its controller [F+]. Within narrow syntax, the distinction between them disappears: the representation of the probe is henceforth identical to that of the controller. However, it is often useful for clarity to distinguish the two in discussion. I use the symbol [F*] for a valued probe; so [ϕ -] is a ϕ -probe, [ϕ +3.SG] are the LEXICALLY VALUED ϕ -features of a DP, and [ϕ *=3.SG] is a ϕ -probe valued from them by Agree (an AGREE-VALUED probe). The modification of the target by the valuation/deletion of a probe is a MODIFIED LEXICAL ITEM (MLI).

A probe triggers the AGREE operation, which involves two components: search for a MATCH, and VALUATION. The conditions on matching are the following:

(8) Conditions on matching

⁷ Following Béjar (2003), and further Relational Grammar (esp. Aissen 1990): a DP *controls* verbal agreement.

⁸ This is a more precisely specified deployment of MI terminology, used throughout.

Matching is a relation that holds of a probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the *domain* D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown in (40):

- (40)a. Matching is feature identity.
- b. D(P) is the sister of P.
- c. Locality reduces to "closest c-command"

Thus, D(P) is the c-command domain of P, and a matching feature G is *closest to* P if there is no G' in D(P) matching P such that G is in D(G'). (MI:122)

Clause (b) of this statement defines the upward bound of the SEARCH-SPACE of a probe, and clause (c), LOCALITY, defines its downward bound. Together, they delimit the part of the phrase-marker where a probe may find a goal. It is the business of chapter II to argue that the search-space of a probe changes throughout the derivation by cyclic Agree: it may expand downwards when movement eliminates interveners, and upward when Merge adds material to the phrase marker. Search-space is therefore dynamic, not static as in (8).

There is an important distinction between valuation and matching. A probe upon Agree is restricted to the closest match as just discussed; however, other properties of the goal may decide whether valuation is possible, as discussed in 1.4.

The definition of the conditions on Agree in (7) incorporates an assumption that appeared with MP:267-8: locality is an irreducible condition on Agree. It is not a general economy condition that chooses between competing representations (MP:III), or a representational condition on the output of Agree/movement (DBP:27f.). (7) also incorporates a second assumption, that the locality restrictions on a probe care about the properties of probes only. This logic is emphasized in MI:131. A ϕ -probe only cares about the closest ϕ -set to it, not about whether it has Case or not, and not about whether there are any potential Case-checking positions in between.⁹ If there were Case-probes on DPs (see the next section), they would be sensitive to Case-assigners, not just to any intervening ϕ -sets. Both properties of (7) are assumptions of this thesis. Together, they could be described in the context of discussions on locality as feature-relativized probe-dependent intervener-based locality -- for which I hope to usually say FEATURE-RELATIVIZED LOCALITY only.¹⁰

⁹ As such. Of course, if a Case-checking position implies a ϕ -probe, and if one ϕ -probe is visible to the next as argued in chapter III, a ϕ -probe is sensitive to Case-checking positions -- derivatively.

¹⁰ In contrast to locality that takes into account properties of goals as well (MP:II, III); to theories that do not depend on interveners but on structural barrierhood (Chomsky 1973, 1986, and phase theory); and to theories that are not relativized to features but to feature classes, q.v. Rizzi (2000, forthcoming) for discussion.

The term c-command in (7) has been left undefined. Following Epstein (1999), MI:116 takes Merge as responsible for the basic terms that enter into the definition of c-command: $K = \text{Merge}(\alpha, \beta)$ gives the relations SISTER (α is sister of β , β is sister of α) and IMMEDIATELY CONTAIN (K properly immediately contains α , β , and reflexively immediately contains K). CONTAIN is the transitive closure of immediately contain. Departing from Epstein (1999), (symmetric) c-command as such is defined representationally:

(9) C-COMMAND: α c-commands β iff α is a sister of γ and γ contains β .

MI:123-4 also adopts the assumption from MP:355-8 that "terms of the same minimal domain are EQUIDISTANT", where the MINIMAL DOMAIN of a head H is "the set of terms contained in the projections of H ". This is clearly a stipulation under bare phrase structure and definition of c-command as they stand. I will not adopt it in this work.

There is an important problem in the definition of locality, observed by Collins (2002). Consider the bare-phrase structural representation that contains two DPs, one meant to be an intervener for the other, (10)b for (10)a. If DP_1 is complex (branching), it will never be an intervener. This is because D_1 only c-commands NP_1 and vice versa, and neither of them c-commands outside their complex DP. This does not change if labels are added to a bare phrase structure representation, (10)c; the label D_1 still c-commands only $\{D_1, NP_1\}$, not outside into $\{H, \dots\}$. The desired representation would make a complex specifier behave as a simplex, non-branching specifier; in (10)d where D_1 is simplex, it c-commands into $\{H, \dots\}$, as desired.

(10)

- a probe ... DP_1 ... DP_2
- b {probe, {..., {{ D_1 , NP_1 }}, {H, {... { D_2 , NP_2 }}}}}}
- c {probe, {..., {{ D_1 , { D_1 , NP_1 }}, {H, {... { D_2 , { D_2 , NP_2 }}}}}}}}
- d {probe, {..., { D_1 , {H, {... { D_2 , NP_2 }}}}}}}}

In 1.6 I discuss how to obtain this consequence theoretically, but the fact is empirically clear. I therefore assume the following to be a derivable theorem:

- (11) SPECIFIER COMPRESSION: α s.t. α =[Spec, HP] behaves for c-command as if it were replaced by only its head/label.

Observe that it is part and parcel of this that α c-commands the head/label of its sister; D_1 c-commands H in (10)d, because H is (immediately) contained in the sister of D_1 . (11) has a possible stronger version: complex left branches behave as simplex labels not just for c-command, but in all respects for a higher ϕ -probe: material inside them is simply inaccessible. From this would follow that not only is subextraction from a left branch impossible, so is ϕ -Agree with its subconstituent. I do not intend to defend this here, noting only that whatever derives (11) may also derive automatically this stronger consequence. There is a certain "path-theoretic" appeal to the stronger version: it derives that a probe on H can only see along the "spine" of the tree it is on, namely objects that fit the transitive closer of the complement relation, and their sisters (Kayne 1984b).

Finally, there is an assumption of MP:265 that does not appear MI, the FREE RIDER PRINCIPLE. Translated from an Attract to an Agree framework, it would require that once Agree establishes a probe-controller relation, all probes on the target attempt to match/value against any features on a goal. I make use of it at various points, and a discussion is found in chapter IV.

1.4 Activation features

It is a departure from an optimal formulation of the Agree stance that probes and their properties (and those of their targets) are not the only thing that matters to Agree. Properties of the goal are held to matter as well. Specifically, for every probe, there is a corresponding ACTIVATION FEATURE as I will call it, such that a controller may only value a probe if the goal (the term that contains the controller) also possesses the activation feature.¹¹ For ϕ -probes, which are central to this thesis and to MI, the activation feature is CASE; the \bar{A} -system is so implemented that the probe of an interrogative C is [Q-], its controller is [Q+] on a *wh*-word, and the activation feature of the *wh*-word is [wh-] (MI:128). I will call this the ACTIVE GOAL HYPOTHESIS (AGH).

¹¹ In Pesetsky & Torrego (2001), activation features become sub-features of controllers, not goals.

(12) Active Goal Hypothesis (AGH)

Uninterpretable features render the goal *active*, able to implement an operation: to select a phrase for Merge (pied-piping) or to delete the probe. The operations Agree and Move require a goal that is both local and active. (MI:123)

The AGH is demonstrated most clearly by the \bar{A} -system; a *wh*-word may undergo successive-cyclic movement through [Spec, CP], but not if the C has a [Q-] feature which Agrees with the *wh*-word, FREEZING it (cp. Manzini 1998, Rizzi 2004; following Rizzi 2004, I sometimes call the position where \bar{A} -Agree occurs the CRITERIAL POSITION for the relevant \bar{A} -CRITERION such as [Q-]).¹²

(13)

- a Who_i C_[Q*=i] did you say t' C_{SCM} Nolwenn saw t ?
 b *Who_i C_[Q*=i] did you ask t' C_[Q*=i] Nolwenn saw t ?
 cp. Who_i did you ask whether Nolwenn saw pro_i ?

The properties of probes remain primary under the Active Goal Hypothesis, because a probe cannot pass the closest matching controller under the conditions (8) whether it has an activation feature or not. (8) regulates MATCHING; by (8), a probe cannot get beyond the closest match. On the other hand, activation features permit actual VALUATION of a probe from the controller, which is impossible without them. There is an ASSOCIATE REQUIREMENT assumption that a probe requires valuation for convergence.¹³ This can be illustrated as follows. In (14), the DP in bold has Agreed and received Case in the lower clause, leading to the impossibility of valuing a higher ϕ -probe. Apparently, the impossibility does not just lead to default agreement, but to also to the impossibility of movement as in (14)b, and even ignoring that, to a crash as in (14)a. This is the associate requirement: a probe must find a match capable of valuing. However, even

¹² Diane Massam, p.c., draws my attention to Adger's (2003:332) (i)-(ii), which are "difficult to parse, but contrast dramatically with [...] *wh*-island violations[.]" (ibid.). These of course contrast dramatically as well with the examples in the text and op.cit.; I do not have an explanation: both a parenthetical reading (to be resolved by sequence of tense phenomena perhaps) and the well-known saving effect of an extra *wh*-word need to be investigated.

(i) Who did you ask t saw what?

(ii) Which king did you wonder t invaded which city?

¹³ See chapter V and references there; this network of assumptions is the MI elaboration of Lasnik (1999:134).

though a DP that has had Case assigned by a lower probe cannot value a higher one, it still qualifies as a match, and the higher probe cannot pass it. This is also what rules out the super-raising cases in (15), where *it* at the same time cannot value the matrix ϕ -probe because its Case feature has been valued and deleted in the lower clause, and yet stops it from reaching *someone* (cp. *Someone seems to have been told that Kate left*).¹⁴ (15) exemplifies a DEFECTIVE INTERVENTION EFFECT (MI:123), where a probe finds a match that cannot value it.

(14) Absence of Case prevents value

- a *There seem [**several people** are friends of yours]. (MI:129)
- b ***Several people** [*t* seem are friends of yours].

(15) Absence of Case does not block match

- a *There seems [\bar{it}] was told **someone** that Kate left]
- b ***Someone** seems [\bar{it}] was told *t* that Kate left]

This is the theory of activation features, discussed extensively in MI for Case (MI:121-4, 127-130, DBP:4, 6).¹⁵ Chapter V focuses on activation features; it is proposed they do not exist, and what has been analyzed in terms of them is re-analyzed. Case remains, but it becomes a KP shell (CASE SHELL) assigned by a ϕ -probe to a DP under ϕ -Agree. The match-value distinction is eliminated, and defective intervention effects are construed as Agree with default-valued features, resulting in apparent lack of agreement.

The role of activation features is independent of that of inherent Case in MI. INHERENT Case, which is possessed e.g. by the experiencers of *seem* in English, completely hides the ϕ -set of the DP that bears it (MI:148n87). Both the examples in (16) are impossible in English, but with 3rd.sg.neut. agreement, default, they are both possible in Icelandic, (17). MI:128 proposes that while the experiencer in English has inherent Case which hides it from a ϕ -probe, so that it sees

¹⁴ The account of this is perhaps undermined by the Case requirement of *someone*, which might not be satisfied in this derivation. Thus cp. *Some people were told that Kate left* vs. **There were some people told that Kate left* (very marginal on the passive rather than contact relative reading) and *It was told *(to) some people that Kate left*.

¹⁵ MI and DBP also suggest here that Case may determine how much Agree pied-pipes of the goal if movement takes place at all; I have little to say about this here (chapter III). It seems clear that it is some property of the goal that determines pied-piping; earlier work (MP:IV, Chomsky 1998, Ochi 1999, Uriagereka 1999b) pursued the idea that movement takes place to "repair" the displacement of features of the goal by Attract to the target, something not directly possible with Agree.

across it to a lower match (the ungrammatical examples are due to the associate requirement), the experiencer in Icelandic has QUIRKY CASE -- inherent Case with an associate structural Case feature (Belletti & Rizzi 1988, Cowper 1988). So the experiencer is a match in Icelandic, available for movement, and valuing the ϕ -probe of T to a default person value.¹⁶

(16)

- a *There seem(s) to **poets** that there are still dragons in the world.
- b *(To) **poets**₁ seem(s) (to) t_1 that there are still dragons in the world.
- c **Dragons** seem to poets [t_1 to be still in the world].

(17)

- a Það virðist **sumum málfræðingum** [þessir stúdentar vera duglegir.]
there seem-3.SG these-D linguists-D these students-N to.be intelligent
These students seem to some linguists to be intelligent. (McGinnis 1998:51)
- b **Mér**₁ virðast/??virðist t_1 [hestarnir hafa verið gefnir konunginum.]
me-D seem-PL/??SG the.horses-N to.have been-SG given-PL the.king-D
The horses seem to me to have been given to the king. (Schütze 1997:107)
- c Jón telur [**Harald**₁ virðast (***mér**) [t_1 hafa gert þetta vel]].
John-N believes Harald-A to.seem (*me-D) to.have done-SG this-A well
John believes Harald to seem (*to me) to have done this well. (McGinnis 1998:82)

These paradigms are discussed in some detail in chapters II and V, for different reasons. Here I wish only to raise them, and to define ϕ -ACCESSIBILITY: a DP inside a left branch may or may not be ϕ -accessible to a clausal ϕ -probe in a given language, under conditions that are simply not understood (cp. MI:305f., Kitahara 1997, McGinnis 1998, Torrego 2002 for some discussion). The inherent/quirky Case distinction of MI for the purposes of matching is one way of stating the parameter. Chapter V shows ϕ -accessibility does not correlate with morphology; dative DPs are ϕ -inaccessible in Czech as the *to*-PP is in English, and \grave{a} -PPs are ϕ -accessible in French as datives are in Icelandic. The logic of c-command and bare phrase structure should

¹⁶ The embedding under an ECM verb in the Icelandic example controls for topicalization of *Harald*.

never let the ϕ -features of a DP inside a PP/dativeP shell intervene for clausal ϕ -probe, because they are embedded, and this is argued to be correct in chapter V.¹⁷

The important concepts of this section are activation features and the Active Goal Hypothesis, the match-value distinction, defective intervention effects, the associate requirement, and ϕ -accessibility. They are mostly studied in chapter V, which attempts to eliminate activation features and with them the match-value distinction, and to derive ϕ -accessibility (this last, very speculatively only). In diagrams, I will use the symbol \leftrightarrow for valuation by Agree between the symbols on either side of the arrow, and \neq for matching that fails to lead to valuation because of the Active Goal Hypothesis. A probe so stalled by the AGH is sometimes notated $[F^x]$.

1.5 The compositional theory of movement and copy theory

Movement in MI is a consequence of Agree, which is followed by Merge of the goal at the target if the target also has an "EPP feature"; the latter, like Case, cannot itself act as a probe. MI:101-2 pursues what I will call the COMPOSITIONAL THEORY OF MOVEMENT, where it is not a primitive operation but the composition of Agree and Merge (cp. Collins 1997, Nunes 2001). This approach results in the COPY THEORY OF MOVEMENT (MP:III.5, Munn 1994, Sauerland 1998, 2000, Fox 1999, 2000).¹⁸

(18) Compositional theory of movement

- a Agree: Agree by a probe on the target identifies the goal which is subject to movement.
- b Merge: If H has the EPP property which triggers (non-thematic) Merge, a copy of the goal is Merged as the sister to H.
- c Pied-pipe: Properties of the goal determine whether and how much of it is available for displacement; "goal" for the preceding step is thus to be understood as the phrase determined by the goal for pied-piping.

¹⁷ Cf. the discussion of (10) above, but here even the label, P/dative K, of the left branch, does not have the requisite ϕ -features, unlike D above.

¹⁸ MP:249f., Kitahara (1994, 1997), do not quite present a compositional theory of movement; Move is rather a "complex" singularly generalized transformation, whose apparent components of copy, merge, chain formation, and trace deletion are not separate operations composing independently in derivation but inherently linked in the definition of Move.

- d Δ : There is a deletion process, Δ , which ensures the correct copy in a movement chain survives (MP:252-3).

There is a hidden step in this summary. This is the connection between the Agree step and the Merge step. At point *a* of the derivation, Agree identifies the goal "to be re-Merged". At point *b*, Merge combines a copy of this goal with the currently (cyclically) extant object. The question is how does the second step know to Merge a copy of the goal, rather than something else. The question cannot be only a question purely of interpretability, because if the goal were a pronoun and the re-Merged object were another DP, binding of the pronoun should suffice to form a chain. For example, suppose a raising verb is combined with an TP complement that contains a pronoun, (19)a. Agree values the ϕ -features of T from and assigns nominative to *a picture of her*, which is fine in-situ without Merge of an expletive as in (19)b. Legitimately, a copy of the DP may also be formed and Merged in the matrix clause. However, it is not possible to take another DP and Merge it in the matrix clause, (19)d, even though this would seem to give a fully legitimate interpretation by variable binding, as in (19)e. The problem is that the DP Merged in (19)d in [Spec, TP] is not that which T has Agreed with.

(19)

- a seems [_{TP} to be [a picture of her] on the wall].
- b There seems to be [a picture of her] on the wall.
- c [A picture of her]_i seems *t*_i to be on the wall.
- d *Every girl_i/*Kate_i seems [_{IP} [a picture of her_i] to be on the wall].
- e Every girl_i/Kate_i gives the impression that there is a picture of her_i on the wall.

Somehow Merge must know, if it comes after Agree, to Merge a copy the goal which Agree has identified. In formulating this problem, another "hidden" step appears, the "copying" of the goal: but this could be trivial, amounting to a second selection of the same item from the numeration or lexicon (Collins 1997:90-1, Brody 2002).¹⁹

¹⁹ In the case of a complex α to be a copy of β , first all the terms of α are selected from the numeration/lexicon as identical to β , and then separately assembled as is always the case for complex specifiers anyway (Uriagereka 1999a), then Merged as a whole into the phrase-marker.

This kind of problem does not arise in pre-MI minimalist approaches to the compositional theory, such as Collins (1997) or Nunes (2001) where the compositional theory of movement is addressed in detail. That is because all Attract relations are movement relations. It does not arise under the non-compositional theory of MP:IV either, because the identification of the goal, its copying, and its merger into the tree are explicitly linked as a unitary operation. Chapter IV however reviews and defends the MI approach to Agree as a separate procedure from movement; aside from the empirical arguments, it in any case just "teases out" the goal identification part of Attract in MP:IV, which was always coupled with movement. If both Agree and the compositional theory are to be kept, there is a missing step to be provided.

Chapter III undertakes this task, by studying quite a different construction, so-called COPY-RAISING, in various languages:

(20) Every girl_i/Kate_i seems like she_i is studying this subject.

Partly following Potsdam & Runner (2001) and Groat (1997), it is shown that Agree with its locality properties (8) is crucial to accounting for the anaphoric linkage in (20). Yet Agree here is not followed by Merge of a copy of its goal. A PREDICATION analysis of non-thematic Merge is developed, where Agree identifies the index of the predicate variable, partly following Browning (1989). These quite minimal tools, independently needed for the interpretation of movement in Heim & Kratzer (1998), provide the missing link between Agree and Merge in MI -- and end up with a new understanding of the index in predication theory as a ϕ -feature. The missing link is the ϕ -valuation step of Agree itself. Finally, the distribution of copies/non-copies is accounted for using elementary principles like Condition B. Chapter IV thus presents a fully compositional theory of movement with considerable side benefits -- an understanding of the role of ϕ -Agree in identifying a predication index, and a uniform analysis that captures both movement and copy-raising without reducing the latter to the former and keeping their semantic distinctions.

1.6 Bare phrase structure and left branch compression

MI:133f. continues with the reduction of phrase structure begun in MP:IV to the properties of Merge alone, giving BARE PHRASE STRUCTURE (BPS). MERGE is a binary combinatory operation that combines two bare phrase structural objects as a set, and possibly projects the LABEL of one of them, the SELECTOR/PROBE which "drives" the Merge operation:

(21)

- a $\text{Merge}(\alpha, \beta) \rightarrow \{\text{Label}(\alpha), \{\alpha, \beta\}\}.$
- b $\text{Label}(\alpha) =$
 - (i) α if α is a lexical item or its modification under Agree.
 - (ii) x if $\alpha = \{x, \{\gamma, \delta\}\}$

An important concept that emerges from this are the ATOMS of bare phrase structure, or equivalently the atoms of Merge: the smallest units that may be manipulated by Merge, whose internal structure is not given by it. They are TERMS -- items introduced from the numeration/lexicon -- or their projections. Interestingly, the atoms of Merge are not the atoms of Agree to the extent that it manipulates features; this ontological distinction is the business of chapter IV.

A simpler system results if labels are not explicitly represented in bare phrase structure, a possibility entertained in MI (op. cit.), DBP:42n2, Chomsky (forthcoming, p. 5-6 of 2001ms), and argued for by Collins (2002). Within narrow syntax labels play a role in selection, which Collins (2002) reformulates without labels. Furthermore, they can be used to determine the "top" of the syntactic tree within which features to drive further operations are to be found. On the other, MI:132-5 proposes that the locus for any syntactic object under construction is determinable by a minimum depth search (see 1.2). If labels are represented, this would always yield the label, since Merge always yields a labeled object.²⁰

²⁰ MI:128 also proposes that upon Merge of an expletive in [Spec, TP], a [person-] probe on the expletive as X^0 can find and Agree with T. If T projected a label upon Merge of the expletive, and the locus was determined by the topmost term of a phrase-marker, the expletive should never be able to be the locus, since immediately upon Merge it is contained within a label of T, $\{T, \{\text{EXPL}, T'\}\}$. On the other hand, the possibility of an X^0 (not a complex object) Merged in a traditional "specifier" position acting as a probe follows if there are no labels, so that Merger of an expletive yields $\{\text{EXPL}, T'\}$. To obtain the desired consequence then, labels cannot be had. I do not adopt this analysis for expletives, for reasons extensively discussed in chapter IV; but that does not bear on the conceptual question of whether this ought to be possible or not. At any rate, expletives-as-probes does not work with MI's definition of the Locus Principle discussed in 1.2.

There then need be no labels if there is some general algorithm to determine them. This is not complex if there are selectional features, including the EPP (Collins 2002, MI:134f.).²¹ If there are not, the algorithm seems ridiculously complex (Chomsky, forthcoming; cp. MP:256-260). Without labels, the mapping of computation to bare phrase structure is simplified:

$$(22) \quad \text{Merge}(\alpha, \beta) \rightarrow \{\alpha, \beta\}.$$

I will not take a stand on this matter here. Where it becomes relevant, I indicate where a choice makes a difference. The conclusion in all contexts is the following: the interpretable (lexically valued) features of a head, such as its category or inherent ϕ -features, generally behave as if they c-commanded everything within its topmost projection (cp. Joutteau & Rezac 2003), or at least as if [Spec, HP] did not interfere with their visibility on H. On the other hand, Agree-valued probes of H do not project beyond the label/projection on which they are valued, generally its lowest occurrence (cp. Béjar 2003:IV, Abels 2003:II), so that if $M=[\text{Spec}, \text{HP}]$ is simplex (see below) its features will c-command identical Agree-valued features in the label H of its sister which do not project higher from it ($\{M, \{H, \dots\}\}$). I do not understand the reasons for the latter clearly (though cp. Rezac 2002c). An even more descriptive way of putting the difference is that for selection, including c-selection, it seems that the head/label of an HP is the only visible part, while for a higher probe with an unvalued feature, [Spec, HP] is.

Recall now from section 1.3 that in order for locality to work, specifiers must be "compressed" so that they behave in effect as if they were their labels. In (23)a, DP_1 must always behave as if it were simplex like (23)d, otherwise the ϕ -features on both the D and NP should not c-command outside of $\{D, \text{NP}\}$, as in (23)b (without labels) or (23)c (with labels).

(23)

- a probe ... DP_1 ... DP_2
- b $\{\text{probe}, \{\dots, \{\{D_1, \text{NP}_1\}, \{H, \{\dots \{D_2, \text{NP}_2\}\}\}\}\}\}$
- c $\{\text{probe}, \{\dots, \{\{D_1, \{D_1, \text{NP}_1\}\}, \{H, \{\dots \{D_2, \{D_2, \text{NP}_2\}\}\}\}\}\}\}$

²¹ I think c-selection is irreducible, cp. Collins (2002); and so it seems to me nothing is lost if all selection involves also c-selection, even if it is just using a take-all underspecified categorial feature in some cases. See Rezac (forthcoming b).

d {probe, {..., {D₁, {H, {... {D₂, NP₂}}}}}}}

Collins (2002:57f.), observing this problem, proposes a solution that quite departs in spirit from that of (8): it is not really ever features of the specifier which block a higher probe, but rather features of H which in the relevant configuration always Agrees with H.²² Consider the following example; instead of *it* being the barrier to the matrix T's ϕ -probe, it is the Agree-valued ϕ -features of the embedded T which are.²³

(24) *The man **seems** that [it was] told t_1 [that Mary left]] (Collins 2002:58)

I do not adopt this solution. First, there is a conceptual problem. Agree-valued ϕ -features should be indistinguishable from lexically-valued ϕ -features for the purposes of a higher probe, if they are visible at all (sc. they have not been spelled out), as Collins's solution requires them to be. This point is raised in DBP:5 and Epstein & Seely (2002); in chapter III I argue that the conclusion is indeed correct, and furthermore that sometimes there is actually Agree with them. Second, there is an empirical reason to reject the solution. In the following Icelandic example, one of a class that are discussed fully in chapter II, the ϕ -features of the DP *einhverjum manni* block the matrix T's ϕ -probe from Agreeing with the nominative *hestarnir* (cp. MI:130-1). This is not (entirely) because T agrees covertly with *einhverjum manni*, because if *einhverjum manni* moves to [Spec, TP] in the absence of the expletive, number agreement with *hestarnir* does take place. So either *einhverjum manni* or on Collins's solution the ϕ -features of some head it ϕ -Agrees with intervene between the matrix T and *hestarnir*. Yet there is no such head intermediate head here, unlike the embedded T in (24); so it must be *einhverjum manni* itself.

(25) Það virðist/*virðast [einhverjum manni] [**hestarnir** vera seinir.]
 EXPL seem-SG/*PL some-D man-D the.horses-N to.be slow-N
 A man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)

An alternative solution is required. It should be observed though at this point that examples like (25), and Relativized Minimality in general, show that specifier compression happens

²² This is actually a proposal made and defended in some detail already by Manzini (1998).

²³ Collins's example actually has a simplex specifier; it is meant to be illustrative only.

empirically, within the framework of assumptions about phrase structure, c-command, and locality adopted here: a specifier behaves as if it were its simplex label. The behavior is independent of whether it can be derived at present.

In fact, I think that there might be an attractive way of deriving it from Uriagereka's (1999a) CYCLIC SPELL-OUT. In a syntax governed by something like the extension condition or other versions of cyclicity with a similar effect, the only way two complex objects α , β can be assembled, e.g. a complex specifier with a ν P, is by being first assembled separately and then Merged together. MP:225-6, 243 explicitly provides by this, because objects can be constructed separately in the derivation and stored in the workspace, and then combined by another application of Merge.²⁴ Uriagereka (1999a) presents an interesting argument which concludes that whenever two complex objects α , β are Merged together, one of them -- say α -- must undergo cyclic spell-out in order that the whole linearize properly. After this cyclic spell-out, α is for the further purposes of syntax a single term, a word-like item, with no internal structure and no properties other than those of the original label of α . This derives, among other consequences, the opacity of left branches to further clausal Agree/Move. Whether or not every step of the argument holds, it offers an explanatory account of certain strong island conditions for Uriagereka, and at the same time derives specifier compression.²⁵

In MI, the COPY THEORY OF MOVEMENT is adopted, where each Merge operation which combines α and β to create $K=\{\alpha, \beta\}$, with α projecting, is such that the arrangements of atoms within α and β and their interpretable content are not affected. In the case of movement of β from within α , what is re-Merged is a copy of β . At times I will have occasion to refer to a MULTIDOMINANCE theory of phrase structure, where Merge of α and β into $K=\{\alpha, \beta\}$, with α projecting, is actually adding to α information that uniquely identifies β , not all its content. In the case of movement, only one copy of β ever exists, and what is re-Merged are occurrences of it. Multidominance theory is developed and discussed by Blevins (1990), Gärtner (2002),

²⁴ Uriagereka (1999a) calls this non-monotonic Merge, distinct from monotonic Merge, of which one input is always a term rather than a complex object.

²⁵ The argument should be explored; how far it can be pushed at present is unclear. Three issues arise. First, Uriagereka relies on certain complexities of MP:IV's definition of phrase structure and particularly the label-term distinction, which it is not clear how far they should be pushed. Second, it has never been well conceptually grounded why the left (selected) rather than the right branch (selector) spells out. Third, saying that all the syntax sees after the spell-out is the label is a stipulation that should be derived. It is probably necessary that properties other than those of the label of the specifier "percolate": for example in a complex DP expansion involving $\{D, \{Q, NP\}\}$, we want the properties of Q like *wh*-features to transfer to D. This might happen independently of the present concern, e.g. through head-movement or as consequence of selection.

DBP:40f., Starke (2001:VIII), Kracht (2001), Abels (2003:78f.), among others. I will not adopt it for reasons having to do with differential interpretation of copies discussed particularly by Sauerland (1998, 2000) and Fox (2000), which requires that each copy have a distinctly modifiable lexical content; under multidominance, only one copy of the lexical content of any term exists. Multidominance is distinct from CHAINS, which are collections of copies or other objects under an equivalence relation (see particularly Kracht 2001 for clarifying discussion); chains may be created derivationally or defined representationally under the copy-theory of movement.

I have not investigated the question of whether this thesis is compatible with multidominance in any depth. It strikes me that chapters II, IV, and perhaps V ought to be, because they have nothing to do with movement, while chapter III ought not, because it is a development of a theory of movement that relies crucially on the idea that movement is Merge of a possibly non-identical copy. I will end this section very briefly in laying out the core problem (or one of them) that multidominance theory sets out to solve, and explaining why I do not think it is a problem. I call the problem the GLOBALITY OF DELETION.

MP:299-304 discusses various problems with intermediate traces and with chain-formation, among them the deletion of uninterpretable Case features on *what* in (26)a under the assumption that Case is checked on the trace by covert (feature) raising to Agr_O. That problem disappears in MI and later work, since there is no covert cycle, and Agree establishes relations without movement. However, the same problem is reintroduced in different constructions, in part by extension of the activation features to the \bar{A} -system, in part by giving up the idea that (formal features) of intermediate traces delete, which MP (op. cit.) came to (cp. MI:146n66). In (26)b, *we* is raised to its surface position by ϕ -Agree between the matrix T and t_3 , which deletes/values the Case feature on t_3 and the copy that is re-Merged in the matrix clause; but unvalued Case remains on t_2 and t_1 . In (26)c the same problem obtains, and it is exacerbated: \bar{A} -Agree between the matrix C and t_3 deletes the activating [Q-] feature of the *wh*-word, but the feature remains on t_2 and t_1 .

(26)

a what did John see t (MP:302)

b we are likely [t_3 to be asked [t_2 to [t_1 build airplanes]]] (MP:300)

c what did you say [t_3 seemed [t_2 to have been thought [t_1 to be the problem]]]]?

MP (op. cit.) considers various solutions in terms of both chain formation and intermediate trace deletion. MI tries to explore a system without syntactic chain formation, and the sudden deletion of unvalued Case features on intermediate traces would be magic. Multidominance offers an attractive solution: for any syntactic object α , there is only ever one representation of α itself. An operation that affects any occurrence of the object in another object affects the content of a single unique object; so if a feature is deleted from an occurrence, since it is really on the object to which the occurrence "points", it is deleted also w.r.t. all other occurrences -- all pointing to the single object.

The assumption that uninterpretable features cause a crash at the interface seems to me both unnecessary and wrong (cp. Rezac 2002c). It is unnecessary, because in MI and DBP, the interpretable/uninterpretable distinction is revealed to narrow syntax only in whether the corresponding feature is valued or not. A ϕ -probe is unvalued on T, and it is valued on a DP. Unvalued features on a locus obligatorily trigger Agree. There is no other role or representation of the distinction in narrow syntax. Next, the assumption that uninterpretable features cause a representation to crash must be simply wrong, because uninterpretable features are all over the place without having a potential Agree mechanism to be eliminated: the plural of *scissors*, the neuter gender of Czech *děvče* 'girl', the feminine gender of Breton expletives in expressions such as *it is tea-time* are banal and fatal examples. Throughout, I will call their deletion in the interpretive component AUTONOMOUS DELETION, and at various points I will suggest that this is how Agree-valued ϕ -features delete as well: not as a consequence of Agree itself, but by autonomous deletion along with all uninterpretable features at LF. From a different point of view, default feature valuation independent of the probe-goal system must be available for e.g. DPs in Schütze's (1997, 2001) default Case environments or *wh*-in-situ in strong islands (Culicover 1993), if Case/[wh-] features exist at all.²⁶ Therefore, I will not assume that either unvalued or uninterpretable features are a problem at LF; they simply delete in the mapping to interpretation, autonomously.²⁷

²⁶ Cp. also Chomsky (forthcoming, p. 23-4n19 of 2001 ms.), who suggests that the unvalued Case feature of nominative objects, spelled out at the ν P phase before T deletes it, is "understood to be, in effect, a morphological convention rather than an actual feature, so that there is no crash at PHON."

²⁷ If they delete at all. Corbett (2003) points out the significance of the fact that cross-clausal anaphoric linkage

1.7 Phase theory

PHASE THEORY is introduced in MI:106-110, and further explored in DBP. Its original motivations are not relevant here.²⁸ Its function in MI and DBP is two-fold: (i) to determine the landing-sites of SUCCESSIVE-CYCLIC MOVEMENT (SCM) in the \bar{A} -system (\bar{A} -SCM), and (ii) to provide the optional landing-site of object shift in Icelandic. The core idea is that certain syntactic categories, in MI and DBP intrinsically determined as C and v with an external argument, notated v^* in DBP, are units of cyclic spell-out to PF and LF, which renders their complement opaque to higher probes.²⁹ This is encoded as the PHASE IMPENETRABILITY CONDITION or PIC, (27).

- (27) PHASE IMPENETRABILITY CONDITION: In a phase α with a head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations. (MI:108)

Escape from within a phase can occur provided an object in the spelled-out portion, the complement of C/v^* , moves to the EDGE of the phase, [Spec, C/v^*P], because the spell-out of the complement takes place only after the head of a phase stops projecting. This can in principle occur in two ways. First, the head of a phase may have a regular feature which Agrees with the goal, e.g. [ϕ -] or [Q-] probe, along with an independently motivated EPP feature. Because of

(usually with pronouns) shares uninterpretable gender, as in (i). Let us exclude a-priori the possibility of any Agree relation between *lampa* and *vona*. Then we seem to be faced with two options. Either the feminine gender of *lampa* is somehow interpreted at LF, in which case (considering such "uninterpretable" gender in full generality cross-linguistically) the output of the interpretation function contains reference to properties which have arguably now counterpart in the sensible properties of the real world and/or the human perceptual mechanism: there is nothing in either that can conceivably determine that "lamp" in Czech is "feminine". That would be a conclusion of considerable significance for a variety of philosophical debates about content (cp. Chomsky 1995b). Alternatively, properties such as uninterpretable gender are simply not interpreted but not deleted either, and can be referred to by whatever mechanism determines the appropriateness of an anaphor.

- (i) Na stole stála lampa. Neviděl jsem, jestli (vona) svítila.
 on table stood lamp.F not.saw am.I whether 3.SG.F shone-3.SG.F
 On the table stood a lamp. I did not see whether she (it) was on. (Czech)

²⁸ They are in part the conflict between the Merge-over-Move preference paradigm and the CP-boundedness of this preference, q.v. Castillo, Drury, and Grohmann (1999). Bošković (2002) gives a thoroughly convincing refutation of the Merge-over-Move preference paradigm summarized in chapter IV, and I take no further account of it.

²⁹ I make no use of the v^* notation except in this section.

AGH (or the shell system of chapter V), this freezes the goal for being a further match for the same probe, as discussed in 1.4; so for example the ϕ -driven object shift to [Spec, ν P] could feed further [Q-] Agree, but not further ϕ -Agree. Second, there is a special proviso for successive-cyclic \bar{A} -movement:

(28) The head H of a phase Ph may be assigned an EPP-feature (MI:109)

This is not adequate though; it provides a position, not a trigger for movement. MI:149n91 bolsters it by adding to the head of a phase a non-specific \bar{A} -like feature, which every \bar{A} -phrase can value, but which cannot itself delete the activation feature of any \bar{A} -phrase. Thus driven, successive-cyclic \bar{A} -movement can feed further \bar{A} -movement under the AGH. DBP complicates this system somewhat in ways not relevant here; Chomsky (forthcoming) returns to the simpler MI formulation. Literature on phase theory is becoming considerable; particularly relevant to the MI/DBP system is Nissenbaum (2000). A more explanatory account of the PIC and a conceptual grounding of phases is given by Abels (2003).

Phase theory in MI ensures successive-cyclic movement within the \bar{A} -system. Within the A-system, successive-cyclicity follows from independent principles on the assumptions discussed in 1.8 here (MI:108). I make virtually no use of phase theory in this thesis, although I do not argue against it either. The only pertinent discussion is the assumption that PPs as phases are opaque to higher ϕ -probes in chapter V, and the argument in chapter III that locality constraints on cross-clausal argument have nothing to do with the Phase Impenetrability Condition.

However, there is an issue about phase-theory that bears directly on the assumptions I make here. Phase-theory is a theory of locality. Thus it could be thought to be employed as a substitute for the intervener-based locality of (8), as proposed by Müller (2003). Phase-theory is also a theory of cyclicity, and could be thought to be employed as a substitute to Locus Cyclicity, as proposed by Anagnostopoulou (2003:IV). Neither is tenable, as I now briefly demonstrate.

For phase-theory as a theory of locality, consider a paradigm that will be discussed and exemplified extensively in chapter II, the CYCLIC DISPLACEMENT paradigm of MI:130-1. The following is the basic example: in the first phrase, the matrix verb agrees with the nominative object *hestarnir* for number across the trace of the dative *Jóni*, which moves to [Spec, TP]. Crucially, *hestarnir* cannot move to [Spec, TP] by crossing over *Jóni* in its trace position. This is

an example of ϕ -relativized locality: both the *Jóni* and *hestarnir* have ϕ -features, and since *Jóni* is closer to the matrix T's ϕ -probe, it blocks it from reaching *hestarnir* -- unless *Jóni* first dislocates to [Spec, TP] and leaves a trace.³⁰

- (29) *Jóni*₁ *virðast* [*vera* *taldir* [*t*₁ *líka* *hestarnir*]]
 John-D seem-PL to.be thought-PL to.like the.horses-N
 John seems to be believed to like horses. (Schütze 1997:107)

If phase theory is to substitute entirely for ϕ -relativized locality, it must be so construed that *hestarnir* and *Jóni* are in two different phases by the time the matrix T comes along. That way, *Jóni* can be accessible to the ϕ -probe by being either in the same phase as it or at the edge of the lower phase, while *hestarnir* can be trapped inside the opaque part of a phase and not accessible by PIC. However, movement of *Jóni* to [Spec, TP] suddenly allows the matrix ϕ -probe to see *hestarnir* for number agreement. This follows for intervener-based locality if a way can be found to render traces invisible. However, on a phase-theoretic substitute for locality, movement to *Jóni* to the matrix [Spec, TP] is required to nullify the phase opacity of *hestarnir* within which it was previously trapped by the PIC; and that seems not possible as phases are presently understood. I conclude that both *Jóni* and *hestarnir* must be in the same phase w.r.t. T's ϕ -probe; but then it the PIC cannot be the sole locality principle, and intervener-based locality is needed as well.

Phase theory also cannot substitute for a theory of locus cyclicity. The basic argument is in fact due to MP:328, where it is shown that locus cyclicity blocks \bar{A} -movement out of derived subjects by requiring an object, from which \bar{A} -extraction should be legitimate, to first become subject, from which \bar{A} -extraction is banned (see (2) above for discussion):

- (30) *[_{CP} who₁ was [_{TP} [a picture of *t*₁]₂ [_{VP} taken *t*₂]]]

The account relies crucially on the idea that all overt movement that affects the TP takes place before the [Q-] feature of C drives \bar{A} -movement. Within phase-theory, C and T always fall

³⁰ Trace invisibility here is derived in chapter II under the copy theory of movement.

in the same phase (DBP).³¹ If phase theory were the only theory of cyclicity, features of C could form [Spec, CP] before features of T form [Spec, TP], both accessing the same material subject to the PIC (their phase, which on the specific MI/DBP assumption contains all of (30)). Such a system is pursued by Anagnostopoulou (2003:IV) for the cyclic displacement paradigm, with exactly this set of assumptions about T-C interaction. It is untenable, because it predicts the correctness of (30); locus cyclicity must exist in addition to phase cyclicity.³²

None of this says anything about phase theory itself, only about what is needed beside it. Clearly, successive-cyclic A and \bar{A} -movement occur; phase theory offers an approach. Once or twice I make use of it, but as little as possible.

1.8 The A-system and asymmetric checking

The empirical focus of MI, and of this thesis, is on the A-system. The probe is a ϕ -probe, which in chapter II will be further broken down into separate person and number features, notated π and $\#$ respectively (Béjar 2000b, 2003). The activation feature is Case, which is always unitary in MI and related work. Some basic facts about the domain of A-movement follow from widely shared assumptions about the distribution of probes: (i) v has a ϕ -probe if and only if it selects an external argument, Burzio's Generalization; (ii) T selected by C always has a ϕ -probe, which is special in the case of control C/T (Martin 2001). Generally then, AGH blocks a ϕ -probe from relating to a lower finite domain because its subject will have Agreed with its own T, and a T's ϕ -probe from relating to a transitive object because it will have Agreed with v . There will be occasion to revise some of this in chapters V and III: the AGH is reformulated

³¹ It is not clear that this is necessary, but it is a strong guiding intuition, it seems.

³² Unless phases simply coincide with loci of uninterpretable features; cp. MI:131, "the natural conclusion is that Spell-Out is associated with agreement", and Uriagereka (1999b). That would imply either that T is a phase, or that C and T in the relevant sense form the same locus, which is an idea that seems to be pushed in DBP, Chomsky (2004). Under the latter approach it seems the explanation for (30) is lost, which Chomsky (2004) suggests may be a good thing on the basis of (i) vs. (ii), taking \bar{A} -movement to [Spec, CP] to always procede from an underived position. However, although the data on CED effects in derived subjects is complex (cp. Sauerland & Elbourne 2002, in (iii)), (i) at any rate is probably spurious: it degrades to (iv) under long distance movement, suggesting that what's really going on in (i) is rather a DP-internal movement of *of whom* as in (v):

(i) Mary, of whom a picture was sold for \$50... (Chomsky 2004)

(ii) *Mary, of whom a picture costs \$50...

(iii) Which constraints are good examples of always provided/?*sought? (Sauerland & Elbourne 2002:304)

(iv) *Mary, of whom Kate believed a picture of was sold for \$50...

(v) This report, [which₂ the height of the lettering on t_2]₁ the government prescribed t_1 . (Safir 1986)

in the former without activation features, and in the latter it is argued that a higher probe can Agree with the Agree-valued ϕ -features of T, so the opacity of C-headed clauses follows from the intervention of their C.

Somewhat of a mystery in A-movement as in \bar{A} -movement is successive-cyclic A-movement (A-SCM) through [Spec, TP] of ECM/raising infinitival complements; call them together ECM infinitives. MI does not implement this through phase-theory. Rather, both MI and DBP argue that some movement to [Spec, TP] in ECM infinitives is obligatory, not optional, and that the infinitive therefore has an EPP feature independently of phase-theory. Prima facie evidence for obligatory EPP in such infinitives is the expletive in *Kate believes there to be a dragon in the cave*. As a trigger for the movement, MI:124 offers a reduced ϕ -feature probe, consisting of [person-] only, and MI:124, 128, DBP:15f. propose that a partial ϕ -probe cannot delete the Case activation feature of a goal. This in MI is the general implementation of ASYMMETRIC CHECKING (Collins 1994, 1997, MP:IV), which provides for successive-cyclic movement by having a probe that itself deletes under Agree with a goal but does not affect the goal. As it stands, it is considerably stipulative. Parallel to the [person-] feature, \bar{A} -SCM makes use of a partial \bar{A} -feature of some sort (MI:149n91).

Bošković (2002) reviews more subtle arguments for the existence of this "intermediate" EPP, which demonstrate its existence. In the following example, the first sentence shows that *John* cannot bind an anaphor in the ECM infinitive, even though the next two examples show that it binds out of its PP; this would be accounted for if there was an intervening subject in the infinitive, the trace of *Mary*.

(31)

- a Mary seems to John [to appear to herself/*himself to be in the room]
- b It seems to him_{*i} that [John_i is in the room]
- c Pictures of himself seem to John [to be cheap]

(Bošković 2002:179)

In the next example, *his mother's bread* must reconstruct below *every man* so that *his* can be bound by it; this position is boxed. This causes a condition C violation in the first sentence, since *her* c-commands *mother* in its reconstructed position. The problem does not show up in

the second sentence, which is explained if *his mother's bread* can reconstruct to the intermediate EPP position (boxed), where *his* is bound, instead of all the way down to its base position where *her* would create a condition C violation as in the first sentence.

(32)

a * $[\text{His}_i \text{ mother's}_j \text{ bread}]$ seems to her_j \square to be known by every man_i to be \square the best there is.

b $[\text{His}_i \text{ mother's}_j \text{ bread}]$ seems to every man_i \square to be known by her_j to be \square the best there is.

(Bošković 2002:180, citing Lebeaux 1991:234, Nunes 1995:200-202)

The intermediate EPP therefore exists, but it remains a mystery.³³ Bošković (2002) proposes to derive successive-cyclicity from a property of movement itself, a minimization of distances spanned by individual leaps. McCloskey (2002) emphasizes arguments that successive-cyclic \bar{A} -movement at least really is feature driven, because this explains quite naturally complementizer alternations associated with it: valuation of morphosyntactic features can be reflected by spell-out of the head they are on. An important input into the debate is Abels (2002:II.2), who presents the first argument that successive-cyclic (\bar{A} -)movement in general does not stop off at the edge of every structurally-defined chunk such as a maximal projection; there are categories it does not target, making *prima facie* more plausible a triggered feature-driven movement view rather than a general economy condition. I leave the mystery as is, offering two remarks: unlike successive-cyclic \bar{A} -movement, I know of no instances where the morphology of infinitival T alters with A-SCM; and, far more hesitantly, I suspect the morphology of C under \bar{A} -SCM is always identical to morphology C acquires independently in some context, in Irish under [Q-] checking, which offers some insight into SCM triggers should it prove feature-driven.³⁴

³³ Sauerland (2003) adds that successive-cyclic A-movement also stops at the edge of the vP.

³⁴ In Rezac (forthcoming b) I propose the EPP can itself be a probe, an uninterpretable categorial feature, something I find unifies a lot of data, but it is entirely oblique to this work.

1.9 List of terms and symbols

#	32	CASE SHELL	18
↔	20	C-COMMAND	15
*controller	13	CHAINS	27
*F	13	CHECK	11
*probe	13	CHECKING DOMAIN	11
[F*]	13	COMPOSITIONAL THEORY OF MOVEMENT	3, 20
[F-]	13	Conditions on matching	13
[F+]	13	CONTAIN	15
[F ^x]	20	CONTROLLER	13
[Q-]	16	COPY THEORY OF MOVEMENT	20, 26
[Q+]	16	COPY-RAISING	3, 22
Ā-CRITERION	17	CRITERIAL POSITION	17
ACTIVATION FEATURE	16	CYCLE	6
ACTIVE GOAL HYPOTHESIS	16, 17	CYCLIC DISPLACEMENT	2, 30
AGH	16	CYCLIC SPELL-OUT	26
AGREE	1, 12	DEFECTIVE INTERVENTION EFFECT	18
AGREE STANCE	11	DERIVATION	6
AGREE-VALUED	13	EDGE	29
A-SCM	33	EPP	4
Ā-SCM	29	EQUIDISTANT	15
ASSOCIATE REQUIREMENT	17	ERGATIVE DISPLACEMENT	3
ASYMMETRIC CHECKING	33	FEATURAL CYCLICITY	10
ATOMS	23	FEATURE-RELATIVIZED LOCALITY	14
ATTRACT	11	Features and Agree	12
BARE PHRASE STRUCTURE	23	F-probe	13
BROAD SUBJECT	4	free rider principle	5, 16
Burzio's Generalization	32	FREEZING	17
CASE	16	GLOBALITY OF DELETION	27

GOAL	13	PIC	29
IMMEDIATELY CONTAIN	15	Pied-pipe	20
INHERENT Case	18	PREDICATION	22
LABEL	23	PROBE	13
LEXICALLY VALUED	13	quirky Case	5, 19
LOCAL ECONOMY	1	SCM	29
LOCALITY	14	SEARCH-SPACE	14
LOCUS	7	SELECTOR/PROBE	23
LOCUS CYCLICITY	6	SISTER	15
LOCUS PRINCIPLE	7, 9	SPECIFIER COMPRESSION	16
MATCH	13	STRONG AGREEMENT	4
MATCHING	11, 17	SUCCESSIVE-CYCLIC MOVEMENT	29
Merge	20, 23	TARGET	13
MINIMAL DOMAIN	15	TERMS	23
MLI	13	<i>tough</i> -movement	4
MODIFIED LEXICAL ITEM	13	VALUATION	13, 17
MULTIDOMINANCE	26	WEAK AGREEMENT	4
nominaccusative	5	WEAK REPRESENTATIONALITY	6
ORDERED	7	π 32	
PHASE IMPENETRABILITY CONDITION	29	ϕ -ACCESSIBILITY	19
PHASE THEORY	29	Δ 21	

2 Chapter II: Agree and dynamic cyclicity

Scene: The druid Panoramix gives Asterix a magic acorn; when Asterix casts it into a hole a full-grown oak rushes up in an eye-blink.

Asterix: Prodigieux!

Obelix: Pourquoi? C'est un chêne comme les autres.

Asterix: Mais, tu as vu à quelle vitesse il a poussé?

Obelix: Ben, c'est la première fois que je vois pousser un chêne, alors, je ne sais pas à quelle vitesse ils poussent, d'habitude.[†]

2.1 Locality and cyclicity of locus-internal Agree

The topic of this chapter is the CYCLE, as a partial ordering on transformations within the general locus-and-phase cyclicity of MI set out in chapter I. Cyclicity gives the interaction potential of syntactic operations. Locus cyclicity gives a certain kind of interaction potential: operations triggered by a locus α can feed and bleed operations on the locus β if β follows α in the derivation (which translates into c-command, β c-commands α). The idea that I will develop is that there is interaction potential even within a single locus, so that operations on any particular locus can feed and bleed each other in well-defined ways. The test-bed for this hypothesis is the search-space of a probe when the locus of a derivation is held constant. The basic thesis under investigation is the following:

- (33) DYNAMIC SEARCH-SPACE: Given a probe [F-] on the locus of a derivation τ , the search-space for [F-] Agree may change with individual applications of syntactic operation Merge (Move), without any necessary change of locus from τ .

First, I set out some terminology that clarifies the intended sense of cyclicity for the ordering of syntactic operations. The terms in bold are being defined. The terms **cycle**, **cyclically ordered before/after**, **cyclically simultaneous**, are used as follows:

- (34) Cyclic ordering:³⁵

[†] Uderzo & Goscinny. *Le domaine des dieux: Une aventure d'Astérix le Gaulois*. Dargaud, 1971/1984, Vitry-sur-Seine, p. 15.

- a (Definition:) Two derivational occurrences of syntactic operations OP_1 , OP_2 , are **cyclically ordered** if and only if the theory of cyclicity allows OP_1 to modify the structure on which OP_2 applies, where "structure" refers to the set of phrase-markers in the derivation at that point that OP_1 and OP_2 each apply; then $OP_1 > OP_2$ (OP_1 **precedes** OP_2) and vice versa $OP_1 < OP_2$ (OP_1 **follows** OP_2). Otherwise OP_1 and OP_2 are **cyclically simultaneous**, $OP_1 = OP_2$. If $OP_1 > OP_2$ and $OP_2 > OP_1$, OP_1 and OP_2 are **unordered**.
- b (Definition:) Each set of $OP_1 \dots OP_n$ such that for all i , $1 < i < n$, $OP_i = OP_{i+1}$ is a **cycle**. Each OP_n belongs to some cycle κ_m , $OP_n \in \kappa_m$.
- c (Theorem from a and b:) $OP_i > OP_j$ iff $\kappa_n > \kappa_m$, given $OP_i \in \kappa_n$ and $OP_j \in \kappa_m$.

Two remarks are in order. First, the ordering is not total; operations may be cyclically simultaneous. This means that they apply "at the same time" as far as the syntax is concerned, and neither feeds nor bleeds the other. An example under locus cyclicity is Agree by multiple probes on H, say $[\varphi-]$ and $[wh-]$, with something in the complement of H; unless feature structures are such that they extrinsically ordered probes (see Béjar 2003 for φ -features), these two probes can Agree at the same time. If there is further a principle to the effect that they must Agree at the same time, for example one that requires Agree as soon as possible as will be argued below, the two probes are required to Agree at the same time, and thus cannot possibly interact one with another. Second, simultaneous ordering is different from the situation where operations are just unordered. Consider the derivation of a sentence with a complex specifier. Since addition of material to the inside of a tree is disallowed on most versions of cyclicity, a complex specifier must be assembled before it is added to the object of which it is the specifier (Uriagereka 1999a). Up to the point where they are combined by Merge into a single phrase-marker, assembly of the two objects proceeds "in parallel" (MP:225-6, MI:110): any operation OP_1 in either assembly may precede or follow any operation OP_2 in the other, or in fact take place simultaneously. However, unlike in the previous case of simultaneously ordered operations, it is not independently clear that OP_1 and OP_2 could not interact, just that they are not

³⁵ The derivational occurrence of an operation type such as Agree is $\text{Agree}(\alpha, \beta)$ at a particular point in the derivation.

rigidly ordered w.r.t. each other. Whether they can interact depends e.g. on whether there are "sideward" movements, a phenomenon in fact argued for by Nunes (2001) and related work.³⁶

To illustrate the concept of cyclic ordering, consider the following examples. In each, a Merge (Move) operation creates or destroys conditions for a different Agree/Merge (Move) operation, because the former is crucially ordered before the latter. The size and ordering of cycles is not given by the thesis (33) under investigation, though it is consistent with (33), but rather by simple locus cyclicity. The interactions of the two operations are given the traditional names of feeding, bleeding, counter-bleeding, and counter-feeding orders (see further chapter I):

(35)

- a *Tell me [how many eagles]₁ Dirk did [not successfully evade ___₁]
- b Tell me [how many eagles]₁ were [not successfully evaded by Dirk ___₁] *Feeding*

(36)

- a Who₁ did Grendel take [a bite out of ___₁]? *Bleeding*
- b *Who₁ was [a picture of ___₁]₂ taken ___₂?

(37)

- a [Which isles]₁ were₁ visited ___₁ by Ged?
- b *[Which isles]₁ was visited ___₁ by Ged? *Counter-bleeding*

(38) ___₁ was asked ___₁ by Ath [_{CP} who₁ [Q-]_C dragons ever lie]. *Counter-feeding*

In the first example, A-movement feeds \bar{A} -movement by taking a *wh*-phrase out of an inner island; cyclicity can predict this if it predicts the TP-level A-movement happens before CP-level \bar{A} -movement. But A-movement can also bleed \bar{A} -movement, as MP:328 discusses; in the second example, \bar{A} -movement can sub-extract from a DP only if the DP is a complement, and the obligatory application of A-movement at the TP level before C is added makes the DP a

³⁶ Sideward movement is movement between two points that do not stand in a c-command relations. Parasitic gaps on Nunes's approach are instances of sideward movement (cp. also Nunes & Uriagereka 2000, Hornstein & Nunes 2002), e.g. Who₁ did [pictures of *e*₁] frighten *t*₁.

specifier. The third example shows that \bar{A} -movement cannot bleed ϕ -agreement and/or A-movement, since they happen at the TP level and \bar{A} -movement happens at the CP level. Finally, the last example shows how cyclicity prohibits downward movement: the \bar{A} -movement must apply as soon as the embedded CP is constructed, and cannot wait until the matrix object is added or added and raised to its [Spec, TP].³⁷

The cyclic ordering needed in these examples requires that any operations targeting the TP precede any operations targeting the next higher CP, and for the last example that those targeting the CP precede those that have their target in the next higher clause. (33) entails that this is possible, because one or more Merge steps intervene between each of these targets. However, these examples do not require (33). All that they require is that the TP and CP define different cycles; a principle that allows this, such as locus (but not phase) cyclicity, need not furthermore allow that the addition of [Spec, TP] to T' may be on a different cycle from the construction of T'. By contrast, (33) claims that this is possible.

If (33) is correct and search-space is dynamic, each instance of Merge potentially defines a cycle. If true, this is an important result. In other work on the cycle, so far as I am aware, the only cyclic orderings investigated are those describable by locus or higher-level cycles; if one operation is necessarily ordered before/after another, the two are necessarily on different loci (viz. different phases). I show this is not all there is to cyclicity.

Section 2.2 interprets a now familiar paradigm, here called CYCLIC DISPLACEMENT, as evidence for dynamic search-space on a single locus. The data consist of two ϕ -accessible goals in the search-space of a single locus, the closer one of which is not a possible controller; ϕ -Agree may take place between a ϕ -probe on the locus and a controller, but only if the closer goal displaces. That means that movement may open up the search-space for a probe, and enable Agree past something that was an intervener on a previous cycle, but has been moved out. Search-space expands downward. Crucially, the locus stays the same, so the Move-Agree sequence must be so ordered on a single locus. A fundamental axiom held constant throughout the inquiry is that intervener-based locality is a property of Agree. In cyclic displacement,

³⁷ The last example used to be prohibited by the Proper Binding Condition, which requires traces to be bound at S-structure (Fiengo 1974, 1977); however, the recent extensive investigation into Remnant Movement, particularly Müller (1996, 1998), shows that the condition is not correct. For a rebuttal of the strongest empirical argument for the PBC, Lasnik & Saito's (1992) based on (i) and (ii), see Huang (1993), Boeckx (2001b), Abels (2002).

locality acts as an intrinsic ordering principle on cycles, which lets their sequencing be determined.

Section 2.3 is a more detailed investigation of search-space expansion in a different direction: upward. On the basis of an AGREEMENT DISPLACEMENT phenomenon in Basque, I will argue that the base-generation of [Spec, HP] adds the specifier to the search-space of a probe on H, which was not the case before the specifier was added. The fact that a probe on H behaves differently before and after the specifier is added is detectable because it first tries to find a goal in the complement of H, which is added to H before its specifier is. Empirically, the reflex is that of a canonical H-object agreement showing last-resort "agreement displacement" with the subject of H. In this case, what diagnoses search-space is not locality, but rather the last-resort nature of agreement with a specifier. Far from a parochial exception, I argue that such agreement displacement follows from a quite elegant economy condition with a venerable history:

(39) Earliness Principle: A probe [F-] triggers Agree as soon as possible.

The applicability of the Earliness Principle as an ordering requirement on different cycles on a single locus is itself an important conclusion.

Applications of Merge are what creates syntactic objects in a derivational syntax, giving the relation of containment (MI:116, Epstein 1999). A somewhat stronger version of (33) would claim that each Merge operation necessarily changes search-space because search-space is no more than the currently existing syntactic object. As it stands, (33) only claims that there are some instances of Merge that change search-space, and there may be extrinsically stipulated conditions on search-space, namely the Locus Principle. The merits and demerits of such an extension are discussed in 2.3.6 in view of both cyclic displacement and agreement displacement.

Merge is the basic structure-changing operation of the MI framework, and therefore the only one relevant for investigating the changing search-space of a probe. (33) is thus possibly a sub-case of a stronger theoretical statement, even if no other instances are found:

(40) Dynamic cyclicity: any pair of basic syntactic operations may be cyclically ordered in the limit.

Steps towards establishing this stronger dynamic cyclicity principle are in 2.2.2 and 2.2.3, which argue that internally to operations on a single locus, cyclic spell-out and Agree may feed other instances of Agree. Dynamic cyclicity contrasts with static cyclicity, where for certain points in the derivation, for example loci, operations may not be cyclically ordered with respect to each other. They are all simultaneous. Section 2.3.6 argues that MI does in fact implement static cyclicity based on loci, and the gains so obtained are shown to follow under the Earliness Principle applied to dynamic cyclicity.

It should be held in mind throughout this chapter that it is not an argument for a derivational framework as opposed to a representational one. A derivational framework, particularly the hypothesis that feature-relativized locality is part of the definition of Agree, and in 2.3 also the Locus Principle, are essential presuppositions of the inquiry, as will be emphasized at certain points.

2.2 Cyclic displacement and dynamic cyclicity

2.2.1 *The argument*

This section presents the evidence for dynamic search-space expansion from a phenomenon here called CYCLIC DISPLACEMENT:

- (41) CYCLIC DISPLACEMENT: a configuration where displacement of α allows an otherwise illicit Agree F- β relation.

The specific instances of cyclic displacement will all involve α as an intervener in a ϕ -Agree relation between ϕ -set F on target τ and controller β . Displacement of α is required by locality for the F- β relation, and for the same reason it must target a position at least as high as F or higher:

- (42) Cyclic displacement schemata

- a [F-]_τ ... α ... β ⇔ Locality permits only F-α Agree
 b [F-]_τ ... α ... t_α ... β ⇔ Locality permits only F-α Agree
 c α (...) [F-]_τ ... t_α ... β ⇔ Cyclic displacement -- Locality permits F-β Agree

Consider the nature of α in cyclic displacement configurations. If α is displaced by F it should control F-Agree if it can, and the F-β relation is independently blocked. This is also the case if α is can potentially Agree with F, but it is displaced by another probe F' on τ, because of the free rider principle discussed in chapter IV. For that reason, α in the configurations under discussion is a defective intervener, with accessible φ-features so that it can be displaced by F but unable to φ-Agree, and we may generally speak of DEFECTIVE INTERVENER CONSTRUCTIONS or DICs. Such α's are generally oblique DPs. DICs divide into two classes, whose typical instantiations are the Double Object Construction DOC and the Dative (or other oblique) - Nominative (Absolutive) Construction DNC:

(43) Defective Intervener Constructions (DICs)

- τ_[F-] ... α ... β
 a v_{φ*=i} ... oblique ... DP_{Case=v (acc.)} *Double Object Construction (DOC)*
 b T_{φ*=i} ... oblique ... DP_{Case=T (nom.)} *Dative-Nominative Construction (DNC)*

In all cases considered in this section, α is displaced by F or another probe on τ. If α were displaced by a probe on a head τ' higher than τ, locus cyclicity would be violated. Such cases are discussed and eliminated in section 2.2.3.

The cyclic displacement configuration is discussed in MI:130-1, where the consequences of the following Icelandic paradigm are explored:³⁸

(44)

³⁸ The paradigm has been bolstered and given in Icelandic. The interaction of raising/ECM verbs, quirky subjecthood, agreement, and Case assignment in Icelandic are discussed inter alia in Thráinsson (1979:426-7), Sigurðsson (1992:98-100, 1991, 1993), Jónsson (1996:IV.7.2-3), Schütze (1993, 1997:IV.), Jonas (1996b), McGinnis (1998:II), Boeckx (1999:241f.). Observe that in (44)a *Harald* is accusative under an ECM verb, while in (44)b it is nominative, with the accusative also a possibility (Jónsson 1996:177); this is an instance of the same generalization to be given here for T-nominative: the v-accusative rapport is blocked across the intervening dative in (44)b, and a different Case assignment method is required (chapter V).

- a Jón telur [Harald₁ virðast (*mér) [_{t₁} hafa gert þetta vel]].
 John-N believes Harald-A to.seem (*me-D) to.have done-SG this-A well
 John believes Harald to seem (*to me) to have done this well. (McGinnis 1998:82)
- b Jón telur [mér₁ virðast _{t₁} [Haraldur hafa gert þetta vel.]]
 John-N believes me-D to.seem Harald-N to.have done-SG this-A well
 John believes Harald to seem to me to have done this well. (McGinnis 1998:82)

(45)

- a Mér₁ virðast/??virðist _{t₁} [hestarnir hafa verið gefnir konunginum.]
 me-D seem-PL/??SG the.horses-N to.have been-SG given-PL the.king-D
 The horses seem to me to have been given to the king. (Schütze 1997:107)
- b Jóni₁ virðast [vera taldir [_{t₁} líka hestarnir]]
 John-D seem-PL to.be thought-PL to.like the.horses-N
 John seems to be believed to like horses. (Schütze 1997:107)

(46)

- a Mér₁ virðist/?*virðast _{t₁} [Jóni₂ vera taldir [_{t₂} líka hestarnir.]]
 me-D seem-SG/*PL John-D to.be thought-PL to.like the.horses-N
 I perceived John to be believed to like horses. (Schütze 1997:108)
- b Það virðist/*virðast einhverjum manni hestarnir vera seinir.
 EXPL seem-SG/*PL some-D man-D the.horses-N to.be slow-N
 A man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)

The first data-set illustrates that the dative experiencer of *seem*-type verbs in Icelandic cannot be crossed-over by a farther DP which has structural Case.³⁹ The second data-set shows that ϕ -agreement across this dative is possible with a farther nominative, if the dative displaces so that only a trace is left between the T and the nominative.⁴⁰ The third data-set shows that ϕ -agreement is not possible if a dative that is not a trace intervenes between T and the controller.

³⁹ Embedding the TPs under an ECM verb controls for topicalization, not possible in ECM infinitives.

⁴⁰ The obligatoriness of agreement across an infinitival or small clause boundary varies for speakers, and seems to be generally optional, Sigurðsson (1996), Hrafnbjargarsson (2001). With coarguments, verbal agreement is generally required (Sigurðsson 1996).

In this data-set it intervenes either because it is the dative subject of a lower clause and a higher dative subject has already moved to the matrix [Spec, TP], or because it cannot move to [Spec, TP] which is filled by an expletive.

MI:131 draws two conclusions from this: (A-)traces are invisible to Agree; and feature-relativized locality must be crucially construed as a constraint on probes, not on goals. The first point, TRACE INVISIBILITY, is addressed in section 2.2.2 here, where an attempt is made to derive it; I assume it at this point. The second point merits attention here. Suppose feature-relativized locality were to hold of the needs of goals rather than probes. Then Case features of a nominative goal should then be able to move to the closest Case checker, which is T, skipping over the intervening dative, whether it has Case or not. If, on the other hand, feature-relativized locality holds of the properties of targets, the ϕ -probe of matrix T is required to stop at the closest goal, which is the intervening dative. Its displacement is required to license the T-nominative ϕ -Agree, provided traces are invisible. The paradigm is a substantive validation of locality that considers the needs of targets rather than goals.⁴¹

I assume that ϕ -relativized intervener-based locality, sensitive to the probe properties of targets, is correct (chapter I). The Icelandic paradigm now allows certain conclusions about cyclicity.

- (47) Search-space change in cyclic displacement: Given a probe F and two goals G_1 and G_2 in its search-space, G_1 -Agree and the displacement it triggers must be able to be cyclically ordered before G_2 -Agree, so that feature-relativized locality can, crucially and intrinsically, order G_1 -displacement before G_2 -Agree to create the local relation needed for the latter.

F-Agree must therefore access the intervener and the controller in that order. I will call this order σ : $\sigma = (\text{intervener}, \text{controller})$.

⁴¹ See MI:150n97 for a compressed history of this debate. Of course, in the configuration [T ... dative ... nominative], the Case features of the dative if it has them would intervene between T and the nominative. However, the point is that the dative is not something that is potentially capable of checking a Case feature, so the nominative goal should not care about whether a Case feature intervenes between it and a Case-checker, no more than it cares about e.g. intervening \bar{A} -features. The ϕ -probe cares logically about any intervening ϕ -set.

Consider what happens if (47) does not hold, and static cycles are defined only over some larger domain δ , say loci, so that no principle may order operations on the δ -cycle. For any probe on a locus then, search-space is fixed once and for all. The T-intervener relation cannot feed the T-controller relation by first displacing the intervener. The only way for a licit T-controller relation to be formed then is to assume that it does not obey locality as an operation; locality is not part of the definition of the Agree operation. Perhaps it is stated as a representational requirement; for example, DBP:27f. and McGinnis (2001) in a similar context suggest that locality is a representational requirement evaluated at the end of each phase. That is surely a possibility, but not one explored in this chapter, where the idea is to hold constant the fundamental assumption that locality is a constraint on Agree, and then see the implications for cyclicity. Under that assumption, (47) must obtain to allow cyclic displacement configurations. Cyclic displacement opens up search-space between one operation of Agree and the next, even if both are triggered by the same target.

A more detailed investigation of cyclic displacement in the Agree framework adds detail, and leads to further conclusions. One consequence of the intrinsic ordering of operations in cyclic displacement is that it yields the order σ (intervener, controller), which is required to formulate the tucking-in principle that governs MULTIPLE SPECIFIER CONSTRUCTIONS (MSCs):

- (48) TUCKING-IN: If α c-commands β , α and β are each [Spec, HP] of H, and α and β have been moved to [Spec, HP] by the same-type feature F on H, then t_α c-commands t_β where t_α and t_β are the locations of the goals of F. (Richards 1997, 1999, McGinnis 1998:115)

Locality requires that F accesses α and β in that cyclic order, first moving α out to create the local relation F- β across t_α ; it thus orders α and β in the sequence σ (α , β):

- (49) $[\text{HP } \alpha \text{ } [\text{HP } \beta \text{ } [\text{HP } \underbrace{\text{H}_{[\text{F-}] \dots t_\alpha \dots t_\beta}]]]]$

The derivationally-given σ plays a crucial role in the different accounts of tucking-in in Richards (1999), MI:136-8, Rezac (2002c), which all attempt to understand why σ is used to map into the c-command relation $\alpha > \beta$ in [Spec, HP]'s, rather than $\beta > \alpha$ or either order; these discussions presuppose the derivability of σ , which is given by locality.

An example of an MSC particularly close to the cyclic displacement demonstration at the beginning of this section is multiple NP-movement in Icelandic. The internal arguments of a transitive ν P may undergo multiple object shift out of the ν P, which has been argued to give an MSC by Richards (1997:90f., 1999:148-9), Rezac (2001, 2002b), and Anagnostopoulou (2003:III).⁴² In the following example, *ekki* 'not' demarcates the left edge of the ν P, and either or both internal arguments can move to the left of it, but only if they preserve their pre-movement IO > DO order (Collins & Thráinsson 1996).

- (50) Ég lána (ekki) Maríu (ekki) bækurnar (ekki).
 I lend not Maria-D not the.book-A not
 I do not lend Maria the books. (Collins & Thráinsson 1996)

Assume object shift is driven by the ϕ -features of ν (MI). The indirect object is a ϕ -accessible goal because it can undergo object shift in the first place. Suppose it moves to [Spec, ν P]. Then it continues to block any higher ϕ -probe, making that an untenable trigger of object shift of the accusative. For object shift of the direct object then, the ϕ -probe of ν must probe again; it continues to be available because it has not Agreed with the dative which has inherent Case. Trace invisibility lets it look past the trace of the indirect object. This order of operations by a ϕ -probe on the single locus ν yields the sequence σ , which also orders the two objects in [Spec, ν P].

Intervener-displacement for locality is demonstrated by Anagnostopoulou (2003:IV) to be responsible for the obligatoriness of certain clitics. The argument shows that locality can be circumvented by cliticization or clitic doubling of an oblique intervener in DICs:^{43,44}

⁴² The same is true of the passive/unaccusative equivalent, which form an MSC of TP: MI:354-5, 368f., Richards (1997:90f.), Rezac (2002b).

⁴³ Questions arise at various points. The DNC data-set is clearest because there is an undoubted T-nominative ϕ -relation. In the Greek DOC data-set, that cyclic displacement of the dative is required only for accusative clitics; this suggests that a full DP does necessarily not ϕ -Agree with ν across the dative (cp. chapter V). Furthermore, the accusative needs to have gender and/or be animate to require cyclic displacements, which Anagnostopoulou attributes to different constitution of the T and ν probes. See Anagnostopoulou (2003:199-204). Interestingly on the system developed in Béjar & Rezac (2003), ν only needs to ϕ -Agree with the accusative if it is animate, largely predicting the second exception.

The raising DNC data set is given from Italian (first Rizzi 1986b); there and in French, raising is allowed, its properties are well understood, and cyclic displacement is most effectively demonstrated. However, *a/à*-PPs in the ditransitives of these languages are systematically ambiguous between datives of DOC and PPs of the prepositional construction, so cyclic displacement is not readily demonstrable (Béjar & Rezac 2003). The ambiguity is for some

(51) DNC

- a ?*To vivlio charistike tis Marias apo ton Petro
 The book-N was.awarded the Maria-G from the Petros
 ?*The book was awarded Mary by Peter. (Anagnostopoulou 2003:22, 194)
- b To vivlio tis charistike (tis Marias)
 The book-N her-G^C was.awarded the Maria-G
 The book was awarded to Mary. (Anagnostopoulou 2003:22, 194)

(52) DNC

- a ?*Gianni sembra a Piero [*t* fare il suo dovere]
 Gianni seems to Piero to.do the his duty
 Gianni seems to Piero to do his duty. (Anagnostopoulou 2003:194)
- b Gianni non gli sembra [*t* fare il suo dovere]
 Gianni not him-D^C seem to.do the his duty
 Gianni doesn't seem to him to do his duty. (Anagnostopoulou 2003:194)

The explanation of cyclic displacement is as with multiple NP-movements. The dative intervener moves to T as a clitic, whether directly or through *v*. Crucially, this is the same head as that which undergoes ϕ -Agree with the nominative. This second step is licensed because only a trace of the dative intervenes between T and the nominative (trace invisibility):

- (53) Gianni₂ non gli₁ sembra_T t₁ [*t*₂ fare il suo dovere]

reason not found with *a/à*-PPs for raising verb experiencers.

Cyclic displacement also holds across-the-board in Spanish -- with two differences from Greek (pointed out in Anagnostopoulou 2003:IV.6). First, clitic doubling is required in DOCs even if the accusative is a DP (Demonte 1995), for unclear reasons though we might want to relate it to the preferred [DO IO] order in Spanish even in DOCs, suggesting some *v*-related re-arrangement of the two constituents that would require clitic-doubling of the dative (cp. Cuervo 2000). Second, clitic doubling is required of all *a/à*-PPs in DNCs, suggesting that they obligatorily have an oblique rather than prepositional analysis (cp. Fernández-Soriano 1999). *parecer* 'seem' + experiencer is a control not raising predicate in Spanish (Ausin & Depiante 2000, Cuervo 2000, Torrego 2002).

⁴⁴ See Anagnostopoulou (2003:207-212) on the nature of clitic doubling, which involves at a minimum some movement out of the doubled DP rather than just ϕ -Agree because the former but not the latter affects binding (see chapter IV here); beyond that the details are not relevant here. In Greek, genitive and dative or not distinct cases, and the morphological case is usually called the genitive.

When the intervener is a clitic and the controller of ϕ -Agree is phrasal, tucking-in does not apply, as we see from (51) and (52). Anagnostopoulou (2003:197) reasonably attributes this to the clitic/phrase distinction, for example because a clitic moves as a head. When the intervener and the controller are both clitics, tucking-in does generally apply (Richards 1997, 1999), as in Greek and Spanish, though Bonet (1991, 1995) demonstrates that a language-particular morphological component must be able to result in clitic re-ordering, which happens in French and Catalan.

The ordering σ given by cyclic displacement in DICs has been made use of to account for the PERSON CASE CONSTRAINT (PCC) by Anagnostopoulou (2003:V) and Béjar & Rezac (2003).⁴⁵ The PCC is a universal constraint on the distribution of marked person features in DICs,⁴⁶ where that includes at least 1st/2nd person.⁴⁷

(54) PCC in French DOC

- a Je le₁ / *te₁ lui₂ ai présenté t₁ t₂
 I 3.SG-A / *2.SG-A 3.SG.D have introduced
 I introduced him/*you to her.
- b Je t' ai présenté à elle
 I 2.SG.A have introduced to her
 I introduced you to her.

(55) PCC in Icelandic DNC

- a Okkur *þóttuð/%þótti þið fyndin
 us-D though-2.PL/3.SG you.PL amusing
 We found you amusing. (Hrafnbjargarsson 2001:18)
- b Okkur %þótti/%þóttu þau fyndin
 us-D though-3.SG/3.PL they-N amusing

⁴⁵ Also thus in Rezac (2000, forthcoming a). The two approaches are close in their solution, developing as they do the ingredients of the MI system, particularly MI:128 for the PCC, and a ϕ -decomposition approach that originates with Taraldsen (1995); the synopsis here keeps to Béjar & Rezac (2003).

⁴⁶ Bonet (1991) identifies the PCC in DOCs and in the Basque dative-absolutive DNC; correlation of DOC with the DNC restriction in general is due to Boeckx (2000).

⁴⁷ % in (55)b indicates some speakers allow only 3rd.sg. regardless of the number of a 3rd person nominative object, others require number agreement; all allow some form. Only those that do not require number agreement allow the non-agreeing (55)a, though there are various degrees of amelioration (Sigurðsson 1996).

We found them amusing. (Hrafnbjargarsson 2001:17)

I do not intend to go through the PCC mechanism in these works cited above here, but only to single out a particular point. The PCC occurs because person and number are separate syntactic probes that attempt to Agree in a DIC in that order, person before number. The person probe, $[\pi-]$, finds the dative but fails to Agree with it because it has inherent Case. It does however manage to displace it, which allows the number probe, $[\#-]$, to Agree across the trace of the dative. Here is a synopsis for (55)a (see chapter I for the symbols used):

(56) PCC mechanism

a Step 1			b Step 2			
T^0	DAT	NOM	DAT	T^0	t_{DAT}	NOM
$\pi-$	\leftrightarrow	$\pi=3$	$\pi=3$	π^x		$\pi=2$
$\#-$		$\#=SG$	$\#=SG$	$\#^*$	\leftrightarrow	$\#=PL$

That rules out π -agreement with the nominative/accusative in DICs, provided other conditions hold.⁴⁸ Syntactic elements which arguably require clausal π -agreement to be licensed, which Béjar & Rezac (2003) argue is the case for clitics (cp. Cardinaletti & Starke 1999), are thus ungrammatical; those that can survive on their own without ϕ -agree, such as full pronouns, do not allow person agreement.

Consider now the argument that can be made from this. In order for the PCC to occur, the dative must absorb the π -probe of T, an absorption which displaces it and allows the $\#$ -probe to access the controller. This ordering of access to the dative and the controller is the order σ , (intervener, controller), and follows from cyclic displacement: the dative is the first goal of any ϕ -probe of T, so the T-intervener relation happens before the T-controller relation. Locality, therefore, controls the ordering of syntactic operation: a more local relation must happen first, and if it results in movement it enables a less local relation.⁴⁹

⁴⁸ See Béjar & Rezac (2003) for an escape hatch of the nominative which moves to [Spec, TP] to satisfy the EPP.

⁴⁹ A word of caution is necessary at this point, in order that the argument is not mistaken for another. Anagnostopoulou (2003:IV) does not come to the conclusion that syntax is intrinsically cyclic, but that it is phase-cyclic, for reasons considered and rejected here in section 2.2.3. However, it is crucial to her point as to the one being made here that locality determine the derivational order of ϕ -goal relations. "[PCC arises] when a dative moves *first* to a functional head F (or agrees first), checking person ... [T]he argument with structural case moves *second*, and checks the remaining number[.]" (Anagnostopoulou 2003:272-3, italics in original).

This concludes the argument for dynamic rather than static search-space from cyclic displacement. None of this says anything about a preference of a derivational to a representational system, because there the questions become entirely different.⁵⁰ Assuming the same approach to MSC ordering and to PCC, the representational statements could be that that the c-command relations among specifiers are the same as c-command relations among their next lower chain-links, and that π -checking chains nest within #-checking chains, stipulations analogous to those that are needed in a derivational system. This section is not an argument for a derivational syntax, but for the need of dynamic cyclicity rather than static cyclicity within a derivational syntax.

2.3 presents quite a separate argument for dynamic search-space. However, there are two important questions in cyclic displacement that are addressed in the next two sections. First is the nature of the hitherto mysterious trace-invisibility principle. I am not aware of any solution to it; the one presented here emphasizes dynamic cyclicity by allowing a spell-out procedure to feed Agree on the same locus. The second addresses a phenomenon that has been taken as a major challenge to even locus cyclicity, and that at first glance fits the description of cyclic displacement. The section shows, I think, that the phenomenon is not a problem, though the account offered for it is extremely tentative.

2.2.2 *Trace Invisibility and Trace Conversion in copy theory*

A major assumption of cyclic displacement is the invisibility of traces (at least A-traces, for our purposes).⁵¹ This has been an important problem in the minimalist program.⁵² Discussing cyclic displacement, MI:131 comes to the following conclusion:⁵³

⁵⁰ Anagnostopoulou (2003:228-9) says that the $\pi > \#$ order here argues against McGinnis (2001)'s phase-representational locality; but this does not seem obvious, as this paragraph indicates.

⁵¹ A-traces as well if it generalizes to multiple specifier constructions of *wh*-movement, which tuck in.

⁵² The antecedent of this discussion is MP:299-304 (cp. also p. 323, 326) which is concerned with somewhat different problems in examples (i)-(iii) below: (i), how are Case features eliminated on t_2 and t_1 ; (ii) how is the Case feature eliminated on *what*, under the assumption that the Case of t' is checked by covert feature movement to Agr₀; (iii) how come the intermediate trace of the expletive does not block the T-nominative relation. The status of intermediate traces for both Attracting and being Attracted is at stake. In the MP context, t in (iii) lacks ϕ /Case features that would block the T-nominative relation because an expletive only has a D feature. (i) and (ii) could be handled by chain-formation that recognizes intermediate chain-links so that Case checking on t_3 in (i) can transfer to t_2 . The view actually taken in MP:IV recognizes only the top-tail chain (*we*- t_1 in (i), *what*- t in (ii)), and the convention is adopted that formal features of intermediate traces delete, t_2 in (i), unless required to form legitimate objects as is t in (ii) for covert Case checking.

- (57) It is only the head of the A-chain that blocks matching under [feature-relativized locality]. A-movement traces are 'invisible' to the probe-associate relation; or from another perspective, the A-chain itself (regarded as a set of occurrences of α) constitutes the barrier.

This is a stipulation that needs to be derived. One possibility is that chains and their properties need to be imported into the MI framework. That would be a pity, because it is a significant intuitive appeal of the framework that there are no properties of chains as such in narrow syntax; their properties follow from elementary derivational principles (chapter I).

DBP:24 suggests deriving (57) from the statement that "inactive trace disallows Match", where an inactive trace is one that has had checked the feature which renders it active, Case for ϕ -Agree. This follows up directly on MP:299-304, where the formal features of intermediate traces delete unless needed for the formation of legitimate objects. It is a narrow circumvention of defective intervention effects (chapters I, V), limited to traces. Technically, the MP suggestion does not work in the MI system because ϕ -features are interpretable on DPs, and it is ϕ -features on a DP-trace that should intervene. More generally, the DBP stipulation raises the specter of the empty category approach to movement: in what way can a trace in the copy theory be distinguished from a non-trace defective intervener, for which defective intervention effects remain importantly in force? The interpretable features remain on trace, giving rise to reconstruction (Sauerland 1998, Fox 2000). In the DBP suggestion, traces seem to be treated as empty categories again. Chapter V of this thesis attempts to eliminate activation features in general, rendering the concept of an "inactive" trace untenable. All that is left is a trace then; if it

(i) we are likely [t_3 to be asked [t_2 to [t_1 build airplanes]]] (MP:300)

(ii) what did John see t (MP:302)

(iii) there seem [t to be some books on the table] (MP:302)

From the perspective of MI, (iii) has a different solution partly in terms of ϕ -deficiency of the expletive and partly in terms of A-trace invisibility, esp. MI:124-5, 128, 130, DBP:15-19, and differently chapter IV here. In (ii) the same problem does not arise since there is no counter-cyclic covert raising from t . However, (i) and (ii) continue to present an important problem, clearest on (i) from an MI perspective: *what* has an uninterpretable [Q-] feature analogous to Case, deleted under \bar{A} -Agree between C and t_3 ; so how is that deleted on t_2 and t_1 ? It seems a chain-like object must be formed; see Gärtner (2002), Frampton & Gutmann (2000) for options. Here, chapter V eliminates uninterpretable features on goals, eliminating the problem entirely.

⁵³ The restriction to A-chains is partly due to the phenomena investigated, partly, presumably, a residue of nt. 52 (ii).

is an empty category, it should be an intervener in the same way as *PRO* or *pro*, which do intervene (a point noted in DBP:24).⁵⁴

Treating trace as an empty category rather than a copy verges on quite a different approach to the problem: the idea that A-movement, in a principled way, does not leave traces (or that A-traces delete), explored in Lasnik (1999). I will assume that the solution is not to be sought there. Much recent work shows in detail reconstruction into A-traces, based on Conditions A and C, quantifier-variable binding, scope reconstruction, and the systematic correlation of the three as predicted by the copy-theory of movement: see von Stechow & Iatridou (2003:186f.), Sauerland (1998, 2000), Fox (2000), Fox and Nissenbaum (2001).⁵⁵ In turn, this also shows that the concept of an (A-)trace as an empty category is incorrect. It should retain all its interpretable content, including the ϕ -features that block a higher ϕ -probe.

In this subsection I suggest an approach that derives trace invisibility from a procedure independently needed to interpret copies on a copy-theoretic approach. Its appeal in the framework adopted is that it has no recourse to chains or to stipulated properties of traces as distinct from other objects, and keeps to the copy theory.

MP:III proposes the copy theory of movement, by which movement (second/internal Merge) does not modify already existing syntactic structure. The empirical side of the proposal is explored as an account of (anti-)reconstruction effects in Munn (1994), Fox (1995, 1999, 2000, 2002), Sauerland (1998, 2000), Safir (1999), among others. The output of narrow syntax is therefore as in (58) for A-movement and \bar{A} -movement (QR), where strike-through indicates PF deletion.

(58)

⁵⁴ For the case of (i), DBP:15f. explores a different idea, that "the intervention effect is nullified unless intervention blocks remote matching of all features." (DBP:17) This works in the case of an expletive, which in MI and DBP has only a person feature (in fact a person probe), so it cannot match of the composite person-number ϕ -probe. Consequently neither in (i) with cyclic displacement, nor in (ii) with pure Agree, does the expletive intervene between T/ ν and the nominative/accusative controller. This does not transfer to oblique interveners, unless it is supposed that their number feature is not syntactically visible to the ϕ -probe.

(i) There_i seem [t_i to have been caught several fish.] T-several fish

(ii) We expect [there to have been caught several fish]. ν -several fish

⁵⁵ There is a vast amount of other work which feeds into this by establishing reconstruction is possible, though it does not necessarily reach a copy-theoretic interpretation that supports the existence of intermediate traces (using e.g. quantifier lowering instead): e.g. May (1977, 1985), Boeckx (2001b) on scope, Burzio (1986:III.3), Belletti & Rizzi (1988), Lebeaux (1998) on reconstruction for binding. See particularly Bošković (2002:180) following on Lebeaux (1991), and Sauerland (2003), on the need to reconstruct to intermediate A-positions.

- a every girl left ~~every girl~~
 b ~~every girl~~ some boy saw every girl

The problem with these representations, originally discussed in MP:III, Munn (1994), and Sauerland (1998), is that they are not interpretable -- certainly not correctly, probably not at all. If copies are interpreted by the same tools as non-copies, the quantifier in the copy will be interpreted as a quantifier, and that causes problems

The first problem is a type mismatch, since movement provides the input for quantifier interpretation (Heim & Kratzer 1998:V.3 and much other literature). A quantifier like *every* is a two place predicate, whose two arguments are one-place properties, x (*is a*) *girl* and x *left*; the meaning of the quantifier is simply to make sure that every x for which the first argument, x *is a girl*, holds true, the second argument, x *left*, is true as well. Without movement, *every* has only a single argument in its scope, *girl*; once it moves as in (58)a, its second argument becomes x *left* (with x the trace of *every girl*, see below for the copy-theoretic version).

Suppose though that were not a problem (58)a.⁵⁶ These examples are now interpretable, but not correctly. The occurrence of *every* in each copy will be interpreted independently. The two sets of *every girl* are distinct rather than identical, as in the correct interpretation. If the upper copy of the quantifier is interpretable at all, (58)b for example receives a representation meaning something like *every girl is such that some boy saw every girl*. This does not mean, as we want (58)b to, that *for every girl there is a boy who saw her*: in the former there is a boy corresponding to every girl who saw all the girls, while in the latter it suffices he saw only one girl, the one he corresponds to.

As the correct translation indicates, what we need is for all but the topmost copy to be or to contain a pronoun bound by the quantifier which survives only in the topmost copy. Replacement of copies by pronouns is virtually trace theory, and negates all the empirical gains made for reconstruction. It is not necessary to go so far. *For every girl there is a boy who saw her* corresponds to the more cumbersome but logically equivalent *For every girl, there is a boy who saw the girl identical to her* with *every* binding *her* (=For every girl x there is a boy who saw the girl x). Copies would therefore be correctly interpreted if (i) the quantifier D head is

⁵⁶ Whether type mismatch is a problem depends on the availability of in-situ interpretation strategies for quantifiers, such as type shifting.

removed and replaced by a quantifier that yields definite descriptions, *the*; (ii) a variable is attached to the copy, along with a predicate like "is identical to" so that it is interpretable within the copy, and there is a mechanism to ensure that this variable is bound by the quantifier which survives in the topmost copy.⁵⁷

The interpretation of copies as definite descriptions as developed in Fox (2002), following Rullmann & Beck's (1998) proposal to treat *wh*-traces so.⁵⁸ Copies are interpreted as definite descriptions, with the quantifier of the copy replaced by *the*, and are linked to the corresponding quantifier by having attached to them the predicate "is identical to NAME" (in symbols, $\lambda y(y=x)$) where NAME is a variable name (index):

(59) Trace Conversion (Fox 2002:67)

- a Variable Insertion: $(\text{Det}) \text{Pred} \rightarrow (\text{Det}) [\text{Pred } \lambda y(y=x)]$
- b Determiner Replacement: $(\text{Det}) [\text{Pred } \lambda y(y=x)] \rightarrow \text{the} [\text{Pred } \lambda y(y=x)]$

This converts the structures in (58) as follows, where I use *identical.to* as the syntactic representation of the predicate meaning "who is identical to":⁵⁹

(60)

- a every girl λx left ~~the girl identical.to x~~
- b ~~every girl~~ λx some boy saw the girl identical.to x

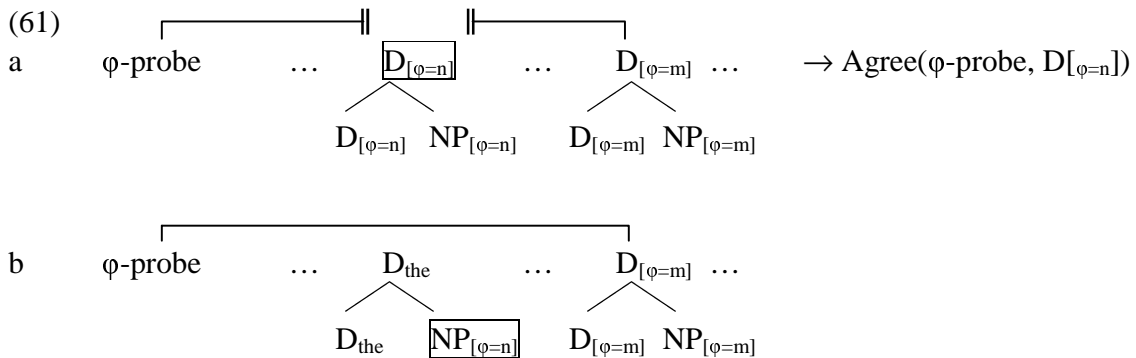
Trace Conversion could account for trace invisibility, with two assumptions: that it is cyclic and that the determiner it introduces lacks ϕ -features. With them, there is an explanatory

⁵⁷ We cannot simply get rid of the quantifier in non-top copies; that would have only the predicate *girl* survive, which is not itself interpretable as the argument of a verb. The determiner replacing the quantifier need not be *the*; Sauerland (1998) proposes a choice function. There seems to be a problem with using *the*, since then *No unicorn is visible* (=No unicorn x is such that the unicorn x is visible) presupposes the existence of a unicorn, counterfactually I think. The reason why we need to attach the predicate *is identical to \underline{x}* instead of just a variable \underline{x} is because *the girl \underline{x}* makes no sense: \underline{x} is an argument, but *girl* is not an argument-taker. Fox (2002) pursues the analogy for his trace-replacement procedure with expressions like *the girl Kate*, semantically *the girl identical to Kate* with the requisite predicate.

⁵⁸ For different reasons (presupposition projection).

⁵⁹ There is a step missing from this approach: how is it made sure that the variable added by Variable Insertion is the correct variable, that bound by every girl and indicated in (60) by λx rather than some other variable binder, such as that introduced by *some boy* in a fuller representation of (60)b. I will propose how Trace Conversion does this in chapter III.

account of why movement of a constituent renders it a non-intervener for a higher probe. The intervening ϕ -features of the constituent are not on D, whose maximal projection intervenes between a ϕ -probe and a lower D because it c-commands the latter; and the ϕ -features of the NP are "buried" within the maximal projection of D, so that they do not intervene between the ϕ -probe and a lower DP.⁶⁰ This is indicated in the following diagram, where the intervener in (61)a and the non-intervener in (61)b are boxed.



The two assumptions required are not easily verifiable.⁶¹ Consider first the lack of ϕ -features on the determiner, which is easier. I can think of no way of directly demonstrating this. Conceptually, there is no reason why the *the* introduced by Determiner Replacement should contain ϕ -features, and I can think of a plausible reason why it would not. Suppose that the sharing of ϕ -features between a lexical N head and its functional projections is reasonably construed as a D-N Agree relation for an uninterpretable ϕ -set of D.⁶² At the cyclic step where movement-driven Trace Conversion happens, the locus of a derivation is no longer this D; for example, it is T in the case of movement to [Spec, TP]. The replacing D *the* will at this point not be able to probe to value its ϕ -set if any. Alternatively, suppose that D-N agreement is an instance of agreement upon Merge, Concord (DPB:42n6, cp. the Match Condition of chapter III). Determiner Replacement is not Merge; it is a different thing entirely, at the very least deletion,

⁶⁰ Possibly, they are entirely invisible, depending on how one construes specifier compression in chapter I.

⁶¹ Actually, Andrew Nevins (p.c.) points out that there is a consequence in terms of scope reconstruction into the non-intervening copy, whose D has been replaced by *the* before Agree with the nominative and thus prior to LF; LF interpretation of the original quantifier in it should be impossible. This seems correct: see Anand & Nevins (forthcoming), Nevins & Anand (2003). I hope future work presses this point.

⁶² Because the ϕ -features of D are visible for higher ϕ -probes, for agreement and interference, this means that Agree-valued ϕ -features may themselves value higher probes, a conclusion reached independently in chapter III.

perhaps replacement. Again, ϕ -features are not plausibly present on the new D of Determiner Replacement.

Consider now why Determiner Replacement might be cyclic, so that it can take place between one movement step and the next, so that the latter can ignore the Agree-with goal of the former. Observe first that Determiner Replacement cannot take place as the consequence of Agree alone, because Agree does not necessarily result in movement. If it took place in examples like *Into the garden walked every councilor*, replacing *every*, we would end up with the meaning *Into the garden walked the councilor*. So Determiner Replacement is not a consequence of cyclic Agree. Indeed, the character of the rule, which involves replacement, makes us suspect it is an "end of syntax" process, part of the translation procedure at the end of LF -- part of spell-out. The minimal assumption we need to make for the story to go through is that spell-out can optionally apply at each step of movement, each step of (non-thematic) Merge. There might be independent reasons for this. Uriagereka (1999a), in the most explanatory account of certain strong island phenomena I am aware of, argues that each Merge(α , β) where both α and β have internal structure, must involve spell-out. This would give the correct results in this case if a moving constituent always has some internal structure.⁶³

The two assumptions, cyclic Determiner Replacement and absence of ϕ -features on the determiner it introduces, seem as conceptually reasonable as their alternatives; I have adduced some reasons to support them. If they hold, Determiner Replacement gives an explanatory account of trace invisibility, because it is independently needed to interpret copy-theoretic structures. Moreover, it emphasizes dynamic cyclicity. In cyclic displacement, movement of the intervener feeds the second Agree cycle. Movement is now seen to involve not just re-Merge, but also determiner replacement, due to spell-out, which is crucial to hide the trace of the intervener. Thus, the spell-out operation that involves the intervener's trace occurs before Agree, without changing a locus.

The approach makes a prediction. Recall that Determiner Replacement must be a part of movement, not of Agree, otherwise it would change *There are few dragons in the world* to *The dragons are in the world*. This predicts that only movement, not Agree, yields trace invisibility. This is certainly consistent with all the evidence brought forth above for cyclic displacement

⁶³ This would entail even clitics have some internal structure: a lexical core and a functional layer, responsible for e.g. Case morphology, as in chapter V here.

phenomena. There is a way to contrast Merge and Agree directly in this respect. What we need to investigate the issue is the following constellation of facts: H (T or ν) has a ϕ -probe; [Spec, HP], if it needs to be projected, is filled by an expletive; there is an intervener, e.g. a dative, that is normally visible to the ϕ -probe as can be seen by the requirement of cyclic displacement if [Spec, HP] is not filled; and there is a nominative below the dative. In this case, the dative intervener stays in-situ; if trace invisibility can be due to Agree alone, ϕ (or rather, number) agreement with the nominative should be possible across it on the second cycle; while if trace invisibility is due to actual movement, it should not, because the dative is not moving.

(62) EXPL $H_{[\phi]}$... DAT ... NOM

The requisite configuration is found in Icelandic DNCs (with some unclarities).^{64,65} T has a ϕ -probe and an EPP requirement, which may be satisfied either by movement or by expletive base-generation. If there is no expletive, it is the dative which moves to [Spec, TP] (Zaenen & al. 1985, Sigurðsson 1992), and the nominative obligatorily ϕ -Agrees, (63)a.⁶⁶ If there is an expletive, the nominative cannot Agree for plural alone (63)b; the dative cannot Agree for plural alone, as it never can if it moves to [Spec, TP], (63)c; but rather strangely, if both the dative and the nominative are plural, number agreement is possible, (63)d (Jonas 1998 cited McGinnis 1998:51, Holmberg & Hróarsdóttir 2003):⁶⁷

⁶⁴ It is not found in Greek. To be sure, in-situ nominatives Agreeing with T require clitic-doubling of an intervener even though no nominative movement is involved (Anagnostopoulou 2003:45). However, Anagnostopoulou (2003:220) argues that this is because the T-nominative relation in Greek always involves at least clitic doubling to satisfy the EPP (Alexiadou & Anagnostopoulou 1998, 2001:224-6), and therefore movement; see chapter IV here.

⁶⁵ The English intervention paradigm given by Boeckx (2000) also shows that agreement across a dative experiencer DP (vs. a pronoun) is impossible, (ii), though there is a gap in the paradigm for a plural experiencer and plural nominative. However, the English experiencer is radically different from the Icelandic one in that it does not block raising across it. I have not been able to find any speakers with this paradigm in English (cp. also den Dikken 2001:33n17 for this problem); Boeckx cites Howard Lasnik p.c. for the basic observation in (i)-(iii) and (v), Mona Anderson p.c. for (iv)).

(i) There seem to be two men in the room. (Boeckx 2000:239)

(ii) There seems/*?seem to Mary to be two men in the room. (Boeckx 2000:230)

(iii) There seems/*seem to Mary and Sue / two women to be a man in the room. (cp. Boeckx 2000:237, 240n14)

(iv) There seem to him to be two women in the room. (Boeckx 2000:247)

(v) To whom do there seem/*seems to be two men in the room? (Boeckx 2000b)

⁶⁶ Not for person, due to the Person-Case Constraint; q.v. above. For the optionality of agreement with nominative arguments for some Icelandic verbs if an infinitival or small clause boundary intervenes, see Sigurðsson (1996:25-6), Hrafnbjargarsson (2001).

⁶⁷ The slight degradation of (63)d is noted in Holmberg & Hróarsdóttir (2003:1006n6), Boeckx (2003). For (63)c, the reference only gives the starred example. The goodness of the singular is confirmed by Jonas (1998) cited in

(63)

- a Manninum virðast hestarnir vera seinir
the.man-D seem-SG the.horses-N to.be slow-N
The man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)
- b Það virðist/*virðast einhverjum manni hestarnir vera seinir
EXPL seem-SG/*PL some-D man-D the.horses-N to.be slow-N
A man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)
- c Það finnst/*finnast mörgum stúdentum tölvan ljót
there find-SG/*PL many-D students-D the.computer-N ugly-N
Many students find the computer ugly. (Holmberg & Hróarsdóttir 2003:1006n6)
- d ?Það finnst/finnast mörgum stúdentum tölvurnar ljótar
EXPL find-SG/PL many-D students-D the.computers-N ugly-N
Many students find the computers ugly. (Holmberg & Hróarsdóttir 2003:1001)

As far as I know, no one has an acceptable interpretation of the availability of plural agreement in (63)d, although the fact seems solid. It cannot be due to number agreement with the dative, and seems to not be due to number agreement with the nominative alone, which is blocked by a singular dative.⁶⁸ The latter fact though constitutes evidence that Agree does not yield trace invisibility.⁶⁹

McGinnis (1998:51), who goes through a similar paradigm, and gives (i):

- (i) Það virðist sumum málfræðingum Jón vera duglegur
there seem-SG some linguists-D John-N to.be intelligent
John seems to some linguists to be intelligent. (McGinnis 1998:51)

⁶⁸ The degradation of (63)d suggests it does not really indicate trace invisibility in this case -- if anything, it indicates that number agreement somehow takes both the dative and the nominative into consideration. In fact, such "matching" effects exists elsewhere: Anagnostopoulou (2003:202) finds one for gender in Greek clitics DOC, where cyclic displacement is not required in the case of a gendered accusative clitic provided it is inanimate and matches the gender of the dative; and there is a variable amelioration of the Person Case Constraint in DOCs when both the oblique intervener and the accusative are 1st/2nd person (Bonet 1991:179f., Anagnostopoulou, forthcoming). I have no explanation for them, though Béjar & Rezac (2004) connect the prevalence of portmanteau morphology for 1st/2nd person argument combinations.

⁶⁹ Anagnostopoulou (2003:IV.7) takes the opposite view: cyclic Agree alone, with an intervener, suffices for Agree past it (movement also suffices). Crucially though, she lacks the full paradigm for Icelandic due to Holmberg & Hróarsdóttir (2003), namely (63)b and (68). She also accepts the English paradigm of nt. 68.

2.2.3 The effect of \bar{A} -movement in cyclic displacement

In French, experiencers typically block the obligatory nominative movement to [Spec, TP], but not if they are cliticized (Chomsky 1995:305, McGinnis 1998:89-91, Anagnostopoulou 2003:220f.).⁷⁰ This is classical cyclic displacement. There is however another way to avoid their intervention effect: \bar{A} -movement (McGinnis 1998:93n16, Anagnostopoulou 2003:220f.).⁷¹

(64)

- a Vous semblez (*à Obelix) être drôles.
You seem to Obelix to be funny.
- b *À Obelix semblez vous être drôles.
- c Vous lui semblez être drôles.
You seem to him to be funny.
- d À qui <vous> semblez<-vous> être drôles?
To who do you seem to be funny?
- e Le Gaulois à qui vous semblez être drôles.
The Gaul to whom you seem to be funny.

Anagnostopoulou (2003:222f) discusses the problem that this raises for any theory where cyclicity requires T to finish all operations associated with it before C is added to the derivation, such locus cyclicity.⁷² She proposes a phase-based alternative: phase-internal counter-cyclicity.

⁷⁰ The judgments split, see MP:388n79 and McGinnis (1998:90n12); but the paradigm is clear for some speakers, including my own informants in so far as they will use *sembler* (preferring *avoir l'air*). Examples like (64)b can occur with Stylistic Inversion with its high stylistic register and different properties for subject position, described in Kayne & Pollock (1978, 2000), Déprez (1990). We then get:

(i) Aux femmes courageuses sembleront <*les jours sans pain> longs <les jours sans pain>.
To the courageous women will seem long the days without bread.

⁷¹ Italian (Rizzi 1986b:75) often thought to belong here perhaps does not, as it seems to allow the pattern only with topics; see Holmberg & Hróarsdóttir (2003:1014-5). Italian has a very different \bar{A} -system and CP-TP layer interaction from that of both French (English-like) and Spanish ("syncretic"); see Rizzi (1997, forthcoming), Zubizarreta (1998:III). In Spanish -- to complete the Romance group -- no raising across an experiencer is allowed at all, for the independent reason that *parecer* + experiencer is always a control verb (Ausin & Depiante 2000, Cuervo 2000, Torrego 2002) and *parecer* without an experiencer is probably an obligatory restructuring verb (Torrego 1996, Boeckx 2000). Anagnostopoulou (2003:221-2) and Boeckx (2000) also show that for some Greek speakers, *wh*-movement of the experiencer makes such constructions licit without clitic doubling, which is otherwise required.

⁷² She also rejects McGinnis's (2001) alternative, which explores the idea in DBP:27f. that locality is evaluated

Suppose there is no cyclicity other than the phase-to-phase interaction of MI and DBP, regulated by the Phase Impenetrability Condition (p. 224-6); that is, there is no locus cyclicity. Since C and T are in the same phase, C may counter-cyclically \bar{A} -Agree with the experiencer and trigger its movement to [Spec, CP] "before" T ϕ -Agrees with the nominative and moves it to [Spec, TP]. If there is no cyclic ordering of operations within a phase, there is no "before". Anagnostopoulou's theory is therefore as follows: locality is strict within a phase, but there is no cyclicity, so a higher head may trigger movement before a lower one (p. 229).⁷³

In the approach pursued in this chapter and more generally this thesis, this is not a desirable option, and a direct argument against a phase-only cyclicity has been given in chapter I. It turns out that there is a fairly elementary intrinsically cyclic solution which utilizes only independently needed elements -- as far as the data considered by Anagnostopoulou (2003). However, it also turns out that other languages present unexpected complexities that at present seem a challenge to any approach, though I offer a partial solution that suggests the direction to explore.

Fox (1999, 2000) argues extensively that successive-cyclic \bar{A} -movement passes through [Spec, ν P] of a transitive ν as well as [Spec, CP], deploying reconstruction effects that trap it between [Spec, TP] and the indirect object; Legate (2003:507-9) extends this to passives and unaccusatives. Let us accept this conclusion; the existence of an \bar{A} -site at the left edge of the ν P is in any case widely documented (Sportiche 1988 for French *L-tous*, Svenonius 2000 for

representationally at the end of each phase, and may thus be violated within a phase. In McGinnis's system, T first triggers a locality-violating ϕ -Agree with the nominative and then C triggers \bar{A} -Agree with the dative intervener; since at the end of the C phase the intervener has been moved out of the way and only its trace remains, the T-nominative chain does not violate representational locality. Anagnostopoulou's counter-argument comes from the Person Case Constraint account discussed above, which relies crucially on the idea that T necessarily relates to the dative before it relates to the nominative, so that its person feature is disabled (p. 228-9). However, it is not clear at this point that this is really better than some representational version, e.g. number-chains must contain person-chains if both are (interpreted) in a single ϕ -geometry. The derivational account requires a similar stipulation, that the person probe precedes the number probe.

⁷³ An additional argument is given to support this (p. 229). In French Stylistic Inversion (i), Déprez (1990) argues that the nominative stays in-situ, V moves to C, and the inverting phrase moves to [Spec, CP]. Suppose this means T's EPP feature is unchecked by [Spec, TP] in this derivation and checked against [Spec, CP]; we have a phase-internal delay of EPP checking, which is counter-cyclic, and cannot be reduced to representational locality. It seems to me a much simpler idea is that the inverted phrase moves through [Spec, TP] and checks the EPP in the same way as an inverted phrase in English locative inversion (Collins 1997, Culicover & Levine 2001); cp. Zubizarreta (1998:III) for such an approach to inversion in Spanish. Moreover, there are also theories where the EPP is not a featural requirement but an interface condition, where it suffices that some head in the T-C system projects a specifier (Roberts & Roussou 2002).

(i) Nolwenn a demandé quand partirait Azenor.

Nolwenn has asked when Azenor will leave.

Icelandic negative and quantifier movement, Jayaseelan 2001 for Malayan *wh*-movement).⁷⁴ This means that in the French derivation, there is an intermediate landing site of \bar{A} -movement at the edge of the vP associated with *sembler* (boxed):

- (65) [CP [\bar{A} qui]₂ [TP vous₁ semblez_T [vP t_2' [vP t_2 V [TP t_1 être drôles]]]]]]?

In this derivation, the issue of intervener \bar{A} -evacuation shifts entirely. The fundamental problem that arises is how come the \bar{A} -trace t_2' does not intervene for the ϕ -probe between T and the nominative t_1 , and this problem arises generally and independently of dative interveners:

- (66) What₂ did they₁ T_{PL} [vP t_2' [vP t_1 give the dragon t_2]]?

Assume that this problem has an explanatory solution S. Then t_2' is invisible. Moreover, t_2 is also invisible by the general phenomenon of trace invisibility in cyclic displacement. This means that the existence of S and trace invisibility together explain the role of \bar{A} -movement in cyclic displacement without any appeal to counter-cyclicity or weakening of locality -- except to the extent S and trace invisibility might do so. Trace invisibility is a problem in cyclic displacement independent of \bar{A} -displacement of interveners, and the solution S is needed independently quite generally as in (66). Therefore, \bar{A} -displacement of interveners does not raise any issues by itself.

Clearly, we want to have an explanatory, cyclic, locality-respecting account of both trace invisibility and S, which is consonant with the copy-theory of movement. Trace invisibility is addressed with this aim in 2.2.2. The solution S with these properties, which ensures that a DP's ϕ -features do not block a higher ϕ -probe once the DP has entered the \bar{A} -system is developed in chapter V, following Rezac (2003).

The rescuing effect of intervener \bar{A} -displacement in French is not found in Icelandic, as Holmberg & Hróarsdóttir (2003) show in detail. This is not predicted by the phase-internal suspension of cyclicity, which as a property of the computational system should be universal. It is not accounted for by the system of this section either, though it runs into less trouble. I give the data here so that the direction they point to may be seen.

⁷⁴ In these cases, the landing site seems slightly higher than the vP , but still below T.

Recall from the last section that in Icelandic, a class of unaccusative verbs have oblique (usually dative) external arguments and nominative internal arguments. The dative behaves as a subject for raising to [Spec, TP] (Zaenen et al. 1985, Sigurðsson 1992), the nominative as an object for object shift (Harley 1995, Holmberg 1999),⁷⁵ and only the nominative can be ϕ -Agreed with. The nominative cannot raise across the dative. ϕ -agreement is found when the dative moves to [Spec, TP]; it is blocked when the dative is forced to stay in-situ because [Spec, TP] is occupied by an expletive.⁷⁶

(67)

- a Manninum virðast hestarnir vera seinir
the.man-D seem-SG the.horses-N to.be slow-N
The man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)
- b Ólafur virðist (*mér) vera gáfaður.
Olaf-N seems-SG me-D to.be intelligent
I find Olaf intelligent. (Holmberg & Hróarsdóttir 2003:1003)
- c Það virðist/*virðast einhverjum manni hestarnir vera seinir
EXPL seem-SG/*PL some-D man-D the.horses-N to.be slow-N
A man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)

Holmberg & Hróarsdóttir point is that \bar{A} -movement of the dative does not ameliorate ϕ -agreement with the nominative; it keeps the same degraded or ungrammatical status as when the dative is forced to stay in-situ by an expletive:⁷⁷

(68)

- a Það finnst/*finnast einhverjum stúdent tölvurnar ljótar

⁷⁵ But see the unexpected judgment pattern in Barðdal (2001:59).

⁷⁶ See the discussion of ex. (63) for many additional details.

⁷⁷ As in example (63) above, improvement is found if both the dative and nominative are plural. Here is a synopsis of the amelioration from Holmberg & Hróarsdóttir (2003:1001-2), using L for local and LD for long distance extraction, where the extracted element α is the dative experiencer and β is an attempt to Agree with a plural nominative object (in all cases lack of agreement is fine):

(i) wh:	??L α .SG ... β .PL	?L α .PL ... β .PL	*LD α .SG ... β .PL	??LD α .PL ... β .PL
(ii) RC:	*L α .SG ... β .PL	??L α .PL ... β .PL		
(iii) topic:			*LD α .SL ... β .PL	LD α .PL ... β .PL

EXPL find-SG/*PL some-D student-D the.computers-N ugly-N

Some student finds the computers ugly. (Holmberg & Hróarsdóttir 2003:1000)

- b *Hvaða stúdent veist þú að finnst/*finnast tölvurnar ljótar?
 which student-D know you that find-SG/*PL the.computers-N ugly-N

Which student do you know considers the computers ugly? (Holmberg & Hróarsdóttir 2003:1001)

- c *Þetta er stúdentinn sem finnst/*finnast tölvurnar ljótar
 this is the.student-N that find-SG/PL the.computers-N ugly-N

This is the student that finds the computers ugly. (Holmberg & Hróarsdóttir 2003:1002)

- d *Þessum stúdent veit ég að finnst/*finnast tölvurnar ljótar
 this student-D know I that find-SG/*PL the.computers-N ugly-N

I know that this student finds the computers ugly. (Holmberg & Hróarsdóttir 2003:1002)

This is a neat minimal contrast with French. In both languages, dative experiencers of raising verbs block ϕ -Agree across them with a lower nominative. Yet only in French and not in Icelandic does \bar{A} -evacuation of the experiencer allow ϕ -Agree. Whatever this shows, it shows that the idea that \bar{A} -movement to C permits its local C to ϕ -Agree across by phase-internal counter-cyclicity is wrong.

To throw a wrench into the data, Holmberg and Hróarsdóttir demonstrate that unlike agreement, apparent NP-movement of the nominative to [Spec, TP] while normally impossible in the presence of a dative external argument becomes possible when the dative extracts, as in (69). The example also shows their conclusion about this: it is Stylistic Fronting (Holmberg 2000) because it cannot cross adverbs, which do not impede NP-movement in Icelandic.⁷⁸ However, it should be noted that if and only if the subject undergoes such a movement, all of a sudden regular plural agreement becomes possible in these constructions (Holmberg & Hróarsdóttir 2003:1010n8);⁷⁹ while at the same time, the nominative subject to this movement cannot be 1st/2nd person or a *wh*-phrase (Boeckx 2003). This contrasts both with what is predicted by

⁷⁸ For example, the presence of *alltaf* is irrelevant in (67)a.

⁷⁹ The NP-movement and agreement observations are attributed to H. Á. Sigurðsson, p.c.

Holmberg's (2000) phonological feature movement approach to Stylistic Fronting, and with NP-movement of nominatives for which ϕ -agreement is obligatory.⁸⁰

(69)

- a Hverjum hefur Ólafur (*alltaf) virst vera gáfaður?
 who-D has Olaf-N always seemed be intelligent
 Who has found Olaf intelligent? (Holmberg & Hróarsdóttir 2003:1004, 1008)
- b Hverjum hafa strákar virst vera gáfaðir?
 who-D have-PL the.boys-N seemed to.be intelligent
 Who has found the boys intelligent? (Holmberg & Hróarsdóttir 2003:1010n8; my translation)
- c *Hverjum hefur/höfum við virst vera gáfaðir?
 who-D have-3.SG/1.PL we-N seemed to.be intelligent
 To whom have we seemed to be intelligent. (Boeckx 2003:20 of ms.)

French and Icelandic differ in that the latter but not the former allows the experiencer to move to [Spec, TP], but this is arguably an independent difference (McGinnis 1998):

(70)

- a Manninum virðast hestarnir vera seinir.
 the.man-D seem-SG the.horses-N to.be slow-N
 The man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)
- b *À Obelix semblez vous être drôles.

One thing that the blocking of ϕ -Agree by an \bar{A} -moved experiencer in (68) shows is that \bar{A} -extraction cannot be taking place from [Spec, TP]; an experiencer in [Spec, TP] permits ϕ -Agreement by cyclic displacement, as in (70)a (see section 2.2.1). So something must require \bar{A} -extraction from the in-situ position of the experiencer, or its successive-cyclic movement position at the edge of ν P. If extraction from the latter derived position were possible, we should get the French pattern, with no interference for ϕ -agreement between T and the nominative. This

⁸⁰ For example, if (67)b had a plural nominative, non-agreement would be impossible (cp. Sigurðsson 1996).

is not the case. Suppose that the impossibility of extraction from both [Spec, TP] and the left periphery of ν P reached by successive-cyclic \bar{A} -movement reflect the same generalization:

(71) In Icelandic, \bar{A} -extraction of subjects cannot take place from a derived position.

This seems consistent with subject extraction in Icelandic generally: it permits Stylistic Fronting to [Spec, TP], and that, whatever it is, should arguably not be held to obliterate a trace, particularly since it can feed ϕ -Agreement as in (69)b and is thus syntactic. So not all subject extraction in Icelandic at least need pass through [Spec, TP], and there is no evidence that I am aware of that it ever does.

(71) is not isolated; it is indeed Rizzi's (1982:IV) classical proposal for \bar{A} -extraction in Italian, with a rich tradition of application to other languages. Beyond that, I do not understand matters: why (71) applies in Icelandic and Italian, but evidently not French or English; the subtleties of "helped" agreement with nominative plurals in the presence of dative plurals; and the optional ϕ -agreement under "Stylistic Fronting" of a nominative to [Spec, TP]. However, I conclude that counter-cyclic examples of a cyclic-displacement either have a perfectly good cyclic solution, as for French, or do not presently bear on the problem, as for Icelandic.

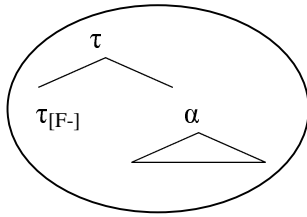
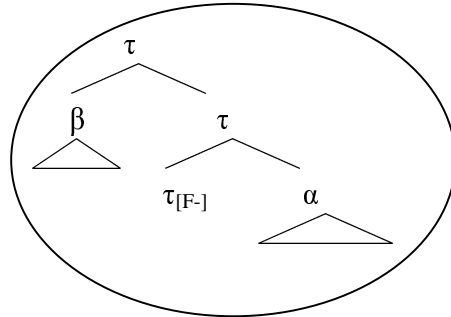
2.3 Cyclic expansion: A case study in Basque agreement displacement⁸¹

2.3.1 *Introduction*

Cyclic displacement shows how search-space can expand "downward", into the c-command domain of a probe, by displacement of an intervener. This section demonstrates that search-space can also expand "upward", by adding material to the cyclically constructed phrase-marker at the position of the locus, so that its content falls into the range of a probe:

⁸¹ Some material discussed here I have previously and much more partially discussed in Rezac (2003).

(72)

a Search-space of [F-] before Merge of β b Search-space of [F-] after Merge of β 

This conception of a dynamically expanding search-space contrasts with that of MI:122, which fixes its upper limit once and for all to the sister of the first occurrence of the target containing probe in a derivation. The reasons for it are reviewed in 2.3.6, and argued to follow in the present system.

The argument that search-space expands dynamically in the derivation, rather than that it is fixed once and for all, cannot be made on the basis of agreement by a [F-] probe on H with items that are never lower than [Spec, HP]. Such proposals exist, for example for *wh*-elements like *why*, *whether*, *if* that have been argued to be base-generated in [Spec, CP] (Rizzi 1990a), which must still Agree with an interrogative C (MP:311-2). That would merely demonstrate that the conception of a search-space must include a specifier, and say nothing about cyclicity. The argument in the present section is different, because it will show that [F-] on H must first seek a match in the sister of the first occurrence of H, its complement, and only if it does not find a match does it attempt to seek one in [Spec, HP]. Empirically, this translates into obligatory agreement of [F-] with something in the complement of H if there is a match, and agreement with [Spec, HP] only if there is no match in the complement.

The theoretical account that I offer of the asymmetry between agreement with something in a complement and with the specifier is the EARLINESS PRINCIPLE (EP):

(73) Earliness Principle (EP): A probe [F-] triggers Agree as soon as possible.

As an economy condition that implements locus cyclicity, analogues of the EP have a long tradition in minimalist theorizing. The is close to the FEATURAL CYCLICITY proposed by MP:233 and so named by Richards (1999), which requires the immediate checking of strong features. It

is closer still to the EARLINESS PRINCIPLE of Pesetsky & Torrego (2001:400) from which I borrow the name, because a strong feature need not be checked if it cannot be, and the derivation proceeds smoothly.⁸²

However, all previous applications, so far as I am aware, are to locus cyclicity. They ensure that a feature on a locus cannot wait until other loci are merged in before being checked. For example, it has an effect on the search-space as discussed with reference to ex. (38), barring lowering derivations because the strong [Q-] feature of the embedded C cannot wait until the matrix clause is constructed:

- (38) ___1 was asked ___1 by Ath [CP who1 [Q-]C dragons ever lie]. *Counter-feeding*

The difference between these proposals and the present Earliness Principle can be appreciated most clearly by comparing the discussion of featural cyclicity in MP:233-5. The idea is to derive the requirement that a strong feature be checked "quickly" upon entering a derivation. This is reduced to its having to be checked before the category it is on stops projecting (how and why does not concern us here; see Brody 1997 for critical discussion). Consider T in English, with a strong nominal (EPP) feature. It is argued that this strong feature need not delete immediately upon the operation that inserts T into the derivation, Merge(T, ν P). In fact, it can survive successive projections of T, including ones which result in the adjunction of adverbs to TP, giving *there probably will be snow tomorrow* with *probably* TP-adjoined before *there* is Merged in to check the strong EPP feature. Only once T stops projecting, when it is Merged with C, would featural cyclicity lead to a crash if T retains a strong feature. By contrast, the proposal in (73) does not allow for this (with a ϕ -probe substitute for the EPP): the ϕ -probe of T must try to find a match as soon as possible, namely when Merge(T, ν P) gives it a domain to search in, the ν P. Only if no match is found will the ϕ -probe tolerate expansion of its search-space.⁸³

⁸² Cp. also Kitahara (1994, 1997), Collins (1994, 1997).

⁸³ Still not beyond the maximal projection of T though, as discussed in 2.3.6. Of course, this opens the question of what allows *there probably will be snow tomorrow*, but it actually does not bear directly on the ϕ -probe of T (Brody 1997): rather, it bears on (i) adverb merger and (ii) how Merge/Move to satisfy the EPP follows upon the ϕ -probe of T. The latter only is addressed at length in chapter IV, though as far as I can tell in the absence of assumptions about (i) it is not conclusive for this problem; see Cinque (1999) vs. Ernst (2002) on (i).

The argument made here thus uses the EP like MP:IV uses featural cyclicity, but in a more fine-grained manner. It orders individual instances of operations even on a single locus, which I think is a more direct interpretation of derivational syntax. Suppose that each instance of the Merge operation can be potentially counted as a different cycle, and thus potentially feed or bleed other operations. Then the construction of an HP with a specifier contains two different cycles of Merge: with reference to diagram (72), Merge $\{\tau, \alpha\}$ which creates the complement of τ , and Merge $\{\tau, \beta\}$, which creates the specifier of τ . No Agree operation by a probe on τ can take place before the first step, for there is no search-space for it. However, if the two instances of Merge can occur on different cycles, and if search-space is not statically fixed, then search-space should be able to expand to include [Spec, HP] β -- after it is added. The Earliness Principle, an extension of featural cyclicity to instances of Agree on a single locus, requires that a probe on τ find a match the earliest possible. Only if there is no Match in α can it wait to seek a Match in β .

Cyclic search space expansion for Agree manifests itself in the apparent "displacement" of ϕ -feature agreement morphology, AGREEMENT DISPLACEMENT.⁸⁴ Agreement displacement falls under a class of phenomena whereby the typical ϕ -feature agreement tracking an argument has a non-canonical realization, or the ϕ -morphology typically tracking one argument tracks another; these have been termed eccentric agreement in Hale (2001). Laka (1993) and Hale (2001) put forth the hypothesis that (some) eccentric agreement is a syntactic phenomenon, and is to be accounted for by the independent properties of syntax. The agreement displacement phenomenon treated in this section demonstrates the increasing search space of a head H by showing that as material is added to H, ϕ -feature agreement by H can look for controllers in the added material if none has been found in the complement of H. This expansion manifests itself as apparently non-canonical agreement of H with its specifier instead of its complement. Once an account is in place, section 2.3.6 returns to why search-space does not seem to expand in languages like English, at which point a trivial answer is available in terms of the representation of default ϕ -features.

The examples of ϕ -agreement displacement here come from Georgian and Basque. In section 2.3.2, the argument from Georgian is presented, which goes directly towards the

⁸⁴ Search-space expansion used to account for a class of agreement displacement phenomena, proposed in Rezac (2003) from which this section is taken, has since been considerably expanded to include many other cases in Béjar (2003) and Béjar & Rezac (2004). No account is taken of those works here for reasons of time and space; beyond expanding the data set however, they do not add anything new to the fundamental thesis of this chapter.

demonstration of cyclic search space expansion: it shows that the ϕ -features of an argument in the specifier of ν can be cross-referenced by object agreement on ν if the complement does not contain ϕ -features. In section 2.3.3, I turn to ergative displacement in Basque, and demonstrate its basic similarity to Georgian. Because of its richer agreement system, Basque allows us to investigate in section 2.3.5 the interaction of multiple attempts to cross-reference the same argument by agreement. The interaction leads to the conclusion that a specific ϕ -feature (person, number) can enter into a syntactic relationship only once, a refinement of the MI hypothesis that DPs must be "active" (Case-less) to agree for ϕ -features. Ergative displacement shows that the deactivation can happen separately for person and number. This leads eventually to chapter V, which offers a novel hypothesis about the implementation of the Active Goal Hypothesis by means of shells introduced through ϕ -Agree, whose morphological interpretation is Case.

2.3.2 *Georgian: ϕ -feature agreement and agreement displacement*

In this subsection I use Georgian to introduce the empirical focus of this section, the phenomenon of agreement displacement whereby ν under certain conditions agrees with its external argument rather than a DP in its complement. First, however, Georgian also illustrates two key assumptions for the subsequent analysis of Basque agreement: the separation of ϕ -probes into person and number, and the role of underspecification in syntax.

The two assumptions are introduced and argued for in the MI framework in Béjar's (2000b, 2003) analysis of Georgian verbal agreement:

(74)

- a Split ϕ -probe (cp. Ritter 1995, Taraldsen 1995): Uninterpretable person [ϕ] and number [#] features enter into Match/Agree separately, each determining its own probe.
- b Syntactic underspecification (Laka 1993): Underspecified features in a language (3rd person and singular number, the underspecification of which varies parametrically) are not present in syntactic representations.

Although both a split ϕ -probe and syntactic underspecification have been proposed before, Béjar (2000b) is the first to exhibit their interaction with feature-relativized locality constraints

on Agree. She shows that this interaction succeeds in largely predicting the complexities of Georgian ϕ -agreement morphology, and Béjar (2003), Béjar & Rezac (2004) extend this to a number of other languages. Here is a fragment of Georgian agreement to illustrate.

The Georgian verb cross-references one person feature and one number feature, either drawn from potentially any argument: subject, object, and indirect object. The relationship between arguments and agreement is complex. First, it is not predictable which argument will agree for either person or number from its theta-role, position, or Case alone. Second, which argument is cross-referenced by the person feature and which by the number feature is independent. Béjar (2000b, 2003) demonstrates that a split ϕ -probe and syntactic underspecification let locality shoulder most of the burden for the pattern of Georgian agreement: in the finite clause, there is exactly one person probe [π -] and one number probe [$\#$ -], each of which cross-references the closest argument with a specified person/number value in its c-command domain, and ignores intervening arguments with underspecified values.

We can see how this works by walking through a partial paradigm:⁸⁵

(75) Georgian ϕ -agreement for transitive *xedav* 'see' in the present.

Subject	Object			
	1.SG	2.SG	2.PL	3
1.SG	–	<u>g</u> -xedav	<u>g</u> -xedav-T	<u>v</u> -xedav
2.SG	<u>m</u> -xedav	–	–	<u>Ø</u> -xedav
2.PL	<u>m</u> -xedav-T	–	–	<u>Ø</u> -xedav-T
3.SG	<u>m</u> -xedav-s	<u>g</u> -xedav-s	<u>g</u> -xedav-T	xedav-s
3.PL	<u>m</u> -xedav-en	<u>g</u> -xedav-en	<u>g</u> -xedav-en	xedav-en

The exponents of person agreement on Béjar's analysis have been underlined, and those for number put in small capitals. The exponents of relevance are 1st *m*-/v-, 2nd *g*-/Ø-, no exponent for the 3rd person, and plural *-t*.⁸⁶ The agreement morphology of an intransitive verb, like *ixrce* 'drown', is exactly the same as the transitive morphology for a 3rd person object (shaded).

⁸⁵ 1.PL has been systematically excluded, because it introduces irrelevant complications: it does not trigger plural morphology. The same issue is discussed for Basque 1.PL in section 2.3.3. The suffixes *-s*, *-en*, which unlike other agreement morphology vary with tense and have a different position, are outside the system we are considering.

⁸⁶ The variation between *m*/v and *g*/Ø is beyond the present scope; Béjar (2003) has an extensive discussion which

If we ignore the shaded column with 3rd person objects, we can state the following generalizations about this paradigm: person agreement is always with the internal argument, while number agreement is with the external argument if it is plural (specified for number), but with the internal argument if it is singular (underspecified for number)⁸⁷. These generalizations hold systematically of the transitive and ditransitive paradigms (which cross-classify with a nominative-(dative)-accusative and ergative-(dative)-nominative Case morphology), and of the dyadic unaccusative paradigm (dative-nominative). Béjar captures them as follows. First, she places the unique probe for [π -] in the clause on v , which means that the external argument in [Spec, v P] does not fall into its scope and [π -] will be obligatorily valued from the internal argument. Second, the unique probe for [#-] is on T, which means that the subject will be the closest argument if it is specified for [#]; but if it is the underspecified singular, it does not intervene for [#] agreement between T and the internal argument. The mechanics are illustrated in the following two contrastive examples, where underspecified values are not represented:

(76)a				b			
m-xedav-t				g-xedav-t			
1-see-PL				2-see-PL			
"You(pl.) see me."				"I see you(pl.)."			
a'.	T ⁰	External argument		v^0	Internal argument		
	[#-]	\leftrightarrow [#=PL]					
		[π =2]		[π -]	\leftrightarrow [π =1]		
b.'	T ⁰	External argument		v^0	Internal argument		
	[#-]	\leftrightarrow			[#=PL]		
		[π =1]		[π -]	\leftrightarrow [π =2]		

On Béjar's analysis, then, the generalization behind Georgian ϕ -feature agreement is simply that a particular probe Agrees with the closest matching feature in its c-command domain.⁸⁸ The

demonstrates it comes about independently, as a "second cycle effect" (q.v. also Béjar & Rezac 2004). The distinction between the 2nd person \emptyset morpheme and absence of morphology in the third person is justifiable independently of Béjar's analysis, because only the 2nd person \emptyset has an allomorph x -, e.g. *mi-x-val-T* 'you (pl.) will go' (Hewitt 1995:507, nt. 10).

⁸⁷ The latter generalization is somewhat skewed in the surface data. First, the suffix *-en* is incompatible with pl. *-t*. Second, unlike 1/2.PL, 3.PL objects are exceptional in that prescriptively they do not trigger plural agreement even if the subject is singular (a cross-linguistically common situation); Hewitt (1995:130-1) notes that they may do so.

⁸⁸ Locating the [π -] probe on v means that in the transitive paradigm, only one argument is in its c-command domain and agreement is always with it if it is specified for person. It is worth pointing out, however, that the interaction of

interaction of syntactic underspecification and locality derives the apparent unpredictability of which argument is cross-referenced, and the separation of $[\pi-]$ and $[\#-]$ probes derives their separate agreement. Both proposals are natural in the MI approach and supportable on independent grounds (Béjar 2003, Béjar and Rezac 2003, 2004); they are here adopted. Two features of the analysis are specific to Georgian. First is the limitation to a unique $[\pi-]$ and $[\#-]$ probe each per clause, which captures the observation that only one person and number value is expressed by the morphology. Second is the localization of $[\pi-]$ on v and $[\#-]$ on T. This is crucial in correctly differentiating the behaviour of number agreement, which cross-references the highest plural argument, from person agreement, which cross-references an internal argument if possible.

This last necessary assumption, however, also brings us to agreement displacement. In the part of the transitive paradigm we have looked at, person agreement is always with the internal argument. This is the case when the internal argument is specified for person. If it is the underspecified 3rd person, however, the verb turns out to cross-reference the external argument for person agreement instead: this is the shaded column with 3rd person objects in (75). This is also the case when the verb is intransitive (77)a, or when it is ditransitive and neither internal argument is specified for person (77)b (cp. Hewitt 1995:4.1):

- | | | | |
|-------|--------------------------------|---|--|
| (77)a | v-k'vd-eb-i | b | mi-v-c'er-e |
| | 1-die-X-IND.PRS | | X-1-write-AOR |
| | "I am dying" (Hewitt 1995:118) | | "I wrote it to her." (Hewitt 1995:190) |

The present claim is that this pattern is amenable to a striking generalization: agreement with the external argument takes place if and only if there is no $[\pi+]$ feature in the complement of v^0 , that is, if all internal arguments bear the underspecified 3rd person feature. This is exactly what cyclicity as implemented by EP leads us to predict. Given that 3rd person features are literally absent from the syntax, the $[\pi-]$ probe of v cannot be satisfied by Agree with a DP in its complement when the syntactic object $[_{VP} v VP]$ has been built; this is stage α in (78). The next

locality and syntactic underspecification can be shown for the $[\pi-]$ probe of v as well, using the two internal arguments of dative-nominative unaccusatives: a 3rd person dative allows agreement with a 1st/2nd person nominative. (It should be noted that the Georgian "dative" is a structural Case marked by accusative morphology.)

step in the derivation extends this object by Merging in [Spec, ν P]; and at this point, without further stipulation, the search space of any unvalued probe on ν should extend to [Spec, ν P]. Consequently Agree then take place with it, in stage β in (78):

- (78) ν -xedav, 1-see, "I see him."

$$\begin{array}{ccc} [\beta \text{ External argument} = 'I'] & & [\alpha \ \nu^0 \text{ Internal argument} = 'he'] \\ [\pi=1] & \leftrightarrow & [\pi-] \end{array}$$

A prerequisite for cyclic search space expansion from the complement of ν to its specifier is that the relevant feature be underspecified in the language and thus not matchable, allowing ν 's probe to fail to Agree with a DP in its complement. In many languages with at least two-way agreement systems, such as Abkhaz or Yupik, where ν Agrees with the absolutive object and T with the ergative subject, Agree takes place with 3.SG objects and subjects and they are cross-referenced by the morphology. Béjar (2003) extensively explores the differences in underspecification between languages, and their consequences for agreement systems.

Basque shows the same pattern. However, Basque is both perhaps more persuasive, and allows a deeper insight into the interaction of Agree and cyclicity. First, Basque morphology cross-references external and internal arguments by separate ϕ -probes unlike in Georgian where the two compete for ν 's π -probe and T's $\#$ -probe, so the external argument is manifestly cross-referenced by morphology normally reserved for the internal argument. Second, only person is underspecified, so the behavior of person and number contrasts when a feature is matched by two consecutive probes.

2.3.3 Basque clausal syntax

2.3.3.1 General sketch

Basque is a three-way Case/agreement language, cross-referencing ergative (E), absolutive (A), and dative (D) with a separate agreement marker each on the verb for person and number.

Most verbs take periphrastic forms, which separate the verb root plus an aspectual suffix from an inflected auxiliary with agreement, mood, and tense:⁸⁹

- (79) Eman d -i -z -ki -gu -zu
 given DFLT ROOT -PL.A -DAT -1.PL.D -2.PL.E
 "You (pl.) have given us to him."

Basque is a morphologically ergative-absolutive language, where the subjects of intransitive verbs and objects of transitive verbs bear the same Case, the absolutive, and trigger the same agreement. Arguments in Basque appear in the following Case/agreement paradigms: transitive E-A, ditransitive E-D-A, unergative E, unaccusative A, and unaccusative (psych-verb) D-A.⁹⁰ The Case regime of a verb dictates the choice of its auxiliary root (Arregi 2001b). As Ortiz de Urbina (1989) among others shows, Basque has a nominative-accusative syntax: the c-command relations are unambiguously E > (D >) A for transitive verbs; and the E subject of transitive and A subject of intransitive pattern together against the A object of transitives. Following Levin and Massam's (1985), Laka's (1993), and Bobaljik's (1993) analyses of such morphological ergativity, I will assume that the locus of absolutive Case and agreement is *v* for both transitives and intransitives, and the locus of ergative agreement and Case is T. In the MI framework, both Case and agreement are a reflex of Agree with ϕ -features on these categories. To account for the grouping of ergative in transitives and absolutive in intransitives for subjecthood diagnostics, Bobaljik (1993) takes the highest thematic argument to raise to [Spec, TP] to satisfy the EPP; this movement is independent of Case (Schütze 1993, 1997:II). The relevant structure of transitive and intransitive clauses is diagrammed in (80); see Laka (1990, 1993) and Elordieta

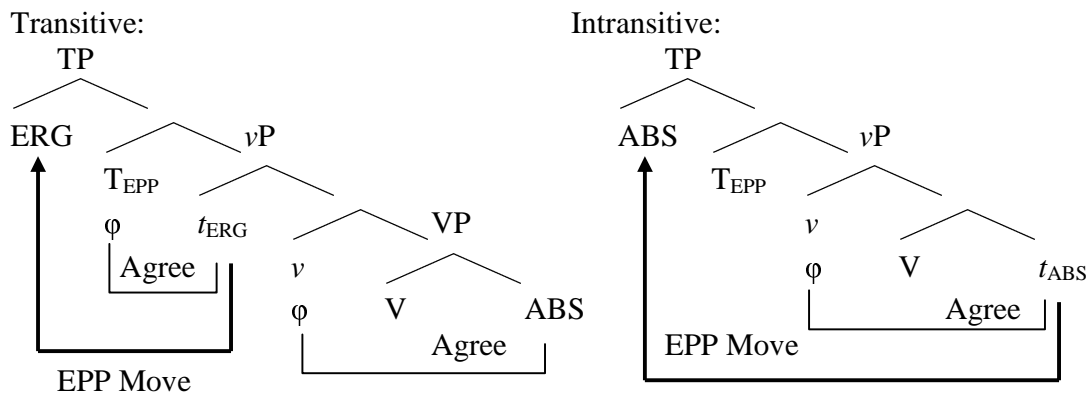
⁸⁹ A small number of verbs are capable of forming the synthetic inflection, where the verbal root raises to T (Laka 1993); allomorphy aside, there is no difference in the agreement morphology. There are various auxiliary roots in Basque, only in part reflecting the familiar *have/be* alteration; they will all be glossed root. A full discussion of finite verb morphology of the standard language is found in Hualde and Ortiz de Urbina (2003:3.5.2); a partial description of the agreement morphology of the spoken vernaculars is found in Pedro de Yrizar's ten volumes, of which Yrizar (1992) is one, and references there.

The agreement facts reported here are true in the standard language and the majority of the dialects (e.g. Bizkayan Ondárroa, Gipuzkoan Tolosa). However, the range of dialectal variation is vast and cannot be taken into account here. Some of it bears on agreement displacement; I pursue this in Rezac (in preparation a).

⁹⁰ When the ergative and absolutive suffix is the 3.SG.E/A \emptyset , the choice of auxiliary is frequently helpful in deciding, and in those cases (but not usually) the auxiliary will be annotated as AUX_{EA}, AUX_A, AUX_{EDA}, etc., for the Case pattern it is associated with.

(2001) on other functional categories, verb movement, and non-EPP XP movement, which are here ignored.⁹¹

(80) Case, agreement, and EPP in Basque transitive and intransitive clauses.



The names of functional categories vary in these analyses (INFL-Agr_S-T; V-Agr_O-v), but their major theoretical claim is that the locus of absolutive Case/agreement in ergative languages of the Basque type is the same as the locus of accusative Case/agreement in languages of the English type, rather than that of the nominative. I assume this locus, v, is also the Merge position of the external argument. This analysis of ergativity has the advantage that its Case/agreement relationships respect locality conditions familiar from A-movement in nominative-accusative languages and from \bar{A} -movement generally, unlike alternatives that assign ergative languages distinct locality conditions (e.g. Murasugi 1992); the computational system thus remains invariant.

The choices made by this analysis of morphological ergative are two: first, the notion of subjecthood is characterized by movement to [Spec, TP] for the EPP, and thus independent of the choice of Case; second, the ergative and the absolutive are both structural Cases, corresponding respectively to the nominative and accusative of say Icelandic. The two choices

⁹¹ There is some evidence that the Basque absolutive object is in a specifier: extraction from it unlike from that of an English object is bad (i), Uriagereka (1998:395), which could be attributed to the left branch condition that bars extraction out of subjects in English (ii). This does not change anything in the present analysis, see note 115, and I abstract away from it:

(i) *[Nori buruzko]_i sortu zituzten [aurreko asteko istiluek] [zurrumurruak t_i]
 who-D about-of created have last week scandals-E rumours-A

Who have last week's scandals caused rumours about? (Uriagereka 1998:395)

(ii) *[About who]_i were [last week's rumours about t_i] caused by John?

may be adopted separately. In particular, in languages such as Hindi (Mahajan 1990) there is quite strong evidence that the ergative is a pure inherent Case, a PP, as Woolford (1997) proposes in general (basing herself on Nez Perce): see Nichols (2001) on Hindi and Kashmiri and Anand & Nevins (forthcoming) on Hindi, both rather convincing. Legate (forthcoming) for example adopts the subjecthood characterization by the EPP but treats the ergative as inherent Case in Warlpiri. Agreement with such an inherent ergative must constitute clitic doubling – probably a type of discontinuous constituency between the D-like clitic and the doubled DP – rather than ϕ -Agree (this notion will become clear when we get to dative agreement in Basque, 2.3.3.3; cp. chapter IV, Anagnostopoulou 2003:IV); if agreement with the absolutive is the result of ϕ -Agree, the two systems are not expected to interact in the syntax. They do interact in Basque, suggesting that the ergative is a structural Case, in fact simply the nominative, as on Bobaljik's (1993) analysis. In view of the importance of this, the following subsection 2.3.3.2 justifies this in some detail, showing that Basque has raising to ergative, often considered an impossibility (Marantz 1991, Legate forthcoming), and thus of considerable independent importance for the theory of ergativity.⁹² 2.3.3.3 then turns to the Basque dative, about which nothing has yet been said, and which is completely ignored by the cyclic displacement phenomenon in question. In minimal contrast with the ergative, it can be shown that dative agreement is not ϕ -Agree at all but rather clitic doubling, triggered as cyclic displacement of some D-like subconstituent of the dative, which does not value a ϕ -probe. The differential status of ergative and dative agreement in Basque, the former but not the latter patterning with the absolutive as ϕ -valuation, is quite independent of the ergative displacement paradigm, which confirms the difference because it links ergative and absolutive while ignoring the dative. It is also rather neat as a demonstration of a purely structural ergative contrasting with an inherent (quirky) dative in the same system.

2.3.3.2 Ergative as a structural Case

⁹² It cannot be the case then that all (morphologically) ergative-absolutive systems instantiate the quirky/oblique subject subsystem of nominative-accusative languages, as suggested in Legate (forthcoming), though that seems clearly the right analysis of some such systems: Warlpiri in Legate (forthcoming), and differently Chukchi in Bobaljik & Branigan (forthcoming). I pursue this further in Rezac (in preparation a).

The nature of the ergative as a T-assigned Case, and as a purely structural Case in the first place, is a point of considerable debate in the literature on ergative-absolutive languages; see Mahajan (1990), Johns (1992), Bobaljik (1993), Woolford (1997), Legate (forthcoming), Massam (forthcoming) for extensive discussion in addition to the above references. It will be of considerable importance here that it is a structural Case. Basque offers an intriguing raising pattern that is a rather clear demonstration that the ergative need not be assigned to a selected argument, and therefore that ergative Case morphology must be the reflex of the ϕ /Case system rather than lexically assigned. The pattern is a particularly good demonstration of its nominative-accusative syntax.

The raising in question is raising to ergative (Hualde & Ortiz de Urbina 2003:4.10.1.1.9, Artiagoitia 2001ab).⁹³ Basque has three prima-facie raising predicates meaning 'seem', with some dialectal variation: *eman* (also 'give'), *irudi*, and the analytic *iduri edun*. They select either finite clause or small clause complements. The impressive bit is that they always require an ergative subject: with a finite clause complement the auxiliary root (if there is one) that is chosen is that which requires the presence of an ergative subject, with a \emptyset 3rd.SG.E agreement, (81)b, and with a small clause complement the DP subject of the small clause is also the agreeing ergative subject of the matrix clause, (81)a:

(81)

- a **Jonek** [pertsona argia eta azkarra] d-irudi
 John-E person-A bright-A and smart-A DFLT.A-seem
 John seems a bright and smart person. (Hualde & Ortiz de Urbina 2003:4.10.1.1.9)
- b Ematen d-**u** [Jon nekatuta d-ago-ela]
 seem-PRG DFLT.A-AUX_{EA} John-A tired DFLT.A-be-that
 It seems that John is tired. (Hualde & Ortiz de Urbina 2003:4.10.1.1.9)

These predicates also show another pattern, which Hualde & Ortiz de Urbina (2003:4.10.1.1.9) reports from a study by X. Artiagoitia (accepted by 16/21 speakers): a pattern which Artiagoitia (2001ab) persuasively argues to be copy-raising. The syntax and semantics of

⁹³ The exception is when raising to absolutive is forced with these verbs under the special circumstances discussed below.

copy-raising constructions is studied in detail in chapter III; here, it suffices to note that they are analogous to English (82) for those speakers who allow them, and I translate them as such:

(82)

- a Kate seems like she is about to leave.
- b There seem like there are three people in the room.

What happens here is that the matrix verb contains a copy of a pronoun (*pro*-dropped, usually) argument in the embedded clause to which it is interpretively linked. The subject copy in Basque must be ergative and show ergative agreement, as in (83).⁹⁴ If there is no subject copy and construction analogous to (82)b is built, the *pro*-drop expletive is also ergative, as can be seen from the fact that it determines use of the ergative-subject auxiliary *do* in (81)b.⁹⁵

(83)

- a Jonek [nekatuta z-ego-ela] z-irudi-en.
John-E tired DFLT.A-be-C DFLT.A-seem-PST
John seemed / it seemed like he was tired. (Albizu & Fernández 2002)
- b (Espainolek) iduri du-te ez d-aki-te-la
the.spaniards-E seem DFLT.A-AUX-PL.E not DFLT.A-know-PL.E-C
borrokatzen elgar sangratu gabe
to.fight each.other-A bleeding without
The Spaniards seem like they don't know how to fight without bleeding each other. (Hualde & Ortiz de Urbina 2003:4.10.1.1.9)

⁹⁴ For no reason I understand, for some speakers copy-raising in Basque is only acceptable with 3rd person subjects (singular or plural); see Artiagoitia (2001ab).

⁹⁵ Based on (81)b, we would also expect that the subject staying in-situ could trigger ergative plural agreement in the matrix clause, but keep its absolutive Case if that is what it should have in-situ. Such constructions as (i) are indeed fine for some speakers (Aritz Irurtzun, p.c., Gipuzkoa), though not for others who require *liburuek* E.PL in (i) (Maia Duguine, p.c., Lapurd). The difference should correlate with whether the matrix *pro*-dropped expletive is of the English *there*-type, transparent to agreement, or the French *il*-type, triggering its own.

(i) Liburuak zuriak d-e-la dirudi-te
books-A.PL white-A.PL DFLT.A-be-that seem-3.PL.E
The books seem like they're white.

As shown in chapter III, copy-raising is restricted to the closest goal, which should *ceteris paribus* be the subject of the embedded clause. Otherwise, we are not really dealing with copy raising but rather with a thematic use of a raising verb (Potsdam & Runner 2001). This holds vice-versa as well: if the matrix predicate assigns a theta-role, the argument it is linked to in the lower clause is not restricted to the closest one. Furthermore, it will be established that the subject in copy-raising is base-generated specifically in [Spec, TP], and does not originate in or move through any lower position.⁹⁶

7 out of 21 speakers in Artiagoitia's study accept raising subjects linked to non-subjects in the lower clause; therefore for the rest at least, we are truly dealing with copy-raising, and a non-thematic matrix subject.

(84)

- a %Jonek ematen du [norbaitek min egin d-io-la]
 John-E seem DLFT.A-AUX_{EA} someone-E pain do DFLT-AUX_{EDA}-C
 John seems that someone has caused him pain. (Hualde & Ortiz de Urbina 2003:4.10.1.1.9)
- b %Jonek ematen du [norbaitek jo egin d-u-ela]
 John-E seem DFLT.A-AUX_{EA} someone-E hit do DFLT.A-AUX_{EA}-PST-C
 John seems that someone has hit him. (Hualde & Ortiz de Urbina 2003:4.10.1.1.9)

However, it will be shown that in some languages (overt or covert) \bar{A} -movement such as topicalization may provide the closest goal for copy-raising. Therefore, even for the 7/21 speakers who can link the subject to an embedded non-subject, this may be true copy-raising and the matrix subject may be non-thematic. This is consonant with the fact that Artiagoitia's speakers do not accept such constructions without some argument in the embedded clause to which the matrix subject may link (but see Salaburu 1987ab for speakers who do):

- (85) *Jonek ematen du [Ana nekatuta d-ago-ela]
 John-E seem DFLT.A-AUX_{EA} Ana-A tired DFLT.A-is-C

⁹⁶ An Agree is established between [Spec, TP] and T then for EPP checking, which assigns/values ergative Case, as discussed in chapter III. The major study of these constructions, Artiagoitia (2001ab), does not investigate whether reconstruction can take place in sufficient detail from the standpoint of chapter III; my preliminary results indicate that it indeed does not, e.g. existential readings of nouns like 'snowflakes' are out.

John seems that Ana is tired. (Hualde & Ortiz de Urbina 2003:4.10.1.1.9)

Both the raising pattern from small clauses, and more clearly the copy-raising pattern which controls better for theta-role assignment by the raising-like predicate, are quite clear in their implication: the ergative subject of the matrix clause does not receive a theta-role. It is therefore not selected by the raising predicate. At the same time, the ergative Case cannot have a source in the embedded clause, where the DP would receive absolutive, and its pronominal copy actually does in the case of copy-raising. Therefore, the ergative Case of the subject cannot be coming to it through a selection process, in the same way that inherent or quirky Case does; it must be fully structural, in the same way the nominative of English is. This goes against the putatively universal absence of raising-to-ergative (Marantz 1991, Legate forthcoming). Basque therefore demonstrates a clearly nominative-accusative syntax in an ergative-absolutive morphological system.

By the same token, it is hard to see how these raising predicates obey (the equivalents of) the OBLIGATORY CASE PARAMETER of Levin & Massam (1985), Bobaljik (1993), and Laka (1993), as Artiagoitia (2001ab) points out. Given that languages with both ergative-absolutive and nominative-accusative morphology can have the same syntax, the Obligatory Case Parameter accounts for why in the former unaccusative subjects share the Case/agreement of the objects of transitives, while in the latter, that of transitive subjects. It requires the obligatory assignment of T-Case in nominative-accusative languages and *v*-Case in ergative-absolutive languages. However, there seems to be no *v*-Case (absolutive) in these raising constructions. It could be being assigned to their small/finite clause complement, but intuitively the CP argument of a raising verb is its subject; section 2.3.3.3 gives some further reasons not to think so, if its analysis is correct, and so does Artiagoitia (2001ab).⁹⁷ It is of relevance to this discussion that Basque plausibly also has raising to absolutive, if the *be*-copula is a raising predicate (Stowell 1978, Burzio 1986:II); raising to absolutive would be instantiated by constructions such the first two examples that follow:

⁹⁷ When there is no subject-to-subject (copy-)raising, the raising verbs here take the ergative-absolutive auxiliary in with 3rd.sg.E-3rd.sg.A agreement as in (81)b. This contrasts minimally with the verbs *bejar/nahi izan* 'want/need', which when impersonal (*It is necessary to learn Basque* rather than personal *Basque must be learned*) take the absolutive 3rd.sg. auxiliary. This seems significant, but remains to be explored.

(86)

- a Maia nekatuta d-ago
 Maia-A tired DFLT.A-is
- b Maia [Aritz ikusten] d-ago
 Maia-A Aritz-A see-ing DFLT.A-is
 Maia is watching Aritz.
- c Maiak [Aritz ikusten] d-u
 Maia-E Aritz-A see-ing DFLT.A-AUX_{EA}
 Maia sees Aritz.

2.3.3.3 Basque dative agreement as cyclic displacement

When the next subsection turns to the agreement displacement phenomenon in Basque, ergative displacement, whereby *v* agrees with the ergative under certain conditions, it will turn out that the dative is always systematically ignored by this process.⁹⁸ Elordieta (2001) shows that in transitive clauses, the dative is base-generated between the ergative and the absolutive in terms of c-command; for intransitives, there are both ergative-dative unergatives and dative-absolutive unaccusatives.

Generally, two options are available for analyzing agreement morphology which tracks overt DPs: clitic doubling, which in the sense I wish to use it is probably displacement of a sub-constituent of the DP (Uriagereka 1995, Belletti 1999, Anagnostopoulou 2003:IV), or ϕ -valuation. These have different properties, discussed in chapter IV. Although the dative is cross-referenced by agreement morphology phonologically very similar to ergative agreement morphology, there are reasons to believe this morphology is not a reflex of Agree. Some preliminary reasons are the following: (a) there is an overt 3rd person marker for the dative (*o*), whereas as we will see 3rd person is otherwise absent; (b) verbal agreement morphology seems to indicate dative Case (*ki* in (79)), which is not true of absolutive or ergative simple agreement;⁹⁹

⁹⁸ Exception comes from Basque dialects where the dative independently triggers absolutive agreement; that is as expected on the analysis there, since it is then a structural Case (Rezac, in preparation a).

⁹⁹ Although this is an asymmetry, I do not think it is a very convincing argument; I suspect the so-called dative flag here is an incorporated applicative head, so it has nothing to do with dative agreement per se.

(c) the dative never participates in the agreement displacement to be presently discussed. Ergative and absolutive both differ from the dative on properties (a)-(c).¹⁰⁰

The present section gives a syntactic argument that dative agreement morphology is not really the valuation of unvalued ϕ -features by Agree at all, and that there is no dedicated dative agreement ϕ -probe. It is rather the cliticization or clitic-doubling of a DP with inherent dative Case, accomplished by v 's ϕ -probe, which is required to allow v -absolutive agreement to take place across the dative trace. It is therefore a paradigm case of cyclic displacement in a DIC, to be analyzed exactly as Anagnostopoulou (2003:IV) analyzes cliticization and clitic doubling in Greek and Romance (see 2.2.1 above).

The argument turns on the following generalization which I will argue for below:

- (87) Dative agreement morphology in a clause is contingent on the clause also having an absolutive ϕ -probe, that is a ϕ -probe on v .

The most natural interpretation of this, I suggest, is that dative agreement morphology is not due to a dedicated dative ϕ -probe. The morphology is rather a reflex of cyclic displacement of the dative *pro* or the equivalent clitic doubling of a dative DP by the absolutive v . If there is not a ϕ -probe on v , no such cliticization/clitic doubling of the dative will take place, and no dative agreement occurs. On the other hand, if there is a ϕ -probe on v , there must ordinarily be an absolutive argument to serve as its associate.

The argument cannot be made directly. Basque has a number of bivalent verbs with an ergative external argument and a dative internal argument, such as *lagundu* 'help' (Hualde & Ortiz de Urbina 2003:4.1.5.2-3, cp. also their 4.1.3.2). The analysis of these is the same as that

¹⁰⁰ Ergative and absolutive agreement is also obligatory with overt clause-internal DPs (in a clause where agreement is possible at all), regardless of their interpretation; for objects at any rate this cross-linguistically diagnoses "grammatical agreement" or ϕ -valuation rather than clitic doubling (cp. Bresnan & Mchombo 1987, Siewierska 1999, cp. chapter IV). For the dative things are trickier in terms of obligatoriness, in ways that I will not explore here. Nothing can be directly concluded from its compatibility with all interpretive types of DPs in Basque, since like that characterizes undoubted instances of clitic doubling as well as ϕ -valuation (Suñer 1988, 1991, Gutiérrez-Rexach 2000). Clitic doubling is obligatory in cyclic displacement contexts if v 's ϕ -probe is to enter into a relationship with the absolutive, which always happens in Basque as just discussed. Therefore, clitic doubling of the dative in Basque always has to take place in the DOC and DNC constructions. In turn, the DP with dative morphology could always indicate the DOC/DNC constructions as in Greek, with the prepositional variant realized differently (Anagnostopoulou 2003). Thus although it turns out that dative agreement is not always obligatory in Basque under different syntactic and dialectal conditions (Albizu 1997, 2002), even if it were dative agreement morphology is still ambiguous between being analyzed as reflecting a doubling clitic or a valued ϕ -probe

assumed in wake of Burzio's Generalization for unergative verbs in general: they take a covert internal argument which receives absolutive (Hale & Keyser 1993, 2002, cp. Dobrovie-Sorin 1998), so they do not exemplify constructions with a dative and no absolutive counter to (87). (87) can be established on the basis of an important observation made by Albizu & Fernández (2002).¹⁰¹ There is a class of Basque verbs which do not select an argument that would receive an absolutive; their sole internal argument is clausal, their own matrix syntax demands only that they have the ergative-assigning T (recall the discussion of raising verbs above). From these verbs, I will establish the generalization that a v ϕ -probe with an absolutive controller is required to allow dative agreement morphology.

The first case to consider are the modal verbs *behar* 'need' and *nahi* 'want'. The agent of these verbs is ordinarily in the ergative. The internal argument may be either an absolutive DP, or two kinds of nominalizations: *tu*-nominalizations with obligatory co-reference or the *tze*-nominalizations with obligatorily disjoint reference (Ormazabal 1991, Ortiz de Urbina 1989, 2000, San Martín 2002):

(88)

- a Nik aholkua behar/nahi d-u-t.
 I-E advice-A need/want DFLT.A-AUX-1.SG.E
 I need/want somebody's advice. (Albizu & Fernández 2002)
- b Nik_i [e_i Mikel aholkatu] behar/nahi d-u-t.
 I-E Mikel-A advise-NMLZ need/want DFLT.A-AUX-1.SG.E
 I need/want to give Mikel advice. (Albizu & Fernández 2002)
- c Nik_i [e_{j,*i} Mikel aholkatzea] behar/nahi d-u-t.
 I-E Mikel-A advise-NMLZ need/want DFLT.A-AUX-1.SG.E
 I need/want somebody to give Mikel advice. (Albizu & Fernández 2002)

Tu-nominalizations are the focus here. They display a couple of properties which characterize restructuring constructions (Wurmbrand 2001). First, the internal arguments of the

¹⁰¹ The data and descriptive observations about the distribution of datives are taken from Albizu & Fernández (2002), cp. also Artiagoitia (2001ab); the theoretical conclusions are quite different, as discussed at the end of this section.

tu-nominalizations, which if it were an independent verb would receive dative and absolutive, are obligatorily coded in the matrix clause as dative and absolutive agreement (the nominalization itself has no agreement morphology).¹⁰² Second, the arguments of the nominalization may appear in the matrix clause, which is not possible for the *tze*-nominalization. The first property suggests that the internal arguments of the nominalizations are in the scope of the matrix ϕ -probes; the second that there is no CP/DP-like boundary to prevent movement. The syntax of the external argument which is semantically the agent of the modal are fixed: it receives invariable ergative case, even if the subject of the *tu*-nominalization to which it is linked would independently be absolutive.¹⁰³

- (89) Aitorrek_j [*e*_i gonbitak bidali] behar/nahi d-izki-e /
 Aitor-E invitations-A send-NLMZ_{tu} need/want DFLT.A-AUX_{EDA}-3.D.PL
 *d-u gonbidatuei_i
 DFLT.A-AUX_{EA} guests-D
 Aitor needs/wants to send guests their invitations. (Albizu & Fernández 2002)

The interpretation of these facts seems relatively straightforward. As a restructuring clause, the nominalization lacks its own ν and T. The matrix ν agrees with the embedded arguments. The matrix verb selects the external argument, which is interpreted as the external argument of the embedded verb as well, and the latter itself selects none; this accounts for the appearance of obligatory control (Chierchia 1984, Wurmbrand 2001). If the matrix verb selects for internal arguments other than its subject, e.g. absolutive object or dative indirect object, they are regularly selected by it, but they are Agreed with by the only ν in the structure, the matrix one. Not to beg the question, I indicate agreement with the dative as if it were real agreement, and

¹⁰² As Hualde & Ortiz de Urbina (2003:4.10.1.2.3) observe, this property is not contingent on modal-V "reanalysis". Although in many dialects the block [participle + *nahi/behar*] behaves as a single constituent which cannot be separated and which obligatorily takes the negation as a whole (not the participle alone), the eastern dialects allow the two to be separated as well as to be adjacent yet still code the embedded arguments by matrix agreement. A minimal contrast to *nahi/behar* is provided by *nahiago* 'prefer', which does not restructure or code embedded arguments.

¹⁰³ For a minority of speakers, these verbs are subject to a much stronger restructuring: the subject receives the Case that would be assigned by the verb of the nominalization, with appropriate choice of auxiliary. The speakers are not relevant here. It is not clear to me if perhaps these speakers are not those for whom the modal-V reanalysis of nt. 102 is obligatory.

superscripting on a verb indicates which DPs are its arguments in the order subject -- object -- indirect object.

- (90) $[_{TP} \text{ergative}_i T_{\phi^*=i} [_{VP} t_i v_{\phi^*=j,k} [_{VP} \text{need/want}^i [_{VP} V^{i,j,k} (\text{absolutive}_j) (\text{dative}_k)]]]]$

Albizu and Fernández's generalization identifies the crucial exception to this behavior: if and only if the embedded verb is unaccusative, it may not select for a dative argument in this kind of structure, as in the following example (contrast the transitive (89) above):

- (91) *Nik berari hurbildu behar/nahi d-io-t.
 I-E he-D approach-NMLZ_{tu} need/want DFLT.A-AUX_{EDA-1.SG.E}
 I need/want to get close to him. (Albizu & Fernández 2002)

The interpretation that I propose for this is the following. When the embedded clause is not unaccusative, that is it is either transitive or unergative, it has an absolutive internal argument (covertly so for unergatives). This argument remains selected by the embedded verb in its nominalized form; it is the external ergative argument that is interpretively bound by the agent introduced by *behar/nahi*. The presence of an embedded absolutive requires that the (matrix) *v* of the structure have a ϕ -probe to agree with the absolutive; under the generalization (87) this licenses dative agreement morphology as well:

- (92) $[_{TP} \text{ergative}_i T_{\phi^*=i} [_{VP} t_i v_{\phi^*=j,k} [_{VP} \text{need/want}^i [_{VP} V^{i,j,k} \text{absolutive}_j \text{dative}_k]]]]$

An unaccusative nominalization is quite different, because the internal argument which would in an independent clause be the absolutive subject of the verb is in its nominalized form interpretively bound by the ergative introduced by *behar/nahi*. It is itself never selected/projected, on the Wurmbrand-type approach to obligatory restructuring. Because there is no argument with structural Case in its reach, the matrix *v* must have no ϕ -probe; if there were one, it would not be valued, and the derivation would not converge.¹⁰⁴ This is schematized

¹⁰⁴ Such variation in whether a verb that selects a restructuring complement has or has not a ϕ -probe (is a Case assigner) depending on whether its complement has an object is independently necessary on the Wurmbrand-type

below: the unaccusative *hurbildu* 'approach' has as its subject the ergative *nik* 'I', and there is no absolutive argument or absolutive agreement on the auxiliary in the structure, which is the auxiliary associated with ergative Case assignment.

- (93) [TP ergative_i T_{φ*=i} [_{VP} t_i v [_{VP} need/wantⁱ [_{VP} Vⁱ]]]]

When a dative is added to this structure, we reach the following:

- (94) [TP ergative_i T_{φ*=i} [_{VP} t_i v [_{VP} need/wantⁱ [_{VP} V^{i,k} dative_k]]]]

As discussed, this structure is not possible. Generalization (87) predicts this. *v* contains no ϕ -probe, because nowhere is an absolutive argument present to value it; the subject of the unaccusative V is interpretively the ergative subject of *behar/nahi*.

Interestingly, unaccusative *tu*-nominalizations with dative arguments are convergent simply if the dative argument is not coded by agreement, as (87) predicts:¹⁰⁵

- (95) Nik berari hurbildu behar/nahi d-u-t.
 I-E he-D approach-NLMZ_{tu} need/want DFLT.A-AUX_{EA}-1.SG.E
 I need/want to get close to him. (Albizu & Fernández 2002)

There is another way to embed a dative-selecting unaccusative as a *tu*-nominalization under *behar/nahi*. That is to use quite a different structure: the argument which is jointly the agent of *behar/nahi* and the subject of the unaccusatives receives absolutive Case and agreement, the non-ergative auxiliary is selected, which then codes dative agreement:

- (96) Ni berari hurbildu behar/nahi na-tzai-o.
 I-A he-D approach-NMLZ_{tu} need/want 1.SG.A-AUX_{DA}-3.SG.D
 I must/want to get close to him. (Albizu & Fernández 2002)

approach; in fact, the converse case where a restructuring verb R would require its complement to be either transitive/unergative or unaccusative is to my knowledge unknown.

¹⁰⁵ A marked option not always permitted, readily parameterizable in terms whether a dative argument may select a construction where it need not Agree, e.g. the prepositional construction rather than DOC; cp. Albizu (2002).

This option is formally identical to that of a minority of speakers described in nt. 103, for whom *behar/nahi*+V combinations inherit the Case/agreement properties of V. I do not fully understand the last-resort nature of this option here, if it is one (cp. chapter V for another, in Icelandic infinitives). Aside from this though, the option itself is clearly made available by by generalization (87): if dative agreement is to be coded, there must be an absolutive probe, which requires an absolutive argument. This option is not available in the structure (93), because the non-dative argument of the unaccusative V is not projected, being interpreted from the external argument of *behar/nahi*, so there is no absolutive argument.

A second data-set confirms this interpretation. As briefly discussed above, Basque has a class of raising and copy-raising verbs like *eman* and *irudi* 'seem', which take finite/agreement clause complements, and a necessarily ergative-assigning/agreeing matrix structure. There are two options. Either no raising needs to take place from the finite clause, and the matrix ergative agreement reflects a 3rd.sg. expletive; or there is a matrix ergative argument which is a "copy" of the subject of the finite clause:

- (97) Jon(ek) [nekatuta z-ego-ela] ematen z-u-en.
 John-A/E tired DFLT.A-was-that seem DFLT.A-AUX_{EA}-PST
 John seemed / it seemed that he was tired. (Albizu & Fernández 2002)

These verbs arguably lack their own absolutive ϕ -probe, and perhaps *v* entirely, though it is not clear how that is to be implemented in order to preserve Burzio's Generalization. Except for the subject, which may be "copied", the embedded clause is opaque to any matrix agreement. It is then consistent with generalization (87) that these verbs cannot select for a dative matrix experiencer, simply because they do not select for an argument that could value *v*'s ϕ -probe and therefore lack this ϕ -probe:

- (98)
 a *Jonek zintzoa z-irudi-(z)da-n
 John-E honest-A DFLT.A-seem-1.SG.D-PST
 John seemed honest to me. (Albizu & Fernández 2002)

- b *Jon(ek) [nekatuta z-ego-ela] iruditu z-i-da-n.
 John-E tired DFLT.A-is-that seem DFLT.A-AUX_{EDA}-1.SG.D-PST
 John / it seemed to me that he was tired. (Albizu & Fernández 2002)

As Albizu & Fernández demonstrate, a dative experiencer can be added to one of these verbs, *irudi*, but it requires a total change of the matrix structure by which it selects the dative-absolutive auxiliary, the subject of both clauses is absolutive, and there is no ergative argument.¹⁰⁶

(99)

- a Jon zintzoa iruditzen z-itzai-da-n
 John-A honest-A seem-NMLZ DFLT.A-AUX_{DA}-1.SG.D-PST
 John seemed honest to me.
- b Jon [nekatuta zegoela] iruditu z-itzai-da-n
 John-A tired-A DFLT.A-is-that seem-NMLZ DFLT.A-AUX_{DA}-1.SG.D-PST
 It seemed to me that John was tired / John seemed to me that he was tired?

This behaviour is predicted by (87): the matrix dative experiencer can be coded by agreement, just in case the matrix verb also has a ϕ -probe for an absolutive, and that itself is licensed by having an absolutive goal (either a copy of the embedded clause subject or an *it*-type 3.SG.A expletive).¹⁰⁷

I have argued for the following generalization about dative agreement in Basque:

¹⁰⁶ Albizu & Fernández claim that the following examples are copy-raising, and I follow them in this interpretation, but actually the examples themselves are ambiguous between raising to an absolutive copy and an absolutive expletive in the matrix clause; a plural embedded subject would be required to make sure copy-raising is possible.

¹⁰⁷ I have at present no data on whether suspending dative agreement suffices. -- There is an unclear point in the argument from raising and copy-raising which does not arise in the argument from restructuring constructions: it is not clear why the matrix T's ϕ -probe, responsible for ergative Case/agreement, should not suffice to itself cyclically displace the dative: that is why is it specifically the absolutive probe that is required. (In the *behar/nahi* constructions, the ergative is higher than the dative, and absorbs T's ϕ -probe before reaches the dative.) A possibility is that T cannot be targeted by cyclic displacement, although that predicts more generally the existence of languages with cyclic displacement (clitic doubling) of datives only in transitive or intransitive constructions, for which I do not have evidence. Although this issue remains pending, it does not modify the conclusion that dative agreement is dependent on another ϕ -probe, and so cyclic displacement rather than agreement in its own right.

- (87) Dative agreement morphology in a clause is contingent on the clause also having an absolutive ϕ -probe, that is a ϕ -probe on v .

Assume that it is correct. The most straightforward interpretation seems to be that dative agreement morphology is created by the absolutive v 's ϕ -probe. The mechanism for this has been extensively discussed in 2.2.1, cyclic displacement: v 's ϕ -probe attempts to match the dative argument, fails because it is a defective intervener incapable of Agree due to its inherent Case, displaces it in the same way that clitics are dative clitics are displaced in Greek and Italian (whether they have a DP doubled or not), and then Agrees with the absolutive controller across the dative's trace on the next cycle.

(100)

- a Gianni non gli sembra [t fare il suo dovere]
 Gianni not to.him seem to.do the his duty
 Gianni doesn't seem to him to do his duty. (Anagnostopoulou 2003:194)
- b Gianni₂ non gli₁ sembra_T t_1 [t_2 fare il suo dovere]

With the two classes of verbs discussed in this subsection, modals and raising verbs, no absolutive argument is selected in their "typical" structure, and therefore they do not intrinsically come with a ϕ -probe on v unlike transitives, unergatives, and unaccusatives. In order to show agreement with a dative though, they must be inserted into a structure where there is an absolutive probe and a corresponding absolutive structure is introduced. With no loss of generality this may be extended to all dative agreement in Basque; it is always the equivalent of a dative clitic in languages like Greek. From now on therefore, I leave dative morphology aside; it is simply irrelevant to the ϕ -Agree phenomenon at hand, in which the dative does not participate.

The discussion in these two subsections is a neat demonstration of the minimal difference between ergative and dative Cases in Basque: the former must be structural and agreement with it is ϕ -Agree, the latter must not be.¹⁰⁸ The structural nature of ergative in Basque is important;

¹⁰⁸ Many other questions remain pending: for example, whether the nominative/ergative – finiteness correlation is of any relevance (Iatridou 1993). Ergative, absolutive, and dative all show up in non-finite clauses in Basque, which

an inherent Case, as in Woolford (1997), or quirky Case, as in Legate (forthcoming), treatment cannot be accorded to it. By contrast, ergatives in many other languages behave like the dative in Basque does: as Diane Massam (p.c.) points out, the ergative often relies on the absolutive in the same way as the dative does in generalization (87).¹⁰⁹

The present solution in terms of cyclic displacement is not like Albizu & Fernández's. In their account, the dative intervenes between a matrix ϕ -probe and its ergative argument; but it does not intervene between a matrix ϕ -probe and its absolutive argument because through successive-cyclic (phase-driven) movement the absolutive becomes equidistant to the dative. I will not discuss their analysis here further, since I think the solution in terms here is simpler and more conservative in its assumptions.¹¹⁰ However, a second point I borrow directly from them. Recall that besides adding an absolutive ϕ -probe and giving it an absolutive goal, there is a second more marked strategy of simply not agreeing with the dative. Albizu & Fernández compare this to the prepositional dative construction rather than the DOC construction in ditransitives. I adopt their analysis, which is consonant with Anagnostopoulou's (2003) treatment of clitic doubling: a low prepositional dative is not an accessible goal to a ϕ -probe (e.g. because it is too low in the structure to intervene between any probe and its controller).

2.3.4 *Basque agreement and ergative displacement*

We are now ready to look at the agreement pattern. The Basque auxiliary or verb in T manifests agreement with absolutive and ergative arguments. Absolutive person agreement is prefixed to the root, ergative person agreement suffixed. The pieces of person agreement morphology are as follows (cp. Arregi 2001a):

(101) Basque person agreement morphemes

also lack overt agreement and perhaps ϕ -Agree entirely because there is no Person Case Constraint effect (Bonet 1991); we might not expect at least T-related Case here (cp. Legate, forthcoming, for Warlpiri), but structural Case assignment there is not unrestricted, and the matter is well beyond my present scope (Ortiz de Urbina 1989).

¹⁰⁹ Interestingly, this is explicitly encoded in theories which take the ergative and/or the (applicative) dative to be structural, because their Case is a dependent Case (Levin & Massam 1985, Marantz 1991, Bobaljik 1993), or the Case assigned by a defective Agree (Bobaljik & Branigan, forthcoming); cp. Rezac (in preparation a).

¹¹⁰ Neither account has a ready explanation for the last-resort nature of the matrix absolutive subject strategy.

	1.SG	1.PL	2.SG.M	2.SG.F	2.S.P/PL	3.S/PL
Absolutive	n-	g-	h-	h-	z-	Ø-
Ergative	-da-, -t	-gu	-a-, -k	-na-, -n	-zu	-Ø

In this system, there is a distinction between 1.SG and 1.PL in person. We will see later that 1.PL also does not trigger ergative plural agreement morphology, which corresponds to semantic plurality. This is a familiar situation cross-linguistically; there is no such thing as literally several 1st persons (Harley and Ritter 2002).¹¹¹ The second person distinguishes a familiar and a polite (P) form, and in the ergative also masculine (M) and feminine (F). The third person is not marked by any morphology for either absolutive or ergative. Laka (1993) argues that 3rd person is underspecified in Basque, and I will adopt this assumption here.

Beside person morphology, both absolutive and ergative are cross-referenced by number morphology, but in a different way. The morphology that cross-references plurality of the absolutive argument shows great variability in form and position both within the paradigm of any particular dialect, and across the Basque dialects; there are several independent morphemes, e.g. *z*, *zki*, *tza*, *it*, *de* (cp. Gómez and Sainz 1995); and there may be conditioning of root allomorphy. The agreement cross-references morphological plurality, i.e. a morphologically specified plural feature such as that which triggers plural agreement with polite 2nd.sg forms for French *vous*; it is triggered by 1/2/3.PL and 2.SG.P.¹¹² Ergative plural agreement, on the other hand,

¹¹¹ Some light is shed on the usual behaviour of 1.PL by the cross-linguistically common use of an impersonal construction for it, as in French and Finnish. It is a general property of interpretive dependencies that involve a pronoun as the second term that the pronoun picks up the ϕ -features of its antecedent, though properties such as Case are irrelevant, (i) (Lehmann 1988, Bresnan & Mchombo 1987, Williams 1994:20). However, in French where the 3rd.sg. indefinite *on* 'one' is used for 'we', it can be linked to a the 1.PL *nous* even though ϕ -agreement and choice of reflexives clearly indicate their respective ϕ -features. See Timberlake (1975:215) for a different argument from Finnish that leads to the same conclusion: the ϕ -features of *nous/me* in French and Finnish are somehow treated at the same time as "1.PL" (\neq 1 and PL), by ϕ -agreement and reflexive choice, and as something that can be linked to an element which is treated by ϕ -agreement and reflexive choice as 3.SG (plausibly default).

(i) You girls_i-N don't know that we talked about you/*them_i-A.

(ii) Nous_i, on_i se voit/*nous voyons pas souvent.

We, we don't see each other often.

(iii) Nous_i nous_i ne voyons/*se voit pas souvent.

We don't see each other often.

¹¹² Historically 2.SG.P is just the old 2.PL; a new 2.PL was subsequently created by adding the ergative plural morpheme *(t)e* already used for 3.PL. This creates the present system where there is an ergative plural morpheme *(t)e* corresponding to semantic number. There is one complication beyond the present scope: the ergative plural *(t)e* was recruited to distinguish 2.PL both in the ergative, where *(t)e* also marks 3.PL, and in the absolutive, where it does not because the absolutive always had its own pluralizer. I will leave this quirk, which I assume is morphological, aside; intuitively, the absolutive plural morpheme already marks the semantic plurality of 3.PL and

cross-references only the semantically plural 2/3.PL; it is marked simply by *(t)e* which follows ergative person agreement. As we will see in section 2.3.5, both singular and plural are present in syntactic representations and not underspecified.¹¹³

If we consider a regular agreement paradigm with this background, such as that for ergative-absolutive transitive verbs in the past tense, we see that ϕ -agreement regularly reflects the syntax proposed above for Basque. There is person/number agreement for both ergative and absolutive, the result of Agree for the ϕ -features of *v* and T. In the following table, I underline absolutive agreement and put ergative agreement in small capitals; number agreement is distinguished from person agreement by italicizing the former; and 3rd person absolutives have been omitted, as I will return to them.

(102) 1st/2nd person combinations in the E-A past indicative paradigm

Erg.	Absolutive				
	1SG	1PL	2SG M, F	2SG P	2PL
1SG	–	–	<u>h</u> -indu-DA-n	<u>z</u> -intu-DA-n	<u>z</u> -intu-z-te-DA-n
1PL	–	–	<u>h</u> -indu-GU-n	<u>z</u> -intu-GU-n	<u>z</u> -intu-z-te-GU-n
2SGM	<u>n</u> -indu-A-n	<u>g</u> -intu-A-n	–	–	–
2SGF	<u>n</u> -indu-NA-n	<u>g</u> -intu-NA-n	–	–	–
2SGR	<u>n</u> -indu-ZU-n	<u>g</u> -intu-ZU-n	–	–	–
2PL	<u>n</u> -indu-ZU-E-n	<u>g</u> -intu-ZU-E-n	–	–	–
3SG	<u>n</u> -indu-en	<u>g</u> -intu-en	<u>h</u> -indu-en	<u>z</u> -intu-en	<u>z</u> -intu-z-te-n
3PL	<u>n</u> -indu-TE-n	<u>g</u> -intu-z-TE-n	<u>h</u> -indu-TE-n	<u>z</u> -intu-z-TE-en	<u>z</u> -intu-z-te-TE-n

The complexity of the morphology makes it hard to take in the paradigm at a glance. First, therefore, let us ignore the italicized number morphology. Running down the columns of absolutive agreement (underlined) and across the rows of ergative agreement (small caps), we

blocks *(t)e*, but not of 2.PL because it is also used for 2.SG.P.

¹¹³ The evidence for representing singular number will come from Ergative Displacement, which by contrasting behaviour diagnoses 3rd person as underspecified. Ideally, we would like to find independent evidence that singular is specified. Such evidence may exist in the conditioning of allomorphy within auxiliary roots (Itziar Laka, personal communication), but is too complicated to present here. To give an indication, however, in the next table we will see a past transitive paradigm, where we will segment out the unanalyzed root morphemes *indu* and *intu*; *u* is historically the auxiliary root. The *d/t* variation is conditioned by absolutive agreement, *d* for singular and *t* for plural. The underspecified and morphologically unmarked 3rd person does not play this role in allomorphy.

clearly see each argument cross-referenced for person using the morphology in (101). Next, turning to number, the ergative pluralizer *e*, *te* is also clearly cross-referencing 2/3.PL (cp. nt. 112). Finally, we may observe the complex expression of absolutive number agreement with 1/2/3.PL and 2.SG.P, as the morphemes *z* before *te* if *te* is present, and as *t* in the root *intu* (vs. sg. *indu*).

Person and number agreement with absolutive and ergative, which runs similarly through other paradigms of the language, is exactly what we expect from our syntactic structure; it is a reflex of ϕ -Agree of *v* with the absolutive and T with the ergative. This statement holds with one important exception: 3rd person absolutive objects. These have been excluded from the above paradigm. If both absolutive and ergative are 3rd person, there shows up in the absolutive agreement slot a default morphology conditioned by tense and mood (Laka 1993). In the present tense, this morphology shows up any time the absolutive is 3rd person.¹¹⁴ However, if the tense is non-present, what we find instead of default morphology is "ergative displacement" (ED), a core piece of evidence for cyclic search space extension and the focus of this section:

- (103) ED: If the absolutive is 3rd person, then absolutive person agreement cross-references a non-3rd person ergative if there is one.

¹¹⁴ The failure of ED in the present is the major exception to the cyclicity-based analysis here. ED seems to be conditioned specifically by the present/non-present split (Gómez and Sainz 1995:265), not the overt realization of a tense/mood head (vs. Laka 1993, who uses the latter to govern the trace of the ergative agreement when it lowers to the absolutive slot). In Rezac (2003), I suggest the following. If (a) we consider present marked and non-present unmarked in Basque, (b) consider present tense, as a deictic element, to qualify as a Match with a [π -] probe, and (c) arrange the relative positions of the tense feature and the ergative subject in such a way that cyclic search space extension will reach the tense first: then Match of the deictic present tense will block *v*'s [π -] probe from reaching the ergative. It is of relevance that Basque absolutive agreement morphology is often conditioned by tense morphology (an example being the default 3rd absolutive morphology, e.g. present *d(a)*- vs. past *z-/Ø*-), sometimes appearing to double the tense morpheme (e.g. present 1.PL *g*-, past *g-en-/g-in*-, recalling the past suffix *-(e)n*); this would indicate *v* doubles the tense features of T.

An alternative solution (which I partly explored in at the 2003 LEHIA conference) is to construe this overt "little tense" morphology as the external argument selector *t*, a head between T and *v*; the latter remains the locus of the absolutive ϕ -probe (i). Only if *t* is not empty, which is the case in non-present tenses, will it drive *v*-to-*t* raising, and bring the ϕ -probe of *v* to the new locus *t* from which it can find the ergative in [Spec, *t*P] (generally in non-present tenses, it is in fact overt, and always empty in the present tense). In the present tense, *t* is empty, and by the time the derivation inserts the ergative in [Spec, *t*P] the locus is *t*, so that the ϕ -probe of *v* can no longer drive operations (see 2.3.6). I am not currently sure which options is the best; they are being explored for Rezac (in preparation a). I have profited from helpful discussions with Miryam Uribe-Etxebarria and Pablo Albizu on this point.

(i) [_{IP} ergative [_{IP} *t* [_{VP} *v*_[ϕ -] [V absolutive]]]]

ED, as well as default morphology in the shaded cells, is illustrated in (104), where the same conventions have been followed as above: agreement with the absolutive argument is underlined and that with the ergative is in small caps, while plural morphology is italicized to distinguish it from person:

(104) Ergative Displacement in E-A past indicative paradigm

Ergative	Absolutive	
	3.SG	3.PL
1.SG	N-u-en	N- <u>it</u> -u-en
1.PL	G-en-u-en	G-en- <u>it</u> -u-en
2.SG.M,F	H-u-en	H- <u>it</u> -u-en
2.SG.P	Z-en-u-en	Z-en- <u>it</u> -u-en
2.PL	Z-en-u-TE-n	Z-en- <u>it</u> -u-Z-TE-n
3.SG	z-u-en	z- <u>it</u> -u-en
3.PL	z-u-TE-n	z- <u>it</u> -u-Z-TE-n

Concentrating on person (I turn to number in the next section), we see clearly that when the absolutive is 3rd person, absolutive agreement cross-references the person of the ergative argument, while no ergative person agreement shows up. Several points are worth noticing. First, when the ergative is 3rd person, the default tense-conditioned morpheme *z* shows up in the absolutive slot; as Laka (1993) argues, this shows that there is no 3rd person to "displace", and is syntactically absent. Second, ED does not displace morphemes from their E positions to their A positions. Rather, actual A morphology is used to spell out E agreement under ED, as can be seen by comparing the morphemes here and the preceding table (e.g. 1.E *-da-* vs. 1.A and displaced 1.E *n-*), and from the obliteration of the M/F distinction in 2.E under ED, just as there is none in usual 2.A. This suggests ED is not a morphological displacement phenomenon; or rather, because displacement of features rather than morphemes is involved, and because syntactic Agree is a featural relation, it invites an analysis in terms of syntax. Thirdly, however, ED is crucially not due to a change in the syntactic position of ergative and absolutive arguments. As Laka (1993:53-4) shows, ED affects neither Case morphology nor c-command relations between the ergative and absolutive (as diagnosed by anaphora):

(105)

- a Ni-k neure buru-a ikus-ten d- u- T (*pres., no ED*)
 1-E my.own head-Aseen-IMPF DFLT- have- 1.E
 I see myself.
- b Ni-k neure buru-a ikus-ten N- u- en (*past with ED*)
 1-E my.own head-Aseen-IMPF 1.E- have- PST
 I saw myself.

Instead of reflecting movement of arguments in the syntax or properties of the morphological component, the ED pattern we see here fits exactly the same generalization as the analysis of Georgian person agreement in section 2.3.2. Given the clause structure in (80), the generalization is that the π -probe of v Agrees with [Spec, v P] if and only if it is not possible to Agree with a DP in the complement of v because of syntactic underspecification. Since 3rd person is underspecified in Basque, this means v will Agree in person with the ergative only if the absolutive is 3rd person. The v P stage of the derivation can be seen in the following diagram, with \leftrightarrow for Agree:¹¹⁵

- (106) *n-u-en* 1.A-ROOT-PST "I had him"
 $[\beta \text{ External argument} = 1.SG \quad [\alpha \text{ } v^0 \text{ Internal argument} = 3.SG]]$
 $[\pi=1] \quad \leftrightarrow \quad [\pi-]$
 $[\#=SG] \quad \leftrightarrow \quad [\#-] \quad \leftrightarrow \quad [\#=SG]$

The Earliness Principle requires that Match and Agree for $[\pi-]$ on v be attempted at stage α . Since no Match can be found within α , the search space of that probe is extended to β after [Spec, v P] Merges in, and Match and Agree take place with it.

The ED phenomenon in Basque is of some importance, because except for ED, the assumed Basque clause structure in (80) lets Basque ϕ -agreement lend empirical support to one of the theses of the Minimalist Program: morphological features are at the core of syntactic computation, and it is their Agree relation over which the crucial syntactic constraints of locality

¹¹⁵ If the object undergoes movement to [Spec, v P], see nt. 91, the situation does not change: under the standard assumption that it targets [Spec, v P] above the subject but is somehow not visible to the T-subject probe from there (MP, MI, DBP, Bobaljik & Jonas 1996). If the shift is below the subject, and there are no labels/projections as in Collins (2002), (i), the π -probe still reaches the EA across the shifted OB because it has no person features.

(i) $\{EA_{\pi=1, \#=SG}, \{OB_{\#=SG}, \{v_{\#*, \pi-}, \{V, OB_{\#=SG}\}}\}\}\}$

and search space are stated. Basque agreement shows overtly what the MI framework assumes universally for the ϕ -agreement system. ED as an exception would either weaken this evidence, by giving morphology power to displace features, or cast doubt on the hypothesis in the first place, by showing that ϕ -agreement does not obey syntactic conditions. On the present analysis, ED is a reflex of growth of a phrase marker in the derivation, which implies a dynamic search space.

Basque ED and the Georgian case study, then, are arguments for a cyclic syntax based on the Earliness Principle. However, I have so far offered only a partial analysis of ED; I have looked at the behaviour of person features of v only, which reflects the increasing search space. In Basque, unlike Georgian, both T and v have both $[\pi-]$ and $[\#-]$ probes, while only 3rd person is underspecified in the syntax; this raises the two question of what happens to $[\pi-]$ on T under ED, and how number enters the system. In the next section, it is shown that these issues give intriguing insight into the Agree operation itself, and the connection between ϕ -Agree and Case.

2.3.5 *Split Agree and the Active goal Hypothesis*

So far, we have seen that dynamic cyclicity along with the Earliness Principle predicts exactly the expanding search space of the $[\pi-]$ probe on v . In Georgian, where there is one $[\pi-]$ probe only per clause, that is all there is to say. In Basque, however, the agreement system clearly shows separate person and number agreement with both ergative and absolutive, leading to the positing of $[\pi-]$ and $[\#-]$ probes on both T and v . Normally, each $[\pi-]$ probe Agrees with its own goal; but under ED we have seen that the $[\pi-]$ probe of v Agrees with the ergative in [Spec, v P]. The natural question that arises is what happens to the $[\pi-]$ probe of T, and how it bears on the analysis.

As can be seen from (104), under ED ergative person agreement is suspended. To take the 1.SG.E-3.SG.A as a concrete example, when the absolutive agreement morphology *n*-cross-references the ergative 1.SG under ED in *n-u-en* "I have him", the ergative is not further cross-referenced by the expected 1.SG ergative *-da* (**n-u-DA-n*). In terms of our analysis, once $[\pi-]$ on v has Agreed with the ergative, the normal agreement of $[\pi-]$ on T with it is blocked. It is some support for the syntactic approach to ED that this is in fact what we independently expected in the MI framework, on the basis of the Active goal Hypothesis (AGH).

AGH (chapter I) states that F-Agree for any feature F can happen only once per goal. Empirically, AGH implements the "freezing" of goals after Agree: for example, *wh*-words freeze in their scopal position to rule out (107)a, assuming Agree takes place between trace t_1 ' of *what* and the embedded question C; and DPs freeze after ϕ -Agreement to rule out (107)b:

(107)

- a *What₁ does Azenor wonder [_{CP} t_1 ' Gwenola saw t_1]?
- b *Aritz₁ seems (that) [_{TP} t_1 ate all the pasta].

For the ϕ -system, MI takes Case to implement AGH: (a) a DP can only Agree for ϕ -features if it has not received structural Case, and (b) structural Case assignment is a reflex of Agree for ϕ -features.

Our assumptions about Basque clause structure in (80) entail under AGH that ϕ -Agreement of v with its specifier blocks Agree of T with it, through Case assignment. If we first consider ED in this light without worrying about Case, taking instead the AGH as the statement that Agree can happen once per goal, we see that ED behaves exactly as AGH predicts. Agreement between [π -] on v and the ergative in [Spec, v P] deactivates the ergative goal for the purposes of any other Agree for [π], correctly predicting that under ED no ergative agreement morphology shows up. Since AGH is independently motivated (even independent of its implementation in terms of Case, as we can see in (107)), its correct prediction of the ED pattern bolsters the claim that ED reflects syntactic computation.

As noted, MI implements AGH specifically through Case assignment. This, at first, might seem a serious problem for ED; for although v Agrees with its specifier for [π], that goal in fact gets ergative Case (see ex. (105) and discussion), not absolute from v : ED does not affect Case morphology. This fact brings us to a discussion of a second issue under ED that we omitted in the previous section, the behaviour of number agreement.

As is discussed in Laka (1993), ED affects person agreement only. Let us return to (104), and consider the italicized number agreement morphology this time. We can see that there consistently appear in the paradigm of the 3.PL the absolutive plural morphemes *it* and *z*.¹¹⁶

¹¹⁶ *z* is an a discontinuous exponent of the absolutive plural conditioned by *te*. This kind of allomorphy should not be confused for the reflection of a separate #-probe; although I do not justify this point here, I return to it in Rezac

Interestingly, the appearance of regular absolutive plural agreement under ED follows straightforwardly under the assumption of a split ϕ -probe: the $[\pi-]$ probe on ν Agrees with $[\text{Spec}, \nu\text{P}]$ because it cannot match the underspecified 3rd person on the absolutive argument, but the $[\#-]$ probe on ν can and therefore must Match and Agree with the plural number on that argument. A split ϕ -probe therefore derives split agreement of ν with both the ergative and absolutive:

(108)	<u>ERG</u>		<u>ν</u>		<u>ABS</u> = 3.PL
	$\pi+$	\leftrightarrow	$\pi-$		
	$\#+$	\neq	$\#^*$	\leftrightarrow	$\#+$

The differential displacement of person and number offers evidence for the universality of a split ϕ -probe, even in languages like Basque that have both on the same category (T/ ν), unlike Georgian (cp. Béjar and Rezac 2003 for independent evidence).

Still more intriguing is the behaviour of ergative plural agreement. There are two related observations here: (a) the number on ν can in no case cross-reference the ergative argument, even if the absolutive is singular and the ergative is plural; and (b) although ergative person agreement on T is absent under ED as we saw, ergative number agreement remains, showing that the $[\#-]$ probe of T is agreeing with the ergative argument. Point (a) can be seen in that ergative plural is never cross-referenced by *it* or *z* in (80); (b) is demonstrated by the appearance of plural *te* morphology under ED with 2/3.PL in the same table.

An illustration with a larger paradigm is in order. As discussed under (101), the various absolutive pluralizers cross-reference 1/2/3.PL and the polite 2.SG.P, while the ergative pluralizer (*t*)*e* cross-references 2/3.PL only. We can see this clearly from the following two paradigms in an current colloquial variety of the language, Ondárroa Basque.¹¹⁷ (109) compares the ED morphology in the past ergative-absolutive paradigm with the present ergative-absolutive paradigm which lacks ED. Absolutive agreement is underlined, ergative is in small caps, and number agreement morphology is italicized (the morpheme *e* appearing with absolutive 2.PL is ignored; cp. ft. 112):

(in preparation a).

¹¹⁷ A variety of the Biscayan dialect; cp. Yrizar (1992). The morphology of the standard language is a somewhat artificial creation in some respects.

(109) Number agreement in Ondárroa Basque (A horizontal, E vertical)

	ED: E-A Past 3.SG	No ED: E-A Present 1SG	2SG	3SG	1PL	2PL	3PL
1S	<u>n</u> -eb-an		<u>sa-ittu</u> -T	do-t		<u>sa-ittu</u> -e-T	do- <u>ttu</u> -A- <u>s</u>
2S	<u>s</u> -endu-n	<u>na</u> -SU		do-SU	<u>ga-ittu</u> -SU		do-SU- <u>s</u>
3S	eb-an	<u>na</u> -u	sa-ittu	da-u	<u>ga-ittu</u>	<u>sa-ittu</u> -e	da-u- <u>s</u> , (do)- <u>ttu</u>
1P	<u>g</u> -endu-n		<u>sa-ittu</u> -AU	do-u		<u>sa-ittu</u> -AU	do-u- <u>s</u>
2P	<u>s</u> -endu- <i>E</i> -n	<u>na</u> -SU- <i>E</i>		do-SU- <i>E</i>	<u>ga-ittu</u> -SU- <i>E</i>		do-SU- <i>E</i> - <u>s</u>
3P	eb- <i>E</i> -n	<u>na</u> -b- <i>E</i>	<u>sa-ittu</u> - <i>E</i>	da-b- <i>E</i>	<u>ga-ittu</u> - <i>E</i>	<u>sa-ittu</u> - <i>E</i> -s	(do)- <u>ittu</u> - <i>E</i>

As can be seen from the table, in the present paradigm *s* and the root allomorph *ittu* express absolutive plural agreement for 1/2/3.PL and 2.SG (originally 2.SG.P); while *e* is the regular exponent of 2/3.PL ergative. Crucially, as in (104), we can see that under ED, 2/3.PL ergatives remain marked by the plural morpheme *e*, although ergative person is expressed by absolutive morphology. ED, then, is a partial ϕ -feature displacement, of person.

This partial displacement under ED is in fact already correctly predicted for us by two assumptions (a, b) that have already been justified, and one stipulation (c): (a) the ϕ -probe is split into person and number; (b) the Active goal Hypothesis holds; (c) singular number is not underspecified in Basque (cp. the discussion in nt. 113). We have already seen the effect of a split ϕ -probe dissociating person and number under ED with 3.PL absolutive, when *v* Agrees with the absolutive in number but with the ergative in person. If we assume that singular is also syntactically represented, then the behaviour of the ergative plural in our analysis is quite simple: since [#-] on *v* will always Agree with the absolutive goal, [#-] on T is not blocked by AGH from Agree with the ergative goal, and no displacement of number features or blocking of ergative number agreement takes place. The situation can be diagrammed as follows:

$$\begin{array}{ccccccc}
 (110) & \underline{T} & & \underline{ERG} & & \underline{v} & & \underline{ABS} = 3.SG/PL \\
 & \pi- & \neq & \pi+ & \leftrightarrow & \pi- & & \\
 & \#* & \leftrightarrow & \#+ & & \#* & \leftrightarrow & \#+
 \end{array}$$

As we can see from this diagram, the burden of predicting the correct pattern of partial ED is born by the Active goal Hypothesis. The first generalization of ED is that $[\pi-]$ on ν Agrees with the ergative if the absolutive is 3rd person, and $[\pi-]$ on T is then blocked from Agreement by AGH. The second generalization is that since singular number is by assumption represented, $[\#-]$ on ν will always Agree with the absolutive argument regardless of whether it is singular or plural, and thus $[\#-]$ on T will always Agree with the ergative argument. The interaction of underspecification, a split ϕ -probe, AGH, and cyclic search space extension correctly predict this pattern of partial ϕ -feature displacement under ED.

Up to this point, I have left Case aside. Now we can see that there is always an Agree relation between T and $[\text{Spec}, \nu\text{P}]$ (for number); if we take ergative assignment to reflect Agree with T as in section 2.3.3, a DP in $[\text{Spec}, \nu\text{P}]$ is thus always assigned ergative regardless of an earlier Agree with ν for person. As can be seen from this analysis, this is due to the partial underspecification of ϕ -features in Basque: since number is not underspecified, the relation between $[\#-]$ on ν and a DP in its complement always occurs, and therefore so does the relation between $[\#-]$ on T and $[\text{Spec}, \nu\text{P}]$ which results in ergative assignment.

However, Case also raises a different issue, in its guise as the (well motivated) implementation of AGH. We have seen AGH predict the pattern of partial Agree by differentially applying to the ergative for person (blocking T from Agree) and number (not blocking T). Intuitively, this situation is quite simple: Agree for a particular ϕ -feature, whether $[\pi]$ or $[\#]$, deactivates that feature alone on a goal. It is not clear, though, how to implement this using Case if Case is a property of DPs. Keeping entirely to MI assumptions, the proper result would be obtained if Case were a property of individual features.¹¹⁸ This is possible, though no doubt as the whole theory of activation features, it hides something that remains to be truly understood from a minimalist perspective.¹¹⁹ In chapter V, I argue for a different approach that dispenses with activation features entirely, where deactivation comes about because Case is a category that copies the ϕ -specification of the ϕ -probe that introduces it, and which blocks access to ϕ -features on the DP by simple locality. However, the resolution of this question does not really bear on the topic of this chapter.

¹¹⁸ MP:IV, Pesetsky & Torrego (2001), propose the same for the "strength" or EPP property.

¹¹⁹ For example, that a feature after Agree is not represented in the same way as before Agree – for example, as a multiply linked vs. singly linked structure respectively, as in the multi-dominance approach to Agree in Frampton & Gutmann (2000).

2.3.6 Expanding search-space and the Locus Principle

The argument from ergative displacement in Basque demonstrates that the search-space of a probe increases by every Merge operation, and the expansion is exploited by probes in accordance with the Earliness Principle. Search-space proves to be dynamic in a way that pure locus cyclicity cannot account for, for it changes while the locus of a derivation is held constant. This is not the view of MI:122, 135, where search-space is viewed as static per locus: the search-space of a probe on H is always the first-merged sister of H, its complement.

This move is a questionable stipulation; complements (sister of α at first Merge) are not privileged in Bare Phrase Structure (BPS). In fact it appears that they cannot be, for under BPS the projection of a head is the head itself; consequently, upon its Merge a specifier will be dominated by the head with which it has Merged in its new projected position:

$$(111) \quad \{\alpha, \text{Complement}\} \rightarrow \{\alpha, \{\text{Specifier}, \{\alpha, \text{Complement}\}\}\}$$

From this perspective then, reference to complements requires that the derivation keeps a memory of which XP Merged with α first in order to limit search space to it.

The motivation for a static search-space seems to be empirical, and rests on regular transitive constructions such as English *Gwenola saw Irati* (MI:148, nt. 89; cp. MI:104; MP:311-2, 352; Chomsky forthcoming p. 23-4 of 2001ms.). The configuration is the following:

$$(112) \quad \{v_{[\phi-]}, \{\text{External Argument}_{[\phi+]}, \{v_{[\phi-]}, \{V, \text{Internal Argument}_{[\phi+]}\}\}\}\}$$

We wish to bar the external argument from agreeing with v , because it in fact agrees with T, and because the internal argument gets Case by agreeing with v . However, the EP already does this. EP implements cyclicity as an economy condition: features must be eliminated as soon as possible in the derivation. Since the Merge of the complement precedes Merge of the specifier, there is a stage in the derivation here where only the complement is the search space of v because its specifier does not yet exist. EP dictates that at this point, the ϕ -features of v must Agree, pre-empting later Agree with the specifier. Adoption of EP then as a locus-internal ordering

principle for syntactic operations eliminates the problem and allows a dynamic search-space; in so far as that is simply the removal of a stipulation, the English pattern is actually evidence for EP.

Beyond the conclusion that search-space is dynamic even within loci and that EP orders syntactic operations, there are several aspects of the specific analysis presented here that are open to question. These all boil down to interaction of search-space with projection and the Locus Principle.

The first point concerns whether the Locus Principle is in fact necessary at all, once the Earliness Principle exists. The answer is not quite clear. The Locus Principle bars probes on a head H from activating Agree once a new head (locus) H' is inserted into the derivation and Merged with the object that contains H. For example, once C Merges with a TP, no probe on T can trigger Agree (unless, as will be seen below, T moves to C). The Earliness Principle does not have quite this effect. Consider a [wh-] probe on C, and suppose that it can find no goal within its CP complement, as in (113)a. EP correctly predicts that the probe can wait until [Spec, CP] is Merged in, and Agree with it if contains a *wh*-word, (113)b. However, if it does not contain a *wh*-word, the EP alone cannot bar the [wh-] probe from waiting around until an appropriate *wh*-word comes in somewhere higher up, Agreeing with it (113)c, and potentially triggering movement (113)d:

(113)

- a C_[A-] [TP Kate kissed Nolwenn].
- b Azenor wonders [CP whether C_[wh-] [TP Kate kissed Nolwenn]].
- c Who said [CP C_[wh-] [TP Kate kissed Nolwenn]].
- d *t*₁ said [CP who C_[wh*] [TP Kate kissed Nolwenn]].

This is a derivation that is correctly ruled out by the Locus Principle, and not by the Earliness Principle. Similar issues would arise throughout if the Locus Principle does not hold.¹²⁰ Moreover, I do not think this is really a redundancy, because the two principles can be viewed as

¹²⁰ Chapter V in particular argues that Case is properly construed as a copy of the probe adjoined to a DP; the probe has unvalued ϕ -features.

reflexes of something quite different. The Earliness Principle is clearly a general economy condition on the application of operations, of the Minimize α variety (here α =delay), in a locally determinable approach to economy that does not allow a probe to sit around and wait until it can form the shortest, juiciest link (Collins 1997). The Locus Principle, on the other hand, is viewed by Frampton and Gutmann (1999) and MI not as an economy principle at all, but as the pivotal mechanism of the derivation that allows new items to be added from the numeration.

The implementation of the Locus Principle in MI:132-5 sets out the difference particularly clearly (cp. chapter I):

(114) MI Locus Principle

- a α is the candidate for [triggering an Agree operation] only if it is the full syntactic object under inspection [sc. being derived]. (MI:134)
- b [A probe] has to be ... in the label $L(\alpha)$ of α , its sole designated element. (MI:134)
- c Properties of the [locus] must be satisfied before new elements of the lexical subarray are accessed to drive further operations. (MI:132)

The derivation proceeds as follows. First, an item is introduced from the numeration (lexical subarray), say T, and Merged with the entire syntactic object being constructed; selectional requirements of T require this to be νP at this point. Probes (and perhaps selectional properties) on T now drive operations, Agree and Merge. No other probes than those of T can drive operations, because T is now the label of the syntactic object under construction. Finally, the derivation cannot introduce a new locus, C, until all probes on T are satisfied. Therefore, once the derivation finally Merges C with the TP, there are no probes on T that are active.

(114)c is as a matter of fact not necessary to establish locus cyclicity; (114)a and (114)b suffice, because they do not allow a probe to activate an operation anywhere except in the label, the locus, of the syntactic object that is being constructed. (114)c is the traditional question of whether a probe must find a controller, or at least a match of some kind, and to what extent default values are available; see Lasnik (1999), Bošković (1997) for Case (now φ) probes with the former in mind (the "Inverse Case Filter") and Béjar (2003), Abels (2003) for the latter, as

well as chapter V here.¹²¹ (114)a and (114)b are intuitively quite satisfactory, and can be given some motivations in terms of economy, as in MI (op. cit.). Importantly, they are quite different from the Earliness Principle, and so the co-existence of the two seems quite reasonable to me. To put it in inaccurate terms that perhaps get better at the larger picture: the Locus Principle is responsible for the construction of a phrase-marker, and the Earliness Principle makes sure this construction proceeds as fast as possible. I assume therefore the Locus Principle alongside the Earliness Principle.

However, there are other lines of approaching the problem which would lead to the elimination of the Locus Principle.¹²² We want to prevent a situation where features of Z, not finding a match in ZP, can be embedded in a larger phrase-marker HP, become active by a top-down search for active features to trigger operations, and then seek a goal outside of ZP. The last step is the problematic one. One very trivial way of limiting this, argued for in Rezac (2002c), is to arbitrarily limit search-space to the sister of a probe (equivalently, to the object dominated by a label), as in MI, but in the spirit of bare phrase structure to treat all labels (necessarily assuming their existence) as atom capable of triggering operations. Cyclic expansion stands as is, because upon Merge of [Spec, ZP] the sister projection of [Spec, ZP], Zⁿ, will see [Spec, ZP] as its sister. Once Z stops projecting, no objects added beyond Z will be reachable by a probe on the highest (and thus on any) projection of Z, except those in Y where Y Merges with ZP.¹²³ Limiting search-space is another primitive added to the theory, like the Locus Principle, but might be conceptually palatable (as it is for example in MI).

An alternative can base itself on a proposal in Abels (2003), who explores the questions of why certain domains, phases, are obligatory targets for successive cyclic movement. Abel proposes that a phase-head acquires all features as probes, which on the one hand triggers

¹²¹ Chapter V reviews evidence that a derivation cannot converge with a probe that has not entered Agree. If that is correct, Basque presents an intriguing case, for it is possible for both the absolutive and ergative to have 3rd person π features, which being underspecified can never value the [π -] probe of v . What happens in this case is quite interesting: Laka (1993) shows that the morphological slot that normally reflects absolutive π -agreement is filled by default tense/mood-conditioned morphology, for example *d*- for present tense and *z*- for past tense. I add to this that the theta-grid of a verb also counts; in the Bizkayan dialects, dative-nominative unaccusatives use *z*- for *d*- in the present tense. This indicates that there is a mechanism to satisfy a probe that cannot find a goal at work, and that it has something to do with tense and v , which obviously connects with the discussion in note 114; I hope to explore this in Rezac (in preparation a).

¹²² Thanks to Peter Svenonius for convincing me to push a bit harder for more parsimonious alternatives.

¹²³ That would allow the final projection of T, the TP, to satisfy its EPP requirement from C assuming C Merges with TP, a possibility raised at various points in the literature (Alexiadou & Anagnostopoulou 1998:526, note 43, and references therein; cp. Bury 2003).

attraction of all attractable material to its edge, and on the other blocks search past the phase-head by any higher probes by locality, for which the features of the phase head count. This is also a primitive, but it unifies certain core aspects of phase theory. Now for a probe looking upwards from within such a phase MP, again a feature of Z, the phase-head M will also count as a barrier, just as it does for a probe looking downward towards ZP from some point c-commanding MP, because M has the feature of the probe along with all other features. Feature-relativized locality will block MP from being crossed upward or downward. Given the dense population of reconstruction sites, it is quite plausible that all cases of unwanted upward search are limited by a phase boundary. This is another way of barring probes from finding a goal beyond their maximal projection without using the Locus Principle.

The second point to be addressed has to do with what exactly is the search-space of a probe. The assumption throughout this section has been that it is the entire syntactic object where a probe finds itself. That seems to me the minimal statement. However, it is problematic for the account of cyclic displacement discussed in section 2.2. Recall that cyclic displacement permits a probe to cross a potential goal if it has been moved out by a cyclically previous instance of that or another probe on the same locus:

(115) [_τ α [F-]_τ ... t_α ... β]

The probe [F-] on τ undergoes a first Agree step with α in its original position, a defective intervener, and displaces it to [Spec, τ]. Since [F-] is still able to Agree, and the trace of α is invisible, it may next Agree with β. It is the second step which is problematic; should not α in [Spec, τ] count as the closest goal?¹²⁴

The conceptual indicators here are not clear to me. Distance in the MI framework is not measured by the number of intervening nodes, boundaries, etc.; it is measured solely by the number of interveners, and not even one can be crossed. Feature-relativized locality therefore partitions all the potential goals of a probe into two sets: those that are reachable, which is solely the case because there is no closer goal that c-commands them; and those that are unreachable,

¹²⁴ This problem was recognized at the beginning of the work that resulted in Béjar & Rezac (2003, 2004) by the two of us. The point about intervener-based vs. counting-based distance metrics below is due to Klaus Abels p.c. (in a somewhat different context), and I've found discussions with him on the general topic very helpful.

because there is a closer goal that c-commands them. Anything in addition is either a stipulation or a different approach to locality. From that perspective, α and β turn out to be equidistant to [F-], without any stipulation about equidistance; their equidistance is a consequence of feature-relativized locality, in its most elemental form.¹²⁵

This has as a consequence that in cyclic displacement, [F-] will be able to Agree with β despite the presence of α , even if all of (115) is in its search-space at that point. In the cases of cyclic displacement that are the most clear, DICs, α is always a defective intervener for [F-], capable of match but not Agree. If Agree takes place at all, it does so with β . Quite possible, Agree is required to take place with β if it cannot take place with α because of a maximization requirement such as that suggested in DBP:15: essentially, since α and β are equidistant, Agree is attempted with both at the same time. That gives the right results both for the cyclic displacement discussion in this chapter, and for the more detailed inquiry in Béjar & Rezac (2003), where this point is ignored.¹²⁶

The upshot of all this is the following. The most direct interpretation of feature-relativized locality entails that the cyclic displacement mechanism works as expected if the definition of search-space is left in its most elemental form: the entire syntactic object in which a probe finds itself. That is also simplest definition of search-space for the investigation of ergative displacement in this section. There are other approaches that could be tried, depending partly on how one wishes to construct multiple specifiers which is a case of cyclic displacement where α is not obviously defective though it might be; I explore one in Rezac (2002c). However, the results in this subsection seem to me sufficiently minimal and encouraging to keep to them.

The third and final issue that I want to address, or rather mention, is a principled way of obviating the Locus Principle: by head-movement. Depending on how head-movement is conceived, including whether it is conceived of as a syntactic process at all (for alternatives, see DBP:37f., Boeckx & Stjepanović 2002, and from a different perspective, Williams 1994, Koenenman 1999). Suppose for the sake of discussion that it is syntactic; a head H with probe [F-] moves to the locus H'. Whether [F-] can trigger Agree on H' depends on what the output of head-movement looks like, structurally. Clearly, this requires a different investigation; see note

¹²⁵ Anagnostopoulou (2003:III) also employs equidistance here, essentially in the form of MP:355 which stipulates that terms of a minimal domain are equidistant. The fact that equidistance can be derived here from intervener-based locality is not an insignificant result.

¹²⁶ Alternatively, it might be properties of β that require Agree by [F-], such as the need to have Case assigned.

114 for some potentially supporting evidence in the present context, and Béjar (2000a), Rezac (2002b) for such uses of head-movement. The effect of cyclic expansion by head-movement would continue a tradition that is due to Baker's (1988:64) Government Transparency Corollary.

2.4 Conclusion: dynamic cyclicity

The upshot of this chapter is that locus cyclicity does not suffice, and a finer-grained version of cyclicity is required. Cyclicity is the ordering principle of operations in a derivation; it is the measure of time for operations in syntax. A cycle may create or destroy the structural conditions for a later cycle; but operations without a cycle between them are simultaneous, because within a cycle no time exists.¹²⁷ Two separate data-sets have been used to argue that within a single locus, individual instances of the Merge operation may feed operations triggered by features on the same locus. The principle which provides ordering for these locus-bound cycles is a rather satisfactory economy condition, the Earliness Principle. The question under investigation has then been so to speak the resolution of cyclicity, the grain of time.

In general, operation-sized or Merge-sized cycles yield a very fine-grained resolution of cyclicity, where there is dynamic change in the information available to basic operation within a locus. The two cases we have seen in detail is the downward and upward growth of search-space; cyclic spell-out (with Determiner Replacement) has been other. The result is not one where each operation has necessarily its own separate cycle; for example, two probes on a head trigger Agree simultaneously, and in fact are required to do so by the Earliness Principle if they have a match. However, it turns out that each Merge operation may potentially define a new cycle, because it changes information for a probe. Agree seems not to change any information for another basic operation (see the end of section 2.2.2). This difference between Merge and Agree is an accident from the standpoint of the definition of cyclicity, but intuitively principled from another point of view. Merge is the only operation that can manipulate syntactic atoms, by concatenation, producing new phrase markers; so there is an isomorphism between structure building and cyclicity. The definition of cyclicity might but need not take account of this

¹²⁷ See Epstein & Seely (2002:82-4) on timelessness within phases in DBP and Chomsky (forthcoming, p. 22 of 2001ms.). I disagree with timelessness being a problem, but certainly agree with timelessness within phases being a problem -- empirically. If loci do not give cycles of sufficient resolution, phases cannot either.

difference between Merge and Agree; I have not. I have also argued that the Locus Principle is correct. The principles invoked to govern cyclicity within loci do not bear on its correctness.

These points serve to reinforce the fact that in a derivational framework, the phrase marker is dynamic. Definitions of objects like search-space should ideally refer to general properties of the derivation, and not stipulate static limits to hold constant across cycles.

Finally, I had raised a couple of times, in chapter I and in this chapter, the derivationality vs. representationality debate, observing that this chapter is not formulated as an argument that bears on it but as an exploration of the derivational theory. The complement-specifier asymmetry observed in Basque ergative displacement, if my account of it is correct, does seem to me to bear on it though. Other things being equal, the asymmetry receives a quite natural account in a cyclic approach where head-complement Merge precedes specifier insertion simply because that ordering is what gives their relative prominence in phrase structure. The first Merged object, called the complement, has its special properties partly because it is the first-Merged object: including being the first domain for a probe on the head. However, the argument really does apply only if other things are held equal. The crucial assumption in the argument just given that the complement-specifier asymmetry emerges solely from the order of Merge. If the head-complement relation is special for a different reason that is accessible to the Agree by the ϕ -probe of the head (and this is crucial), that reason might or might not also derive the asymmetry for ergative displacement.¹²⁸

¹²⁸ Thanks to Klaus Abels for pointing out this possibility to me, with reference to Brody's (2000) Mirror Theory for phrase structure. I suppose one way to push the argument would be to see if there ever is search-space expansion from a specifier to the next higher one in a multiple specifier construction; similarly, expansion via head-movement as discussed e.g. in nt. 114 and in the text above would be relevant here.

3 Chapter III: Agree and (re-)Merge – ϕ -locality in predication

Nann, Obeliks!... Ne'z po ket eus an died-hud! Lavaret 'm eus dit kant ha kant gwech ez out kouezhet e-barzh pa oas bihan! -An drouiz Panoramiks[†]

3.1 Introduction: The compositional theory of movement and copy-raising

The aim of this chapter is to develop the COMPOSITIONAL THEORY OF MOVEMENT (CTM) suggested in MI, and to provide evidence that it is on the right track. A CTM is any theory where movement is not a primitive relation but a composition of some basic operations, one of which is Merge, the same operation responsible for base-generation. MI's take on CTM turns out to be unique, because of its distinctive ontology of the core syntactic relation Agree between α and β , which in MI does not involve creating a representation where α and β stand in a local relation: β never moves to α . Movement in MI is Agree followed by Merge of the Agreed-with constituent. This creates a problem for MI's CTM that does not arise under other versions of CTM, like Collins (1997) or Nunes (2001), where there is no Agree relation distinct from (some minimal) movement.

The first goal of this introduction is to clarify the preceding paragraph. Then I introduce the empirical focus of this chapter, copy-raising structures, and for the bulk of the chapter I will argue that they exemplify exactly what MI's CTM predicts to exist: constructions where Agree and non-thematic "base" Merge are completely independent operations, and yet the former constrains the latter. Section 3.4 develops step by step the syntactic and LF tools needed to derive this Agree-Merge linking in copy-raising, and that turns out to provide the Agree-Merge link missing in the CTM of MI. The difference between copy-raising and movement structures falls out from independent principles, rather than from some extra step in movement like a Copy operation. Finally, the focus returns to copy-raising itself, and its locality-constrained interaction with \bar{A} -movement, bringing into the fold of copy-raising *tough*-movement-like constructions in 3.5. The upshot is this: a very limited class of what are descriptively "resumptive" chains, both links of which are in A-positions (though there may be an \bar{A} -position in between), are

[†] *Troioù kaer Asterix ar Galian: Asteriks hag emgann ar pennoù*, Goscinnny & Uderzo, 1966, Éditeur Armor (1977), frontispiece.

automatically produced by the CTM of MI as a sequence of the independent Agree and Merge operations with no stipulated extrinsic link between them.¹²⁹ Properties of the derivation and of the lexical items involved correctly determine whether Agree must or may be followed by Merge, and whether the Merged object is copy-identical or not to the Agreed-with object, giving rise to various copy-raising/movement asymmetries.

I assume the movement relation involves two separately interpretable objects, more or less copies (Sauerland 1998, Fox 2000), which nevertheless behave as a single object for certain interpretive purposes such as thematic interpretation. Clause-internal DPs cannot be interpreted in a non-thematic position unless they are linked to a thematic one in some relevant way, of which movement is an example; coreference or the logical possibility of binding are not adequate as the relevant linking (see further 3.3):

(116)

- a *Kate/everyone_i seems that Nolwenn left (her_i house).
- b Kate/everyone_i seems *t_i* to have left (her_i house).

I subsume the requirement that a DP must have thematic interpretation under Full Interpretation, FI. Movement must thus involve some mechanism effecting this descriptive phenomenon of theta-transmission. Heim & Kratzer (1998) develop a version of predication theory for this purpose (see further 3.4.2). The sister of the moved constituent is treated as a predicate with an open position, a variable, into which the moved constituent substitutes as the subject of the predicate. The mechanism which lets such an open proposition combine with a subject is λ -conversion; the predicate is headed by the λ -operator. This device must know the location of the open position in the predicate, namely the index of the variable, which must therefore be locally represented in some way in the subject-predicate neighborhood; this is the boxed *i* in (117)a. This is crucial, because not just any (potential) variable in the predicate can be substituted into by the subject, like *her* in (116)a; in movement chains, the open position is precisely the one identified by the syntactic constraints on movement. There are two elementary and satisfactory ways of introducing the correct index: either it is part of the movement step

¹²⁹ I make no claims whatsoever about other resumptive structures; as will become clear, they should generally not be susceptible to this analysis.

itself that it converts the lower part of the chain to a variable with an index i and represents this index at the top of the predicate in phrase structure, as in Heim & Kratzer (1998), or constituents are assumed to have identifying indices, the referential index of Williams (1980, 1994), so that the subject has the same as the index of the variable to which it is linked by movement, which is used to map (117)c to (117)a.

(117)

- a Kate λx_i . [seems x_i to have left]
- b Kate $[i]$ [seems x_i to have left]
- c Kate: [seems x_i to have left]

If movement is a primitive operation as in MP:IV, this is all that needs to be said. Nunes (2001) explores a CTM that breaks movement down into the independent operations of Copy, Merge, Form Chain, and Chain Reduction (the latter of which deletes copies and is not relevant here). In that system, Copy targets some constituent of a larger phrase-marker, makes a copy of it identical up to the numeration index, and Merge inserts it at the top of the phrase-marker. Form Chain is responsible for making sure that the structure spanned by any two identical copies obeys locality conditions. In this system also, no problem arises; Copy, Merge, and Form Chain form structures of type (117)c, with the numeration index being able to serve for λ -conversion.

The crucial assumption of such systems is that locality conditions are conditions on movement. This is part and parcel of MP:IV, where it is the operation Attract which is restricted by locality and at the same time necessarily involves movement of the goal, minimally a formal feature set, to the checking domain of the target. Attract is therefore movement.

MI is a radical departure from this view, a shift in the ontology of syntactic dependencies. The core dependency-forming relation is Agree, which in contrast to Attract does not create a local representation of the goal at the position of the target. Instead, properties of the target are changed: its features are valued from the features of the goal. This involves no representation of the goal at the target, because the atoms of Merge/phrase structure are not moved; only subatomic properties, features, are altered, with the valued features at the goal eventually deleting by LF. Chapter IV is concerned with the reasons for this shift, its justification, and its consequences. The basic motivation are paradigms such as (118), due principally to Lasnik

(1999) and extensively corroborated for Tsez by Potsdam & Polinsky (2001), which show that long-distance agreement unlike movement is not visible for Condition A, nor as it turns out for any other syntactic or semantic condition aside from long-distance agreement itself as visible in the morphology. MI concludes there is no movement of any interpretable properties of *several runners* to *seem* in (118)a to feed such conditions, and only the subatomic properties of the matrix T, its uninterpretable ϕ -features, change; these disappear by LF.

(118)

- a **Several runners** seem to **each other** t_i to be likely to win the race.
 b *There seem to **each other** to be **several runners** likely to win the race.

- (119) *enir [[nesā nesiz yutkā [ʰali Ø-āk'i-ru-ti]-IV Ø/r-iysi.
 mother his.REFL in.house Ali.I I-go-PSTPRT-NMLZ I/IV-knew
 The mother found out in his house that Ali had already left. (Potsdam & Polinsky 2001:620)

Since long-distance agreement shows all the core locality properties of movement, MI concludes that the same mechanism is responsible for locality in both, and formulates it as conditions on the feature-valuing Agree relation (chapter I). MI's CTM is the thesis that Agree is part of movement, the other (relevant) part of which is the binary combinator Merge. This is what creates the problem I am interested in. Consider again the earlier example, (120)a, and its intended interpretation (120)b. The core relation between the matrix T and t_1 is Agree, because the locality conditions on A-movement are the same as those on long distance agreement, (120)c. Agree itself does not result in any movement. Merge then takes some object, and adds it to the matrix TP. These operations are separate and independent. Here is the crux: how does Merge know to take the goal identified by the earlier operation Agree? Agree itself leaves no track of the goal *Kate* or *several people* it identified at the target T in (120)a and (120)c alike, except the valuation of T's unvalued ϕ -features from it. The Merge step that follows should in principle be able to Merge anything, and in fact it can Merge things other than Agree's goal -- *there* in (120)c. Yet that is not possible, as (120)d shows.

(120)

- a Kate seems [t_1 to have left]
- b Kate $\lambda x_i \llbracket$ [seems x_i to have left]
- c There seem to have left several people.
- d *Every girl_i/*Kate_i seems [_{IP} [a picture of her_i] to be on the wall].

This is the question of the Agree-Merge link I address here. It does not arise unless there is a non-movement Agree component to movement, as discussed. The broad outlines of the solution can already be glimpsed from the way I have described the problem. (121)a is not interpretable under FI; *Nolwenn* gets no theta-role. Something must ensure that *Nolwenn* gets the right index, and that something must be Agree because the index is identified under the locality conditions on Agree-dependencies, ruling out (121)b. That alone does not seem to be enough though, allowing (121)c. The reason for this is that the Merge step of movement is really completely independent of the Agree step; no stipulation specific to movement should force the choice of a copy, later to be deleted, as the goal identified by Agree. I argue in 3.4.6 that the binding theory rules (121)c out. More importantly though, structures like (121)c do in fact exist where the binding theory allows them, giving (121)d, the COPY-RAISING construction.

(121)

- a **Nolwenn*_j seems [t_i to have left].
- b **Nolwenn*_i seems it is hot in her_i house.
- c **Nolwenn*_i seems [she_i to have left].
- d *Nolwenn*_i seems like she_i left.

Copy-raising is the empirical focus of most of this chapter. This is because a study of it establishes the empirical attractiveness of MI's CTM. In a copy-raising construction, two things can be shown, largely following Moore (1998) for the first and Potsdam & Runner (2001) for both: (i) the thematic link in the chain must be local to the non-thematic link in precisely the way Agree predicts; (ii) the non-thematic link need not be a copy of the thematic link and it is really separately base-generated in the matrix clause, exactly as the independence of the Merge operation predicts. This is established in 3.2 and 3.3. So copy-raising is movement without the

parts of movement which are outside of the Agree-Merge combination – the copy-identity of the two links of the chain and deletion of the lower copy. If as I argue completely independent and general considerations determine where copies and where pronouns are enforced as the lower link of the chain, MI's CTM predicts the existence of both movement and copy-raising structures with exactly the right properties, at the cost of, well, of giving up the existence of the independent operation Move.

To get to this conclusion, 3.4 investigates how copy-raising structures satisfy FI. For copy-raising the mechanism described for interpreting movement for ex. (117) cannot work, because there turns out to be no movement. (121)d should crash for the same reason (121)b does. The difference between them is ϕ -Agree, and I argue that this what allows (121)d to be interpreted; not by importing concepts such as vertical binding (Williams 1994) or Agree for theta-features (Hornstein 1998, 1999, 2000, Potsdam & Runner 2001) into the theory, but simply by taking the referential index of the predication approach to movement interpretation to be a ϕ -feature (or more generally, a feature). In the MP/MI setting, this seems like it is in any case a very reasonable assumption; if referential indices are needed in any case (and they are, 3.4), they seem to enjoy about the same role as the interpretable ϕ -features of DPs do.

This gives (ϕ -)Agree the central role in identifying predicate variables. The role of Agree is close to Browning's (1989) use of agreement for locality in William's (1980) Predication Theory. There are several straightforward ways to work out this intuition, and I take what is perhaps a somewhat oblique one. Instead of using the Agree-valued index feature on the head of the predicate to trigger the interpretive rule that turns (122)a and (122)b to (122)c, I complicate matters somewhat and make the index of the subject responsible for the index of the λ -conversion, as discussed above (117)c. That necessitates a Match Condition which makes sure that base-generated material shares the uninterpretable features of the target at which it is base-generated, including the index, (123):

(122)

- a Nolwenn $T_{[\text{index}=i]}$ seems [t_i to have left]
- b Nolwenn $T_{[\text{index}=i]}$ seems [like she_i left]
- c Both roughly: Nolwenn λx_i [it seems that x_i left]

indices must match



(123) $Nolwenn_i$ [$T_{[index=i]}$ seems like she_i left]

If the Match Condition is a complication, it is one with rewards (and some conceptual grounding), including a very straightforward interpretation of expletive constructions, or in general constructions where Agree is not followed by Merge, which are the basic MI CTM's problem anyway: an expletive cannot bear an index which would trigger the interpretive rule for predication. There are also two correct predictions made by this approach: the existence of agreeing expletives, which are discussed in 3.4.4 chapter IV, and which are predicted by the Match Condition; and of "broad subjects" (and resumptive relatives) which have essentially the format in (121)b except that they are not sisters of an Agree-valued head, section 3.4.7.

Copy-raising constructions are based on CROSS-CLAUSAL AGREEMENT (CCA), which occurs in English in constructions such as the following:

(124) There seem(*s) as though there are **flaws** in this hypothesis.

CCA demonstrates the operation of Agree without Merge, as predicted by the CTM. 3.5 and 3.6 investigate more complicated CCA where the goal is created by \bar{A} -movement, and the reasons for why it is so. I claim that conditions on CCA reduce to ϕ -relativized locality, so that the difference contrast *Nolwenn seems that/*like she left* reduces to ϕ -properties of the intervening complementizer. That argument turns on expanding on Polinsky & Potsdam's (2001) demonstration of locality for CCA in Tsez and its verification from Algonquian, in 3.5: \bar{A} -movement can feed CCA because it obviates the complementizer barrier. This analogy provides a potentially important insight into *tough*-movement constructions in English, which then look like simple copy-raising with an \bar{A} -foot:

(125) $Kate_i$ $T_{[index=i]}$ is easy [$pro(OP)_i$ $C_{[\phi=3.sg]}$ PRO_{arb} to understand t_i].

To sum up, this chapter has three goals. The first is to spell-out the CTM of MI, and to formulate Agree and predication in such a way that movement is correctly interpretable. The second is to verify the CTM by examining copy-raising and *tough*-movement constructions where the two components, Agree and Merge, of CTM are seen acting independently, and to

account for the distribution of copies which is the core difference between movement and copy-raising structures. A subsidiary result is a better understanding of copy-raising and *tough*-movement constructions and their relation to movement. The third goal is an understanding of the role of ϕ -relativized locality in cross-clausal agreement in general, and its interaction with \bar{A} -movement, properties of the complementizer system, and the Active Goal Hypothesis of MI (chapter I). In particular, I hope to account for the locality properties at least as well as phase theory, which is a step forward since ϕ -relativized locality is an independently required principle (chapter I).

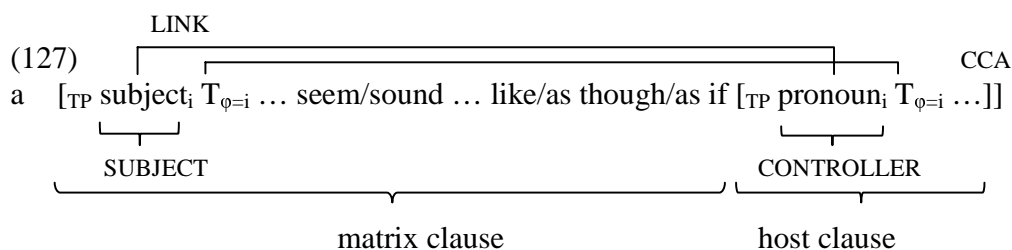
3.2 Copy-Raising: Base-generating non-thematic subjects in [Spec, TP]

The principal focus in the first three sections is the English construction first observed in Postal (1971:162-3), and later extensively studied in Rogers (1971, 1972, 1974ab), Lappin (1984), Heycock (1994:V.3.2), and Potsdam & Runner (2001). Following the last I will call it English copy-raising (to [Spec, TP]), or English T-CR.¹³⁰

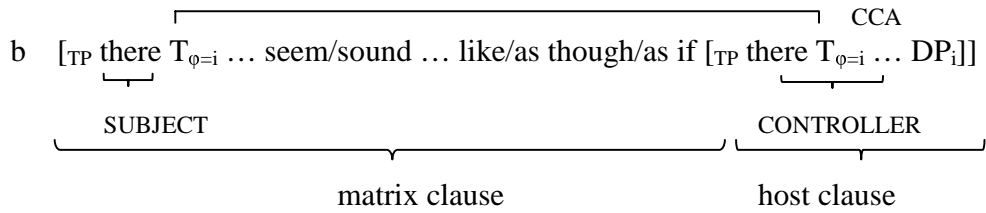
(126) English CR

- a The books_i seem like they_i won't please anyone.
- b There seem like there are several books available.

The construction involves the following general configuration, which introduces some terminology (CCA abbreviates cross-clausal agreement):



¹³⁰ Rogers called the relationship between *It seems like Richard is a transformation* and *Richard seems like it is a transformation* the transformation RICHARD.



In this section, I will justify that the subject DP of the matrix clause in these constructions, *the books* and *there* respectively, are necessarily base-generated in a non-thematic [Spec, TP] position in the matrix clause, and that the T of the matrix clause must have the same ϕ -features as the T of the host clause. Base-generation in the matrix clause is argued for English CR by Lappin (1984), Heycock (1994), and Potsdam & Runner (2001); the non-thematic nature of this position is argued for by Rogers (1971, 1972, 1974ab), Heycock (1994), Potsdam & Runner (2001). Both these properties characterize real T-CR, which is restricted to configurations where the subject of the matrix clause is interpretively linked to the subject of the host's clause, the controller (of matrix ϕ -agreement). Cases like *The book seems like John would like it* and *That book seems like it would sell a lot of copies* will be shown to involve a thematic use of *seem* in the next section.¹³¹

Intuitively, it seems like the theta-role of the subject of CR is determined in the host clause, not in the matrix clause. At any rate, there is no implication that *the problem* is making sounds in *The problem sounds like it is hard to solve* (Heycock 1994:288-9). Potsdam & Runner (2001) point out that the pairs in (128) are synonymous. However, I add (129) to show the synonymy to be thematic, not complete, which will be important presently.

(128)

- a It seems like Richard is a transformation.
- b Richard seems like it is a transformation.

¹³¹ I dismiss directly an analysis in terms of some kind of \bar{A} -binding of the controller as a resumptive pronoun. English resumptives do not like quantificational antecedents (Chao & Sells 1983, though see Safir 1984, 1986, 1996); no such dispreference is registered in T-CR, as pointed out by Lappin (1983):

- (i) No one seems like she wants to go to Antarctica.
- (ii) Many students appear as if they won't pass this time.
- (iii) Every argument seems as though it is flawed.

(129)

- a It seems like no transformations exist anymore. \neq
- b #No transformations seem like they exist anymore. (odd because it implies the existence of a transformation)

More secure grounds for demonstrating the absence of theta-role assignment in the matrix clause are expletives and idiom-chunks, which are incompatible with theta-role assignment. Both arguments come from Rogers's work (op. cit.), expanded by Potsdam & Runner (2001). The expletive examples are clear:¹³²

(130)

- a %There looks like there's gonna be a riot. (Potsdam & Runner 2001)
- b %There seems like there are problems. (Potsdam & Runner 2001)

Idiom chunks lead to the same conclusion.¹³³ The use of idiom chunks is a bit tricky. Runner (2003) demonstrates DS/LF contiguity is not really relevant for them. It is not always the case that idiom chunks are incompatible with \bar{A} -movement, and generally not the case that they cannot be modified; this seems to depend on the extent to which an idiom chunk can be assigned a meaning, as *the cat* 'the secret' in *the cat is out of the bag*.¹³⁴ However, their idiomatic interpretation is incompatible with the assignment of a theta-role, even if the result would be semantically coherent. This explains the classical control test. To run it carefully, it is important to ensure a non-idiomatic paraphrase of the idiom chunk can converge with the extra theta-role given by the control verb. The following examples illustrate the incompatibility of idiom chunks with receiving both a theta-role and an idiomatic interpretation at the same time:¹³⁵

¹³² While there is variation in their acceptability for some speakers, others accept them with no hesitation at all (see Groat 1997:122n53 in addition to the references on English T-CR).

¹³³ Potsdam & Runner (2001) add AP and PP subjects, as in *Sickeningly sweet (seems like it) is how Calvin likes his cereal*, which also demonstrate the absence of a matrix theta-role (Davies & Dubinsky 1998).

¹³⁴ Both are demonstrated by *It seems to be a [very strange cat]₁ OP₁ that t₁ is slowly emerging out of the bag*, in the context of an essay about spending one's past-time in inventing languages, which gets to the point rather obliquely. Similarly LGB:327-8: modification and \bar{A} -extraction in *how much care did they take of the orphans* and even anaphoric linkage, *care_i was taken of the orphans, but it_i was insufficient*, vs. **what did you take of the orphans*.

¹³⁵ (133) is better than the other examples even with *take care (of)* (Diane Massam, p.c.); this may be because it

(131)

- a %Surveillance/*tabs managed to be kept on the Nolwenn.
- b *(*Considerable) exception managed to be taken to this rule.
- c %Considerable disagreement managed to arise about this rule.
- d *Their minds managed to be made up rather quickly on this point.
- e %Their decision managed to be reached/made rather quickly on this point.

(132)

- a The secret was kept from being revealed.
- b *The cat was kept from being out of the bag.

(133) Thanks to the new budget cuts, adequate care is prevented from being ?provided for/?*taken of the orphans.

The compatibility of idiom chunks with English T-CR therefore makes it clear that there are examples where the subject of the matrix verb gets no theta-role from it:¹³⁶

(134)

- a %The shoe looks like it's on the other foot. (Potsdam & Runner 2001)
- b %The shit appears as though it's going to hit the fan very soon. (Potsdam & Runner 2001)
- c %Exception seems like it was taken to the recounting of votes. (Potsdam & Runner 2001)
- d %Advantage appears like it was taken of the workers.

Thus English T-CR configurations need not have the matrix clause assign a theta-role to the subject. I call this generalization 2 (generalizations 0 and 1 are to come):¹³⁷

approaches a non-idiomatic light verb construction of *take NP* with considerable systematicity, e.g. *take a picture (of)*, *take advantage (of)*.

¹³⁶ Potsdam and Runner (2001) suggests that the % may follow from the fact that some speakers do not have a non-thematic use of these verbs. However, this does not seem on the right track: there seem to be speakers who allow expletives in CR constructions and yet do not like idiom chunks. For some, the acceptability of idiom chunks here varies: *the cat is out of the bag* is usually better than *keep tabs on* or *take exception to*. I have no explanation for this. Animacy of the subject may play a role (Diane Massam, p.c.).

- (135) **English T-CR generalization 2:** there are English T-CR configurations where the matrix verb assigns no theta-role to its subject position.

Generalization 2 leads to generalization 1, which will be crucial later. It is demonstrated by (136), observed by Groat (1997:122-3): in real T-CR, as diagnosable by expletives and distinct from thematic use of these verbs (3.3), the T of the matrix clause is required to have the same ϕ -features as the T of the lower clause. Thus the descriptive generalization (137).¹³⁸

(136)

- a There looks as if there is a problem with this analysis. (Groat 1997:122)
 b There look/*looks as if there are problems with this analysis. (Groat 1997:122)

¹³⁷ Potsdam & Runner (2001) also present another argument: there is a tendency not to allow PRO in English T-CR, (i), though it is not complete (ii). Potsdam & Runner suggest that (i) is ungrammatical because PRO must receive a theta-role (I am not sure why, but cp. LGB:323, MP:327 on this point), and (ii) is grammatical because we are dealing with the pseudo-CR discussed in the next section where *seem* assigns a matrix theta-role, which is for some reason not available in (i). However, it does not seem that PRO needs a theta-role, (iii), (iv), a point made by Williams (1994) and Abels (2002), though there are other empty categories that cannot be expletive, even weather-expletive – the OP in (v) for example.

(i) ??The workers_i expect PRO_i to seem like they_i are successful. (Potsdam & Runner 2001)

(ii) The workers_i want PRO_i to at least seem like they_i are busy. (Potsdam & Runner 2001)

(iii) It_j can seem that someone_i is guilty without PRO_j seeming that they_i actually committed the crime. (Williams 1994:91)

(iv) It_j appeared that Bush_i was a liar after PRO_j seeming that he_i had known the truth all along. (Abels 2002)

(v) *It was raining too heavily [OP PRO to consider [*e* likely [*e* to stop]]] (Rizzi 1986a:528n28)

¹³⁸ Although as Groat reports some speakers have a salient contrast in (136)b, I find that it becomes much more prominently in (136)c, (136)d. Speakers in my experimenter fall into three groups. First, there are those who have the same judgments as Groat reports. Second, there are those who, at the stylistic level which permits these constructions, require singular agreement with post-verbal subjects (some even in locative inversion, e.g. *Through this valley runs two streams that meet at the far end*, though not in presentational *there*-insertion; see Schütze 1997:4.1.6 on this class of speakers). Other languages show this pattern generally, e.g. Fiorentino and Trentino (Brandi and Cordin 1989). This makes it unlikely that an intervening clausal boundary-based reduction is the culprit (Den Dikken 2001, MI:128, 148n88). Assuming MI's treatment of locality in the A-system, arguably what is missing in these languages is not ϕ -Agree with a post-verbal subject but its spell-out, though the details of that hypothesis remain to be worked out (see Chomsky 2004, p. 11 (opposite to note 44) of 2001 ms.). The intermediate group of speakers shows the contrast between (136)b and examples without a pre-verbal *there*; the former, but not the latter, are attracted towards the singular. I assume this is a function of *there*, though I do not have a full explanation.

An probably irrelevant data-set should be mentioned here: post-verbal conjoined subjects in English prefer left conjunct agreement, while preverbal ones do not allow it at all. However, this will follow from any system which, like the present one, requires the ϕ -probe to match the whole conjoined goal in order to move it. Various factors (e.g. equidistance, lack of features on the whole conjoined DP, etc.) may permit a ϕ -probe to reach the left conjunct, but an attempt to move or re-Merge the goal thus identified, that is the left conjunct, will violate the Coordinate Structure Constraints – for reasons that are unclear, but independent.

- c Why do/*does there look as if there are problems with this analysis?
- d Why do/*does there look as if there are tabs being kept on Kate?

(137) **English T-CR generalization 1:** in English T-CR, where the matrix verb does not assign a theta-role to the subject, the ϕ -value of the matrix T is restricted to the same value as that of the host clause's T.

The final descriptive generalization is that the subject of English-CR is necessarily base-generated in the matrix clause, and specifically in the matrix [Spec, TP]. The first argument is the most direct and specific. It relies on the interaction of quantificational subjects and the intensional operator of verb like *be likely* (see Boeckx 2001b, von Stechow & Iatridou 2003 for recent overviews of such cases). By way of introduction, consider (138)a, with its copy-theoretic representation. The sentence has two readings, which are paraphrasable as in (138)b and (138)c. The two readings reflect different scope of the indefinite.¹³⁹ The reading synonymous with (138)b can be true in a situation where there is a lottery limited to the city of Toronto. While there are always a number of non-Torontonians around, the majority of the population and presumably of the lottery players are Torontonians. If this is all our knowledge of the lottery consists of, (138)c is false: we know of no specific Torontonian that he is likely to win the lottery. (138)c is only true under a rather odd assumption that we know the person likely to win the lottery. (138)b is then necessarily true as well; (138)c entails (138)b but not vice versa.

(138)

- a A Torontonian is likely ~~a Torontonian~~ to win the lottery. (*likely* >> *a*; *a* >> *likely*)
- b It is likely that a Torontonian will win the lottery. (*likely* >> *a*)
- c There is a (specific) Torontonian who is likely to win the lottery. (*a* >> *likely*)

It is normally supposed that scope ambiguities like this are due to different interpretive position of the DP rather than verbs, negation, or adverbs. This is because when we consider those elements alone, as in (139), they do not show the same scope interaction: (139)a means the same thing as (139)b, but it cannot mean the same thing as (139)c.

¹³⁹ Within the model of semantics assumed here; see Heim & von Stechow (2002) for an introduction and review.

(139)

- a Kate is not certain to win the lottery. (*not* >> *certain*; **certain* >> *not*)
- b It is not the case that Kate is certain to win the lottery. (only *not* >> *certain*)
- c It is certain that Kate will not win the lottery. (only *certain* >> *not*)

A likely explanation of the fact that only DPs show scope ambiguities w.r.t. other clausal elements comes from the existence of two different positions for the DP in the derivation, c-commanded and c-commanding the operator in *be certain* (McCloskey 1997). The quantifier of the DP can then take scope in either of the two positions. On the copy-theory of movement, the latter receives a natural interpretation: it can be interpreted in either copy of the DP (Fox 1999, 2000, Sauerland 1998, 2000, 2003).

This test can be applied to the subject in English T-CR. As demonstrated by Lappin (1984), reviewed in Heycock (1994:290-1), and by Potsdam & Runner (2001), the subject in English CR has unambiguous scope above the matrix verb.

(140)

- a Two people_i seem *t_i* to have won the lottery. *seem* > 2, 2 > *seem*
- b It seems that two people have won the lottery. *seem* > 2
- c Two people are such that they seem to have won the lottery. 2 > *seem*

(141)

- a Two people_i seem like they_i have won the lottery. **seem* > 2, 2 > *seem*
- b =Two people are such that they seem like they have won the lottery. 2 > *seem*
- c ≠It seems like two people have won the lottery. *seem* > 2

(142)

- a No one seems like he is here. **seem* > *no one*, *no one* > *seem*
- b =No person is such that it seems like he is here. (o.k. only if people are present (but e.g. hiding))
- c ≠It seems that no one is here. (o.k. if there are no people present)

interpretation, which is required by a predicate like *be falling on the mountain* (something that snow generically, qua snow, obviously does not do). *Snow* as subject of a raising verb though does allow an existential interpretation in the (b) examples:¹⁴¹

(145)

- a ?*Snow sounds/seems like it's falling on the mountain.
 - b Snow seems to be falling on the mountain. [existential]
 - c Snow sounds like it must be a strange thing: hexagonal ice crystals falling out of the sky?
[generic]
- (Heycock 1994:293-4)

(146)

- a *Linguists sound/seem like they're waiting in the lobby.
 - b Linguists seem to be waiting in the lobby. [existential]
 - c Linguists sound like they must be very frustrating to talk to. [generic]
- (Heycock 1994:293-4)

Kratzer (1995) and Diesing (1992:II) argue that the availability of an existential reading for bare nouns depends on binding by the existential closure operator of clausal partition theories like Heim (1983). This operator is located somewhere between T' and VP. The absence of an existential reading for individual level predicates is taken by Diesing as evidence that their subjects, unlike those of stage-level predicates, do not reconstruct below [Spec, TP]. In terms of the copy theory, there is no copy of the subject below [Spec, TP] in individual-level predicates (though there may be a bound empty category in the *v*P-internal subject position, as Diesing suggests), while there is a movement-copy in stage-level predicates. The same conclusions transfer to subjects of copy-raising constructions: they must be base-generated higher than the existential closure operator of the matrix clause, for which [Spec, TP] qualifies.

¹⁴¹ Heycock (1994:294) suggests this might follow if predicates that do not assign a theta-role cannot be stage-level, relating this to Kratzer's (1995) hypothesis that stage-level predicates are such by virtue of assigning a theta-role to a Davidsonian event argument. That does not account for the distinction between *seem to INF* and *seem like S*; the following analysis, based partly on Doron & Heycock (1999), fares better.

There is thus strong evidence for the third generalization about English T-CR.¹⁴² Before formulating it, I pause briefly to observe that the position of the matrix subject is clearly an A-position, since a subject quantifier can bind a variable elsewhere in the matrix clause:

(147)

- a No one_i seemed to his_i friends like he_i was eager to enter the cave.
- b *It seemed to his_i friends like no one_i was eager to enter the cave.
- c *There seemed to his_i friends like there was no one_i at the door.

The third generalization follows:

- (148) **English T-CR generalization 3:** The subject of English T-CR must be base-generated in the [Spec, TP] of the matrix clause (or at any rate, in some high position outside the thematic layer and the scope of existential closure), which is an A-position.

The three generalizations about English T-CR are therefore that the subject is base-generated in a non-thematic A-position in the matrix clause, which characterizes copy-raising, and that the T of the matrix clause must have the same ϕ -features as the T of the host clause, which characterizes cross-clausal agreement.¹⁴³ Furthermore in English, CR implies CCA, while CCA can clearly take place without CR as expletive constructions show:

(149)

- a There look/*looks as if there are problems with this analysis. [CCA without CR]
- b Why do/*does there look like there are problems with this analysis. [CCA without CR]

¹⁴² Potsdam & Runner (2001) also present important evidence for a weaker conclusion, that the subject does not originate in the embedded clause, by showing that a bare plural subject cannot be bound by an adverb of quantification in the lower clause, which is possible for bare plural subjects in the case of movement (Lewis 1975, Diesing 1992, Kratzer 1995). Since the subject does not originate in the potential scope of *rarely*, *rarely* ends up with nothing to bind, violating the ban on vacuous quantification. However, not all speakers agree that (ii) is bad (Diane Massam, p.c.); and indeed, it seems to me that *rarely* should anyway be able to bind a temporal variable, as in *That cow is rarely intelligent*, so no vacuous quantification problem is expected.

(i) Cows (rarely) seem (rarely) to be intelligent.

(ii) Cows (rarely) seem like they are (*rarely) intelligent.

¹⁴³ This is partially modified in section 3.5 so that CCA requires the matrix T to have the same ϕ -features as the closest target in the embedded clause, which may be in the \bar{A} -system.

- c [Under the bed] and [in the shelf] both seem/*seems like they are good places to hide. [CCA with CR]

The generalizations made here are easiest to make about T-CR in English, because all is in place: the clause structure is sure enough, there is an overt expletive and the EPP cannot be satisfied by a null element, A-movement positions and their interactions with clausal positions are well known, the thematic properties of predicates, of control, and the behavior of idiom chunks have all been extensively investigated. I will at this point assume that the generalizations hold true for all the CR that falls under the scope of investigation in this chapter; when these generalizations do not hold a different phenomenon is involved for principled reasons, either the thematic pseudo-CR discussed in the next section or the "broad subjects" of 3.4.7.

For copy-raising to [Spec, TP], or T-CR, in other languages, the resolution provided by the data at present is much more limited than for English. Two important cases in recent literature are Turkish and Passamaquoddy. Moore (1998) investigates CR and CCA in Turkish, and argues that there is T-CR which goes with T-CCA. He concludes that T-CR is raising to a non-thematic A-position and spell-out of the agreeing copy in the embedded clause as a pronoun (p. 162-6). As he points out, the investigation is impeded by the word-order and *pro*-drop properties of the language. The basic reason to think that CR, in our terms, exists in Turkish, is that a class of matrix verbs which are *prima-facie* non-thematic, like *seem*, can for some speakers show matrix ϕ -agreement with an argument that also ϕ -agrees in the complement clause. A subset of these speakers relax an independent restriction against overt pronouns in embedded clauses if there is a linked argument in the matrix clause (p. 180-1), and allow an overt pronoun copy to surface in the embedded clause:

- (150) Siz_i ban-a [siz_i git-ti-niz] gibi gel-d-iniz.
 you.PL-N I-D you.PL-N go-PST-2.PL like seem-PST-2.PL
 You seemed to me to have left. (Turkish; Moore 1998:180)

All known properties of this construction are identical to those of English T-CR. In particular, generalizations 1 and 2 seem to hold, while generalization 3 has not been investigated: there is matrix ϕ -agreement on T which is identical to embedded T's ϕ -agreement and the matrix

subject position seems to be non-thematic. I assume it is to receive the same analysis as English T-CR/CCA.

T-CCA and CR has also been investigated for Passamaquoddy by Bruening (2001:VI), who convincingly shows that CCA associated with the inverse voice of that language on the matrix verb involves both a ϕ -head above v , the traditional T/INFL, and a matrix A-position above that of the object. At first sight the data seem to violate generalization 1, because the matrix subject of CR which determines the ϕ -features of its clause can be linked to any pronoun in the complement clause. However, this is no more than the CR/pseudo-CR issue investigated and resolved for English in the next section, and I will assume Passamaquoddy is susceptible to the same conclusion.

Turkish and Passamaquoddy paradigmatically involve T-CCA, possibly followed by CR. CCA clearly occurs for v as well in many languages; whether v -CCA can ever be combined with v -CR is unclear. The situation of v -CCA and v -CR is clearest for Tsez (Polinsky & Potsdam 2001) and Algonquian (Passamaquoddy, Bruening 2001), which have both received extensive recent investigation one of the purposes of which has been to establish the properties of CCA and CR in these languages. In both cases, the answer is clear: there is v -CCA, but there is no v -CR. The controller of v -CCA may appear at the edge of the host clause, although it need not; but it may not have an A-position in the matrix clause. I return to both these languages, with discussion and data, in section 3.5.

The question is more controversial for Turkish (Moore 1998) and Japanese (Tanaka 2002). The basic situation in the relevant dialect of Turkish is the following: the agreeing subject of a certain clause of finite complements of ECM-like verbs may be accusative marked; if it is, it behaves as if it is in the same domain as matrix clause elements for such purposes as binding (Moore 1998:168-173). It does not behave like this if it stays nominative, which is a possibility (the only one for some speakers). The word-order and *pro*-drop properties make it difficult to determine whether the overt position of the accusative/nominative is truly within the matrix clauses.¹⁴⁴

(151) Biz_i birbirimiz-i_i/*birbirimiz_i viski iç-ti-k san-iyor-uz

¹⁴⁴ Unfortunately, Moore does not give any data on whether a nominative copy of the controller is possible in the host clause.

we-N each.other-A/*N whiskey drink-PST-1.PL believe-PRG-1.PL
 We_i believe each other_i to have drunk whiskey. Moore (1998:172, 173)

Section 3.5 argues that that CCA is never optional: it is either obligatory, if the controller is at the edge of its clause, or impossible, if it is c-commanded by something with ϕ -features such as a complementizer (e.g. *seem that*). There is thus a difference of structure between constructions where the subject of the lower clause enters into CCA the matrix ν (sc. when it shows up with accusative) and where it does not (when it shows up with nominative). This difference, presence of a ϕ -specified C, arguably suffices to explain why in the former but not latter case the subject can behave as if it is part of the matrix clause for such purposes as anaphora binding. This is also essentially Bruening's (2001:V.6) conclusion for similar facts in Japanese.¹⁴⁵

It is not truly important here whether all CR is T-CR. It is intriguing, though, that CR, which is the base-generation of a constituent in a non-thematic A-position, seems to be restricted essentially to exactly the same position as the expletive: the obligatory [Spec, TP] non-thematic A-position, which contrasts with the optional object shift or derived low subject positions (cp. McCloskey 1996, 1997). This generalization fits very well with the account I will propose, where the base-generation of the subject in CR uses the same mechanism as the base-generation of expletive: the basic mechanism of all base-generation in a non-thematic position. However, the difference between the obligatory (EPP) and optional NP-movement positions remains an unresolved question in current literature.

I conclude this section with a summary of the properties of English CR and its interaction with CCA. I generalize in concluding that the matrix verb in CR does not, rather than need not, assign a theta-role to the subject in English CR; as will become clear in the next section, when a theta-role is assigned to the matrix subject, what looks like CR is just variable binding or coreference.¹⁴⁶

¹⁴⁵ As Tanaka (2002) carefully points out, the accusative in Japanese can show up above matrix adverbs. However, the same facts -- both those of adverb placement and of anaphora binding -- have constituted a well-known problem in the analysis of their corresponding constructions in English; it is nevertheless controversial whether this movement is taking place (Johnson 1991, Koizumi 1993, 1995, Lasnik 1999; MP, MI, DBP).

(i) I suspected [Kate and Bill]_i with all my heart [to be lying] (as I listened to them) during [each other's]_i trials.

¹⁴⁶ I know of no test that would absolutely demonstrate no theta-role may be assigned.

(152) CR generalizations

- a **Generalization 1 (CCA):** Under CR, the ϕ -value of the matrix T is restricted to the same value as that of the host clause's T; that is, there is obligatory cross-clausal agreement.
- b **Generalization 2 (Non-thematic position):** The matrix verb assigns no theta-role to its subject position.
- c **Generalization 3:** The subject CR must be base-generated in the [Spec, TP] of the matrix clause, which is an A-position (alternatively, in [Spec, HP] of the corresponding head H involved in CCA).

The next section examines cases which seem to show CR in English where the controller is not the subject of the host clause. Following Potsdam & Runner (2001), they turn out to involve theta-role assignment to the matrix subject, and they are not therefore CR. So English T-CR can only link to the subject of the host clause. This is confirmed by Moore's (1998) conclusions for Turkish T-CR. The result, to be further elaborated in 3.5, is an important conclusion of this chapter: CCA, which is required for true CR, is subject to ϕ -locality; and therefore so is CR (by generalization 1).

3.3 Cross-Clausal Agreement: The role of ϕ -locality

In recent literature, the key role of locality in CR and CCA is put on the table by Moore (1998) for Turkish T-CR, who formulates it in terms of Relativized Minimality on A-chain formation, as do Potsdam & Runner (2001) for English T-CR; by Branigan & MacKenzie (2001) and Bruening (2001) for ν -CCA in Algonquian, who formulate it in terms of phase theory; and by Polinsky & Potsdam (2001) for ν -CCA Tsez, in terms of head government. In this section, I review the arguments of the first two, which fit directly into the assumptions of this thesis: locality constraints on Agree are due to feature-relativized locality (chapter I). In the MI framework, such a locality effect must be a consequence of the ϕ -relativized locality of the ϕ -Agree operation, since that is the mechanism of A-chain formation. This is also a possibility discussed by Potsdam & Runner (2001), and brings us to the core paradox this chapter: how can the independent base-generation of a DP in a non-thematic position in the matrix clause be

restricted by the locality of ϕ -Agree of its T. In section 3.5 I return to Tsez and in Algonquian, and argue that ϕ -relativized locality, not phase theory, accounts for the local behavior of CCA there.

Moore's (1998:173-178) discussion of the locality in Turkish T-CR is the earliest of these works, and along with that of Potsdam & Runner (2001) the closest to the account I present. Moore observes that although CR in Turkish seems to obey the Tensed Subject Condition or its equivalent, the link is restricted by Relativized Minimality applied to A-chains because the nominative subject of an intermediate clause cannot be skipped. This is shown in (154)c, where the 1.SG subject and the controller cannot be linked across the 2.SG subject of the intervening clause, as is also impossible in regular raising (154)b, though the semantics is fine in the non-raising structure, (154)a.

- (153) Siz_i ban-a [(%siz_i) git-ti-niz] gibi gel-d-iniz.
 you.PL-N I-D you.PL-N go-PST-2.PL like seem-PST-2.PL
 You seemed to me to have left. (Turkish; Moore 1998:180)

- (154)
- a [[Çok viski iç-ti-m] san-dı-n] gibi görün-dü-Ø
 much whiskey drink-PST-1.SG believe-PST-2.SG like appear-PST-3.SG
 It appears that you believed I have drunk a lot of whiskey. (*No raising*)
- b *[[Çok viski iç-ti] san-dı-n] gibi görün-dü-m
 much whiskey drink-PST believe-PST-2.SG like appear-PST-1.SG
 (=I₁ appear that you believed *t*₁ to have drunk a lot of whiskey.) (*Regular raising*)
- c *[[Çok viski iç-ti-m] san-dı-n] gibi görün-dü-m
 much whiskey drink-PST-1.SG believe-PST-2.SG like appear-PST-1.SG
 (=I₁ appear that you believed I₁ drunk a lot of whiskey.) (*Copy-raising*)
 (Moore 1998:177-8)

Moore proposes that A-chain Relativized Minimality applies to copy-raising; I put it in the present framework as follows, in the strongest and most direct form:

(155) **CCA locality generalization:** CCA by ϕ -features on H is restricted to the closest accessible ϕ -set in the search-space of H, due to the ϕ -relativized locality of ϕ -Agree.

(156) I_1 appear that you believed I_1 drunk a lot of whiskey.
*AGREE by locality

The CCA locality generalization derives from the following assumption, whose defense I undertake in the latter half of this chapter:

(157) **FUNDAMENTAL CCA HYPOTHESIS:** CCA is just ϕ -Agree, with its property of ϕ -locality.

The case study of English in Potsdam & Runner (2001) is particularly important in establishing (155). They pursue the same generalization as Moore (1998), but test it against a number of cases where it seems as though English T-CR is not subject to any locality constraints, which I descriptively call PSEUDO-CR:

(158) That apartment₁ looks like you must have a wonderful view (from it₁).

Potsdam & Runner show that this is not CR for all their surface similarity; the matrix verb here assigns a theta-role to the subject.

Heycock (1994:290) takes it that there is no locality restriction in English T-CR, citing the following from Rogers (1971) and adding her own examples, which are supposed to demonstrate a non-thematic use of the matrix verb (cp. Postal 1974:268n1, Rogers 1974b:94-8, Lappin 1983:122, and Potsdam & Runner 2001):

(159)

- a Ermitrude looks like the cat got her tongue. (Rogers 1971; Heycock 1994:290)
- b That book sounds like everyone will want to buy it. (Heycock 1994:290)
- c That book sounds like its publication should cause quite a stir. (Heycock 1994:290)
- d That book sounds like everyone thinks it should be banned. (Heycock 1994:290).

Strengthening this point, Heycock (1994:292) adduces examples without any linked pronoun at all:¹⁴⁷

(160)

- a That book sounds like everyone should own a copy. (Heycock 1994:292)
- b From what you say, your car sounds like you need a new clutch. (Heycock 1994:292)
- c That restaurant sounds like new management would be an improvement. (Heycock 1994:292)
- d Those books sound like the covers should have been replaced long ago. (Heycock 1994:292)
- e That movie sounds like there should be a sequel. (Heycock 1994:292)
- f Her apartment sounds like there must be a wonderful view. (Heycock 1994:292)

However, there is a theoretical problem with these examples. If the matrix subject neither receives a theta-role, nor is somehow linked to a pronoun or gap that receives a theta-role by predication (section 3.4), these sentences should be uninterpretable, as Browning (1989:I) points for other such cases of clause-internal DPs, as opposed to clause-external ones:¹⁴⁸

(161)

- a As for baseball, they discussed the Red Sox for hours. (Browning 1989:26n5,6)
- b *It was baseball that they discussed the Red Sox for hours. (Browning 1989:27)
- c *Baseball is easy to discuss the Red Sox for hours.

¹⁴⁷ Such examples are common in so-called broad-subject constructions in Japanese, which are base-generated in (higher) [Spec, TP]: see Heycock (1994) for discussion, and section 3.4.7 here. Japanese, however, has rampant null pronouns (although cp. Heycock 1994:282 for a possible example where no null pronoun can be postulated). In Hebrew with parallel broad subject examples, variation is found (Doron & Heycock 1999). Similarly for English, the level of acceptability of linkless sentences seems to vary more than that of those with a link. Potsdam & Runner (2001) adduce examples like *John *seems/eats like there is no tomorrow*. However, it is not clear that the sentence is really ungrammatical, provided enough context is introduced to make the link between the embedded clause and John's appearance. I think that *NP seems like S* has approximately the same level of acceptability as *NP gives the appearance/impression that S* where *S* does not contain a pronoun linked to *NP*: %*That restaurant gives the impression that new management would be an improvement*, %*John gives the impression that there is no tomorrow*. For the latter construction there is no doubt that the matrix subject is receive a theta-role separately from that of the lower clause. Arguably then, whatever variability there is in the acceptability of linkless pseudo-CR stems from independent factors.

¹⁴⁸ Heycock (1994:292-3) herself points out this problem, giving examples like (i), and modifies predication theory accordingly not to need a gap. However, it does not seem that such a modification does justice either to Predication Theory or to the empirical mileage to be gained from the necessity of a link, as in (161).

(i) ?*a book which everyone should own a copy

Potsdam & Runner (2001) point out that Rogers (1974b:96-7) demonstrates that precisely in these cases, where the controller is not the subject of the host clause, expletive and idiom chunk tests fail.¹⁴⁹

(162)

- a *There seems like John expects there to be an election.
- b *The other foot appears like the shoe is on it.
- c *His bite sounds like his bark is worse than it.
- d *Much headway seems like we made it on that problem last night.
- e *Tabs appear as if the government keeps them on us.

From this, Rogers (1974b:97) and Potsdam & Runner (2001) conclude that the constructions of *seem/sound like/as if/as though* are ambiguous between assigning and not assigning a theta-role the subject.¹⁵⁰ Potsdam & Runner (2001) support this, by showing that pseudo-CR unlike CR is not paraphrasable by leaving subject entirely inside the host clause (here the DPs involved crucially must not be quantifiers, so that the effect of theta-assignment can be isolated; with quantifiers as discussed above there is no embedded scope):

(163)

- a He seems like he's ill.
- b =He is acting like he's ill.
- c =It seems like he is ill.

(164)

- a He seems like Kim just dumped him.
- b =He's acting like Kim just dumped him.
- c ≠It seems that Kim just dumped him.

¹⁴⁹ The failure is severe ungrammaticality for expletives and complete absence of idiomatic reading.

¹⁵⁰ Cp. Martin's (1996:101-5) conclusion that regular raising *seem* is ambiguous between raising and control.

The unavailable reading cannot be due to any quantificational properties of the subject in this example, because the subject is a definite description, and these are scopeless. Furthermore, if it were due to some property of the subject, it should be lacking in true CR as well as in pseudo-CR because in both cases the subject is base-generated in the matrix clause. The only source of the impossibility of such a paraphrase for pseudo-CR must therefore be the extra theta-role assigned to the subject in it.

This all shows that English constructions which support T-CR also support a thematic use, where the matrix clause assigns a theta-role to the subject. The concept of a theta-role is in need of clarification. In the semantic framework of Heim & Kratzer (1998), Kratzer (in progress), and related work, assigning a theta-role to a DP simply means that the lexically specified meaning of the verb provides a way for a DP to be interpreted.¹⁵¹ This does not require that there be any primitives corresponding to traditional theta-roles (see Baker 1997 for review of the latter). Kratzer (in progress:IV, V) argues extensively that there are not; particularly, the theta-role "theme" cannot exist. The appearance of theta-roles, convincing for external arguments, arises from syntactic decomposition (also Hale & Keyser 2002): the external argument is introduced by a head different from that which introduces the internal argument. So the vagueness of the theta-role in pseudo-CR is not a worry; but the following remains:

- (165) **Pseudo-CR puzzle:** all English constructions which allow T-CR also allow a thematic interpretation of the matrix subject (pseudo-CR).

This puzzle is quite of the same kind as theta-role assignment to the subjects of individual-level predicates is in general: the subject seems to be genuinely VP-external and non-selected (Kratzer 1995, Diesing 1992:II). Call the mechanism involved P:

- (166) P: "Individual level predicates differ from stage-level predicates in that they have an Infl that assigns a θ -role to [Spec, IP]. This role has roughly the meaning 'has the property x ', where x is the property expressed by the predicate." (Diesing 1992:25-6)

¹⁵¹ Formally, the verb provides a λ -operator corresponding to each argument, so that the argument can be interpreted by Functional Application with the operator; see Kratzer (1996, in progress) on external arguments.

Sound/seem/look like should have P available to the extent they can be construed as individual-level predicates, "give the impression that S, on the basis of auditory/visual evidence". P is otherwise general in English, so it should be general with these verbs. The real core of the puzzle seems to be the impossibility of P in **NP ↔_P seems that S* vs. *NP ↔_P seems like S*. The difference possibly lies in the selection of S. Suppose *that S* is predicated of *seem* by P itself; then the difference between *seem that S* and *seem like S* can be drawn by taking *like* as a P (Maling 1983) which selects S, leaving P available for an NP added to *NP seem like S*.

Rogers (1974b), Ura (1998), and Potsdam & Runner (2001), all reach the important generalization of this section: the thematic use, pseudo-CR, is required whenever the controller is either missing or not the subject of the embedded clause, and it is locality which is responsible for this. Independently, section 3.2 observed that a non-thematic use of these constructions is also barred merely if the T of the matrix clause fails to have the same ϕ -features as the T of the host clause. This was generalization 1, accounting for:

(167) Why do/*does there look like there are problems with this analysis?

Generalization 1 properly includes that of Potsdam & Runner (2001). It is not quite the case that the controller linked to the subject in true CR must be the closest DP visible to the ϕ -system, which does not take into account the behavior of matrix T and might let it have default agreement in (167). Rather, it is that in order for the matrix subject to enter into CR, the matrix T must Agree (CCA) with the controller of the host clause or equivalently the host clause's T. ϕ -agreement with a lower goal in the host clause violates ϕ -locality; so it is simply that CR requires CCA, with its locality property.

Data from Innu-aimûn add another configuration which establishes the ϕ -relativized locality of CCA (see section 3.5). CCA in Innu-aimûn is ν -CCA and takes place without CR, as in (168)a. The controller of agreement must at be at the periphery of the host clause, e.g. its subject. Importantly, when there is a matrix object, matrix ν -agreement cannot CCA across it, being rather restricted to it (Branigan & MacKenzie 2001:405, 399n14), as in (168)b vs. (168)c:¹⁵²

¹⁵² Branigan & MacKenzie treat CCA and the agreement in (168)b as reflexes of different systems, an agreement- \bar{A} system for the former and Case/agreement system for the latter, where the latter pre-empts the former because it is

(168)

a Ni-tshissenim-âu [Pûn kâ-mûpisht-âshk].

1-know-3 Paul PRT-visited-2/INV

I know that Paul visited you. (Branigan & MacKenzie 2001:396)

b Tshi-kukuetshim-in $\overbrace{\text{pro}[1.SG]}$ [aenua mûpishtâkupan Mânî].
2-asked-2/1 who visited-3 Marie

You asked me who visited Marie. (Branigan & MacKenzie 2001:405)

c *Tshi-kukuetshim-u $\overbrace{\text{pro}[1.SG]}$ $\overbrace{\text{[aenua mûpishtâkupan Mânî]}}$.
2-asked-TA-2/3 who visited-3 Marie

(Branigan & MacKenzie 2001:405)

Here is a configuration where ν -CCA is blocked by the intervention of a matrix object. This is independent evidence to show that CCA is subject to ϕ -locality.

The ϕ -locality of CCA predicts the absence of real CCA/CR in configurations like English pseudo-CR, because the locality requirement of CCA is violated. It also predicts that CCA/CR will be blocked for both T and ν whenever there is a matrix argument with accessible ϕ -features, as it is in Innu-aimûn. Thus, there should be no T-CCA/CR transitives of the following sort, with the intervener underlined, for exactly the same reason that there are no such raising verbs: the matrix ϕ -probe cannot pass *Nolwenn*.

(169)

a *There SEEM Nolwenn as being severe problems in this analysis.b *There SEEM Nolwenn as though there are severe problems in this analysis.c *Tabs SEEM Nolwenn as being kept on John.

This is certainly true for English.

obligatory. I argue in section 3.5 that the all ν agreement in Algonquian, whether CCA or with a matrix object, reflects one unitary mechanism with a single locality restriction; this is what permits us to conclude from this data that we have a locality effect on ν -CCA in (168)b.

The results of this section can be summarized as the generalization given in (155), which I will now call generalization 0; I repeat generalization 1 (slightly simplified) here as well, as it is the two together that derive the locality of English and Turkish T-CR:

(170)

- a **Generalization 0 (locality of CCA):** CCA by ϕ -features on H is restricted to the closest accessible ϕ -goal in the search-space of H, due to the ϕ -relativized locality of ϕ -Agree.
- b **Generalization 1 (CR implies CCA):** CR, that is the base-generation of a non-thematic broad subject in [Spec, TP], requires CCA by the matrix T.

As was the case for CR, English provides a rather good window on the locality properties of CCA, for reasons noted in the last section. We might then expect that the appearance of non-local CR quite generally falls under pseudo-CR, although for any particular language there might not yet be the data and tools available to uncover it, as there are for English.¹⁵³

CR thus crucially depends on CCA, which accounts for its locality properties. However, the dependence of CR on CCA is a near paradox. CCA is just ϕ -Agree. ϕ -Agree traffics in ϕ -feature, not in lexical items or constituents. Agree can be followed by movement of the controller/goal, but the previous section has demonstrated that this is precisely what does not happen in CR. The matrix subject is separately base-generated. Base-generation is not supposed to depend on Agree, because otherwise it would be movement, and that should reconstruct. Hence the paradox. Yet the pieces seem quite solid.

The observation of this paradox is to be partly credited to Potsdam & Runner (2001). Although the link between CR and CCA is not directly drawn, they argue that the T-CR subject in English is Merged directly into the matrix clause, and they account for the locality of CR as a constraint on A-chain formation. This, they suggest, might be due to the "representational relation" Agree. The link between base-generation and Agree, the heart of the paradox, is suggested to be Agree for a theta-role, which occurs between the matrix subject with an uninterpretable theta-role feature, and the host clause's subject, which is the source of the theta-

¹⁵³ In particular the general availability of pseudo-CR in English suggests that the same solution is applicable to other cases of CR not restricted by locality like T-CR in Kipsigis (Jake & Odden 1979, Massam 1985:III.3.1) and Passamaquoddy (Bruening 2001:V.4, 5), in both cases contrasting with ν -CCA in those languages.

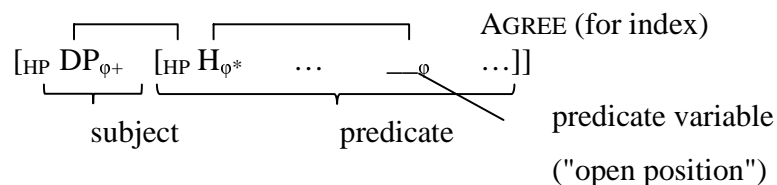
periphery of the host clause, and show that the difference is to be localized in ϕ -specification of the complementizer, as has already been suggested. CCA is in fact always available subject to locality, because there is no such thing as CCA apart from ϕ -Agree and its properties; however, it is usually blocked by the default 3rd.sg. specification of complementizers like *that* (but not *like*).

3.4 Move & Merge

3.4.1 *Introduction*

I propose that the subject DP of CR receives its interpretation by predication, rather than e.g. theta feature Agree. More generally, a non-thematic DP is interpreted by composing with its sister as a subject with a predicate. A predicate is a constituent which contains an "open" position in which its subject may be interpreted, and a device at its "top" to indicate the location of this position in it. This device is simply an index, which may be treated as a feature. I will argue for a relatively novel proposal, though partly found in Browning (1989): ϕ -Agree is how the label of the constituent which is the predicate (its "top") encodes the "open" position in it. This means that ϕ -Agree is responsible for creating the critical information to interpret a subject-predicate pair at LF: it indicates in the label of the predicate where within it there is an open position for the subject. Essentially following Williams (1980, 1994) and Browning (1989), I will propose the Match Condition, which requires that two constituents which Merge do not differ in formal feature values (the subject-predicate agreement relation).

MATCH CONDITION
(173)



This is the same representation which will be needed to interpret movement in MI's CTM, with its separate steps of Agree by H and non-thematic base-generation in [Spec, HP]. The inquiry into CR thus develops a general theory of non-thematic Merge and its interaction with

Agree, which applies to Move as well. CR and Move differ in the identity relation of adjacent chain links (copies vs. non-copies), which will derive rather trivially from binding theory.

3.4.2 *Predication Theory and Predicate Abstraction*

Heim & Kratzer's (1998) use of predication is to interpret moved DPs, which are an instance of non-thematic DPs. This is related to Predication Theory, a general theory of the interpretation of non-thematic DPs, and of the syntactic representation of subjects and predicates, developed in Williams (1980, 1981, 1983, 1986, 1994), Rothstein (1983), Browning (1989), Heycock (1994), Koenenman & Neeleman (2000).¹⁵⁴ I first review the elements in so far as they are important here, keeping to the formalism of Heim & Kratzer (1998).

The basic idea of Predication Theory is that clause-internal DPs can be interpreted in two ways: by theta-role assignment, where the λ -operator that interprets an argument is given in the lexical entry of a verb; or by predication, where the λ -operator is introduced by an interpretive mechanism.¹⁵⁵ Here is a selection of DPs that are interpreted by predication:

(174)

- a the girl₁ such₁ that the hobbit thought she₁ had not come t'_1 from here.
- b the girl₁ who₁ t_1 had not come t'_1 from here
- c the girl₁ OP₁ that t_1 had not come t'_1 from here
- d the girl₁ was t_1 OP₁ easy PRO_{arb} to see t'_1 . (Browning's 1989 structure)
- e the girl₁ had not come t'_1 from here.
- f the girl₁ is not believed to have come t'_1 from here.

¹⁵⁴ The basic idea that the VP is a derived predicate is due to Partee (1973) and Williams (1977); this underlies both Predication Theory and the derived predicate approach to movement.

¹⁵⁵ For Williams (1994), predication is theta-role assignment; independent aspects of the system dictate when a theta-role can be assigned "at a distance" by percolation from V to VP, then to I and I' to be given to the sister of I'. This is directly reflected in the Heim & Kratzer (1998) semantics: predication and thematic interpretation are both λ -conversion. It's just that some predicates (lexical items) have their λ -operators lexically, others get them attached by movement. On the other hand, Williams does not interpret \bar{A} -moved DPs so but by Montagovian rule of quantifying-in, while Heim & Kratzer provide an elegant general system that essentially does just with predication beside lexical λ -specification.

In each of these cases, the theta-role is assigned to t' and seems then somehow transmitted to *the girl*. Various facts, principally those of scope and variable binding, show that content in a non-thematic position cannot be simply totally reconstructed at LF (cp. e.g. 3.2 here). On the flip side, Browning (1989) observes that it is not possible to simply base-generate material anywhere provided it makes sense. That is possible outside the clause, in left dislocation, but not inside it: non-thematic subjects of predicates without a corresponding gap are illicit, and neither may pronouns in general, though themselves variables that can be bound, function as the bound variables from which non-thematic subjects receive their interpretation (except with the regular marginality of resumptives in island contexts; cp. also Heycock 1994:256).¹⁵⁶

(175) As for baseball, they discussed the Red Sox for hours. (Browning 1989:26n5,6)

(176)

- a *This weather is difficult for John to arrive on time. (Browning 1989:27)
- b *It was baseball that they discussed the Red Sox for hours. (Browning 1989:27)

(177)

- a *This weather is difficult for John like it.
- b *It was baseball that they discussed it for hours.
- c ?It was John that I couldn't remember whether he was a good athlete or not. (Browning 1989:28)

I assume temporarily that this falls under the principle of FULL INTERPRETATION (cp. Browning 1989:26), though the system will end up deriving it (see end of section 3.4.7):

(178) FULL INTERPRETATION (sub-case): a TP-internal DP must receive interpretation either by predication or the theta system.

¹⁵⁶ Cp. Safir (1984, 1986, 1996) on resumptives in English. In my experience English speakers do often produce, and in some cases assent to as grammatical, sentences like (i). I have no explanation for this fact.

(i) Copy-raising is the kind of problem which even if we found a reasonable explanation we would learn nothing important about agreement.

In the framework of Heim & Kratzer (1998), theta-role assignment is simply semantic composition with a lexical item, a part of the lexical entry of which is the number and semantic type of arguments coded by means of the lambda notation:¹⁵⁷

(179) Lexical entry for *love*: $\llbracket \text{love} \rrbracket = \lambda x \in D_e. \lambda y \in D_e. y \text{ loves } x$

The hypothesis of Predication Theory is that there is another way of interpreting DPs, which operates in examples like (174): as the subject of a predicate in a subject-predicate relation. A predicate is a construct which contains a designated position in which a predicate-external subject can be interpreted, and a method for interpreting the subject there. The predicate-internal position gets a theta-role, so predication transfers theta-roles so to speak, but without referring to them at all. So a derived predicate is like a lexical predicate, except its internal constituency is analytic, compositional; and a lexical item is a predicate – a lambda abstract – whose content is not further decomposable at the relevant level.

The basic question is what makes a predicate, and how. In one typical class of predicative structures like (174)b, the predicate is headed by an operator moved from (an A-position linked to a) theta-position; its trace is the position where the subject of the predicate is interpreted. In that case there are manifest relationships between the "top" of the predicate and the open position it contains, namely \bar{A} -Agree and \bar{A} -movement, and between the subject and the predicate, namely ϕ -feature agreement between the subject and the predicate. These are good cues to start from; the former leads to the preliminary (and incorrect) conclusion that movement is necessary to create a new predicate, called thus a derived predicate.

(180) the girl₁ who₁ t₁ had not come t'₁ from here

In the interpretation of subject-predicate structures as well as all others, the basic compositional tools of Heim & Kratzer (1998) are Predicate Abstraction and Functional Application.¹⁵⁸ Function Application is what derives compositional semantics. It applies to two

¹⁵⁷ For the severing of the external argument see Kratzer (1996, in progress); it is implemented by having v introduce a neo-Davidsonian event variable as an argument.

¹⁵⁸ For completeness, I give Predicate Modification (PM) which will not be important but alluded to. Predicate Modification allows two sisters which are of the same semantic type, like a noun and an adjective which are both

sisters, say *Kate* and *is green*, one of which like *Kate* is an argument of the other, while the other is an argument-taker like *(is) green* of the correct type to compose with the argument; it then puts them together by applying the function to the argument. Predicate Abstraction is the heart of predication theory. It takes a constituent at the top of which is found an index, and translates it at LF into a device, the lambda abstract, which is a function that takes an argument x and interprets it at the position identified by the index.

(181)

- a Predicate Abstraction Rule (PA): Let α be a branching node with daughters β and γ , where β dominates only a numerical index i . Then, for any variable assignment, a , $\llbracket \alpha \rrbracket^a = \lambda x \in D_e. \llbracket \gamma \rrbracket^{a[x/i]}$. (Heim & Kratzer 1998:186)
- b Functional Application (FA): If α is a branching node and $\{\beta, \gamma\}$ the set of its daughters, then, for any assignment a , α is in the domain of $\llbracket \cdot \rrbracket^a$ if both α and β are, and $\llbracket \beta \rrbracket^a$ is a function whose domain contains $\llbracket \gamma \rrbracket^a$. In this case, $\llbracket \alpha \rrbracket^a = \llbracket \beta \rrbracket^a(\llbracket \gamma \rrbracket^a)$. (Heim & Kratzer 1998:105)

Predicate Abstraction and Functional Application is how movement is interpreted in this system. A moved phrase like *John* in *John left* syntactically introduces an index as immediate subconstituent of the sister of its derived position, in this case T' . Consider how these interpretive tools apply here, provided that the lexically-specified interpretation of the atoms *John* is "John", *left* is " $\lambda x.x \text{ left}$ ", and a trace (for simplicity) is a variable:

(182)

a	$[_{TP} \text{John } [_{T'} 1 [_{T'} T [_{VP} \text{left } t_1]]]]$	Syntactic movement output
b	$[\text{John } [1 [\llbracket \lambda x.x \text{ left} \rrbracket x_1]]]$	LF input (lexical translation)
c	$[\text{John } [1 [x_1 \text{ left}]]]$	FA (thematic interpretation)
d	$[\text{John } \lambda x. [x_1 \text{ left}]^{a[x/1]}]$	PA
e	$[\text{John left}]$	FA

predicates, to compose by conjunction (cp. Davidson 1967). Heim & Kratzer's (1998:105-6) definition (for the $\langle e, t \rangle$ type) is: If α is a branching node and $\{\beta, \gamma\}$ the set of its daughters, then, for any assignment a , α is in the domain of $\llbracket \cdot \rrbracket^a$ if both β and γ are, and $\llbracket \beta \rrbracket^a$ and $\llbracket \gamma \rrbracket^a$ are both of type $\langle e, t \rangle$. In this case, $\llbracket \alpha \rrbracket^a = \lambda x. x \in D$ and x is in the domain of $\llbracket \beta \rrbracket^a$ and $\llbracket \gamma \rrbracket^a$, $\llbracket \alpha \rrbracket^a(x) = \llbracket \beta \rrbracket^a(x) \wedge \llbracket \gamma \rrbracket^a(x)$.

More schematically, here is how PA and FA apply to the two movements in (174)a:¹⁵⁹

- (183) the girl ₁ that John ₂ had not _{t_2} seen _{t_1} in her₁'s garden.
- PA: $\lambda x.x$ had not seen t_1 in her₁'s garden
- FA: John had not seen t_1 in her₁'s garden
- PA: $\lambda x.$ John had not seen x in x 's garden
- FA: John had not seen the girl in the girl's garden

The use of indices is basic to predication, and I should say more about it before proceeding, since they may seem questionable creatures in the minimalist program, unless justifiable by interface requirements. The basic reason why a derivational syntax must leave traces of movement in the form of indices is because it is not, in general, determinable from the inspection of a representation which of the potential variables inside a predicate is the predicate variable for the subject. This is evident in (183): the predicate which is the sister of *John* has three variable occurrences, t_1 , t_2 , and x_1 . They have the same LF status, except for their index -- their name. It is conditions on syntactic dependencies (locality), but not on LF dependencies such as variable binding or control, which determine that *John* may only be interpreted in t_2 , not in t_1 . An attempt to do without indices would have to restate these conditions at LF. But that is already the role of syntactic derivation -- to partially determine an LF.

Adopting the copy theory for traces does not modify any of the essentials of predication. The interpretation of copies as definite descriptions is developed in Fox (1999, 2002) following Rullmann & Beck (1998). Suppose we have the copy-theoretic structure *every girl left every girl*. Without doing anything, this would be interpreted as *For every girl, every girl left* (Munn 1994). Fox proposes that copies are interpreted as definite descriptions, with the quantifier of the copy replaced by *the*, and are linked to the corresponding quantifier by having attached to them

¹⁵⁹ The method of composing a relative clause head with its relative clause and the scope of *the* is not at issue here. The adjunct *in her garden* illustrates how Predicate Abstraction may "capture" a variable other than the trace, provided accidentally (freely) bears the right index (called "unselective binding"): a different choice of index, e.g. x_3 , would give an interpretation with some other girl's garden.

the predicate "is identical to NAME" (or $\lambda y(y=x)$) where NAME (or x) is a variable name (index):¹⁶⁰

(184) Trace Conversion (Fox 2002:67)

- a Variable Insertion: (Det) Pred \rightarrow (Det) [Pred $\lambda y(y=x)$]
- b Determiner Replacement: (Det) [Pred $\lambda y(y=x)$] \rightarrow the [Pred $\lambda y(y=x)$]

These convert every girl left ~~every girl~~ to every girl x , left the girl identical to x , which receives the desired interpretation: For every girl x , the girl (identical to) x left.¹⁶¹

This gets rid of some possible subject-variable links; in (183), replacing t_1 by *the girl* x and assuming that *John* cannot be a girl, *John* cannot be interpreted in that position. However, it issue is not eliminated in general. Consider the following (assuming Kate is the contextually salient "the girl"):

(185)

- a The girl did not see every girl. (on the reading *every* > *not*) =
- b every girl λx_1 [not [the girl λx_2 [the girl x_2 saw the girl x_1]]] \neq
- c Every girl did not see the girl. =
- d every girl λx_2 [not [the girl λx_1 [the girl x_1 saw the girl x_2]]]

The variable names chosen are those determined by movement. If they were not but instead were freely chosen by Variable Insertion, we lose the distinction between x_1 and x_2 . (185)a could receive either the reading *For every girl, the girl (Kate) did not see her*, or *Every girl did not see the girl (Kate)*. Only the former is the correct interpretation. So it must be the syntactic movement step itself which introduces indices/variable names: the A-movement of *the girl* necessarily determines that the copy that is left will be *the girl* x_2 bound by *the girl* x_2 , and the \bar{A} -

¹⁶⁰ These are rules "at the end" of syntax, before translation, seeing as Determiner Replacement changes content.

¹⁶¹ I think an issue would arise if *the* here necessarily has an existential presupposition; *No unicorn passed through here (because there are no unicorns!)* does not have the presupposition of *No unicorn is such that it (the unicorn) passed through here (#because there are no unicorns!)*. See Reinhart (1995), Heim (1991), Heim & Kratzer (1998) on the existential presupposition of *the*; see Sauerland (1998) on an alternative for *the* which may be adopted without impacting the present proposal at all so far as I can see.

movement step of *every girl* will necessarily determine that its copy is named *the girl* x_I linked to the quantifier *every girl* x_I . Indices are thus necessary.¹⁶²

So movement must leave a syntactic representation at the top of its target of the position it has come from. In turn, indices trigger Predicate Abstraction. In the specific implementation of Heim & Kratzer (1998), indices are syntactic constituents introduced by movement:

(186) Move maps $[_\beta \dots \alpha_i \dots]$ to $[\alpha [_\beta i [_\beta \dots t_i \dots]]$

Syntactic constituents in the appropriate structural configuration, headed by an index according to the PA formulation in (181)a, are translated as predicates, that is functions that take an argument and substitute it into the indexed position inside them by Functional Application.

The cases examined above use movement from within the predicate to index it with its predicate variable, but this is not necessarily the case; there are lexical items like *such* that seem to be inherently translated as indices and get to pick any variable in their CP sister, as in *The theory is such_I that there are flaws in it_I*. All non-thematic DPs are interpreted by predication: DPs in derived A-positions, heads of relative clauses, DPs linked to null operators in *tough*-movement constructions, etc.¹⁶³

It is a natural extension of this that the non-thematic DPs of T-CR receive interpretation by the same mechanism, and thus satisfy Full Interpretation. However, here there is no movement, and no lexical index such as is provided by *such* in relative clauses. The next section provides a theory of how indices get to the top of the predicate without movement under Agree alone, unifying these two cases of movement and non-thematic base-generation – the former of which will turn out to transmit indices by Agree alone as well.

3.4.3 Agree provides the index for Predication Theory

¹⁶² The question of indexing does not arise for lexical predicates, which implement theta-theory: for a predicate like *love*, $\lambda x.\lambda y.y$ loves x , at each application of Functional Application the argument of the λ -operator is the sister of the predicate which is headed by it, and the predicate itself is syntactically unanalyzable -- there are no open positions/variables in it in the syntactic sense.

¹⁶³ Of course technically if a DP is a generalized quantifier it takes the predicate as its argument rather than vice versa; for simplicity I keep the sloppier wording in the text.

Predicate Abstraction requires at the top of the predicate the index of the open position in it. On the Heim & Kratzer (1998) approach, it is movement itself that adjoins this index to the predicate when the subject moves to be its sister, as discussed above. However, an important application of predication, particularly in the works of Williams and Browning, has been to the interpretation of DPs which are base-generated in non-thematic positions rather than moved there. This describes the subject of T-CR. In sections 3.2 and 3.3, I concluded that English T-CR requires CCA by T, which is just another instance of regular ϕ -Agree by T. In the MI framework of this thesis, A-movement also always requires ϕ -Agree by the head/label of the target (I return to \bar{A} -movement below). Thus, what CR and A-movement share is ϕ -Agree; and that is the only relation between the head/label of the predicate and its subject that they share. I thus propose that Agree is the syntactic process that identifies indices and represents them in the head/label of a predicate.

My specific implementation is that the predicate variable index at hand, the "referential index" of Williams 1980, which is an integer value of the variable assignment function of LF interpretation, is a ϕ -feature. This assumption goes a bit beyond what is required; indices could be a special feature of their own, which are always transmitted via the free rider principle of MP (chapter IV) by any instance of ϕ and \bar{A} -Agree. The assumption that referential indices are ϕ -features is possibly a simplifying assumption, though not without some intuitive and historical appeal. Chapter II has already assumed that the ϕ -set is articulated into person $[\pi]$ and number $[\#]$; again largely for convenience I will further assume that there is also an index $[ix]$ which can take on various integer values, without meaning to prejudge the issue of the relationship between it and person and number features. The core of what follows will not depend on the identification of $[ix]$ as a ϕ -feature provided the free rider principle exists. I address how $[ix]$ is transferred by \bar{A} -movement in 3.6 (via the free rider principle), and by movement of non-DPs in 3.7.

$[ix]$ is unvalued on ϕ -probes, but it must have a value at least on each variable at LF. Variables are introduced either by base-generation as pronouns, or by movement. Pronouns are base-generated with a specific value of $[ix]$, which is the variable name, just like their other ϕ -features. Under movement, variables (pronouns) are introduced via the Variable Insertion part of Trace Conversion. There are several plausible assumptions about how the value of an $[ix]$ gets attached to a variable as its name; most straightforwardly, it should be part of Variable Insertion

itself. Suppose that, like pronouns, all DPs have valued ϕ -features upon insertion into the derivation, whether they are interpretable as those of *you* (*plural*), lexical as those of *scissors*, or "default" as those of [_{CP} *that she is tall*]; [ix] is one of these features, arbitrarily valued to some integer, which need not be unique as the coreference between t_1 and her_1 in (183) illustrates. Variable Insertion, which attaches a variable to a DP, recovers the variable name from the [ix] ϕ -feature of a DP, specifically of D for convenience. I do not necessarily assume that all constituents have a specified [ix] ϕ -feature; below I propose that expletives crucially do not (though they may have person and number).

(187) Trace Conversion (modified)

- a Variable Insertion: $(\text{Det}[\phi \dots ix=x_n \dots]) \text{Pred} \rightarrow (\text{Det}[\phi \dots ix=x_n \dots]) [\text{Pred } \lambda y(y=x_n)]$
- b Determiner Replacement: $(\text{Det}) [\text{Pred } \lambda y(y=x)] \rightarrow \text{the} [\text{Pred } \lambda y(y=x)]$

To illustrate for A-movement (where ϕ^* is a ϕ -feature valued by Agree):

(188)

- a Input: $\text{every girl}_{[\pi=3, \#=\text{sg}, ix=7]} T_{[\pi^*=3, \#=\text{sg}, ix^*=7]} \text{left } \text{every}_{[\pi=3, \#=\text{sg}, ix=7]} \text{girl}$
- b Trace Conversion: $\text{every girl}_{[\pi=3, \#=\text{sg}, ix=7]} T_{[\pi^*=3, \#=\text{sg}, ix^*=7]} \text{left the girl identical to } x_7$

It is, incidentally, quite irrelevant for Variable Insertion whether here or in Fox (2002) whether it applies also to DPs that happen not to be the goal of Agree – free pronouns, definite descriptions, names, etc. Variable Insertion in that case converts something like she_7 or $Kate_7$ into $she_7 \text{ identical to } x_7$ and $Kate_7 \text{ identical to } x_7$. The former has exactly the same meaning as she_7 , and the latter plausibly does as well so long as the variable assignment function makes sure the variable x_7 is mapped to the constant $Kate_7$ (a consideration of which, if it is not just a technical question, is beyond my scope). What constraints there are on the interpretation of non-thematic DPs do not arise because of anything that the Trace Conversion procedure does, but because of how the non-thematic DP is interpreted – it must be interpreted in the position indicated by the index of its sister predicate. Where and how obligatorily Determiner Replacement applies depends on the resolution of such questions as what happens when the quantifier in a lower rather than higher copy is to be interpreted, for which the higher copy might

be deleted (see Sauerland 1998 for an extensive discussion, also Sauerland 1999, Sauerland & Elbourne 2002 for such "total reconstruction"). Arguably, Determiner Replacement applies in the mapping to or at LF as the formation of operator-variable chains and after the deletion that creates total reconstruction; Variable Insertion may then be harmlessly held to apply to all definite DPs. These issues, while very interesting, arise any approach to the copy theory using Trace Conversion as far as I can see.

Under these assumptions, ϕ -Agree involves the valuation of the unvalued feature [ix], in the same way as that of other ϕ -features; other instances of Agree (\bar{A} -Agree) will also value it through the free rider principle. Agree by a head/label H with an unvalued feature [ix-] of a constituent HP values [ix] from the goal of Agree within HP provided it is valued for [ix]:

$$(189) \quad [HP \ H_{[ix-]} \dots DP_{[ix=n]} \dots] \rightarrow_{\text{Agree}} [HP \ H_{[ix*=n]} \dots DP_{[ix=n]} \dots]$$

Agree alone can now play the role in triggering PA that in Heim & Kratzer (1998) is played by movement: it yields a syntactic representation where the index of the goal of Agree is represented at the top of the constituent whose head triggers Agree. With a trivial change, Predicate Abstraction will apply to this structure. I turn to this in the next subsection.

The use of ϕ -agreement for the transmission of an index is partly due to Browning (1989:II).¹⁶⁴ Browning, who is mainly concerned with null operator constructions, observes that predication cannot really depend on null operators (p. 21). English T-CR is such a case for us; hers are those where the open position is PRO, such as (190)a, which is inaccessible to null operator movement, (190)b (Browning 1989:IV). The principal use of agreement is the correct locality relation between the subject and predicate, which she takes to involve sisterhood (Williams 1980), to rule out e.g. (190)c, (190)d. Another use is the requirement that the null operator must be linked to some DP, which rules out such examples as (190)e; she takes the

¹⁶⁴ Adger & Ramchand (forthcoming) also use Agree to traffic in indices, but in the reverse way from that suggested here: Agree occurs between a clausal head with an interpretable predicate abstraction feature, [Λ], and a pronoun with an unvalued index feature, [ID:]; the latter is valued to [ID: Λ], and [$\Lambda \dots$ ID] is interpreted as $\lambda x \dots x$. Their use of Agree is in a way the reverse of what is attempted here (which is closer, I think, to the logical extension of Browning 1989): the λ -operator gets the index of the variable it binds from its ϕ -features, by which it is valued via Agree. This lets Predicate Abstraction be local and not have to search for a corresponding variable in the scope of the operator. ϕ -features and Λ are incompatible values of ID in the system of Adger & Ramchand. In their system, predication dependencies formed by movement and by long distance Agree are different in crucial ways, which they are not in the present system.

operator to be *pro*, for which it is reasonable to require an overt ϕ -set for identification (Rizzi 1986a).

(190)

- a [a girl₁ [PRO₁ to fix the sink]]
- b *[the girl₁ is easy [OP₁ *t*₁=PRO to convince Mary]]
Intended: It is easy for the girl to convince Mary.
- c *[a man₁ [it is illegal [PRO₁ to fix the sink]]]
- d *[the man₁ [I know [OP₁ Bill likes *t*₁]]]
- e *It is easy [OP₁ PRO_{arb} to bother *t*₁].
Intended: It is easy to bother him/her/it.

Browning (1989:26) therefore proposes that in predication, there is an agreement relationship between the head of the predicate and the predicate variable. One way to get this agreement relation is by operator movement to the specifier of the head of the predicate; another is if the variable is itself the specifier, as is PRO. This agreement percolates from the head to the maximal projection of the predicate. Finally, the subject and the predicate share ϕ -features by subject-predicate agreement. In this approach, the movement of a null operator is incidental to the predication relation: a predicate may be such without one, as in the PRO-IP of the second example. What is crucial is agreement, which identifies the predicate variable. The agreement relations are indicated for the following two examples.

(191)

- a Kate₁ is *t*₁ [_{AP} OP₁ easy_A [_{CP} PRO_{arb} to please *t*₁]]
- b a girl₁ [_{IP} PRO₁ *to*_I fix the sink]

Tough-movement constructions such as (191)a themselves suggest a modification of Browning's proposal in the direction taken in this chapter.¹⁶⁵ It is not always the case that the head of the predicate has the variable in its specifier, as is the cases above. Heycock (1994:257)

¹⁶⁵ So much as also suggested by William's (1986) use of Predication Theory for NP trace, which I take up in 3.4.4; Agree replaces his vertical binding.

argues that Browning's (1989:64-5) structure for *tough*-movement constructions is probably incorrect, and that OP is actually in [Spec, CP] rather than [Spec, AP]. The subject, *Kate* above, thus does not originate as the sister of the CP that immediately contains OP, but as the sister of a higher constituent, say the T' if *Kate* is base-generated in [Spec, TP] (Kratzer 1995, Diesing 1992). This T' is the predicate. Here, a non-movement mechanism is required to transfer to the top of this constituent the index of the null operator and ultimately its trace. Long distance ϕ -Agree has exactly the right properties:

(192) $\text{Kate}_i \text{ has}_T \text{ been } [\text{AP } [\text{AP } \text{easy for Nolwenn}_i] [\text{CP } \text{pro}_I \text{ C } [\text{IP } \text{PRO}_i \text{ to please } t_1]]]$

I return to *tough*-movement in this light in 3.5.4.

The proposal made in this section is thus partly a reworking of Browning's proposal: the index of the predicate variable is communicated to the top of the predicate by ϕ -Agree of its head/label. Predicate Abstraction turns such constituents into λ -abstracts (derived predicates), and Functional Composition composes them with a subject. The formulation of Predicate Abstraction is taken up in the next section. It could be a trivial modification of Heim & Kratzer's (1998), but I will take a somewhat different approach.

3.4.4 Predicate Abstraction and the Match Condition

Predicate Abstraction is an LF translation rule, of the same status as the rules that translate lexical predicates according to their lexical semantic specification; the syntactic equivalent of a λ -operator is simply the structural description meeting PA, e.g. an index.¹⁶⁶ The structural description of the rule of Predicate Abstraction must be able to identify the predicate and the index of the predicate variable. The minimal reformulation of Heim & Kratzer's (1998) PA rule to take into account the fact that ϕ -Agree transmits indices would be something like the following:

¹⁶⁶ I can't see any meaning in the question of whether λ -operators are "in the syntax", despite being the subject of debate (Williams 1977 vs. 1994, Nissenbaum 1998 vs. 2001, MI:114). In the syntax λx means nothing more and nothing less than "an index in a structural configuration to trigger PA": the relationship between it as a syntactic symbol (whether called a lambda abstract or not) and its meaning is the same as the relationship between the syntactic symbol *leave* and its translation $\lambda x.x \text{ leaves}$.

- (193) Predicate Abstraction Rule (PA): Let α be a syntactic constituent such that $\text{label}(\alpha)$ has the valued ϕ -feature index $[\text{ix}^*=i]$. Then for any variable assignment a , $\llbracket \alpha \rrbracket^a = \lambda x \in D_e. \llbracket \alpha \rrbracket^{a[x/i]}$.

However, the idea that Agree rather than movement is responsible for indexing creates problems that do not arise in Heim & Kratzer's approach, because Agree does not always result in a configuration where there is a subject as the sister of the maximal projection of the Agreeing head.¹⁶⁷ The simplest example is that of expletives: we do not wish to turn the T' of *There are some girls in the room* into a derived predicate, since *there* is not plausibly interpreted at the position identified by ϕ -Agree of T, *the girls*. We might assume simply that PA is optional, applying or not as needed to give a coherent interpretation.

However, I will take a different approach, which finds its antecedents more closely in Williams (1980) and Browning (1989). In those systems, base-generated subjects share the index which the predicate receives from its predicate variable, by subject-predicate agreement in a sisterhood relation. The structural description of PA could then refer to the index of the subject, rather than or as well as, that of the predicate. There is a conceptual reason to make this move. PA is an LF-translation rule; it happens after syntax is over and done with. Arguably then at the point PA applies, uninterpretable material should have been deleted.¹⁶⁸ If this is so, then PA cannot refer to a valued index feature, and must refer to the index somewhere else. I will suppose it is on the subject of predication.

The subject of predication is base-generated as the sister of the predicate, whose head has agreed with the predicate variable in it. There is no Agree operation between the subject and the predicate; neither has unvalued ϕ -features at this point. Nevertheless, I want the index to be transferred between the two. There is some evidence that despite the unavailability of Agree, (at least) non-thematic Merge involves the sharing of values for (at least) ϕ -features. In CR itself, the subject base-generated in [Spec, TP] cannot differ in ϕ -features from those which T has received from its predicate variable (controller), as in (194)c and (194)b. This is not a

¹⁶⁷ The reason it does not arise in Heim & Kratzer (1998) is of course simply because they do not consider base-generated non-thematic NPs, except those sister to such direct indices as *such*.

¹⁶⁸ I chapter I I propose that valued ϕ -features deleted by the same "autonomous" deletion that gets rid of uninterpretable lexically specified ϕ -features like the plural of *scissors*, not as a reflex of Agree which is just valuation.

consequence of semantics, which can link *no one* to a plural variable, as in (194)a. The ungrammaticality of (194)c with plural agreement controlled by the predicate variable only is expected if there is some agreement-like relation between the subject and T. Independent evidence for such a conclusion is presented in chapter IV from languages with agreeing expletives base-generated in [Spec, TP]; such an expletive must agree with T that itself got its ϕ -values from a nominative, (195). The agreement of the expletive indicates some mechanism that makes sure material base-generated in [Spec, TP] matches the ϕ -features of T.

(194)

- a No one_i seem*(s) to be in their_i place.
- b No one_i seem*(s) as if he_i is are in the room.
- c No one_i seem*(s) as if they_i are in the room.

(195) Vona/*von tam přišla Katka/ňáká holka.
 EXPL.3.SG.F/*3.SG.M there came Kate.3.SG.F/a-3.SG.F girl.3.SG.F
 Kate came there. / There came there a girl. (Czech)

To account for this, I propose the MATCH CONDITION on all (non-thematic) Merge:¹⁶⁹

(196) MATCH CONDITION: if Merge(α, β), then for any formal feature F, the value of F on the label of α and the label of β do not differ.

The Match Condition is probably also needed if formal features play a role in selection, namely if there is c-selection (Collins 2002, MI:122, 134).¹⁷⁰

¹⁶⁹ There are alternatives here: for example, EPP satisfaction could, for whatever reason, entail ϕ -Agree of its own, and a head cannot bear incompatible Agree-valued ϕ -sets. Choice among alternatives turns partly on properly accounting for languages with movement-dependent agreement morphology (see nt. 138). So long as the alternatives make the subject responsible for triggering PA and account for agreeing expletives, my point does not change.

¹⁷⁰ In the case of feature-relativized locality in c-selection that skips heads not specified for a particular feature (Collins 2002), if this is the correct way to see things (rather than recursive local c-selection), the Match Condition can be suitably modified to refer to the topmost occurrence of a formal feature F.

Set-Merge of (α, β) has some of the properties of Agree: a feature F of one the merged constituents (say, α) must be satisfied for the operation to take place. Furthermore, F is in the label of α , hence detectable in an optimal way... The selector F for Merge is analogous to the probe for Agree. (MI:134)

[To Agree, t]here is presumably a similar but distinct agreement relation, Concord, involving Merge alone. (DBP:42n6)

As formulated, the Match Condition does not care about values of features not present on one of the merging constituents. If there is no index feature on an expletive, the index of the predicate is not transferred to it by the Match Condition. Similarly, there might not be ϕ -features on the selector in theta-theoretic Merge.¹⁷¹ Under the Match Condition, a DP base-generated in [Spec, HP] shares the Agree-valued ϕ -features of H , including its index. PA can now be formulated to refer to the [ix] feature of the subject, which ensures that HPs which do not have subjects, and which have subject like expletives without an index feature, will not trigger PA.¹⁷²

- (197) Predicate Abstraction Rule (PA): Let α be a tree dominating two sub-trees, β and γ , such that β has an index feature [ix=i]; then for any variable assignment a , $\llbracket \alpha \rrbracket^a = \lambda x \in D_e. \llbracket \gamma \rrbracket^{a[x/i]}(\beta)$.

PA now correctly applies only when a predicate has an interpretable subject. The subject may be either moved or base-generated. Here is a brief example of how it would apply in the case of movement, where the mapping label "Syntax" is the sequence of operations Agree,

¹⁷¹ As observed several times in this thesis (cp. chapter I), Agree-valued features of a head/label H do not seem to project to the next higher occurrence H' of the label. The derivational ordering of operations, in terms of chapter II, is this: first, T merges with νP (a pre-requisite for T-Agree); next, T-Agree and Merge of the specifier are unordered w.r.t. each other and take place on the same cycle, with the Match Condition governing their interaction. The same reasoning however requires of ν that the subject not Merge as sister to the ν label that Agrees on the same cycle with the object, or that the Match Condition not govern theta-theoretic Merge. The former is preferable. In languages like Basque, where object agreement seems to imply low object-shift, the desired result follows: the occurrence of ν that Agrees with the object will be Merged with the object shifted object, with the Match Condition correctly applying to this instance of non-thematic Merge; on the higher projection of ν which selects the external argument, ϕ -features valued from the object are not represented. It is only paucity of evidence that prevents finding out what happens in languages like English here, among the many options that are available; there is no direct threat to the Match Condition.

¹⁷² The valued index feature of a predicate like T' will have been deleted at this point, LF. To consider another potential problem, a lexical predicate $x \text{ Pred}$: $\llbracket [\text{the NP}_i] \rrbracket \lambda x. [x \text{ Pred}]$, which necessarily composes in the Heim & Kratzer system by FA without PA, would now also have the option of $\rightarrow_{PA} \llbracket [\text{the NP}_i] \rrbracket \lambda y. [\lambda x. x \text{ Pred}]^{a[y/i]}$. But this is ruled out by vacuous quantification, so PA cannot apply and FA necessarily does.

Move, Trace Conversion. It is the movement step, which I leave unanalyzed until 3.4.6 but which involves Merge, which is constrained by the Match Condition.

(198)

	$[T_{[\phi-]} [VP \text{ left } Kate_{[\phi=3sg, ix=7]}]]$
$\rightarrow_{\text{Syntax}}$	$[Kate_{[\phi=3sg, ix=7]} [T_{[\phi=3sg, ix=7]} [VP \text{ left } [Kate_{[\phi=3sg, ix=7]} \text{ identical to } x_7]]]]]$
$\rightarrow_{\text{Deletion}}$	$[Kate_{[\phi=3sg, ix=7]} [T [VP \text{ left } [Kate_{[\phi=3sg, ix=7]} \text{ identical to } x_7]]]]]$
\rightarrow_{PA}	$[[Kate_{[\phi=3sg, ix=7]}]] [\lambda x. [[VP \text{ left } [Kate_{[\phi=3sg, ix=7]} \text{ identical to } x_7]]]^{a[x/7]}]$
$\rightarrow_{\text{Lexical entries}}$	$Kate \lambda x. [[\lambda y. y \text{ left } [Kate \text{ identical to } x]]]^{a[x/7]}$
\rightarrow_{FA}	$Kate \lambda x. [Kate \text{ identical to } x \text{ left}]^{a[x/7]}$
\rightarrow_{FA}	$Kate \text{ identical to } Kate \text{ left}$
$=$	$Kate \text{ left}$

There is a further advantage to the approach adopted here, rather than one where predication depends on the index in the head of the predicate. It predicts that if a non-thematic subject were base-generated as sister to an HP whose head H has not Agreed with a goal, PA is still triggered by the index of the subject, which is now not restricted by the Match Condition. This predicts the existence of the broad subject class of constructions, 3.4.7.

This section has synthesized the use of Agree to transfer indices with the operation of Predicate Abstraction. The binding link is the Match Condition, which makes sure that a base-generated [Spec, HP] does not differ from the formal features of H. This ensures index transmission, and the index of the thus-constrained [Spec, HP] feeds PA of the whole HP. All the points seem reasonable to me: Agree for indices, Match Condition, role of subjects in triggering PA. It works for movement, to which 3.4.6 returns. First, the next section shows that the system now has provided the missing link of the CR paradox: the fact that non-thematic Merge relies on the result of ϕ -Agree (CR depends on CCA).

It is an interesting but independent question what relation there is between T and [Spec, TP] under the base-generation of a DP in [Spec, TP] to satisfy the EPP. Of relevance to this is the fact that base-generated [Spec, TP] gets T-associated Case: nominative in English (which contrasts with accusative as default, Schütze 2001), ergative in Basque (chapter II). Under a featural theory of Case, as in MI, DBP, Pesetsky & Torrego (2001), this can be trivially

implemented by slightly restating the Match Condition to include feature sharing for formal features present on but not valued on either of the atoms it relates: so the Case feature of the DP is valued from the valued Case feature of T. However, Case assignment suggests in fact that there is an Agree-like relation between the DP being base-generated in [Spec, TP] and T, and this becomes sharper in the theory of Case developed in chapter V where it is specifically Agree that is required for Case assignment: Agree by the ϕ -features of T introduces a KP shell around the DP which is the goal of Agree, where $K=T$.

It does not at present seem advantageous to me to attempt a full reduction of the Match Condition to conditions on Agree (but see nt. 169). Agree between a target α and goal β does not regularly imply identity of all formal features between the two. In particular, the one AGR-head to many DP ϕ -agreement relations studied in Béjar (2003) suggests that quite regularly even any two features such as person and number in the same ϕ -feature bundle can be each differentially valued from a different DP, where at least one of the DPs can be valued for both person and number: partial rather than full Agree with this latter DP would violate the Match Condition if extended to Agree. However, T-Case assignment to base-generated [Spec, TP] suggests that there is an Agree relation. The Case feature of the DP cannot be the trigger, since Case is not a possible probe.¹⁷³ The discussion in MI quoted above does in fact imply a potential trigger of Agree: the EPP feature of T. A construal of the EPP feature as an unvalued syntactically active feature would yield the necessary probe. I present such a theory of the EPP as an unvalued categorial feature and thus a probe in Rezac (forthcoming b). Under this construal, the EPP (and in the theta-domain, perhaps all selectional properties as categorial probes) is a probe for a category.¹⁷⁴ It establishes an Agree relation between an H and the XP which is being Merged to satisfy a c/s/EPP-selectional property of H: in the present case, between T and the DP being Merged into [Spec, TP]. Under a featural theory of Case, Case of the DP is valued as a free

¹⁷³ For reasons not clear in MI, but explained under the theory of Case presented in chapter V. The empirical evidence that Case features are not probes is the fact that *her* in (i) and (ii) cannot try to get nominative Case from the T it c-commands, but must wait around for the probe of the c-commanding *v*:

(i) I convinced *her*/**she* that Mary left.

(ii) *Her*/**she* conviction that Mary left.

¹⁷⁴ Although it must be acknowledged that conditions on it do not fully reduce to conditions on other probes: in particular, which I show that this feature can receive a morphological spell-out on valuation by Agree, its valuation requires Merge of the XP that values it. This is taken to reflect the nature of the probe: it is supposed that categorial probes, at the heart of both EPP and selection, are such that Merge is required to value them.

rider; under the theory in chapter V, the T-[Spec, TP] Agree relation automatically creates a KP around the DP in [Spec, TP], where K=T.

3.4.5 Copy-raising

Recall the conclusions about CR in [Spec, TP]: it relies crucially on the ϕ -agreement of T, CCA, to identify the pronoun that the matrix subject is interpretively linked to:

(199) Kate seems like she left.

The syntax and semantics of the matrix clause works exactly as that in the movement operation discussed in the last section, even though there is no movement but rather non-thematic Merge of *Kate* in its surface position. The matrix clause goes through the following steps (where I ignore the lower clause and substitute the results of (198) at the step labeled Lexicon). The Merge step is constrained by the Match Condition; Trace Conversion (if it must apply) applies vacuously to convert *she*₇ into the identical *she*₇ identical to *x*₇ (see the discussion above). I assume for simplicity the *C like* simply deletes.

(200)

	[T _[ϕ-] [VP seems like [she _[ϕ=3sg,ix=7] left]]]
→Agree	[T _[ϕ*=3sg,ix=7] [VP seems like [she _[ϕ=3sg,ix=7] left]]]
→Merge	[TP Kate _[ϕ=3sg,ix=7] [TP T _[ϕ*=3sg,ix=7] [VP seems like [she _[ϕ=3sg,ix=7] left]]]]
→Deletion	[TP Kate _[ϕ=3sg,ix=7] [TP T [VP seems [she _[ϕ=3sg,ix=7] left]]]]
→PA	[[Kate _[ϕ=3sg,ix=7]]] [λx. [[[VP seems [she _[ϕ=3sg,ix=7] left]]]] ^{a[x/7]}]
→Lexicon	Kate λx. [[seems] [x ₇ left]] ^{a[x/7]}
→FA	[(it) seems] [Kate left]

This is virtually the same mechanism as applied in the case of movement. In particular, the mechanism would apply in almost the same way to *Kate seems to have left* (modulo tense), except that the variable *she* would be the copy *Kate*₇ (Trace Converted to *Kate* identical to *x*₇ unless under total reconstruction only the lower copy is interpreted). This difference is exactly

the difference that we have observed in section 3.2 between CR and raising: the latter but not the former involves copies:

(201) Movement-CR difference

- a The only representation at the predicate variable position linked to the subject of CR is a pronoun, not any other non-pronoun DP such as a copy of a non-pronoun.
- b The only representation at the predicate variable position linked to the subject of movement is a copy, not a distinct element such as a pronoun.

(202)

- a Kate₇ seems like [she₇ left] *CR*
- b Kate₇ seems [[Kate (identical to x₇)] to have left] *Movement*

This derives the interpretive differences in the two structures. A quantifier will have a representation below a verb like *seem* in movement, as a copy, but not in CR, where it will be linked to a pronoun. It will therefore be able to scope below the matrix [Spec, TP] only under movement, if total reconstruction takes place as discussed above and only the lower copy is interpreted. Otherwise, the syntactic relations, and the semantic mechanisms that interpret the syntax, are exactly the same in CR and movement. This is a considerable virtue of unifying the two systems in predication, under the core assumption that Agree is its index-transmission mechanism.

The base-generated non-thematic "subject" may be an expletive. Expletive base-generation is not affected by the Match Condition, because expletives lack index features (by an intuitive enough assumption). At LF, the valued ϕ -features of T are deleted in such cases. There is then no representation of the index and PA does not apply. This is the correct result. The interpretation of (203)a is (203)b, with the matrix expletive playing no role in it. This is also the interpretation of raising, (203)c, and in both cases the syntax is the same in relevant respects.¹⁷⁵

¹⁷⁵ I actually predict at this point as well **There seem as though three linguists are in the room*. To my knowledge, this has never been discussed, and is predicted by other approaches to CR. A quick Google search suggests not to be hasty in this matter; see (i)-(iii). Cedric Boeckx, p.c., adds (iv). I suspect that the deviance of such constructions has nothing to do with syntactic well-formedness. Existential *there*-constructions have the semantic effect of asserting the existence of their associate, something that makes sense only for associates whose existence is not guaranteed

(203)

- a There seem like there are problems with the analysis.
- b It seems like there are problems with the analysis.
- c There seem to be problems with the analysis.

The Agree-based predication approach to CR developed here applies equally to the compositional theory of movement, as the last section illustrates. CR and movement make use of the same elements: long-distance Agree, followed by Merge which must satisfy the Match Condition, subject to PA if there is a subject with an index. It remains now to address the movement-CR difference (201), which now appears completely mysterious. The next section takes up this goal, spelling out MI's CTM, and arguing for a trivial explanation of (201) in terms of the binding theory.

3.4.6 *Move & Merge*

MI:101-2 decomposes movement into separate Agree and Merge steps, or more fully:

(204) Compositional theory of movement

- a Agree: Agree by a probe on the target identifies the goal which is subject to movement.
- b Merge: If H has the EPP property which triggers (non-thematic) Merge, a copy of the goal is Merged as the sister to H.

anyway (one way of looking at the Definiteness Effect). On the other hand, movement of the associate into [Spec, TP] in the embedded clause, while allowing reconstruction, tends to lead to specificity, not existential assertion. The most felicitous way of doing one or the other to a DP is to do it in both clauses concerned. Cp. Bresnan & Mchombo's (1987:568-9) account of **Mary ate what it was that Fred cooked* vs. *What was it that Fred cooked*, where the relativization → focus → relativization sequence creates incompatible semantic requirements on the pivot of these operations. (i)-(iii) show lack of ϕ -agreement; chapter V shows that there is a correlation between lack of person agreement and suspension of the Definiteness Effect, and number agreement in such cases is optional in English, although there is a relationship between T's ϕ -probe and the associate.

- (i) I know that there seems as though no bodies really [work] on this.
- (ii) Pride is one thing, but we need to bring something positive out of this. Even if there seems as though nothing is, we still have to try.
- (iii) There seems as though people are relying on the volunteer army to do it because, what, they volunteered.
- (iv) There looks/*look like problems exist in this analysis. (Cedric Boeckx, p.c.)

- c Pied-pipe: Properties of the goal determine whether and how much of it is available for displacement; "goal" for the preceding step is thus to be understood as the phrase determined by the goal for pied-piping.
- d Δ : There is a deletion process, Δ , which ensures the correct copy in a movement chain survives (MP:252-3).

The Agree step is uncontroversial. Here, we will more or less ignore the pied-piping operation (though see 3.6 for a suggestion, and chapter I for references to other work). The assumption that Merge of a copy of the goal is involved in displacement implies the adoption of the copy theory of movement, developed in MP:III, IV, MI, Chomsky (forthcoming), Munn (1994), Fox (1995, 1999, 2000, 2002), Sauerland (1998, 2000), Safir (1999), and other works. I return to Δ presently.

As 3.1 discussed, there is a link missing in the interaction of Agree and Merge in this system. Merge follows Agree as an independent operation, which can potentially move something else than the goal of Agree such as an expletive, and yet if a non-expletive is Merged it turns out that it's always a copy of the goal of Agree. What is missing is in MI is the communication which ensures that the goal identified by Agree is what is re-Merged. In other words, the MI system presupposes a (short) "derivational memory" on the side of the derivation. It is desirable to do without it. The system developed in the preceding subsections (partly for CR) does exactly this and solves this problem in the CTM. What requires that the Merged non-thematic subject of a predicate is (virtually) identical to the goal is index-transmission by Agree to the top of the predicate, and the Match Condition on Merge which respects it. The Agree step is cyclically first, because it occurs as soon as the ν P complement of T is added (chapter II). Merge follows, subject to the Match Condition, but otherwise free. The Match Condition ensures that whatever ϕ -features H has Agreed for, including the index, must be identically valued on the constituent that is being added by Merge. The added constituent may differ only in so far as it need not have the features that H has had valued via Agree, and have others that H lacks. Expletives, for example, lack at least an index feature; their addition is thus not constrained by the valued [ix] on H(P). The output of Merge with HP is interpreted by the rule of PA; see (198) and (200). If there is no index, PA is not triggered; this is fine in the case of expletive, and leads to violation of Full Interpretation for the subject otherwise.

Thus, the "derivational memory" needed in MI is the output of the Agree step itself, which adds information to the derivation: it values unvalued features as assumed independently. This, I think, is a quite important result. The missing link of MI is a real conundrum in a cyclic derivational framework -- somehow, Agree and Merge must communicate in movement, which seems to make movement more than their composition. However, the communication is simply the output of Agree via the Match Condition. The Match Condition is independently justified by CR. So movement involves no steps outside of the composition of the elementary operations. Both movement and CR are identical compositions of the elementary operations of Agree and Merge; as far as the computational steps involved, they are indistinguishable.

If CR and movement are identical in their derivational steps, the CR-movement difference comes into relief; in the last subsection, it was reduced to the following:¹⁷⁶

(201) Movement-CR difference

- a The only representation at the predicate variable position linked to the subject of CR is a pronoun, not any other non-pronoun DP such as a copy of a non-pronoun.
- b The only representation at the predicate variable position linked to the subject of movement is a copy, not a distinct element such as a pronoun.

Since the derivation does not provide the relevant distinction, it must be sought in the representation. The obvious place to look is the structure of between the two links of the chain; there is more of it CR (a tensed clause boundary) than in movement. This is a factor to which independent constraints are sensitive, so the difference should reduce to them: namely, I propose, the binding theory and the operation Δ .

MP:202-3, 252-3 proposes to identify Δ with the destressing and optional deletion that yield ellipsis, explored extensively by Tancredi (1992).¹⁷⁷ The boundary condition on Δ is that it

¹⁷⁶ To simply notation, from this point on I will simply write *the girl*₇ for all definite descriptions to be interpreted as *the girl identical to x₇* at LF, whether the latter is derived by Trace Conversion or is base-generated as such (a possibility that cannot be excluded).

¹⁷⁷ See Nunes (2001) for a different approach to Δ . At first sight it seems to me it could be compatible with the approach presented here, for it is not really dependent on copies (p. 306n6).

triggers the obligatory deletion of α under c-command by a copy "at a short distance", and only if the two copies do not receive separate theta-roles.¹⁷⁸

(205)

- a Who_i [_{TP} ~~who_i~~ seems ~~who_i~~ to have left ~~who_i~~]?
 - b He_i seems to have left ~~he_i~~/*he_i before he_i/*~~he_i~~ met her.
 - c He_i said that Nolwenn saw him_i/*~~him_i~~
 - d He_i saw himself_i/*~~he_i~~.

In MP:IV, deletion is limited to copies by the fact that each syntactic object inserted into the tree has a distinct numeration index, and only movement as a unitary operation, or the special operation Copy in Nunes (2001), can duplicate a numeration index. The same device blocks the application of Conditions B and C among copies. This numeration index has nothing to do with variable binding, which is the index I am interested in transmitting by Agree as a ϕ -feature. More generally, it is an artifice which crucially relies on the numeration device, whose major empirical support, the Merge-over-Move paradigm, is eliminated by Bošković (2002). A simpler system dispenses with numerations and involves continuous choice from the lexicon with every Merge as in Collins (1997), with no special numeration indices beyond those needed independently -- variable names for the LF variable assignment function (usually called α here). However, then the problem posed by (205) requires some other solution.¹⁷⁹

The question of the distribution of copies appears to be closely related to the domain of applicability of Conditions A, B, and C of the Binding Theory, something the numeration index approach does not capture directly. Conditions B and C cannot apply between copies in a movement chain, otherwise copy theory is simply impossible. In exactly the same domain, Δ must apply. Furthermore, the domain of Condition B is roughly from one C-T system to the next, and similarly Δ does not involve two terms separated by a CP boundary unless one of them is in [Spec, CP]. This can be seen by considering the configurations where Δ applies, given

¹⁷⁸ The identity predicate inserted by Variable Insertion must be ignored by the identity condition on Δ ; this follows if Variable Insertion occurs subsequent to Δ .

¹⁷⁹ Borer (1986) is a good critique of a similar two-index system in LGB, one transmitted by Agree and effectively the numeration index (in the present terms) and one used for binding.

current assumptions about the largest distance spanned by successive-cyclic movement steps in the A and \bar{A} -systems:

(206)

- | | | |
|---|---|-----------------------------------|
| a | $[_{CP} \alpha [C \dots [_{VP} \& [V$ | $\bar{A}\text{-to-}\bar{A}$ |
| b | $[_{VP} \alpha [C \dots [_{CP} \& [C$ | $\bar{A}\text{-to-}\bar{A}$ |
| c | $[_{T/VP} \alpha [T/V \dots V [_{TP} \& [T_{ECM INF}$ | $A\text{-to-}A$ |
| d | $[_{TP} \alpha [T \dots [_{VP} \dots \& \dots]$ | $Argument\text{-to-}[Spec, TP]$ |
| e | $[_{VP} \alpha \dots [_{VP} V \&]$ | $Argument\text{ to object shift}$ |
| f | $[_{CP} \alpha [C \dots [_{T/VP} \dots \& \dots]$ | $A\text{ to } \bar{A}$ |

where each labelled boundary is minimal

The domain of Δ therefore more or less coincides with the domain of Condition B, which I will call the OBVIATION DOMAIN of an element: a pronoun for Condition B, a copy for Δ . Within this domain, Δ deletes an object under identity with a higher object in the same obviation domain, and Condition B blocks a pronoun from being bound. Neither Δ nor Condition B involve two terms separated by a CP boundary without being part of the CP (and probably ditto for the DP). For two identical copies one of which is in a CP, Condition B is not normally considered because it applies to A-positions, but evidence from the \bar{A} -disjointness requirement, Ouhalla (1993:491-3), suggests it applies between [Spec, CP] and the subject and object of its TP complement. An adjunct boundary blocks both Condition B and Δ . Finally, Δ must apply between [Spec, νP] and the next lower [Spec, CP] in successive-cyclic \bar{A} -movement; no evidence here is to be had from Condition B.

I pause here to briefly observe that the system just developed is in fact the GB system of the distribution of traces by classical (LGB) Condition A of the binding theory. If GB was missing something about reconstruction that is simpler on the copy theory, the use of numeration indices to stipulate the application of Δ -- the distribution of copies vs. non-copies -- is arguably missing something that GB captured. The domain of Δ and Condition B simply appear to be identical. However, I do not pursue a deeper understanding here.

In this system, Δ applies in an obviation domain to delete copies. Conditions B and C do not apply between copies. We may suppose that Conditions B and C in fact apply without

exception, and are ruled out by Δ because Δ always deletes all but the topmost copy in a movement chain. Condition A independently rules out the application of Δ between co-arguments by requiring the lower one to be an anaphor rather than a pronoun (Reinhart & Reuland 1991, 1993, Reuland 2001); this accounts for (205)d, where the ungrammatical version has no input. Δ and Conditions A, B, C jointly account for why only copies are possible in movement structures.

In CR, Δ fails and Condition B does not apply, for exactly the same reason: the pronoun of the embedded tensed clause is not c-commanded by an identical object within its obviation domain, because of the tensed TP/CP boundary. A non-pronoun as the controller in CR continues to be ruled out by Condition C between it and the subject of the matrix clause.

Let's walk through these consequences with the general structure at hand: a subject and a predicate, sc. an HP whose head H has undergone ϕ -Agree with a goal in it and is converted to a derived predicate by PA. That subsumes both movement and CR. Consider first "movement" structures, (207)a. One possible source for this structure is (207)b. This involves base-generation of *Kate*₇ as the argument of *come*, and a Merge of an exact copy in [Spec, TP] under the Match Condition. This is correctly interpreted as already discussed. Δ applies obligatorily to this structure, and deletes the lower *Kate*₇ under c-command with the identical *Kate*₇; Conditions B and C are blocked by Δ . Suppose instead that we did not Merge an exact copy, but a pronoun. Condition B systematically rules out such structures, and conversely Δ always applies within this domain, e.g. (207)c. A subset of the structures ruled out by condition B might be thought to allow a Condition A type anaphor, as in (207)d, but that is not a possibility because there is no co-argument to bind the anaphor (to satisfy its deficiency).¹⁸⁰ Finally, consider choosing a non-pronominal DP, as in (207)e, with Trace Conversion applying to it to insert the appropriate variable to be bound by PA. That results violates Condition C, unless the DP is identical to the subject as in (207)b and then undergoes Δ .¹⁸¹

(207)

a Kate came.

¹⁸⁰ For *self*-anaphora whose deficiency is semantic and which require a distinct argument from the pronoun they contain, as in Reinhart & Reuland (1991), this is clear. For SE anaphora questions remain.

¹⁸¹ Condition C cannot be obviated in examples like *Kate*₇ *came the girl*₇ in the same way it can be under focus in *Kate*₇ *saw the GIRL*₇. Whatever solution is adopted for the latter case, e.g. interpretive licensing (Reinhart 1983) or guises (Heim 1998), it seems it could be stated to refer to what differentiates these two -- the two terms that violate Condition C share a theta-role in the former but not in the latter case.

b Kate₇ came ~~Kate~~₇ (obligatory Δ)

→ PA & lexicon Kate₇ $\lambda x.[(\lambda y.y \text{ came}) \text{ Kate}_7]^{a[x/7]}$

→_{FA} Kate₇ $\lambda x.[\text{Kate}_7 \text{ came}]^{a[x/7]}$

→_{FA} Kate₇ came ... ok

c Kate₇ came she₇ →_{Interpretation} =b ... *Condition B

d Kate₇ came herself₇/SE₇ →_{Interpretation} =b ... *anaphora distribution

e Kate₇ came Nolwenn₇/the girl₇. *Condition C

Consider now why Δ does not apply to CR structures, which may contain completely identical copies. The matrix subject and the pronoun in the predicate variable position must after all have the same index for interpretation. Δ obligatorily applies in raising, and yet not in CR. A different boundary intervenes in the latter and not the former: the CR complement has a finite T, which I assume always involves a CP in the sense meant above in formulating Condition B and Δ (Rizzi 1982:157, 1997, MI, DBP). For exactly the same reason, Condition B applies in raising but not in CR. On the other hand, other choices than a pronoun are blocked as the controller in CR by Conditions A and C as above: in neither (208)c nor (208)d can Δ apply (the distance is too great, as non-applicability of Condition B to the subject of the embedded clause shows), so Condition C rules them out.¹⁸²

(208)

a She₇ seems like she₇/*she₇ is about to leave.

b She₇ seems to be *she₇/she₇ about to leave.

c She₇ seems like *the girl₇/~~the girl~~₇ is about to leave.

d Kate₇ seems like *Kate₇/~~Kate~~₇ is about to leave.

There is a very simple theme that runs throughout this explanation of the movement-CR difference. Δ is required in what seems to be the domain of Condition B, and prevents

¹⁸² *Kate_i seems like the girl_i is about to leave is ungrammatical, but not as severely as *Kate_i came the girl_i. However this is as predicted; recall from 3.3 that the former sentence has a pseudo-CR possibility, where Kate and the girl get two different theta-roles, and so unlike the latter it allows the same kind of Condition C amelioration as Kate_i saw the girl_i or Kate_i said that the girl_i left; cp. nt. 181.

Conditions B and C from applying. Within this domain, Condition A requires anaphora if an argument is coindexed with a higher co-argument, ruling out certain possible inputs to Δ . Application of Conditions B, C, with their suspension under Δ , otherwise determines where copies are required and where they are not allowed.

This concludes this long section. The following properties of CR were established in the previous sections:

(209) CR properties

- a **Generalization 0 (locality of CCA):** CCA by ϕ -features on H is restricted to the closest accessible ϕ -goal in the search-space of H, due to the ϕ -relativized locality of ϕ -Agree.
- b **Generalization 1 (CR implies CCA):** CR, that is the base-generation of a non-thematic broad subject in [Spec, TP], requires CCA by the matrix T.
- b **Generalization 2 (Non-thematic position):** The matrix verb assigns no theta-role to its subject position.
- c **Generalization 3:** The subject CR must be base-generated in the [Spec, TP] of the matrix clause, which is an A-position (alternatively, in [Spec, HP] of the corresponding head H involved in CCA).

The account developed accounts for them as follows. Base-generation of non-thematic DPs is available in the [Spec, TP] EPP position (generalization 3). T also ϕ -Agrees with the closest accessible a goal in its c-command domain (generalization 0). This is the index transmission mechanism which identifies the predicate variable position in a potential predicate, because an index is a (ϕ -)feature. A non-thematic DP (generalization 2) requires interpretation by predication, as a consequence of Full Interpretation. Predication occurs by Functional Application to the output of Predicate Abstraction. Base-generation of non-thematic DPs is restricted by the Match Condition, which requires that [Spec, TP] has the same index as that of T. It is this index on a DP, treated as the subject of a predicate, which feeds Predicate Abstraction and implies that the predicate variable corresponding to the subject will be the one identified by the ϕ -Agree of T (generalization 1).

The system ends up with the following pieces, which are all independently justified given the assumptions: the compositional theory of movement, Agree and its properties as the relation that creates syntactic dependencies, the copy theory, and the absence of numeration indices.

(210) Elements of movement and CR

- a Agree, Merge, (pied-piping).
- b (178) FULL INTERPRETATION (sub-case): a TP-internal DP must receive interpretation either by predication or the theta system.
- c (196) MATCH CONDITION: if $\text{Merge}(\alpha, \beta)$, then for any formal feature F , the value of F on the label of α and the label of β do not differ.
- d (197) Predicate Abstraction Rule (PA): Let α be a tree dominating two sub-trees, β and γ , such that β has an index feature $[ix=i]$; then for any variable assignment a , $\llbracket \alpha \rrbracket a = \lambda x \in \text{Dom}(a) \llbracket \gamma \rrbracket a[x/i](\beta)$
- e Interpretation (Trace Conversion, Functional Application, ...).
- f Δ : Obligatory deletion of α under c-command by a higher α' within the obviation domains of α , provided α' and α are identical for content and index; Δ removes α' for PF and Conditions B/C.

The Agree-Merge link developed to account for CR is also the link needed in the compositional theory of movement, which construes it as the combination of Agree and Merge. The reduction of this link to independently needed principles is an advance in the understanding of movement: there is now a fully explicit Agree-Merge decomposition, without hidden entities (derivational memory). The difference between CR and movement arises from the distribution of copies, which is dictated by the binding theory. Finally, CR provides indirect support for the compositional theory of movement which combines separate Agree and Merge, because in CR the two steps can be seen divorced of the usual interfering factor of Δ , leading to non-identity of "copies".¹⁸³

¹⁸³ The mechanism extends immediately to \bar{A} -moved DPs, if as argued in section 3.6 \bar{A} -Agree involves ϕ -Agree via the free rider principle.

3.4.7 Appendix: Merge without Agree: broad subjects and resumptive relatives

In T-CR, the predicate variable for the subject in [Spec, TP] is necessarily identified by CCA of T. Predication and theta-role assignment are the only means to interpret clause-internal DPs, as in discussed above (ex. (161)). Doron & Heycock (1999), building partly on Heycock (1994:VI), discuss DPs in BROAD SUBJECT positions, which are external to TP and whose predicate variable is not limited by CCA. Here I consider how such constructions, and others like resumptive relatives, relate to the system above, and show that they follow from it.

The account above entails that CCA should not restrict predication if a DP is the subject of a predicate whose head does not Agree for an index. In that case, the choice of a predicate variable, if any, is not restricted by the Match Condition. Such DPs should still be interpretable by predication, provided they have an index corresponding to some variable in their scope: Predicate Abstraction as formulated refers to the index of a subject to determine the predicate variable. Thus, the story so far predicts that the difference between the two syntax-semantics mappings in (211).

(211)

Syntax	Semantics by PA
a [HP DP _{i/*j} [H' H _{iX*=i} ... x _{φ=i} ... x _j ...]]	DP λx. [[H']] ^{a[x/i]}
b [HP DP _{i/j} [H H _{no ix} ... x _i ... x _j ...]]	DP λx. [[H']] ^{a[x/i]} or DP λx. [[H']] ^{a[x/j]}

Interestingly, the latter structure is not predicted to be even possible if the triggering of PA relies on an index of the predicate, whether introduced by Agree as here or by movement as in Heim & Kratzer (1998). By contrast, the approach adopted here gives exactly the right result: it is the index of a subject which triggers PA, and if that index is not constrained by the Match Condition it may be that of any variable in the predicate. It is therefore an important support for this approach that constructions of the form (211)b exist, and seem to depend on the existence of non-thematic positions that are specifiers of non-agreeing HPs.

Doron & Heycock (1999) identify a broad subject position in Japanese, Hebrew, and Arabic:

(212)

- a hind-un ?aT-Tulla:b-u₁ yuqa:bilu-una-ha t₁ *Arabic*
 hind.F-N the-students.M-N meet.3.M-PL-her
 The students are meeting Hind. (lit. Hind the students are meeting her.)
- b ?al-bayt-u ?alwa:n-u-hu za:hiyat-un
 the-house-N colours-N-its bright-N
 The house has bright colours. (lit. The house, its colours are bright)

The BROAD SUBJECT is the first nominative *hind-un* 'Hind', while the NARROW SUBJECT is the second nominative *?aT-Tulla:b-u* 'the students'. The narrow subject undergoes NP-movement and checks the ϕ -features and EPP of T.¹⁸⁴ This cannot be done by the broad subject, which is always structurally higher than the narrow subject. Doron & Heycock (1999) argue that broad subjects are base-generated in [Spec, TP], because they can receive an accusative under ECM predicates, bind a subject-oriented reflexive in the narrow subject (although not lower), be a controlled PRO in Arabic, appear in clauses where topics and LD are disallowed, and need not receive a topic or focus interpretation. What these properties show more exactly is that the broad subject is not part of the C-system with its typical interpretive properties; they are ambiguous between whether broad subjects are in the outer specifiers of T, or the specifier of some higher head between T and the C-system, so long as it is an A-position for anaphora binding and capable of being PRO.

A broad subject is base-generated in the TP or higher rather than moved there for a number of important reasons. One is that bare nouns cannot receive an existential interpretation, only a generic one; another is that a broad subject quantifier may not scope under the predicate. The logic of the argument from both properties has already been discussed for the subjects of English CR in section 3.2.

There are three basic differences between broad subjects and the copy-raising subject in English CR. First is the structural difference already noted: in the case of broad subjects, there is always a "narrow subject" which Agrees with T and satisfies the EPP. Second, broad subjects need not be linked to a subject controller: they may be linked to a pronoun contained in a non-

¹⁸⁴ Unless T lacks ϕ -features, which is arguably the case for post-verbal subjects in Arabic; in that case the lowest [Spec, TP] can contain the "broad subject", as predicted.

subject and in any kind of island, e.g. within the subject, as (212)b shows. Third, they do not support an idiom chunk.

I have no good explanation for the third property, except to adduce the variable acceptability of such examples in English as discussed in 3.2. However, I would like to suggest that the first two properties should be connected. Broad subjects can be linked to any variable, without the locality of CCA, because the sister of a broad subject does not contain ϕ -features and there is no CCA. Predicate Abstraction takes into account the free index of the broad subject, which is unrestricted by the Match Condition, and interprets it as in (211)b. This is clear if the broad subject is in [Spec, HP] of some head between T and the C-system, since we are free to assume H does not have ϕ -features and thus does not undergo ϕ -Agree (no such Agree shows up morphologically).¹⁸⁵

If broad subjects are rather in the outer specifiers of [Spec, TP], I need to assume that the particular projection of the T that is the sister to the broad subject does not have the valued ϕ -features of the lower projection of T, which is sister to the narrow subject. This assumption is also argued for by Béjar (2003:IV) and Abels (2003:II.3), and is used several times in this thesis (see chapter I, nt. 171); it has a reasonable air about it, although I do not know how it follows (but cp. Rezac 2003c). Here is the BPS representation, where the crucially ϕ -less label is boxed.

(213) {T, {broad subject, {T, {narrow subject, {T _{ϕ =i}, ...}}}}}}

Under either hypothesis, as the specifier of an extra head or the outer specifier of T, what is striking is the correlation between the presence of the agreeing narrow subject in the (lower) specifier of T and the possibility of linking to a non-local variable, unlike in CCA. The system proposed above identifies this with whether the predicate variable for a subject is identified by ϕ -Agree or whether its choice is free. Either of the assumptions for broad subject position above explains this difference.

¹⁸⁵ I observe at this point that the availability of broad subjects cannot be related to the availability of multiple specifiers of T: Icelandic allows multiple specifiers of T (MP:IV.10, Richards 1997:90f., 1999, Rezac 2002b), but it does allow broad subjects; the same seems true of Finnish, cp. Holmberg & Nikanne (2002). Cp. also Alexopoulou, Doron & Heycock (forthcoming) for the independence and combinability of CLLD and broad subjects in any particular language. This may suggest a dedicated head for broad subjects.

Relative clauses and other \bar{A} -structures formed with resumptive pronouns also offer the syntax-semantics mapping in (211)b, in contrast to that in (211)a which I assume for the relative pronoun or raised head of movement-formed relatives. (214) gives examples from Breton: (214)a, which contains the variable inside an island (there is no preposition stranding) can make use only of the resumptive strategy, while (214)b has the choice of either the movement or the resumption strategy as indicated.¹⁸⁶ The English translation offers the more marked resumption strategy of English, marked by its special C element *such*.

(214)

- a N'eus den (ha) na vez diarvar kement-se evitañ.
 NEG-is person such.that NEG is doubtful this for-him
 There is no one such that this is doubtful for him.
- b An nor a vo ret prenañ (anezhañ)
 The door R will.be necessary to.close it
 The door that it is necessary to close.
 The door such that it is necessary to close it.

The way resumptive structures fit into our system is straightforward, assuming McCloskey's (1990, 2002) analysis of their properties in Irish. In the case of a movement-formed relative, an unvalued index feature on C is valued by \bar{A} movement or \bar{A} -Agree as a free rider (section 3.6), and the merger of the head as sister of the relative CP restricts to the index feature thus identified by the Match Condition. PA yields (211)a.¹⁸⁷ For resumptive relatives, I assume that C has no index feature at all; the resumptive strategy depends on the existence of this C.¹⁸⁸ C alternations that are classically described as depending on whether [Spec, CP] is base-generated (resumptive) or formed by movement as in Irish can be directly recast in terms of the presence of an \bar{A} -probe on C in the latter case (cp. particularly McCloskey 2002). The Match Condition does not restrict the index feature of the head that Merges with the resumptive relative clause. It is this index

¹⁸⁶ Breton also has broad subjects interestingly connected to resumptive relatives; see Rezac (in preparation b).

¹⁸⁷ I ignore all the subtleties of RC structure, including some that may concern the theory formulated in this chapter directly, the internal/external head distinction (Sauerland 1998, Bianchi 2000).

¹⁸⁸ It is suggestive that while movement-formed relatives often have a resumptive pronouns varying for ϕ -features in [Spec, CP], resumptive relatives typically use a ϕ -invariant element (often the 3rd.sg.neut. form of a resumptive pronoun).

feature which is used in Predicate Abstraction, giving the syntax-semantics mapping (211)b. I discuss resumptive relative clauses here to illustrate that the system faces no direct problems by the existence of such structures; it predicts the possibility as it does the broad subject construction.

Finally, it is now to be observed that the illegitimacy of clause-internal DPs not linked in an "appropriate" way to a thematic position, as encoded by principle (178), is in fact deducible from the system and need not be stated as a primitive. It depends simply on the distribution of positions available for base-generation. The core set of such positions are the positions made available for arguments "selected" by a verb (or verbal construction), which are simply those for which the lexical entry of a verb provides λ -operators. The fact that each of these is projected is the heart of the projection principle. The extension of the projection principle is to the core non-thematic subject position of a clause, [Spec, TP]. If T as generally has ϕ -features, insertion into [Spec, TP] is restricted by the Match Condition, deriving the fact that a non-thematic DP in [Spec, TP] must be linked by predication to a theta-role with the locality properties of Agree. In languages like Arabic and Japanese, there are evidently higher "broad subject" positions which are licensed as sisters of labels/heads without ϕ -features, and correspondingly DPs in these non-thematic positions are freely interpreted by linking to any available variable (perhaps an implicit one with an "aboutness" theta-role when no explicit one is available). The same remarks apply to the C-system: if C has no ϕ -set the null operator or DP in [Spec, CP] may link to any variable, otherwise (as discussed in 3.6), if "movement" to [Spec, CP] takes place, the ϕ (index) features of C restricted the DP base-generated in [Spec, CP].

3.5 The role of \bar{A} -movement in A-locality

3.5.1 *Introduction*

The foregoing sections have concerned themselves with the syntax of CR, assuming that CCA is responsible for identifying the predicate variable. In this section, I return to CCA itself. As discussed mainly for English T-CR in 3.3, CCA is crucially local: it stops at [Spec, TP] of

the complement clause, and then only if there is no matrix argument visible to the relevant ϕ -probe. This suggests the following:

(157) FUNDAMENTAL CCA HYPOTHESIS: CCA is just ϕ -Agree, with its property of ϕ -locality.

Three recent studies, Polinsky & Potsdam (2001) for Tsez, Branigan & MacKenzie (2001) for Innu-aimûn, and Bruening (2001:V) for Passamaquoddy, allow us to investigate this hypothesis in a different domain than that of English T-CR. The basic idea of the three studies is that \bar{A} -movement in the host clause can (or must) feed CCA. All three also explain this as a locality fact, in which I follow them. However, the theory of locality used is either locality under head government or phase theory; I will try to show that ϕ -relativized intervener-based locality is better (see chapter I for discussion of locality theories).

The next two subsections review these studies with this bias. The aim is to show that when and how \bar{A} -movement of the controller feeds (and blocks) CCA is exactly predicated by ϕ -relativized intervener-based locality. The choice of the controller is thus a consequence simply of the Fundamental CCA Hypothesis. This is both conceptually more elegant than appeal to other theories on top of the independently necessary feature-relativized locality, and turns out to have empirical advantages. If it is the case, this simple, default hypothesis accounts for a quite intricate A/\bar{A} -system interaction. In 3.5.4, I turn the results gained here to *tough*-movement in English, which seems to be a predicted phenomenon: CR fed by \bar{A} -movement of the controller.

3.5.2 Tsez

This section almost entirely reports Polinsky & Potsdam's (2001) extensive and insightful study of ν -CCA in Tsez, and it keeps almost entirely to their conclusions: that \bar{A} -movement (\bar{A} -Agree) is required of the controller in the host clause, and that this is for reasons of locality. The new spin put on it is that the locality involved is ϕ -locality, rather than head-government: \bar{A} -movement is required for the controller to escape the default ϕ -features of the host clause's complementizer, which otherwise intercepts a higher ϕ -probe.

Tsez is an agglutinating, SOV, left-branching language. Although the morphology is ergative-absolutive, the syntax is solidly nominative-accusative.¹⁸⁹ Verbs agree in noun class and number with the absolutive, and only with the absolutive.

(215) Agreement morphology in Tsez (partially depends on phonotactics)

	Singular	Plural
Class I	Ø-	b-
Class II	y-	r-
Class III	b-	r-
Class IV	r-	r-

As in chapter II for Basque, I follow Bobaljik's (1993) structure for such nominative-accusative ergativity; this corresponds well to Polinsky and Potsdam's own structure for Tsez. In the thematic layer, the absolutive is the complement of V, in transitives the ergative is the specifier of *v*. *v* is responsible for absolutive agreement and Case assignment. The ergative moves to [Spec, TP] for the EPP, although it is unclear whether there is a Case/agreement relationship between T and the ergative in Tsez (see chapter II on this issue generally).

(216) [_{TP} ergative_i T [_{VP} *t*₁ *v* [_{VP} absolutive V]]]

CCA in Tsez is agreement with an absolutive controller only, inside a host clause which itself has agreement with the absolutive (p. 605-7). The host clause of CCA is always a complement of the matrix clause; its internal structure is that of a participle clause marked by an overt nominalizer.¹⁹⁰ If CCA does not take place, the matrix verb agrees for IV.SG, which Polinsky & Potsdam take to be the ϕ -specification of the clausal argument itself. I will follow them in this. IV.SG is therefore the specification of the left periphery head (or one of them) of all potential

¹⁸⁹ See Polinsky & Potsdam (2001:588-9): ergative *wh* must precede absolutive *wh* (also p. 631); only ergative may be PRO in infinitival control structures; ergative can bind an absolutive reflexive but not the other way around; ergative controls subject-drop across clauses (conjunction reduction); a *wh*-absolutive creates a weak crossover violation for a bound variable in the ergative regardless of whether the absolutive precedes or follows the ergative at SS (p. 630).

¹⁹⁰ There are also embedded finite clauses marked by an overt complementizer affix, which we will see below to be incapable of agreement because of their C. See Comrie & Polinsky (1999) on why clause union/restructuring is not involved in Tsez LDA.

- (v) Successive-cyclic CCA is not possible, which means there is no representation aside from ϕ -agreement of the agreed-with absolutive in the matrix clause, since that presumably could itself undergo CCA by a higher clause (p. 617-8); see subsection 3.5.5 below.

The importance of Tsez CCA is Polinsky & Potsdam's demonstration that it depends on the \bar{A} -properties of the controller. First therefore, I briefly take up the Tsez \bar{A} -system of topics and *wh*-words.¹⁹⁴ *Wh*-phrases front only optionally (p. 602); at most one can front, which indicates only a single *wh*-specifier is projected per clause. There are two affixes which optionally signal topics, *-n(o)* for a plain topic and *-gon* for a contrastive topic (p. 593-7). Topics are restricted to referring expressions, excluding e.g. anaphors, focused DPs, *wh*-words, and universal quantifiers; they may but need not be marked by these affixes. As is the case with *wh*-words, fronting of topics is optional, and at most one topic can front.¹⁹⁵ Both topic marking (p. 597) and *wh* marking (p. 632) are sensitive to islands, indicating a syntactic dependency. Although both topic and *wh*-phrases front only optionally, a topic may not precede a *wh*-phrase, which also indicates a syntactic dependency (p. 603); presumably, a topic creates an island for *wh*-movement but not vice versa.¹⁹⁶ Independently of this, the language has leftward scrambling within the IP, so not too much importance should be attached to word order.

These facts indicate that there are both *wh* and topic dependencies, even if their fronting at PF is optional. Polinsky & Potsdam adopt two heads in the C-system, C^0 for *wh*-dependencies (p. 603) and Top^0 for topic dependencies (p. 596-7), in that c-command relation.¹⁹⁷ The finite complementizer which blocks CCA is identified by them with C^0 ; the non-finite complementizer, which also triggers its own IV.SG agreement as noted if CCA does not take place, I will place

¹⁹⁴ There is also an optional new information focus marker *-kin* (p. 598-601); its host absolutive cannot undergo CCA, and Polinsky & Potsdam do not give it a head in the left periphery, which I follow here. It is relevant in so far as a DP cannot be both topic and focus, so a focus marker on an absolutive renders it incapable of topicalization, and thus of CCA.

¹⁹⁵ The demonstration of this fact is indirect (p. 635-6). As we will directly, abstracting away from *wh*-movement, CCA is required of and restricted to topics. The presence of a non-absolutive in-situ topic-marked DP blocks CCA of the absolutive, showing that the latter cannot be a topic.

¹⁹⁶ Cp. Müller & Sternefeld (1993) for such asymmetries in German, Rizzi (1997, forthcoming) in Romance. Presumably what creates the asymmetry is that topics have the option of linking to a covert pronoun while *wh*-phrases must move, Cinque (1990), Postal (1998). Polinsky & Potsdam take **topic > wh* as evidence for left-peripheral landing site order *wh > topic*, which does not seem straightforward to me.

¹⁹⁷ As noted in nt. 196, Polinsky & Potsdam's evidence for the order *wh > topic* is not obvious. However, there is internal evidence: a *wh*-word blocks CCA of a topic, as we will see below. This will follow if the *wh*-word c-commands the topic. The same is true of finite C and topics.

just above the IP as Fin^0 .¹⁹⁸ They assume covert movement whenever \bar{A} -fronting of topics and *wh*-phrases is not overt.¹⁹⁹ The basic clausal architecture is thus as follows (p. 604):

- (219) $[_{CP} \text{wh-specifier } [_C \text{C}^0 [_{TopP} \text{topic-specifier } [_{Top'} \text{Top}^0 [_{FinP} \text{Fin}^0 [_{IP} \text{S O V}]]]]]]]$

Topic and *wh*-movement interact with CCA as follows:

- (220) **CCA/ \bar{A} -generalization:** absolutive α enters into CCA if and only if it is the highest α in the LF $\text{wh} > \text{C}^0 > \text{topic} > \text{Fin}^0$ structure in the left periphery.

Polinsky & Polinsky concentrate mainly on establishing a somewhat weaker generalization for topics (p. 609-613, 634-637):

- (221) [CCA] occurs when the referent of the embedded absolutive NP is the (primary) topic of the embedded clause. (Polinsky & Potsdam 2001:613, 640)

If there is an absolutive with topic morphology in a nominalized clause, and there is no *wh*-word, the absolutive must undergo CCA, and matrix agreement with the clause for IV.SG is impossible:

- (222) eni-r [už-ā magalu-n/gon b-āc'-ru-ti] b/*r-iyxo
mother-D boy-E bread.III.A-TOP III-eat-PST.PRT-NMLZ] III/*IV-know

The mother knows the boy ate the bread. (Polinsky & Potsdam 2001:610)

¹⁹⁸ Polinsky & Potsdam give no evidence for the interaction of *wh*-words and the finite C for CCA. They do not discuss the non-finite complementizer's position, except to note that minimally non-finite clauses must be IPs. From the locality logic of their story, adopted here, it follows that the IV.SG inherent ϕ -features of the nominalizer must be either I, which as an IP projection might block access into any material within the IP including [Spec, IP] (Jouitteau & Rezac 2003), or a head X between Top^0 and IP, such as Rizzi's (1997) Fin^0 . For ease of exposition I assume the latter.

¹⁹⁹ From here on in, I assume covert movement is not in a separate cycle: it reduces either to long distance Agree without any movement in fact, see section 3.6, or to pronunciation of the foot of the chain (Nissenbaum 2001, Pesetsky 2000, Chomsky forthcoming).

This is a result whose importance needs to be emphasized. It means that CCA is obligatory if it is possible at all, and that it is only the structure of the left periphery of the host clause that determines whether there is an available DP target. In Tsez, topicalization of the absolutive provides such a target, because it moves an absolutive to [Spec, TopP] above Fin^0 , whose default ϕ -features otherwise stop a matrix ϕ -probe.

Topic marking and fronting are both optional, and therefore the controller of CCA need not be overtly detectable as a topic. The fact that it must be a topic, except when it is a *wh*-word, is deducible from the impossibility of CCA with absolutives that cannot be topics, such as foci. For example, of the CCA and non-CCA version of the following sentence, only the non-CCA one is a possible answer to *What did the mother know to be good?* because question-answer appropriateness forces the lower clause absolutive *book* to be focus:

- (223) eni-r [t'ek y-igu yāl-ru-ŋi] r/y-iy-si
 mother-D book. **II.A** **II**-good be-PSTPRT-NMLZ **II/IV**-know-PST.EVD
 The mother knew that the book was good. (Polinsky & Potsdam 2001:612)

CCA is also impossible if there is a non-absolutive topic. Given the assumption that [Spec, TopP] is unique, this forces the absolutive to stay inside the IP (if not a *wh*-word), and evidently it is then beyond the reach of the matrix ϕ -probe. The unavailability for CCA of DPs that cannot be or in fact are not topics shows that CCA may not reach inside the host clause below Fin^0 , explaining why topicalization is required – for locality.

The CCA of *wh*-phrases is paid less attention to in Polinsky & Potsdam, but it is clear that it takes place (p. 638n20), as shown in (224)a.²⁰⁰ At the same time, the presence of a non-absolutive *wh*-word such as *lu* 'who.E' or *nā* 'where' blocks CCA, (224)b. This is predicated by the structure in (219) and the CCA/ \bar{A} -generalization, since [Spec, CP] is closer to the matrix clause than even [Spec, TopP] (p. 634-5).

- (224)
 a eni-r [lu micxir b-ok'āk'-ru-ŋi] r/*b-iyxo
 mother-D who.E money. **III.A** **III**-steal-PST.PRT-NMLZ **IV/*III**-knows

²⁰⁰ It is apparently more difficult to investigate because the absolutive *wh*-word is normally IV.SG.

The mother knows who stole the money. (Polinsky & Potsdam 2001:634)

- b eni-r [šebi y-āk'i-ru-ti] y-iy-x-ānu
 mother-D wh.**II**.A **II**-go-PST.PRT-NMLZ **II**-know-PRES-NEG

The mother does not know who [of the women] left. (Polinsky & Potsdam 2001:638n20).

Finally, consider the role of complementizers. Above, CCA of a topic controller has been obligatory unless blocked by a *wh*-word in [Spec, CP]. Importantly, the finite complementizer *-λin* plays the same role: it blocks CCA of a topic, and the matrix verb then agrees with the clause for IV.SG. The structure (219) accounts for this by placing *-λin* in C^0 , higher than [Spec, TopP].²⁰¹ The blocking of topic CCA by *-λin* will presently be quite important where Polinsky & Potsdam's locality hypothesis will be developed as ϕ -locality.

- (225) *eni-r [už-ā magalu b-āc'-si-λin] b-iyxo
 mother-D boy-E bread.**III**.A **III**-eat-PST.PRT-NMLZ] **III**-know
 The mother knows the boy ate the bread. (Polinsky & Potsdam 2001:635)

Polinsky & Potsdam's interpretation of these facts is that Tsez CCA clearly demonstrates the operation of a long-distance yet locality-constrained Agree. They propose that head-government is the key locality principle responsible (p. 636-640). Intervention of C between the matrix clause and [Spec, TopP] is what blocks CCA with topics across both the finite C *-λin* and *wh*-words in [Spec, CP]. CCA of clause-internal arguments is blocked because the matrix verb does not head-govern them, due to the host clause's Fin^0 (I^0) which hosts the nominalizer (p. 628-9).

It is also a crucial part of Polinsky & Potsdam's account that the Agree operation at hand is the same as the one responsible for clause-internal absolutive agreement. This is an important point because it is not universally accepted as we will see in 3.6 for Algonquian. It is surely the default hypothesis. As they point out, it elegantly explains why CCA is restricted to absolutive controllers which are also the only DPs capable of Agree clause-internally (p. 617, 628).²⁰² I have already made the same assumption in discussing English CCA.

²⁰¹ As noted, there is no evidence given for the relative ordering of *wh*-words and *-λin*.

²⁰² As any other approach using syntactic dependencies, it also restricts CCA host clauses to complements, p. 628.

(157) FUNDAMENTAL CCA HYPOTHESIS: CCA is just ϕ -Agree, with its property of ϕ -locality.

Polinsky & Potsdam (2001) is an impressive and elegant argument, which I have kept to closely except to take *wh*-words into account by extending their (221) to the CCA/ \bar{A} -generalization. The part that I wish to change is the nature of the locality relation. Accepting head government would mean adding another primitive constraint on long distance Agree, even if it could be made to work in general for such cases as *There are likely to be several fish caught*. The obvious alternative is to use feature-relativized locality itself to derive the CCA/ \bar{A} generalization. Since the relevant instance of Agree is ϕ -Agree, the proposal is therefore that the CCA/ \bar{A} generalization follows from the fact that CCA is restricted to the closest set of ϕ -features in the left periphery of the lower clause. Here is its structure:

(226) [_{CP} *wh*-specifier [_{C'} C⁰ [_{TopP} *topic*-specifier [_{Top'} Top⁰ [_{FinP} Fin⁰ [_{IP} S O V]]]]]]

The crucial step is to assume that IV.SG non-CCA agreement, which Polinsky & Potsdam already attribute to the clause, is due to a head of the clause: that C⁰ and Fin⁰ have IV.SG ϕ -features from the lexicon, which value a higher ϕ -probe. For *wh*-words, an absolutive *wh*-word Agrees, and another *wh*-word fails to Agree but blocks a higher probe. This follows because if [Spec, CP] is occupied by a non-absolutive *wh*-word, C is present, and its IV.SG ϕ -features then block CCA, correctly accounting for matrix IV.SG agreement in such cases.

If the CP layer is absent, [Spec, TopP] will be the closest goal to a matrix ϕ -probe. If there is an absolutive there, it will Agree. It follows directly from the fundamental CCA hypothesis that it in fact must Agree, exactly as ϕ -Agree is not generally optional. If no topic is present or if there is a non-absolutive one, the ϕ -probe reaches the two lower layers of the structure, Top⁰ and Fin⁰. The nominalizer in Fin⁰, I assumed, is responsible for the IV.SG ϕ -features which are found on the matrix verb if CCA does not take place; it is therefore clearly a ϕ -intervener. By it, access to IP-internal controllers is always blocked.

This run-through demonstrates that the CCA/ \bar{A} -generalization in Tsez follows from ϕ -relativized intervener-based locality. Within the left periphery, it is only the closest ϕ -set that may be accessed by matrix ϕ -Agree, and it must be accessed. The structure of the left periphery, and the IV.SG specifications of C⁰ and Fin⁰, yield the apparent alternation of CCA and non-CCA

IV.SG agreement: both are simply ϕ -Agree with the closest goal. The CCA/ \bar{A} generalization thus reduces to the Fundamental CCA hypothesis. This is arguably the best of all possible results. No elements enter into the account of Tsez CCA other than those which are independently needed: ϕ -Agree and its properties, and the structure of the left periphery. The idea is due to Polinsky & Potsdam; this section has demonstrated that a more complete reduction to Agree properties than that given by them is desirable and doable. The following subsection extends this to Algonquian.

Polinsky & Potsdam's and my discussion both presuppose CCA has some way to Agree with a DP that has already Agreed inside its clause; I return to it in section 3.6.

3.5.3 *Algonquian*

The interaction of CCA with the \bar{A} -system is also the focus of two extensive studies of CCA in Algonquian. Branigan & MacKenzie (2001) [B&M] are concerned with Innu-aimûn (Montagnais), and Bruening (2001:V) [B] with Passamaquoddy, which are both languages of the Algonquian group. Both develop PHASE THEORY for locality and BEACON THEORY for AGH, the latter of which I return to in 3.6.

In so far as the descriptions investigate the same facts, CCA in both Algonquian languages has the same properties, but I will clearly indicate what is to be attributed to Innu-aimûn/B&M and what to Passamaquoddy/B. The languages have the Algonquian pattern of person hierarchy controlled agreement;²⁰³ the exposition will be simplified by directly accepting B&M's and B's arguments that the relevant CCA is ν -CCA. The host clause has agreement with the controller; it may be tensed, declarative, interrogative, etc. B:270-2, 280 clearly shows that that CCA in Passamaquoddy does not involve an A-position in the matrix clause.²⁰⁴ The controller of CCA is restricted in both languages to the same DPs as those which can control clause-internal agreement, subject or primary object, which conforms to the fundamental CCA hypothesis.

²⁰³ See Bruening (2001:II), Béjar & Rezac (2004) for theories from a recent perspective.

²⁰⁴ For example, it may not appear within the matrix clause and may not bind a variable in it. It may undergo \bar{A} -scrambling (B:III) to the left edge of the matrix clause. B&M:403 assume movement into the matrix clause in Innu-aimûn is possible, but give no datum to support the point; they note it cannot be taking place in some cases as with embedded question *wh*-words, BM:399. I assume B's analysis where there is no such movement is correct. Both works clearly demonstrate that CCA does not involve prolepsis.

Following the previous section and B&M:405, I will furthermore assume that when there is no CCA, the default agreement that shows up on the matrix verb is agreement with the clause.²⁰⁵

Here are some examples of CCA in Innu-aimûn. The controller is boxed (even if it is the entire clause), CCA is underlined, and material clearly in the \bar{A} -system of the host clause is in bold.

(227)

- a N-uîtshissenit-en [**tân ishpish** [Pûn mâk tshîn] tshi-nîtshipet-ûtâu].
 1-want-know-TI when Paul and you 2-stop-2.PL
 I want to know when Paul and you stopped. (Branigan & MacKenzie 2001:389)
- b N-uîtshissenim-itinâu [**tân ishpish** [Pûn mâk tshîn] tshi-nîtshipet-ûtâu].
 1-want-know-1/2.PL when Paul and you 2-stop-2.PL
 I want to know when Paul and you stopped. (Branigan & MacKenzie 2001:389)
- c Tshi-tshissenim-âu-â [**Mânî** [**tshekuân** kuet aimiât Pûna utshimâminua]]?
 2-know-TA-3-Q Marie why called Paul boss
 Do you know why Marie called Paul's boss. (Branigan & MacKenzie 2001:389)
- d Tshi-tshissenim-âut-a [**tân tât innût** tshe-takushinit?]
 2-know-3.PL-Q how many people FUT-arrive (B&M 2001:394)
 Do you know how many people are coming?
- e N-uî-tshissenit-en [***kassinu kâuâpîkueshit**] [**tshetshî** mûpishtuâhkuenit <k.>].
 1-want-know-TI every priest if visited-2/INV every priest
 I want to know if every priest visited you. (Branigan & MacKenzie 2001:389)

The interaction of CCA and \bar{A} -movement in the host clause may be succinctly summarized as follows:

(228) Properties of Algonquian CCA

²⁰⁵ B argues that this morphology, the Transitive Inanimate (TI) form of the stem, is default agreement rather than agreement with the clause. However, the only real argument against TI being agreement with a clause is that while TI can show plural CCA with a plural inanimate argument, it can not show plural agreement in the case of conjoined clausal complements (B:261-2). However, that is a general situation for coordination of clauses e.g. in English, where plural agreement is very marginal (McCloskey 1991).

- a **Position of the controller:** The controller may but need not appear at the left periphery of the host clause, cp. (227)b vs. (227)c, including to the left of complementizers and *wh*-words which obligatorily move to the C-system. There is no direct evidence for covert movement as opposed to long distance \bar{A} -Agree when it stays within the clause. It is in never (clitic) left dislocated in the lower clause since it allows non-referential quantifiers even if left-peripheral to its clause. (B:258-9, 270-2, 290-1; III for *wh*-movement, I for LD; B&M:389, 397, 399, cp. BM:393-4 for left-edge quantifier under CCA). Without CCA, the controller must remain within the CP-layer of the host clause (BM:389), (227)e. In other words, CCA is required of potential controllers that are to the left of the CP layer, as it is of topics in Tsez.
- b **\bar{A} -movement of the controller:** The relation of the controller to its gap, when it is at the left edge of its clause, clearly obeys all islands (adjunct, CNPC, *wh*) (B:264-7). It also shows reconstruction, e.g. an object can have a variable in it bound by a clausemate subject on its right and cannot bind a variable in it. (B:263-5, 280). The controller therefore gets to the edge of its clause clearly by \bar{A} -movement (B:263-7).
- c **\bar{A} -status of the controller:** The Innu-aimûn controller is described as obligatorily being a topic of the host clause, and conversely, without CCA there is no topic (BM:389). However, the *wh*-word of an embedded question also CCAed (B&M:394, 397). In Passamaquoddy, the controller is the topic or focus of its clause (B:258, 282-3), or a *wh*-word of an embedded question (B:267-8). The presence of a *wh*-word does not block CCA with another controller, whether to the left of it or inside the host clause (see (227)). A focus-associated DP does not prevent CCA of another DP (B:283).
- d **CCA with SCMining *wh*-words:** While the *wh*-word of an embedded question need not be the controller of CCA, perhaps always when there is another controller,²⁰⁶ the *wh*-word under successive-cyclic movement to the matrix clause must be agreed with (B:304-5, B&M:402). However, if the successive-cyclically moving *wh*-word lacks ϕ -features, CCA with another controller is allowed (B:306), and in fact must take place (B&M:402n17).

I defer discussion of (228)d until section 3.5.5.

As far as there are data, the CCA/ \bar{A} -generalization holds in Algonquian as in Tsez. \bar{A} -movement, overt or covert, is required of the controller: it must be a *wh*-word, a topic, or (in

²⁰⁶ This does not have to be to the left of the *wh*-word, e.g. B&M:398x5b.

Passamaquoddy) a focus. B&M and B establish this generalization, and account for it in an approach to locality known as PHASE THEORY (see chapter I and references there):

- (229) PHASE THEORY: locality of Agree consists in the visibility of the EDGE only of cyclic spell-out HPs called PHASES to Agree triggered by an element in the next higher phase HP', where an edge is [Spec, HP] and H.

As discussed in chapter I, intervention effects in the ϕ -system cannot be reduced to phase theory, so feature-relativized locality remains an element of phase theory (as it does in MI, DBP). The two theories of locality however overlap for a significant number of cases. Since feature-relativized locality is independently required, it would clearly be preferable to try to account for as many locality phenomena as possible in this system – if just to see what phases are really needed for.

The role of \bar{A} -movement in enabling the CCA of a controller appears to be the same in Algonquian as it is in Tsez: \bar{A} -movement is required, covert or overt, leading to e.g. the obligatory topic or *wh*-word interpretation of a controller in Innu-aimûn. Its role can be explained in exactly the same way as in Tsez -- by ϕ -locality. The assumption required is that the non-CCA agreement ("transitive inanimate" form of the stem) is agreement with a clausal head H in the C-system of these languages, as assumed by B&M. \bar{A} -movement is thus required of the controller to escape this HP. Topic and *wh*-movement are two sorts of \bar{A} -movement to permit this, perhaps to the specifiers of dedicated heads above HP. If nothing is present above HP, ϕ -agreement takes place with H(P) itself, giving the transitive inanimate morphology. This explains why the controller must have an \bar{A} -interpretation, (228)c.

There is a difference between Algonquian and Tsez that indirectly confirms the intervener-based approach. In Tsez a *wh*-word blocks a topic from being a CCA controller, because a *wh*-word projects [Spec, CP] above the TopP so that either it or C is the closest goal to a matrix ϕ -probe. In Algonquian, this is not the case; embedded questions headed by *wh*-words allow CCA with another element, whether this moves to the edge of the host clause above the *wh*-word (227)c or not (227)b. The very fact that the controller can move above the *wh*-word in (227)c, and that the controller in that case must always be a topic, shows that a [Spec, TopP] is in fact

above the landing site of *wh*-words in Algonquian.²⁰⁷ Consequently, topics (covert or overt) should undergo CCA in the presence of a *wh*-word. Interestingly, the difference between Tsez and Algonquian cannot be captured by phase-theory, because from their very visibility to CCA both *wh*-words and topics are at the edge of the host clause's phase. Their interference for each other's CCA in the two languages must reduce their different height w.r.t. each other, as seems to be correct.

The Fundamental CCA Hypothesis also predicts that \bar{A} -movement above HP of a potential controller obligatorily triggers CCA, because CCA is just regular ϕ -Agree.²⁰⁸ This can be seen in Algonquian from (228)a and (228)c: a topic in the host clause in Innu-aimûn requires CCA; and a potential controller to the left of a *wh*-word or a complementizer (though still inside the host clause) also requires CCA. Both configurations are those where we can be sure the controller is above the HP; as in Tsez, CCA is then obligatory. B&M:404 account for this by a principle called ALTRUISM:²⁰⁹

- (230) ALTRUISM in Innu-aimûn: matrix CCA is used to allow topic interpretation of the controller in the host clause and to license its position at the left periphery of the host clause's C-system.²¹⁰

Altruism is *prima facie* undesirable as a syntactic principle, simply because it is used for a very limited data-set, and because it is massively counter-cyclic -- counter-cyclic between two clauses. It is a considerable advantage therefore of the Fundamental CCA Hypothesis that it directly accounts for the set of facts covered by altruism. If the controller is a topic, it must move into the left periphery of its host clause above HP; and since *v*-CCA is just regular *v* ϕ -Agree, it will necessarily find it and Agree with it if it's accessible.

The whole elegance and desirability of the Fundamental CCA Hypothesis as an account of the CCA/ \bar{A} generalization is in its simplicity. The elements are independently justified and

²⁰⁷ In Innu-aimûn; in Passamaquoddy perhaps also [Spec, FocP], but the data does not have sufficient resolution.

²⁰⁸ Unless there is a matrix object, as predicted; see discussion around ex. (168) in 3.3.

²⁰⁹ B does not directly consider this data-set and the generalization, but he operates under the Fundamental CCA Hypothesis so that the data does not seem strange.

²¹⁰ B&M do not make the second part of the conjunction, because they assume the controller moves into the host clause, which Bruening (for Passamaquoddy) demonstrates is incorrect; it seems a reasonable extension of altruism under those circumstances.

needed regardless of whether one assumes in addition phase theory or altruism. If it can account for the CCA properties of Algonquian then, it should be held to. B&M's and B's account of CCA involves another important component, BEACON THEORY, to explain how a DP can Agree twice; it may itself be correct, but it is independent of the other assumptions. I return to it in 3.6. I have also ignored the interaction of successive-cyclic *wh*-movement and CCA in Algonquian, and return to it 3.5.5, where Bruening's solution in terms of an economy principle makes it independent of phase-theory and altruism.

In the next subsection however, I want to turn to English. The possibility of \bar{A} /CCA interaction predicts the possibility of an \bar{A} -movement feeding CR even here; and I think this hypothesis provides a new, and perhaps the simplest, theory of *tough*-movement.

3.5.4 Conclusion: CCA/ \bar{A} in English in *tough*-movement

The role of the CP-system in CCA in Tsez and Algonquian illuminates the distribution of CCA in English. CCA in English requires that the ϕ -features of T can see a controller in the next lower clause down, and thus CCA is limited to matrix verb without an accusative argument: to raising verbs. But this not all the story:

(231)

- a Kate seems like she is about to leave.
- b *Kate seems that she is about to leave.

English CR is restricted to the complementizers *like/as if/as though*; the same verbs, *seem* and *sound*, cannot occur in CCA with the *that* complementizer. In Tsez and Algonquian, when there is no controller in the \bar{A} -system of a host's clause, ϕ -agreement occurs with a complementizer head of the host's clause left periphery, leading to apparent lack of CCA. I have argued that this is in fact CCA with the closest goal, bearing interpretable but "default" ϕ -features, comparable to 3rd.sg. in English. The natural suggestion is therefore that *that* bears such default 3rd.sg. ϕ -features, while *like/as though/as if* do not.

Other approaches also tie the difference in (231) to the complementizer. Heycock (1994:295-8), following Maling (1983), argues that *like* is a preposition, not a complementizer.

As a preposition, it assigns Case; she postulates that "non-matrix CPs that are not syntactically marked as predicates by virtue of having an operator in the subject position must receive Case" (p. 296).²¹¹ In CR, the matrix subject absorbs Case, so the host CP can only be a predicate if it is selected by a Case assigner – *like*, for example. Potsdam & Runner (2001), also going with Heycock's generalization, suggest that [_{PP} P IP] complements are not phases while [_{CP} C IP] ones are.

The difference in ϕ -specification is neater than either idea, since it appeals simply to ϕ -relativized locality, while it keeps the essential insight that *that* is D-like while *like*, *as if*, and *as though* are not. It also seems like a good locus of parametric variation. Some English speakers do not allow CCA/CR at all, nor do entire languages whose other properties seem compatible with it such as French. The pivot of variation would be that they do not have available a complementizer without ϕ -features for raising verbs; in English in particular, *like*, *as if*, *as though* would be specified for 3rd.sg., or select a null C that is so specified.

Exploring the C-system of English further, Tsez and Algonquian lead us to expect that \bar{A} -movement should be able to feed T-CCA/CR. Typical raising verbs like *seem* and *be expected* do not select complements that have \bar{A} -movement.²¹² There is a different class of constructions which contain a matrix verb without any ϕ -accessible matrix argument and a complement that triggers \bar{A} -movement: *tough*-movement constructions.²¹³

(232)

- a The books₁ are easy (for Kate) (to convince people) to read *e*₁/*them.
- b It is easy (for Kate) to convince people to read these books.

The properties of *tough*-movement are discussed in Lasnik & Fiengo (1974), LGB:204f., 309ff., Browning (1989), Heycock (1994:V.2). Following these works, I assume that the matrix predicate assigns no theta-role to its subject. The subject must be base-generated somewhere above the adjectival predicate, because it fails to reconstruct. This is actually a claim that has been insufficiently investigated, and I cannot do it full justice here. The kind of reconstruction

²¹¹ The CP in *it seems that CP* receives Case from the expletive in her approach.

²¹² Topic movement in English targets a position between C and T, Lasnik & Saito (1992), so it does not escape the CP barrier of *that*/ \emptyset with its 3rd.sg. ϕ -features.

²¹³ The idea that *tough*-movement and CR/CCA should be related is due to Massam (1985:III.3).

I'm concerned with is one which crucially depends on movement namely reconstruction for scope and quantifier-variable binding.²¹⁴ It is pretty clear that there is no scope reconstruction of the matrix subject, neither into within the CP complement, nor within the matrix clause itself below the *for*-phrase:

(233)

- a All the detergents are difficult to dissolve in water ≠
- b It is difficult to dissolve all the detergents in water.

(234) Some theorem is easy for everyone to prove. **every >> some* (Sportiche 2002)

Reconstruction for quantifier-variable binding also seems to be out, including reconstruction below the *for*-phrase, though the facts here are less clear:²¹⁵

(235)

- a It is hard to convince Judy_i/[every woman in the group]_i to share her work.
- b Her_i work is hard to convince Judy_i/*[every woman in the group]_i to share.
- c It was easy to convince [every woman in the group]_i to sing the lyrics that she_i wrote.
- d *The lyrics that she_i wrote were easy to convince [every woman in the group]_i to sing.

²¹⁴ Connectivity for anaphora/reciprocal binding by a non-quantifier (even where NP-contained anaphora qua logophora can be factored out) and for Condition C also occurs into weak islands (Cinque 1990, Cresti 1995), from which I assume no movement takes place (Cinque 1990, who posits *pro* here).

²¹⁵ Cp. (i) -- (iii), and contrast this with the text. It seems to me that the possibility of reconstruction is limited to reconstruction below the *for*-phrase, where the path between the gap and the matrix subject position does not cross any other DPs. Now, it turns out that in many languages (Spanish, French, German, Czech) constructions which look like *tough*-movement are limited to exactly such configurations, where there is no other DP intervener (except one invisible due to embedding in a PP, as the *for*-phrase here), and seem to have a straightforward A-movement analysis: the matrix adjective takes a Restructuring bare VP complement, whose DP object moves in an essentially unaccusative configuration to the only [Spec, TP]. English is of course not susceptible to this analysis because *tough*-movement can cross a DP intervener, along with other evidence for \bar{A} -movement in the CP; on the other hand, the A-movement possibility might be present in English. This depends simply on whether the *tough*-adjective can take a bare VP rather than a CP complement. It may be this possibility that explains reconstruction below *for*-phrases. I'm not convinced of this though; if this possibility is sufficiently general for (these speakers of) English, there should be more reconstruction that there looks like there is.

- (i) A lapse during her_i first stage-performance would be easy for [every woman in the group]_i/Judy_i to explain. (Susana Béjar, p.c.)
- (ii) Pictures of his_i friends are tough for [every photographer]_i to sell. (Sportiche 2002).
- (iii) A failing grade in their_i first year would be hard for anyone_i to explain to their parents. (Jason Merchant, p.c. to Jeroen van Craenenbroeck)

e The lyrics that she_i/*_j wrote were easy for [every woman in the group]_j [to sing].

(Susana Béjar, p.c.)

f *His_i pictures are tough for [every photographer]_i to sell. (Sportiche 2002)

The acceptability of idiom chunks varies, but their very possibility seems to confirm the lack of a matrix theta-role:²¹⁶

(236)

a *Good care is hard to take of the orphans. (LGB:309)

b *Too much is hard to make of that suggestion. (LGB:30)

c *The bucket is easy to kick. (Sportiche 2002)

d ?Headway is hard to make on these problems. (Lasnik & Fiengo 1974, cited in Massam 1985:201n14)

e Assistance will be easy to lend to the victims. (Sportiche 2002)

f These strings will be hard to pull. (Sportiche 2002)

I will assume that subjects in *tough*-movement are base-generated in the matrix [Spec, TP].

There-expletives are excluded, unlike in CR. I have only a suggestion for this. Suppose that in *tough*-movement constructions, [Spec, TP] is always occupied by PRO, as seems usually the case.²¹⁷ If null operator movement does not take place, PRO is the closest match and could be held not to license matrix *there* because of the definiteness effect, (237)b. If there is a null operator, two problems arise because Browning (1989:II) argues it is *pro*: the definiteness effect for *pro* as a pronoun, and the fact that it is not identified (cp. discussion of ex. (190) above).

²¹⁶ When impossible, this could be due to the step of \bar{A} -movement involved. Differently, Heycock (1994:262) suggests that it arises because the adjective of *tough*-constructions is an individual-level predicate, and requires a subject of which an inherent/permanent property can be predicated.

²¹⁷ This would predict (i-a) to be ungrammatical or a quite different construction, on par with (i-b) (its status is actually unclear). It is tempting to connect the unavailability of a subject gap in *tough* complements (Browning 1989:IV) to its obligatory PRO status, (ii); this means that in (iii), where the ban on subject gaps obtains, the subject position must contain PRO rather than *pro* (=OP) moved from t_i .

(i-a) It is hard to believe [there to have been a crime committed]. (LGB:318n30)

(i-b) [There to have been a crime committed] proved to be a lie.

(ii) *Kate_i is hard [OP_i PRO_i to have seen Nolwenn].

(iii) *Kate_i is hard [OP_i PRO_i to have been seen t_i]

(237)

- a *There is hard to believe [to have been a crime committed]. (LGB:309)
- b *There is hard to believe [PRO to have seen someone].
- c *There is hard to believe [OP_i PRO to have seen *e_i*].

LGB and Browning (1989) establish and study the properties of the \bar{A} -movement chain between the gap and the top of the complement clause in *tough*-movement.²¹⁸ Direct evidence for \bar{A} -movement here is the fact that intervening A-positions can be skipped, (238). I add what appears to be another piece of evidence, the D-linked/non-D-linked *wh*-word contrast in (239), which resembles that created by \bar{A} -islands (Pesetsky 1987, Cinque 1990, Postal 1998) -- here the island created by OP.

(238)

- a The violins₁ are easy [OP₁ to play sonatas on *e₁*]. (LGB:310)
- b The books₁ are easy [OP₁ to convince people [to read *e₁*]]. (LGB:310)

(239)

- a Which violins₂ are the sonatas₁ easy [OP₁ to play *t₁* on *t₂*]. (LGB:310)
- b *How intelligent₂ is John₁ easy [OP₁ to consider/be *t₁* *t₂*]. (cp. LGB:311)

The position from which OP can be extracted is subject to a number of restrictions. Most strongly, it cannot be the topmost subject of the infinitive, which is PRO (either arbitrary, or controlled by a *for DP* argument of the adjective). I have nothing to say about this; see Browning (1989:IV).

(240)

- a *John_i is easy [(OP_i) PRO_i to convince Mary].
- b John_i is easy [OP_i PRO_{arb} to convince *t_i*]
- c John_i is easy for Mary_j [OP_i PRO_j to convince *t_i*].

²¹⁸ See Heycock (1994:257) for arguments that the top of OP-chain must terminate in the CP and cannot extend through the AP, unlike Browning (1989:63-4).

The classical problem of *tough* constructions is how to link the matrix subject, base-generated in a non-thematic position, [Spec, TP] as I assume, and the null operator chain in the complement clause. With the perspective of Tsez and Algonquian, exactly this class of constructions is predicted. Matrix T has a ϕ -probe, and no internal argument. There is an infinitival clausal complement. If no \bar{A} -movement takes place in it, ϕ -agreement is with its C head, which in English leads to 3rd.sg. and choice of the *it* expletive, (241)a.²¹⁹ If OP-movement takes place, OP/*pro* bypasses the C barrier, and ϕ -agreement necessarily takes place with it, (241)b. This is followed by base-generation of a coindexed DP under the Match Condition; *there* expletive insertion is unavailable as discussed above.

(241)

- a It is easy [_{CP} C PRO_i to convince Nolwenn]
 b Nolwenn is easy [_{CP} OP_i C PRO_i to convince *t_i*]

(241)a is not possible with Nolwenn in place of *it* because Nolwenn cannot be interpreted, even if it matches T's 3rd.sg. ϕ -features, since T hasn't had its index feature valued from Nolwenn, and the matrix clause would assign it no theta-role. (241)b is not possible with *it* in the place of Nolwenn because the ϕ -features of OP would not be identified (see discussion of ex. (190) above).

T-CR fed by the \bar{A} -system in English is possible only when the \bar{A} -goal is a null operator, rather than an overt *wh*-word. There are no constructions of the following sort:

(242)

- a *Kate_i was asked/wondered/understood who_i Nolwenn saw *t_i*.
 b *There were asked which people left.

²¹⁹ An alternative is that the intervener is PRO.

As a matter of fact, (242)a seems impossible for Algonquian as well, which has T-CR studied by Bruening (2001:VI); see note 140.²²⁰ The pure CCA analogue, (242)b, is ruled out by the Definiteness Effect in English, but not in Algonquian. The reason why CR cannot have a non-pronoun as a controller has been discussed in 3.4.6: Condition C rules out e.g. *Kate_i seems like the girl_i is about to leave*. (242) are ruled out for all cases of CR by Condition C, for precisely the same reasons as (243):

(243) Kate_i asked who*_{i/j} left.

Therefore, there is an independent reason why only the pronominal null operator, *pro* of Browning (1989), should be the \bar{A} -goal of CR, although all \bar{A} -phrases in general are available for CCA if CR is not involved, as in ν -CCA in Algonquian and Tsez. CCA is just ϕ -Agree, and does not feed binding theory (chapter IV). CR does, and it triggers Conditions B and C unless Δ applies to the controller. Actually, if a problem arises in my approach with the posited *tough*-movement structure it is in the opposite direction: it is not clear to me that the null operator *pro* should not be ruled out by Condition B alone in (241). However, I see no clear indicators at present to permit any decisions: Condition B might or might not be expected to apply between [Spec, TP] and the next lower [Spec, CP], and the null nature of OP might or might not have the same effect as Δ of 3.4.6 in obviating Conditions B/C.

The approach just sketched unifies T-CR and *tough*-movement in English. Intuitively, that seems right: they are both relations that involve a matrix non-thematic argument of a raising verb, a pronoun that gets the theta-role for the entire chain, and the pronoun being at the left edge of a clause which is otherwise opaque to the matrix Case/ ϕ -system. The observation that \bar{A} -movement feeds CCA under the Fundamental CCA Hypothesis seems to resolve a central problem of *tough*-movement: the link between the matrix subject position and the predicate variable identified by OP, which is the same as in CR. The difference is that null operator \bar{A} -movement is required of the controller so that it can escape the 3rd.sg. ϕ -feature barrier of its C,

²²⁰ What I refer to as T-CCA/CR in Algonquian is CCA/CR with inverse voice, as Bruening (2001) shows. On Bruening's approach, who argues that for ν -CCA there is no such raising, T-CCA/CR allows a different structure with the controller base-generated at the edge of the next lower clause and raising into the matrix [Spec, TP]; see nt. 140 for discussion. I keep here to the problem in English because it is exactly analogous to the one that would arise from the perspective of this chapter in Algonquian, and the solution transfers with full generality. Tsez has no CR, only CCA.

while in the English T-CR there are no intervening ϕ -features, so a matrix ϕ -probe directly accesses the lower T-system. The presence of \bar{A} -sensitive CCA in English is moreover quite a neat demonstration of the general approach, arising from the unity of ϕ -Agree and CCA in the Fundamental CCA Hypothesis: there are no Tsez/Algonquian-particular properties that enable their CCA- \bar{A} interaction beyond the structure of left periphery and ϕ -specifications of complementizers.²²¹

This is a convenient place to conclude this section. The extension to English of the lesson from Tsez and Algonquian underscores its basic thesis. There is no such thing as CCA in its own right, and it has no intrinsic link to \bar{A} -movement for phase-evasion or altruism. There is just the default hypothesis:

(157) FUNDAMENTAL CCA HYPOTHESIS: CCA is just ϕ -Agree, with its property of ϕ -locality.

Whether "CCA" will show up, as agreement with something other than the default ϕ -features of the head of a complement clause, depends on the options a language makes in constructing its left periphery: complementizers may or may not have lexically-specified default ϕ -features, and there may or may not be positions above ϕ -specified complementizers for \bar{A} -movement. The interaction of these positions with each other, and with complementizers, feeds feature-relativized locality of matrix ϕ -probes. In no case will a matrix ϕ -probe see beyond a matrix goal with accessible ϕ -features, and in no case will it look past an embedded [Spec, TP]/T because it (by assumption) universally has ϕ -features.

3.5.5 Appendix: Successive-cyclic movement, CCA, and phases

The locality use of phase-theory is principally for successive-cyclic \bar{A} -movement (\bar{A} -SCM). As discussed in chapter I, MI:108 proposes the PHASE IMPENETRABILITY CONDITION PIC, where phases are CP and transitive v P and the edge of a phase with a head H are all [Spec, HP].

²²¹ Of course, the difference remains that English \bar{A} /CCA interaction is restricted to T, but that is simply because English v does not show ϕ -features; in the next subsection we will see some hints that bear on this topic.

- (244) PHASE-IMPENETRABILITY CONDITION: In a phase α with a head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations. (MI:108)

CCA and successive-cyclic \bar{A} (*wh*) movement interact in Algonquian. CCA with an SCMin *wh*-phrase is obligatory. This is approached by both Branigan & MacKenzie (2001) and Bruening (2001:V.7) from the standpoint of phase theory and its PIC. There is no successive-cyclic movement -- no cross-clausal movement -- of any kind in Tsez, although there is CCA. This section briefly reviews the way successive-cyclic movement works for Branigan & MacKenzie and for Bruening, and shows that the latter's theory, which relies elegantly on economy, accounts for the facts under the present approach as well. The impossibility of SCM in Tsez follows from a single assumption about the properties of its v .

In both Innu-aimûn and Passamaquoddy, CCA is required of an SCMin *wh*-word which is a potential ϕ -agreement controller (subject or primary object of its thematic clause) in every clause it passes through, including its starting and final one (B&M:402, B:268, 304-5). This contrasts with the *wh*-words of embedded questions, which allow but do not require CCA ((228)c, ex. (227)d). The latter follows because the structure of the left periphery in Algonquian is approximately (245); if [Spec, TopP] is filled (covertly or overtly) it is the controller, if subject or object, otherwise the *wh*-word is reached, and finally the default ϕ -features of C.

- (245) [_{TopP} topic Top⁰ [_{CP} *wh*-word C⁰_{3.sg} [_{TP} ...]]]

This does not explain the obligatory CCA of SCMin *wh*-words:

- (246) Auen₁ tshit-itenim-âu/*en [_{CP} *t*₁' C_{3.sg} [_{TP} *t*₁ aimi-epan Mânîua]]?
 who 2-think-3/*TI called-3 Marie
 Who do you think called Marie? (Branigan & MacKenzie 2001:402)

Bruening (2001:305) proposes an elegant explanation of the requirement for CCA of SCMin *wh*-words.²²² Fox (1999, 2000) empirically establishes that *wh* SCM passes through [Spec, *v*P] of at least transitive *v*'s. In the MI/DPB system, movement to [Spec, *v*P] is required because of the PIC, since *v*P is a phase, and if a *wh*-word did not move to its edge it would not be visible to a higher C. However, this requirement must be implemented by means of some \bar{A} -feature (MI:109, 128, 149n91). To enable SCM out of a complement clause therefore, a matrix *v* must also have an \bar{A} -feature; if it also engages in CCA, it must have ϕ -features. Bruening's proposal is then simply that a single instance of Agree is more economical than two:

$$(247) \quad [__ C_Q \dots [\boxed{XP_1 \ v_{[\phi-, \bar{A}-]}} \dots [CP \dots t_1 \dots]]]$$

Suppose that the matrix *v*'s \bar{A} -probe finds and moves a *wh*-phrase to [Spec, *v*P]. The goal of CCA is always on the left periphery of the CP, and therefore it always has \bar{A} -features of its own to have gotten to that position (3.6); thus it will always be a potential match for *v*'s SCM \bar{A} -feature. Since *v* is engaging in an Agree relation with the *wh*-word, economy would be expected to require *v*'s ϕ -features to Agree as well. Suppose, alternatively, that *v*'s ϕ -probe "goes first". It identifies a goal at the left periphery of the CP, following CCA locality. Since *v* also has an \bar{A} -feature to allow SCM, the goal will also check it and move to [Spec, *v*P].²²³ If the goal of *v*'s ϕ -features is not a *wh*-phrase in the configuration in (247), the derivation will crash because *v* provides a movement position only to enable SCM; the matrix C_Q will try to enter into a relation with XP_1 in [Spec, *v*P] and fail. Thus, whichever probe on *v* goes first, economy will require that the other probe be checked, and convergence ensure that it is in fact a *wh*-word that is moved to [Spec, *v*P].

This is a rather explanatory account of the SCM→CCA implicature. The only slight addition that might be proposed is to identify the specific economy condition responsible as the free rider principle discussed here in chapter IV.

²²² Branigan & MacKenzie (2001) do not directly address obligatoriness of CCA in SCM contexts, though it would presumably follow from altruism, combined with the idea that CCA is an \bar{A} -sensitive ϕ -Agree (contra the Fundamental CCA Hypothesis; see 3.6).

²²³ Recall that in Passamaquoddy *v*-CCA cannot be followed by CR, so *v*'s ϕ -probe cannot by itself move its goal to [Spec, *v*P].

Bruening's account actually permits an exception. Suppose that the *wh* goal of *v*'s \bar{A} -feature did not have accessible ϕ -features; recall that only subject and primary object have ϕ -features visible to ϕ -Agree in Algonquian. The *wh*-word then cannot check *v*'s ϕ -features, and its ϕ -probe free to seek another goal. That is correct; *wh*-words without ϕ -features permit CCA with another controller in the host clause (B:306):

- (248) *Tân eshpish*₁ [*t*₁ *tshe-mishikât* Mânî] *tshit-itenim-âu/*en?*
 when FUT-arrive Marie 2-think-3
 When do you think Marie will arrive? (Branigan & MacKenzie 2001:402n17)

However, that is not the end of the story; Branigan & MacKenzie (2001:402n17) observe that not only is CCA with another controller allowed under those conditions, it is in fact required, (248). I have nothing good to offer on this point.²²⁴

In Tsez, Polinsky & Potsdam (2001) demonstrate that movement out of a clause of any kind is impossible whether or not CCA in the matrix clause takes place.²²⁵

- (249) **šebi eni-r r-iyxo [c'ohorā rok'āk'-ru-ĥi]*
 what.IV.A mother-D IV-know thief-E steal-PST.PRT-NMLZ.IV
 What did the mother know that the thief stole? (Polinsky & Potsdam 2001:603)

There is a trivial parameter that would account for this. As noted in MI:128, 149n91, the \bar{A} -features that enforce SCM must not be of the same kind as the criterial \bar{A} -features, whose checking with a goal freezes it (chapter I). However it is implemented, the lack of SCM \bar{A} -features on *v*, perhaps their lack in general, accounts for the properties of Tsez. Tsez *v*-CCA

²²⁴ Branigan & MacKenzie (2001:402n17) suggest it is due to Richard's (1997, 1999) Principle of Minimal Compliance. I wish there were a more "local" reason. It seems as though movement of *tân eshpish* 'when' through [Spec, CP] of its clause (or its base-generation there?) requires the activation of Top⁰, but I do not understand the reasons. To eliminate some potential reasons, recall that embedded questions with a *wh*-word in [Spec, CP] do not require CCA, with the *wh*-word or with any other element ((227)a). A possibility to investigate is that it is the very property that allows C to project a position for the SCM of 'when' that entails projection of TopP: e.g., the intermediate landing-site of SCM are either versions of [Spec, TopP] as a "default" \bar{A} -position (cp. Rizzi forthcoming, 2004 on topics), or the landing-site is above TopP and requires its projection.

²²⁵ They do not investigate CCA/ \bar{A} SCM interaction; I fill in some of the morphological glosses from the rest of their paper, esp. p. 629n17.

cannot be followed by CR (3.5.2); and since v has no SCM \bar{A} -features either, there is simply no way a goal can leave its clause.²²⁶

Algonquian and Tsez differ in another respect. In the former, successive-cyclic CCA is allowed, while in the latter it is blocked.²²⁷ Polinsky & Potsdam (2001:617-8) account for the latter in what is surely the correct way:

(250) clause 1 - clause 2 - clause 3

CCA of a controller from clause 3 in clause 1 would require some representation of the controller in clause 2 which could move to its left periphery and feed CCA in clause 1. Since CCA in Tsez does not lead to CR, and there is no successive-cyclic \bar{A} -movement, such a representation of the controller in clause 2 is not possible. In Algonquian, by contrast, there is successive-cyclic \bar{A} -movement, covert or overt. Though only investigated in detail for *wh*-movement as discussed above, as in English it presumably applies to e.g. topicalization. Such an \bar{A} -movement suffices to bring the controller from clause 3 to clause 2, where it can again raise to the edge of clause 2 by \bar{A} -movement (successive-cyclic or criterial). Since SCM \bar{A} -movement requires CCA, clause 2 will have CCA if clause 1 does.²²⁸ The availability of successive-cyclic \bar{A} -movement and successive-cyclic CCA are then closely linked. Where v -CCA exists, it always tracks \bar{A} -SCM, and \bar{A} -SCM is in turn required to feed CCA across a clause as in (250).

The goal of the preceding subsections has been to show that the locality of CCA/ \bar{A} -interaction has nothing to do with phases; that it can, with advantage, be interpreted as the ϕ -locality of Agree. The status of phases remains the same as in MI: they stipulated for the \bar{A} -SCM. I do not explore this stipulation (see Abels 2003:II). This subsection merely shows that

²²⁶ There is no data on whether T-CR, which would have the look of *tough*-movement in English, is allowed in Tsez; our system allows for it, depending on whether (i) there are verbs with no arguments that (ii) select complements with an appropriate left periphery to allow CCA.

²²⁷ The issue of successive-cyclic CCA in Algonquian is discussed in Branigan & MacKenzie (2001:402), who state it exists and requires CCA on every intervening clause, and Bruening (2001:306) who says he has no data on the point. For Tsez, see in detail Polinsky & Potsdam (2001:617-8). SCM v -CCA requires intermediate clauses to have CCA in Kipsigis (Massam 1985:150f.).

²²⁸ There is a prediction: clause 2 must contain some representation of the controller, not merely v 's ϕ -Agree with it. However, this representation may be covert if there is covert \bar{A} -movement rather than just \bar{A} -Agree; see Nissenbaum (2001), Pesetsky (2000), Chomsky (forthcoming).

\bar{A} -SCM and CCA are tied in the way they empirically are through a simple economy principle, tying up a potentially loose end of the data.²²⁹

3.6 Active Goal Hypothesis, ϕ -uniformity, and ϕ -entailment

In Tsez, Algonquian, and English *tough*-movement, \bar{A} -movement in the host clause feeds CCA. I have attributed this to the need to bypass the ϕ -features of the host clause's complementizer head, deriving the role of \bar{A} -movement in creating a local relationship for matrix clause CCA. Branigan & MacKenzie (2001) also make use of \bar{A} -movement for another purpose: to obviate the Active Goal Hypothesis of MI, which blocks ϕ -Agree with a goal for those features that have previously entered into ϕ -Agree (chapters I, II, III). In all cases of CCA, the controller has entered into ϕ -Agree and had Case assigned in the lower clause.²³⁰ Branigan & MacKenzie (2001) develop beacon theory to explain this:²³¹

- (251) BEACON THEORY: a goal with deleted Case features is visible to CCA because it has a feature of the \bar{A} -system which enters into checking at the left periphery of the host clause; ϕ -Agree is made possible by any active feature, not just unvalued Case.

²²⁹ There are interesting questions raised here by Peter Svenonius (p.c.) that I have not had the chance to investigate yet. One is happens when the matrix clause has a DP object for ϕ -Agree of its own, say in (i) for which the Algonquian analogue should clear up the empirical question. The theoretical answer options rely on the order that the ϕ/\bar{A} -features of matrix v probe in. The other is whether CCA with SCMining *wh*-words is universally required, and should show up e.g. in Basque; while the answer to that remains unclear, if CCA does not show up, a difference between the two languages in the landing site of the SCMining *wh*-word with respect to the C of the embedded clause (with ϕ -features to act as a goal of the matrix probe) would have to be posited.

(i) Who did you tell Iona that Azenor saw.

²³⁰ This is absolutely clear: there is full regular ϕ -agreement in all cases of CCA, and English, Tsez, and Turkish also morphologically reflect Case assignment to the controller.

²³¹ Bruening (2001:286-7) has a slightly different system. A goal has Case features in its clause which are checked under ϕ -Agree by its local v and T. \bar{A} -movement moves a goal from to the edge of its CP phase. In phase theory, the Case feature though checked is not deleted until the next higher phase, which is the matrix vP phase. Therefore, from the perspective of matrix v a goal still has a checked but undeleted Case feature when in [Spec, CP] of v 's complement, the edge of the next lower phase. v can thus Agree with the goal. The Case feature is deleted once [Spec, CP] is spelled out at the vP phase level. This predicts that the goal cannot undergo ϕ -Agree by any ϕ -probe higher than the matrix v . Successive-cyclic CCA should therefore be impossible: once a goal moves any farther than the edge of its CP phase, its Case features are deleted. Explicitly, this is Bruening's account of the improper movement generalization and a crucial part therefore of his explanation of the limited avoidance of AGH. However, as discussed in 3.5.5, successive-cyclic CCA does exist, e.g. in Innu-aimûn and Kipsigis. In the text I concentrate on Branigan & MacKenzie's system which does not have this problem, and in a way gets more directly to the heart of the matter -- the role of \bar{A} -movement in AGH avoidance. The problems with their approach hold for Bruening's.

A potential internal problem with the theory is how the \bar{A} -feature on the controller could remain visible to the matrix v if checked in the lower clause. Presumably, this is the case because the edge of a phase is spelled-out with the next higher phase, so [Spec, CP] is spelled out only after v probes (cp. Bruening 2001).

The particular force of the beacon theory may be appreciated in the following quote:

By this point there can be little doubt that the CCA agreement patterns in Innu-aimûn belong in the \bar{A} -system, where we must posit an O-feature beacon that is checked by a higher verb. The more familiar Case/agreement checking operation plays no part in CCA. (Branigan & MacKenzie 2001:404-5)

The statement is made in the context of the observation that while CCA is optional, v -agreement with a matrix object is obligatory (cp. (168)), and of the altruism hypothesis where it is supposed that matrix ϕ -agreement licenses a particular type of \bar{A} -movement in the host clause. The previous sections have reduced both aspects of Algonquian CCA to simply ϕ -locality. However, the obviation of AGH remains an unsolved problem, and it is worth considering whether it could be \bar{A} -beacons that obviate it.

However, \bar{A} -beacons cannot possibly be held to account for CCA in English and Turkish where \bar{A} -movement is not involved. I repeat some examples here (cp. (137)):

(136)

- a There looks as if there is a problem with this analysis. (Groat 1997:122)
- b There **look**/***looks** as if there **are** problems with this analysis. (Groat 1997:122)
- c Why do/*does there look as if there are problems with this analysis

A non- \bar{A} answer to the AGH should be sought.

An alternative would be to simply reject the AGH. In fact, while it is fully convincing that the AGH applies in the \bar{A} -system because once an \bar{A} -phrase lands in a criterial position it cannot move to another one, (252)a (chapter I, Rizzi 2004), the motivation for goal deactivation by Case assignment consider in MI are of the sort in (252)b (cp. MI:128-9). However, in the system developed here such constructions are impossible because of the ϕ -features of the intervening complementizer, *that* and its null counterpart. When a complementizer without ϕ -features is

used as in (252)c, ϕ -Agree is in fact not blocked across it; the overt pronoun – trace difference between (252)b and (252)c is due to the independent properties of Δ (see 3.4.6). So it might be worth simply giving up the AGH for the ϕ /Case system, either entirely, or in a limited fashion along the lines of Carstens (2001).

(252)

- a *Who did you wonder *t* Kate saw *t*?
- b Kate₁ seems (that) *t*₁ arrived late.
- c Kate₁ seems like she₁ arrived late.

However, chapter II demonstrates that AGH does in fact hold, to a surprising extent. In Basque, ν may partially Agree with the external argument under certain circumstances, and T is then blocked from Agreeing with it for exactly those features. Chapter V takes up this gauntlet, attempting to derive AGH in general. I will therefore assume that it holds for the ϕ /Case system.

I will therefore suggest a different approach to (136) that respects the AGH. Under CCA in English, matrix T must have the same ϕ -features as the host clause's ϕ -features. Suppose therefore that in English CCA, ϕ -Agree were not taking place with the embedded controller, but with the valued ϕ -features of T. This is an unorthodox move, and must be a tentative one. The thesis under consideration is the following:

- (253) ϕ -UNIFORMITY: valued ϕ -features are visible to Agree, whether they are valued lexically ("inherent") or valued by a previous Agree operation.

The questions that arise I will take in the following order: (i) how can the uninterpretable ϕ -features of T be visible; (ii) how does this interact with the AGH; (iii) how can this work for ϕ -Agree with an \bar{A} -goal.²³²

²³² The visibility of valued ϕ -features to ϕ -probes does not seem to cause problems clause-internally. By Burzio's Generalization (Burzio 1986, Laka 2000), ϕ -features on T generally require the projection of [Spec, ν P], which blocks access to the valued ϕ -features of ν as discussed above. If Burzio's Generalization could be suspended, there would be cases where ν Agrees with a VP-internal DP, T then Agrees with ν , and there is no external argument. Such a structure would have both T and ν ϕ -agreement with the same argument; what Case it receives depends on the morphological spell-out of multiple Case shells (chapter V). As a general principle, identity of ϕ -features on T and ν up to indices might involve their collapse in the composite verbal head created by head movement and spell-

Within phase theory where deletion of valued ϕ -features is a cyclic phenomenon, they should be accessible to a higher ϕ -probe if it is in the same (strong) phase. This is so in all the CCA configurations: in no case does a CP or transitive ν P intervene between the ϕ -probe and the goal. An alternative plausible assumption is that valued ϕ -features simply do not delete by Agree. They delete by the same process as the plural of *scissors* at LF, what I have called autonomous deletion (chapter I, IV). Nothing within the MI framework assumed changes under this assumption: Agree is triggered by unvalued ϕ -features, and sees valued ones. The idea that Agree may see Agree-valued ϕ -features embodied in (253) is the default hypothesis (DBP:5, Epstein & Seely 2002). To distinguish lexically and Agree-valued ϕ -features for a higher ϕ -Agree, a diacritic such as [checked] would be required.²³³

The idea that a higher ϕ -probe can access the valued ϕ -features of T immediately runs into its own problems with the AGH. Recall briefly the situation in Basque ergative displacement in chapter II: when ν Agrees with its external argument for person (π), T cannot, but it can still Agree for number ($\#$), for which ν has not Agreed (AGH-invisible features at the ν P stage boxed):

(254)	T		EA		ν		IA
	π -	\neq	$\boxed{\pi}$	\leftrightarrow	π^*		--
	$\#$ -	\leftrightarrow	$\#$		$\#^*$	\leftrightarrow	$\boxed{\#}$

The matrix person probe cannot Agree with the person feature of the external argument because ν has Agreed with it. The correct results follow only if T cannot Agree with the EA-valued person probe of ν . In chapter V I show that this follows because there is asymmetric c-command between the (label of) the specifier and the ν head of its sister, which contains valued ϕ -features only in its lowest occurrence if there are labels/projections at all (see 3.4.7 and Béjar

out as a single set (Béjar & Rezac 2004). This is a possible structure of reflexive formations in languages like Basque which take the form of simple intransitives.

²³³ It is not clear to me what is assumed in MI and DBP. The most relevant discussion is in DBP:18f., where a higher fully specified ϕ -probe by-passes the Agree-valued features of a participle, but because the participle lacks a person feature and therefore does offer a full match for Agree, not because Agree-valued ϕ -features inherently could not. In fact the ϕ -probe of T/ ν stops at the participle because of its partial ϕ -features, valued, and this match results in T/ ν valuing the Case feature of the participle. Further, DBP's discussion of the fact that the participle is not an intervener for a higher probe because it lacks person and the higher person probe passes through it implies that it would be an intervener otherwise, hence that its valued ϕ -features would be visible to a higher probe. Cp. also Epstein & Seely (2002:73-4) for this interpretation.

2003:IV, Abels 2003:II; also chapter I). By the same token, [Spec, TP] should always block Agree with the valued ϕ -features of T.

A solution to this problem comes from Rizzi's (1997) expansion of the left periphery. Suppose an agreeing T^0 is always selected by a higher Fin^0 . Fin^0 independently has a ϕ -probe, as discussed below. This ϕ -probe cannot itself bypass [Spec, TP] to reach the valued ϕ -features of T, and it cannot Agree with [Spec, TP] by the Active Goal Hypothesis. However, a selectional relation holds between Fin^0 and T^0 , which following Collins (2002) I assume is a relationship between a formal feature, implemented as a probe on Fin^0 for the category T (cp. Rezac, forthcoming b). This probe must see the head/label of the TP, T, otherwise selection never works; a straightforward and default assumption is that the interpretable features of a category are present on all its labels/projections, unlike Agree-valued probes which are only present on the label/projection where they probe. Since this Fin^0 - T^0 relation exists, ϕ -features should be transmitted by it as free riders (chapter IV) or alternatively by T-to-C movement (cp. chapter II). Thus H_1 - H_2 selection is an escape hatch for the ϕ -locality effect whereby features of [Spec, H_2 P] normally c-command the features of H_2 .

The idea that a head may Agree with the valued ϕ -features of another head provides a natural solution to another phenomenon. It is widely observed that the ϕ -features of C, specifically of Fin^0 in Rizzi's (1997) expansion, and of T^0 are shared; see particularly Rizzi (1990a, 1991, 1997), Shlonsky (1992), DBP:8f., Carstens (2003), Davis (1999), Sichel (2001:V), Poletto (2000). This is manifested C-T ϕ -feature sharing in e.g. West Flemish, (255).²³⁴

- (255) Kpeinzen [dan-k (ik) morgen goan].
 think-1.SG that-1.SG (I) tomorrow go-1.SG
 I think that I'll go tomorrow. (Carstens 2003:393, from Haegeman 1992)

The very fact of Fin^0 agreement for ϕ -features of subjects is a problem for the AGH. Carstens (2003) is a recent study, with an insightful explanation about when Fin^0 ϕ -agreement is and is not allowed in the Germanic dialects, and she relies on a ϕ -probe in Fin^0 . However, while

²³⁴ In Massachusetts English (Kimball & Aissen 1971, Kayne 1989c, 1995), *wh*-phrases control ϕ -agreement on the verb in place of the subject if the exist; this is also suggestive. See below on Kilega.

(i) The people who Clark/*he think are in the garden. (Den Dikken 2001:20)

she argues that Fin^0 -Agree with the subject is allowed since AGH does not apply because both are in the same phase, her account can be equivalently restated in terms of the $\text{Fin}^0\text{-T}^0$ ϕ -Agree as discussed above. If this is correct, what could be going on in CCA is ϕ -Agree with the features of Fin^0 , themselves valued from the Agree-valued ϕ -features of its T complement.²³⁵

A related example that makes a similar point is raised in Carstens (2001). All the auxiliaries in a Bantu compound tenses share the same person, number, and noun-class/gender agreement. Carstens points out that this is a grave problem for the Active Goal Hypothesis; and the ϕ -agreement features of each auxiliary are not partial, as are participle agreement features in DBP:18f., so the lowest instance of auxiliary-subject Agree should assign Case.

(256)

- a (Mimi) ni-li-kuwa ni-ngali ni-ki-fanya kazi.
 (I) 1.SG-PST-be 1.SG-still 1.SG-PRF-do IX.work
 I was still working. (Carstens 2001:150)
- b ku-li-kuwa ku-me-nyesha mvua
 XVII-PST-be XVII-PRF-rain IX.rain
 It had rained. (Carstens 2001:150)

The ϕ -uniformity hypothesis provides a direct explanation without weakening the AGH, simply by the removal of a stipulation: each auxiliary is agreeing with the one below it, save for the lowest which has agreed with the subject.

Finally, consider how it is possible for the \bar{A} -system to feed CCA by moving the controller past the head in the C-system which has inherent default clausal ϕ -features. The \bar{A} -phrase has already entered into ϕ -Agree in the host clause. Therefore, \bar{A} -positioned controllers should also not be visible to matrix ϕ -Agree by the AGH. However, here there is an apparent difference from subjects, which ϕ -Agree with T: *wh*-words and topics apparently do not ϕ -Agree with their left-peripheral head (C^0 , Top^0), so even that potential goal for a matrix ϕ -probe is gone.

²³⁵ Section 3.5 identified a head in the CP layer which may bear lexically-valued default ϕ -features, such as English *that*, so that \bar{A} -movement is required to move past it to allow for CCA. This head is presumably a higher head in the left periphery in some cases, most likely the Force^0 ; in others, it may be Fin^0 that has not agreed with T^0 . An interesting case in this respect is the Squamish group, where the C-system clearly has a ϕ -set of its own, which in some languages is 3rd.sg. (default) when the T-system Agrees, in others copies the ϕ -values of the T-system: see Davis (1999, 2000), Sichel (2001:V) for discussion.

However, appearances can be deceiving. In 3.4, a theory of movement as Agree and Merge was developed where φ -Agree is the index transmission mechanism, essential to the movement process. If it is to work for \bar{A} -movement, the latter had better involve φ -features (or at any rate, the index feature). This is trivially implemented, if the free rider hypothesis is correct: the relevant \bar{A} -head always has an [ix-] probe, which gets valued as a free rider from any DP that enters into \bar{A} -Agree with an \bar{A} -feature of that head. This can be generalized to φ -features. \bar{A} -phrases undergo Agree for some \bar{A} -feature with an appropriate head in the CP-layer, such as Top^0 .²³⁶ Suppose then the following principle, which should ideally follow from a better understanding of the organization of formal features, e.g. from an entailment relation in the sense of Béjar (2003) between \bar{A} and φ -features:

- (257) φ ENTAILMENT PRINCIPLE: \bar{A} -Agree always implies φ -Agree for a φ -probe (including [ix-]) probe on the \bar{A} -head by the free rider principle.

Then CCA with a controller which becomes accessible to a matrix φ -probe by \bar{A} -movement is in fact φ -Agree with the corresponding \bar{A} -head in the host clause's CP-layer: CCA is not with [Spec, TopP] but with Top^0 , not with the *wh*-phrase in [Spec, IntP/CP] but with Int^0/C^0 itself.²³⁷ The conclusion would now be fully general:

- (258) AGH and CCA: CCA never involves φ -Agree with a controller α , in violation of AGH; it involves φ -Agree with the valued φ -features of a clausal head H valued from α , or a higher head H' that has itself φ -Agreed with H.

This hypothesis follows from the assumption that Agree-valued φ -features remain represented (at least) until the CCA φ -probe comes along, and that \bar{A} -Agree involves φ -features.

²³⁶ As noted for Tsez and Algonquian, the \bar{A} -movement which feeds CCA can always be covert (English null operators are not enlightening here), unless other properties force it to be overt, e.g. scope taking for *wh*-words in Algonquian but not in Tsez; in some or all cases, it might be supposed only \bar{A} -Agree is taking place.

²³⁷ In this case [Spec, HP] does not block φ -Agree with H, unlike in the case of [Spec, T/vP] with T/v. However, this follows from the \bar{A} -opacity phenomenon discussed and derived in chapter V: an XP that undergoes \bar{A} -Agree has an \bar{A} -shell, by which the φ -layer that implements AGH no longer c-commands outside of the XP, and the XP does not intervene for φ -Agree.

There is evidence for the hypothesis that \bar{A} -Agree entails ϕ -Agree, from the fact that ϕ -agreement separate from subject agreement sometimes shows up \bar{A} -phrases. Consider the situation in Kilega (Bantu, Congo; Kinyalolo 1991). The verb, which raises to C^0/Fin^0 , registers two separate sets of ϕ -features: one with the subject, and one with a *wh*-phrase. This is shown in (259)a. There are various restrictions: when a subject is not a pronoun only *wh*-agreement remains (cp. Den Dikken 2001:20-1 and cp. note 234), (259)b, and so also the *wh*-word is itself the subject, (259)c (Carstens 2003:407-8).²³⁸ However, these do not change the basic observation, that ϕ -features of its \bar{A} -goal are tracked by C in this language, separately from the ϕ -features of T which track its subject.

(259)

- a Bíkí bi-b-á-kás-íl-é *pro* mwámi?
VIII.what VIII.CA-II.SA-ASP-give-ASP-FV II.they I.chief
 What did they (those women) give the chief? (Den Dikken 2001:20)
- b Bíkí bi-(*b)-á-kás-íl-é bábo bíkulu mwámi?
VIII.what VIII.CA-(II.SA-)ASP-give-ASP-FV II.that II.woman I.chief
 What did those women give the chief? (Den Dikken 2001:20)
- c Nází ú-(*á)-ku-kít-ag-a búbo?
I.who I.CA-(I.CA)-PRG-do-HAB-FV XIV.that
 Who (usually) does that? (Carstens 2001:408)

There are two related questions about \bar{A}/ϕ -agreement. The first is how is it possible for a head of the \bar{A} -system to ϕ -Agree with a DP that has itself undergone its own ϕ -Agree, e.g. the object with ν , and should be inaccessible to further ϕ -Agree by AGH. However, AGH blocks a ϕ -probe, as the logic of its explanation in chapter V makes clear. The \bar{A} -probe bypasses the Case layer that creates the AGH because there is no \bar{A} -intervener in it, and finds directly its matching \bar{A} feature (say, in the extended D-system). The \bar{A} -probe thus reaches far enough inside a goal to see its ϕ -features, and the ϕ -probe of its target is valued from them by the free rider principle. The logic that derives AGH in chapter V also predicts that Case should not intervene for \bar{A} -probes, and that in turn lets them feed ϕ -Agree of the same head.

²³⁸ Possibly the same generalization if *wh*-words are not pronouns in the relevant sense.

know-INF R do-you wh from wh place R came-he
 Do you know from what place he came?

This brings me to the final point, for which I have no good answer. The mechanism developed for the interpretation of moved constituents in their movement-derived position in 3.4 relies crucially on Agree for a referential index. This is always fine for DPs, whether they are A or \bar{A} -moved, since either ϕ -Agree or ϕ -probe ([ix-] probe) valuation by the free rider principle provides the index to the head of the moved (that is, Merged) constituent's sister. However, that logic does not transfer without stipulations to the movement of non-DPs: VP fronting, PP fronting, CP fronting, etc.:

(262)

- a [See Mary], John did *t*.
- b [That John saw Mary], I know *t*.
- c [On which shelves] did Kate put the books *t*?

If these constituents lack the "referential" index transmissible by [ix-] Agree, as expletives do, they should not be interpretable in their derived positions. Curiously, this prediction makes a lot of headway: fronted predicates indeed must fully reconstruct, so there is correctly no interpreting them in a derived position (Heycock 1995). However, prima-facie facts suggest that interpretation in a derived position is available for PPs whose DP cannot Agree (cp. also Nevins & Anand 2003, who show that quantifiers in PPs fronted to an A-position as in Stylistic Inversion in fact cannot reconstruct, as well as Cecchetto 2001):

(263)

- a [To which question that his_i teacher_j assigned] did every student_i think ____ she_j wanted him to respond * incorrectly?
- b *[To which question that his_i teacher_j assigned] did she_j think * every student_i wanted to respond * incorrectly?

I think there is a contrast between these two examples, and if it is to be explained in the manner copy-theoretic analyses like Fox (1999, 2000) explain such contrast, there is an intermediate reconstruction site in the former but not the latter example. In that site the copy can be interpreted with the bound-variable reading and no Condition C violation.

So it seems that PPs must be interpretable in movement-derived positions, all the while the DP within the PP is opaque, as argued in chapter V from its inaccessibility to ϕ -Agree, and by Abels (2003) to \bar{A} -Agree (preposition stranding). A trivial stipulation is possible, which assigns such PPs an index. This is perhaps less unmotivated than it seems at first glance, if the possession of a referential index has to do with argumenthood (Rizzi 1990a), but I have nothing to contribute to the matter here.

I explored in this section the possible solutions to the violation of AGH by CCA. The hypothesis that ϕ -Agree can see valued ϕ -features is attractive from the conceptual standpoint. Why should it not, if they are still there? There is no other theory of AGH obviation which covers the facts; the beacon theory in particular cannot handle CCA without \bar{A} -movement of the controller. Some aspects of the solution seem relatively well supported: primarily, the role of ϕ -features in \bar{A} -Agree, which is independently useful to implement the CTM, and the role of C-T ϕ -Agree. Both have fairly strong empirical support. Other aspects are at this point explorations on the technical side of AGH system of chapter V, suggestive, but tentative.

3.7 Conclusion

Here is a brief summary of the results reached in this chapter. The first line of investigation focused on the relationship between Agree and Merge, which is posited by the compositional theory of movement. The principal data-set has been copy-raising constructions, which give a unique window on this relation because the structural distance between the non-thematic subject and the goal of Agree evades constraints imposed by the copy-deletion and the binding theory so that the goal is an overt pronoun. Their investigation leads to the conclusion that the interpretation of non-thematic DPs by predication uses ϕ -Agree to provide the index of the predicate variable. The crucial assumption is that the variable index for the LF variable assignment function is given by Agree, arguably because it is a ϕ -feature. The interaction

between Agree and Merge is governed by the Match Condition, which forces use of the index given by Agree if a DP Merges in a non-thematic [Spec, HP] of an agreeing head H. It is the index of the subject which triggers Predicate Abstraction, yielding on the one hand obligatory linking of the subject to the Agree-identified predicate variable, and on the other hand the free interpretation of broad subjects if H has not Agreed with anything.

(210) Elements of movement and CR

- a Agree, Merge, (pied-piping).
- c (196) MATCH CONDITION: if $\text{Merge}(\alpha, \beta)$, then for any formal feature F, the value of F on the label of α and the label of β do not differ. b (178) FULL INTERPRETATION (sub-case): a TP-internal DP must receive interpretation either by predication or the theta system.
- d (197) Predicate Abstraction Rule (PA): Let α be a tree dominating two sub-trees, β and γ , such that β has an index feature $[\text{ix}=i]$; then for any variable assignment σ , $[[\alpha]]^{\sigma} = \lambda x \in D_{\langle \text{type}(\alpha) \rangle} [[\gamma]]^{\sigma[x/i](\beta)}$
- e Interpretation (Trace Conversion, Functional Application, ...).
- f Δ : Obligatory deletion of α under c-command by a higher α' within the obviation domains of α , provided α' and α are identical for content and index; Δ removes α' for PF and Conditions B/C.

The second half of this chapter investigated the mechanics of ϕ -Agree in copy-raising and cross-clausal agreement constructions. I have tried to reduce them to the elementary locality properties of Agree and properties of the left periphery of host clauses. To the extent the reduction is successful, there are no special properties of cross-clausal agreement. It is regular ϕ -Agree, which targets not the impossible phrasal goal deactivated by AGH, but rather the ϕ -features of clausal heads valued by it. The system relies on the following ideas:

- (157) FUNDAMENTAL CCA HYPOTHESIS: CCA is just ϕ -Agree, with its property of ϕ -locality.
- (253) ϕ -uniformity: valued ϕ -features are visible to Agree, whether they are valued lexically ("inherent") or valued by a previous Agree operation.

- (257) ϕ ENTAILMENT PRINCIPLE: \bar{A} -Agree always implies ϕ -Agree for a ϕ -probe (including [ix-]) probe on the \bar{A} -head by the free rider principle.

The result is a theory of Agree-Merge interaction with better empirical coverage and yet less stipulation than any preceding system. It unites a fully compositional theory of movement, copy-raising, broad subject constructions, and *tough*-movement, not reducing any of these to the other. The interaction of its components gives them each their correct properties, and predicts their distinctive distribution.

4 Chapter IV: The ontology of Agree – Weak and strong agreement

How long did the Monk believe these things?

Well, as far as the Monk was concerned, forever. The faith which moves mountains, or at least believes them against all the available evidence to be pink, was a solid and abiding faith, a great rock against which the world could hurl whatever it would, yet it would not be shaken. In practice, the horse knew, twenty-four hours was usually about its lot.

If he elected not to go and see The Door for himself, then he could continue to believe in it forever. If on the other hand he went to pay his respects to the Door and it wasn't there... what then?

The Door would still be there, even if the door was not.

The Door would be there, and he must now go to it, because The Door was The Way.

The Door was there.

The horse, it must be said, was quite surprised.

-abridged from Douglas Adams, *Dirk Gently's Holistic Detective Agency*, William Heineman, 1987.

4.1 Introduction: ϕ -Agree and varieties of ϕ -agreement

4.1.1 The question of ontology

This chapter is an inquiry into the ONTOLOGY of ϕ -Agree: what kind of a creature it is in relation to the primitive elements that enter into syntax. The basic premise of the Agree stance of chapter I is that (a class of) syntactic dependencies are created by the operation AGREE between a property called PROBE on a TARGET and a matching CONTROLLER on a GOAL in the target's search-space. The relation of a target to a probe, and of a controller to a goal, is that of a phrase-structural object to one of its properties:

$$(264) \quad \left[\begin{array}{c} \alpha \\ \text{=target} \end{array} \dots [F_n = \text{probe}], \dots \right] \quad \dots \quad \left[\begin{array}{c} \beta \\ \text{=controller} \end{array} \dots [F_n' = \text{goal}] \dots \right] \quad \text{AGREE}$$

The inquiry into the ontology of Agree is an inquiry precisely into the nature of this relation between phrase-structural atoms and the probe/controller atoms that enter into Agree.

We can get a feeling for this by briefly considering several proposals. In MI:IV and Chomsky (1998), Attract between a target and a goal results in checking the uninterpretable subatomic properties on the target, features, under identity with a local representation of the interpretable features of the goal. The local relation is the target's checking domain. Thus, an Attract-dependency always involves a representation of the interpretable controller near the

target (movement). These interpretable features should be visible for any syntactic and LF operations or principles that refer to them, such as Condition A if it traffics essentially in ϕ -features (section 4.5.2). Now consider two minimal variants of this picture. On one, there is no re-arrangement of phrase-structural atoms by Agree/Attract, only a valuing-cum-deletion of the probe under identity to the distant goal, as in MI. No operations/principles (such as Condition A) that apply after the deletion point should be able to see the Agreed-for features of the goal on the target. Going in the opposite direction, the entire goal (lexical item and perhaps any necessarily pied-piped material) as the minimal atom containing the controller could be represented at the target in every Agree/Attract-type dependency, including its semantic features. The probe deletes; but the goal's interpretable semantic features should be interpretable at its raised position, for example for a quantifier to take scope if that is a consequence of semantic content. In all cases, we must distinguish in the theory the independent issue of pied-piping by the controller of other material, obscure though it may the diagnostics.

To see which of these possibilities is correct, the best examples to investigate are those in which agreement on a target and the goal have different overt positions, so that true agreement may be distinguished from e.g. pronoun incorporation. Here are then some examples of the range to which the syntactic/semantic "visibility" of agreement varies, where the (approximate positions of the) target and controller are underlined:

(265)

- a *There seem to each other_i to be three dragons_i in the hunt.
- b Three dragons_i seem to each other_i to be in the hunt.
- c Hoy se_i gustan t_i Irati i Kepa_i.
 today them.SE like.3.PL Irati and Kepa
 Today Kepa and Irati like each other. (Spanish)
- d Le_i vió a Irati/*varias chicas_i.
 him-D saw to Irati/*various girls
 I saw Irati/various girls. (Basque Spanish)
- e Le_i dió sus_i regalos a Irati/varias chicas_i.
 him-D gave.1.SG his presents to Irati/various girls
 I gave Irati/various girls his presents. (Basque Spanish)

Contrasting (265)a with (265)b, we might suppose that ϕ -agreement in English, as distinct from movement of the controller, does not suffice for anaphor binding. With MI, we might conclude that there is no representation of the controller's ϕ -features at the target at all, and the valued ϕ -features on the target delete at LF, so Agree is in effect invisible except at PF. On the other hand, in Spanish ϕ -agreement apparently does suffice to bind the subject-oriented anaphor *se* in (265)c. This correlates with the widespread hypothesis that something about ϕ -agreement satisfies the EPP in Spanish but not in English: they are distinguished as STRONG AGREEMENT vs. WEAK AGREEMENT languages (Speas 1995). Contrasting (265)d and (265)e we see another kind of effect of possible agreement: clitic doubling of an animate direct object by the dative clitic in the *leísmo* dialect of Basque Spanish is restricted to DPs that are somehow "specific", while that of indirect objects by an identical clitic is not (Bleam 1999, Gutiérrez-Rexach 2000). I will refer to the former as RESTRICTIVE and the latter as UNRESTRICTIVE agreement, referring to the semantic or formal restrictions agreement imposes on the goal. The diversity of (265) suggests more than one system is at work.

The morphological realization of agreement cannot pre-determine the inquiry. Broadly we might want to put into the domain all cases where ϕ -features of a clause-internal DP are somehow represented elsewhere, speaking of these as the controller and target respectively.²³⁹ The theory will determine which of these are agreement and which of these are other phenomena such as discontinuous constituency, and whether these are even distinct. The following gives some idea of the irrelevance of exponence: the specificity effect illustrated with Spanish direct object clitic doubling is missing in direct object clitic doubling in Andean Spanish (Klee 1989), but it is found with agreement affixes, distinct from agreement clitics, in Tigre (Jake 1980), and is absent in the case of agreement affixes in Basque (Hualde & Ortiz de Urbina 2003); English ϕ -agreement is rather poorer than that of Spanish, yet Icelandic has a rich paradigm but still shows English-like behavior for Condition A; varieties of colloquial French which do not seem to materially differ in verbal agreement paradigms or the realization of subject proclitics differ in

²³⁹ From this point on, I will often use the term *controller* to refer to both the ϕ -features that control a probe -- the technical usage introduced in chapter I -- and by extension to the goal itself. In fact, the term *controller* will be used more vaguely to refer to the DP which appears to control ϕ -agreement morphology, with no a-priori commitment to the existence of an Agree relation. This should cause no confusion in general, because I will be very explicit about Agree relations as they come into focus.

whether these are restrictive, as in typical colloquial French, or not, as in Pied Noir French (Roberge 1990).

In the following subsection, I will review the various proposals for the ontology of agreement and their predictions. They cover the logical space very well. However, I first give here a brief snapshot of this chapter. Section 4.2 reviews the arguments of Lasnik (1999) and related literature that ϕ -agreement in languages such as English, French, and Icelandic has no syntactic and semantic effects beyond the Agree operation itself, fitting the MI construal as valuing-cum-deletion from a distant goal; it also does not satisfy the EPP. This contrasts with NULL SUBJECT LANGUAGES (NSLs) like Spanish and Czech, where ϕ -agreement does somehow seem to satisfy the EPP, allowing out-of-the-blue V+AGR-initial orders.²⁴⁰ The question to investigate is naturally whether this difference correlates with others, and in 4.5 I present new evidence that it does: NSLs represent the ϕ -features of the controller on the target for e.g. Condition A, (265)c.

Two lines of analysis have been proposed for this difference, reviewed in section 4.3. One pursues an ontological difference in ϕ -agreement between the two groups of languages, distinguishing weak vs. strong agreement; for example, while in weak agreement languages ϕ -agreement is just a featural relation, in strong agreement languages it involves a pronoun-like representation the controller at the target. The other, the classical GB approach, assumes that NSL orders involve a null expletive.²⁴¹ That in itself can account for EPP satisfaction, but as (265)a shows it does not explain how agreement could count for e.g. Condition A, since the expletive + agreement combination does not do so in English. The classical GB theory actually postulated a theoretical construct, an agreeing expletive. In section 4.4, I present new evidence from Czech which demonstrates that in this language strong agreement is (optionally) verbal ϕ -agreement and an agreeing phrasal expletive. Section 4.5 shows that the apparent visibility of strong agreement in NSLs for principles such as Condition A actually correlates with the presence of an agreeing expletive.

²⁴⁰ I use AGR pre-theoretically as an abbreviation for agreement.

²⁴¹ Henceforth, when I speak of an expletive, I mean an element void of theta-theoretic content. This is not to be distinguished with e.g. locative *pro*-forms. French is a good touchstone for distinguishing the two: in the following example, *il* is an expletive, while *y* is a locative *pro*-form, giving quite different options in infinitival structures, (i). English *there* on this and other tests clearly belongs with expletives rather than locatives, as in the work of e.g. Lasnik (1999), Groat (1997), Collins (1997), MP, MI, though the point is disputed, e.g. Moro (1997).

(i)

<u>Il</u>	semble/faut	[<u>y</u>	avoir	du	pain]
it/there.EXPL	seems/must	there.LOC	to.have	of.the	bread

 There seems/must be bread left.

Thus the principal conclusion of this chapter: strong agreement is not ontologically different from weak agreement; rather, it involves the same kind of ϕ -agreement as in non-NSLs, which is "doubled" by the insertion of an expletive. Section 4.6.1 shows that agreeing expletives are distinct from pronoun doubling constructions such as Spanish clitic doubling above which are instances of discontinuous constituency. Agreeing expletives positively involve the non-thematic base-generation of the expletive. Section 4.6.2 shows that the amount of ϕ -specification for expletives varies in a way that must be listed in the lexicon, and the absence of ϕ -specification on the English expletive is simply one possibility, making it inert for principles that refer to ϕ -features such as Condition A. It then argues that the insertion of an agreeing expletive follows in fact from the Match Condition established in chapter III. I summarize these results in 4.7, where I consider the implications. (i) As proposed in MI, ϕ -Agree values and deletes a probe from a controller without itself representing any part of the controller at the target. (ii) The independent possibility of non-thematic Merge allows for the insertion of expletives (phrasal or affixal/null) with a ϕ -matrix F in the context of a non-distinctly valued probe, and these satisfy the EPP. (iii) The lexically-specified ϕ -features on the expletive, not deleted by any Agree mechanism, are visible for such principles as Condition A and account for the pattern of strong agreement. No strong/weak ontological distinction exists. The implications of this for Agree are then examined.

Throughout, I restrict discussion to non-restrictive agreement. Restrictive agreement, such as is found in (265)d, involves (I hazard) a completely different system: discontinuous constituency, where the agreement (clitic) and the controller originate as parts of a larger constituent, e.g. D and DP in a bigger complex DP construction (Torrego 1988, Uriagereka 1995, Belletti 1999, Anagnostopoulou 2003:IV, Boeckx 2001a).²⁴² Restrictions follow from the formal or semantic relationship between these two parts of this larger structure. (265)e seems not to involve such restrictions, but in a more subtle way it can nevertheless be determined that it is discontinuous constituency because of properties such as WCO suspension. The reasons for the

²⁴² Not too far in this respect is Sportiche's (1996) system, where the two parts effectively get together though originating separately: D_i (clitic) as head in the clausal functional architecture, DP_i as an argument that moves overtly or at LF to [Spec, D_iP]. Formal relations between D_i and DP_i such as checking of [\pm specific] are responsible for restrictive agreement. Technically, it is not discontinuous constituency though since D_i and DP_i never form a constituent. See Anagnostopoulou (2003:213) for an important argument against this approach.

difference of (265)d and (265)e remain to be truly understood, but I do not discuss them here (see Rezac, in preparation c).

4.1.2 *The hypothesis space*

At one end of the range of possibilities, agreement could be invisible for all syntactic, LF, and semantic purposes: the INVISIBLE AGREEMENT HYPOTHESIS. This is invisibility to theta-role assignment, Conditions A/B and C of the binding theory, quantifier-variable binding, scope, etc. MI develops this system: Agree values uninterpretable features of the target, which are subsequently deleted; the interpretable features of the controller stay in-situ and are not copied elsewhere. The syntactic and LF residue of Agree is thus only feature-valuation, which makes itself felt as a pattern of feature-relativized locality and as possible PF spell-out. After uninterpretable feature deletion nothing is left at the target. Thus, no syntactic or LF condition will refer to the copy of the controller's ϕ -features on the target provided by Agree, unless in the derivational window between valuing and deletion. There will be no interpretive consequence of Agree itself.

Under this hypothesis, Agree manipulates properties of syntactic atoms rather than atoms themselves. Unlike atoms which cannot be deleted due to a general constraint on the recoverability of deletion (MP:280-1), properties of atoms are free to delete just as they are free to be modified in the first place, and structure is not affected. There are no Agree-created feature chains, since features are not atoms to enter into syntactic chains. This is the conclusion of MI:119, 147n71. Invisibility is a strong claim about the ontology of the objects that enter into ϕ -Agree and of ϕ -Agree itself.²⁴³

A partly different alternative posited within this framework for NSL agreement may be called the EXPLETIVE AGREEMENT hypothesis; it is represented by Rizzi (1982, 1986c), Burzio (1986), and Shlonsky (1987, 1990). This approach normally assumes the correctness of the invisible agreement hypothesis for the target-controller relation, but adds to it that at the position of the target, an expletive is base-generated which codes the ϕ -features of the controller as well.

²⁴³ It is not impossible to encode semantic properties in such a system; for example, [specificity] could be taken to be a ϕ -feature and the need to agree for [specificity] could entail that only [+specific] controllers may undergo ϕ -agreement, with their [+specific] interpretable feature mapping at LF to the relevant semantic property (Suñer 1988, 1991, 1992, Sportiche 1996).

The basic rationale for this move comes from two directions. First, the NSL phenomenon itself resembles overt expletive constructions of languages like English, where there is ϕ -agreement with a T'-internal controller, and the EPP is satisfied by an overt (phrasal) expletive element. The idea of the expletive agreement hypothesis is that in NSLs the EPP is also satisfied by such an expletive element, but that it is not phrasal: either an empty category licensed by some property of ϕ -agreement or one that undergoes movement to INFL to be spelled out as an agreement affix.²⁴⁴ The properties of expletive agreement are most clearly different from that of invisible agreement for narrow-syntactic principles that do not refer to ϕ -agreement as such, but to the presence of an syntactic atom at the agreement position, which the expletive is. The EPP is such a principle. However, it is also normally supposed in this approach that the expletive codes ϕ -features of the controller. Therefore principles that refer to ϕ -features should see those of the expletive until and unless they are deleted; other content of the controller should not behave as though it's at the expletive's position.

At the opposite end of the scale from invisible agreement is the EXPLETIVE REPLACEMENT hypothesis presented in Chomsky (1986a), MP:65-6, 154f.²⁴⁵ This work proposes that in English *there*-constructions, *there* is replaced at LF by its associate. Thus, *there is a dragon in the air* is at LF *a dragon is in the air*. The idea in fact does not say anything about the ontology of agreement directly, but if the expletive is literally replaced, it is equivalent to the hypothesis that ϕ -agreement with a controller copies (dislocates) the entire controller to the position of the target. The consequence is the general hypothesis that all syntactic dependencies involve movement of the entire goal, whether covert or overt, enabling the hypothesis that the Specifier-Head configuration is the only one where features are checked (e.g. Sportiche 1996 and much other work). To the extent that agreement is taken as a reflex of a (derivative) Spec-Head relation between the goal and the target, AGREEMENT REPLACEMENT is a good name for this theory: the goal is present at the position of agreement by LF. The goal should behave as if it is at the position of the target for any principles that apply "after" ϕ -Agree: quantifier-variable binding, binding theory, etc. Semantic restrictions such as specificity which agreement might

²⁴⁴ Here the approach also connected with the investigation of pronominal clitic doubling in languages like Spanish. The fundamental problem here is how to account for theta-role and Case/ ϕ -feature sharing between clitic and the doubled DP; the expletive agreement hypothesis provides the answer, by taking the clitic to be theta-theoretically empty (expletive). Borer (1983) is an example of such an approach: clitics are spell-out of Case, hence expletive.

²⁴⁵ The incorrect consequences of this were eliminated by proposing the expletive remains at LF with the associate adjoined to it, MP:154-7.

impose on its controller can use either features such as [specific] (Suñer 1988, 1991, 1992, Sportiche 1996), or more insightfully be derived from the LF position of the quantificational content of the controller in clausal partition theories (Diesing 1992, Diesing & Jelinek 1995, Heycock 1994:130).

In between the end-points of this gamut lies the hypothesis that ϕ -agreement is related to the controller in a similar way as a pronoun or demonstrative, or as a determiner, would be. This hypothesis connects with quite a different inquiry, which studies whether what surfaces as ϕ -agreement morphology may be assigned a theta-role. Rather than investigating how much of a (clause-internal) controller is represented at the position of the target, it studies configurations where there is no independent (clause-internal) overt controller. Thus while in the former inquiry the basic problem is how ϕ -agreement shares the controller's theta-role, in the latter the basic hypothesis is that there is no controller at all and theta-role is assigned directly to what is spelled out as ϕ -agreement morphology. Prominent among its articulations is the Pronominal Argument Hypothesis of Jelinek (1984) for Warlpiri, where ϕ -agreement morphology is the spell-out of X^0 heads base-generated under INFL and receiving a theta-role directly. An alternative is that agreement is base-generated as a pronoun in an argument position from which it amalgamates with INFL. The relation to INFL can be via syntactic movement, as in the traditional approach to Romance clitics (Kayne 1975, 1989b, Sportiche 1996) and explored for Breton agreement affixes by Stump (1984); or it can be by a post-syntactic process such as prosodic Merger, explored principally for Celtic agreement morphology by Pranka (1983), Doron (1988), Adger (2000), and Ackema & Neeleman (2003). A shared property of agreement systems investigated in this fashion is that ϕ -agreement morphology is not related to any overt clause-internal controller, a fact that follows from the hypothesis that agreement is a pronoun: object clitics in French, all agreement in Warlpiri, subject and object-of-preposition agreement in Irish, are examples.²⁴⁶

This cannot obviously be directly extended to agreement which tracks a distinct controller. However, the hypothesis that agreement is pronoun/determiner-like can be pursued by taking cue from the fact that while languages like French have clitic pronouns and overt DPs in

²⁴⁶ Of course, the Pronominal Argument Hypothesis can perfectly well hold just for referential *pro*-drop agreement while another agreement hypothesis, such as expletive agreement, holds for agreement with an overt controller. Thus Cardinaletti (1997a) for example argues persuasively that referential *pro* in Italian always raises to [Spec, TP], which means it is never coded by an expletive *pro*, which satisfies the EPP in [Spec, TP] for T'-internal subjects.

complementary distribution, others like Spanish use clitics both as arguments and to double clause-internal DPs: the clitic doubling phenomenon. The DISCONTINUOUS CONSTITUENT HYPOTHESIS proposes that in pronominal clitic doubling, a pronoun/D-like subconstituent of the controller moves to the target (Torrego 1988, Uriagereka 1995, Belletti 1999, and Anagnostopoulou 2003:IV). This is also a characterization of the Attract approach to agreement in MP:IV, where the formal feature bundle of the controller is copied to the target as a phrase-structural atom.

Under the discontinuous constituent hypothesis, the source of ϕ -agreement is a subconstituent of the controller. This subconstituent has its own semantics, distinct from that of the controller; most reasonably, it might be viewed as a pronoun or demonstrative, which like other pronouns enters into the binding theory, for example. The coreference and theta-role sharing of the agreement and the controller are due to their coming from a single DP. To the same cause can be attributed semantic effects of agreement on the controller, such as specificity, in the same way that functional heads of the extended DP such as *the* lead to particular interpretations of the DP, along with the options available to other approaches as discussed above. It is an interesting aspect of this approach that this type of agreement should be able to show features of the controller which are otherwise shared only by DP-internal concord, not by DP-clause accord, such as Case (Lehmann 1982, 1988, Bresnan & Mchombo 1987). I will call the most common instantiation of the discontinuous constituent hypothesis, where agreement is a pronoun/D-like element, the D-AGREEMENT hypothesis.

Of course, one agreement hypothesis not have to be correct for all Agree results, or for different agreement types of the same language, or even the sole analysis of any particular exponence; this is the AMBIGUITY HYPOTHESIS, going to Rizzi (1982:131), Burzio (1986:II), Bresnan & Mchombo (1987).

These theories of agreement make the approximate predictions shown in the following table:

(266) Possible agreement ontologies

	Invisible	Expletive Agreement	D-agreement	Replacement
At target after Agree	nothing (after Spell-Out)	expletive	pronoun/D	controller
EPP	no	yes	yes	yes
Syntactic Binding (Condition A)	no	?	yes	yes
Quantifier-variable binding	no	no	no (unless D=quantifier)	yes
Scope	no	no	no (unless D=quantifier)	yes
Agreement-correlated restrictions	featural	featural	featural; pronoun/D semantics; pronoun/D scope	featural scope
Ontology	unvalued features	unvalued features + expletive's features	subconstituent copy	full copy

This is the hypothesis space. I turn in the next section to reviewing the demonstration by Lasnik (1999) and others that the invisible agreement hypothesis is correct for languages like English, preparing the contrast with NSLs to follow.

4.2 The invisibility of ϕ -Agree in weak agreement languages

On the basis of examples like *There arrived a dragon*, **There arrived each other*, LGB:211-12, 218 concludes that neither expletives nor ϕ -agreement are visible for the binding theory, otherwise Condition C should rule out the one and Condition A rule in the other. This is too hasty a conclusion, because it limits itself to investigating binding by an expletive and agreement of its very associate (see section 4.5.2). MI returns to reaffirm the conclusion, but now on far better grounds. The conceptual change is among the most important in minimalist theorizing. In MP:IV each formal feature bundle (MP:265, 275) is a term of bare phrase structure that can move, resulting in checking (MP:269-270 for a summary). Displaced interpretable feature bundles remain at the LF interface, forming a feature chain. In MI, Agree leaves interpretable features of the controller in-situ while valuing (and deleting) the probe from them.

The empirical motivation both of MP:IV's construal and its change come from ϕ -Agree. The MP reasoning is discussed in MP:272-6. The story begins with Lasnik and Saito's (1991) arguments for covert subject-to-object raising in English ECM infinitives, because their subjects can bind into matrix adjuncts, unlike the subjects of finite clauses.²⁴⁷ MP:272 recasts this in terms of feature movement from the ECM subject to Agr_O , concluding that features can bind.

(267)

- a The DA proved [the defendants_i to be guilty] during each other's_i trials.
- b *The DA proved [that the defendants_i were guilty] during each other's_i trials.
(Lasnik and Saito 1991 in Lasnik 1999:137, 184)

Support appeared to lie in a generalization that in constructions with post-verbal subjects, PRO in an adjunct may be controlled by the nominative only if the nominative is overtly coded by ϕ -agreement, hence e.g. in English but not in French (MP:274, Cardinaletti 1997b:524-9). Examples come from expletive constructions in English and French (MP:274), German (MP:574), Norwegian and Galician (Cardinaletti 1997b), and inversion constructions in Italian, Northern Italian dialects (Paduan, Bellunese, and Friulian in Cardinaletti 1997b:528):²⁴⁸

(268)

- a There arrived three men_i (last night) without PRO_i identifying themselves_i.
- b *I met three men_i (last night) without PRO_i identifying themselves_i. (MP:274)

(269)

- a *Il est entré trois hommes_i sans PRO_i s_i'annocer. (MP:274)
Three men entered without announcing themselves.
- b *?Il est entré trois hommes_i sans PRO_i s_i'excuser. (Cardinaletti 1997b:524)

²⁴⁷ Lasnik (1999:188-9) credits Uriagereka's (1988) **There arrived two knights on each other's horses* with raising the issue.

²⁴⁸ Cardinaletti (1997b:527) observes that the Galician data shows the contrast has nothing to do with the overtiness of the expletive, and that in constructions with locative expletives such as English there is always agreement with the nominative subject (p. 529). MP:384n45 points out that (269)d shows further head-movement does not help in French. An interesting point is that Norwegian shows the Italian pattern with binding into adjuncts in expletive constructions, without overtly distinguishing agreement in the relevant verbal paradigm (p. 525).

There arrived three men without excusing themselves.

- c *Il en est entré trois_i sans PRO_i s'_iannocer. (MP:274)

Three of them entered without announcing themselves.

- d *En arrivera-t-il un_i sans PRO_i casser la porte? (MP:384 nt. 45)

Will one of them arrive without breaking the door?

(270)

- a Sono entrati tre uomini_i senza PRO_i identificarsi_i. (Italian, MP:274)

Three men have-3.PL entered without identifying themselves.

- b Ne sono entrati tre_i senza PRO_i identificarsi_i. (Italian, MP:274)

Three of them have-3.PL entered without identifying themselves.

- c El chegaron dous cabaleiros_i sen PRO_i saludaren el rei.

There arrived-3.PL two knights without saluting the king. (Galician; Cardinaletti 1997b:527)

Covert XP raising should not be involved here:²⁴⁹ Lasnik (1999:VI, VIII) and Den Dikken (1995) demonstrate that agreement in expletive constructions does not allow a quantifier to take scope over a negation, bind a variable, or license an NP which it does not c-command on the surface.²⁵⁰ All these properties reasonably depend on the lexical content of a DP, the particular lexical semantics of the quantifier it contains. Thus, whether ϕ -agreement is movement of syntactic features as atoms or not, it is not covert raising of the entire DP that agrees. MP:262 derives this from an economy principle: a feature that enters into an operation carries along just enough material for convergence. MP:IV concludes that when ϕ -agreement does not result in overt movement of the agreeing DP, there is feature movement alone; this covert movement does not pied-pipe the lexical content of the DP, but it does move a contentful enough bit to control and bind (MP:272-6).

(271) *Quantifier scope*

²⁴⁹ But see LGB:214-5, Burzio (1986:94-5) for some evidence not discussed since then, so far as I know: the contrast between (i) and (ii), which where (ii) shows the same binding possibilities as (iii):

(i) ***They**_i think he saw some letters for **each other**_i at the post office.

(ii) **They**_i think there are some letters for **each other**_i at the post office.

(iii) **They**_i think some letters for **each other**_i are at the post office.

²⁵⁰ Both are arguing against the MP:154-161 proposal that the associate adjoins to the expletive at LF.

- a There aren't many linguistics students here. =
- b There are few linguistics students here.
- c *Not available*: Many linguistics students aren't here. (Lasnik 1999:136).

(272) Quantifier-variable binding / WCO

- a Some defendant_i seems to his_i lawyer to have been at the scene.
- b *There seems to his_i lawyer to have been some defendant_i at the scene. (Lasnik 1999:183)

(273) *NPI licensing*

- a No good linguistic theories seem to any philosophers [*t* to have been formulated]
 - b *There seem to any philosophers [*t* to have been no good linguistic theories formulated]
- Lasnik (1999:138)

This conclusion changes in MI:119, 146-7n71. The reason are partly a different weight given to a piece of data already known to be problematic in MP:IV, and partly because the control paradigm above turned out to be spurious.²⁵¹ Part of the motivation for construing feature movement as displacing LF atoms is that it could account for ECM subject binding into matrix adjuncts in English. This, though, is very indirect evidence, since ϕ -agreement between matrix Agr_O and the ECM subject is not in fact visible here. Where it can be seen it is in expletive constructions; and there it is not in fact possible for a DP to bind from the position of its ϕ -agreement as distinct from its own position, so the anaphor below is not licensed:²⁵²

(274)

- a Some linguists seem to each other [*t* to have been given good job offers]

²⁵¹ MP:275-6 explores a solution to the tension between the inability to bind vs. the ability to control in expletive constructions, suggesting it has to do with the fact that anaphora binding consists of adjunction to INFL (MP:208-11, following Lebeaux 1983, Chomsky 1986a, Heim, Lasnik, and May 1991, MP:105): in a configuration where both the anaphors and the formal features are adjoined to INFL, there is perhaps no binding relation available between the two. See Bošković (1997) for problems with this.

²⁵² The facts hold in French as well, where expletive constructions lack (number) agreement and the anaphor is *se*:

- | | |
|---|--|
| (i) Une linguiste (lui) semble être arrivée.
A linguist seems to him to have arrived. | (ii) Il <(lui)> semble <(à Fañch)> être arrivée une linguiste.
There seems to him/Fanch to have arrived a linguist. |
| (iii) Une linguiste se semble être arrivée.
A linguist seems to herself to have arrived. | (iv) *Il se semble être arrivée une linguiste.
There seems to herself to have arrived a linguist. |

- b *There seem to each other [*t* to have been some linguists given good job offers] (Lasnik 1999:138)
- c Some applicants_i seem to each other_i to be eligible for the job.
- d *There seem to each other_i to be some applicants_i eligible for the job. (Den Dikken 1995:348)

(275)

- a The DA proved [two men to have been at the scene] during each other's trials.
- b *The DA proved [there to have been two men at the scene] during each other's trials. (Lasnik 1999:18, 137, 184)

An important confirmation of this paradigm is provided by Jónsson (1996:209) for Icelandic, a language that like English does not allow *pro*-drop,²⁵³ but has a very rich agreement paradigm:

(276)

- a Einhverjir umsækjendur₁ virðast að mati hvers annars₁ [_{TP} *t*₁ vera hæfir]
 some applicants.N seem.3.PL to judgment of.each other to.be qualified
 Some applicants seem in each other's judgment to be qualified.
- b *Það virðast að mati hvers annars₁ [vera einhverjir umsækjendur₁ hæfir]
 there seem.3.PL to judgment of.each other to.be some applicants.N qualified
 *There seem in each other's judgments to be some applicants qualified.
 (Icelandic; Jónsson 1996:209)

At the same time, the ECM paradigm that originally motivated feature movement (adjunction of the features of the ECM subject to Agr_O) turns out to have completely different properties from the kind of feature movement posited by MP: the ECM subject behaves in fact as if it has raised as a DP, binding into matrix adjuncts and licensing NPIs there. Lasnik (1999:184) therefore argues there is overt raising of the ECM subject into the matrix clause, removing this data set from consideration for the nature of ϕ -feature agreement.²⁵⁴

²⁵³ The expletive has a null realization if the C-system is activated; see Vikner (1995).

²⁵⁴ Branigan (1997) raises as a possible challenge to Lasnik's conclusion the following Locative Inversion paradigm:

(277) Quantifier-variable binding / WCO

- a The DA proved [no suspect_i to be at the scene] during his_i trial.
- b *The DA proved [there to be no suspect_i at the scene] during his_i trial.

Lasnik (1999:185)

(278) NPI licensing

- a *The DA proved [there to be no one at the scene] during any of the trials.
- b The DA proved [no one to be at the scene] during any of the trials

(Lasnik & Saito 1991 in Lasnik 1999:12; Lasnik 1999:138, 185)

What remains for visibility of ϕ -features at LF is the evidence from control; and that proves to be no evidence at all. Lasnik (1999:187) notes that control by a post-verbal agreeing subject in Chomsky's example (268)a is in fact somewhat degraded in comparison with a preverbal subject, and then he supplements the paradigm:²⁵⁵

(279)

- a Three men arrived last night without identifying themselves.
- b ?There arrived three men_i (last night) without PRO_i identifying themselves_i.
- c ?*There arrived three men (last night) without saying hello.

(i) Pam proved [in this bed to have slept Washington and Lincoln_i] in each other's_i biographies. (Branigan 1997:554)

(ii) ??Pam proved [that in this bed had slept Washington and Lincoln_i] in each other's_i biographies. (Branigan 1997:554)

For many speakers, LI is apparently possible in ECM complements (Bresnan 1994). When LI takes place, the inverted subject *Washington and Lincoln* can apparently bind in *each other's biographies*, a matrix clause PP. This is not possible when the complement is finite. Similarly, the inverted LI subject can cause a Condition C in a matrix adjunct, when it is an epithet.

However, it turns out that the significance of these data relies on too coarse a view of the Locative Inversion phenomenon. Culicover and Levine (2001) show that there are really two LIs: one where the preposed locative occupies [Spec, TP] and the inverted subject is lower, and one where the apparently inverted subject undergoes HNPS from [Spec, IP], and the fronted locative occupies an \bar{A} -position (topic). Since the latter crucially relies on HNPS, it is limited to DP subjects that are relevantly heavy. It is a pseudo-LI: its input, with some complications, is simply an \bar{A} -fronted PP in a regular intransitive or even transitive sentence. They show further that it is only the latter pseudo-LI which may occur in ECM complements. In Branigan's data, therefore, *Washington and Lincoln* and *that son of a bitch* are HNPSed from the ECM [Spec, IP]; and whatever then allows [Spec, IP] to bind into a matrix adjunct or PP argument allows the trace of HNPS to do so as well.

²⁵⁵ Cardinaletti (1997b:525 nt. 6) points out that *there* constructions with *be* in general do not let their nominatives control adjunct PRO; Lasnik's examples show this does not alleviate the problem.

- d Without PRO identifying themselves, three men arrived.
- e ?*Without PRO identifying themselves, there arrived three men.
- f Someone seems to be available without PRO seeming to be eager to get the job.
- g *There seems to be someone available without PRO seeming to be eager to get the job.
(Lasnik 1999:187)
- h ?*There arrived three men without saying hello. (Lasnik and Hendrick 2003:148n8)

These contrasts show clearly that there is no control contingent on agreement, which is present in all the examples of degraded or ungrammatical control. It seems that embedding of the controller plays a role, and more so with respect to a preceding adjunct than a following one, but Lasnik does not offer an account. The flavour of the data suggests Landau's (1999:137f.) proposal that PRO non-obligatory control such as these is a logophor (cp. Landau 2003:481-2).

Cross-linguistic considerations confirm that the agreement-contingent control generalization is spurious. The contrast between French (non-agreeing, no control) and Italian (agreeing, control) in (269) and (270) seems spectacular. However, Perlmutter (1983:143-150) had gone to great length to show precisely that it is the post/pre-verbal position of the agreeing subject in Italian which correlates with the (im)possibility of binding into infinitival adjuncts, which is supposed to be the case in the French non-agreeing constructions rather than in Italian. His examples, such as (280), are closely parallel to (270):

(280)

- a Dei profughi ungheresi_i sono rimasti a Roma tanto tempo dopo la guerra
some refugees Hungarian are remained in Rome so.much time after the war
da PRO_i sentirsi_i romani.
to feel-SE Romans
Some Hungarian refugees remained in Rome so long after the war as to feel themselves to be Romans.
- b *Sono rimasti dei profughi ungheresi_i a Roma tanto tempo dopo la guerra da PRO_i sentirsi romani_i. (Perlmutter 1983:148)

Similarly, Cardinaletti's (1997b:528) claim that the correlation holds up in Northern Italian dialects is shown to be incorrect by Manzini and Savoia (2001:41-2), with many dialects allowing adjunct control by non-agreeing post-verbal subjects. Although accounting for this range of data is a different matter, it eliminates the agreement-control correlation; control into adjuncts does not bear on whether ϕ -agreement is visible for syntactic/LF principles or not.

The state of the inquiry after the evidence has been considered is this: (i) ϕ -agreement alone is irrelevant to control; (ii) ϕ -agreement alone positively does not let an agreeing DP take scope, bind variables, or license NPIs; (iii) ϕ -agreement alone positively fails to bind in expletive constructions. This provides the motivation for the conceptual re-orientation in MI. The interpretable ϕ -features of the goal of Agree stay in-situ, and the valued ϕ -features of the target, being uninterpretable on it, delete. Agree thus does not cause re-arrangement of syntactic atoms; valuation and deletion of the target's uninterpretable ϕ -set takes place at an unbounded phrase-structural distance from the goal's interpretable ϕ -set. All that the Agree operation, in itself, does, is value an unvalued feature or feature set to modify a syntactic atom (MI:124, 126); the feature(s) delete at some point after (MI:131). I assume this conclusion all weak agreement languages, whose gamut is spanned by English and French with their very poor agreement indeed and Icelandic with its very rich one.²⁵⁶ The syntactic consequences of pure ϕ -Agree rest entirely in the properties of Agree itself, particularly locality; its result, if not accompanied by phrasal movement, is not visible for other syntactic and LF principles. It is of consequence for what follows that all the arguments for the invisibility of ϕ -agreement also use the English, French, and Icelandic *there/il/pað* expletives, which do not code any properties of their associates such as their ϕ -features.

In the sections that follow, I suggest that strong agreement languages behave differently; their apparent ability for ϕ -agreement to satisfy the EPP correlates with its visibility to syntactic and LF principles (4.5). However, I argue that this is not a difference in the ontology of Agree or ϕ -feature sets, but lies rather in the independent fact that these languages have agreeing expletives (4.4): the essence of *pro* in GB (4.3). Both Agree and its movement/expletive Merge

²⁵⁶ The conclusions are not accepted by Watanabe (2000), which is not an empirical challenge so much as exploration of a different perspective. Yatsushiro (1999) has a real counter-argument from Japanese; but it is far from obvious that Japanese is in the same null-subject class of languages as Germanic.

consequences operate in exactly the same way in weak and strong agreement languages, but expletives in the latter code ϕ -features (4.7).

4.3 The theory of expletive *pro*

For ϕ -agreement of the English, French, and Icelandic type languages, two results correlate: inability to satisfy the EPP and absence of any interpretive consequences. These languages contrast with another class of clearly configurational languages like Italian, Spanish, Czech, and Basque, NSLs, where ϕ -agreement does seem to satisfy the EPP. This terminology is pre-theoretical: on the one hand, English does allow unmarked V-initial orders with subject topic drop in diary registers, while Italian clearly places heavy restrictions on unmarked verb-initial orders (Belletti & Rizzi 1988:339f., Pinto 1994), in contrast to the much freer Spanish (Zubizarretta 1998:III) and Czech. Still, a basic difference does obtain at least between the latter two and non-NSLs; none of the following sentences can be V-initial under normal wide-focus conditions in non-NSLs:

(281)

- a Acaba de romper el niño una copa de cristal
finished to break the boy a glass of crystal
The boy just broke a crystal glass. (Spanish; Zubizarretta 1998:108; wide focus)
- b Han estornudado tres leones.
have sneezed three lions (Spanish; Zubizarretta 1998:119; wide focus, * in Italian)
Three lions have sneezed.
- c Přistálo/přistála letadlo v Ruzyni.
landed-3.SG.NT/3.SG.F plane in Ruzyni. (Czech; wide focus)
The plane landed in Ruzyn / She landed the plane in Ruzyn.

The post-verbal subject which controls agreement is called the I-SUBJECT.

The standard assumption is to relate the NSL parameter to ϕ -agreement, which entails that in NSLs ϕ -agreement somehow satisfies/disables the EPP.²⁵⁷ There are two basic ways to go about this. One links the availability of an *i*-subject to the availability of a null referential subject, though it does not claim the two options are identical. In its primary form, it simply posits that NSLs have a null/affixal expletive because they have null/affixal referential pronouns (Taraldsen 1978), guided by the dual 3.SG.NT pronoun and expletive functions of French *il*, English *it*, and Icelandic *það*: Rizzi (1982:IV), Burzio (1986:II), LGB. V-initial orders in NSLs are then rather trivially like non-NSL expletive-initial orders but with a null expletive. The basic idea of such approaches is the EXPLETIVE SUBJECT HYPOTHESIS:

- (282) EXPLETIVE SUBJECT HYPOTHESIS: The result of ϕ -Agree has the same syntactic and semantic properties in NSL and non-NSLs; NSLs differ in having a null thematically expletive element to satisfy the EPP.

The other approach enriches the ontology of ϕ -agreement itself in order to allow it to satisfy the EPP. Jelinek (1984) is a paradigm example of a different but conceptually related idea: she suggests that for a class of NSLs, though a distinct one from the ones concerned here, ϕ -agreement morphemes may themselves be assigned theta-roles. In the case of agreement with *i*-subjects, Borer (1986) exemplifies the alternative to the Expletive Subject Hypothesis. Following LGB:253f., she proposes that the NSL parameter boils down to whether AGR can lower to V in the syntax or not, making it a special property of AGR (INFL), and nothing to do with the projection of [Spec, TP] which may be simply missing in NSLs. More recently, Speas

²⁵⁷ The first question when approaching the NSL/non-NSL distinction is whether it does in fact have anything to do with ϕ -agreement. This has been the traditional assumption since Taraldsen (1978), Rizzi (1982, 1986ac), Burzio (1986:II), but it is not a necessary one. An alternative would be to reduce the variation to the availability of null elements such as null locative/temporal adverbs or discourse-related operators. This is clearly the way to approach some V1 words in non-NSL languages, such as *yes/no* questions and narrative V1, in both of which a null operator can be diagnosed independently for example by NPI licensing (Laka 1990 on *yes/no* questions, Jónsson 1996 on Icelandic V1). I will assume, without further discussion, that this is not so for all NSLs, though perhaps the case can be made for some (Italian in particular, as opposed to Spanish; see the discussion in Zubizarreta 1998:III and references therein). Fundamentally, the way this debate is resolved is not crucial, because I will demonstrate the existence of expletive *pro* on a number of other grounds, including an overt correlate. That issue must not be confounded with having alternatives to satisfying the EPP (null elements, T-C relation, etc.) or no EPP at all if that is an option, nor with having referential *pro*-drop only whether or not other options (EPP satisfaction) permit free *i*-subjects: Romanian, where agreement cannot bind anaphora (Alboiu 2000), would then be such a language (Gabriela Alboiu, p.c.)

(1995) and Alexiadou & Anagnostopoulou (1998) argue that agreement affixes satisfy the EPP, because in NSLs agreement affixes are syntactic atoms with interpretable ϕ -features and an interpretable nominal categorial feature, which latter satisfies the EPP via V-to-T raising. In the case of Alexiadou & Anagnostopoulou (1998) there does remain ϕ -feature checking (Agree) distinct from and potentially unrelated to this mechanism (the issue is not discussed), so they adopt the core intuition of Expletive Subject Hypothesis. The strongest formulation of an ontological distinction in agreement would simply syntactically lack this second system, as in Speas (1995). The conclusions I will draw keep closest to the Expletive Subject Hypothesis, so I review here its GB implementation.

The salient properties of NSLs in GB were taken to be (i) and (ii):

(283) NSL properties

- (i) Referential pronominal subjects may be licensed under "sufficiently rich" ϕ -agreement.
- (ii) [Spec, TP] need not be filled overtly.

(284)

- a (Maria) è arrivata (Maria)
 Maria has.3.SG arrived.F.SG Maria
 Maria/she has arrived. (Italian, Burzio 1986:98)
- b Sembrano [intervenir-ne_i] [molti t_i]
 seem.3.PL intervene-of.them many
 Many of them seem to intervene.

The two properties need not be logically related. (i) says something about the interpretation and licensing of a null theta-theoretic positions as a pronoun (referential, bound, resumptive). (ii) says something about the Extended Projection Principle, which requires clauses to have subjects (LGB:25) and thus differentiates them from DPs (LGB:44, Chomsky 1982:10, 1986a). However, the proposal within GB is that properties (i) and (ii) are connected. The parameter differentiating NSLs from non-NSLs is that that in NSLs "an empty pronominal element of some sort is inserted in the subject position" (LGB:88, cp. LGB:240, Rizzi 1982:IV, Burzio

1986:II).²⁵⁸ The link between (i) and (ii) is natural, for once a language makes available a referential null pronoun in the subject position, it might naturally be thought to make available an expletive subject in view of the dual function served by English *it* and French *il* (Burzio 1986:85).

Thus, (i) and (ii) are connected via that idea that NSLs license null pronouns in [Spec, TP]. Three core elements enter into the GB implementation of the null pronoun hypothesis. (I) is principally due to Rizzi (1982:IV), (II) to Burzio (1986:II), and (III) to LGB:211, 214-5, 218, 263 (cp. Chomsky 1982:88). Spelling out the details of (I)-(III) accounts for the properties of null subject constructions in NSLs (see LGB:273, 339-340, Chomsky 1982:81f. for summaries).

(285) Elements of strong agreement in GB

- (I) There is an empty pronominal, *pro*, licensed under "rich agreement" AGR on INFL in NSLs; it serves as a referential subject, or as a pronominal expletive which satisfies the EPP for an i-subject.
- (II) *pro* in its expletive role relates to an NP associate in the same way as expletives in non-NSLs do: the two are separately base-generated and enter into a chain.
- (III) There is a special kind of coindexing (chain-formation) between the NP that AGR agrees with and AGR, and the same coindexing (chain-formation) further holds between [Spec, AGRP] if it contains an expletive and its associate NP (i-subject).

According to (I), NSLs have a null pronominal element, whose licensing and presence is somehow related to the "rich agreement" of NSLs: Taraldsen (1978), Chomsky (1982:86), Rizzi (1982:IV, 1986ac), Speas (1995), Rohrbacher (1999:141, 250-1), De Crousaz & Shlonsky (2003). Provided it is licensed, it may naturally receive a theta-role and thus serve as a referential null subject. If it also has an expletive interpretation, as Icelandic *það* 'it' (as expletive = English *there*) do, it may serve as an expletive. The question of the relation between richness of agreement and licensing of null elements is tricky. Rizzi (1982:IV) proposed that the null

²⁵⁸ The actual proposal of LGB is that the empty category in subject position is PRO (LGB:256, cp. Rizzi 1982:IV, Appendix III). Chomsky (1982:79) observes that this is unmotivated, and we dealing simply with an empty pronominal with specific reference, *pro*. In the meanwhile, it is not really accurate to talk of *pro*/PRO/trace *ecs* in the context of LGB:VI, Chomsky (1982), and related work which explores a functional rather than intrinsic definition of empty categories, or in the context of the Chomsky (1980) and earlier framework where these now familiar distinctions were only being formed. These hedges apply throughout.

expletive related to a nominal AGR on INFL itself in the same way that an object clitic relates to the null element in its NP-position (Rizzi 1982:IV, 1986ac, Burzio 1986:86, 89f., Chomsky 1982:86-88). At the period these proposals were taking shape, clitics were base-generated on their verbal head and licensed an empty category in argument position: LGB:257, Chomsky 1982:87f., following Aoun (1981), Jaeggli (1982), Sportiche (1983), Borer (1983). As support for this thesis, Rizzi (1986c) pointed out the existence of NSLs where ϕ -agreement with the nominative receives double exponence as an affix and a verbal proclitic, such as the northern Italian dialect of Fiorentino:²⁵⁹

(286) Table 1: Fiorentino agreement system

Nominative ϕ -features	Fiorentino	Verb
1.SG	(gli/e)	parlo
2.SG	tu	parli
3.SG.M	gli/e	parla
3.SG.F	la	parla
1.PL	si + (\emptyset /gli/e)	parla
2.PL	vu	parlate
3.PL.M	e	parlano
3.PL.F	le	parlano
3 rd postverbal/ \bar{A} -moved	gli/e	parla

(287)

- a <Te> tu vieni <te>.
 you 2.SG.^{SC} come.2.SG you

You come. (Fiorentino, Brandi & Cordin 1989:113, 138 nt. 10)

- b Nessuno gl'ha detto nulla.
 nobody 3.SG.^{SC}-have.3.SG said anything.

Nobody said anything. (Fiorentino, Brandi & Cordin 1989:118)

²⁵⁹ Burzio (1986:120) on Piedmontese, Safir (1982, 1986b), Brandi and Cordin (1989) and Suñer (1992) on Fiorentino and Trentino, Poletto (2000) on various other northern Italian dialects, and Roberge (1990) on Pied Noir French.

The interpretation of this evidence is not straightforward because in the languages at hand, subject clitics remain present (in fact sometimes are only possible/obligatory) with non-dislocated pre-verbal subjects, which seem to be in an A-position: (287)b. If the pre-verbal subject here has undergone A-movement from its clause-internal position, it should satisfy the EPP, and since there is no evidence for multiple specifier constructions in these languages there should be no other overt element in a pre-verbal A-position satisfying the EPP. Thus, the ϕ -agreement morphology, subject clitics and affix, reflects simple ϕ -agreement when there is a pre-verbal subject, but ϕ -agreement and an expletive *pro* when the subject is post-verbal: Rizzi (1982:131), Burzio (1986:89), and Bresnan & Mchombo (1987:756, 773-4). This may be called the AMBIGUITY HYPOTHESIS. A development, reached by Rizzi (1986c), Brandi & Cordin (1989), Poletto (2000), De Crousaz & Shlonsky (2003), is that the subject clitics always reflect an AGR head, which is responsible for the licensing of *pro* (still an expletive) and distinct from verbal agreement (perhaps a higher AGR head, cp. also Davis 1999, Poletto 2000, Sichel 2001:V) not licensing *pro*. The subject clitic AGR head apparently does not actually itself show up only when there is *pro*, since it is compatible with a subject in its specifier.²⁶⁰

For Speas (1995) and Rohrbacher (1999), "licensing" of null elements depends simply on whether they are acquired. I have nothing further to say about licensing here.

(II) addresses the manner in which an expletive relates to its corresponding i-subject if there is one. The hypothesis that expletives in general can be base-generated is advanced in Burzio (1986:II) (cp. LGB:282-3n36, 37, cp. LGB:260), and made possible by his identification of the i-subject of unaccusatives as remaining in-situ within the VP (Burzio 1986:I).²⁶¹ With the advent of the VP-internal subject hypothesis this generalizes to all expletive constructions.

(III) expresses the hypothesis that there is a syntactic dependency, a chain, between AGR, the NP it agrees with, and an expletive and its i-subject associate (LGB:211, 214-5, 218, 263, Chomsky 1982:88). The dependency is of the same type for all three elements. It is responsible for expletive-associate, theta, agreement, and Case relations between these elements. The

²⁶⁰ De Crousaz & Shlonsky (2003) assume that there is such a correlation, and a preverbal subject in specifier position of this AGR head co-occurs with expletive *pro* in the specifier of the next lower AGR head where it is governed and licensed by the higher one. The Czech data considered in 4.5.1 will show this is impossible.

²⁶¹ Perhaps the most independent argument for the stand that expletives may be base-generated came from cases like *It was felt/reasoned that S*, which as Williams (1980) observed have no corresponding **That S was felt/reasoned* (Burzio 1986:168 nt. 21, LGB:149 nt. 121); the expletive here could not thus be transformationally related to the rightward-moved S.

English and French overt expletives require associates, as discussed in chapter V (LGB:87, 214-5, cp. 45, Burzio 1986:93-4) which are subject to the Definiteness Effect sometimes thought to be due to this relation (Safir 1982:IV), sometimes also thought to transmit theta-roles (Rizzi 1982:IV). Coindexing between AGR and the agreeing NP is needed to capture the very fact of agreement itself, which is also assumed to be responsible for nominative Case assignment to the i-subject (George & Kornfilt 1981). Under the LGB hypothesis that relations such as agreement and Case assignment take place in a local phrase-structural relationship (under government), i-subject constructions further require that the expletive in [NP, IP] be coindexed with AGR as well as with the i-subject, so that ϕ -features of the i-subject NP can be transmitted to AGR via the expletive (LGB:266-7) and Case in turn can be transmitted via the expletive to the NP (LGB:263-4, 266-8, more directly Chomsky 1982 once *pro* is introduced). The fact that these dependencies are syntactic and subject to conditions on chains is pointed out by Burzio (1986:102-9).

LGB asks the question what kind of dependency it is that (III) posits. The conclusion, which bears directly on the nature of strong agreement, is worth quoting in full, despite its limited empirical basis (cp. further LGB:218, Chomsky 1982:88):

We are assuming AGR to be identical to PRO, hence a noun. But it is not an NP. If it were an NP, and if its position is an A-position (which is not clear), then AGR would be a binder with respect to the binding theory, leading to violation of the principles of this theory. Thus, principle (C) would be violated by (71), since John would be A-bound by AGR; and we would expect to have such sentences as (72), since *each other* would be bound in its governing category:

(71) John [_{INFL} past, AGR] win

(72)(i) each other won

(ii) [_S [_{NP_i} each other] [_{INFL} [+Tense], AGR_i] [_{VP} win]]

While AGR creates a governing category in which an anaphor must be bound and a pronominal must be free, AGR is not itself the binder; rather, binders are selected as before. If we restrict function chains to NP, as previously, then AGR does not enter into such chains. (LGB:211-212)

Here is thus a more careful spell-out of the elements that enter into the GB account of NSLs:

(288) Elements of agreement in NSLs

(I-a) [Spec, IP] in NSLs may contain a null pronominal α ("licensed by rich agreement").

(I-b) α is separate from AGR on INFL, which co-occurs with it and shares its ϕ -features.

(I-c) α may bear both a referential and expletive interpretation, accounting respectively for (i) and (ii) of (283).

- (II) An expletive is base-generated in an empty [Spec, TP].
- (III-a) Expletive-associate dependency is required to express the fact that some expletives require associates.
- (III-b) A dependency between AGR and agreeing NP is required to account for agreement and concomitant nominative Case assignment because they are subject to syntactic locality conditions; an AGR-expletive dependency was required in GB for this purpose because they take place under government.
- (III-c) Neither AGR nor expletive *pro* count for causing Conditions B or C in the i-subject.

The core issue of a translation to MP is expletive *pro*: its existence, its syntactic behavior particularly with respect to ϕ -agreement and to the EPP, its content and its behavior at the interfaces. The existence both of an expletive *pro* on the one hand, and of an agreeing expletive which is what (III-c) amounts to on the other, is in question (Alexiadou & Anagnostopoulou 1998, McCloskey 1996 respectively). My principal concern here is with Agree and its consequences. From that perspective, Lasnik's and Chomsky's conclusion reviewed in the last section lead to asking how agreement in NSLs behaves. It is to this question I turn in the next section, demonstrating the existence of base-generated agreeing expletive *pro*.

Before proceeding two caveats are necessary. First, I ignore referential *pro*, because it is an empirically distinct phenomenon from expletive *pro*, to which it is connected by an accident, as the one which conflates the English pronoun *it* and expletive *there* in Icelandic *það*. The existence of expletive *pro* separate from referential *pro* is exemplified for Italian and Paduan by Rizzi (1982:142-4), and for Hebrew by Shlonsky (1987:IV, 1990). Taking the latter as an example, there are unmarked VS orders closely corresponding to English *there*-expletive constructions in all tenses, but referential *pro*-drop is limited to 1st/2nd person past and future:

(289) Expletive *pro* in Hebrew

- a Hunxu mispar haxlatot ?al šulxan ha-memšala.
were.placed several resolutions on table the-government
Several resolutions were placed on the government's table.
- b ?et mi ya-?acru ha-xayalim ha-yom?
A who will-arrest the-soldiers to-day

Who will the soldiers arrest today?

(Shlonsky 1987:263)

(290) Referential *pro* in Hebrew

a (ʔani) ʔaxalti ʔet ha-tapuʔax.

I ate.1.SG A the-apple

b *(ʔani) ʔoxel ʔet ha-tapuʔax

I eat A the-apple

c *(hu) ʔaxal/ʔoxel ʔet ha-tapuʔax

he ate/eats A the-apple

(Borer 1984:245)

The second caveat is for the Definiteness Effect (DE). This has nothing to do with the overt expletives of languages like English and French: Belletti (1988) demonstrates it in detail for Italian (cp. Belletti 2000), and Borer (1986) for Hebrew inversion structures with expletive *pro* such as above and for Romanian. In Czech, where below we will see an overt expletive, there is no DE, as there seems to be none in Greek (Alexiadou & Anagnostopoulou 1998) and Spanish.²⁶²

The third caveat hardly needs be made nowadays: the existence of a null expletive *pro*, or any equivalent, has nothing to do with the existence and availability of i-subjects in a language. Stylistic Inversion alone in English makes this clear (Bresnan 1994, Collins 1997, Culicover & Levine 2001, Postal 2002:I), with more possibilities in French (Kayne & Pollock 1978, 2000, Déprez 1990, Valois & Dupuis 1992, de Wind 1995), while a quite different range of i-subject structures is provided by Icelandic (Sigurðsson 1992, Jónsson 1996, Jonas 1996b); all these are non-NSL languages. Variation is subject to factors which do not depend on expletive *pro*, such as the DE or the Subject-in-Situ Generalization of Alexiadou & Anagnostopoulou (2001).

²⁶² DE seems to characterize the DP which ϕ -Agrees, even if it is a quirky subject which triggers 3rd.sg. agreement and which is an external argument (see chapter V for examples); it does not characterize an in-situ subject position, as Stylistic Inversion in English shows; it can be obviated by HNPS in English (Safir 1982, 1986b), and partially by A-movement to the middle field in expletive constructions in Icelandic (Vangsnes 2002); it is suspended in e.g. list readings when there is no person agreement; and so on. Understanding of DE eludes me thoroughly.

4.4 Existence of an (agreeing) inversion expletive: Czech *von*-expletives

Inquiry into the theory of *pro* runs up against the apparent cross-linguistic absence of a phrasal agreeing expletive, which corresponds to the GB proposal for *pro*. In this section, I show that this element exists in Czech. It has exactly the combination of properties that GB proposes for *pro*, except that it is phrasal: it is limited to [Spec, TP] where it occupies the position otherwise available only to nominative DPs, it matches the ϕ -features of T which are valued from a nominative DP, and it is theta-theoretically expletive.

Czech is a configurational NSL with clausal word-order freedom on the order of Spanish or Greek. The expletive, which is always optional, is illustrated in the following examples, where it is underlined. It is homophonous with 3rd person personal pronouns, and like them it varies for gender and number; in each of the following examples, it must match the ϕ -features of its associate, and the same form can also be used as a pronoun simply by omitting the associate:²⁶³

(291)

- a Von mu pánbuh taky ten benzín vomaže vo hubu.
 he.N him.D² lord.god.N also that gasoline.A rub around mouth
 The Lord will rub his face in that gasoline.
- b Vona přišla každá holka se svou učebnicí.
 she came.3.SG.F every girl with her textbook
 Every girl came with her textbook.
- c Von (asi) byl dřív vchod z druhý strany
 he probably was before entrance.N from other side
 There (probably) used to be an entrance from the other side.
- d Vono tam nic (nikdy) není.
 he there nothing.N never not.is
 There is never anything there.

²⁶³ Data here is taken from Rezac (2004), q.v. for further details and sources. The expletive must be carefully distinguished appositive pronoun-DP structures and the marginal discontinuous constituent structures (clitic doubling) that these give rise to: in Czech the DP in these obeys the specificity restrictions on pronoun doubling and cannot be focused.

- e Von v tom bude ňákej háček.
 he in that will.be some hook.N
 There will be some problem there.
- f Vona se každému dítěti jeho první hračka líbí.
 she SE² every-D child-D its first toy pleases
 Every child likes its first toy.
- g Vono je to jedno.
 It is that.N same
 It doesn't matter.
- h ??Von/*já tam spí/*spím i VON/*JÁ.
 he *I there sleep.3.SG.M/*1.SG even he.N I.N
 ??Even HE is sleeping there / *Even I am sleeping there.

These examples illustrate the syntactic and semantic properties of *von*-associate pairs. First, the associate is not dislocated in any of the examples; it is fully prosodically integrated into the sentence, and can precede the predicate. Second, although the associate can be adjacent to EX, it can also be separated from it by anything. Third, there is absolutely no restriction on the semantic type of the associate or its scopal properties: it can be a fully referential DP, a distributive universal quantifier binding a variable, an indefinite capable of both specific and non-specific reading, a bare indefinite with a non-specific existential interpretation (scoping below *asi* 'probably' if present), a downward-entailing quantifier which is also an NPI, a definite description containing a quantifier-bound variable, an idiomatic non-referential DP, and a demonstrative referring to an event. It can appear in all verbal constructions where ϕ -agreement appears, with no restriction to unaccusatives. Further, there are no obvious limitations on what role the associate can play in information structure of the sentence: new information focus, focus associated with a focus-associative element such as *only*, backgrounded topic, and discourse/switch/contrastive topic; see Vallduví (1990), Rooth (1995), Büring (1997) on these distinctions and Rezac (2004) for detailed illustrations. Its principal limit is that it is 3rd person,

which may only marginally be a pronoun, though it is fine with any DP, not paying attention to either common vs. proper noun distinction.²⁶⁴

The expletive has a set of limitations similar to that of English *there*: neither can be modified, bear pitch-accent, be associated with a focus-associative particle, or be coordinated with another subject:

- (292) [I/jenom voni] tam přišly (*ty holky).
 also/only they there came.3.PL those girls.N
 They/*those girls also/only came there.

For all that, it is not a clitic any more than the English expletive is: it is not positionally related to any overtly signaled clausal position such as that of the finite verb, the subject, or the left edge; and it contrasts sharply with second position clitics by not requiring a prosodic host. In (293), it can be followed by a parenthetical or the adversative adverb *ale*.²⁶⁵ This throws the rest of the clause into a separate prosodic domain, and causes the second position clitic *mu*, ordinarily enclitic, to procliticize on the following constituent *dneska* (see Fried 1994, Franks and King 2000:112f.); the expletive *vona* is fine though prosodically stranded:

- (293) Vona ale / [si myslim] mu dneska Katka zavolá.
 she but SE² think him.D² today Kate.N will.call
 Kate/She, on the other hand/I think, will call today.

The importance of the phrasal nature of the expletive is that it cannot be dealt with as a head of the expanded INFL system, as subject clitics in systems such as that of Fiorentino have been analyzed (Rizzi 1986c, Brandi & Cordin 1989, Poletto 2000, De Crousaz & Shlonsky 2003). This cliticize to the verb; the Czech expletive is independent of verb movement (cp. also (299)c below). This correctly predicts that the Czech expletive can never be preceded by its associate in an A-position (and as we will see in 4.5.1, in an \bar{A} -position either, independently), unlike

²⁶⁴ This is an accidental gap; the Finnish agreeing expletive is compatible with 1st/2nd person associates, 4.6.2 below.

²⁶⁵ In contrast to English *there* which cannot be followed by a parenthetical (Cardinaletti 1997a:45, 48); yet examples such as *There without doubt are three men in the room* are fine for some speakers, which is quite parallel to Czech, if no pause intervenes between *there* and *without doubt* (Diane Massam, p.c.).

Fiorentino subject clitics. We thus have the following contrast, where the subject clitic in Fiorentino occupies an AGR head and leaves its specifier available for A-movement while the Czech *von* expletive occupies the specifier itself:

(294)

- a Nessuno gl'ha detto nulla.
 nobody 3.SG.^{SC}-have.3.SG said anything.
 Nobody said anything. (Fiorentino, Brandi & Cordin 1989:118)
- b (*Nikdo/Jan) von nic (nikdo/Jan) neřekl.
 nobody/John he anything nobody/John NEG-said
 Nobody said anything. (Czech)

What makes the Czech phrasal expletive special is that it necessarily tracks the ϕ -features of its associate, or more precisely, the ϕ -features of AGR which Agrees with the associate. Thus, it cannot track either an oblique external argument or an ECM accusative:

(295)

- a Von/*vona/*jí se ji líbil Honza
 he.N/*she.N/*her.D SE² her.D² appeal.3.SG.M John.M.N
 John appeals to her.
- b Viděl jsem (*von/*ho) někoho kupovat chleba.
 saw am² she.N/him.A² some.one to.buy bread.A
 I saw Kate buying bread.

Furthermore, where a nominative DP does not fully determine agreement, the expletive is restricted to exactly the same ϕ -features AGR has. This happens with post-verbal coordinate DPs which allow agreement with either the whole or the left conjunct only (cp. Johannessen 1996), and when one nominative DP is predicated of another where agreement may be with either.²⁶⁶

²⁶⁶ See Reid (1991), MI:146n70), den Dikken (2001) for a discussion of agreement options in such constructions as *Three books is/are too much to read in a week*.

(296)

- a *Vona/voni tam přišli [Dana a Radek] pozdě.
 she/they there came.3.PL Dana.F and Radek.M late
 Dana and Radek came there late.
- b Vona/*voni tam přišla [Dana a Radek] pozdě.
 she/they there came.3.SG.F Dana.F and Radek.M late
 Dana and Radek came there late.

(297)

- a Vono asi to bylo pravda
 it perhaps that.NT.N was.3.SG.NT truth.F.N
 It was probably true.
- b Vona asi to byla pravda
 she perhaps that.F.N was.3.SG.F truth.F.N
 It was probably true.

Interestingly, in *se*-impersonal constructions which lack an associate DP (cp. Cinque 1988 and Dobrovie-Sorin 1998 for Italian), Czech allows the expletive to surface with the same 3.SG.NT ϕ -features as AGR, though no other expletive element is allowed such as the demonstrative *to* which is also an *it*-type extraposition expletive:

- (298) (Vono)(*to) se je tu kupuje v pátek.
 it that.NT SE² them.A² here buys on Friday.
 Here one buys them on Fridays.

The ϕ -features of the expletive are fully described by saying that expletive tracks the ϕ -features of verbal agreement system, which in turn are restricted to the nominative if any but do not require one.

The clause-internal word-order of Czech is extremely free. However, there is straightforward evidence that the expletive is at the left periphery of the clause but at the right periphery of the (expanded) C-system, that is in a position corresponding to [Spec, TP]. This is the fact that any

material which precedes the expletive requires either a marked interpretation, such as focus, or must satisfy an \bar{A} -criterion, as does a *wh*-word; this is true of heads (verbs) as well as XPs. In the following examples, (299)a and (299)c admit of the starred neutral interpretation only if the expletive is absent:

(299)

- a Do hospody von nikdo nepřišel.
 into pub he no.one NEG-came
 Into the pub came no one. // Into the pub, no one came.
 *What happened? No one came into the pub.
- b Optal se ⟨koho⟩ von ⟨*koho⟩ tam Honza viděl.
 asked SE² who-A he who-A there Honza saw
 He asked who John saw there.
- c Viděl von tam Honza někoho
 Saw he there Honza someone-A
 Did John see someone there?
 *What happened? John saw someone there.

This suggests that the expletive is in [Spec, TP]; material to the left of it is necessarily in the C-system. There is independent evidence from Condition C that Czech can project the [Spec, TP] A-position, which is available uniquely to the agreeing nominative (and the expletive). A-movement to [Spec, TP] is known to obviate Condition C, while \bar{A} -movement of non-adjuncts obligatorily reconstructs for this purpose to every position in the chain (Sauerland 1998:54f., Fox 2000:169f.):

(300)

- a [Mary's pictures of John]_i seem to him_i *t_j* very odd.
 b [Which pictures of John]_i does he_{*i} consider *t_j* odd?
 c [Mary's pictures of John]_i, he_{*i} considers *t_j* odd.

Evasion of Condition C clearly diagnoses phrasal movement of some constituent containing the offending DP. What we find in Czech using this test is that with dative-nominative psych-verbs, which respect Belletti & Rizzi's (1988) evidence that the dative experiencer is the external argument and the nominative the internal one, the nominative has a phrasal position above the dative as well as below it. On the other hand, for nominative-dative transitives (unergatives), the nominative > dative c-command relations are not capable of being changed by phrasal movement of the dative. Consequently, we seem to be clearly dealing with a derived phrasal position available only to the nominative rather than with A-scrambling; this describes [Spec, TP], reachable by the nominative's ϕ -Agree driven movement.²⁶⁷

(301)

- a *Nelíbí se mu_i [Pavlova_i sestra]. *Condition C: D > N*
 not.appeals SE² him.D² Paul's sister.N
 His sister doesn't appeal to Paul.
- b ?[Pavlova_i sestra] se mu_i nelíbí. *Condition C: N > D*
 Paul's sister.N SE² him.D² not.appeals
 His sister doesn't appeal to Paul.

(302)

- a [Honzovi_i holce] (von*_i) pomoh*_i. *Condition C: *D > N*
 John's girl.D he.N helped.3.SG.M
 He helped John's girl.
- b (Von*_i)[Honzovi_i holce] pomoh*_i. *Condition C: *D > N*
 he.N John's girl.D helped.3.SG.M
 He helped John's girl.
- c [Honzova_i holka] mu_i pomohla. *Condition C: N > D*
 John's girl.N him.D² helped.3.SG.F
 John's girl helped him.
- d ?Pomohla_i mu_i [Honzova_i holka]. *Condition C: N > D*

²⁶⁷ Assuming datives in this construction are not true quirky subjects, as in Icelandic; see chapter V for evidence that dative DPs in Czech are not ϕ -accessible, in the terminology of chapter I.

helped.3.SG.F him.D² John's girl.

John's girl helped him.

I conclude that Czech has an agreeing phrasal expletive in [Spec, TP]. This is the agreeing expletive *pro* GB posits save that it is overt and phrasal. In the following section, I proceed to show that both it and its covert counterpart *pro* of NSLs such as Spanish are what makes "strong" ϕ -agreement act strong, rather than any difference in the result of ϕ -Agree.

4.5 The visibility of the agreeing expletive

4.5.1 *The Highest Subject Restriction*

I first illustrate the visibility of the Czech agreeing expletive to a condition variously known as the \bar{A} -disjointness requirement or the Highest Subject Restriction. I also show it is due specifically to the agreeing expletive rather than to ϕ -agreement or to expletives in general. Then, I show that this visibility also characterizes expletive *pro*, but not clitic doubling as a discontinuous constituency phenomenon, allowing a differentiation of the two.

The following examples demonstrate the phenomenon: the Czech expletives are absolutely incompatible with fronting of their associate, which as noted above is necessarily (\bar{A}) fronting into the CP-layer, although they are compatible with other material in the CP layer itself including other DPs moved there by \bar{A} -movement. The examples show \bar{A} DP fronting (as focus/topic), *wh*-movement, restrictive relatives using respectively the resumptive (with *co* 'that') and *wh*-pronoun strategies (cp. Toman 1998), and non-restrictive resumptive relatives (again, I underline expletive -- associate pairs, while material in the C-system is in bold).²⁶⁸

²⁶⁸ The expletive tends to somewhat degrade in some though not all embedded contexts, and the degradation can be improved by certain ways; both the degradation and the means of improvement elude my analysis. My best bet so far is that many embedded contexts prefer "inversion" to various extent, in the same way as is the case in French (i), (ii), though with preferences tending towards inversion rather than lack thereof (cp. Kayne & Pollock 1978 and much other work). The contrast of whatever degradation is so induced by an embedded context, and the degradation due to the HSR, is very sharp.

(i) Où crois tu que (Nolwenn) arrivera (Nolwenn)?

Where do you believe that Nolwenn will arrive?

(ii) Je m'suis endormi comme (*les enfants) l'ont fait (les enfants).

(303) \bar{A} -DP fronting

- a $\langle * \textbf{Honza} / * \textbf{i HONZA} \rangle$ von tam $\langle \textbf{Honza} / \textbf{i HONZA} \rangle$ přijde pozdě.
 Honza-N/even HONZA-N he there Honza-N/even HONZA-N will.come late
 Honza/even Honza will come late.
- b $\langle * \textbf{Každý dítě} \rangle$ von tam $\langle \textbf{každý dítě} \rangle$ nějakou hračku dostalo.
 every child-N it there every child-N some toy received
 Every child there received some toy.

(304) *Wh*-movement

- a Otázka je, [**kdo z nich**]_i/[**ktorej kluk**]_i (*von) ještě tuhle knížku nepřečet.
 question is which-N of them/which boy-N he still this book not.read
 The question is which one of them/which boy still hasn't read this book.
- b Otázka je, [**ktrou knížku**] (?von) nám tady ještě nikdo nepřečet.
 question is which book-A he us-D here still no.one-N not.read
 The question is which book no one has yet read us here.
- c Otázka je, jestli (von) ještě tuhle knížku nikdo nepřečet.
 question is whether he still this book no.one-N not.read
 The question is whether no one has yet read this book.

(305) Restrictive relatives

- a Zdvih knížku **co/ktará** (*vona) se tam válela, a dal se do četní.
 lifted book that/which-N she SE² there was.lying and gave SE to reading
 He lifted the book that was lying there and started to read.
- b Zdvih knížku **ktrou** (?von) tam někdo nechal ležet, a dal se do četní.
 lifted book that he there someone-N left to.lie and gave SE² to reading
 He lifted the book that someone left lying there and started to read.
- c Zdvih knížku **co** (?von) ji tam někdo nechal ležet, a dal se do četní.
 lifted book that he her² there someone-N left to.lie and gave SE² to reading

He lifted the book that someone left lying there and started to read.

(306) Non-restrictive (resumptive) relatives

- a Tahle knížka, co (*vona) se tu válí, je docela zajímavá.
 that book that she SE² here lies.about is quite interesting
 That book that is lying about here is quite interesting.
- b Tahle knížka, co (?von) ji tady někdo nechal ležet, je docela zajímavá.
 that book that he her here someone-N left to.lie is quite interesting
 That book, which someone left lying here, is quite interesting.

The ungrammaticality is triggered specifically by the presence of the expletive. When it is absent and only ϕ -agreement on the verb remains, the sentences are fine. The effect is not due to the semantics which the associate acquires when it moves into the C-system; the expletive is compatible with any semantics of the associate.²⁶⁹

The behavior of the *von* expletive contrasts with that of the English and French expletive, where extraction of the associate is fine provided the Definiteness Effect is controlled for (Safir 1982, Heim 1987):

(307)

- a Kolik koláčů (*vono) zbylo?
 how.many cakes it remained
 How many cakes did there remain?
- b Combien de gâteaux il restait?

Importantly, the anti-expletive effect found in Czech is also missing in cases that involve subject clitic doubling of the associate in languages like Fiorentino:

²⁶⁹ Diane Massam, p.c., raises the question of whether it is compatible with *wh*-in-situ, if the right conditions could be created. Certainly, it is compatible with an indefinite which is new information focus and corresponds to the *wh*-word of a question. I find the relevant sentence with *wh*-in-situ hard to verify at this point, since fronting of one *wh*-word is required in a question in Czech and the associate is the "subject", so problems similar to **Why did there come who?*, **Why did who come?* (and **Who came why?*) vs. *Who saw what* show up.

(308)

- a Quale de quelle ragazze l'/*gl' ha cantata ni' coro?
 which of these girls she^{SC}/*it^{SC} has sung in.the choir
 Quale ragazza l'/*gl' ha cantato ni' coro?
 which girl she^{SC}/*it^{SC} has sung in.the choir
 Which of the girls sang in the choir? (Fiorentino, Suñer 1992:661)
- b Která holka (*vona) zpívala ve zboru?
 which girl she sang in group
 Which girl sang in the group?

I briefly touched in section 4.3 on subject clitic doubling, whereby in languages such as Fiorentino, subjects are doubled by subject clitics prefixed to the verb, in addition to ϕ -agreement morphology affixed to the verb. As discussed there, in this system the subject clitics spell out clausal AGR heads and are not relevant to the present discussion. At hand in (308) is a different phenomenon: restrictive clitic doubling. In Fiorentino neither ϕ -agreement nor regular subject clitic doubling can ordinarily track the gender and number ϕ -features of a 3rd person post-verbal or \bar{A} -extracted subject, and is limited to tracking those of a preverbal one; default agreement and clitic morphology steps in (Brandi & Cordin 1989). However, this is side-stepped for subjects that are "specific" (Suñer 1992); in that case both post-verbal and particularly preverbal \bar{A} -displaced subjects can be cross-referenced by a subject clitic. I assume the correctness of the discontinuous constituent analysis of such structures (Torrego 1988, Uriagereka 1995 for object clitic doubling with specificity effects): the clitic originates in the same DP-like constituent as the doubled DP. It cliticizes from there, and it and its DP associate lead thereafter separate lives. The syntax and/or semantics of the big-DP constituent that originally contained the two is responsible for the specificity effect (Rezac, in preparation c). In such pronoun-DP doubling structures, \bar{A} -movement of the DP over the pronoun is manifestly just fine, as Fiorentino shows. The Czech counterpart to the Fiorentino sentence, employing the expletive, is out.

The legitimacy of \bar{A} -movement of the associate over its doubling subject clitic in Fiorentino has nothing to do with the specificity restriction (missing in Czech expletive – associate constructions, hence a possible locus of differences). Dative clitic doubling in Spanish shows no

specificity restriction (Suñer 1988, 1991, Gutiérrez-Rexach 2000). In the case of verbs like *gustar* 'like', where the dative is the external argument intervening between T and an agreeing nominative, dative clitic doubling is an instance of cyclic displacement studied in chapter II, which must be targeting T since it removes the dative intervener from the path between T and the nominative (see Anagnostopoulou 2003:IV). When the dative undergoes *wh*-movement over the doubling clitic, the structure is fine, again presenting a minimal contrast between a pronoun doubling structure and the Czech agreeing expletive:

- (309) [A quien]_i le_i gustó_j t₁ Irati_j?
 to who him-D liked Irati
 Who liked Irati? (Spanish)

The agreeing expletive thus cannot be assimilated to pronoun doubling structures, which exemplify discontinuous constituency. The ban on \bar{A} -movement of the associate over it is specific to constructions with an agreeing expletive. Descriptively, I will call it the ANTI-EXPLETIVE EFFECT (AEE). The Czech expletive does not seem to be the only example of the AEE. A similar phenomenon is observed by Shlonsky (1990) for Hebrew, where expletive *pro* is null and thus its agreement cannot be seen. Shlonsky (1987:IV, 1990) shows that Hebrew allows free subject inversion regardless of the ϕ -features of the subject, and regardless of the root/embedded context of the TP; this contrasts with referential *pro*-drop, which is limited to 1st/2nd person of past and future.²⁷⁰

- (310) Hunxu mispar haxlatot ?al šulxan ha-memšala.
 were.placed several resolutions on table the-government
 Several resolutions were placed on the government's table (Shlonsky 1987:263)

Shlonsky (1990) arranges a scenario where *wh*-movement would originate from the post-verbal position in inversion, and shows that extraction from this position is impossible. The

²⁷⁰ The inversion comes according to Shlonsky (1987) in two varieties, one where the DP-associate stays in-situ with unaccusatives and passives, and one where it VP-adjoins with all verb classes (cp. Burzio 1986:I); I limit exposition to the unaccusative format.

standard declarative complementizer *še-* 'that' does not create *that*-trace effects, but the *wh*-complementizer *ʔim* 'whether' at the same time does not create *wh*-islands for example for object extraction as in (311)a. Therefore, the ungrammaticality of subject extraction with *ʔim-* in (311)b must be due to the fact that extraction from the pre-verbal subject position is impossible because of the *that*-trace effect, while extraction from the post-verbal i-subject position in the independently available inversion structure is ruled out for some other reason.²⁷¹

(311)

- a (ʔet) mi lo yada-ta ʔim ha-xayalim ʔacru?
 A who NEG knew-2.SG.M whether the-soldiers detained
 Who didn't you know whether the soldiers detained? (Shlonsky 1990:266)
- b *mi lo yada-ta ʔim ne-ʔecar ʔal-yedei ha-xalayim?
 who NEG knew-2.M.SG whether PASS-detain-3.M.SG by the-soldiers
 Who didn't you know whether he was detained by the soldiers? (Shlonsky 1990:266)

Shlonsky argues that the impossibility of extraction from the post-verbal position is due to the *pro* present in inversion structures, specifically because the ϕ -features of *pro* cannot be identified (Rizzi 1986a) once the i-subject extracts. This is rather close to the conclusion suggested by the Czech data, where it is clearly ϕ -features which must be relevant to drawing the distinction between the Czech expletive and non-agreeing expletives such as English *there*. Hebrew inversion structures seem to be using a covert variant of such an agreeing expletive, a standard assumption at the time of Shlonsky (1990).²⁷²

The Czech data is extremely valuable here because the expletive is overt and agreeing. Since the hypothetical covert expletives of NSLs are not overt, it is not normally possible to be sure that they are present in a structure where \bar{A} -movement of the i-subject takes place, and if they are present that they have ϕ -features. \bar{A} -movement of nominatives from the i-subject position is demonstrably legitimate (and perhaps the only option) in some NSLs (Rizzi 1982:IV, 1986c),

²⁷¹ Shlonsky (1990:267-8) presents an argument parallel to that of Rizzi (1982:IV) to show that LF-movement of the subject is fine from the post-verbal but not pre-verbal position, as in Italian. Such LF-extraction must not be subject to the AEE – as QR in Czech must not be.

²⁷² More generally on the kind of effect seen above in Hebrew, which falls directly under the explanation to be provided through the Czech expletive, see Ouhalla (1993).

although in languages like Spanish subject \bar{A} -extraction clearly proceeds through [Spec, TP] as an A/ \bar{A} -position where the *wh*-subject checks the EPP (Zubizarretta 1998:III).²⁷³ In some cases of \bar{A} -extraction from the *i*-subject position, there is clear evidence that the expletive present is non-agreeing: in Fiorentino, \bar{A} -extraction (from the post-verbal position) requires singular default agreement as in (312)c (Rizzi 1986c, Brandi & Cordin 1989):

(312) Extraction from *i*-subject position in Fiorentino

a Gli è venuto delle ragazze / la Maria.

it^{SC} is come.DFLT some girls / the Maria.

The girls/Maria came. (Fiorentino, Brandi & Cordin 1989:121)

b *Le sono venute delle ragazze / la Maria

*they^{SC} are come.PL some girls / the Maria.

The girls/Maria came. (Fiorentino, Brandi & Cordin 1989:121)

c [Quante ragazze]_i gli è venuto / *le sono venute *t_i* con te?

How.many girls it.^{SC} is come.DFLT / *they^{SC} are come.PL with you

How many girls came? (Fiorentino, Brandi & Cordin 1989:124-5)

Here is a summary of licit and illicit configurations which involve a DP, an AGR head which agrees with it, and an expletive. The illegitimate configuration, AEE, which is presented by Czech extraction of the associate past an agreeing expletive, contrasts with legitimate configurations which involve extraction of a post-verbal agreeing DP through an \bar{A} [Spec, TP] (Spanish), extraction of a post-verbal agreeing DP with the EPP satisfied by a non-agreeing expletive (English, French, Fiorentino), and extraction of an agreeing DP from [Spec, TP] where it has moved by A-movement (English):

(313)

[Spec, CP]	[Spec, TP]	T	[T' ...]	
a* [DP _φ] _i	<i>von</i> _φ	T+AGR _φ	<i>t_i</i>	Czech

²⁷³ Czech does not easily allow any \bar{A} -movement out of finite clauses, a limitation found in other Slavic languages (Stepanov 2000) and elsewhere as in Tsez (Polinsky & Potsdam 2001), making it fairly hard to find out what goes on there.

b	$[\text{DP}_\varphi]_i$	$[\text{DP}_\varphi]_{i,j}^{\bar{A}}$	T+AGR_φ	t_i	Spanish
c	$[\text{DP}_\varphi]_i$	<i>there</i>	T+AGR_φ	t_i	Fiorentino, English, French
d	$[\text{DP}_\varphi]_i$	$[\text{DP}_\varphi]_{i,j}^A$	T+AGR_φ	t_j	English

The deciding factor which singles out the ungrammatical configuration is clearly φ -features of the associate on the expletive, which contrast with the Agree-valued φ -features of T. The former are visible to the principle that creates the AEE, the latter are not. This is the primary finding of importance here. The distinction gives reason to identify syntactically-visible "strong agreement" with the φ -set of an agreeing expletive rather than the Agree-valued φ -set of T.

Consider now the principle responsible for the AEE. The ungrammatical configuration matches the conditions on strong cross-over, which is often attributed to Condition C (LGB:193-94). However, no version of Condition C can be responsible for the AEE, for it would rule out the associate in-situ as well as its \bar{A} -movement. Postal (1997) argues that strong cross-over cannot be reduced to Condition C. If so it is unclear what is responsible for it, and it cannot be seen whether it accounts for the effect at hand. Scope of quantified associates of the Czech expletive does not seem to be affected at all by the presence of the expletive; possibly this could indicate that the AEE cannot apply to QR, which could be relevant to determining the correctness of the strong cross-over account, but it is in fact not clear that QR ever needs to target a position as high as that of the expletive (see Fox 2000 on the target of QR).

An alternative explanation is known as the HIGHEST SUBJECT RESTRICTION (HSR). Languages with grammaticalized resumptive strategies, such as Hebrew (Borer 1984), various Arabic languages (Egyptian, Borer 1984:247, Palestinian, Shlonsky 1992, Lebanese, Aoun & Choueiri 1997), Irish (McCloskey 1990, 2002), Welsh (Harlow 1981), and Czech (Veselovská 1995:9.4.2, Toman 1998), freely allow resumptive pronouns in all but one position: the subject position of the matrix clause of the resumptive construction. Resumptives may appear freely in gaps corresponding to matrix object and embedded subject.^{274, 275}

²⁷⁴ In Irish, the specifier of C_{Merge} is filled by a base-generated operator, and that of C_{Move} by movement (McCloskey 2002); they are distinguished by their effect on the initial consonant of the following verb.

²⁷⁵ With all overt nominative pronouns that can alternate with *pro*, there is some degradation if they are bound by quantifiers due to Montalbetti's (1984) Overt Pronoun Constraint. This is improved by focus in as in (i), supplied by the focus-associative particle *i* 'even, also'; but there is no improvement possible for the matrix subject resumptives banned by HSR, e.g. in (314)b.

(i) Každý žák slíbil učitelce že ?(i) von přijde k zastávce včas.

(314)

- a To je ta holka_i [co se *(j_i) von líbil].
 that is that girl C SE² her.D² he.N appealed.3.SG.M
 That's the girl that he appealed to.
- b To je ta holka_i [co (*vona_i) se mu líbila_i].
 that is that girl C she SE² him.D² appealed.3.SG.F
 That's the girl that appealed to him.
- c To je ta holka_i [co mi Honza řek že i vona_i by se mu líbila_i].
 that is that girl C me.D² John.N said that even she.N would² SE² me.D² appealed
 That's the girl that John told me that even she too would appeal to me.

Following McCloskey (1990:213f., 2002:205-6), Shlonsky (1992:459f.), I assume that such resumptive structures involve a base-generated operator OP (*pro*: Browning 1989, McCloskey 2002). OP can freely bind any pronoun in its c-command domain (see chapter III on the mechanics). The possible and impossible positions of the bound pronoun x_i are then as follows:

(315) antecedent_i [CP OP λx_i [C' C_R [TP *x_i [T' T+AGR ... x_i ...]]]]

An agreeing gap for a resumptive in HSR configurations is fine. It involves \bar{A} -extraction rather than a null resumptive (Shlonsky 1992).²⁷⁶

Borer (1984:251f.), (316)a, and McCloskey (1990:214f., 2002:202), (316)b, argue that the HSR is an anti-locality condition on pronoun binding similar to or an instance of Condition B.²⁷⁷

every pupil said.3.SG teacher.D that also he comes to bus-stop on.time
 Every pupil promised the teacher that ?he/he too will come to the bus stop on time.

²⁷⁶ This hypothesis can be directly verified: in Irish, such examples use the C_{Move} rather than C_{Merge} complementizer:

(i) An fear_i a dhíol e_i an domhan
 the man C_{Move} sold the world

The man who sold the world. (McCloskey 1979:5)

²⁷⁷ Shlonsky (1992) presents an alternative theory, where HSR is a Relativized Minimality effect: the (agreeing) complementizer of resumptive structures projects [Spec, TP] as an A-position, and locality makes turns closest [Spec, TP] always an intervener. It is not clear how to make this work for the fact that the associate of an agreeing expletive cannot \bar{A} -move over it in Czech; however, it again must involve the visibility of the ϕ -features of the expletive and invisibility of the ϕ -features of T+AGR for locality to draw the correct distinction. This is true of the similar account of Boeckx (2001:164f.).

It is not important to be exact here in the definition of the notions of *governing category*, *complete functional complex* and *subject*; the relevant formulations must adhere to the boundary condition (316)c in order to subsume the HSR.²⁷⁸

(316) Highest Subject Restriction as Condition B

- a Pronouns must be A/\bar{A} -free in their governing category. (Borer 1984:252)
- b A pronoun must be \bar{A} -free in the least complete functional complex containing the pronoun and a subject distinct from the pronoun. (McCloskey 1990:215)
- c Given [Spec, CP] and [Spec, AGRP] in the same extended functional projection, and a position α c-commanded by the [Spec, AGRP], then the [Spec, AGRP] does and α does not fall into the same binding domain as [Spec, CP].

This formulation of the HSR correctly derives the impossibility of the extraction of the associate of an agreeing expletive across it if and only if an agreeing expletive but not ϕ -agreement alone is a "pronoun" in the relevant sense. The definition would have to incorporate the conclusion that it is the ϕ -features of the agreeing expletive, and not ϕ -features of AGR valued by Agree, that make an offending "pronoun" in the definition of the HSR.

Regardless of the road taken, ϕ -features of an agreeing expletive are visible for a syntactic (or perhaps LF) principle, while those of AGR valued by Agree are not. This gives content to the notion of "strong agreement" in NSLs that correlates with its satisfaction of the EPP, and localizes this content in the presence of an expletive, overtly visible in Czech as a phrasal element. For the principle responsible for the AEE only an agreeing expletive counts; for satisfying the EPP, both agreeing and non-agreeing expletives of course do, as English/Icelandic-type languages show overtly. In the next section, I argue for a further correlation: strong agreement, and therefore the agreeing expletive, counts as a binder for binding theory Conditions A and B.

4.5.2 Binding Theory and agreeing expletives

²⁷⁸ One further relevant fact to the boundary condition is that in Hebrew, a topic between the C with its OP and the highest subject obviates the HSR (Borer 1984:247).

Section 4.3 discussed the conclusion of LGB:211-2, 218 that neither expletives nor ϕ -agreement enter into the binding theory because they do not trigger Condition B or C on their i-subject associate (see also Rizzi 1982:IV, Burzio 1986:II). LGB also concludes that *there* is invisible to Condition A from sentences such as *There are each other in the room*; but among the reasons that rule this out independently is the general absence of agreeing/nominative anaphors, which will be discussed later. Both arguments are slender. The problem is familiar in clitic doubling structures: the doubling pronoun obviously does not create a Condition B or C effect for its associate, but this could be either due to the fact that it is not really a pronoun and invisible to the binding theory or because it forms a discontinuous constituent with its associate. We need independent evidence, which consists in investigating configurations involving a DP between the agreeing expletive (phrasal or *pro*) and its associate, such as had been found for the English expletive and ϕ -agreement in 4.2.

This is not an easy task. For Condition C, I will not be able to pursue the investigation here. The structures needed are of the sort in (317)a, with an overt i-subject to make sure it is an expletive rather than referential *pro* that is present in [Spec, TP], and a DP', between this expletive *pro* and the i-subject, embedded in another constituent so as not to itself create Condition C on the i-subject. The structural space between the expletive and the i-subject is small. The construction is exemplified by a couple of Czech sentences, (317)b and (317)c, which are certainly highly infelicitous, but it is not clear that they are actually incurring Condition C violations.²⁷⁹

(317)

a *pro* _{ϕ} V+AGR _{ϕ} [... DP' ...] DP _{ϕ}

b Von tam [nikdy v Honzovym životě] Honza (sám) nebyl.
 he there never in Honza's life Honza alone not-was
 Never in Honza's life has Honza (himself) been there.

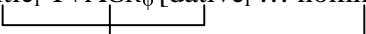
c Von se [Honzovymu psovi] (i) Honza líbí.

²⁷⁹ The problem is in fact rather comparable to that if we tried to use the status of the English translation of (317)b, *Never in John's life has John (himself) been there*, as evidence for the origin of the *never*-adjunct below or above *John (himself)* using the interaction of reconstruction and Condition C: one suspects whatever the status of such examples, they do not bear the weight of the argument.

he SE² Honza's dog.D even Honza appeals
 To Honza's dog (even) Honza appeals.

The same problems apply to tests for Condition B alone. To test for Condition A, we are also considerably hamstrung.²⁸⁰ However, the necessary configuration can be produced for Spanish dative-nominative psych-verbs such as *gustar* 'please'. The unique preverbal position is a syncretic [Spec, TP], which hosts both A-moved subjects and \bar{A} -moved focus/*wh*-words, the latter blocking the former if present (Zubizarretta 1998:III). Cuervo (2000) shows that the dative experiencer of *gustar* is its external argument and the nominative theme its internal argument. The dative needs to cliticize to T in order to allow ϕ -Agree with the nominative (cyclic displacement in DNCs, chapter II). A quantifier in the dative can bind a variable in the nominative because of the configuration of the two A-positions even in-situ, (318)b. A quantifier in the nominative cannot bind a variable in the dative even if it undergoes fronting, because as Cuervo shows this is necessarily an \bar{A} -movement, as in (318)c: [Spec, TP] as an A-position is limited to the dative.

(318)

a clitic_i T+AGR _{ϕ} [dative_i ... nominative _{ϕ}]
 Cyclic displacement

b ζ [_{TP} A quién_i [_{T'} le gustó [_{VP} t_i su_i auto]]]?
 to whom 3.SG.D^C appealed his car
 Who did his car appeal to? (Cuervo 2000)

c * ζ [_{TP} Qué_i [_{T'} le gustó [_{VP} a su_i dueño t_i]]]?
 what 3.SG.D^C appealed to its owner
 What appealed to its owner?

²⁸⁰ The test avoids NP-contained anaphora and anaphora such as *own* or Italian *proprio*, often subject to special conditions. The subject-oriented reflexive *si/se* of Romance is often ruled out by Rizzi's (1986b) Chain Condition which prevents it from being bound by a derived subject (where the promotion of the external argument of transitives/unergatives doesn't count), q.v. for details in Italian. In Czech, verbs where there is an (oblique) external argument above the nominative generally take an inherent *se* clitic, and there is a filter to block this from co-occurring with the partly homophonous *se/si* anaphoric clitic.

Cardinaletti (1997b:526 nt. 7) finds that the binding of the *each other* anaphor in *seem*-experiencers in Italian is ?(?) if the agreeing NP of the lower clauses raises across it, but * if the NP stays in-situ. I don't think the data bears the weight, since *seem* with experiencer in Romance is a control verb and never a raising one (Cuervo 2000); however, it is entirely possible that Italian is not really an NSL (cp. 4.3, and esp. Pinto 1994, Zubizarretta 1998:III).

Consider now (319)a and (319)b. They show that regardless of the pre-verbal or post-verbal position of the nominative DP, the dative may be coreferential with it as the subject-oriented anaphor *se* (Béjar & Rezac 2003), but not as the non-anaphoric pronoun *le*. The latter result is expected simply because *le* would cause Condition C in the i-subject. It is the former result that is crucial: it shows that the post-verbal nominative can bind a subject-oriented *se*-type anaphor which originates as a higher argument, the external dative. Since no copy of the nominative DP itself c-commands the dative as both its post-verbal position and the weak cross-over test in (318)c show, it must be its "strong agreement" that in Spanish as an NSL binds *se*.²⁸¹

(319)

- a Hoy, Irati i Kepa_i se_i/les*_{i/j} gustan *t*_{se/le} *t*_{Juan/él}.
 today Irati and Kepa SE^C/them-D^C like-3.PL
 Today, Irati and Kepa like each other/them.
- b Hoy/porque/si/...que se_i/les*_{i/j} gustan *t*_i Irati i Kepa_i.
 today/why/if/...that them.SE like.3.PL Irati and Kepa
 Today/why/if/...that Kepa and Irati like each other/them.

I conclude that the "strong agreement" of NSLs is visible to the binding theory, and assume this is attributable to the presence of an agreeing expletive.

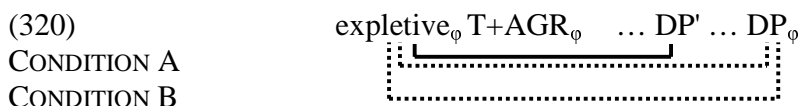
This requires some account of the LGB observation that the i-subject itself cannot contain an anaphor bound by the (agreeing or not) expletive (Condition A), and it can be a pronoun or a DP (Conditions B, C). I set aside Condition C with its rather different status from A and B, (Reinhart 1983, Reinhart & Reuland 1993, Demirdache 1997, Heim 1998); whether a

²⁸¹ The tests could be replicated for Czech, as in (i) and (ii), although we would have to use either an emphatic reflexive or a possessive reflexive, both subject-oriented (Toman 1992), because of the filter mentioned in nt. 280. (i) and (ii) are consistent with the hypothesis that strong agreement can bind (subject-oriented) anaphora. However, the high freedom of argument positions in Czech, with the general availability of A-scrambling, makes it impossible to determine that the binding is not in fact being done by the i-nominative from some derived A-position above the dative, from which the dative later A-scrambles.

(i) *pro*_i musí se [sám sobě]_i/[svým_i kamarádům]_i Honza_i/von_i líbit.
 must SE² himself-D/own friends-D Honza/he please

(ii) Von_i se [sám sobě]_i/[svým_i kamarádům]_i musí Honza_i líbit.
 he SE² himself-F/own friends-D must Honza please
 Honza must be pleasing to himself/his own friends.

thematically expletive element should cause it or not is essentially unexplored territory. The differential behavior of an agreeing expletive for Conditions A and B is diagrammed below, where failure of a relation is indicated by a dashed line:



The fact that an agreeing expletive acts as a Condition A/B binder for a DP other than its associate, but it does not bind its associate, is not at all paradoxical. Combining it with the results reviewed in 4.2, that a non-agreeing expletive does not act as a binder for Conditions A or B at all, gives the following generalization:

- (321) EXPLETIVE BINDING GENERALIZATION: An expletive can act as a binder in Conditions A and B for DP α if and only if the expletive receives ϕ -features by (being associated with AGR that enters into) Agree with a DP β , $\alpha \neq \beta$.

A non-agreeing expletive can never bind; an agreeing expletive can be a binder only for a DP distinct from the one that gives it ϕ -features.²⁸²

This formulation is at home in approaches to Conditions A/B which view anaphors as entering into a ϕ -featural dependency with their binders, and Condition B as a consequence of Condition A: see Lebeaux (1983), Heim, Lasnik, & May (1991), Chomsky & Lasnik (1995:104-5), Reinhart & Reuland (1991, 1993), Reuland (2001), Everaert (2002), and references therein.²⁸³ Implemented directly, this could be because they are deficient in ϕ -features and Agree provides their value. This kind of idea is worked out in Reuland (2001), cp. also Everaert (2002): the ϕ -

²⁸² French *il* does not count as a binder, even though I conclude in 4.6.2 that it is specified for singular number; this is as it should be, since it does not share the person ϕ -features of its associate and lacks one of its own. I include it heuristically with non-agreeing expletives, understanding by this that whether an expletive binds or not is a matter of it having the relevant ϕ -features for Condition A binding, including presumably the person features that could satisfy an anaphor's requirements.

²⁸³ This is quite independent of the special condition that license SELF, which apply in the English examples given here. Both SELF and SE anaphora are always required to be deficient in some sense, though sometimes only the latter is taken to be specifically ϕ -deficient. The "deficiency" of SELF on the analysis of Reinhart & Reuland (1991, 1993) is as follows: it is a transitive predicate which identifies its first argument, namely the pronoun if *him/her...SELF*, with another argument, which under their analysis turns out to necessarily be a coargument of the SELF-marked argument. The logic of deficiency to follow applies in either case.

features of the anaphor are deleted through checking with the associate, because they are at LF in the same checking domain due to the anaphor's raising to INFL+V for Case checking. Since Lasnik (1999) demonstrates that valued ϕ -features alone do not suffice for binding, the checking/Agree for the anaphor's ϕ -features must be against the interpretable ϕ -features of the nominative, which is the case in Reuland's implementation. Condition B blocks a pronoun where an anaphor is possible.

Consider the problems of a nominative anaphor in this system. There is nothing inherently illegitimate about it. However, putting its situation in terms of its ϕ -deficiency for concreteness (Everaert 2002), its need for ϕ -features cannot be satisfied because it is itself the sole source of T's ϕ -features. Objects do not ϕ -Agree with T but rather with v (if at all) and stay too low, however this is technically implemented. Oblique subjects which seem to enter into the ϕ -Agree process do not (sufficiently) value T's ϕ -features (Reuland 2001; cf. chapters II, V). Thus, the ϕ -deficiency of a nominative anaphor is never repaired. This remains the case whether [Spec, TP] is filled by an agreeing expletive or not: as demonstrated for the Czech in section 4.4, the agreeing expletive shares the Agree-valued ϕ -features of T, which derive from the nominative through ϕ -Agree. Thus, we have the so-called Anaphor Agreement effect, which disallows agreeing (nominative) anaphora: Rizzi (1990b), Woolford (1999), Reuland (2001), Everaert (1991, 2002), Anagnostopoulou & Everaert (1995, 1999), where my discussion follows particularly Everaert (2002). LGB's observation that *There arrived each other in the room* is ungrammatical says nothing about the potential of expletives or agreement or agreeing expletives to bind; it is expected to be ungrammatical because there are no ϕ -features which may by binding remedy the nominative anaphor's ϕ -deficiency.

Condition B is taken in such approaches as the consequence of Condition A: it allows pronouns only where an anaphor is out. This makes directly a startling prediction, shown to be correct in the literature: nominative pronouns can co-refer with local c-commanding quirky subjects. The prediction follows because a quirky subject is not available for ϕ -Agree, so a nominative anaphor is not licensed as just discussed, and a pronoun is not blocked.²⁸⁴ In the following quirky-subject configurations, the regular anaphors *sig* in Icelandic and *si/se* in Italian are ungrammatical as nominatives, and pronouns are fine:

²⁸⁴ The situation is of course reversed for objects: an object anaphor will always find ϕ -features in the nominative to remedy its own ϕ -deficiency, and a pronoun will never be allowed.

(322)

- a Honum_i sýndist hann_i / (?)[hann_i sjálfur] vera að tapa
 Him-D seemed he-N / he-N self-N to.be to lose

It seemed to him that he was losing (Everaert 2002:111)

- b ?Ad alcuni_i interessano/piacciono solo loro_i stessi
 to some interest/please-3.PL only they-N self

Some people are only interested in themselves / Some people only please themselves
 (Everaert 2002:110)

This explains directly why an (agreeing) expletive does not cause Condition B in the associate of its T. Since it cannot satisfy the ϕ -deficiency of an anaphoric associate, it does not block a pronoun. This derives the failure of both agreeing and non-agreeing expletive binding in the Expletive Binding Generalization. The remainder of the Expletive Binding Generalization is then that an agreeing expletive ("strong agreement") qualifies as a binder for Condition A. This contrasts both with a non-agreeing expletive and with an Agree-valued ϕ -set, matching the results of the last subsection for the AEE.

The next section is concerned with how an agreeing expletive gets to be an agreeing expletive. The LGB approach reviewed in 4.3 amounts to there being a second Agree operation between the expletive and T, an idea partly resurrected in MI. The proposal is interesting because of its failure: if both AGR and the expletive have Agree-valued ϕ -sets, it is not clear how to draw the difference between them for purposes of AEE and Condition A. In the next section I will find also that the approach is insufficient purely on the grounds of the cross-linguistic diversity of expletives, and propose that expletive ϕ -features must be present in the lexicon. They are of the same sort as such meaningless ϕ -features like the plural of *scissors* are; and this will be the basis of the distinction between agreeing expletives and Agree-valued ϕ -sets.

4.6 Merge of an agreeing expletive

4.6.1 *Evidence for non-thematic base Merge*

In this section I propose a theory of agreeing and non-agreeing expletives. The implementation involves spelling out three elements: (i) expletives are listed in the lexicon with their specific ϕ -feature matrices, including none; (ii) expletives are inserted into the derivation by being Merged into a non-thematic position; (iii) Merge of an expletive, like other Merge, is subject to the Match Condition of chapter III, which ensures that the ϕ -matrix of an expletive and the valued ϕ -set on label of its sister do not differ. I present concrete evidence for points (ii) and (i) in that order, and then work out (iii). It is convenient to begin the argument for (ii) with an exposition of the treatment of expletives in MP:III and MP:IV and that for (i) with that of MI, both for clarity and for contrast.

Following Burzio (1986:II), LGB:260f. and subsequent work assumes that expletives are base-generated in an empty [Spec, TP], rather than transformationally related to a position where the *i*-subject has been (LGB:85f.). MP:362-4 and MI:103 argue that the expletive must be base-generated in [Spec, TP] because it lacks theta-theoretic content, which also means that it cannot Merge in a theta-position. In MP:287, the Merge of the expletive satisfies the EPP implemented as an uninterpretable [D] feature, so the expletive must have at least a [D] itself (which is in fact all it has). However, Chomsky MP:364 observes that [D] is uninterpretable on the expletive itself, and must be deleted under checking.²⁸⁵ The element that checks the [D] feature of the expletive is posited to be the categorial [N] feature of the associate of the expletive's T, since "independently, there is good reason to believe that the categorial feature [N] adjoins to [D] regularly, namely in the D-NP construction (Longobardi 1994)." Feature movement of the associate's formal feature set for Case and ϕ -checking, with [N] coming also as a free-rider, adjoins them to T' (T^{0max}), and the configuration between the expletive in [Spec, TP] and the T'-adjoined [N] feature is more or less the same as that between D and its complement NP in the [_{DP} D NP] configuration. Therefore checking between them can take place, with the [N] feature adjoining to the expletive to form [_D N expletive]. As for the implementation of checking, "like D that takes a complement, expletive D has a strong [nominal-] feature, which attracts [N] -- a residue of the earlier adjunction-to-expletive analysis." This fact is held to account for the Definiteness Effect and the fact that the associate of *there* cannot itself be *there* which has no [N] feature: MP:342, 350, 372, 384n44.^{286,287}

²⁸⁵ Not erased, because that would unrecoverably eliminate the expletive from phrase-structure.

²⁸⁶ However, MP:350, 384n40 cautions against this, noting that the Definiteness Effect is unclear.

As noted explicitly in Chomsky MP:364 and further Bošković (1997:98-9), this partly continues the tradition of the earlier expletive-replacement hypothesis of MP:154-161 where the associate adjoins to or replaces the expletive at LF (cp. Lasnik 1999, den Dikken 1995, Groat 1995), which itself instantiates the use of LF movement to account for the NP-movement like locality between the associate and expletive observed in Burzio (1986:102f.). The expletive-associate checking just reviewed is also used to account for the Definiteness Effect and the *there* expletive's need for a nominal associate (cp. Lasnik 1999:134, chapter V here). As noted in chapters II and V, the Agree framework implements both feature-based locality and the requirement for an associate as properties of Agree, triggered by an unvalued feature; the treatment of the Definiteness Effect remains unclear and is no simple matter (see nt. 262).

The MP:IV approach just reviewed, and still closer the MP:III approach where the associate raises to the expletive because the expletive is an LF affix, essentially treats the expletive and the associate as a discontinuous constituent: a DP of which the expletive is the D and the associate the NP. The constituent is only assembled at LF. Other approaches to discontinuous constituents assemble them at base Merge, and then dissociate them; this is Sportiche's (1988) seminal approach to quantifier float, and Torrego's (1988), Uriagereka's (1995), and Belletti's (1999) approach to clitic doubling.²⁸⁸ It would thus be in order to find arguments that expletives do not arise from such pronoun doubling structures. This is particularly so in the case of pronominal expletives like French *il* and Icelandic *það* and still more in the case of Czech agreeing expletive, which look like they could originate in a DP more than the locative-looking *there* does (cp. Moro 1997 on the latter).

The discontinuous constituency approach seems most reasonable when the two pieces restrict one another more than by simply sharing ϕ -features, because that is what we find of the relation between parts of a DP, e.g. a determiner imposing specificity. Thus, the obligatory subject clitic doubling of languages like Fiorentino is not a good candidate: it co-occurs obligatorily and only with pre-verbal subjects in an A-position regardless of their semantics. It behaves rather as agreement morphology, and is so analyzed by Rizzi (1986c), Brandi & Cordin (1989), Poletto (2000), De Crousaz & Shlonsky (2003). However, Fiorentino also exhibits a distinct type of

²⁸⁷ Cp. also Lasnik (1999:93 nt. 6, 1999:127, 131) who observes that as an LF affix the expletive could be required to match the ϕ -features of its associate.

²⁸⁸ Sportiche's (1996) approach to clitic doubling is closer in fact to the MP expletive-associate treatment, cf. nt. 242.

The agreeing expletive in Czech must be differentiated from subject clitic doubling because of this. Thus, it does not instantiate a discontinuous constituent structure. The fundamental intuition that leads to the discontinuous constituency hypothesis in the case of clitic pronoun doubling is theta-role sharing between the clitic pronoun and the doubled DP. Parity of reasoning leads to the conclusion that if the Czech expletive does not originate in the same constituent as its DP associate, it cannot share its theta-role, and must be base-generated in a non-thematic position. Thus, we have independent evidence for the base-generation of the agreeing expletive, the standard GB and minimalist assumption for non-agreeing expletives.

4.6.2 ϕ -specification, Merge, and the Match Condition

Expletives lack theta-theoretic content. This limits them to non-thematic positions. Since having a pronoun with a ϕ -matrix F does not imply having an expletive with a ϕ -matrix F or with any ϕ -matrix for a language, although frequently if an expletive exists it is homophonous with some pronoun, we must assume that pronouns have some theta-theoretic content which allows the appropriate distinction to be drawn. For example, in line with the research on pronouns since Evans (1977, 1980) and Cooper (1979), we might attribute to pronouns the content of a minimal definite description, *the (entity) \underline{x} identical to \underline{y}* , where the y is either bound by a quantifier or established by discourse.

On the other hand, I have concluded that expletives clearly can agree in ϕ -features with their T. The question is how to implement this. I begin by reviewing a possible approach presented in MI for a different reason, NP-movement of the English expletive *there*. Although I reject it, it is an excellent foil which illustrates the issues involved. It must also be discussed because it presents itself as an argument that the English *there* expletive has a [person-] probe, contra the conclusions of MP:286-7, 350.

The basis of MI's argument is the following paradigm, which has been interpreted since Postal (1974) as showing the raising of an expletive (e.g. LGB:87). ECM clauses clearly project [Spec, TP], as can be seen from (325)a and (325)b. However, a DP cannot appear in this position in a raising construction, (325)c. What seems to happen, instead, is that the expletive obligatorily Merges in the lower [Spec, TP] if it is to Merge anywhere in the minimal (finite) CP,

theory is because they share a theta-role.

and then raises to the matrix [Spec, TP]. Thus are both [Spec, TP] positions occupied by the expletive, and unavailable for "intermediate raising" by the DP associate, (325)d: see MP:345-6, 366-7, MI:104, 106f., 124-5, and for comments Castillo, Drury & Grohmann (1999), Bošković (2002). It is known as the Merge-over-Move paradigm:

(325) Merge-over-Move paradigm

- a I expect there to arrive three anthropologists at the conference.
- b I expected (three anthropologists) to arrive (*three anthropologists) at the conference.
- c *There are expected three anthropologists to arrive at the conference.
- d There₁ are expected *t*₁ to arrive three anthropologists at the conference.

The (325)c-(325)d contrasts also holds for example in French and Italian, which however lack ECM infinitives: for Italian, Burzio (1986:116-8), LGB:259-269 *passim*; for French, (Bošković 2002:107-9).²⁹⁰ This LGB:260-9 takes as evidence for expletive *pro* raising in Italian and in turn for the existence of expletive *pro*.

However, Bošković (2002:196-7) advances a crucial empirical counter-argument to the expletive-raising hypothesis. He observes that even if we hold all the assumptions constant, it does not go through. French expletive constructions using *il* show the same post-verbal placement of the associate, both monoclausally and across ECM boundaries, as do the English constructions. This should reflect successive-cyclic A-movement of the expletive. French differs from English, however, in that the experiencer of *seem*-verbs blocks A-movement of the embedded subject (326)a, including the *it*-type quasi-expletive (326)b. Therefore, the *there*-type expletive cannot be raising by A-movement from ECM infinitives if there is an experiencer, and must be base-generated in the matrix [Spec, TP]. Yet the subject continues to be post-verbal (326)c, which shows that that this placement is not due to the expletive's occupying [Spec, TP] at some point in the derivation.

(326)

²⁹⁰ Except in the rather special circumstances of \bar{A} -extraction (which cannot apply to an expletive) or AUX-to-COMP raising (which cannot apply in French): for Italian, see Rizzi (1982:III), Rizzi (1990a:I), Cinque (1990:64-8, 77-9); for French, Kayne (1984a). These do not add any evidence: an expletive can never be \bar{A} -moved, and Italian does not have an overt expletive to consider in AUX-to-COMP cases. For perception verbs, see Burzio (1986:287f.)

- a Deux soldats semblent (*au général) être arrivés en ville.
 two soldiers seem.PL to general to.be arrived in city
 Two soldiers seem to the general to have arrived in the city.
- b Il semble (*au général) avoir plu.
 it seem to general to.have rained
 It seems to the general to have rained.
- c Il semble (au général) être arrivés deux soldats en ville.
 it seems to general to.be arrived two soldiers in city
 Two soldiers seem to the general to have arrived in the city.

This argument shows that some other account is required of the Merge-over-Move paradigm. The MI approach to expletive raising implements it by assigning to the English expletive *there* a ϕ -feature, in contrast to MP:IV's approach which gave it only a [D] feature; Bošković's demonstration is important here because it shows the Merge-over-Move paradigm provides no evidence for this.

MI formulates NP-movement as consequent on ϕ -Agree. This means that expletive raising, if it were real, would have to be implemented by giving the expletive a ϕ -feature. MI:128, DBP:15-19 proposes as much. MI:124-5 assigns the *there* expletive a [person-] feature (cp. MI:130, 149n95). This is capable of attraction by Agree out of ECM/raising infinitives, with the [person-] feature, uninterpretable on an expletive, serving the role of Case in making it active for Agree; but [person-] does not delete the ϕ -features of the attracting T under the assumption that it takes a full ϕ -set on a goal to value/delete features under Agree (MI:122, 125, 128, DBP:6 ex. 3). The interesting aspect of the discussion, given the demonstrated irrelevance of the Merge-over-Move paradigm, is how the expletive's [person-] feature is deleted when it is base-generated in [Spec, TP] of a finite (agreeing) T.²⁹¹ MI:128 proposes that since the expletive is an X^0 element, it ought to be able to probe T' from [Spec, TP]. That includes T with its ϕ -set, by that point valued from the associate. Agree then deletes the expletive's [person-] feature, but there is no effect on a finite T's ϕ -set because the expletive is ϕ -incomplete. MI also extends this to *it*,

²⁹¹ This is straightforward when the expletive is base-generated in [Spec, TP] of an ECM infinitive on the expletive-raising account, as in *There_i are expected t_i to be several fish in the pond* or *Kate expects there to be several fish in the pond* (MI:130): Agree by the matrix T/v matches and deletes the [person-] feature of the expletive, but not being able to be deleted by it because it is evidently ϕ -incomplete, finds the goal *several fish*.

with its full ϕ -set, which though uninterpretable values and deletes finite T's ϕ -set because it is full, and is itself deleted by it. The Agree relation is as follows, where I indicate the expletive's ϕ -set, defective for *there* but full for *it*, as ϕ' .

(327) $[_{TP} \text{EXPL}[\phi'] \underbrace{[_{T'} T[\phi^*]} \underbrace{\dots DP[\phi+]}]$

In effect, this returns to the LGB:211-12, 218 view that there is a co-superscripting between AGR and an expletive in [Spec, AgrP], of the same sort as that between AGR and its i-subject associate (see 4.3 for a review).

This approach creates an agreeing expletive, and may be extended to e.g. number and gender for the Czech expletive. I will now show that this is inadequate, because the ϕ -specification of agreeing expletives must be encoded in the lexicon. Consider first the French *il* expletive. *Il* and *there* share limitations to unaccusative structures and indefinite associate, with the same ways of evading them through HNPS and in list readings; cp. Safir (1982:IV), Burzio (1986:II.6), Belletti (1988). The two expletives manifest an apparent difference of agreement, where English has agreement of the associate and French shows no agreement.²⁹² However, this conclusion should be hedged: in neither language can a non-3rd person argument be an associate of the expletive, so all we can conclude for French is that number agreement with the associate is not possible. In fact, French T must have a ϕ -probe that Agrees with the DP in expletive constructions, because a associate is required (chapter V), (328)c. Since there is no number agreement, this can be attributed to T's [person-] ϕ -probe, which matches MI's hypothesis that the [person-] probe is (partly) responsible for the Definiteness Effect (chapter V).

(328)

a *Il est/*sont arrivé trois linguistes.*

There have arrived three linguists.

b **Il est/sont/sommes arrivé (de) nous.*

²⁹² The English expletive construction does not have a genuine non-agreement option, as can be seen in cases like *There arrive(*s) three dragons* (contrast Fiorentino, Brandi & Cordin 1989). Failure of plural agreement is an option in the case of small clauses for some speakers, such as *There is/are three dragons in the cave* (see Schütze 1997:IV.1.6 for an extensive discussion). Den Dikken (2001) argues for agreement with ϕ -features of the entire small clause here, [*three dragons in the cave*].

*There arrived we.

c *Il a été tiré.

*There was shot.

There are two basic options in accounting for the number agreement difference between English and French expletives. The French expletive constructions could be lacking number agreement with post-verbal associates in general, as a general property of ϕ -agreement with post-verbal subjects, as in Fiorentino (Brandi & Cordin 1989). Alternatively, the effect could be due to the expletive. In French agreement with post-verbal subjects is at least possible, as in presentational/deictic constructions based on *ce/ça* + *be* which have optional number agreement with post-verbal subjects although they lack person agreement; agreement is further obligatory in Stylistic Inversion.

(329)

a Ce sont / c'est mes tasses/eux.

That's my cups/them.

b Ibn Fadlan écrit que dans cette region vivaient les Rûs.

Ibn Fadlan write that in this region lived the Rus.

Therefore the absence of number agreement with post-verbal i-nominatives in French expletive constructions must be due to the expletive itself, rather than to a general absence of ϕ -agreement or to the impossibility of number agreement with i-subjects. The French *il* and English *there* expletives must thus differ in that the former imposes singular number agreement. This seems only implementable if it is a lexical property of the French *il* expletive that it has singular number. We see from the paradigm of *ce/ça* constructions in (329)a that lack of number agreement with post-verbal subjects is option. If it is the lexical property of *il* that it is singular, and if as will be discussed there is a mechanism to ensure that an expletive with a ϕ -matrix F can only be inserted in the context of an AGR valued to a ϕ -matrix F' which is a superset of F, *il* can only be inserted in derivations where number agreement with the post-verbal subject does not take place. If it takes place, *il* cannot be inserted, and there is no expletive construction.

I conclude that *il* is specified for singular number; its invisibility for the AEE and binding theory, which is the same as that of English *there*, suggests it is not specified for (non-default) person. By contrast, the English *there* must not be specified for anything, concurring with the conclusions of MP:IV. This explains an asymmetry between the French and English expletives in perception verb infinitival complements. These differ significantly from standard ECM complements, including in their distribution of *there*. Nevertheless, there are contexts where perception verb complements in English allow the *there*-expletive, while there are no such contexts in French:

(330)

- a J'ai vu trois linguistes arriver à la conférence.
I saw three linguists arrive at the conference.
- b *J'ai vu il arriver trois linguistes à la conférence.
I saw there arrive three linguists at the conference.
- c *J'ai vu il y avoir trois linguistes dans la conférence.
*I saw there be three linguists at the conference.

If *il* is lexically specified for a singular number and can only be inserted in a context where AGR has a superset ϕ -matrix, it can never be present in the context of a non-agreeing infinitive. *There* without any ϕ -matrix will be compatible with such contexts. This idea is confirmed by the Czech agreeing expletive, which is also incompatible with perception verb infinitives, as shown in 4.4 (ex. (295)b).

Therefore, the French *il* expletive differs from the English *there* expletive only in being lexically specified for singular number, while the latter is specified for no ϕ -features. We can refine and strengthen this argument for lexical ϕ -specification of expletives. The Czech expletive is restricted to 3rd person associates, for which it varies in number and gender. This could be modeled either by specifying the expletive overtly for some person value distinct from 1st/2nd person, sc. 3rd person; or by leaving it underspecified, and designing some other mechanism to account for its incompatibility with 1st/2nd person. Here, crucial data comes from the colloquial Finnish Split Subject Construction, briefly mentioned in Holmberg and Nikanne (2002:100n4), and the only close analogue to the Czech expletive I know of. The Finnish non-

clitic 3rd person pronoun sg. *se*, pl. *ne* doubles a nominative with which it agrees in number (331)a, (331)b. The pronoun differs from the Czech expletive in that it also allows non-third person associates as in (331)c, from which Holmberg and Nikanne conclude that it is underspecified:

(331)

- a Ne ovat ministerit ostaneet uusia autoja.
 they are ministers.N bought new cars-PART
- b Se on Jussi käynyt monta kertaa Pariisissa.
 it is Jussi.N gone many times in.Paris
- c Se olen minä-kin käynyt monta kertaa Pariisissa.
 it am I.N-too gone many times in.Paris
- (Holmberg & Nikanne 2002:100n4)

Here an expletive that does not vary for person features is compatible with 1st and 2nd person. I conclude that this must be due to the underspecification of the expletive, and that therefore the Czech 3rd person expletive is specified for 3rd person. The Finnish expletive is specified for number only, *se* for singular and *ne* for plural (Finnish lacks gender).

More generally, an expletive specified for a feature [+F] seems to be only inserted into a context where AGR is also specified for [+F], but an expletive underspecified for [F] can be inserted in a context where the local AGR has [\pm F] or lacks [F]. The ϕ -specifications of the expletives discussed are:²⁹³

(332) Expletive ϕ -specifications

<i>there, það</i>	No ϕ features
<i>il</i>	#=sg.; no person value
Finnish	#=sg./pl.; no person value
Czech	#=sg./pl.; gender=m./f./nt.; person=3

²⁹³ I set aside the *it* expletive, which requires a CP associate, probably for a different reason.

The ϕ -features of null expletives, *pro*, cannot be directly investigated. Expletive *pro* in e.g. Spanish allows *pro*-drop with all i-subjects, including 1st/2nd persons; but this could be because it is either underspecified for person or specified for 1st/2nd.²⁹⁴ The patterns of ϕ -specification do not correlate with the richness of agreement in a language; what pattern there is looks as though it is due to successive elaboration of ϕ -feature geometry along its implicatures (Harley & Ritter 2002, Béjar 2003), which prevents a language from having for example only a 3rd.sg.fem. and 3rd.plural.masc agreeing expletive.²⁹⁵

These differences among expletives suggest that they are specified in the lexicon for ϕ -features, rather than that they derive whatever ϕ -specification they have through Agree with the valued ϕ -features of T⁰ in their T' c-command domain, as proposed in MI. In 4.7 I will derive the difference between agreeing expletives and Agree-valued ϕ -sets for syntactic and LF visibility from this. Now, the expletive must be correctly inserted in [Spec, TP]:

- (333) Expletive insertion and agreement: An expletive may be inserted by non-thematic Merge into [Spec, TP] only if the Agree-valued ϕ -set of T is a superset of the lexically listed ϕ -matrix of the expletive.

This ensures that the Czech agreeing expletive, specified for 3rd person, cannot be inserted in the context of AGR valued from 1st/2nd person, while the person-underspecified Finnish expletive can; and similarly that French *il*, specified for number, or any agreeing expletive, cannot be inserted in the context of ϕ -less infinitival AGR of perception verb complements, but English *there* can.

²⁹⁴ Unless examples like (i) show this, where *te* as a *se*-anaphor recovers its ϕ -features from *pro*; but it is not clear that *te* here is a *se*-anaphor (see Reuland 2001 for discussion 1st/2nd person anaphora in an Attract/Agree approach).

(i) *pro*₁ *te*₁ *gustas* *tú*₁.
 you^C appeal-2.SG you(SG)

You like yourself. (Spanish)

²⁹⁵ Within referential *pro*, a different phenomenon, we find evidence that the lexicon is capable of containing a referential *pro* for certain ϕ -matrices only: colloquial Finnish and Hebrew past/future here offer the paradigm cases, where *pro*-drop is possible only in the 1st/2nd person and not in the 3rd. A neat minimal contrast is provided by Italian, where *pro*-drop is impossible only in the 2nd.sg. of the subjunctive (Cardinaletti 1997a), and Yiddish, where *pro*-drop is possible only in the 2nd.sg. (Rohrbacher 1999:258); cp. Haiman & Benincà (1992:179) for another minimal example. As Italian and Hebrew show, we also have sensitivity to tense/mood. Hebrew is instructive here: unlike referential *pro*, expletive *pro* has no tense/mood sensitivity, which might be generally the case. However, it is far from clear to me how to implement the tense/mood sensitivity of referential *pro* in the first place (perhaps by having only specific T's have agreement to license an empty category), and it might carry over to expletive *pro*.

In reviewing expletive base-generation in MP:IV in 4.6.1, we observed that the expletive is merged to satisfy the EPP, there implemented as a [D] feature of T. In MI, the conceptual basis of non-thematic Merge is more carefully discussed. Both MI and DBP pursue the hypothesis that beside Agree, "there is presumably a similar but distinct agreement relation, Concord, involving Merge alone." (DBP:42n6):

Set-Merge typically has an inherent asymmetry. When α , β merge, it is to satisfy (selectional) requirements of one (the *selector*) but not both. ... Set-Merge of (α , β) has some of the properties of Agree: a feature of one of the merged elements (say, α) must be satisfied for the operation to take place. Furthermore, F is in the label of α , hence detectable in an optimal way (satisfying condition (52b)). The selector F for Merge is analogous to the probe for Agree. ... The intuitive content of the Projection Principle is that for a substantive category α , the selector F is a semantic property of α , an interpretable feature. Hence, F does not delete (another difference between θ -theory and checking theory). Further specification depends on how θ -theory is understood. Take, say, transitivity of a verb V. If the property is implemented in terms of θ -grids, then a feature of V selects the object. If it is implemented configurationally as a structure [$_{\nu}$ ν [$_{\nu}$ V...]], then ν too is a relevant selector and the ν -VP structure enters into the interpretation. In either case one or another form of deviance (or crash) results from inappropriate merger. (MI:133-4)

Base-generation is therefore restricted by an Agree-like relation between the object responsible for base-generation and the object base-generated. It is in this context that principles such as that of MI:103 "Pure Merge in θ -position is required of (and restricted to) arguments" find their place. Base-generation of an expletive takes place in a non-thematic position, [Spec, TP], to satisfy a purely formal requirement, the EPP, however it is exactly implemented: MI:122 suggests that the EPP is "an uninterpretable selectional feature."

Based on rather different evidence, chapter III proposes the Match Condition for Merge, concentrating on non-thematic Merge:

- (334) MATCH CONDITION: if Merge(α , β), then for any formal feature F, the value of F on the label of α and the label of β do not differ.

The Match Condition accounts for the ϕ -agreement of subjects, inserted by non-thematic Merge, with the Agree-valued ϕ -features of the head of their sister, as in *Kate and Nolwenn seem/*seems like they are about to leave*. This mechanism, which is independently motivated, also (almost entirely) correctly deals with the insertion of an agreeing expletive. Whatever lexically-specified ϕ -features an expletive has, they must not differ from the Agree-valued ϕ -features of the T head of its TP sister by the Match Condition.

A slight modification of the Match Condition might be contemplated in this chapter to account for the fact that *there* may be inserted in perception verb infinitives in English, but *il* in French cannot, (330) above. The Match Condition would allow *il*, with singular number, to be inserted as the sister of a non-agreeing TP, just like *there*. If however, the Match Condition is formulated to require that the formal features of the Merging constituent be a subset of those of the trigger, the correct result follows:

- (335) MATCH CONDITION (subset version): if $\text{Merge}(\alpha, \beta)$, where α is the trigger, then for any formal feature F , for each $F=G$ on α , $F=G$ on β .

The Match Condition thus ensure the requisite match between the lexically specified ϕ -features of the expletive and of T , as an instance of the general condition on (non-thematic) Merge explored in chapter III. Since the lexical ϕ -specification of agreeing expletives has been independently supported, and since they may be phrasal and thus their matching with T cannot be explained by some general affix-host matching principle, some mechanism to insure the ϕ -matching we have observed in (333) must exist; its independent motivation is a boon.

The system just developed is a general theory of agreeing and non-agreeing expletives, which are inserted by Merge in a non-thematic position because of their lack of theta-theoretic content, subject to the Match Condition. The operation of the system can be seen directly in languages with phrasal expletives. For non-overt expletives in languages like Spanish, I assume the system works the same, deriving the syntactic visibility of their "strong agreement" for such conditions as EPP satisfaction and Condition A.

Covert *pro* may of course have other properties which fall outside the present scope. An effect of its non-overt status may be that it needs syntactic licensing (Rizzi 1986a, De Crousaz & Shlonsky 2003); as far as I know there is no treatment in recent frameworks of the difference between weak/strong ϕ -Agree for empty category licensing. An alternative is proposed in Rohrbacher (1999:141, 250-1), Speas (1995), where licensing is just lexical availability determined by acquisition: in the present terms, an null expletive or null referential pronoun with such-and-such a ϕ -set will or will not be acquired [Spec, TP]. Finally, a very different (and very attractive) alternative is developed by Ackema & Neeleman (2003), who propose that (a class of) empty categories are simply the result of an incorporation procedure which rewrites two

syntactic elements as a host + affix in the morphological/prosodic component, where such rules exist anyway. It is properties of the "incorporation" procedure which combines them with their hosts that determine whether they are licensed. This captures rather directly the *pro*/clitic connection proposed in early approaches to the null subject phenomenology.

Another issue possibly related to covert *pro* is verb raising. Alexiadou & Anagnostopoulou (1998) argue that in NSLs like Greek, V-to-T raising satisfies the EPP because the verb always contains syntactically independent interpretable ϕ -affixes with a [D] feature, over and beyond uninterpretable ϕ -features in need to check against the subject. These affixes Merge with the verb in its thematic domain and match the subsequently-valued ϕ -features in some unspecified way, which plausibly relates to their distinction of X^0 vs. XP Merge. In the case of subject clitics in Fiorentino, they propose that the Merge is not in the thematic domain but instead an X^0 Merge to AGR, which approaches the present (and classical GB) account. Verb raising in the latter case cannot be driven to satisfy the EPP; they propose instead that V-raising in such contexts is driven by the affixal nature of the subject clitics (p. 517 and nt. 27). These are all matters beyond the present concern, however.

4.7 Conclusion

4.7.1 *The ontology of ϕ -agreement*

In this chapter I have used ϕ -agreement with overt i-subject DPs to probe into the properties of the result of ϕ -Agree. The work reviewed in 4.2 shows that in weak agreement languages, two properties of the result of ϕ -agreement correlate: inability to satisfy the EPP, and invisibility for syntactic and LF principles. However, agreement satisfies the EPP in NSLs. I have established that in NSLs, the result of ϕ -agreement is also visible to the binding theory. Thus there is a neat descriptive distinction between weak and strong agreement: the latter but not the former is visible to syntactic/LF principles.

I have argued that this distinction is to be best captured by assuming that the result of ϕ -Agree is uniform in the weak/strong systems (modulo any empty category licensing issues), and that the strength of strong ϕ -agreement rests not in the output of ϕ -Agree but in the existence and

properties of a covert expletive, as proposed in Rizzi (1982:IV), Burzio (1986:II), and LGB. The insertion of any expletive, covert or overt, satisfies the EPP, and permits to converge derivations with appropriate *i*-subjects, whose appropriateness depends in different languages on such further factors as the Subject-in-Situ Generalization and the Definiteness Effect. If the expletive has further ϕ -features that track those of the *i*-subject, these are visible to principles such as AEE (HSR) and Conditions A/B, so that the ϕ -features of the *i*-subject appear to be visible at the position of the expletive (which is virtually the same as that of ϕ -agreement). The ϕ -specification of expletives varies cross-linguistically, and must be indicated in the lexicon (4.6.2). As any lexically-specified though "meaningless" ϕ -set, such as the plural of *pants*, it deletes by autonomous deletion (chapter I) in the translation to the semantics, not by any ϕ -Agree related mechanism, and therefore remains visible up to that point. Principles or operations responsible for the AEE and Conditions A/B must apply between the point where an Agree-valued ϕ -set deletes and the point meaningless ϕ -sets delete (if there is such a latter point, in fact); this I leave undiscussed, because the formulation of these principles and the determination of valued ϕ -set deletion (cp. chapter III) would lead to further chapters of this thesis.

The implications of these conclusions for the ontology of agreement, understood in the technical sense as the result of ϕ -Agree, are very conservative with respect to the theory of MI as well as that of LGB. The result of ϕ -Agree is not visible for syntax/LF principles after ϕ -Agree, beyond its role in licensing which may well be on the morphological side as in Ackema & Neeleman (2003) or on the acquisition side as in Rohrbacher (1999). Thus, an Agree-valued ϕ -set is effectively gone after its valuation. In both MP:IV and MI, this is implemented by cyclic deletion of valued (checked) features. However, unlike in MP:IV, there is no derived position for the interpretable ϕ -set of the controller at the position of the target. Agree modifies the properties of a syntactic atom, without itself re-arranging atoms by movement/copying, however minimal.

I dwell demonstrating this because the view of Attract in MI:IV has a certain conceptual elegance that is lacking the Agree framework. Under the valuation and deletion of an unvalued ϕ -set by Agree, the property of an atom is changed, with no necessary change in phrase structure. Under the feature movement approach of the Attract framework, there is always a re-arrangement of phrase-structure. Provided certain other conditions hold true, the Attract framework has two elegant properties: (i) the operation of Attract always leaves a foot-print in

terms of syntactic atoms, so that the mere inspection of their arrangements suffices to determine whether a syntactic dependency exists; (ii) syntactic operations/dependencies manipulate/involve only syntactic terms (because it is sufficient to state checking, feature manipulation, as a convention fully determinable by feature-set occurrences in checking domains). The Agree framework mixes levels: it manipulates subatomic properties within the component whose other major operation, Merge, manipulates atoms only. Interestingly, this gives a very strong conceptual impetus to wholly separating Agree and Merge in the compositional theory of movement, because the two operations are really nothing like each other. Chapter III had set out to develop such a theory. This chapter has supported the correctness of the MI stance for Agree. The Agree/Merge distinction is surely a significant aspect of the MI, and we are led to ask deeper conceptual questions, to which I turn in the following subsection.

I end here with a caveat. The database of this chapter consists exclusively of nominative agreement in familiar languages. Agreement with datives has been treated as a case of pronoun displacement in chapter II. However, there is also genuine accusative/absolutive (primary object) agreement. Such ϕ -agreement may clearly happen at a distance without overt movement of a goal, as is clearest in the cross-clausal agreement phenomena without copy-raising, discussed in chapter III for Tsez. There is one major asymmetry between subject and object agreement, which makes it difficult to investigate. Siewierska's (1999) investigation of the phenomenon, drawing on a database of 252 languages, reveals no cases where object ϕ -agreement can take place only with an overt object, which would be the equivalent for object agreement of a weak agreement language (a non-null object language). This asymmetry is reflected in various ways, to the extent the data are clear, such as absence of object expletives. This falls outside of my scope here, but it clearly relates to the special status of the EPP.

4.7.2 *Agree and Merge*

There is a curious, interesting tension at the heart of the MI. On the one hand, syntax is a combinatory procedure whose domain is a list of atoms, the lexicon, and whose primary business is to create arrangements of those atoms by the Merge operation. On the other hand, Merge is not free but triggered, by the subatomic properties of syntactic atoms, by features. Features are not themselves atoms of syntax, capable of being arranged by Merge in bare-phrase structure.

This is true not only of MI; in MI the dichotomy goes farther because the core conditions on syntactic dependencies such as locality are conditions on the feature-relating (Agree) rather than atom-arranging mechanism (Merge/Move).

One can imagine a very different system, in which syntax is strongly encapsulated. The idea would be that the only properties that syntax can see are also properties that it can manipulate, and it manipulates all uniformly say by Merge. In such a system, the only atoms are the atoms of Merge, and their internal structure is invisible. There is thus a singular atom, α . Differences between feature types and feature values for conditions on syntactic dependencies are implemented as different arrangements of α , which are ontologically of the same type as give different arrangements of what corresponds to MI Merge atoms. This is not a crazy system. It is a familiar procedure from investigations of the foundations of mathematics. In fact, it is set-theory constrained by additional axioms that restrict possible sets according to the conditions on syntactic dependencies and the restriction that Merge is binary.²⁹⁶

Let's look at it from another perspective. The decomposition of functional structure currently under progress at various places has already gone so far as to associate, in the limit, each syntactically relevant feature with a functional head, with different heads 1st and 2nd person, etc. (e.g., Poletto 2000). If this were implemented in fully, a further step could be taken. The decomposition produces a functional sequence of heads $S = \langle H_1, H_2, \dots H_n \rangle$ (Starke's 2001 *fseq*). The next step would be to stipulate that each of these heads does not have its content by virtue of any intrinsic property, but by its position in the functional sequence. 2nd person, for example, is 2nd person by virtue of being in the functional sequence between 1st and 3rd person; and similarly the latter terms can be eliminated.²⁹⁷ Position in the functional sequence is of course given by or gives c-command, which is given by Merge. It is a trivial further step to differentiate interpretable from uninterpretable features (functional head sequences) by making each sister of some designated element, say $\{\alpha\}$ for interpretable features and $\{\{\alpha\}, \{\alpha\}\}$ for uninterpretable

²⁹⁶ The farther back one goes in the history of syntactic theory, the easiest this becomes to implement. In Chomsky (1955), only the category label property of atoms plays a role in constraining operations, and it is quite conceivable that there is some reality to differentiating different categories in terms of the amount of their structure. But of course, this is a mirage: the farther one goes back, the less unified are the basic operations, and thus the less they need to refer to properties of lexical atoms.

²⁹⁷ Béjar's (2000) conception of producing the ϕ -feature geometry given by Merge comes closest to this, as far as I know, and it is due to many discussions with her about the topic that I have been able to conceive clearly of the possibility described here.

features. Conditions on dependencies can now be stated solely as conditions on legitimate chains containing arrangements of the sole syntactic atom, α .

This view of syntax as strongly encapsulated has a certain conceptual attractiveness to it. The MI view of syntax is not encapsulated, because the Merge operation which combines atoms is driven by the Agree operation which refers to properties of atoms, features, not themselves accessible to Merge. There is a mixing of levels present. And yet, a separation of levels is envisaged and enforced, because it is only a designated set of the properties of atoms, formal features, that are visible to syntax. Other properties, phonological and interpretive, are not. There is no phenomenon of raising restricted by a condition that the raising verb begin with a vowel and the raised DP end in a consonant, so that the latter provide an onset for the former; nor a raising verb restricted to raising DPs whose quantificational meaning is such that the raised interpretation entails the non-raised one.²⁹⁸ Taking formal features from lexical atoms and making syntax responsible for them makes sense from this point of view.

On this ontological issue of encapsulation, MP:IV and MI differ somewhat. In the MP:IV system, Attract copies and Merges its controller at the position of the target that hosts the probe. In this local configuration, the probe is held to be checked by the interpretable feature. The checking operation itself can be removed from syntax (in the sense that it is not relevant to the system), because whether an uninterpretable feature is checked or not is determinable by simple inspection: it is checked if there is a matching interpretable feature in its checking domain. A convention called the FREE RIDER PRINCIPLE ensures that re-Merge of any feature necessarily pied-pipes the entire set of formal features on a lexical item that contains it (MP:268, 268-270, 275). Re-Merge of formal features means that they serve as atoms of bare phrase structure; the free rider principle entails that individual features do not ever do so without all the other formal features of the same lexical item. Therefore, the smallest atoms of syntax are formal feature bundles; in Distributed Morphology (see Harley & Noyer 1999 for a review), this is all the content of syntactic atoms. The MP system therefore re-arranges formal feature bundles so that each uninterpretable feature has a sufficiently local interpretable feature, and the re-arrangement is by Merge. That is all. The content of formal feature bundles, which is sub-atomic, is never

²⁹⁸ To be sure, such phenomena do exist descriptively: raising in French can cross only null or clitic experiencers, statable in terms of their not forming a prosodic word separate from the raising verb (chapter II); QR is possibly only allowed if it creates an interpretation which does not entail the non-QR one (Fox 2000). Syntactic recasting of these descriptions has generally led to better understanding and greater generality.

itself affected. It must however be known to Attract, so that dependencies between matching features can be produced. Which formal features (or feature bundles) are which, sc. ϕ -features vs. \bar{A} -features, is not determinable by examining the syntactic structure of a formal feature (or feature bundle), because it has none; in this way, MP departs from the strongly encapsulated syntax described above. So in MP, subatomic information (identity of formal features) is accessed by Attract, but it is not changed; the only structural change is manipulation of atoms, by re-Merge of the formal feature bundle. We could refer to this as a semi-encapsulated syntax.

MI goes farther in the direction away from encapsulation. As discussed in this chapter, there is no syntax/LF-visible representation of the interpretable features of the goal at the position of the target. And yet, it is obvious that a feature communication between the probe on the target and matching features on the goal does take place in the absence of such a representation, for the trivial reason that long distance ϕ -feature agreement (for example) is spelled out at PF in *there are thought to be **three dragons** left in the world*. This communication must be syntactic, since it obeys the conditions on syntactic dependencies. This necessitates a deep change in the MP:IV conception. MI adopts the stand that uninterpretable features are unvalued, and Agree values them. On the one hand, this creates a local representation of the interpretable features with which they entered into Agree. On the other hand, the representation is not syntactic -- atomic -- but subatomic: a property of a syntactic atom is changed by Agree. This is the crucial ontological difference with MP:IV. In both systems the Attract/Agree operation refers to subatomic properties for its application; but in MP it only manipulates syntactic atoms, while in MI it manipulates their subatomic properties as well.

So there is a fundamental clash in the MI view of syntax: the core Agree operation refers to and manipulates properties, feature values, which are not in principle manipulable by the other core operation, Merge. My interest in this section is principally to tease out this description. I want to conclude with a principle that potentially bears on the MI view, the free rider principle of MP already discussed. The free rider principle is not really discussed in MI and DBP, though the "Maximize matching effects" condition of DBP:15, 45n30 bears on it. The condition is proposed to make sure that person and number features cannot be valued separately; if something is a match for person only, it may be displaced by the Agree relation, but it cannot value the probe if the probe has a number feature only. There is a zone of ambiguity here that turns on what a probe is. If person and number are structured into a larger ϕ -feature bundle and the whole

bundle is a probe, the use of the condition does not entail the free rider principle. If, on the other hand, person and number have no more structure w.r.t. each other than either has w.r.t. a [Q-] probe on the same head, then the use of the condition is that of the free rider principle.

In any case, there is independent evidence for the MP construal of the free rider principle. I have made two major uses of it. First, in chapters III and V, as the specific economy condition which implements Bruening's (2001) insight that if a *wh*-word undergoes successive-cyclic movement to [Spec, ν P], it necessarily ϕ -Agrees with ν . A closely related phenomenon seems to me to be Schütze's (1999) treatment of Korean Case-stacking, where a focused constituent gets accusative or nominative morphology depending on which Case checker it is closest to, ν or T; Schütze proposes focus checking via ν /T (or a local focus projection), which at the same time results in ν /T-related Case morphology. Second, in chapter III, to make sure that an \bar{A} -relation between a head in the C-system and a corresponding \bar{A} -phrase also transfers the ϕ -features of the \bar{A} -phrase, above all its index, to the relevant head, which is assumed to have an unvalued ϕ -set. I make use of a different data-set in Rezac (forthcoming b), to make sure that the EPP feature of T, there construed as a formal probe [δ -], is valued from a goal found by any other probe of T such as [ϕ -]. In all of these cases except the last, the goal may stay in-situ and the first probe therefore is entering at least *prima facie* into a long distance Agree relation, so the free rider principle seems to apply to pure Agree, rather than being somehow a consequence of associated movement.

The free rider principle appears to be a condition on valuation rather than a condition on probes. Consider ν for this purpose in successive-cyclic \bar{A} -movement, it with an \bar{A} -probe and a ϕ -probe. If there were a requirement that all the unvalued features of a head probe as a unit, they should stop at the first goal that matches any of them. That would be the object, so no successive-cyclic \bar{A} -movement. This does not seem right; the ϕ -probe stops at the object, the \bar{A} -probe at the *wh*-phrase. The \bar{A} -probe looks past the object to see a *wh*-word in the [Spec, CP] of the lower clause, independently of the locality conditions on the ϕ -probe.²⁹⁹ If the free rider is a condition, it is a condition on valuation:

- (336) FREE RIDER PRINCIPLE: All the probes of an atom must try to be valued from a goal matched by any of them.

²⁹⁹ Béjar (2000b, 2003) demonstrates the separability of person and number probes as well.

This might seem to predict that if the \bar{A} -probe goes first, the ϕ -probe of ν could be valued from the *wh*-word it reaches, by-passing the object. This is incorrect though. The \bar{A} -probe and the ϕ -probe are on the same head and they are not extrinsically ordered w.r.t. each other. The Earliness Principle of chapter II predicts that in terms of cyclic/derivational timing, they both attempt to Agree "at the same time" -- one cannot wait for the result of the other. They operate, as it were, in parallel (an interesting consequence of the Earliness Principle). So each matches and gets valued independently at the same time, with the free rider principle applying vacuously in this case. It is not vacuous if there is no object; the *wh*-goal, matched by either probe, must the value the other, which derives Bruening's economy requirement.

Assume therefore that the free rider principle is a condition on valuing. It then bears on the MI ontology of Agree. MI still differs from MP:IV in being able to value rather than just move formal features. But it shares with MP the fact that if the free rider principle correct, Agree cannot value formal features inside a bundle individually, though they may probe individually. Whichever of the formal features on a head probes first, all the others attempt to be valued at the same time. This is equivalent to saying that at the point Agree gets to valuation, after a match has been found by a probe, syntactic atoms -- entire formal feature bundles -- are always involved. The free rider principle is not the sole piece of evidence that points to this. The fact that a ϕ -probe knows, in assigning Case, whether it comes from T or ν so it can distinguish between nominative and accusative, also requires this assumption (both in MI and chapter V here).

That is a conclusion about Agree of some significance. One way of deriving it would be to say that the valuation aspect of Agree is to add a "link" to the occurrence of the goal rather than to literally value features (cp. Frampton & Gutmann 2000).³⁰⁰ At spell-out, as the PF interfaces processes each originally unvalued formal feature bundle, it sees its link, and recovers values from the goal that had thus been linked by Agree. In the context of the proposal made in chapter III, this concept of a "link" has a ready implementation: it is the index ϕ -feature, which identifies the goal of Agree.³⁰¹

³⁰⁰ This is a multi-dominance theory, but over features, not Merged copies, so it does not affect copy theory.

³⁰¹ To the extent that there is only a single index value possible on a target, if a target has different probes (\bar{A} and ϕ on ν), only a single one may result in valuation of the index; this will be the \bar{A} -probe in the case under discussion since it is needed to interpret the result of \bar{A} -movement to [Spec, ν P]. This would predict that in a language with

If this goes in the right direction, the structural change introduced by Agree is rather trivial: whatever probe it is triggered by, it values the index feature of the goal. Chapter III has argued this is in any case crucial to interpret non-thematic Merge, including movement. It turns out it may be the only operation necessary as well. Two principles refer to valued features: the Match Condition and PF spell-out. In each case, it suffices if they examine the index, for the index identifies the goal with the appropriate lexically-valued features. At each application of either spell-out or the Match Condition of an item with a valued index feature, the goal is accessed through it and its valued features determine the values for the unvalued features of the item with the index link. The uninterpretable features on goals are still crucial, to act as (separate) probes for Agree and thus by conditions on Agree determine which goal's index provides a value. However, once a goal is found, all the information taken from it by Agree is its index. Merge then applies independently under the Match Condition of chapter III.

This reduces the dichotomy between Agree and Merge of the MI framework. Subatomic properties of atoms still drive Agree, but Agree changes only their index property. The further question that awaits, the real nature of indices and their relation to other features, particularly ϕ -features, remains open.

successive-cyclic movement and across a matrix object, while *v* enters into a separate relation by Agree with the *wh*-word and the object, the index feature of the former only is left at *v*, and at spell-out will determine the value of the ϕ -features as the following discussion ensues. I do not know if this is correct (Innu-aimûn could resolve the issue); it seems interesting.

5 Chapter V: Case Shells

C'est drôle, tout de même, cette loi anti-marmite! -Obelix le Gaulois[†]

5.1 Derivational Case assignment and partial deactivation

The investigation of partial ergative displacement in Basque the chapter II ends by concluding that the spirit of the Active Goal Hypothesis (AGH) perfectly describes the availability of ϕ -features to Agree: α is deactivated after entering an Agree relation, where α is not a goal but an individual ϕ -feature, distinguishing person and number. This is required because Agree by ν with the external argument for person only means that T cannot Agree with the external argument for person, but continues to Agree with it for number. In this section I will make a proposal that continues to implement deactivation under AGH as structural Case assignment, as in MI. To account for the Basque facts, this calls either for relativizing Case to features, or for reconstruing Case. I take the latter road. It departs from much recent minimalist theorizing by taking Case not to be a formal feature, but a functional category above the DP, the K of Travis and Lamontagne (1992). The content of this category is derivationally determined by the probe that Agrees with the DP, recalling Bittner and Hale's (1996) Case-binding. This content, a copy of the probe itself, implements AGH by serving as an intervener for Agree.

The proposal is as follows, restricting exemplification to the ϕ -Case system though the proposal will be general for the probe-goal system. DPs enter the derivation as such, with their ϕ -features visible to Agree, and no features that render them "active". Any match for a probe is itself capable of valuing the probe.³⁰² Let Agree introduce a functional category K that takes the goal term of its input as a complement, adding a functional KP layer above the DP. K is determined from the probe, the other term of Agree: it is (or contains, see below) a copy of the probe as it is at the point where it enters into Agree, unvalued and undeleted. This side of the Agree operation is thus:

[†] Une aventure d'Astérix le Gaulois: Astérix aux jeux olympiques, Uderzo & Goscinny, 1968, Éditeur Dargaud (1982), p. 36.

³⁰² Though as section 5.3 suggests, properties of the probe may not allow this.

(337) CASE SHELL INTRODUCTION: Agree (probe, goal): $\text{goal} \rightarrow \{\text{probe}', \text{goal}\}$

Probe', the occurrence of a ϕ -probe introduced above the DP, I will henceforth call K, and refer to it as a Case shell. K is spelled out as Case morphology on the DP. Probe' may be treated as the label of the goal, but this is actually not crucial. I assume that the goal always entails at least some structural complexity; that is even pronouns are at least $\{\alpha, \beta\}$, where α is some functional projection such as D and β some lexical core such as N(P). On that assumption, K always c-commands both α and β , because it is a unitary term, so that $\{\alpha, \beta\}$ is the sister of K, within which α, β are properly contained.³⁰³ For example:

(338) $\{K, \{D, NP\}\}$

Apart from (337), Agree works as in MI: unvalued features of the original occurrence of the probe are valued from the DP.

The occurrence of the probe that is K has the same ϕ -features as the probe at the point at which the probe enters into Agree. Whatever ϕ -features had been valued on previous cycles have been deleted; but those for which the current Agree relationship is being established remain unvalued and visible. It is these features on K that are crucial for AGH: unvalued ϕ -features on K will by locality serve to block Match between a higher ϕ -probe and the ϕ -features on the DP that K now c-commands. The reason for the blocking is simply feature-relativized locality. The KP shell properly contains the DP with its lexically valued ϕ -features, so any in-coming probe will first see the unvalued ϕ -features of the KP and it stops at them. It is a species of the defective intervention effect. Since under the split- ϕ assumption some of the probe's ϕ -features may have been deleted on a previous cycle, it may not have a full set of blocking uninterpretable ϕ -features when it becomes K; this derives the partial deactivation of ergative displacement.

Let us see how this works in detail. The last chapter arrived at the conclusion that under ergative displacement (ED), T Agrees precisely with those features of the EA that v has not Agreed with, which in languages without underspecification is all of them. In Basque non-present tense though, it is number only:

³⁰³ This eliminates the complexities in Rezac (2003:176n14) about this issue.

$$(339) \quad \begin{array}{ccccc} \underline{T} & & \underline{ERG} & & \underline{v} & & \underline{ABS} = 3.SG/PL \\ \pi- & \neq & \pi+ & \leftrightarrow & \pi- & & \\ \#* & \leftrightarrow & \#+ & & \#* & \leftrightarrow & \#+ \end{array}$$

Hence, deactivation is relativized to features:

- (340) Feature-relativized AGH: For any feature of a goal F, Agree(α ,F) renders F and only F on the goal inactive.

If activation features like Case are kept, this requires giving each ϕ -feature, π and $\#$ separately, has its own Case feature. This is not a direct way of understanding (340). The real generalization is that for any feature, it is the fact that it has entered Agree that somehow renders it invisible to a higher probe for the same feature.

Case shells derive this behavior directly. Agree leaves behind it around a DP a shell that contains precisely the feature(s) that are Agreeing. The fact that this can be stated trivially as leaving behind a copy of the probe is a bonus. This is what happens in ergative displacement:

$$(341) \quad \begin{array}{ccccccc} & & \gamma & & & & \\ & & \underline{\hspace{2cm}} & & & & \\ & & \beta & & & & \\ & & \underline{\hspace{2cm}} & & & & \\ \underline{T} & & [\text{KP } \underline{v} \text{ } \underline{ERG}] & & \underline{v} & & \alpha \\ \pi- & \neq & \pi- \quad \pi+ & \leftrightarrow & \pi- & & [\text{KP } \underline{v} \text{ } \underline{ABS}] \\ \#* & \leftrightarrow & \#+ & & \#* & \leftrightarrow & \#- \quad \#+ \end{array}$$

During the first stage of the derivation, α , v Merges with its complement VP, which contains a 3rd person absolutive. Agree for $\#$ on v takes place, and $\#$ is valued to $\#*$. I suspend the question of deletion upon Agree for the moment. For the goal DP, the consequence of Agree is that the copy of v with both $[\pi-]$ and $[\#-]$ features unvalued becomes the K head of the absolutive DP, spelled out as absolutive Case. Because of the presence of $[\pi-]$ and $[\#-]$ on this K, no further Match for any ϕ -features on this DP will be possible for a higher ϕ -probe: it is intercepted by them through feature-relativized locality. At the next stage, β , the external argument is added in [Spec, v P], resulting in cyclic expansion of the search space of the still unvalued $[\pi-]$ on v . Agree takes place, valuing and deleting $[\pi]$, and adding a KP above the DP of the external argument. The K head of KP is a copy of the π -probe of v at the point where it Agrees for $[\pi]$

with the external argument, an unvalued $[\pi-]$ feature. Consequently, at stage γ of the cycle, T's $[\pi-]$ probe is blocked by locality because it encounters the $[\pi-]$ of the KP shell. On the other hand, the $[\#-]$ probe of T Agrees with the $[\#]$ feature on the external argument, because there has never been a $\#$ -probe from v to give the EA a $[\#-]$ shell. The γ Agree cycle results in the addition of a new KP layer to the external argument, with K = the π -probe of T, spelled out as ergative morphology (not shown).

This proposal amounts to a derivational introduction of KP shells, where Bittner and Hale's (1996) Case-binding of K by a functional category F is replaced by the introduction of an occurrence of (a part of) F as K . Such introduction of a KP shell may seem to violate cyclicity, because syntactic material is added within a tree below the root node. Specifically, the extension condition of MP:190 is violated. However, the whole point of the formalization of cyclicity both as the Locus Principle of MI and as the Earliness Principle of chapter II is to drive the Extension Condition. It is not a primitive; it is a version of the intuition that derivational interaction of operations produces specified feeding/bleeding patterns as discussed in chapters I and II. The intuition imposes a partial isomorphism on the growth of the phrase-marker and the location of probes, so that probes can never try to find a match "too high", in yet non-existent portions of the tree, which would allow downward movement. To this point, the Locus Principle was assumed and discussed in chapters I and II as the driving force of the derivation. It limits the triggering of operations to a designated atom, representationally the label of the tree. The unvalued feature of a KP shell will never be able to probe, because it never becomes a locus: it is introduced as part of the Agree process, not by selection from the lexicon or numeration.

However, this discussion I think also brings into relief the conceptual weakness of the approach I am proposing. The addition of Case shells is a property of Agree. It is not an independent Merge step triggered by the theta-theoretic or EPP properties of the locus of derivation. (338) is a rule of structure building that has the effect that Merge (K , goal) would have, but it is not an instance of Merge. It could be so construed, for example by devising a system where the Agree operation necessarily feeds the Merge operation with the probe and the goal as arguments. But it is not clear why this should be so, other than for some deep interface reason such as the Case Filter. It is, intuitively, something stipulative to add to the feature-valuing relation Agree – much, in fact, as deactivation (valuation) of an activation feature, which is not itself a probe, is. The advantages of the "shelling" approach are several, as will be seen in

the next paragraph, but it has this drawback. I do not seriously propose that this chapter represents a true understanding of what Case and other activation features are; rather, if its advantages are acceded to, it should be viewed as a step along the way, better than activation features are, but not there yet.

To turn to the advantages then, the implementation of Case as a derivationally introduced KP shell has three kinds of nice consequences. First, as has already been discussed, it reduces deactivation by Case assignment to feature-relativized locality, caused by the (defectively) intervening unvalued probes of the shell. There is no valuing of a Case feature for deactivation. The role of the probe's copy in intercepting a higher probe can be viewed as an explanatory account of Manzini's (1998) take on the AGH: a probe such as [Q-] can look down to the search-space of the next lower probe [Q-], and not within it. This leads to a second consequence, the elimination of the activation feature of Case, and of activation features in general as further discussed in 5.2. This is a welcome consequence because it reduces the MI system to its core, the properties of probes. Third, it will (in a moment) implement very directly the MI proposal that the morphological identity of Case depends on the nature of the probe, T for nominative and *v* for accusative. In fact, it returns to an earlier approach where Case is a preposition or complementizer-like shell around a DP, the KP. These two points are discussed below. The proposal also introduces a number of technical issues which are discussed subsequently, relating to locality and valued/unvalued features on the target of the probe and the shell.

In the Case shell proposal, a DP enters the derivation without any structural Case property, and its Case is assigned by adding to it functional architecture. This sharpens the difference in MI between features which trigger operations, such as ϕ -features, and features which only serve to mark a goal as "(in)active" for Agree, such as Case. The latter here are not given the status of features. There is no feature rendering a goal "active"; its features are always visible to a probe, except in so far as independent principles such as locality or embedding in a left branch hide them. A goal becomes inactive because Agree adds above it a functional layer which contains intervening features. We thus expect Case not to trigger operations itself; specifically, in a system where the downward dependencies of Attract/Agree replace Greed, we do not expect Case to allow a dependency between a DP and a Case assigner that it c-commands, the converse of the classical assigner > DP configuration. This seems correct. It gets to the heart of the MI

system, where all that should matter ideally to the Agree relation are probes and their properties, not the properties of goal (MI:127, 131).

This result may be extended to the Active Goal Hypothesis in general. Recall from chapter I that one of its core cases is the freezing in criterial positions of \bar{A} -phrases (MI, Rizzi 2004). A phrase entering into an \bar{A} -relation can undergo successive-cyclic movement before it does so, but it cannot enter into any \bar{A} -Agree after:

(342)

- a Who_i C_[Q*=i] did you say t' C_{SCM} Nolwenn saw t ?
 - b *Who_i C_[Q*=i] did you ask t' C_[Q*=i] Nolwenn saw t ?
- cp.* ?Who_i did you ask whether Nolwenn saw *pro*_i?

Parallel to Case shells, Agree by (337) introduces \bar{A} -shells around \bar{A} -phrases that are copies of the \bar{A} -probes. The consequences of this in A/ \bar{A} -interaction are cashed out on in 5.2.

The construal of K as occurrence of a ϕ -probe partly captures the observation that the identity of the Case on a DP is determined by the identity of the functional category to which the DP relates: T assigns (is) nominative and ν accusative (MI:123-4, Pesetsky and Torrego 2001). The proposal seems to originate with Williams (1994), in a somewhat different context:

Let us continue to suppose that S is the projection of Tense (or Infl, or anything equivalent), but let us also suppose that Tense is realized on both the subject and the predicate[.] ... Suppose that nominative Case is simply the realization of Tense in the nominal category. There are other instances where the same feature is realized in two different categories, and where the morphological realizations differ considerably. (Williams 1994:11)

Manifestation of structural Case depends on uninterpretable features of the probe: finite T (nominative), ν (accusative), control T (null), on our earlier assumptions. ... For both probe and goal, the form of the uninterpretable feature is determined by Agree. To rephrase in traditional terms, verbs agree with nouns, not conversely, and Case is assigned. (MI:123-4)

At the same time, this consideration reveals that the exact construal of Case shell introduction as copy of a probe alone in (337) is inadequate. A ϕ -probe for example is identical on ν and on T. Introduction of a copy of a probe itself as a Case shell would not suffice to determine the nominative-accusative difference. More information is needed, the category of T and ν for example, perhaps also more of their content depending on what the Case Filter is (see

5.5; cp. Wiltschko 2003). This is independently necessary in the MI system. A probe is a feature on a target; on MI assumptions, the target but not the feature is a term of bare phrase structure (chapters I, IV). It therefore makes no sense at all for Agree to add a feature alone as sister of the goal. In turn, construing Case as a phrase-structural term, a head, is attractive in light of the empirical observations which relate the behavior of Case to C and P (Travis and Lamontagne 1992, Bittner & Hale 1996, Cardinaletti & Starke 1999).

In order for (337) to work then, there must be a convention which creates an atom to host the copy of the probe introduced as a shell. The empirical distinction of nominative from accusative (ergative from absolutive) indicates that the creation of the atom is sensitive to some other property of the target that contains the probe than the probe itself: let us say, its categorial signature, T vs. *v*. A probe, e.g. an unvalued ϕ -feature, therefore seems to know what syntactic term it comes from, e.g. T. This is a property of probes that is not particular to the Case-shell approach of this chapter, but required in the MI system independently: the Agree operation must know that a ϕ -probe comes from T, whether this is in order to value the Case feature of the goal to Case=T (nominative), as in MI, or to assign the correct Case shell, as here. There is independent evidence from the free rider principle that probes know things about their target other than themselves, which is discussed in chapter IV; it seems almost as if the target as a whole enters into Agree, though it is triggered by a probe on it.

Here however arises a problem. Consider again how the empirical observation that a feature can Agree once only, (343), maps to the Case shell account, (344):

$$(343) \quad \begin{array}{ccccccc} \underline{T} & & \underline{ERG} & & \underline{v} & & \underline{ABS} = 3.SG/PL \\ \pi- & \neq & \pi+ & \leftrightarrow & \pi- & & \\ \#* & \leftrightarrow & \#+ & & \#* & \leftrightarrow & \#+ \end{array}$$

$$(344) \quad \begin{array}{ccccccc} \underline{T} & & [_{KP} \underline{v} \underline{ERG}] & & \underline{v} & & [_{KP} \underline{v} \underline{ABS}] \\ \pi- & \neq & \pi- \pi+ & \leftrightarrow & \pi- & & \pi- \\ \#* & \leftrightarrow & \#+ & & \#* & \leftrightarrow & \#- \#+ \end{array}$$

This works most naturally if the shell introduced by *v*'s π -probe does not contain the previously valued [$\#$ -] probe, which has Agreed with the absolutive. If $K=v$ contained [$\#*=PL$], for example, we should expect that the $\#$ -probe of T is stopped by [$\#*=PL$] in the shell. Furthermore, the [$\#*=PL$] in the shell should arguably value the higher $\#$ -probe, under the ϕ -

uniformity hypothesis introduced in chapter III that Agree-valued and lexically valued features are not distinct as controllers of Agree. The problem is summarized in the following diagram; the output is incorrect, because ergative number agreement on T should end up with the number value of the absolutive, which does not happen.

$$\begin{array}{ccccccc}
 (345) & \underline{T} & & [\text{KP } \underline{\nu} & \underline{\text{ERG}}] & & \underline{\nu} & & [\text{KP } \underline{\nu} & \underline{\text{ABS}}] \\
 & \pi- & \neq & \pi- & \pi=1 & \leftrightarrow & \pi^*=1 & & \pi- \\
 & \#^*=PL & \leftrightarrow & \#^*=PL & \# = SG & & \#^*=PL & \leftrightarrow & \#- \# = PL
 \end{array}$$

I conclude that the Case shell introduced by a probe must contain some information about the target of the probe but it crucially must not contain features of the probe valued on a previous cycle. In Rezac (2003), I suggest that this follows if Agree leads to immediate deletion (cp. MI:131).³⁰⁴ By the time Agree between ν and the ergative takes place, the valued $[\#^*]$ feature of ν will have been deleted because it was valued on the previous cycle of Agree between ν and the absolutive. This is surely the most minimal approach if all other things are equal. However, in chapter III I propose that valued features remain in the derivation for quite a while, at least for the duration of one of the MI/DBP phases (much other literature makes this proposal, e.g. Branigan & MacKenzie 2001, Bruening 2001, Carstens 2003), and use it to account for the possibility of cross-clausal agreement which is a paradigmatic violation of the Active Goal Hypothesis:

(346) There **seem** as though there **are flaws** in the analysis.

Flaws should not be able to Agree with the matrix T by the AGH, and yet it does. Therefore, there is evidence that valued ϕ -features remain for a while, and $[\#^*=PL]$ should remain on ν at the point where Agree between its π -probe and the ergative take place in (345).

³⁰⁴ "A crucial property of deletion is that a deleted feature is ... accessible to the phonological component. ... The natural conclusion is that *Spell-Out is associated with agreement*. Deleted features are literally erased, but only after they are sent to the phonological component...*possibly at the phase-level*." (MI:131, my italics). The two italicized phrases are not readily compatible, unless phases are associated with agreement, an option also suggested in Chomsky (forthcoming).

Either some other solution must be found for the problem in (346) that is compatible with Case-shells,³⁰⁵ or the convention that determines K must be such that valued features of the target are not present. This is trivial to state, but I have not found a suitable conceptual reason for it, which immediate deletion would provide.³⁰⁶ I therefore simply state this; recall from chapter I that a term is always an atomic, X^0 unit in bare phrase structure, and that $*[F-]$ is the (unique) term which contains $[F-]$.

(347)

- a Case shell introduction: Agree (probe, goal): $\text{goal} \rightarrow \{\text{MLI}(*\text{probe}), \text{goal}\}$
- b $\text{MLI}(\alpha)$, α a term: a modification of α that removes valued uninterpretable features (MI:126).

There is a curious fact to mention about this solution. At various points I come to the conclusion that if a feature F on H is valued by Agree, it must not project to the next higher label/projection of H (chapter I, III). The conclusion is also reached for quite independent reasons at each point, and it is moreover independently reached for completely different reasons by Béjar (2003:IV) and Abels (2003:II). At the same time, this lack of projection does not take place because a feature is deleted by Agree. There is no better way to state things at present than that H whose F is valued by Agree does not project as H, but as $\text{MLI}(H)$ without F. The requirement for $\text{MLI}(H)$ both in projection and shell assignment suggests there is something to the concept other than the exigencies of any individual theoretical use of it.

Three further technical issues arise. The first matter of concern is the unvalued features of the shell. The feature of the shell which intervenes for a higher probe is the original probe at the point at which it enters into Agree, unvalued. Under standard assumptions, an unvalued feature not valued in the syntax should cause an LF crash. I simply do not assume this. Unvalued features do their work in driving operations, subject to the Locus Principle and the Earliness Principle. At LF, if they are unvalued, they are deleted along with all other uninterpretable features such as the plural of *scissors* (Rezac 2002c), the autonomous deletion of chapter I, and there is a default feature convention on the PF side, q.v. Béjar (2003:75f.).³⁰⁷

³⁰⁵ Most of chapter III is completely independent of the proposed solution.

³⁰⁶ This is derived in Rezac (2002c), but it relies on exploiting complexities of the label system that I am hesitant to adopt here.

³⁰⁷ Cp. also Chomsky (forthcoming, 23-4n19) who suggests that the unvalued Case feature of nominative objects,

The second technical issue is the interaction of Case shell assignment with projection. Obviously, if in (345) v projects after the introduction of the ergative, and if at the same time it contains its valued π and $\#$ probes, and if a label counts as closer to a higher probe than any contents of the object it labels as the most straightforward interpretation of c-command and bare phrase structure dictates, then the Agree-valued ϕ -features of a head such as v will always block access to any lexically valued ϕ -features of DPs in them, (348)a. This is a problem independent of Case shells, and is most sparingly solved by either assuming that Agree-valued features do not project (see above) or giving up labels (Collins 2002):

(348)

- | | | |
|---|--|------------------------------------|
| a | $T_{[\phi-]} \dots \{v_{[\phi*]}, \{\text{ergative}, \{v_{[\phi*]}, \dots\}\}\}$ | <i>ergative inaccessible</i> |
| b | $T_{[\phi-]} \dots \{\text{ergative}, \{v_{[\phi*]}, \dots\}\}$ | <i>no labels</i> |
| c | $T_{[\phi-]} \dots \{v, \{\text{ergative}, \{v_{[\phi*]}, \dots\}\}\}$ | <i>no projection of val'd FFs.</i> |

Finally, a related issue is the locality between the lexically valued ϕ -features of the external argument and the Agree-valued ϕ -features of v . This only arises on the assumption that the latter do not delete, thus on the representation (348)b. In (348)b EA seems to c-command v , but that is an illusion; the external argument will as all DPs be complex, and there is no c-command relationship between any term inside the external argument that contains ϕ -features and v . We require that a higher ϕ -probe reach only the ϕ -features of the ergative, not those of v .

(349) $T_{[\phi-]} \dots \{\{D_{[\phi*]}, \dots\}, \{v_{[\phi*]}, \dots\}\}$

As discussed in chapter I for this c-command problem in general, complex left branches must behave for c-command as if they were simplex, sc. just their labels, so that they c-command into their sister. Thus, the external argument behaves in effect as though it were just its simplex label, D , which c-commands into its sister. It is a different matter whether it c-commands v in general as well, which depends on whether labels are assumed or not; but at any rate the ϕ -

spelled out at the vP phase before T deletes it, is "understood to be, in effect, a morphological convention rather than an actual feature, so that there is no crash at PHON."

features of the EA should c-command the valued ϕ -features of v . This is so if these do not project (if labels are assumed), as just discussed.

$$(350) \quad T_{[\phi-]} \quad \dots \quad \{v_{no \ \phi^*} \{D_{[\phi^*]}, \{v_{[\phi^*]}, \dots\}\}\}$$

This concludes the discussion of the technical issues relating to the Case shell proposal. As I have mentioned in discussing them, most of them arise quite independently of the proposal; this is simply a convenient place to deal with them.

The Case shell proposal has several merits. It accounts for the partial deactivation paradigm of Basque ergative displacement without giving Case sub-features to ϕ -features, and implements directly the idea that F-Agree is responsible for the unavailability of further F-Agree. It eliminates activation features, and construes Case as functional architecture. Case shell introduction is itself a stipulation which, and the particular form of which, I do not derive from deeper principles; it is simply the way the Case Filter looks on this interpretation. The general issue of Case and its interaction with probes is discussed at length in 5.4, which concentrates on the requirement to receive Case in apparently impossible contexts, and 5.5, which concentrates on the need of a probe to enter into Agree and the simplifying consequences of Case shells in this domain.

Prior to that, section 5.2 discusses extension of shelling to the \bar{A} -system, including evidence for multiple Case shells under successive-cyclic \bar{A} -movement. 5.3 examines a different and potentially very interesting consequence. Since a Case shell is a copy of the target that contains at least the probe, it is predicted that the identity of the probe itself could determine the morphological identity of Case. 5.3 argues that this prediction is correct, examining various instances of atypical Case assignment which I call the nominaccusative Case (re-applying a term coined by Oyharçabal 1993 for Basque absolutive to a Case that systematically varies between nominative and accusative in a group of languages); I argue that it spells out a Case shell introduced by T that has only a # but not π -probe.

5.2 Extension to the \bar{A} -system and \bar{A} -opacity

5.2.1 \bar{A} -shells and \bar{A} -opacity

Activation features are also present in the \bar{A} -system. MI:128 proposes that *wh*-words have an uninterpretable feature [wh-] and interpretable [Q+], while the corresponding interrogative C has the unvalued probe [Q-]; under Agree between this C and a *wh*-word, the [wh-] activation feature of the *wh*-word is valued and deleted. This derives the general phenomenon of freezing in \bar{A} -criterial positions:³⁰⁸

(351)

- a Who_i C_[Q*=i] did you say t' C_{SCM} Nolwenn saw t ?
 - b *Who_i C_[Q*=i] did you ask t' C_[Q*=i] Nolwenn saw t ?
- cp.* Who_i did you ask whether Nolwenn saw *pro*_i?

The *wh*-word in (351)b is frozen in the lower [Spec, CP] because its activation [wh-] feature has been deleted under Agree with the [Q-] C of that clause. In (351)a the relation between the embedded C and the *wh*-word does not delete the [wh-] feature, and the *wh*-word may enter into Agree (with subsequent movement) with the matrix [Q-] C.

The shell approach trivially applies to \bar{A} -Agree. Recall the formulation of Case shell introduction in (347):

(347)

- a Case shell introduction: Agree (probe, goal): $\text{goal} \rightarrow \{\text{MLI}(*\text{probe}), \text{goal}\}$
- b $\text{MLI}(\alpha)$, α a term: a modification of α that removes valued uninterpretable features (MI:126).

Agree for an \bar{A} feature such as interrogative [Q-] on C adds a functional layer above the *wh*-word headed by a copy of the \bar{A} -probe. Since the architecture of the clause is such that there is always a Case assigner for a DP before it enters into the \bar{A} -system, the *wh*-goal in question will

³⁰⁸ Rizzi (2004) observes that different types of \bar{A} -movements such as *wh* and focus movement are frozen for each other. This would fall out if there was a unitary \bar{A} -probe, with criterial positions being differentiated by the interpretable features of the target, e.g. interrogative vs. focus C (*cp.* his nt. 2 of Jan. 15 2004 ms.)

always be a KP if it is a DP at all. This KP thus becomes embedded inside a functional layer which is the \bar{A} -shell:

(352) Agree($C_{[Q-]}$, KP): $KP \rightarrow [C_{[Q-]} KP]$

Possibly, the \bar{A} -shell is (partly) responsible for *wh*-morphology, as the KP layer is responsible for Case morphology. This idea would allow an interesting treatment of the overt parallelism found in languages like Chinese, Czech or Breton between *wh*-words, NPIs, and indefinites, as in the following table. However, this is well beyond the present scope and may well be incorrect; nothing essential hinges on this.³⁰⁹

(353) Possible morphological evidence for \bar{A} -shells

	Breton	Czech	Chinese
what, who	pe-tra, piv	co, kdo	sheme, shei
something, someone	un dra, un den	ně-co, ně-kdo	sheme, shei
anything, anyone	tra ebet, den ebet	ni-c, ni-kdo	sheme, shei

Interestingly, the embedding of KP means that the c-command relationships which obtained before the Agree in (352) are destroyed; the KP no longer c-commands outside the new phrase whose head is $C_{[Q-]}$. With the KP, the ϕ -features of the K head also become embedded, and do not c-command into the rest of the clause:

(354) [*wh*-word [... α ...]] \rightarrow [[\bar{A} -shell *wh*-word] [... α ...]]
 wh-word c-commands α *wh*-word does not c-command α

This fact, which emerges immediately from the shelling approach, resolves an interesting and hitherto unexplained problem in A/\bar{A} -interaction. \bar{A} -positions are known to be unable to enter

³⁰⁹ Chinese data is from Cheng (1991:80), who observes that in languages with in-situ dependencies like Chinese there is usually no morphological distinction between the three groups, and vice versa; this is not so for Case. The idea that \bar{A} -shells are responsible for this morphology would also run into an apparent problem with *wh* and NPI in-situ in strong islands; however, default \bar{A} -shell assignment parallel to Schütze's (1997, 2001) Default Case assignment is perhaps an option.

into the ϕ -system for ϕ -Agree or A-movement. This is the improper movement generalization, which in the following examples blocks a topic or *wh*-word from satisfying the EPP and ϕ -agreement of the matrix clause (LGB:195ff.):

(355)

- a *The books₁ seem [_{CP} *t*₁' [_{TP} Bill would read *t*₁]].
 b *Which books₁ [_{TP} *t*₁" seem [_{CP} *t*₁' [_{TP} Aritz counted *t*₁]]]?

I am not worried about cases like these here. In Rezac (2003:178) I propose that they fall under the AGH because the *wh*-word already has a Case shell on the DP inside it, since (under standard assumptions) there is an obligatorily Case-assigning ν there.³¹⁰ This explains the impossibility of ϕ -agreement with the DP by the matrix verb. All other DPs in these sentences also have had Case assigned in the lower clause, so there is no potential match for the matrix T's ϕ -probe, and the structures do not converge.

The relevant cases of problematic A/ \bar{A} -interaction involve ν P-peripheral \bar{A} -movement, such as that which fronts negative and quantified objects in Icelandic, investigated in Svenonius (2000) and references therein (Rezac 2003):

- (356) Strákarnir₂ höfðu [**engu grjóti**]₁ [_{ν P} *t*₂ [_{VP} hent *t*₁ í bílana.]]
 the.boys had no rock thrown in the.cars
 "The boys had thrown no rocks at the cars."

This movement shows \bar{A} -properties like parasitic gap licensing and weak cross-over violations. However, although the derived position of *engu grjóti* is between T and the in-situ position of the subject *strákarnir* (*t*₂), it is completely invisible as an intervener to T-subject ϕ -Agree and related movement (Rezac 2002b). I will call this phenomenon \bar{A} -opacity. The cases

³¹⁰ Diane Massam, p.c., points out that the argument does not go through if the lower clause did not have a Case assigner for the extracting DPs. This is subtle problem beyond my scope (and one of the sources of issues in work on the Improper Movement Generalization) in general; see Müller (2003) for some discussion and a proposal (his Phrase Balance Condition). In this specific situation, if Burzio's Generalization is correct it could derive the presence of a Case licenser: for example, if it is implemented along the lines in MP:IV, the external argument introducer ν may be taken to necessarily have a ϕ /Case probe (with various solutions for unergatives, such as an abstract object). So transitives will always have a ϕ -probe of ν , which in turn will have to Agree, assigning Case.

of \bar{A} -opacity seem numerous; several analogues to (356) are given in Jayaseelan (2001), and a landing site for *wh*-movement in English between [Spec, TP] and [Spec, ν P] is argued for by Fox (1999).

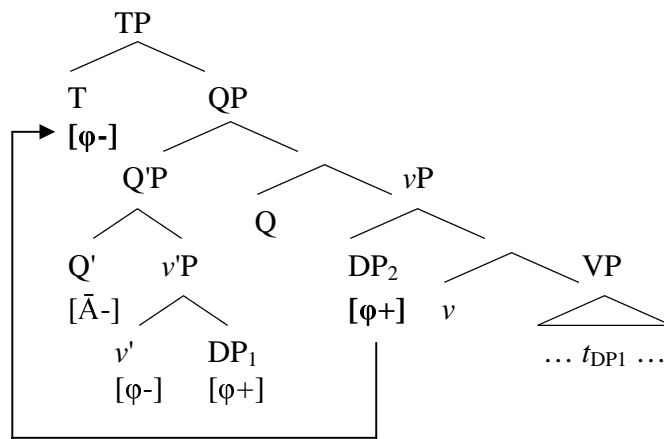
The fact of embedding connects \bar{A} -opacity with a much better understood obviation of intervention effects: embedding. Locality constraints on syntactic dependencies are crucially sensitive to c-command relations, and potential interveners between a target and a goal do not count for locality if they do not c-command the goal. The following *wh*-dependencies exemplify the role of embedding in obviating locality:

(357) Tell me what_1 ***who**/√[the girl **who** came the party] asked Lynn to bring t_1 .

A *wh*-word properly contained within α does not intervene in relations outside of α . So although unembedded *who* in [Spec, TP] in (357) is an intervener for movement of *what* across it from t_1 to [Spec, CP], the *who* embedded in the complex DP subject in the same [Spec, TP] does not intervene.

This gives an immediate account of \bar{A} -opacity. Once the highest projection of N that has any ϕ -features (e.g. the KP) becomes embedded as the result of \bar{A} -Agree, it is no longer an intervener in the ϕ -system. The Icelandic case in (356), for example, comes out as follows at the point where T Agrees with the nominative in [Spec, ν P]. Take Q to be the relevant category that forces negative object movement and has the probe $[\bar{A}-]$:

(358) \bar{A} -opacity



After Agree with Q and movement to [Spec, QP], any ϕ -features contained in the KP *engu grjóti* (=v'P, with K being the ν left as a shell by the ν ϕ /Case probe) are now embedded inside a new functional layer headed by a copy of the $[\bar{A}]_Q$ probe, and are no longer in any c-command relationship with the ϕ -features of *strákarnir*. The latter now Agrees with T across *engu grjóti* to give a convergent derivation with ϕ -Agree and Case assignment.

It is an interesting question whether there is a further consequence: whether the ϕ -features of the KP cannot in fact be seen by the higher ϕ -probe at all. In the example at hand, this cannot be determined because the lower DP needs Case (nominative) from T, and it suffices to make sure that the NM/QMed object not intervene. In general, left branches behave for higher probes as simplex objects, namely their labels: it is not normally possible to have either \bar{A} or ϕ -Agree with a subconstituent of a left branch. This coincides with the independent observation made in chapter I that a left branch must behave as its simplex label for a different purpose, in order to serve as an intervener for objects contained in its sister; the possibility of extending this to the stronger conclusion that a complex left branch is opaque to a higher probe was noted there. In that case, the introduction of a shell has the consequence of changing the label of the left branch: first it was a DP, then a KP, and now finally a QP, each step hiding the content of the previous label from a higher probe. A one-time use of this result will be made in 5.5. I suspect it is empirically correct; it should follow from whatever compresses left branches to their labels for c-command in the first place.

The role of the present proposal in terms of AGH is that by adding a functional \bar{A} -layer above a KP, successful Agree for ϕ -features across it becomes possible, deriving \bar{A} -opacity. This is independent support for treating the "activation" features of the MI framework as categorial shells, which was used in the previous section in the derivational introduction of Case. As this extension makes clear, the present proposal predicts a specific parallelism in the functional architecture of the clause and Agreeing DPs, since each Agreeing functional category (probe) in a clause will add its occurrence to its goal as a functional layer.

5.2.2 Multiple shells

In the Basque example that we started out with, the DP in [Spec, ν P] is assigned two Case shells: first, one by ν , which contains an unvalued [#-] probe, and then one by T, which contains unvalued [π -] and [#-] probes. The two shells together are spelled out as the ergative morphology, identical to the spell out of full T ϕ -probe shell when ergative displacement does not take place.

This exemplifies an interesting possibility: multiple Case assignment (McCreight 1988, Béjar & Massam 1999). DPs that have been assigned a full Case shell are not capable of further Agree, because the shell renders their ϕ -features inaccessible; but the unvalued/default ϕ -features of the shell remain accessible, as can be seen from the fact that they are (defective) interveners for higher probes. Thus we may have multiple Case-shells, when a higher ϕ -probe matches the K shell containing the copy of an unvalued lower ϕ -probe. I do not investigate this directly; it seems to be by and large ruled out by Burzio's Generalization, which enforces a one-to-one mapping between ϕ -probes and goals in need of structural Case, though cp. Rezac (2002a).

However, there is another way to get multiple shells that is open to better investigation. This is multiple Case assignment which involves an \bar{A} -probe as the "outer" Case, on top of an "inner" Case which a DP bears by entering into the ϕ -probe system of its own clause. The following example, though probably fallacious, is a good illustration of the possibility:³¹¹

(359) %Whom₁ do [_{TP} you [_{ν P} t_1 ' think [_{CP} t_1 left]]]?

Here it appears as if the nominative subject of the lower clause, *who*, must have at some point been assigned the accusative associated with *think*. Kayne (1984a) develops such a theory of Case assignment to successive-cyclic \bar{A} -traces under long distance extraction, to account for the fact that in French, subjects of ECM verb complements may only be \bar{A} -traces (Postal 1974, 1993 observes the same facts for *wager*-class verbs in English; see section 5.4 for discussion and references):

(360)

a *Elle croit [Jean être parti].

b Qui croit-elle [t' [t être parti]]?

³¹¹ See Lasnik & Sobin (2000) for evidence that the English *who/whom* distinction is a "virus".

Kayne's proposal is that in French the infinitival IP is a barrier to Case assignment, but \bar{A} -movement to the successive-cyclic trace position t' obviates the barrier and allows matrix accusative assignment. A modification is proposed in Ura (1993), discussed in Bošković (1997), where movement through matrix [Spec, Agr_{OP}] is involved. Finally, as discussed in chapter III, Bruening (2001:V.7) makes the same proposal for successive-cyclic \bar{A} -movement in Passamaquoddy on slightly different grounds: *wh*-phrases that undergo successive-cyclic \bar{A} -movement must trigger agreement on v of the clause they pass through.

Thus, the *wh*-word in (359) and (360) undergoes two Agree relationships: one with the embedded T, which assigns it a T KP shell, and one with the matrix v , which assigns it an \bar{A} -shell. v is also the target which is responsible for the Case shell spelled out as accusative, if assigned by v 's ϕ -probe. The nominative-accusative distinction, as discussed, relies crucially on the T/ v distinction, so a part of what decides that the shell introduced by v 's ϕ -probe on an object is morphologically spelled out as accusative is the fact that it is the ϕ -probe of v as opposed to that of T. This leads to the expectation that if an \bar{A} -probe of v introduces an \bar{A} -shell around a DP, it could be morphologically spelled out as accusative Case as well. The *wh*-word has two shells, then, the inner of which is introduced by the ϕ -probe of T and would normally be nominative, the outer of by the \bar{A} -probe of v and could be spelled out as accusative. The proposal is therefore that the vacillation between the nominative and accusative form of *who/whom* in (359) is evidence for the presence of multiple shells, allowing morphological interpretation as both nominative and accusative.

However, I want to make that proposal on more secure data than the English situation. The most extensive investigation of multiple Case assignment facts like those in (359) is Young (1988). She finds a pattern best illustrated with Taraldsen's (1981) example of Norwegian topicalization. The topic DP is assigned nominative in the embedded clause and a v -shell under successive-cyclic movement in the matrix clause; the v -shell when assigned by the ϕ -probe of v is regularly morphologically spelled-out as accusative. Norwegian is a language where most DPs do not make the nominative-accusative distinction morphologically, and most DPs are topicalized just fine. However, exactly those DPs that do make the distinction, like the 1.SG pronoun, cannot be topicalized in (361). The generalization is that the topicalized DP receives

both nominative and accusative, and morphology can spell this out only if there is a nominative-accusative syncretism.

- (361) Per/dere/*jeg/*meg hadde de trodd [_{CP} *t'* [_{TP} *t_i* ville komme forsent]]
 Per/you.PL/*I-N/*me-A had they thought [*t'* [*t* would come too.late]]

There are two conclusions that can be drawn from this. First, the assignment of the ν -shell by successive-cyclic movement is obligatory. Second, multiple Case assignment speaks rather directly against a simple implementation of Case as feature valuing, for the uninterpretable Case feature posited by MI would seem to receive both a nominative and an accusative value at the same time. By contrast, the Case shell approach predicts exactly patterns like this. Case is not a value, but a structural layer around a DP, and any number of them may be present. Their interpretation is then subject to the vicissitudes of morphology, one of whose patterns is the only-if-syncretic pattern established by Young.³¹²

5.3 Partial probe shells: #-probes for nominaccusatives

In this section, I examine a persistent pattern of Case assignment that shows four properties, which has not in its generality been identified before:

(362) Properties of T #-probe shell

- a The Case assigned is anomalous for its context, which is that of a ϕ -probe on T: it cannot be identified with either nominative or accusative.
- b The goal is not in a default Case environment; it is in an environment where without a probe to assign Case, the Case Filter rules DPs out.
- c The goal is beyond the reach of the π -probe of T.
- d The goal clearly must be in the reach of some probe, possibly the #-probe.

³¹² Diane Massam, p.c., raises the question if a language could have Case without ϕ -Agree; Niuean for example, which has lots of Case morphology but no agreement morphology. This section implies that any probe will assign a shell, as a consequence of Agree. To what extent ϕ -probes specifically are necessary for DPs depends on what the Case Filter is, and thus what kind of shells are needed around a DP; see section 5.5 for the possibilities.

The constructions on the table are a subset of "nominative object" constructions in English, Finnish, and Icelandic and Faeroese; I will call them nominaccusative constructions for reasons that will become clear. The properties clearly require that there be a probe-goal relation which satisfies the probe's requirement to find a match and the DP's requirement to be assigned Case, and the probe cannot be a π -probe. I will hypothesize, on the basis of slender evidence, that the probe is a $\#$ -probe. The Case assigned is not identical to the regular Case assigned by the full ϕ -probe of T or ν .³¹³

The first construction exemplifying (362) is the so-called list construction in English:

(363)

a A: Who could go to the store tomorrow?

B: Well, there's/*am me.

?Well, there's/*are us.

?Well, there's/*are them. (Schütze 1997:137-8 and 138n64)

b A: Who's still here to do the work?

B: There is/*am only me.

There remains/*remain only me.

There are only us/John and Bill.

There remain only us/John and Bill. (MI:149n90)

The interpretive properties of list constructions are partly addressed by Safir (1982:IV) and Belletti (1988:15-6). The DP must somehow be part of a list and the unique DP fitting its descriptive content in the context, but it is not subject to the Definiteness Effect. A pronoun must be accusative; the Case of a DP cannot be seen in English.³¹⁴ Person agreement with the

³¹³ This cannot be directly demonstrated in English, where nominatives which are not in [Spec, TP] are either in *there*-constructions subject to the definiteness effect (Milsark 1977, Safir 1982:IV, Belletti 1988, Schütze 1997:IV.1.6), or in Stylistic (Locative) Inversion constructions which ban pronominal nominatives entirely (*she, we, someone...*; see Bresnan 1994:86, Postal 2002:I). Pronouns are the only DPs showing Case in English. However, this is not so for Finnish, Breton, and Faeroese, where nominaccusative and nominative contrast in these constructions, as will be seen below.

³¹⁴ When a deictic context is abstracted away from, it does not seem that the pronoun can be nominative. *In the end, there will remain/be at least us/*we.*

pronoun is quite impossible. Number agreement, on the other hand, is fine with plural DPs, and is possible though somewhat marked with *us*, *them*.

French confirms this syntactic pattern. Generally, expletive constructions use *il* as the expletive and require singular agreement; this is explained in chapter IV in terms of the singular specification of *il*. The relevant construction is deictic predication that uses *ce* as in (364), corresponding to English *it's X*, with the syntax of the English list construction: number but not person agreement is allowed, pronouns have to take the "strong" form which does not distinguish Case, also not distinguished on DPs:³¹⁵

(364)

- a C'est/ce sont des élèves/eux/*ils.
It's students/them/*them^C.
- b C'est/(?)ce sont nous, les oubliées.
It is us, the forgotten ones.

There are two pieces of evidence that allow us to conclude that there is a relation between the ϕ -probe of T and the DP in list constructions. The first is that the ϕ -probe of English T needs an associate (see 5.5):

(365)

- a *There was danced in the hall.
- b *There was arrived into the garden.
- c *There was shot at the boat.

The second is that DPs in English and French usually need Case to be licensed. Schütze (2001) makes a convincing argument that in many environments, non-syntactic default Case is available to rescue DPs that are not assigned Case by the regular probe-goal system: members of

³¹⁵ In both the English and French constructions, there is a quirk I do not understand: plural agreement with 2.PL *you*, *vous*, is impossible (i), (ii). The only place 1.PL and 2.PL differ is in the structure of their feature-geometry, specifically person-number interaction; as noted by Harley & Ritter (2002), there is no such thing as a plural T. This suggests a direction to explore.

(i) There's/*are only you. (ii) C'est/*ce sont vous, les oubliées.

a conjunction structure, subjects of non-tensed subjects, etc. These contexts are typically those where in principle a ϕ -probe cannot reach, and the [V, DP] context is not one of these. This can be demonstrated by the paradigm raised by Baker (1992, 1996:228f., 1997), in (366). In English a ditransitive verb like *pass* may be passivized from either the double object construction or the prepositional construction, with the primary (highest) object promoting in each case to the agreeing nominative. An unaccusative may also be formed from *pass* in the unaccusative-inchoative alternation; but this requires that the source be the prepositional dative construction, not the double object construction. This receives a ready explanation in terms of the unavailability of Case for *ring* in (366)e, since *pass* is unaccusative here. The mysterious accusative of *a ring* in (366)c is beyond the present scope; see op. cit. and Anagnostopoulou (2001).³¹⁶

(366)

- a I passed Mary a ring.
- b I passed a ring to Mary.
- c Mary was *t* passed a ring.
- d A ring was *t* passed to Mary
- e *Mary passed *t* a ring.
- f A ring passed *t* to Mary.

Thus, it seems that [V, DP] in English requires Case assignment by a probe, and also, that the probe on T in English requires an associate. In list constructions therefore, there must be a probe-goal relation. Person agreement is impossible in list constructions. Following MI:149n90,

³¹⁶ The contrast shows up systematically in the Bantu group and confirms we are dealing with an object Case, and that the analytic structure of the passive involving a participle is not relevant to the discussion; see further Baker (1988), Bresnan & Mochi (1990), and Alsina (1996).

(366)e is fine so long as the goal argument is dative, as shown by Ormazabal & Romero (forthcoming), as in Spanish and Basque, under the cyclic displacement mechanism of chapter II where *a ring* becomes a nominative object. In English, the goal receives nominative in (366)e, so the problem must be the Case of *a ring*. (ii) and (iii) might be added to the English paradigm; (ii) violates Case, (iii) locality and Case:

- (i) Me ha llegado la carta.
 me-D has come the letter
 The letter arrived to me. (Spanish)
- (ii) ?*A ring was passed Mary *t*.
- (iii) *A ring passed Mary *t*.

93, suppose that it is absence of person agreement which obviates the Definiteness Effect, in a way that seems mysterious at present. The π -probe is absorbed in some way, perhaps because there is a covert intervener with which it matches as in the explanation of the Person-Case Constraint in chapter II. That leaves the #-probe on T as the requisite ϕ -probe between T and the associate. A potential problem is that number agreement morphology is optional, which I return to periodically as it evaporates -- the morphology, not the problem.

With this qualification, the properties (362) are manifested by the English and French examples: there must be a probe-goal relation both for T's ϕ -probe and the Case of the goal, the Case of the goal is accusative for pronouns and indeterminable for nouns, there is no π -probe relationship, and there is at least optionally a clear #-probe relationship.

The second nominaccusative paradigm comes from Finnish. First, the following data-set shows that by and large, Finnish transitive objects get accusative Case.³¹⁷ The paradigm is somewhat longer than might seem necessary because it introduces several foils to the ensuing discussion. The object is accusative in regular transitive clauses, including those with a *weather*-it subject and in the so-called "missing person construction" (Vainikka 1989:232f.) where the subject is interpreted impersonally and the object seems to satisfy the EPP. The object is also accusative in the infinitival complements of regular transitive clauses. It is also accusative in optatives, which have a regular nominative subject. Finally, it is accusative in those embedded clauses which are opaque domains w.r.t. to the matrix clause for such purposes as anaphor binding: finite complements, and those infinitives which have genitive specified subjects that may be reflected as possessive affixes on the infinitive (see Vainikka 1989 for an extensive investigation).³¹⁸

(367)

- | | | | |
|---|---|---------------|-----------------------|
| a | Metsästäjä tappoi | karhun | <i>Transitive</i> |
| | hunter-N | killed-3.SG | bear-A |
| | The hunter killed the bear. (Timberlake 1975:203) | | |
| b | Sen | arvaa | <i>Transitive/MPC</i> |

³¹⁷ Which alternates with partitive under conditions not relevant here; see the papers in Holmberg & Nikanne (1993) and Kiparsky (2001) for the partitive and for Case in Finnish generally.

³¹⁸ The examples are at various points slightly simplified for clarity.

it-A guess-3.SG

One guesses it. (Timberlake 1975:210)

- c Satoi lunta koko **päivän** *Transitive/impersonal*
snowed-3.SG snow-A all day-A

It snowed all day. (Timberlake 1975:218)

- d Kävin noutamassa **kirjeen** postista *Transitive/inf. compl.*
went-1.SG fetch-INF.III-INESS letter-A post-ELAT

I went to get the letter from the post-office. (Timberlake 1975:207)

- e Hän/he saattakon/t **tyttö**n kotiin! *Optative*
he/they-N take-OPT-3.SG/PL girl-A home

May he take the girl home. (Timberlake 1975:204, 219)

- f Sanottiin, että hän kutsuu **miehen**. *Finite clause*
said-PASS that (s)he invite-3.SG man-N

It was said that she will invite the man. (Timberlake 1975:209)

- g Tule likemmäksi nähdeskeni *Opaque infinitive*
come-IMPV-2.SG closer see-INF.I-TRANSL-1.SG

sormuksen sormessasi!

ring-A finger-INESS-2.SG

Come closer so that I may see the ring on your finger! (Timberlake 1975:212)

The object is however nominative in three contexts (Timberlake 1975, Vainikka 1989, Maling 1993, Reime 1993, Toivainen 1993, Pylkkänen 1998, Kiparsky 2001, cp. also Laitinen & Vilkkuna 1993). First, the object of the imperative. Second, the object of the so-called passive, which in Finnish is really an impersonal form that requires a human agent, akin to the *se*-impersonals of Romance (Shore 1988); the passive verb is ϕ -invariant. Third, in impersonals with infinitival complements and oblique subjects; the logical subject of the infinitive is oblique Case and raises to the matrix clause to satisfy the EPP (Pylkkänen 1998) as well as other A-position tests (Kiparsky 2001), the object of the infinitival complement is nominative, and the matrix verb is 3rd.sg.

- a Saata/saattakaa/saatakaamme **tyttö** kotiin!
 take-IMPV-2.SG/2.PL/1.PL girl-N home
 You sg./you pl./let us take the girl home! (Timberlake 1975:203-4)
- b **Se** nähdään aina.
 it-N see-PASS always
 One always sees it. (Timberlake 1975:204)
- c Sinne viedään **lahja(t)**
 thither take-PASS present(s)-N
 The present(s) will be taken there. (Timberlake 1975:206)
- d Minun₁ täytyy _{t₁} tehdä **se**
 me-G must-3.SG do-INF this-N
 It is necessary for me to do it. (Timberlake 1975:205)
- e Hänen₁ täytyy/*täytyvät _{t₁} kirjoittaa **kirje(et)**
 he-G must-3.SG/*PL write-INF letter(s)-N
 He must write the letters. (Timberlake 1975:205)

I will take my cue from the last construction, where there is clearly an oblique DP that raises to the matrix clause.³¹⁹ This is a defective intervener, and cannot itself trigger any ϕ -agreement. The most natural interpretation of the nominative Case on the object is that it is assigned by the matrix verb, which is finite. Recall that we saw in (367)g that the object of an infinitive with a specified subject/AGR is accusative. The infinitive seen here differs; systematically, the possibility of a nominative object correlates with the absence of possessive suffix marking on the infinitive, which indicates an AGR boundary. I will suppose further that the object of the infinitive is dependent for Case on the matrix clause if it is nominative: the infinitive lacks its own object-Case assigner v , because it is a restructuring infinitive (Wurmbrand 2001).³²⁰

³¹⁹ I remain neutral on just where the defective intervener is: either the inherently/quirky genitive-marked subject of the embedded ECM-like infinitive, as in Russian for the infinitives discussed in Moore & Perlmutter (2000), Sigurðsson (2002), cp. Maling (1993:54n8), or a covert argument of the matrix verb (Pylkkänen 1998). Pylkkänen (1998) concludes that in the nominaccusative construction at hand there is always such an intervener even if it is not always visible overtly as *hänen* is in (368)e.

³²⁰ The transparency of these infinitives, without possessive suffixes, to the matrix ϕ -probe and the dependence of their objects on the matrix ϕ /Case system can be demonstrated at much greater length, as does Timberlake (1975). Whenever such a infinitive is a complement to an imperative, passive, or oblique subject verb which displaces an intervener, the logical object of the infinitive is nominative, regardless of depth of embedding. I assume that the

This is therefore a cyclic displacement construction of chapter II. There is a matrix ϕ -probe, which matches and displaces the intervening oblique with which it cannot Agree, and then matches the logical object of the infinitive to which it assigns nominative Case. π -Agree should be impossible here, because cyclic displacement environments are Person Case Constraint environments, as discussed in chapter II; attraction of the oblique subject makes T's ϕ -probe unable to Agree for π . That accounts for the absence of π -agreement morphology, though not for that of $\#$ -agreement morphology which is also absent; the former is absent in principle because of the oblique subject attraction, the latter receives no such ready explanation. I return to it below, for it turns out to be a general property of Finnish and independent of the present analysis.

The passive seems to have an analysis similar to that proposed for oblique subjects. As Shore (1988) shows, the Finnish passive is an impersonal form akin to Romance *se*-impersonals. It is therefore to be compared to the following Italian examples, with an impersonal subject and a nominative object (Burzio 1986:I, Cinque 1988). Interestingly, there is evidence in these constructions that the impersonal subject is a defective intervener that undergoes cyclic displacement due T's ϕ -probe, because the Person Case Constraint effect arises (Taraldsen 1995, Rezac 2002a, Anagnostopoulou 2003:308). The impersonal subject therefore absorbs T's π -probe. The available alternative in Italian is a non-agreeing form with accusative pronoun, a pattern that will be observed for Finnish below.

(369)

a I Rossi/?loro si invititerebbero volentieri

subcategorized objects of *käskä* and *pyydetä*, namely the genitive *hänen* in (iii) and (iv) and the partitive *minua* in (ii) respectively, are PPs and render their DPs ϕ -inaccessible to clausal probes, like English *to*-experiencers (see chapter I and 5.5 here).

- (i) **Se** käskettiin tehdä
 it-N ask-PASS do-INF
 It was ordered to be done. (Timberlake 1975:206)
- (ii) Minua pyydettiin jättämään tämä **kirje** teille
 me-PART asked-IMPV deliver-INF.III-ILL this-N letter-N you-PL-ALL
 I was asked to deliver this letter to you. (Timberlake 1975:206)
- (iii) Käskä hänen ainakin koettaa tulla tekemään **se!**
 ask-IMPV him-G at.least try-INF.I come-INF.I do-INF.III-ILL this-N
 Tell him to at least try to come to do it! (Timberlake 1975:208)
- (iv) Minun täytyy käskeä hänen tulla tekemään **se**
 me-G must-3.SG ask-INF.I him-G come-INF.I do-INF.III-ILL this-N
 I must tell him to come do it. (Timberlake 1975:208)

the Rossi's/they SE would.invite-3.PL willingly

The Rossi's/they would be eagerly invited. (Burzio 1986:49)

- b *Tu si inviterai volentieri
 you.SG SE will.invite-2.SG willingly (Burzio 1986:49)
- c <Ti> si inviterà <anche te>
 you.SG SE will.invite-3.SG also you.SG
 You will be eagerly invited. (Burzio 1986:49)

Number agreement is fine in Italian with 3.PL nominatives in these constructions. In the Finnish examples, it is impossible. However, the impersonal passive does not have a regular ϕ -agreement morphology; its suffix, *-TAA*n, is an invariant form, as the clitic *se/si* is in Romance. The presence or absence of #-Agree is therefore not visible.

I do not wish to enter an analysis of the imperative here. To be brief, I follow Pylkkänen (1998) that a covert passive subject is introduced, and Kiparsky (2001:335-6) in that it is not a regular agreeing nominative subject; I treat it as a defective intervener. As is cross-linguistically the case, there is a morphological difference between the ϕ -agreement morphology of the imperative and that of regular nominative subjects; the 2.SG is not marked with the usual suffix *-t*, and the impersonal passive is used for 1.PL.³²¹ The minimal contrast is with the optative, with properties of the regular transitive construction ((367)e above). In the imperative, there is also no number agreement with the nominative object, and again as in the passive the morphology probably would allow it; the verb already bears the partly special morphology of the imperative.

Neither person nor number agreement is visible in any of these constructions. Since they are examples of a defective intervener construction, π -Agree is predicted never to be possible. #-agreement is in discernible for the imperative and impersonal passive, but it is clearly absent in the oblique subject construction like (368)e. I return to this very shortly.

The nominative objects in these Finnish contexts are parallel to the English list construction in a fascinating way. Finnish nominative objects are nominative only if they are non-pronominal DPs, or the inanimate pronouns *se/he* in the examples above.³²² Animate pronouns require the

³²¹ This is different from the now normal colloquial use of the impersonal passive morphology for 1.PL in general in Finnish, cf. chapter II nt. 111. Even in non-colloquial registers where the 1.PL indicative has its old form, the old form of 1.PL imperative is archaic and replaced by the impersonal passive morphology.

³²² These DPs and pronouns in Finnish do have a distinct accusative which they bear when they are objects of

accusative in nominative object contexts.³²³ In English, Case in the list construction can only be determined for pronouns, and it is then accusative. The objects should therefore be more properly referred to as nominaccusative.³²⁴

(370)

- a Kutsu **heidät!**
 invite-IMPV-2.SG them-A
 Invite them! (Timberlake 1975:209)
- b **Kenet** kutsutaan?
 who-A invite-PASS
 Who will be invited? (Timberlake 1975:210)
- c Minun täytyy kutsua **hänet**
 me-G must-3.SG invite-INF.I him-A
- d Käske hänen kutsua **minut**
 ask-IMPV-2.SG him-G invite-INF.I me-A
 Tell him to invite me! (Timberlake 1975:210)

This property sets off the nominaccusatives from the nominative objects of Finnish inversion, where there are in-situ DPs that are nominative whether full or pronominal (Kiparsky 2001:345f.). If they are pronouns, they must undergo full π and #-Agree with T (and bear nominative):³²⁵

transitives, e.g. nom. *se*, acc. *sen*.

³²³ The animacy distinction is grammaticalized, as pointed out by Timberlake (1975); the grammatically inanimate *se* used for an animate in colloquial usage takes the nominative here, not accusative:

(i) Pane se putkaan!
 put-IMPV-2.SG it-N jail-ILLAT
 Put him in jail! (Timberlake 1975:203, colloquial)

³²⁴ This term was originally used by Oyharçabal (1993) for the Basque absolutive.

³²⁵ In modern Finnish (371)a but not (371)b can also be *minulla on sinut* 'me-ALLAT be-3.SG you-A' (Toivainen 1993:121), which then has all the properties of the nominaccusative construction: an apparent oblique subject contrasting with the locative inversion of (371)b, non-agreement on the verb, and nominaccusative on the theme. If *minulla* is replaced by a true locative that cannot plausibly be analyzed as an oblique subject, this non-agreeing nominaccusative variant is quite impossible, confirming the analysis that ties nominaccusativity to the presence of a π -absorbing oblique subject: *Arkadia-ssa-kin on minu-t* 'Arkadia-INESS-also be-3.SG I-A' 'Even in Arcadia am I' (Kiparsky 2001:351).

(371)

- a Minulla olet **sinä**
 me-ALL be-2.SG you(SG)-N
 I have you (with me). (Toivainen 1993:121)
- b Tuolla olet **sinä**
 that-ALL be-2.SG you(SG)-N
 There you are over there. (Toivainen 1993:121)

If the nominative is a 3rd person nominative DP, #-agreement is impossible with it in-situ, even though it is required when the DP is pre-verbal in [Spec, TP] (module \bar{A} -movement from the post-verbal position; Kiparsky 2001:345f. and references therein):

(372)

- a Nyt tulee **uutise-t**
 now come-3.SG new-PL.N
 Now there comes the news. (Kiparsky 2001:345)
- b Uutise-t jatku-vat
 new-PL.N continue-3.PL
 The news will continue. (Kiparsky 2001:345)

This split between 1st/2nd person pronouns and 3rd person DPs in terms of post-verbal agreement has nothing to do with an oblique intervener, which is not present in these constructions as the nominative Case on both shows, and it is not limited to Finnish. Exactly the same facts show up in the Northern Italian dialects Fiorentino and Trentino, as shown in Brandi & Cordin (1989): pre-verbal nominatives require agreement always, post-verbal nominatives agree for person and number only if 1st/2nd person, otherwise not at all. I propose a (very) slight descriptive generalization (as far as I know, it has simply not been put this way before): in languages that show this phenomenon, #-agreement without movement to [Spec, TP] depends on π -Agree for a marked (1st/2nd) person value. I do not concern myself with it further here; but it is now clear that in nominaccusative contexts, where the π -probe never reaches the nominaccusative because it is absorbed by a defective intervener, #-agreement itself will also

always be out. This is why no #-agreement shows up with Finnish nominaccusatives, a point I had promised to return to.

The nominaccusative constructions of English and Finnish are quite similar: animate pronouns are accusative in both languages, person agreement is strictly impossible, number agreement is optional in English and impossible in Finnish for an independent reason. In English, it seems to be some property of the list construction that the π -probe is absorbed, because π -agreement is impossible and the Definiteness Effect is suspended; a defective intervener such as *is* is more motivated in Finnish as the oblique subject *is* is a possibility. Moreover, in both languages transitive objects get accusative, and nominative objects outside of nominaccusative contexts with no π -probe absorption get nominative. The hypothesis I pursue is that the two facts, lack of π -agreement and the weird Case, are related.³²⁶

To the extent that cyclic displacement is involved in these constructions, the absence of π -agreement is just the Person Case Constraint discussed in chapter II: cyclic displacement entails the impossibility of π -agreement because the π -feature of the probe is absorbed by displacement of the intervener on the first cycle. The other half of the Person Case Constraint is that clitics, which require π -agreement to be licensed, cannot appear at all. This cannot be seen in the English and Finnish nominaccusatives, because the available nominative pronouns are always strong. However, it can be seen by extending the data-set to Breton, as I do now.

Breton data confirms the homogeneity of the Finnish paradigm and that the Person Case Constraint takes place in these constructions as the above account predicts. The Breton system of Case and agreement is rather different from that of English and Finnish. There is no agreement with overt DPs; agreement morphology codes *pro*-dropped subjects only (Stump 1984, 1989, Jouitteau & Rezac 2003). Case assigned to transitive objects is systematically parallel to Case-licensing within the DP system, leading Jouitteau (forthcoming) to argue that the two systems are the same: in both, DPs use the construct state, weak pronoun objects are genitive proclitics, and strong pronouns use the preposition *a/eus* 'of, from'. Subject pronouns

³²⁶ Pylkkänen (1998) presents a quite intriguing analysis, where the Finnish nominaccusative is assigned by *v*'s with an external argument, distinguished from unaccusative *v*'s and from transitive *v*'s. I derive from her the idea that the covert argument of the Finnish impersonal passive plays a crucial role, that of a defective intervener for me. However, her analysis does not seem to me to be general enough, deriving neither the connection with cyclic displacement contexts, nor the connection with nominaccusative contexts in other languages. The latter, in turn, suggests T can potentially Agree for # with the nominaccusative, which would be impossible if *v* has assigned it Case (if the AGH is assumed).

are *pro*-dropped; subject DPs do not bear a special Case form but must move out of the *vP*, perhaps to a Case licensing position (Rezac, forthcoming). To the description of pronominal subjects and objects just made, there is one exception: focused pronominal subjects and objects may appear in the preverbal focus position using a special pronominal series that is not licensed anywhere except in the sentence initial, pre-verbal position (Breton being a V2 language in root contexts).³²⁷ The following examples illustrate these differences:

(373)

- a Int a wel/*-ont anezhe/*int.
 They.FOC R see-3.SG/*3.PL of.them/*they
- b Int o gwel/*-ont.
 They.FOC their(.R) see-3.SG/*PL
- c Int.FOC a welont(-int)
 They R see-3.PL(-they^C)
 They see them.

The following table lists the different pronominal series, illustrating them with 3.PL and 2.PL; the echoic series is not relevant here and is included for completeness, and the nominaccusative object and subject proclitic of the *have* series will be discussed below (dialectal variants are separated by slashes).³²⁸

(374) Breton pronouns

³²⁷ This pronoun series is conversely the only one that can appear in this position; by this, verbal objects in the partitive form as complements of *a/eus* 'of, from' contrast with pronominal objects of other prepositions, which can be put in the initial position.

³²⁸ In the limit, the echoic series can copy any other weak pronoun: a *pro*-dropped subject realized as a verbal suffix (common; Stump 1984), a genitive proclitic on a noun (common; Stump 1984), a genitive proclitic on a verb realizing its object (rare, but so is this form of object marking). It adds emphasis. It is also allowed in the so-called double subject construction where there is no weak pronoun for it to copy, for unclear reasons; see Rezac (in preparation b).

Pronominal series	3.PL	2.PL
Focused:	int	c'hwí
Echoic enclitic:	int	c'whi/hu
Genitive proclitic:	o	ho
Prepositional form after <i>a/eus</i>	anezhe/o	ac'hanoc'h
<i>Pro</i> -drop verbal suffix (present)	-ont	-oc'h
Nominaccusative:	i/int	--
Subject proclitic of <i>have</i>	o d-	a c'h/f/t/p-, e c'h/f/p/t-

I now turn to the nominaccusative objects in Breton. There are exactly two contexts in the language which have object marking that does not fit the above description: objects of imperatives, and optionally objects of the verb *have* (lexical or auxiliary). In these contexts, weak pronominal objects may take a clitic form distinct from the regular weak genitive proclitic form, e.g. *i* for 3.PL, which I call the nominaccusative object:³²⁹

(375)

a Pedit-i

ask-2.PL-3.PL

Ask them!

b Int o deus-i (gwelet)

They R-1.SG have-3.PL seen

They have (seen) them.

c Int o deus (<o> gwelet) <anezhe>

they R-3.PL have 3.PL.G seen of-3.PL

They have (seen) them.

Remarkably, the verb *have* in Breton turns out to be the only verb not only with a distinct object marking, but also with a distinct subject marking. Unlike all other verbs, its subject marking uses a unique proclitic series rather than a suffix, and this proclitic morphology is

³²⁹ As will be seen below, these objects are restricted to 3rd person, and by and large they are phonologically identical with the focused and echoic forms: all three make use of 3.SG.M *eñ/añ*, 3.SG.F *hi/he*, 3.PL *int*. The distinctiveness of the series is established by fairly minor asymmetries, such as the reservation of *i* to the nominative object contexts (pointed out to me by Mélanie Jouitteau, p.c., from her fieldwork).

compatible with the presence of an overt subject which not the case with any other verb in Breton (cp. (373)).

The historical origin of Breton *have* is well known to be a construction with an oblique subject which cliticized into the verb, giving the subject proclitic (Poppe 2003). I propose this is also its synchronic structure in those (dialectally restricted) constructions that permit subject proclitics and nominaccusative objects.³³⁰ The derivation involves an oblique subject and an object with structural Case. The subject proclitic morphology reflects the oblique subject, cliticized or clitic-doubled by T's ϕ -probe. The object may get Case by the regular transitive system, if it is present: from Jouitteau's (forthcoming) nominal light verb v_D or by the *a/eus* 'of' preposition. However, the subject may also get Case by T's ϕ -probe, which has previously displaced the oblique subject. This is a cyclic displacement configuration, discussed in chapter I:

(376)

- a [TP clitic_i-T [FP [oblique subject]_i F [_{VP} v [V object]]]] -- genitive/construct state object
- b [TP clitic_i-T [FP [oblique subject]_i F [V object]]]] -- nominaccusative object

This hypothesis receives an important confirmation from a restriction on the nominaccusative object: it can only be 3rd person (Hemon 2000:66, Kervella 1995:245, cp. Favereau 1997:107-9). This is exactly the same Person Case Constraint (PCC) effect that we have seen operative in Icelandic in chapter II, where π -agreement is impossible with 1st/2nd person nominaccusative objects; depending on whether the speaker allows or not default agreement, such objects are either entirely impossible, or possible as strong non-clitic forms (see chapter II and (378) below; Icelandic like English lacks nominative clitics). Clitics are regularly impossible in PCC contexts because they require π -Agree (the Person Licensing Condition of Béjar & Rezac 2003). Since

³³⁰ *Have* has become extensively regularized in the modern dialects, to the point where it is losing all three of its characteristics: special proclitic morphology (Jouitteau & Rezac 2003), compatibility with an overt subject (Hemon 2000:257-8), and a nominative object (which in various dialects has given rise to a new 3rd person subject morphology). These changes do not go hand-in-hand, though the details have not been investigated: one dialect area has lost the obliqueness of the subject but keeps a special structure for it, regularizing the morphology but not removing its ability to agree with overt subjects (though even the latter is sometimes lost, Hemon 2000). This is analyzed in Jouitteau & Rezac (2003), where the verb's subject is no longer oblique for dialects that have regularized the morphology, but is inserted in a structure based on a Kayne/Szabolcsi prepositional clausal structure that differentiates it from regular transitives. It seems reasonably clear from the dialectal and historical sources available to me that the possibility of a nominative object implies the old proclitic morphology, as predicted by the present account.

the Breton nominaccusative objects are clitics, they are correctly predicted to be impossible as 1st/2nd person; of course, this does not affect genitive object clitics which are licensed separately by v_D rather than by T across an oblique subject:

(377)

- a Int o deus-**i/*me** (gwelet)
 They R-1.SG have-3.PL/*1.PL seen
 They have (seen) them/*me.
- b Int o deus (<**o/ma**> gwelet) <**anezhe/ac'hanon**>
 they R-3.PL have 3.PL.G seen of-3.PL
 They have (seen) them/me.

Let us take stock of the Breton data. There is a special pronominal series which is possible in only two contexts: the logical objects of imperatives and of the verb *have*. The verb *have*, in constructions with such a nominaccusative object, is clearly an oblique subject verb: the object is subject to the Person Case Constraint, and the subject is reflected by a special oblique-like proclitic morphology that is not subject to the regular principles of Breton ϕ -agreement. Analysis in terms of an oblique subject construction with cyclic displacement (clitic doubling/cliticization) of the oblique subject accounts for all these properties.

The correspondence between Breton and Finnish is quite noteworthy. The behavior of the Finnish nominaccusative object has been a well-known poser. The uniqueness of the pronominal series I have called here the nominaccusative object in Breton has not yet received generative attention. Remarkably, both show up in two very well-defined contexts: objects of imperatives and objects of oblique-subject constructions.³³¹ What the Breton paradigm adds is evidence that the Person Case Constraint is active, because the object is a clitic.

There is another potential contribution of the Breton data. The form of the nominaccusative object is not identical to any other pronominal series in Breton. In English and Finnish we find a

³³¹ There is a third context in Finnish which is not replicated in Breton, the impersonal passive. Breton does have an impersonal inflection on the verb, treated as a special fourth person without distinction of number, which to my knowledge has never used the nominative object; it has always been a regular transitive construction. Its properties are therefore those of the Finnish "missing person construction" or French transitives with the subject *on*, both regular transitive constructions with impersonal subjects.

pattern of nominative for inanimates and accusative for animates. The Breton nominaccusative objects, which are all grammatically animate, are not identical morphologically to transitive objects, though it is not clear that the latter are in fact *v*-assigned accusatives.

At this point, the evidence that a $\#$ -probe is responsible for nominaccusative assignment present in these constructions has gotten a bit tenuous. Some probe-goal relationship is clearly needed, as has been established for English. None of these constructions involve a default Case assignment context, and all involve ϕ -probes on T that must find an associate. The π -probe is systematically blocked, usually because the construction is a cyclic displacement construction characterized by the PCC. However, we find the spell-out of a valued $\#$ -probe so far only in English, optionally. In Breton and in Finnish there are principled reasons not to see it. The last data set will show that this is not all that there is to it. The $\#$ -probe is clearly not being valued in some cases, which does not necessarily imply it is not entering into a relationship with the goal.

Both Icelandic (Zaenen et al. 1985) and Faeroese (Barnes 1986) have dative-subject constructions where the dative is the external argument and raises to [Spec, TP], while the internal argument stays in-situ and gets nominative in Icelandic and accusative in Faeroese.³³² The Icelandic construction and its properties have already been given several times, particularly in chapter II. Here is a recap of the pertinent information: the nominative object is incapable of person agreement because of the PCC; it is capable of number agreement if 3rd person; those speakers who generally allow a 3rd person not to agree for number (in certain contexts) also allow a non-agreeing 1st/2nd person pronoun without person agreement (Sigurðsson 1996, Hrafnbjargarsson 2001).³³³

³³² In both languages various verbs have different options available and the oblique subject construction may or may not be the only one; for Faeroese see Barnes (1986:35), for Icelandic particularly Barðdal's (2001) study.

³³³ There is quite a quirk in the Icelandic data, whose significance depends on the analysis; I report it and my suspicion about it. Sigurðsson (1996:33f.) and Hrafnbjargarsson (2001:18-19) show that not only is there no person agreement with nominative 1st/2nd person pronouns, there can be no number agreement with them either, even if a speaker allows them just fine because (s)he allows non-agreement in these constructions:

- (i) Okkur þótti/*þóttuð/*þóttu þið fyndin.
us-D thought-3.SG/*2.PL/*3.PL you(PL)-N amusing
We found you amusing. (Hrafnbjargarsson 2001:17-18)
- (ii) Okkur þótti/þóttu þau fyndin.
us-D thought-3.SG/PL they-N amusing.
We found them amusing. (Hrafnbjargarsson 2001:17)

Lack of person agreement is predicted by the account of the PCC in Béjar & Rezac (2003) and assumed throughout, and lack of number agreement is not. This correctly predicts number agreement with 3.PL pronouns, but its absence with 1/2.PL pronouns jeopardizes that account and partly the conclusions here. I suspect that this has the explanation which has already been referred to in note 315: person and number values in Icelandic are bundled for

(378) PCC in Icelandic DNC

- a Okkur *þóttuð/%þótti **þið** fyndin
 us-D though-2.PL/3.SG you.PL amusing
 We found you amusing. (Hrafnbjargarsson 2001:18)
- b Okkur %þótti/%þóttu **þau** fyndin
 us-D though-3.SG/3.PL they-N amusing
 We found them amusing. (Hrafnbjargarsson 2001:17)

In Faeroese, the theme in these constructions is accusative, not nominative, and no agreement is found.³³⁴ The construction shows the PCC to the extent that there is no person agreement with the accusative, though as we will see below there is no number agreement either; on the other hand, 1st/2nd person accusative pronouns are fine, being non-clitic as in Finnish and English.³³⁵ The properties of the construction involved, the oblique subject construction, seem otherwise identical in Icelandic and Faeroese: the dative is a ϕ -accessible intervener and becomes a true subject in both languages (Barnes 1986).

(379)

- a Honum nýtist fleiri bókahillar heima hjá sær
 he-D need-3.SG more bookshelves-A.PLat.home with self
 He needs more bookshelves in his home.
- b Mær tókti/*tóktu teir vera klókar
 me-D though-3.SG/*PL they-A to.be wise-A
 I found them to be wise. (Faeroese; Schütze 1997:158)

Outside of nominaccusative contexts, that is when there is no oblique intervener to absorb T's π -probe, both Icelandic and Faeroese have agreeing nominative objects:

1st and 2nd person pronoun in a way that cannot be unbundled, as they are for English and French 2nd person. Agreement by a π or # probe requires agreement by the other in such a case; but in cyclic displacement contexts such as these, the π -probe has been absorbed and is not available. For 3rd person, this is different; number and gender, which tend to be more articulated here, are not bundled with person, even if that is specified.

³³⁴ Arguments that the accusative here is structural, not inherent, are given in Schütze (1997:156f.).

³³⁵ This is unambiguously reported by Schütze (1997:117); I have no datum to present.

- (380) Tað hafa nakrar lagkøkur verið bakaðar til veitsluna (*Faer.*)
 Það hafa nakkrar kökur verið bakaðar fyrir veisluna (*Icel.*)
 there have-PL some cakes-N been baked for the.party
 There have been some cakes baked for the party. (Jonas 1996a:169)

The Icelandic and Faeroese pattern seen here is coherent with the nominaccusative pattern. It is a cyclic displacement context, with π -agreement out in principle and in fact. The internal argument in these constructions is somehow getting structural Case.³³⁶ In Faeroese, moreover, it does not get the regular T-assigned Case of this language, which is nominative. Faeroese therefore fits quite well the nominaccusative pattern, such as is found in English, Finnish, and Breton: a special Case which T does not normally assign is assigned when the π -Probe of T is absorbed. In Icelandic, this special Case is identical to the nominative.

Icelandic and Faeroese are instrumental in showing that the lack of number valuation for T-Agree in nominaccusative contexts is not an issue of morphological spell-out. Up to this point, it could have been supposed that number agreement shows up in languages like Finnish only if T's #-probe also has an EPP feature.³³⁷ In Icelandic number agreement with the 3.PL goal of nominaccusatives is clearly normally possible unlike in Finnish, (380), and in Faeroese it is not. So it is of significance that both languages marginally allow the other language's pattern. Barnes (1986) reports that Faeroese speakers also more marginally or archaically accept the Icelandic pattern; Sigurðsson (1992:349n56) finds that the Faeroese pattern is possible for some Icelandic speakers.³³⁸

- (381)
 a Henni tykja bátarnir ov vánaligir.
 her-D thought-3.PL boats-N too bad-N.PL

³³⁶ T's ϕ -probe would probably find the oblique subject a sufficient associate, so there is no argument here that it must be reaching the theme unlike in English. This is because Icelandic allows oblique DPs as the sole argument constructions; this will be discussed in 5.5.

³³⁷ See Benmamoun (2000) for the Arabic data that suggest this kind of treatment, and the possible options available here.

³³⁸ Non-agreement in expletive constructions, Sigurðsson (1992:355), is probably a different phenomenon in light of Maling & Sigurjónsdóttir (2003).

She found the boats too bad. (Barnes 1986:18; Faeroese)

- b %Okkur var sagt þessa sögu
us-D was-3.SG said-NT.SG.N this-A story-A

We were told this story. (Sigurðsson 1992:349n56; Icelandic)

What is important about this is the affirmation of both authors in this respect: whichever strategy is chosen, number agreement with an accusative object in Icelandic condemns it, while number agreement with a nominative object in Faeroese improves it. The importance of this observation is noted by Schütze (1997:158n92). The consequence is now as follows: since number agreement with the goal of nominaccusative contexts in both languages is possible when the goal is the nominative, its obligatory absence when it is the accusative cannot be due to any constraints on spelling out number morphology on T. Rather, we conclude that when the Case that is spelled out as accusative is assigned, the #-probe is not valued, and correspondingly it is valued when T assigns what shows up as nominative. This is not the general pattern of nominaccusative contexts. In English for example, accusative is clearly being assigned to DPs and pronouns with potential number valuation. A less predictive assumption must thus be fallen back on: whether the #-probe is valued in nominaccusative contexts is of potential but not necessary consequence for the morphological identity (nature of the shell) of the Case that is assigned by π -less T.

At this point, I will summarize all the data to see what conclusions may be drawn. All the nominaccusative contexts form a very coherent pattern in some respects, whose properties are here repeated as follows:

(362) Properties of T #-probe shell

- a The Case assigned is anomalous for its context, which is that of a ϕ -probe on T: it cannot be identified with either nominative or accusative.
- b The goal is not in a default Case environment; it is in an environment where without a probe to assign Case, the Case Filter rules DPs out.
- c The goal is beyond the reach of the π -probe of T.
- d The goal clearly must be in the reach of some probe, possibly the #-probe.

The comparative view provides resolution on context, Case, and #-valuation patterns, where N/A indicates that the information is not determinable:

(382) Nominaccusative patterns

	$[\pi-]$ absorbed by	1 st /2 nd person	$[\#-]$ valued	Case
English list	somehow	* π -agreement N/A clitic	opt.	N/A inanimate; animate pronoun acc.
French deictic	somehow	* π -agreement; N/A clitic	opt.	N/A inanimate; animate pronoun acc.
Finnish impv.	implicit argument	π -agreement N/A N/A clitic	N/A	inanimate nom., animate pronoun acc.
Breton impv.	implicit argument	π -agreement N/A *clitic	N/A	special
Finnish oblique subject	cyclic displacement	* π -agreement N/A clitic	no	inanimate nom., animate pronoun acc.
Breton oblique subject	cyclic displacement	π -agreement N/A *clitic	N/A	special
Icelandic oblique subject	cyclic displacement	* π -agreement N/A clitic	yes	nominative
Faeroese oblique subject	cyclic displacement	* π -agreement N/A clitic	no	accusative
Finnish passive	impersonal subject	π -agreement N/A N/A clitic	N/A	inanimate nom., animate pronoun acc.

This table serves to reinforce the conclusions in (362): the nominaccusative context is a coherent pattern, with the π -probe systematically unavailable for Agree and unusual pairing between T, which otherwise assigns nominative, and the Case actually assigned, which fluctuates here between nominative and accusative. The oddity of this is most striking in English, where there is number agreement with an accusative pronoun. Furthermore, some probe-goal relation is needed; this is not a default Case context.

This comparison permits the conclusion that the Case being assigned to the goal in nominaccusative constructions is crucially sensitive to the fact that the π -probe is not present. Consider, for brevity, English and Finnish. T in these languages clearly assigns nominative if it

Agrees in person and number, whether the goal undergoes movement or stays as a regular nominative object as in Finnish inversion. Something must prevent T from assigning nominative in nominative constructions. Absence of number agreement cannot be it, since that optionally takes place in English. The cause should be tied to the pervasive property of these constructions, the absence of a π -probe relationship between T and the goal. By the time T reaches the goal, its π -probe has already been absorbed, whatever exactly that means: supplied with a default value, suppose. It is this that lets T assign a special Case, the nominaccusative, whose particular instantiation varies: it has the same form as accusative on animate pronouns in English and Finnish, as nominative elsewhere in Finnish, and is a third thing in Breton. What distinguishes this Case from the regular nominative of T is a detail about T's content at the point it assigns Case: its π -probe has been absorbed.

This is the major conclusion aimed at here. Detailed properties of the target that hosts the probe, beyond its categorial feature that simply distinguishes T or ν , are visible for Case realization. This supports a Case shell vs. a feature-assignment account of Case. Venturing beyond this is speculative at this point, but I would at any rate like to explore for a bit what exactly the T-goal relation is in nominaccusative contexts.

All the T's in nominaccusative constructions should have the #-probe available, as far as the structural properties of the construction are concerned. This does not force us to assume that it is the #-probe which establishes a relation between T and the goal here. Certainly, one could imagine other probes, such as gender. However, they are rather gratuitous; Finnish, for example, lacks gender entirely. If [#] is the relevant probe, however, then its valuation upon Agree cannot be obligatory. In particular, the contrast between Icelandic and Faeroese leads to the conclusion that upon matching a goal, a probe has two options: either valuation, or the assumption of a default value. Moreover, since Icelandic and Faeroese can choose different strategies in constructions whose syntax is otherwise identical (Barnes 1986), it seems that the ability of a #-probe to be valued or not upon Agree is due to the lexically specified properties of T, not to some other properties of the construction.

Icelandic T therefore has some property F that lets its #-probe be valued upon Agree, and Faeroese does not (or the mirror image). F, moreover, clearly results in assignment of a Case that is homophonous with the nominative, and absence of F in assignment of a Case that is homophonous with the accusative, in these languages. F is specific to #-Agree. When the π -

probe reaches its goal in both languages, agreement for both π and # is always obligatory, presumably due to the free rider principle (chapter IV).³³⁹ Again then we see that the morphological realization of T-assigned Case is sensitive to another property of T: whether or not it has F, in addition to the fact that it lacks the π -probe. F may or may not be the same property of a #-probe that determines that in languages like Finnish and Fiorentino/Trentino, there is no agreement with a 3rd person post-verbal subject, as discussed above.

Though extremely tentative, this conclusion is not running the methodological gauntlet quite as much as it seems. Given the virtual identity of Icelandic and Faeroese in nominaccusative constructions as in other matters of syntax, some such F has always been needed – and always been mysterious. The obvious place to look would be in properties of the structure of ϕ -features. Intuitively, F allows # to be valued alone, when the π -feature of the same target cannot be valued because it already has (or in languages like Finnish and Fiorentino/Trentino, because it is "insufficiently" valued by a post-verbal 3rd person). I have no more concrete proposal at this time.³⁴⁰

However, none of this affects the basic conclusion of this section: Case assigned by T is sensitive to whether its π -probe has been valued (to default) on the previous cycle. That confirms the basic thesis that Case is an Agree-shell, a copy of the category of the probe as it is at the point it finds the goal (and potentially cyclically modified by previous steps of the derivation), rather than the valuation of a simplex Case feature.

5.4 Impossible Case assignment and infinitival probes

The topic of this section is "impossible" structural Case. There are situations in well investigated languages where a DP is beyond the reach of any obvious ϕ -probe, and yet Case is assigned. This is obviously a crucial issue in the MI framework, where ϕ -probes assign Case, here implemented as Case shells. Schütze (1997, 2001) demonstrates the availability of default

³³⁹ The π probe is not valued through the free rider principle when [#-] reaches a goal because the π -probe has already been absorbed by an oblique.

³⁴⁰ In Béjar & Rezac (2004) a similar property F' is explored, this time operating in the π -agreement system: there the presence of F' is what permits the π -probe to reject being valued upon Agree and assign a special Case, different from the one it normally assigns upon Agree.

Case in certain contexts, but as discussed in 5.3 it cannot be available to the core argument positions such as subject and object.

In English the context of impossible Case assignment are the subjects of *wager*-class ECM infinitives. Postal (1974, 1993) observes that the subject of the infinitival complement of verbs such as *wager* or *allege* cannot be a full DP but can be either the expletives *there* and *it* or an \bar{A} -gap. Bošković (1997:58-9), crediting Howard Lasnik and Noam Chomsky, adds that weak pronouns can appear here, although not strong pronouns such as *are* forced by a conjunction structure:

(383)

- a She alleged **there** to be **stolen documents** in the drawer.
- b She alleged it to be impossible to square circles.
- c She alleged her to have been satisfied.
- d *She alleged stolen documents to be in the drawer.
- e *She alleged her and him to have kissed.
- f Who did she allege to have kissed her?

I will adopt several conclusions about this paradigm drawn by previous researches. First, *wh*-traces are fine because the *wh*-word is getting Case via \bar{A} -movement, as argued by Kayne (1984a) for the same paradigm in French (where this is the only ECM paradigm), explored in a minimalist version by Ura (1993) and Bošković (1997); cp. section 5.2.2. Second, I also adopt Bošković's (1997:59f.) argument that weak pronouns and expletives are possible because as X^0 elements they incorporate into the higher verb and thus evade the Case Filter (although this solution should not fully assimilate to prosodically dependent clitics, since they are not).³⁴¹ My interest is in the DP in bold in (383)a, and its Case.

The significance of (383)a for the theory of Case is raised by Bošković (1997:76-7), who takes it as evidence for Lasnik's (1999:IV) extension of Belletti's (1988) hypothesis that *be* (and other unaccusatives) in expletive constructions can assign partitive Case. I will not pursue

³⁴¹ An interesting observation of Postal (1993) is that there are such structures with an extra internal argument:

(i) *I convinced Mary John to be an idiot.
 (ii) ?Who did you convince Mary to be an idiot?

I do not have at this point data to see if expletives and weak pronouns are fine here as well.

further analysis of the English data-set here; one reason for adopting the partitive Case limited to a post-verbal position is impossibility of (383)d, and any approach to a regular ϕ -probe-based Case assignment in infinitives such as what follows must have an alternative way of ruling blocking it (Elizabeth Cowper, p.c.; see Richards 1997:IV for possibilities).³⁴² In what follows, I turn rather to a similar impossible Case assignment context in Icelandic infinitives which cannot be dealt with by the partitive Case approach because of its complete generality, which demonstrates its independence of particular verbal properties such as unaccusativity.

The importance of the question in the present context is the following. MI construes Case assignment as a consequence of ϕ -agreement, a hypothesis championed by George & Kornfilt (1981) and Schütze (1997). Earlier approaches within the minimalist program took Case to be checked rather than assigned, by features such as [assign accusative] on heads such as *v*. It would be theoretically possible to divorce the Case-checking properties of a head from its possession of a ϕ -probe. Now, despite MI's adoption of the ϕ -Case correlation, Case remains an active feature in need of valuation, and its exclusion from being a probe in its own right is a stipulation. However, in the Case shell approach here, Case is not a feature at all, and therefore its assignment must depend on the availability of Agree by a probe that has nothing to do with Case such as a ϕ -probe. The English *wager*-class paradigm is relatively neutral about why Case assignment by the matrix clause is impossible; the clausal boundary seems to block whatever it is that *v* does to assign/check Case. However, the Icelandic paradigm to be examined is quite specific about the source of the problem: the infinitives with DPs that get "impossible" Case are opaque specifically to higher ϕ -probes. That must be accounted for in the Case shell approach, as I will try to do.

Icelandic with its richer Case and ϕ -system has a clearer impossible Case assignment context. The data-set was already partly discussed in chapter II, where cyclic displacement was introduced. By way of introduction, the following paradigm illustrates regular ECM-accusative and long-distance nominative object constructions:

(384)

a Ég taldi [**hestana** hafa verið gefna konungi]

³⁴² However, no requisite partitive Case exists independently; partitive in Finnish, with which Belletti (1988) originally drew a connection, has quite different properties (Kiparsky 2001).

- I believed the.horses-A to.have been-DFLT given-M.PL.A a.king-D
 I believed the horses to have been given to a king. (Schütze 1997:106)
- b Við teljum [koma **marga íslendinga**/*margir íslendingar]
 we believe-1.PL to.come many-A Icelanders-A/*N
 We believe many Icelanders to have come. (Taraldsen 1995:322)
- c Mér₁ virðast/??virðist t₁ [**hestarnir** hafa verið gefnir konunginum.]
 me-D seem-PL/??SG the.horses-N to.have been-SG given-PL the.king-D
 The horses seem to me to have been given to the king. (Schütze 1997:107)
- d Jóni₁ virðast [vera taldir [t₁ líka **hestarnir**]]
 John-D seem-PL to.be thought-M.PL.N to.like the.horses-N
 John seems to be believed to like horses. (Schütze 1997:107)

The nominative object is subject to the Person Case Constraint, and as discussed in chapter II, it is an example of a cyclic displacement construction: in order to #-Agree with the nominative, the matrix T must first displace the dative intervener, which absorbs its π -probe.

The anomalous data-sets are the two following, which are slight elaborations of the above (see particularly Schütze 1997:IV.1.1.2 and Jónsson 1996:IV.7.2-3 on such constructions). In every single one of the following instances, the nominative object, which is in bold, is not reachable by closest T/ ν probe (always in the matrix clause), because there are one too many interveners (boxed). Recall from chapter II that a ϕ -probe can get past only the trace of a potential goal, even a defective intervener, and not past an in-situ intervener itself. Nevertheless, in all these examples there is a nominative object which is perfectly legitimate, though it is evident that T's ϕ -probe cannot see it and it cannot agree with it.

(385)

- a Mér₁ virðist/?*virðast t₁ [Jóni₂ vera taldir [t₂ líka **hestarnir**.]]
 me-D seem-SG/*PL John-D to.be thought-PL to.like the.horses-N
 I perceived John to be believed to like horses. (Schütze 1997:108)
- b Það virðist/*virðast [einhverjum manni] [**hestarnir** vera seinir.]
 EXPL seem-SG/*PL some-D man-D the.horses-N to.be slow-N
 A man finds the horses slow. (Holmberg & Hróarsdóttir 2003:1001)

- c MÉR₁ hefur/??hafa alltaf t₁ virst [honum] hafa verið
 me-D have-3.SG/*PL often seemed-N.SG him-D to.have been-N.SG
 seldar/*selld þessar bækur á alltof hár verði
 sold-F.PL/*N.SG these-F.PL.N books-F.PL.N at all.too high a.price
 He has always seemed to me to have been sold these books at all too high a price. (Schütze 1997:109)

The impossibility of the nominative gets worse. When constructions with an unmovable defective intervener are embedded under ECM verbs, which regularly assign accusative as in (384), a nominative shows up.³⁴³

(386)

- a Jón telur [mér₁] virðast t₁ [**Haraldur** hafa gert þetta vel.]]
 John-N believes me-D to.seem Harald-N to.have done-SG this-A well
 John believes Harald to seem (*to me) to have done this well. (McGinnis 1998:82)
- b Hann hafði talið [Jóni] hafa verið
 he had believed-DFLT John-D to.have been-DFLT
 gefnir þessir sokkar]
 given-F.PL.N these-F.PL.N socks-F.PL.N
 He had believed John to have been given those socks. (Jónsson 1996:177)
- c Ég taldi [Jóni] hafa verið gefnir **hestar**/*gefnar hestna]
 I believed John-D to.have been-DFLT given-N.PL horses-N.PL/*A.PL
 I believed John to have been given horses. (Maling & Sprouse 1995:180)

³⁴³ There are speakers who allow the accusative here (ii), and they do not seem to allow it when the ECM verb is absent, (iii). The clearest discussion is Jónsson (1996:177) for (ii). This finds an exact counterpart in the fact that the matrix number agreement in (385) is not always totally ungrammatical but rather ??, a point that is consistent in the judgments; cp. Jónsson (1996:177-180) for some discussion). I have no insight into this.

(i) %Hann hafði talið Jóni hafa verið gefna þessa sokka.
 He had believed John-D to.have been given-M.PL.A these socks-A.
 (ii) Mér hefur sýnst [Jóni hafa verið gefnir þessir sokkar/*þessa sokka].
 Me-D has seemed John-D to.have been given-M.PL.N these-N socks-N/*A

What these constructions show is a nominative which is impossible for two reasons: in the first data set, T's ϕ -probe should not be able to get through the barrier set up by a non-displaced intervener, and empirically it does not get through because it cannot agree with the nominative; in the second data set, T's ϕ -probe Agrees with the subject and the only other obvious Case assigner is v of the ECM verb, which assigns accusative, whose probe is also evidently stopped by the oblique intervener since it never assigns accusative.

I think the basic insight into these constructions is due to Schütze (1997). First (IV.1.1.2), in the context of a general argument for a correlation between nominative Case and ϕ -agreement, he points out the nominative here is not default or quirky (p. 122). If default or quirky nominative were available in these constructions, a large number of generalizations would be lost, including the general impossibility of double-nominative clauses, and the fact that ϕ -agreement with nominatives is possible whenever they are in the reach of a ϕ -probe, though it is never possible with a quirky Case DP such as the dative in these constructions. I adopt this without reservation.

Second (IV.1.1.3), observing the impossibility of T's ϕ -agreement with the nominative in these constructions, he proposes that the non-finite INFL is itself responsible for Case assignment, because it undergoes invisible ϕ -agreement with the nominative. He proposes that this happens quite generally within these constructions, and even when there is a higher Case-assigner, as in (384). The infinitival INFL Agrees with the nominative, and then the next higher Case assigner, T or v , Agrees again with the DP if it can and adds another Case feature which over-writes the original nominative in spell-out. Thus an infinitival subject gets accusative under an ECM verb if it is in the reach of v 's ϕ -probe, but it always first receives nominative from the infinitival INFL. This solution is not possible under the assumptions of this thesis, because it violates the AGH. If the infinitival INFL obligatorily Agrees with the nominative, matrix ϕ -agreement should not be an option.

I think Schütze's conclusions about infinitives are fundamentally correct. He points out they are supported by languages where infinitives clearly have ϕ -features that Agree with their subjects and assign nominative, like Portuguese (Quicoli 1996) and Turkish (Moore 1998). Based on evidence from these languages, I will suppose that the infinitival T has a full ϕ -set that Agrees with the subject and assigns it Case, one that shows up as nominative. However, I propose to make the following modification: the infinitival T has a ϕ -probe either optionally, or

perhaps only as last resort. It is not clear which of the two is correct, for reasons that I will explain directly. On either assumption, convergence will determine when infinitival T must have a ϕ -probe, and a matrix probe Agrees with a DP contained in the infinitive if it has not had Case assigned internally to it. This modification both makes Schütze's proposal compatible with the Active Goal Hypothesis and thus with Case shells, and finds independent support.

Consider how this works by taking the two examples below. In (387)a, the in-situ subject of the infinitive is inaccessible to a matrix ϕ -probe. If the infinitival T does not have a ϕ -probe, *hestarnir* never receives Case, and the Case Filter rules the derivation out. Convergence therefore determines that the infinitival T must have a ϕ -probe. (387)b illustrates the unclarity of whether an infinitival T has a ϕ -probe optionally or as last resort. Suppose the infinitival T had a ϕ -probe that Agrees with *hestarnir*. The latter should not be accessible to matrix ϕ -Agree, and the derivation should converge with default agreement and *hestarnir* having had nominative Case assigned in the infinitive. Now, it is true that for many speakers of Icelandic, default agreement is perfectly fine here (Sigurðsson 1996, Hrafnbjargarsson 2001), which could be accounted for by an optional ϕ -probe on infinitival (and small clause) heads. However, (387)c militates against using the optionality of infinitival T ϕ -probe to account for default agreement here: accusative Case assignment is obligatory in these contexts, suggesting the matrix *v*'s ϕ -probe must Agree with the in-situ infinitival subject.

(387)

- a $\overbrace{\text{Mér}_1 \text{ virðist}/?* \text{virðast } t_1 [\text{Jóni}_2] \text{ vera } taldir [t_2 \text{ líka } \textbf{hestarnir}]}^{\bullet}$
 me-D seem-SG/*PL John-D to.be though-PL to.like the.horses-N
 I perceived John to be believed to like horses. (Schütze 1997:108)
- b $\overbrace{\text{Mér}_1 \text{ virðast}/?? \text{virðist } t_1 [\textbf{hestarnir} \text{ hafa verið gefnir konunginum}]}^{\bullet}$
 me-D seem-PL/??SG the.horses-N to.have been-SG given-PL the.king-D
 The horses seem to me to have been given to the king. (Schütze 1997:107)
- c $\text{Við teljum [koma } \textbf{marga íslendinga}/* \text{margir íslendingar}]$
 we believe-1.PL to.come many-A Icelanders-A/*N
 We believe many Icelanders to have come. (Taraldsen 1995:322)

The assumption that infinitives have a ϕ -probe only optionally or as last-resort receives rather good support from European Portuguese, where the ϕ -features are overt. European Portuguese has both infinitives inflected for person and number, and uninflected infinitives. Both are possible as raising and perception verbs complements. In either environment, inflected infinitives require their subject in the nominative, uninflected ones in the accusative, confirming Schütze's hypothesis that Case and Agreement go together (Schütze 1997:126). Now consider the following raising paradigm:

(388)

- a Parecem ter razão
 seem-3.PL to.have- \emptyset reason
 They seem to be right. (Quicoli 1996:59)
- b *Os meninos parecem terem comido o bolo
 the children seem-3.PL to.have-3.PL eaten the.cake
 The children seem to have eaten the cake. (Raposo 1989:297)
- c Parece terem/*ter os embaixadores chegado a um acordo
 seems-3.SG to.have-3.PL/*- \emptyset the ambassadors reached to an agreement
 It seems that the ambassadors have reached an agreement. (Quicoli 1996:58)

If the infinitive agrees with the subject, the raising verb must not; if the infinitive does not agree, the raising verb will. This is exactly as expected if the Active Goal Hypothesis is in fact fully in effect, so that once ϕ -Agree has taken place with a DP, it is not available for ϕ -Agree again. The European Portuguese data seem to show directly that the ϕ -probe on an agreeing infinitive is optional.

However, European Portuguese does not help us to directly determine whether the infinitival ϕ -probe should be construed as optional or obligatory. The reason is that (389)a which is impossible in Icelandic (as (387)c) is possible in European Portuguese:

(389)

- a Eu vi eles correrem/*correr
 I saw they-N to.run-3.PL/*- \emptyset

b Eu vi-os correr/*correrem

I saw-them-A run-Ø/-*3.PL

I saw them run. (Schütze 1997:126, citing Pilar Barbosa p.c.):

The difference between ECM constructions in Icelandic and European Portuguese can be stated simply in terms of whether the matrix v needs to establish a ϕ -Agree relation with a goal or not (e.g. in terms of whether v has an obligatory ϕ -probe). In European Portuguese, evidently not; in Icelandic, it does. AGH properly allows (389)a in European Portuguese as a derivation where v lacks a ϕ -probe, and the impossibility of this option rules out (387)c.

Unfortunately, this does not resolve the question of whether Icelandic infinitives have ϕ -probes optionally or last-resort. The Icelandic ECM v and finite T always have a ϕ -probe. However, the ϕ -probe clearly need not be valued, as when there is no accessible goal without inherent Case in (387)a and (386)c. Instead, it needs to find a goal, a conclusion that will be generally supported for ϕ -probes in 5.5. If the Icelandic infinitive always had the option of assigning Case, it should be possible for the matrix v 's ϕ -probe to treat a DP with infinitive-assigned Case as a goal that simply cannot Agree, and leave it at that. This could yield default agreement in (387)b for those speakers who allow it, but it does not account for the obligatory accusative in (387)c. European Portuguese allows the equivalent of (387)c independently of the question simply because its ECM v need not have a ϕ -probe.³⁴⁴

I conclude therefore that it seems at this point as if in Icelandic infinitives ϕ -probes are last-resort rather than optional; cp. chapter II for observations of other last-resort ϕ -probes in Basque (copy-)raising constructions. Derivations where the infinitive has a ϕ -probe are allowed only if the derivation that contains it would not otherwise converge. An economy condition of exactly this type is extensively explored in Fox (2000) and Reinhart (1995) for other principles, such as EPP(-feature) addition to a head. I believe that the data at this point requires it. Possibly, the last-resort nature of ϕ -features on infinitival T relates to the infinitival nature of the T; after all, infinitives do not generally show ϕ -agreement.

³⁴⁴ This point is strengthened if as argued in chapter III, Agree is possible with valued ϕ -features, as happens between matrix and embedded T in *They seem like they are about to leave*. If the infinitive optionally had ϕ -features that Agreed with the nominative, they should be match to the matrix v 's ϕ -probe, which never reaches the in-situ subject and which is therefore obligatorily nominative, the only Case that it has so far been assigned.

There is some further slight evidence that suggests the infinitive has a ϕ -probe. This evidence comes from Boeckx (2003), who reports that 1st/2nd person nominatives are impossible in contexts where the system in Schütze (1997) and here renders them unreachable by a matrix ϕ -probe (citing Kjartan Ottoson, p.c.):

- (390) *Jóni virtist [Bjarna] hafa líkað ég/við /þið
 John-D seemed-3.SG Bjarni-D to.have liked I-N/we-N/you-N
 It seems to John that Bjarni likes me/us/you. (Boeckx 2003:10 of ms.)

Speakers of Icelandic generally allow default ϕ -agreement across a clausal boundary, including that of a small clause, and in those contexts 1st/2nd person pronouns are fine (with some idealization), although ϕ -agreement with them is excluded by the Person Case Constraint (Sigurðsson 1996, Hrafnbjargarsson 2001). ϕ -agreement with a co-argument nominative is on the other hand usually required, and thus 1st/2nd person pronouns which are blocked by the PCC render such constructions impossible (Sigurðsson 1996):

- (391)
 a Henni hafði/*höfðuð fundist [þið vera duglegar]
 her-D had-3.SG/*2.PL found you(PL)-N to.be industrious
 She found you to be industrious. (Sigurðsson 1996:36)
 b Henni ?*líkaði/?*líkuðu/*líkuðuð þið
 her-D liked-?*3.SG/?*3.PL/*2.PL you(PL)-N
 She liked you. (Sigurðsson 1996:35)

Boeckx observes that in (390) the PCC seems to be applying (contrast 3rd person in (387)a). I have argued, following Schütze (1997), that nominatives in this position are licensed by the infinitive's ϕ -probe. Now interestingly, no clausal boundary separates the ϕ -probe of the infinitival T and the 1st/2nd person pronouns in (390), so agreement with the nominative co-argument should be obligatory and yet at the same time impossible due to the PCC because the infinitival ϕ -probe has already displaced the dative *Bjarna* by cyclic displacement. This properly rules out (390) exactly for 1st/2nd person pronouns; the idea requires that the ϕ -probe be on the

infinitive. From the viewpoint of a matrix ϕ -probe, a clause boundary intervenes and default agreement should be possible, with 1st/2nd person pronouns fine; and similarly a default Case account of nominatives in these positions does not draw the distinction.

To sum up the discussion of Icelandic infinitives, Schütze's proposal that infinitival T can have a ϕ -probe (assign nominative) is clearly supported by the data. However, the data from Icelandic and Portuguese also support the Active Goal Hypothesis, so the ϕ -probe must not be always present; convergence determines when it must be present. This is not a counter-cyclic requirement; derivations where the infinitive does not provide a ϕ -probe simply crash. AGH ensures that in derivations where matrix T or ν Agrees with an infinitive-internal DP, the infinitives does not have a ϕ -probe for the DP. The uncertainty lies in whether the infinitival ϕ -probe is just optional or whether it is added as last-resort. The discussion has supported the last-resort nature of the probe.

5.5 The (Inverse) Case Filter, associates, and activation features

The Case Filter requires DPs to have Case. Nothing in the Case shell idea removes this requirement. Furthermore, the requirement cannot be reduced to the requirement that Case assigners like T enter into a relationship with a DP (to be discussed below), as discussed by Bošković (1997:140f.). Here are some examples of this impossibility, all familiar from much earlier literature. The first shows that the theme of an unaccusative is not licensed if its goal absorbs nominative Case, although the thematic structure seems to be fine as can be seen from the parallel passive (Baker 1992). The second capitalizes on the asymmetry discovered by Burzio (1986) that unergative predicates can assign accusative while unaccusative ones cannot. The specific force of the argument is due to Rothstein (1992), who discusses the secondary resultative predicate construction that brings the difference out; only lack of Case plausibly excludes them with unaccusatives. The third argument, due to Bošković (1997), rests on predicates that can select a CP but not a semantically equivalent DP. The fourth data-set points to the impossibility of having the experiencer of a raising verb as an accusative, again due to Burzio's Generalization.³⁴⁵ The last example is a more secure and subtle version of the same

³⁴⁵ *NP strikes DP as t_i V-ing* is a well-known apparent counter-example (Rizzi 1986b), presumably to be analyzed with an inherent accusative along the lines of *to*-experiencers in English below.

argument, due to Chung & McCloskey (1987:181n6): *happen* cannot occur in this pseudo-cleft because *what* has no accusative Case to assign by Burzio's Generalization, though it has a nominative one.³⁴⁶

(392)

- a Mary was passed the ring.
- b *Mary passed **the ring**.

(393)

- a They laughed John off the stage.
- b They laughed themselves sick.
- c The river froze (***itself**) solid.
- d The cart rolled (***the rubber**) off its wheels.

(Heycock 1994:53)

(394)

- a John inquired about the time.
- b *John inquired the **question/it**.

(395)

- a It seems *(to) **Kate** that she is clever.
- b Nollwenn₁ seems *(to) **Kate** *t*₁ to be clever.

(396)

- a ***What** it happened is that Kate left. (Chung & McCloskey 1987:181n6)
- b What happened is that Kate left. (Chung & McCloskey 1987:181n6)

³⁴⁶ Schütze (1997:II) makes a strong and I think entirely convincing argument that Case/ ϕ -independent principles are needed to license DP positions. However, the point is largely made for the traditional EPP requirement, so he demonstrates in effect that the EPP cannot be reduced to Case (cp. Rezac, forthcoming b). This does not lessen the force of the argument for the Case Filter based on the following examples, where it seems completely gratuitous to invent principles that would license e.g. a resultative complement for unergatives but not for unaccusatives. The Case Filter is needed here; and in turn it allows a simplification of c-selection, as Bošković (1997) demonstrates.

Demise of the Case Filter is not envisaged in the present chapter. In turn, its implementation by Case shells does not contribute to implementing the requirement, and to understanding the deeper reasons behind it. One traditional insight (cp. LGB:49) suggests Case might be needed for PF reasons.³⁴⁷ The most common GB approach makes Case required for theta-assignment visibility (LGB:176f., 333f., Chomsky 1986a). Finally, a third idea would be that Case relates to a different aspect of DP interpretation, having to do with its role in the temporal, aspectual, and modal structure.³⁴⁸ The reason I raise the last idea is because it goes particularly well with T and *v* as Case assigners. However, I have no particular proposals about any of this.

The actual proposal for Case through much of the minimalist program is as a feature that needs to be checked, or "Greed". Lasnik (1999:IV,VI) adds to this the idea that properties of the target can also drive T/*v*-DP relations, "Enlightened Self-Interest", and replaces Greed in MP:IV's Attract operation, what MP:127 terms "Suicidal Greed". The debate has been intertwined with the argument that the expletive is not an LF affix whose properties require the associate to adjoin to it at LF (Lasnik 1999, Den Dikken 1995, Groat 1995, Bošković 1997; see chapter IV), that it is rather properties of T that require a DP goal. MI represents the end of this road, as discussed in chapter I (MI:125-6, 127):

According to this conception, agreement (hence movement) is driven by uninterpretable features of the probe, which must be deleted for legibility. ... The principle we are now entertaining is what Lasnik (1995a,b [1999:IV, VI]) calls Enlightened Self-Interest, with the further requirement that a matched probe must delete: we might call the principle Suicidal Greed. [...] With this shift of perspective, structural Case becomes demoted in significance. The Case Filter still functions indirectly in the manner of Vergnaud's original proposal, to determine the distribution of noun phrases. But what matters primarily are the probes, including the ϕ -features of T, *v*. (MI:127)

This treatment of expletive constructions, which is assumed throughout this thesis, requires the Inverse Case Filter, a term Bošković (1997:134) attributes to Howard Lasnik: T must have an associate. Lasnik reaches this conclusion based on examinations of examples such as the following:³⁴⁹

³⁴⁷ For example, the Latin stem for 'horse', *equ-*, has no pronounceable form without an appropriate Case marker, *equ-us*, *equ-ī*, etc.

³⁴⁸ Cf. particularly Musan (1997) for time, Percus (2000) for world indices, Tenny (1994) for aspect; on how Case relates to this, particularly Pesetsky & Torrego (2001) and Wiltschko (2003) for nominative-tense, and Svenonius (2002) for *v*-aspect. More generally, see Brandt (2003) for such "anchoring" of higher-level semantic types by their subjects.

³⁴⁹ Sentences like (397)c and (397)d lead two quite separate lives in the literature. One, as described in the text, is

(397)

- a *There is likely that John is tall. (Lasnik 1999:132)
- b *There seems to a strange man that it is raining outside. (Lasnik 1999:133)
- c *There strikes someone that Mary is clever. (Lasnik 1999:132)
- d *Him₁ strikes *t*₁ that Mary is clever.

If the expletive *there* does not have any requirements, and since the Case requirements of all DPs in the sentence are satisfied, the ϕ -set of T must have an associate requirement to rule them out. Lasnik, however, reaches a stronger conclusion:

"[S]uppose that it is exactly a visible Case feature that makes the feature bundle or constituent available for "A-movement." Once Case is checked off, no further movement is possible." (Lasnik 1999:134)

In MI terms, the ϕ -probe of T is not satisfied by something without an activating structural Case feature. This seems required because the Case-checked nominative *John* in (397)a, the experiencer of *seem* in (397)b, and the accusative experiencer in (397)c and (397)d, do not suffice for T.³⁵⁰

This is the backbone of the treatment of Case in MI:121-4, 127-8. The Case feature lights up a DP, rendering it active, so that it is able to value upon Agree. Once Case is checked, the ϕ -features of a DP are still visible to Agree, but they can now only be matched, they cannot value (MI:127). This is what explains why the matrix T cannot use as associate the embedded nominative in (397)a and (397)b, and the accusative experiencer in (397)c and (397)d. The *to*-

an instance of the English verb *strike* selecting an external argument and assigning it accusative, which is then blocked from raising to [Spec, TP] (and perhaps being assigned additional nominative); that is the one Lasnik here and Bošković (1997:136) are concerned with. This verb should anyway be blocked by Burzio's Generalization (Heycock 1994:54), because it assigns accusative without having an external argument. The second construction is one with the hypothetical verb STRIKE (or SEEM) that would select an internal argument and a CP, not assign the argument accusative, so that its internal argument is available for raising to [Spec, TP]. This is discussed in MP:306 and Lasnik (1999:147n18), and has the paradigm in (i)-(iii). (iii) is barred by other reasons, but the non-existence of (i) and (ii) is worrying and unexplained as far as I know: *be told*, *be persuaded*, etc., cannot enter into (ii).

(i) Bill SEEMs *t*_B [that it is raining].

(ii) there SEEMs someone [that it is raining].

(iii) there SEEMs someone [John to be likely that *t* is intelligent].

³⁵⁰ The value of this specific paradigm depends in part on what regulates the distribution of the *there* vs. *it* expletives; if the associate of the ϕ -probe of T is the CP, as would follow from chapter III here, choice of the *it* expletive might pre-empt that of *there* because of some property of CP goals: Lasnik (1999:136), cp. LGB:87, and differently MP:286-288, 347-8, MI:128. McCloskey (1996) emphasizes the *it/there* difference for Irish.

experiencer of *seem* is held to have inherent Case, which renders its ϕ -set completely invisible to a ϕ -probe, as can be seen from the fact that it does not block raising across it (MI:148n87 following McGinnis 1998, cp. MP:383n36). This is not so for the embedded nominative, which does block raising across it:

(398)

- a Kate₁ seems to Nólwenn t_1 to be clever.
- b *Kate₁ seems it is believed t_1 is clever.

So the MI view requires a match-valuation distinction. The embedded nominative of (397)a, (397)b matches the matrix T's ϕ -probe and stops it, because the DP has a ϕ -set, but is unable to value it, because it has had its structural Case feature deleted. The matrix *to*-experiencer is completely invisible to the ϕ -probe. The deviance of (397) arises because there is no valuation of the matrix T's ϕ -probe, which apparently leads to a crash. This is therefore MI's version of the Inverse Case Filter: a ϕ -probe requires valuation.

The system is complicated by the Icelandic data-set however, which offers prima-facie counter-examples to (397) and (398). The experiencer of *seem* is oblique, yet blocks raising across it, and itself raises to [Spec, TP], as shown in (399) (Zaenen et al. 1985, Sigurðsson 1992, Boeckx 2000). However, there is evidence that the experiencer of *seem* is different in Icelandic from the *to*-PP in English, and is visible to the ϕ -probe of T. First, the Definiteness Effect holds of Icelandic not of the nominative associate in expletive constructions as in English, but of the oblique experiencer of *seem*, as in (400) (Maling 1988, Jonas 1998); if the Definiteness Effect is a consequence of a relationship between T's ϕ -probe (specifically, π -probe) and an associate as suggested in MI (see 5.3 above), there is ϕ -Agree between them. Second, the Person-Case Constraint is triggered if T relates to a nominative across the dative experiencer of *seem* in Icelandic; as discussed in chapter II (see also ex. (378) above), this is evidence that the π -probe of T is "absorbed". Note that (401) forms a minimal contrastive pair with (397)b.

- (399) Jón telur [Harald₁ virðast (*mér) [t_1 hafa gert þetta vel]].
 John-N believes Harald-A to.seem (*me-D) to.have done-SG this-A well
 John believes Harald to seem (*to me) to have done this well. (McGinnis 1998:82)

(400)

- a Það virðist sumum málfræðingum[þessir stúdentar vera duglegir.]
 there seem-3.SG some-D linguists-D these students-N to.be intelligent
 These students seem to some linguists to be intelligent. (McGinnis 1998:51)
- b *Það virðist þessum málfræðingum[margir stúdentar vera duglegir.]
 there seem-3.SG these-D linguists-D many students-N to.be intelligent
 These students seem to these linguists to be intelligent. (McGinnis 1998:51)

- (401) Mér virðist/*virðast [að þeir lesi bókina.]
 me-D seems/*seem that they.N read book.the.A
 It seems to me that they read the book. (Boeckx 2004:28)

So there is considerable evidence for some π -probe -- oblique Agree relation in the Icelandic data, in contrast to English.³⁵¹ To account for this, MI:127-8 assumes that the experiencer here bears "quirky" Case, which is structural Case on top of inherent Case (Belletti & Rizzi 1988, Cowper 1988). This permits it to value a ϕ - (π -) probe. By this assumption, the ϕ -probe's requirement for an associate here is satisfied. The conclusion for Icelandic must be fully generalized to its oblique Cases, since there are also dative and accusative "quirky" subjects (Andrews 1982, 1990, Yip, Maling & Jackendoff 1987).³⁵²

At this point though, the MI system has gotten a bit complicated and the distribution of evidence somewhat opaque. Let's summarize. First, obliques in Icelandic are clearly visible to ϕ -probes, probably specifically valuing the π -probe to some default value. Second, obliques in English are clearly transparent to ϕ -probes. This does obviously not have to do with the different

³⁵¹ See also Boeckx (2003). This Icelandic phenomenon must be carefully distinguished from Stylistic Inversion in English. Culicover & Levine (2001) show (contra Bresnan 1994) that although the latter seems to target [Spec, TP], the inverted oblique cannot raise and cannot appear in ECM infinitives, both hallmark diagnostics of Icelandic quirky subjects. Furthermore, it evidently does not cause the Person Case Constraint. This is all evidence that whatever happens in Stylistic Inversion, it is not a ϕ -probe -- oblique relation, and the full ϕ -probe relationship is with the in-situ nominative subject.

³⁵² There are of course other cases where T might not seem to have an associate. The list construction with its accusative theme has been treated above; it is not a counter-example. Another possible other case is den Dikken's (2001) argument that singular agreement in English expletive constructions across a clause boundary is due to singular ϕ -features of the clause itself (cp. MI:128, 148n88). However, I do not understand the ramifications of this phenomenon adequately.

morphology involved: *seem*-experiencers in Icelandic have dative Case suffixes, but so have transparent *seem*-experiencers in Czech; *seem*-experiencers in French are PPs very similar to the *to*-PP of English, but they are not transparent to a ϕ -probe:³⁵³

(402)

- a *Ídérfix semble aux Gauloises [*t* être perdu].
 b Katka se **těm lidem** zdá/***zdaj** bejt chytrá.
 Kate RX them-D seems/*seem to.be clever
 Kate seems/*seem to those people to be clever.

The adoption of the quirky/inherent distinction, particularly in terms of construing quirky Case as a combination of inherent and structural Case, seems to be a set of stipulations that are not particularly natural. Furthermore, it does not explain why a quirky Case DP cannot value a ϕ -probe from the features of the DP, but rather simply "absorbs" its π -probe.

Suppose we take instead the opacity of obliques to higher ϕ -probes as the core property. Following Abels (2003), PPs are phases, and thus the DP in the sister of P is never visible to a higher ϕ -probe. Within the PP, a DP evidently receives Case, as can be seen in languages with rich Case systems such as Icelandic. This would follow if PPs have a rich structure, parallel to that of clauses, with their own internal ϕ -probe analogous to the T/ ν of clauses, call it H, which Agrees with the DP and assigns it a Case shell (cp. Travis & Lamontagne 1992, Cardinaletti & Starke 1999, Béjar & Rezac 2003):

(403) [PP (_____{̄A-spec}) P [_{HP} [_{H_[\phi*=i]} [_{KP} K_{-H} DP_i]]]]_{phase}

The P then corresponds to the C head of the clausal system, fitting its behavior as a phase head. The T/ ν -type head H in the complement of P and the DP are both invisible to higher probes.³⁵⁴ Abels proposes that this can be obviated in languages with P-stranding by successive-

³⁵³ As McGinnis (1998) points out though, French also contrasts with Icelandic in that its experiencer PP cannot move to [Spec, TP] to be an oblique subject. As far as I know, the ability to be a true oblique subject might be restricted to situations where the oblique is a suffixial morpheme rather than a PP.

³⁵⁴ The fact that the P-internal ϕ -probe is in the complement of P, thus inside the phase, is important from the perspective of chapter III which proposes that Agree-valued ϕ -features can value higher probes; if P itself were the

cyclic \bar{A} -movement of the DP through [Spec, PP]. Given the proposal for P-internal ϕ -probe, such a successive-cyclically moving DP will already have had a Case shell assigned (in MI terms, Case deleted); furthermore, as discussed in section 5.2.1, the Case shell is probably completely invisible due to the higher \bar{A} -shell. Each of these proposals is independently made by other researchers (except as in note (389)), and together they suggest that DPs in obliques should be simply invisible to higher ϕ -probes. This accounts for their complete invisibility in languages like English and Czech; it also accounts for the fact that DPs inside obliques cannot value higher ϕ -probes even in languages where the obliques as such are visible to a ϕ -probe, like Icelandic and French.

The account just presented can be seen as a way of deriving the MI proposal that inherent Case renders the ϕ -set of a DP invisible, on relatively principled grounds. It remains though to account for the visibility of the obliques to ϕ -probes in Icelandic and French, while keeping to the invisibility of the DPs inside them as the preceding paragraph predicts; what I called ϕ -ACCESSIBILITY in chapter I. As discussed in MI, Anagnostopoulou (2003), Béjar & Rezac (2003), and chapter II here, what happens when an oblique is visible to the ϕ -system is that it "absorbs" the π -feature of a higher ϕ -probe, making it unable to Agree with a lower goal in cyclic displacement. Suppose then implementing this as a stipulation: P of the relevant obliques in languages like Icelandic has some default π -feature, something like [$\pi=\pm\text{animate}$]. Possibly, this is a minimal π -probe in fact, specifically an [animate-] probe, which is ultimately valued from the ϕ -features of the DP complement (perhaps via H which is itself valued from the DP); because it only seeks information about whether the DP is [$\pm\text{animate}$], other ϕ -features of the DP are not present on the P. Relevant recent discussion pointing to a P/C-type layer above DPs relating to something like [$\pm\text{animate}$] is by Cardinaletti & Starke (1999); references that argue for a ϕ -probe on the clausal C matching clausal T are given in chapter V.³⁵⁵ This proposal leaves the ϕ -(in)accessible split itself mysterious, which I have not been able to reduce.³⁵⁶

ϕ -probe, it should be possible for a higher ϕ -probe to Agree with its DP-valued ϕ -set.

³⁵⁵ Particularly Poletto's (2000:25-7) conclusion that deictic clitics in Northern Italian dialects are valued features/heads of the CP system. Deictic clitics distinguish 1st/2nd person from 3rd and are close enough to what I mean by [$\pm\text{animate}$] for the purposes of Béjar & Rezac (2003).

³⁵⁶ However, perhaps a line of attack is through Béjar's (2003) argument that π -feature geometries are subject to different articulation in different languages, and this determines what counts for valuation under Agree: in languages with ϕ -inaccessible interveners, [$\pi=\pm\text{animate}$] alone cannot value a higher full π -probe because the π -probe does not care about it (e.g. suppose [$\pm\text{animate}$] does not even play a role in the possible values it can assume), while in others it does.

Under these proposals, which do not bear one way or the other on the Case shell approach, DPs in obliques are in principle invisible to higher ϕ -probes, and obliques themselves split depending on whether they have [$\pi=\pm\text{animate}$] at the top. I will now return to (397) and its MI implementation: DPs that have received Case can match but not value, and valuing is necessary for a probe in a legitimate derivation. Case shells can be used to implement exactly this mechanics: Agree with the unvalued probes of a shell introduced around a DP by previous Agree constitutes match, Agree with a valued probe including [$\pi=\pm\text{animate}$] constitutes valuation, and a probe requires valuation.

Therefore, the Case shell approach retains intact the MI system of interaction of probes and goals, with its distinction of matching vs. valuation depending on whether the goal is "active". However, while the empirical coverage is the same in this sense, the conceptual foundation is entirely different. In MI matching vs. valuation depends on the existence of an unvalued Case activation feature on the goal. In the Case shell approach, there is no such feature. The ϕ -features of a DP are always available for valuing a ϕ -probe, provided it can get to them. The Case-shell introduced by a previous Agree contains unvalued ϕ -features, which intercept a higher probe. Agree with them counts as match without valuation, and does not satisfy the requirement of a probe that it be valued. To what extent this is a stipulation depends on what it means to be a probe, to match, and to value, which is not my business here; see Béjar (2003), Béjar & Rezac (2004) for extensive discussion. The minimal assumption needed for the Case shell hypothesis is that the unvalued copy of the probe introduced as a Case-shell matches a higher probe, which seems correct, being as they are the same object.

I should note here a general problem with the Inverse Case Filter hypothesis that a ϕ -probe needs a valuing associate. Languages that do not make the *there/it* distinction frequently allow expletives without associates. Passivized unergatives are a classical example, as in Icelandic (404) (Sigurðsson 1992:VI)). In Icelandic, there is also a class of unaccusatives whose only argument is a PP (Sigurðsson 1992:VI), (405), a construction also extensively discussed for Irish by McCloskey (1996). Finally, French while needing associates in general -- there are no simple expletive passivized unergatives or unaccusative PP constructions of the kind just discussed -- can apparently content itself with an associate inside a PP argument (but not adjunct), as in (406) (Safir 1982:IV). Finally, both French and Icelandic offer apparent passives of transitives whose theme is accusative (with poorly understood restrictions as the judgment in (407)b indicates).

(404) Passivized unergative in Icelandic

- a Páll söng hátt.
Paul sang loudly
- b Það var sungið hátt.
EXPL was sung-DFLT loudly (Sigurðsson 1992:308)

(405) Unaccusative with a PP argument in Icelandic

- a Kertið logaði
the.candle-N flamed
- b Það logaði á kertinu
EXPL flamed on the.candle-D
The candle flamed. (Sigurðsson 1992:285)

(406) Il a été tiré *(sur un/le bateau).

It was shot *(at a/the boat).

*It was shot on the boat. (Safir 1982:177-8)

(407) French accusative passive (Mélodie Jouitteau, p.c.)

- a Il sera/*seront transmis ces paroles pendant des siècles.
These words will be handed down through the centuries.
- b Il les *(leur/?y) sera transmis pendant des siècles.
They will be handed down *(to them / there) throughout the centuries.

It is reasonable to suppose that where there is truly no associate in these constructions, the associate is the expletive, so that both the French and Icelandic expletives have in this case their own ϕ -features (while the Icelandic one also allows remote agreement with a nominative associate). This raises the question of why none of these constructions are possible in English with *it*.³⁵⁷ An alternative then would be to assume that in unergative passives, it is the covert

³⁵⁷ Examples like *So it comes to this, It takes time*, receive French translations with the demonstrative *ça*, suggesting a different phenomenon: *Ça/*il revient à ça*.

theme of the unergative which is the associate, and passivization is just severance of the external argument; the syntactic visibility of the abstract theme then varies cross-linguistically, as Dobrovie-Sorin (1998) suggests for their very passivizability. For the French construction, one could suppose the PP is an associate, seeing as the experiencer PP of *sembler* 'seem' is ϕ -accessible (chapter II). This correctly fails with English, where the *to*-PP of *seem* is not visible. Extension of this hypothesis to the problematic unaccusatives of Icelandic and Irish is at this point wholly gratuitous, but possible. Constructions like (407) are studied extensively for Icelandic by Maling & Sigurjónsdóttir (2003), who show that a covert external argument is present in that language, which might be also so in French.

I will close this chapter with a summary of the Case shell approach.³⁵⁸ An appendix, 5.6, discusses participle agreement, an issue to which I have not found a satisfactory solution, and a problem also for derivational theory itself.

The Case shell approach removes activation features from the A-system, and its extension to the \bar{A} -system removes activation features in general. This is a significant simplification of the MI system. The driving force of the system in MI and DBP are the requirements of probes, which are an unvalued feature(-set)s. Ideally, as many properties of the computational system as possible should fall out from this. MI demonstrates that the proper way to conceive of the A-system is as a system of ϕ -probes, distributed on T and v . ϕ -probes should be sensitive to the availability of valued ϕ -features only, and MI partly following McGinnis (1998) argues that a (lexically) valued ϕ -feature always stops a ϕ -probe, yielding either valuation or defective intervention.

³⁵⁸ As discussed in chapter I, I leave entirely aside the implementation of successive-cyclic movement. In MI, successive-cyclic A-movement is implemented by giving the infinitival T targets of successive-cyclic movement a "minimal feature complement, perhaps only [person] for T_{def} " (p. 124), and the C/ v targets of successive-cyclic \bar{A} -movement "a non-specific P[eripheral]-feature analogous to [person] for T_{def} , perhaps contingent on assignment of the EPP-feature to a phase" (p. 149n91). These probes find goals and are valued from them, but cannot value their activation feature because they are incomplete. As far as I know, the conclusions about the specific nature of the features are unwarranted. There is no independent evidence that a non-finite T has a π -probe, and similarly the form assumed by complementizers under successive-cyclic \bar{A} -movement is the same as that assumed by the criterial complementizer (McCloskey 2002 for Irish). The MI implementation does not directly fit into the Case-shell story, where an SCM π -probe should leave a Case shell that blocks a higher π -probe. However, it seems to be more to the point in the MI system that the SCM probe is the minimal possible probe of each system. Béjar (2003) implements in the syntax an articulated ϕ -feature of person that includes at least a root feature and various dependants whose elaboration maps to the traditional categories of person. On such a system, it is quite conceivable that a minimal π -probe, e.g. a root feature, leaving itself as a Case shell, will allow more specified (articulated) π -probes to pass across it simply because the dependant nodes of the root find no match (cp. Béjar & Rezac 2004). This completely speculative; at any rate, SCM does not bear on Case-shells at present.

The activating role of Case is a stipulation on top of this, used to account for the fact that a DP cannot value a probe once it has had assigned either structural or inherent Case. Case-shells are a partial step towards removing this requirement. They account for why a DP which has entered into Agree cannot do so again. As such, Case shell assignment under Agree is a stipulation, just like an activating Case feature. However, it captures far more directly the fact that it is a previous instance of Agree which is responsible for "deactivation". This has been given strong empirical support in 5.1 through the demonstration that under partial Agree, it is precisely the features which have already Agreed that are deactivated. Furthermore, the implementation of "deactivation" is more principled, because it reduces to feature-relativized locality: a later probe cannot pass beyond the copy of an unvalued earlier one left as a shell. Case shells also implement quite directly the intuition that Case is a shell, pioneered by the KP of Travis & Lamontagne (1992). Without apparent problems and with considerable advantages, the shelling approach may be extended to the activation features of the \bar{A} -system, as has been done in 5.2.1. Lastly, I have spent some time in 5.3 cashing out on the idea that Case morphology is the spell-out of a shell, because it predicts that categorially-identically probes, e.g. instances of a probe from T, can yield morphologically different Cases depending on the exact probe that is accessing a goal, and similarly argued that there is evidence for multiple shells in 5.2.2.

Case shells do not impact the need for Case assignment, as has been discussed; the Case Filter remains in force, as the requirement to have a Case shell assigned. Possibly, it reflects the need of a DP to have a layer of clause-like functional architecture relevant to temporal, aspectual, and intensional interpretation. The Case Filter is regularly suspended in certain contexts for which Schütze demonstrates default Case assignment, but these are highly restricted; intuitively, they are characterized as contexts where a ϕ -probe in principle would not have access.³⁵⁹ In the MI system and here, non-default Case assignment is implemented as through ϕ -probes. It is in view of this that in 5.4 I raised the issue of Case assignment in contexts where a ϕ -probe apparently cannot reach a DP but that are not default Case environments, somewhat modifying Schütze's (1997) proposal so that an infinitival T can assign Case optionally or as last-resort.

³⁵⁹ I do not understand why. This is not unique to default Case. Parasitic gaps exist by and large in environments whence \bar{A} -extraction is impossible, for example -- or have the appearance of doing so.

5.6 Appendix: Participle agreement and the limits of derivation

This section discusses passive past participle agreement in Icelandic.³⁶⁰ Schütze (1997) proposes that this agreement is accord, of the same kind as the ϕ -agreement of T/v heads, rather than concord, of the same kind as determiner-noun-adjective agreement. This poses a problem for the Case shell hypothesis. A solution in terms of an independent device proposed by Carstens (2001) is briefly considered. However, the whole issue of participial agreement turns out to pose grave independent problems; I point these out and gather some relevant facts.

Icelandic passive past participles agree with the same DP as the finite verb to which they relate, or in infinitival clauses the DP that the verb of a finite clause would agree with. Schütze (1997:IV.1.17) proposes that the participles themselves ϕ -Agree, though he does not propose that they assign Case. DBP:18f. takes up this suggestion, adding the general observation that participles do not agree for person, so that their ϕ -probe is deficient and therefore does not assign Case. In the context of section 5.1, where we have seen partial ϕ -Agree assign a partial Case-shell and deactivate the features Agreed for, this does not work; the DP that Agrees with the participle should be subsequently able to Agree only for person features, counterfactually.

(408)

- a Jóni₁ virðast [vera taldir [t₁ líka **hestarnir**]]
 John-D seem-PL to.be thought-M.PL.N to.like the.horses-N
 John seems to be believed to like horses. (Schütze 1997:1)
- b Mér₁ virðist/*virðast t₁ [Jóni₂ vera taldir [t₂ líka **hestarnir**.]]
 me-D seem-SG/*PL John-D to.be thought-PL to.like the.horses-N
 I perceived John to be believed to like horses. (Schütze 1997:108)

³⁶⁰ Participle agreement as agreement by a clausal ϕ -probe is of course most famous in the case of French, where it shows up in the relevant dialects under *wh*-movement and cliticization of an object in the transitive construction, and A-movement in the passive construction: see Kayne (1989a), Sportiche (1996), Starke (2001). There are semantic complexities about the French data; past participle agreement depends on the specificity of the object (Obenauer 1994, Déprez 1996). A solution developed for the Icelandic problem needs to be more general since DPs trigger participle agreement regardless of specificity and movement, so I concentrate on it.

If participle agreement is implemented as a separate participial ϕ -probe, as in DBP:18f., something might be deeply wrong with the Case Shell theory. There is a fairly direct way out. This is to suppose that a probe must have some additional property P that lets it leave itself as a Case-shell; Agree alone does not necessarily leave one. Carstens (2001) discusses precisely the problem that is being faced here from agreement sharing in auxiliary chains in Bantu languages. All the auxiliaries in a Bantu compound tenses share the same person, number, and noun-class/gender agreement.³⁶¹ She points out that this is a grave problem for the Active Goal Hypothesis, because the way out that DBP takes for participial agreement is not available: ϕ -agreement of every auxiliary is not partial but total.

(409)

- a (Mimi) Ni-li-kuwa ni-ngali ni-ki-fanya kazi.
 (I) 1.SG-PST-be 1.SG-still 1.SG-PRF-do IX.work
 I was still working. (Carstens 2001:150)
- b ku-li-kuwa ku-me-nyesha mvua
 XVII-PST-be XVII -PRF-rain IX.rain
 It had rained. (Carstens 2001:150)

Her proposal is that in addition to having a ϕ -probe, each category must have an extra property that lets it be a Case assigner, the traditional diacritic "assign nominative", etc. This is surely a possibility. However, I would prefer to not countenance it yet. ϕ -feature sharing in Bantu compound tenses turns out to have a rather natural solution that is suggested in chapter III: ϕ -Agree can see valued ϕ -features, so that one auxiliary is agreeing with another, not with the subject.

It turns out that participial agreement in Icelandic is something like the limiting case for a derivational theory anyway. The problem, raised with its present force for the MI/DBP system in Frampton et al. (2000), is that each participle in the Icelandic constructions agrees with a DP not only for ϕ -features, but also for the Case that that DP is assigned (Andrews 1982, Sigurðsson 1992:309n42, 1991, Maling & Sprouse 1995). In some cases such as (408)a, this DP is farther

³⁶¹ Her article also demonstrates that this is not a control or multi-clausal construction, e.g. from the expletive subject in (409)b.

from the Case-assigning probe than the auxiliary, so the probe passes the auxiliary, and some way of giving it Case "by the way" could be developed as in DBP:19. However, the DP with which a participle agrees may be at an unbounded distance above it as well, and the participial morphology still shares the Case which the DP is assigned at its surface position, where it is the closest match to the Case assigning probe. The point is first emphasized by Andrews (1982:445f.), who also notes it is not just participles which show this property but also secondary predicates:

(410)

- a Þeir telja hana (vera) sagða (vera) vinsæla
 they believe her-A to.be said-F.SG.A to.be popular-F.SG.A
 They believe her to be said to be popular.
- b Hún er talin (vera) sögð (vera) vinsæl
 she-N is believed-F.SG.N to.be said-F.SG.N to.be popular-F.SG.N
 She is believed to be said to be popular.
- (Andrews 1982:445)

These examples involve a counter-cyclic transfer of nominative/accusative Case, assigned to the DP at the top position of its chain (effectively in its surface position), to the participle that also agrees with it for ϕ -features. A point to observe is that the Case of the participle cannot be always coming directly from the matrix verb to it; in examples such as (408)b where the DP that the participle agrees with for ϕ -features is blocked from getting a matrix ECM accusative and gets an infinite-assigned nominative, the participle also receives nominative. This renders difficult a theory where the Case of the participle would be an instance of the Case assigned to the infinitival clause, which trickles down its functional projections.

The most direct option available for the derivational approach is to give up the notion of Case assignment directly, and return to the MP view of feature checking. The DPs *hestarnir*, *hestana* are inserted with their nominative and accusative Case features, already valued. Agree or successive-cyclic movement lets the participles Agree with them for the valued Case feature in the same way it Agrees for ϕ -features. At the top of the chain, the DPs reach a position where the Agree relationship with the assigners T/ ν takes place; at that point, if there is a mismatch

between the Case feature of the assigner (nominative for T and accusative for v) and that of the DP, the derivation fails to converge. This is an approach clearly not compatible with the idea that Case is assigned rather than checked, and thus not with the basic assumption of the Case shell approach.

An alternative solution is suggested by Frampton et al. (2000), attributed to Noam Chomsky p.c. The idea is similar to that of the multidominance theory of syntactic objects discussed in chapter I: valuation of a feature by Agree does not copy the value of the controller to the probe, but rather links the probe to the controller via a pointer. Such linking may be of many probes to a single controller. The links in question are between the Case and ϕ -features of a participle and that of the DP object. When a higher T/ v -probe finally ϕ -Agrees with the DP and assigns it Case, the linked Case features on the participles, which are just references (pointers, links) to the single Case feature of the DP, look like they have been valued as well. I do not explore this idea; it does not strike me as compatible with Case shells at all.³⁶²

Perhaps participle agreement is concord. The reason why clausal participle agreement, and secondary predicate agreement as well, are distinguished from concord (including that by adjectival (modifier) participles) is because only concord and not clausal participle agreement can take place with DPs that have inherent Case (Andrews 1982, 1990, Schütze 1997). That places concord rather squarely outside of the feature-sharing probe-goal Agree system. In the following Finnish example, one of its fifteen Cases, the illative with a clearly prepositional semantics 'into', is transferred from an abstract preposition to each modifier of its DP complement, something that can hardly involve featural Agree (but see Carstens 2000 for a different view of concord):

- (411) tuo-hon lauha-an kaunii-seen talo-on
 that-ILLAT broad-ILLAT beautiful-ILLAT house-ILLAT
 into that broad beautiful house

The distinction between according participles and secondary predicates (boxed) and concord floating quantifiers can be seen in the following Icelandic examples:

³⁶² It is a multidominance theory of properties of syntactic atoms, not of the atoms themselves.

(412)

- a **Strákunum leiddist öllum í skóla**
 the.boys-D bored-3.SG all-D.PL in school
 The boys were all bored in school. (Sigurðsson 1991:331)
- b **Strákunum hafði/*höfðu verið kalt/*köldum**
 the.boys-D had-3.SG/*PL been cold-NT.SG.N/*M.PL.D
 The boys had been freezing. (Sigurðsson 1991:333-4)
- c **Þeim var/*voru hljálpað/*hjálpaðir/*hjálpaðum**
 them-D was-3.SG/*PL helped-NT.SG.N/*M.PL.N/*M.PL.D
 They were helped. (Andrews 1990:170)

So participles and predicative adjectives are half-way between accord and concord: they agree with DPs for Case, as in concord, but only with DPs that have structural Case, as in accord (cp. Lehmann 1982, 1988 for the accord-concord distinction and its ϕ /Case correlates). The agreement for Case seems prima-facie counter-cyclic as discussed.

There is a piece of data that bears on this that deepens the mystery. Icelandic has accusative quirky subjects, which can move into [Spec, TP] (cf. principally, Andrews 1982, 1990, Zaenen & Maling 1990).³⁶³ These cannot determine accord of past participles and secondary predicates themselves, so their Case is quirky/inherent, not structural; a bonus of this conclusion is that they therefore do not violate Burzio's Generalization. However, if such a quirky accusative is embedded under an ECM verb which would assign accusative to a DP with structural Case, suddenly the participle associated with the quirky accusative can be either default or agree, even though locality should again prevent a direct relation between the ECM verb and the participle itself in (413)b.

(413)

- a **Mig er talið [t vanta peninga]**
 me-A is believed-DFLT to.lack money-A

³⁶³ This is in contrast to a large class of accusative "subjects" in a variety of Icelandic investigated by Maling & Sigurjónsdóttir (2003), which cannot move to [Spec, TP] and are really objects with the subject being an impersonal *pro*.

I am believed to lack money. (Andrews 1982:468)

- b ðeir segja drengina (vera) talið/talda vanta peninga
 they say the.boys-A to.be believed-DFLT/M.PL.A to.lack money-A
 They say that the boys are believed to lack money
 Andrews (1982:469, 1990:192)

I have a feeling something is being missed on the relation of participles to the accord-concord distinction. Envisage for example the following system, where participle agreement would be concord. Suppose that a DP undergoes Merge with every agreeing participle it moves past, and that this is a concord configuration (cp. participles and adjectives as modifiers rather than verbs and secondary predicates).³⁶⁴ Suppose further that inherent Case blocks concord, because it is a PP shell around the DP, so the ϕ /Case morphology of the DP cannot "spread". This derives verbal participle/predicate adjectives accord with DPs with structural Case only. Why would the inherent Case PP shell not block concord for modifiers if it blocks it for verbal participles and predicate adjectives? The answer could be rather trivial: modifiers unlike verbal participles and predicate adjectives start out inside the DP, and thus are contained in the whole inherent/quirky Case PP. This is not the case with verbal participles and predicate adjectives: a participle selects the PP complement, and a secondary predicate is predicated of it. Here is a resume of the configurations; I do not pursue this further here.

(414)

- a $[[_{PP} (P \dots) [K DP]]_i PRT^1_V \dots t_1]$ and $[PRT^2_V [_{PP} (P \dots) [K DP]]]$

Concord of PRT for Case/ ϕ morphology of DP only if there is no P intervening

- b $[_{PP} P \dots \boxed{[K [_{DP} D [_{NP} N \text{ modifiers}]]}]]$

Concord of modifiers

³⁶⁴ ϕ -features on participles not moved past by DP would perhaps come from ϕ -Agree with the valued ϕ -features of a lower participle or another Agree-valued category, as in the Bantu compound tenses discussed above.

6 Chapter VI: Conclusion

*Yet trees are not 'trees', until so named and seen -
and never were so named, till those had been
who speech's involuted breath unfurled,
faint echo and dim picture of the world,
but neither record nor a photograph,
being divination, judgment, and a laugh,
response of those that felt astir within
by deep monition movements that were kin
to life and death of trees, of beasts, of stars:
free captives undermining shadowy bars,
digging the foreknown from experience
and panning the vein of spirit out of sense.
Great powers they slowly brought out of themselves,
and looking backward they beheld the elves
that wrought on cunning forges in the mind,
and light and dark on secret looms entwined.
-from Mythopoeia, by J. R. R. Tolkien[†]*

I wish to end this thesis with a few words resuming its findings about the operation Agree, from the perspective of the bigger picture of minimalist inquiry. More concrete résumés of the findings of each chapter are served quite well by the beginning of chapter I. In writing this conclusion, I will take off from the end of chapter IV, leaving aside the more tentative explorations of chapter V into the Active Goal Hypothesis.

In chapters II, III, and IV, much of the argumentation has drawn from the interaction of Agree with Merge. The two are the basic operations of "narrow syntax": the block of syntactic (configurational) phenomena of human language which MI sets out to investigate, under the hypothesis not that it is all there is to say about syntax, but that it delimits a natural subject of inquiry, within which an internal coherence is to be found. This is the piece of human language syntax for which MI develops the derivational framework of Agree-Merge interaction, to which selection from the lexicon and cyclic spell-out should be added as operations at the boundary. In purest terms, Agree is the dependency-forming operation and Merge the structure-building operation. This is the theme which I have been exploring and developing.

One way of putting the results is that they are an accentuation of MI's major themes. Agree and Merge interact in a syntax which has become in chapter II far more derivational, and

[†] *Tree and Leaf*, Unwin Hyman, London, 1988.

derivational in a more principled, minimal way, than ever before. It is the application of the basic operations themselves, rather than operation-external definitions such as selection from the numeration/lexicon or extension of the tree, which defines cycles, and the operations interact under a general economy condition of earliest possible application.

The interaction can result in situations that are susceptible to the following general configuration investigated in chapter III: featural Agree-created dependencies between α and β are mirrored by a requirement of partial content identity between $[\text{Spec}, \alpha]$ and β . Sometimes this is movement (with full identity); sometimes, copy-raising (with partial identity); sometimes, the base-generation of an (agreeing) expletive (with as much identity as possible, which is very little). There is no more within narrow syntax to any of these dependencies than there is to any of the others, and in all the "mirroring" of Agree by Merge is created by the Match Condition on base-generation. Differences arise from properties of the interfaces such as the binding theory and copy-deletion.

The role of Agree in this is as a feature-communication mechanism. Properties of lexical items have played an irreducible role in constraining the possible structural arrangements produced by syntax since the original unification of rules under a few basic operations in the Principles & Parameters framework, and earlier still when rules were first made sensitive to properties such as $[Q]$ on C in Chomsky (1965). In MP:IV's interpretation of Rizzi's (1990) Relativized Minimality as sensitive to feature-identity, a core constraint on syntactic dependencies comes to refer to these properties. The logical conclusion established in the work that precedes MI and reviewed and extended in chapter IV is that syntactic dependencies take place between features and features only: Agree operates on different atoms than Merge does. The two interact because the Agree constrains Merge in a way whose fundamental unclarity, the old concept of "checking", the MI approach casts into relief; I have argued for the Match Condition in chapters III and IV. For Agree and Merge we can indeed speak of two different systems which feed each other by providing/restricting each other's input: Merge the search-space for Agree, Agree the constraints on Merge.

The inquiry into Agree here is quite partial, whatever its other faults, because of the limited domain investigated. Three big chunks that bear on Agree I have left entirely aside: successive-cyclic movement of any sort; the \bar{A} -system; and the nature of the features on which Agree operates. I have nothing to say about successive-cyclic movement; for the reasons mentioned in

chapter I I suspect it is triggered and it seems to be triggered by the same kind of probes as those which implement movement to an \bar{A} -criterial position. I also have very little to say about the \bar{A} -system here. Rizzi (2004) comes to a quite interesting conclusion from the present perspective: the Active Goal Hypothesis constrains not only the feeding of individually-typed \bar{A} -movements, preventing *wh*-movement of a *wh*-word from one criterial position to another, but also the movement of an \bar{A} -phrase from one criterial position to another even if the two are of different types. I think the simplest, neatest way of capturing this is that there is but one \bar{A} -feature, with the different \bar{A} -types given by the content of the target with the probe (cp. Rizzi 2004n2). That simplifies things a lot, if correct; if this is the same probe as the one that implements successive-cyclic \bar{A} -movement, the question becomes what a criterial position is and why things are frozen there. It may be that the freezing is due to an external principle such as scope-taking; if so, a major piece of evidence for the Active Goal Hypothesis falls away and successive-cyclic \bar{A} -movement falls rather neatly into place.

The nature of the ϕ -feature structures on which Agree operates, their origin, and how they constrain Agree, has been most clearly addressed in recent work in Béjar (2000ab, 2003), who proposes that individual ϕ -features enter into Agree separately, and that their hierarchical organization constrains their interaction. Her work shows how much there is to learn about Agree here. Of particular importance for the topics investigated here is her proposal that the Harley & Ritter (2002)-type organization of individual ϕ -features such as [participant] and [addressee] into a connected geometry is of relevance to Agree. It may be that the proper understanding of the nature of syntactic atoms lies in this direction. In particular, recall from the conclusion of chapter IV that the Free Rider Principle shows that while individual features act as separate probes, Agree involves entire terms. The data of feature interaction that form the basis of the Free Rider Principle are interaction between ϕ and (the) \bar{A} features. If \bar{A} and ϕ -features are together organized into a connected geometry, then the atoms of Merge might from the standpoint of syntactic relevance (as in Distributed Morphology) be defined as the maximal set of connected features. Béjar points out that such structures have (if properly constrained) subset/entailment relations, which may constrain such Agree operations as matching. In Béjar & Rezac (2004) we argue that entailment constrains valuation (deletion of a probe), so that a probe can only be valued by a controller of which it is a subset, and explore the different roles that features and feature structures play in the matching and valuing parts of Agree. There is an

elegant way of deriving Free Rider Principle type effects in this system if ϕ -features entail the \bar{A} -feature, e.g. by being its dependents: ϕ -valuation will always entail \bar{A} -valuation, for whatever the specification of the \bar{A} -feature. This line of research, which I think has already proved so promising, is the other side of Agree.

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