# On expletives and the agreement-movement correlation

by

## Nicholas Longenbaugh

B.S., Harvard University (2014)

Submitted to the Department of Linguistics and Philosophy
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

September 2019

Author . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Department of Linguistics and Philosophy
June 10, 2019

Certified by. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Sabine Iatridou
Professor of Linguistics, Graduate Program Director
Thesis Supervisor

Accepted by . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Kai von Fintel
Professor of Linguistics, Linguistics Section Head

# On expletives and the agreement-movement correlation
by
Nicholas Longenbaugh

Submitted to the Department of Linguistics and Philosophy
on June 10, 2019, in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

**Abstract**

This dissertation addresses two main topics: the correlation between agreement and movement, and the formal and distributional status of expletive elements cross-linguistically. Concerning the first topic, my proposal is that agreement and movement are formally dissociated, as proposed by Chomsky (2000, 2001), but often coupled together by the action of an economy constraint that preferences minimizing the number of syntactic objects operated on in the derivation. I explore the consequences of this proposal in the domain of past participle agreement in the Romance and Scandinavian languages, which is well known for its correlation with movment (Kayne 1989; Christensen and Taraldsen 1989). Concerning the second topic, I argue for two subproposals. The first is that expletive elements share the same formal status as the non-expletive forms from which they are derived. Notably, I argue that this entails that the locative expletive that appears in a variety of Western European languages bears inherent case, and hence functions for the purposes of Case and agreement like, e.g., dative subjects in Icelandic. The second subproposal is that in languages like English, Dutch, and Danish, which have both a locative expletive and a default third person expletive, only the former is a true expletive element, the latter always being selected as an argument of quasi-argument. In service of defending this proposal, I develop a novel analysis of the clausal-extraposition/CP-linking construction and the non-logical-*if* construction (Williams 1974).

Thesis Supervisor: Sabine Iatridou
Title: Professor of Linguistics, Graduate Program Director

**Acknowledgments**

For as long as I can remember, I've wanted to get a PhD. There was a time not too long ago, however, when it seemed like I wouldn't get the chance to even try. I therefore want to begin by thanking some people without whose generosity and kindness I would have never had the opportunity to pursue advanced studies in the first place. In no particular order, I thank Joseph Rosenthal, Greg Ogawa, the Langsfeld family, David Metzler, Casey Citrin, Gerald Murphy, Dave Glidden, Matt Reynolds, Eric Sandoval, Iric Guthrie. Their support made this all possible.

Like most linguists, I first stumbled upon the field as an undergraduate. While I was immediately fascinated, I probably never would have continued beyond the introductory level were it not for the good fortune of having Masha Polinsky and Uli Sauerland as instructors and advisors. They sparked my interest in linguistics, supported my decision to go to graduate school, and served as role models for what a successful researcher and linguist looks like. I want to thank Masha especially for her overwhelming generosity: for funding so I could work on linguistics during the summer and travel to New Zealand for field work; for teaching me how to see a project through from start to finish; for including me as a coauthor and participant in so many projects; and for always being available to answer questions or read a draft. Stuart Shieber also played an important role in my formative undergraduate days, always encouraging me to be skeptical, for which I am also very grateful.

Moving on to graduate school itself, I want to begin by thanking the fellow students who contributed so positively to my experience and research. I am thankful to ling-14 – Daniel Margulis, Erin Olson, Naomi Francis, Ömer Demirok, Mike Jacques, Abdul-Razak Sulemana, and Hanzhi Zhu – for being there in the very difficult first year. I want to specially thank Ömer for getting me through morphology; Naomi for her endless help with judgements, delicious baked goods, and for standing up for me; Erin for haircuts, countless lunches, her stories, fun at the LSA in Chicago, and for being a great friend. Daniel deserves special mention as the person who has had to put up with my company the most, as my office mate for five consecutive years. I thank him for our endless conversations and procrastinating, for the hikes, board-game playing, international meet-ups, delicious food, advice, comments, for reintroducing me to swimming, for listening to my best and worst ideas, and for making the dissertation experience a bit more tolerable. I got a lot out of my relationships and conversations with many other graduate students, including Coppe van Urk, Ezer Rasin, Tanya Bondarenko, Keny Chatain, Sophie Moracchini, Maša Močnik, Verena Hehl, Suzana Fong, Paul Marty, Michelle Yuan, and Milena Sisovics. I also really enjoyed my time working together with Itai Bassi, and I'm grateful for his lopsided contribution in time and effort to our joint projects.

The MIT faculty also played and important role in my development as a linguist and in the work in this thesis. First and foremost, I want to thank my committee members, Sabine Iatridou, David Pesetsky, and Danny Fox, for their support, advice, and their critiques. David deserves special mention for encouraging me to stick with my ideas when I had given up on them, even the ostensibly crazy ones, for his super-human availability for meetings and conversations, and for his encyclopedic knowledge of the field and the syntactic literature. His comments improved and added context to every idea we discussed, and his advice on matters academic and otherwise was invaluable. My conversations with Danny were always humbling, and especially helpful towards figuring out when an idea needed firmer grounding and when to forge ahead and explore its consequences. All of my work, and most of all this thesis, have benefited from his demand for clarity and consistency, and his encouragement of intellectual risk-taking.

Finally, it is difficult to overstate the effect Sabine, my committee chair, has had both on my time at MIT and on the development of this thesis. On an academic and professional level,

Sabine has been a patient advisor, a generous but honest critic, a spirited teacher, and a role model. She constantly pushed me to overcome a tendency to get bogged down in details, and to focus on issues with a shelf life longer than today's *á la mode* theories. Her uncanny ability to identify fruitful lines of reasoning spurred numerous research projects, and her demand for clear, logical, and simple argumentation has profoundly contributed to my maturation as a thinker and a writer. The tribulations of writing this thesis would have been immeasurably greater without her advice, insight, and encouragement. Sabine was also a great advisor when it came to non-academic issues. She was always willing to discuss anything that was on my mind and to offer sagacious advice, and her generosity and equanimity set an excellent example. I am truly grateful for everything she has done for me.

I also benefited immensely from my discussions with other faculty, including Martin Hackl, Irene Heim, Kai von Fintel, and Roger Swcharzchild. I want to thank Roger specially for being extremely generous with his time and ideas, for being open to discuss the future, and for the tremendous amount that I learned from being a teaching assistant in his semantics class.

Before moving on to thank my family and friends, there are many linguists not mentioned above who have discussed or commented on the work in this thesis, including Susi Wurmbrand, Peter Svenonious, Jonathan Bobaljik, Omer Preminger, Ian Roberts, Michelle Sheehan, James Huang, Hedde Zeijlstra, and three anonymous Glossa reviewers.

As a graduate student, academic concerns and relationships often take precedence over other aspects of life. In my case at least, however, the support and advice I received from non-academic sources was hugely important to my experience and to my finishing this dissertation. I'd therefore like to begin by mentioning my parents, Randy and Cindy, and my brothers Neil and William. The debt that I owe to them is unmentionable, so I just want to quickly highlight a few things that have a special significance to me. First and foremost, I want to thank Cindy for being at my side in 2009, and ensuring I had the chance to write this thesis. I thank Randy for inspiring me and pushing me to realize my full potential. Neil deserves mention for always being my antithesis, and for being there when it really counted. Last but certainly not least, I thank William for putting up with my antics for so many years, and for his unabashed optimism, which he often does his best to conceal.

Next on the list, Gabe Goldberg has been a fixture in my life for the past nine years, since my very first days in Cambridge. He was my only roommate to last more than two years, and I'm not sure I would have had the audacity to spend five years getting a PhD in linguistics without his influence. I certainly wouldn't have survived Cabot House alone. It's fitting that we're moving to the same city, and I'm looking forward to winning at Super Smash brothers and to hearing about the sequel to the Ultrapower Axiom. I'm lucky to have Gabe as a friend.

At long last, I want to conclude by thanking the person who has arguably put the most work into making sure I finished my thesis and graduated from MIT, Maria. Over the past four years, she has contributed an embarrassing amount of support, energy, advice, and sympoathy without which I would never have managed to finish graduate school or this thesis. I can't hope to list everything she's done here, but I want to thank her explicitly for our Italian dinners, our trips to Maine, for Wednesday night at Atwoods, Sunday jazz listening, wine adventuring, for being so good at spelling bee, for Urdu lessons on the walk into work, wintertime at Summer St., calm and sage advice, for C and V, drives with the top down, Prospect Hill picnics, for our time with John Long, and for a million other things big and small that helped me get through graduate school and write this thesis.

*To Maria, Cindy, and Randy*

# Contents

# Chapter 1

# Introduction and overview of thesis

This thesis addresses two main topics: the correlation between agreement and movement, and the formal and distributional properties of expletives cross-linguistically. In this section, I provide a brief overview of the main questions posed and results achieved in these two domains.

## 1.1 Chapter 2: The agreement-movement correlation

Chapter 2 constitutes the primary investigation into the correlation between agreement and movement. To highlight the issue and questions at stake here, some historical context is necessary. In the minimalist syntactic theory that has developed over the past three decades, there are two competing models of $\varphi$-agreement. The first and older model, the Spec-Head theory (Kayne 1989; Chomsky 1995), holds that agreement is an essentially local operation, limited to taking place between a head and its specifier. On this view, then, agreement and movement are formally correlated: a head H can trigger agreement with a phrase XP if and only if H attracts XP into its specifier. The basics of the model are schematized in (1).

(1)  <u>Spec-Head</u> model (Kayne 1989; Chomsky 1995)

$$[_{\mathrm{HP}} \; \mathrm{XP} \; [ \; \mathrm{H} \; [ \ldots \mathrm{XP} \ldots ]]]$$
$$\varphi\text{-}agree$$

Shortly after the advent of the Spec-Head model, however, there emerged evidence that agreement is not contingent on a Spec-Head configuration, and can in fact take place between a head H and a phrase XP that it asymmetrically c-commands. Evidence of this sort has been adduced in a wide variety of genetically unrelated languages including Basque (Etxepare 2006, Preminger 2009), Chukchee (Dahlstrom 1995), Itelman (Bobaljik & Wurmbrand 2005), Icelandic (Sigurðsson 1996, 2008; Boeckx 2010), Tsez (Polinsky and Potsdam 2001), Hindi-Urdu (Boeckx 2004; Bhatt 2005; Keine 2013), Kashmiri (Bhatt 2005), Passamaquoddy (Bruening 2001), English (Chomsky 2000, 2001), and has the following basic form. A head exhibits $\varphi$-agreement with a phrase that it asymmetrically c-commands at both LF and PF. I illustrate with the English example in (2), where the matrix raising predicate *seems* agrees with the embedded internal argument *only two good ideas*. This argument, however, appears within the embedded clause at both PF, as is evident in the surface string, and LF, as illustrated by the fact that it can take narrow scope with respect to *seem.*

(2)      There seem/*seems to have emerged only two good ideas.                    *English*
                                                              (✓ seem » only; ✗ only » seem)

These data, in conjunction with independent conceptual arguments (see, e.g., Chomsky 2000, 2001), have lead to widespread acknowledgement that agreement is not confined to Spec-Head configurations.[1] The resulting theory, which I term the agreement at-a-distance model, instead posits that a head H may agree with a phrase XP provided H asymmetrically c-commands XP, and XP is sufficiently local to H. On this model, then, agreement and movement are formally dissociated: the former does not require the latter.

(3)  At-a-distance model (Chomsky 2000, 2001)

$$[_{HP} [ H [ \ldots XP \ldots ]]]$$
$$\varphi\text{-}agree$$
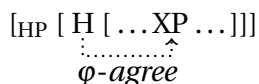
While the evidence in support of the at-a-distance model is convincing, the theory seems to miss the fact that there are a large number of instances cross-linguistically where agreement does seem to be contingent on movement, at least descriptively speaking. One of the clearest such cases is past participle agreement (PPA) in the Romance languages. As illustrated below in French, in many languages PPA is licensed if and only if the internal argument undergoes leftward A- or A$'$-movement across the participle.

(4)  a.  Jean n'a        jamais fait(**es**)      **ces   sottises**
         Jean NEG.have.3SG never   done.M.SG/*F.PL these stupid things.F.PL
     b.  Jean ne  **les**      a        jamais fait**(es)**
         Jean NEG THEM.CL have.3SG never   done-F.PL
         (adapted from Belletti 2006)                                    *French*

While these data are readily captured on the Spec-Head model, and indeed helped motivate it, they pose a serious challenge for the agreement at-a-distance model. To a first approximation, the challenge is this: if there is an agreement licensing head in the French *v*P, and if agreement is, generally speaking, licensed at-a-distance, without movement, why is PPA conditioned on movement of the internal argument? While the challenge posed by these data has been noted (see especially D'Alessandro and Roberts 2008), I know of no existing analysis in terms of agreement at a distance that simultaneously predicts the existence of phenomena like French PPA (see also Section 2.6). In short, then, while there is strong evidence that agreement in general is licensed at-a-distance, there are many cases where it seems to be contingent on a movement operation.

Chapter 2 is devoted to exploring these issues in detail. The core proposal that I develop and defend here is that agreement and movement are formally dissociated, as accepted under the agreement at-a-distance model, but that they are often coupled together by the action of an independent economy constraint, summarized in (5). This condition is ultimately a generalization of two well-established economy constraints from the literature: the so-called *free rider* constraint on *Agree* (Chomsky 1995: 4.4.4, 4.5.2, 2001: 15-19; Bruening 2001: 5.7; Rezac 2013: 310), and the closely related *Multitasking* conditions proposed by Pesetsky and Torrego (2001) and Van Urk and Richards (2015), respectively.

(5)  **Feature Maximality** (FM):
     Given head H with features $[F_1] \ldots [F_n]$, if XP discharges $[F_i]$, XP must also discharge each $[F_j]$ that it is capable of.

---

[1]For a spec-head analysis of some of the long-distance agreement facts, see Koopman (2006).

To illustrate the basic action of (5), let's adopt the notion that certain syntactic operations are lexically associated with particular syntactic heads. Two uncontroversial cases that are relevant for our purposes are agreement and the EPP. Concerning agreement, the basic idea is that certain heads are lexically endowed with the capacity to trigger agreement with lower phrases for some combination of person, number, and gender features. This endowment is usually captured by positing that these heads have special features that trigger the associated agreement operation, a convention I adopt here. I denote these features [X:_], where X is the particular $\varphi$-feature combination implicated in the agreement relationship. Concerning EPP, the basic idea is similar: certain heads are lexically endowed with a requirement to project a specifier that bears certain features. English T is an illustrative example, as it is usually assumed to be required to project a specifier containing a DP. Following the convention in the literature, I will also encode this endowment via a special feature, here denoted [•X•], where X is the relevant feature that must be borne by the XP in specifier position.[2] English T then bears a [•D•] feature, indicating that it must project a DP specifier.

Granting this, (5) entails that if Head H has an undischarged EPP-type feature, and it enters into an agreement relationship with phrase XP capable of satisfying that feature, then XP must satisfy it, i.e., XP must move to Spec(HP). In other words, XP in such a context is capable of discharging both the [Y:_] and [•X•] features on H, so if it discharges one of them, it must discharge both. Agreement is therefore predicted to be associated with movement if and only if the triggering head has an independent, unrealized need to project a specifier.

Aside from the fact that we have now derived this property from an independent principle of economy, this analysis is not especially innovative: heads are often assumed to trigger movement alongside agreement if and only if they have an EPP feature. The true novelty of the proposal stems from the following extension. In particular, I propose to generalize the notion of EPP-features to capture Merge operations in general, so that all instances of Merge are triggered by lexically-endowed Merge features present on syntactic heads. For present purposes, it is sufficient to assume that there is one Merge feature that is responsible for both EPP-type effects and external merge of arguments, i.e., that all Merge operations, both internal and external, are triggered by the same feature. I revisit and further motivate this assumption in Chapter 5.

(6) **Merge is feature driven**:
    All instances of Merge are triggered by lexically endowed [•X•] features present on syntactic heads.

I then show that (5) and (6) are sufficient to capture the core PPA data that are problematic for the unenriched agreement at-a-distance model. The basic logic is this. Let us begin by adopting the widespread assumption that PPA is triggered by the head that introduces the external argument, *v* (Kayne 1989; Chomsky 1995; Chomsky 2001; Belletti 2006; D'Alessandro and Roberts 2008; a.o.). It follows that *v* has both an agreement-triggering feature, to trigger PPA, and a Merge-triggering feature, to introduce the external argument. In broad strokes, the movement-correlation is then derived as follows. By hypothesis, Merge features can trigger both external and internal merge (movement). It follows that the internal argument (IA) is possible target to both syntactic operations at *v*, agreement and (internal) merge. *Feature maximality* therefore dictates that if *v* enters into an agreement relationship with the IA, discharging the agreement feature, then this relationship must generalize to include discharge of the Merge feature. In other words, agreement between *v* and the IA is obligatorily associated with Merge of

---

[2]This notation is due to Müller 2010, who also develops a theory of feature-driven merge. See Chapters 2 and 5 for more discussion.

the IA in Spec(*v*P) – movement. With clitics and *wh*-phrases, this movement is unproblematic, as these phrases can then be attracted from Spec(*v*P) into their surface positions higher in the clause. If the IA is not a clitic or *wh*-phrase, however, this movement is not licensed, as such phrases must appear *in situ* in the VP in the languages in question. Since movement is barred, the logic goes, agreement is likewise not possible, as the two are obligatorily coupled together in this context by *Feature Maximality*.

The upshot is that we capture the movement-dependence of PPA in a manner consistent with the agreement at-a-distance model. Moreover, almost no special theoretical tools are needed, simply a basic principle of economy that has been defended on independent grounds, and the idea that merge operations are triggered by essentially the same logic as agreement operations. The remainder of Chapter 2 explores several related issues, including the interaction between Case and PPA, and the existence of Romance and MSc varieties where PPA obtains without movement.

## 1.2   Chapter 3: The formal status of expletive elements

The discussion of agreement at-a-distance, both in terms of the evidence adduced in favor of the model and the behavior of PPA in Romance and MSc, depends explicitly in many instances on the presence of expletive elements. Thus for example the English example adduced to support the agreement at-a-distance model involves an expletive subject (see (2)), and the status of the expletive subject in Norwegian dictates whether PPA is correlated with movement or not.

(2)    There seem/*seems to have emerged only two good ideas.                            *English*
                                                                    (✓ seem » only; ✗ only » seem)

(7)    a.   **Det** vart skote-**(*n)**        **ein**      **elg**
            it    was shot.N.SG/*M.SG an.M.SG elk.M.SG
       b.   **Der** vart skot**en**     **ein**     **elg**
            there was shot.M.SG an.M.SG elk.M.SG
            'There was an elk shot'                                    *Western Norwegian*
            (Åfarli 2008: 171)

In both cases, the analysis developed in Chapter 2 depends on particular assumptions concerning the formal status of expletive elements. In many cases, the framework developed there points towards conclusions that differ from prominent analyses of expletive elements. The second major topic of the thesis, then, is to investigate the formal and distributional status of expletives in more detail and to argue that the conclusions suggested by the theory developed in Chapter 2 are indeed on the right track.

To this end, Chapters 3 and 4 address two related questions, respectively, concerning the two cross-linguistically common types of overt expletives: the default third person expletive, and the locative expletive.

(8)    a.   Default third person: *it (English), det (MSc), il (French), es (German), …*
       b.   Locative: *there (English), der (MSc), er (Dutch), …*

First, in Chapter 3, I explore the formal status of these two types of elements, including what features they bear, why they bear them, and why locative but not default expletives are correlated with agreement at a distance. In Chapter 4, I then turn my attention to questions concerning the distribution of these two forms, including the factors governing the complimentary distribution of the default and locative expletive in languages that have both, such as English, Dutch, Danish.

Concerning the formal features of expletive elements, my core proposal is that expletive elements share the same formal status as the non-expletive pronouns from which they are derived. In the case of the default expletive, this means that it bears 3.SG $\varphi$-features and an unvalued Case feature. The locative expletive, in contrast, bears an inherent case feature.

(9) **Formal uniformity hypothesis for expletives**:
Expletive pronouns bear the same formal features as their non-expletive variants
   a. The default expletive *it, det, il, es, …* bears 3.SG $\varphi$-features and an unvalued Case feature
   b. The locative expletive *there, der, er, …* bears inherent case

In the case of the default third person expletive, the proposal is equivalent to what has been proposed previously in the literature, so I will not discuss it in great detail here. In the case of the locative expletive, however, the proposal is novel, and furnishes two main predictions. The first is that locative-expletive subjects and contentful locative subjects should show the same agreement profile, as they bear the same formal features. This is borne out: with both locative-expletive subjects and contentful locative subjects in locative inversion (see Bresnan 1994, Chapter 3 for arguments that locatives are subjects in locative-inversion contexts), agreement on the verb is with the highest non-locative DP in number but not person. To see that number agreement is licensed, observe that if the highest non-expletive DP in the structure is plural, it triggers obligatory plural agreement on the verb. Similar facts hold in other languages with locative expletives, insofar as it is possible to test.

(10)   a.  There are/*is often many people in the garden.                    *expletive*
       b.  There go/*goes my friends.                                  *locative inversion*

To see that person agreement is not licensed, observe that verbal agreement is obligatorily third person in the presence of a first person agreement trigger:

(11)   a.  There is/*am only me on the roster.                             *expletive*
       b.  There goes/*go me (context: watching myself in a video)    *locative inversion*

The second major prediction is that the locative expletive should behave formally like other XPs with inherent case. This prediction is likewise borne out: Icelandic dative subjects show the same essential agreement profile as English locative-expletive subjects. Agreement in such examples is therefore with the next highest non-dative DP in number but not person (Sigurðsson and Holmberg 2008)
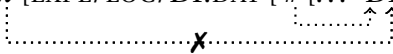
(12)   a.  Honum lík**a**     **þeir**
           him.DAT like.3.PL 3.PL.NOM
           'He likes them'
       b.  *Honum lík-**ar/a/um**        **við**
           him.DAT like-3.SG/3.PL/1.PL 1.PL.NOM
           'He likes us'                                                   *Icelandic*
           (Sigurðsson and Holmberg 2008: 254)

In Chapter 3, I explore both predictions in much more detail, arguing that the agreement profile shared by locative-expletive, locative, and dative subjects ultimately reduces to the fact that all three bear inherent case. Following Sigurðsson and Holmberg (2008), I argue that person and number agreement are isolated to different heads in the syntactic spine, and that in English,

Dutch, and Icelandic, the subject raises to a position above the number head but below the person head.

(13)   **Split agreement hypothesis** (Sigurðsson and Holmberg 2008: 258):
In Icelandic, English, Dutch, . . . the $\pi$- and #-agreement triggering heads are split:
$[\pi \ldots [\# \ldots [\mathrm{T} \, [\ldots$

The agreement profile shared by expletive, locative, and dative subjects then follows because all three types of phrase intervene for agreement by virtue of their inherent case feature. The result is that person agreement is blocked, but number agreement obtains.

(14)   $[\,\pi\,[\textsc{expl}/\textsc{loc}/\textsc{dp.dat}\,[\,\#\,[\ldots\;\;\textsc{dp.nom}\ldots]]]]$

I then argue that this account offers novel insight into two crucial questions: why do expletives bear the formal features that they do, and why are the types of objects that are grammaticalized as expletives so remarkably stable cross-linguistically.

Finally, Chapter 3 also investigates a number of related issues, including varieties of English and Icelandic where both person and number agreement fail in expletive/dative-subject constructions ((15a)), closest conjunct agreement ((15b)), and the case on the associate DP in expletive constructions ((15c)).

(15)   a. %There is several books on the table.
       b.  There is/??are a man and three women in the room.
       c.  There is only me/*I in the room.

## 1.3   Chapter 4: the distributional status of expletives

In addition to the differential agreement profiles of default third person expletives and locative expletives, the formal features on expletive elements have often been invoked in the literature to capture the differential distribution of these two types of elements in languages that make use of both. The basic phenomenon is this. In languages with both a default third person expletive and a locative expletive, they are in roughly complementary distribution. The distal locative expletive is used in constructions involving an associate DP, essentially in existential constructions and with unaccusative, passive, transitive, and unergative clauses where the highest non-expletive argument is a DP. The default third person expletive, in contrast, is used with meterological predicates, and with unaccusative and passive predicates whose highest internal argument is a CP rather than a DP. I illustrate the pattern with English, but the same basic pattern also holds in Danish and Dutch (see Vikner 1995, Ruys 2010, respectively), with slight differences to be introduced shortly.

(16)   a.  There/*it is a man talking to Sue.
       b.  There/*it emerged a solution.
       c.  There/*it was a man arrested.

(17)   a.  It/*there rained.
       b.  It/*there seems that John is guilty.
       c.  It/*there is believed that Sue stole the money.

Chapter 4 is devoted to answering the following questions concerning these data. First and foremost, can the differential distribution of the two classes of expletives be explained in terms of

the formal features on the different classes of expletive? If so, does the proposal defended in the previous chapter extend here? If not, what is the crucial factor governing the differential distribution of these forms? This chapter is devoted to addressing these questions.

The hypothesis that I defend, originally due to Ruys (2010), is that formal features are irrelevant to the distribution of the default third person expletive and the locative expletive in English, Danish, and Dutch. Rather, the facts on display above essentially reduce to a selectional difference: the default third person expletive is not a true expletive, in the sense that it is always selected as the argument of a predicate; the locative expletive, in contrast, is never selected, and may be inserted in any A-position up to interpretability.

(18)    **Expletive selection hypothesis** (*preliminary version*; Ruys 2010: 159):
        The default third person expletive is always selected as the argument of a predicate; the locative expletive is never selected.

Given that locative expletives are usually assumed not to be selected, the primary challenge in defending (18) is to show that the default third person expletive is always selected, and hence is an 'ersatz' expletive. In support of this goal, I argue that there are two distinct uses of the ersatz expletive: as the non-referential external argument of certain predicates, and as a referential internal argument that is intuitively linked to a CP co-argument also present in the clause. Following the literature, I refer to the first use as the quasi-argument use, and the second as the CP-linked use. I argue that the quasi-argument use manifests with meterological predicates, as in (19), as well as with verbs like *seem*, which do not allow their CP argument to front to subject position (Ruys 2010).

(19)    a.    It rained all day.
        b.    It was hot yesterday.

(20)    a.    **It** seems that John is upset.
        b.    **It** appears that Fred will not be coming.

All other uses of the ersatz expletive, I show, are CP-linked, as in (21).

(21)    a.    Sue regrets **it** that Bill is coming.
        b.    **It** was considered unacceptable that Sally wasn't invited.

Schematically, the proposal is thus that the default third person expletive is either introduced in a structure like (22a), representing (15) and (16), or in a structure like (22b), representing (21).

(22)    a.    [ it [ $v$ [ V ( CP)]]]                    b.    [$v$ [ V it$_i$] CP$_i$]
              $\theta$-marking  ($\theta$-marking)                $\theta$-marking

In service of analyzing the CP-linked forms, I develop a novel account based on a recent proposal by Kratzer (2006) and Moulton (2015) that CPs denote predicates of individuals. This account both captures the main empirical data characterizing the construction and overcomes the empirical challenges facing the existing accounts of CP-linking. The basic idea is that CPs uniformly denote predicates of individuals, rather than propositions. In CP-linking environments, the CP argument thus composes with and restricts the internal argument slot of the verb, but does not saturate it. The *it* pronoun then functions to saturate the open argument slot.

(23)    a.    Mary proved it that Sue was a genius

    b.    LF: [$_{\text{VP}}$ [prove CP] it$_7$]

    c.    $[\![\text{VP}]\!]^g = \lambda e.\lambda w.\,\text{proving}(e) \wedge \text{theme}(g(7))(e)(w) \wedge \text{CONT}(g(7))(w) = \lambda w'.$ Sue is a genius in $w'$

I also investigate in this chapter the so-called non-logical-*if* construction (Williams 1974), illustrated in (24). The chief interest of the construction is that it tolerates a reading not expected under the conditional parse suggested by the *if*-clause. In (24), we can therefore distinguish the conditional, aka *logical*, reading where Bill's happiness is a consequence of Sue's presence but does not depend on him having an attitude towards it, from what Williams terms the *non-logical* (NL) reading, where Bill explicitly desires Sue's presence.

(24)    Bill would be happy if Sue were here.

    a.    ≈ In all worlds where Sue is here, Bill is happy.    *logical* (=conditional) reading

    b.    ≈ Bill desires for Sue to be here.    *NL* reading

Previous approaches to the non-logical reading (Pesetsky 1991; Thompson 2012; Hinterwimmer 2014) analyze it as a counterfactual (CF) conditional reporting desires in a CF scenario. In this chapter, however, I argue that this is incorrect: the non-logical reading reports an actual-world desire *about* a CF situation, and hence is, in the terminology of von Fintel and Iatridou (2019), an X-marked desire report.

(25)    I'd like it if Rolando won.

    a.    Rolando hasn't won, but if he did, I'd like that he did.

                            (Pesetsky 1991, a.o.: desire *in* CF scenario)

    b.    Rolando hasn't won, but I want him to.

                             (Chapter 4: desire *about* CF scenario)

I then provide an explicit syntax and semantics that assimilates this construction to the CP-linking examples above.

## 1.4   Chapter 5: Towards a feature-driven syntax

In the final chapter of the thesis, I turn my attention to formalizing the various theoretical tools employed in the thesis into a coherent framework. The main innovation is the proposal that all syntactic operations, including agreement, external merge, A-movement, and A′-movement are lexically associated with syntactic heads and triggered according to the logic of Preminger's (2014) Obligatory Operations hypothesis.

(26)    a.    **Syntax is feature-driven**: All syntactic heads are lexically specified with the operations they may trigger, including agreement and all associated merge operations

    b.    **Obligatory Operations Hypothesis** (Preminger 2014): Syntactic operations are associated with structural conditions on their application; if, in the course of the derivation, the conditions on a given application are met, that operation must apply; if, however, the conditions are never met, the operation unproblematically fails to apply.

Following Preminger (2014), I argue that these two hypotheses furnish a novel understanding of the syntactic derivation that achieves broad empirical coverage and has empirical and conceptual advantages over the Uninterpretable Features model of Chomsky (2000, 2001).

# Chapter 2

# On past participle agreement

## 2.1 Introduction

Past participle agreement (PPA) in the Romance languages is well-known for its correlation with movement. The contrast in (1), from French, is typical of the pattern: the participle shows agreement with the feminine plural object only if it has undergone leftward movement.

(1)   a.   Jean n'a             jamais fait(**\*es**)        **ces   sottises**
          Jean NEG.have.3SG never   done.M.SG/\*F.PL these stupid things.F.PL
          'Jean has never done these stupid things'
      b.   Jean ne **les**       a         jamais fait**(es)**
          Jean NEG THEM.CL have.3SG never   done-F.PL
          'John has never done them.'
          (adapted from Belletti 2006)                                                *French*

The best-known analysis of data like these, due to Kayne (1989), posits that there is a dedicated agreement head above the VP but below the canonical position of the subject, and that PPA is licensed if and only if the target DP moves through the specifier of this head (a Spec-Head configuration).[1] The absence of agreement in (1a) therefore follows because the target DP does

---

[1] PPA in Romance and Mainland Scandinavian never targets person features (Loporcaro 2016). Thus while there is considerable variation across Romance varieties in terms of the particular combinations of person and number features that may be reflected on the participle, no language ever matches the person features of the agreement target on the participle. In this sense, PPA thus behaves like agreement on adjectives, which cross-linguistically can agree in number and gender but never person (Baker 2008), rather than verbal agreement, which may target person features additionally. We can explain this behavior as follows. Past participles in both Romance and Mainland Scandinavian are derived from Proto-Indo-European verbal adjectives, akin to the adjectives in the English examples in (i) (Laurent 1999 16ff.).

(i)   a.   The arguable case
      b.   The trying situation

They were subsequently and independently reanalyzed as participles in compound perfect and passive constructions in both the Romance and Germanic languages. Given their origins as adjectives, it is therefore unsurprising that participles never inflect for person. Note that this does not necessarily mean that the agreement operation responsible for participle agreement is not sensitive to person features. It is consistent with the facts that agreement is for person, number, and gender, with the participle only being capable of spelling out person and number, much like the fact that only number features are spelled out on the English verb *be* in the past tense, despite the evidence from the present tense that English verbal agreement is sensitive to person as well. I am aware of no evidence that would allow us to tease apart whether the absence of matching person features on the participle reflects an absence of formal agreement for person or a morphological fact about the participle. Given this, as well as the fact that this

not move out of the VP; in (1b), in contrast, the target DP moves out of the VP and through the specifier of the agreement head, triggering PPA. Partly based on its success in explaining the data in (1), this analysis was subsequently generalized to a full-fledged theory of agreement, the Spec-Head model (Kayne 1989; Pollock 1989; Chomsky 1991, 1993), which posits that agreement is contingent on movement of the target through the specifier of an agreement-triggering head.

In the decades following Kayne's work, however, there has emerged extensive cross-linguistic evidence that agreement is not generally confined to a Spec-Head configuration, but rather may operate *at a distance*, without movement of the agreement target into the specifier of the agreement trigger. Evidence of this sort has been presented from languages including Basque (Etxepare 2006, Preminger 2009), Chukchee (Dahlstrom 1995), Itelman (Bobaljik & Wurmbrand 2005), Icelandic (Sigurðsson 1996, 2008; Boeckx 2010), Tsez (Polinsky and Potsdam 2001), Hindi-Urdu (Boeckx 2004; Bhatt 2005; Keine 2013), Kashmiri (Bhatt 2005), Passamaquoddy (Bruening 2001), English (Chomsky 2000, 2001). These data, in conjunction with independent conceptual arguments (see, e.g., Chomsky 2000, 2001), have lead to widespread acknowledgement that agreement may indeed operate at a distance, and to a corresponding rejection of the Spec-Head model.[2]

Granting that agreement is possible at a distance, the appealingly simple analysis of French PPA sketched above breaks down. To a first approximation, the challenge is this: if there is an agreement licensing head in the French *v*P, and if agreement is, generally speaking, licensed at a distance, without movement, why is PPA conditioned on movement of the internal argument? While the challenge posed by these data has been noted (see especially D'Alessandro and Roberts 2008), I know of no existing analysis in terms of agreement at a distance that simultaneously predicts the existence of phenomena like French PPA (see also Section 2.6).

To complicate matters further, if we expand our domain of investigation very slightly beyond the languages Kayne investigated (French, Standard Italian), we find that there are languages where PPA is not tied to movement, and instead targets all manner of *in situ* objects. Thus in at least Neapolitan, pre-19th-century Italian, some dialects of Occitan, some dialects of Gascon, and some dialects of Catalan (Loporcaro 2016), PPA obtains with internal arguments that have evacuated the VP and those that remain *in situ*. I illustrate with an example from Neapolitan.

(2)     addʒə     **kɔttə/\*kwottə**          **a**     **pastə**
        have.1.SG cook.PTCP.F/cookPTCP.M the.F.SG pasta.F.SG
        'I've cooked the pasta'                                          *Neapolitan*
        (Loporcaro 2016: 806)

Faced with these data, there arise two main challenges. The first is the narrow technical challenge of accounting for the facts, which comprises two main questions: how do we capture the fact that PPA is correlated with movement in many languages, and what is the crucial factor or factors that determine whether a given language allows PPA in the absence of movement? These data, however, also highlight a broader conceptual issue. In particular, agreement is often correlated with movement in a variety of diverse constructions cross-linguistically. Granting that there is significant evidence that movement is not a pre-requisite for agreement, it is puzzling that these two operations should nevertheless be so closely correlated in so many environments cross-linguistically.[3]

---

distinction does not impact the analysis, I set this question aside here, although I discuss a related issue in Abruzzese in fn. 39.

[2]For a spec-head analysis of some of the long-distance agreement facts, see Koopman (2006).

[3]This dovetails with a related puzzle, which will be addressed in more detail in Chapter 3, namely that agreement

In the remainder of this chapter, I pursue an analysis that addressed both main challenges. In particular, I propose that while agreement and movement are formally dissociated, as posited under the agreement-at-a-distance theory, they are often coupled together by an independent economy constraint, essentially Chomsky's (1995) *Free Rider* condition. The basic idea is that if two syntactic objects enter into a syntactic relationship, this relationship must be fully general. This condition was originally intended to apply to agreement. For example, suppose head H has the capacity to trigger both person and number agreement, and that phrase XP bears both person and number features. Then if H enters into a person agreement relation with XP, it must also enter into a number agreement relation with XP, i.e., agreement must be fully general. I propose to extend this basic logic to merge as well. In particular, suppose head H has an independent need to project a specifier bearing feature X. Such requirements are widely attested: English T, for example, must merge with a DP in the course of the derivation. My proposal, then, is that if head H enters into an agreement relationship with a phrase XP bearing feature X, then this relationship must generalize to include merge between H and XP, i.e., XP must move to Spec(HP). The pertinent consequence is that an agreement operation initiated at head H with phrase XP triggers movement of XP just in case H has an independent, unrealized requirement to project a specifier. I show that when this economy condition is combined with the Moravscik-Bobaljik-Preminger theory of Case (Preminger 2014), it yields an immediate and straightforward account of the technical challenge posed by PPA. More generally, I then argue that this proposal provides new insight into the correlation between agreement and movement, specifically predicting that agreement triggered by a head that can project a specifier triggers movement just in case the relevant specifier position is already filled.

The structure of chapter is as follows. In Section 2.2, I introduce my core proposal and provide an informal overview of the account and its basic logic. I then introduce the theoretical pre-requisites that will underlie the account. In Section 2.3, I apply my proposal to account for the first technical challenge: the fact that PPA is correlated with movement in many languages. Section 2.4 then addresses the second technical challenge: the corresponding absence of this correlation in PPA *in situ* languages. In Section 2.5, I explore additional predictions of the account, showing that even in languages where PPA is correlated with movement generally, there are specific environments where the correlation breaks down. I compare the account to a competing analysis in Section 2.6. To conclude the chapter, I return to the consequences the proposal has on the broader conceptual question raised above.

## 2.2   Proposal & Background

The aims of this section are twofold: to provide a high-level description of proposed account of PPA and its basic logic, and to introduce the pre-requisite theoretical tools upon which the account relies. I begin with the former, in Section 2.2.1, then introduce the theoretical pre-requisites in Section 2.2.2.

### 2.2.1   The proposal

The core proposal is that the relationship between agreement and movement is governed by an economy condition which requires that if two syntactic objects enter into a syntactic relationship, this relationship should be as general as possible. To state the condition, it's helpful

---

which is correlated with movement tends to be more robust cross-linguistically than agreement at a distance (see Preminger 2011 and references therein). I show that at least some manifestations of this phenomenon can also be understood in terms of the theory developed in this chapter.

to adopt some notational conventions from the literature. To this end, let's take as our point of departure the idea that certain syntactic operations are lexically associated with particular syntactic heads. Two uncontroversial cases that are relevant for our purposes are agreement and the EPP. Concerning agreement, the basic idea is that certain heads are lexically endowed with the capacity to trigger agreement with lower phrases for some combination of person, number, and gender features. This endowment is usually captured by positing that these heads have special features that trigger the associated agreement operation, a convention I adopt here. I denote these features [X:_], where X is the particular $\varphi$-feature combination implicated in the agreement relationship. Concerning EPP, the basic idea is similar: certain heads are lexically endowed with a requirement to project a specifier that bears certain features. English T is an illustrative example, as it is usually assumed to be required to project a specifier containing a DP. Following the convention in the literature, I will also encode this endowment via a special feature, here denoted [●X●], where X is the relevant feature that must be borne by the XP in specifier position.[4] English T then bears a [●D●] feature, indicating that it must project a DP specifier.

With these conventions in place, we can state the economy condition as follows. Recall that the essential insight is that if two syntactic objects enter into a syntactic relationship, this relationship must be fully general. This can be encoded in terms of features as in (3).

(3)     **Feature Maximality** (FM):
        Given head H with features $[F_1] \dots [F_n]$, if XP discharges $[F_i]$, XP must also discharge each $[F_j]$ that it is capable of.

I set aside the task of motivating this constraint to the next section, where I show that it is ultimately a generalization of two well-established economy constraints from the literature: the so-called *free rider* constraint on *Agree* (Chomsky 1995: 4.4.4, 4.5.2, 2001: 15-19; Bruening 2001: 5.7; Rezac 2013: 310), and the closely related *Multitasking* conditions proposed by Pesetsky and Torrego (2001) and Van Urk and Richards (2015), respectively. What matters at present are the consequences of (3) for the relationship between movement and agreement. In particular, we predict that if Head H has an undischarged EPP-type feature, and it enters into an agreement relationship with phrase XP capable of satisfying that feature, then XP must satisfy it, i.e., XP must move to Spec(HP). In other words, XP in such a context is capable of discharging both the [Y:_] and [●X●] features on H, so if it discharges one of them, it must discharge both. Agreement is therefore predicted to be associated with movement if and only if the triggering head has an independent, unrealized need to project a specifier.

Aside from the fact that we have now derived this property from an independent principle of economy, this analysis is not especially innovative: heads are often assumed to trigger movement alongside agreement if and only if they have an EPP feature. The true novelty of the proposal stems from the following extension. In particular, I propose to generalize the notion of EPP-features to capture Merge operations in general, so that all instances of Merge are triggered by lexically-endowed Merge features present on syntactic heads. For present purposes, it is sufficient to assume that there is one Merge feature that is responsible for both EPP-type effects and external merge of arguments, i.e., that all Merge operations, both internal and external, are triggered by the same feature. I revisit and further motivate this assumption in Section 2.2.2.1 and Chapter 5.

---

[4]This notation is due to Müller 2010, who also develops a theory of feature-driven merge. His account differs from ours in two main ways. First, Müller (2010) posits an inherent ordering on the operations associated with a given head, and second he couches his proposal in the Uninterpretable Features model, so that all merge and agree features on a given head must be discharged in the course of the derivation.

(4)   **Merge is feature driven**:
      All instances of Merge are triggered by lexically endowed [•X•] features present on syntactic heads.

As before, I set aside for now important questions about how (4) is motivated and its consequences for different sorts of movement and structure building. I return to these issues in the remainder of this chapter and in Chapter 5, where I formalize the theory in detail. For now, the coarse description in (4) is sufficient to explain the basic logic of the account.

   To this end, let us adopt the widespread assumption that PPA is triggered by the head that introduces the external argument, $v$ (Kayne 1989; Chomsky 1995; Chomsky 2001; Belletti 2006; D'Alessandro and Roberts 2008; a.o.). It follows that $v$ has both an agreement-triggering feature, to trigger PPA, and a Merge-triggering feature, to introduce the external argument. In broad strokes, the movement-correlation is then derived as follows. By hypothesis, Merge features can trigger both external and internal merge (movement). It follows that the internal argument (IA) is possible target to both syntactic operations at $v$, agreement and (internal) merge. *Feature maximality* therefore dictates that if $v$ enters into an agreement relationship with the IA, discharging the agreement feature, then this relationship must generalize to include discharge of the Merge feature. In other words, agreement between $v$ and the IA is obligatorily associated with Merge of the IA in Spec($v$P) – movement. With clitics and *wh*-phrases, this movement is unproblematic, as these phrases can then be attracted from Spec($v$P) into their surface positions higher in the clause. If the IA is not a clitic or *wh*-phrase, however, this movement is not licensed, as such phrases must appear *in situ* in the VP in the languages in question. Since movement is barred, the logic goes, agreement is likewise not possible, as the two are obligatorily coupled together in this context by *Feature Maximality*. Of course, we must explain why movement of the IA is barred in this context but allowed for *wh*-phrase- and clitic-IAs, a task I take up in detail in the next section. This issue notwithstanding, the basic logic of the account is now in place: PPA is correlated with movement because the head responsible for triggering it has an independent need to introduce a specifier; per *Feature Maximality*, then, agreement triggers movement.

   Two important issues remain. First, the discussion above ignores the alternative derivation where the external argument (EA) is merged in Spec($v$P) before agreement takes place with the IA. Assuming that each Merge feature triggers exactly one instance of Merge, just like it is usually assumed that each agreement-triggering feature triggers exactly one instance of agreement, it follows that the introduction of the EA exhausts the Merge feature on $v$.[5] It should consequently be possible for $v$ to agree with the IA at this point without triggering movement, since by hypothesis the Merge feature is exhausted and hence *Feature Maximality* does not force movement. If this is allowed, PPA should be possible with an *in situ* IA, so this derivation must be blocked in those languages that disallow such PPA. This ties in naturally with the second question, which is how do languages that do allow PPA with *in situ* arguments differ from those that do not.

   I argue that the answer to both of these questions can ultimately be found in the Moravscik-Bobaljik-Preminger Theory of Case (Preminger 2014). Setting aside the details until the next section, this theory furnishes two relevant hypotheses: (i) the IA is valued with dependent (accusative) Case at the instant the EA is merged in the structure; (ii) languages differ in whether they allow agreement to target DPs valued with dependent (accusative) Case. Suppose we have a language where agreement cannot target a DP with dependent Case. Then PPA will be limited to take place before the EA has been merged, since this operation triggers valuation of dependent Case on the IA. Following the logic summarized above, PPA will thus always be correlated

---

[5]This raises the additional question of how the EA is introduced in derivations where a *wh*-phrase or clitic moves to Spec($v$P). I address this point in Section refppa-move-clit.

with movement, since *v* will always have an undischarged [●D●] feature at the point when agreement is triggered. In contrast, if we have a language where agreement can target a DP bearing dependent Case, then there is nothing to block a derivation where PPA takes place after the EA is merged, when *Feature Maximality* no longer applies.

I want to highlight two main upshots at this juncture. First, the proposal reduces the correlation between agreement and movement to the action of an economy constraint that, as we will see in the next section, is familiar from the existing literature. No special theoretical innovations beyond this are needed, aside from the assumption that Merge operations are, like agreement operations, lexically associated with particular syntactic heads. Second, the account reduces the difference between PPA-*in-situ* and movement-based-PPA languages to a single, independently needed parameter: whether or not a language makes DPs valued with dependent Case accessible to agreement.

### 2.2.2 Theoretical background

With the preceding high-level description of the account in place, I turn my attention to filling in the details and answering the questions raised and left open by the discussion above. To this end, this section introduces the theoretical tools that underlie the account.

#### 2.2.2.1 Feature-driven Merge

To begin, I'd like to explore in more detail some of the consequences of the proposal that merge is feature driven. Recall that the central hypothesis is that merge operations are lexically associated with particular syntactic heads, just like agreement operations. We will encode this by positing special merge features on these heads, with one feature for each associated merge operation. With this in mind, let us grant the basic minimalist conception that merge underlies both the introduction of new phrases into the structure (external merge) and movement of existing phrases to new positions in the structure (see especially Chomsky 1995, 2000, 2001, 2008). It follows, then, that if a head is associated with a merge operation, it has the potential to trigger either the introduction of a novel phrase into the structure or the movement of an existing phrase to its specifier. Blocking one option or the other would require an additional stipulation.

This multipotency of Merge has two important consequences. First, it leads to the prediction that heads like transitive *v*, which introduces the external argument and hence must have a Merge feature, also have the capacity to trigger movement. This is essential to the account of PPA, as highlighted in the previous section. Conversely, we also predict that heads like T, which is usually assumed to obligatorily trigger movement of a phrase to its specifier, are also in principle capable of triggering external merge. On the face of it, this seems to lead to the incorrect prediction that T can introduce a semantically contentful DP into the structure, as in (5).

(5)   a.   *The professor has three students asked the same question.
      b.   [$_{TP}$ The professor [T ... [$_{vP}$ three students [$_v$ [V the same question]]]]]

This problem is not unique to our theory, however, and a variety of solutions that have been independently proposed in the literature can be straightforwardly adopted here. Thus we might assume that DPs are not interpretable in Spec(TP) unless they have moved there, following the canonical type-driven account developed by Heim and Kratzer (1998). Alternatively, we could adopt the main tenets of $\theta$-theory (Chomsky 1981 and assume that Spec(TP) is not a $\theta$-position and hence cannot introduce an argument, even if this operation is otherwise syntactically well-formed. Both accounts have extensive support in the literature, and I will not attempt to chose

among them further here.

Whatever approach we adopt, however, we do predict that T should be capable, in principle, of introducing an expletive, since expletives are not visible at LF and not subject to $\theta$-theory. This is confirmed by the fact that, in many languages at least, T can indeed introduce expletives. In the Belfast variety of English, for example, the minimal variant of (5) where the contentful DP in Spec(TP) is replaced with an expletive is well-formed.[6]

(6)     There have three students asked the same question.                    *Belfast English*
        (Henry and Cottell 2007: 293)

The discussion so far has focused on the position into which the EA is merged and the canonical subject position in Spec(TP), both of which are uncontroversially A-positions. The hypothesis that Merge is feature-driven, however, also extends straightforwardly to A′-positions and A′-movement. In particular, I assume that the heads whose specifiers serve as the intermediate and final landing sites for A′-movement are likewise endowed with Merge-features to attract the relevant phrases. If we take interrogative C to be the final landing site for *wh*-movement, we can assume that it is associated with a Merge operation for triggering this movement, i.e., it bears a [●*wh*●] feature. Likewise, granting that all *v* and C heads are intermediate landing sites for A′-movement (McDaniel 1989; Fox 1999; McCloskey 2000; Chomsky 2000; Gračanin 2004), these heads will also bear features like [●*wh*●] for triggering intermediate movement of *wh*-phrases, into their specifiers.

With the basics of the proposal in place, a crucial question arises as to whether the agreement and merge operations associated with a given head are obligatory. This issue cuts to the heart of modern minimalist syntactic theory, and has been the subject of much debate in the recent literature. I take it up in much greater detail in Chapter 5, but for now it suffices to take the uncontroversial stance that syntactic operations must take place if they can.

Concerning agreement, this means that if there is an accessible agreement target in the local domain of the triggering head, then agreement must apply. This is uncontroversial, and is accepted by both main minimalist approaches to agreement, the Uninterpretable Features Model (UF) of Chomsky (2000, 2001), and the Obligatory Operations (ObOp) Model of Preminger (2014).[7] The main difference between these theories is what they predict in cases where there is no accessible agreement target: the UF but not the ObOp model predicts that such structures are ungrammatical, as on the former but not the later theory agreement features must be discharged. That said, the UF assumption that a failure to agree results in ungrammaticality must be relaxed in the case of PPA, since as we have seen agreement can clearly fail to obtain in some instances. It is therefore not crucial for our purposes to chose among these theories: the UF model must make some accommodation in the case of PPA to allow agreement to fail, so the two accounts are not critically different in this domain (although there may be conceptual reasons to prefer the ObOp treatment; see Chapter 5). I return to this issue in the next section.

Concerning Merge, the logic is simpler, at least for A-positions. Because Merge features have the potential to trigger both internal and external merge, it will always be possible to discharge a given Merge feature: even if there is no local XP to target for movement, it will always be possible

---

[6]As we will see shortly, in the languages in question in this paper, as well as in standard English, expletive insertion is arguably limited to Spec(*v*P) (Richards 2005; Richards 2007; Deal 2009). For now, I will simply encode this as a stipulation.

[7]Technically, all syntactic operations are optional on the UF model, and derivations where agreement fails to take place are blocked by output filters. In effect, this means that agreement is obligatory, even if the syntax does not technically require the operation take place.

to introduce a new phrase from the lexicon/workspace.[8] It follows that merge features always have to be satisfied, since they always can be. This is exactly what is needed to capture, for example, the EPP-effect at T: in those cases where there is no argument to attract to Spec(TP), an expletive must nevertheless be inserted to fill this position, as illustrated in (7).

(7)    a.    It seems like John is upset.
       b.    *∅ seems like John is upset.

This is directly predicted if (i) Merge features license internal and external merge, and (ii) syntactic operations (including Merge) must apply if they can. An expletive must therefore be inserted in the structure in (7) to satisfy the merge feature at T. I explore further consequences of this assumption later in the chapter.

With A′-positions, the logic is more complicated. Suppose we assume that all $v$ and C heads are associated with features for merging with $wh$-phrases by virtue of the fact that they are intermediate landing sites for A′-movement. Then we predict, by the same logic governing the EPP-effect at T, that all $v$ and C heads should be required to externally merge with a $wh$-phrase if there is no such phrase in their local domain to attract via internal merge. This is clearly undesireable. This challenge is well known, and there are two options in the literature for addressing it. The first is to assume that A′-type merge features are optional on $v$ and C, and are only included when needed to facilitate intermediate movement. This is the position defended by Chomsky (2001) and McCloskey (2000), and we can adopt the logic of their proposal directly in this system: interrogative C must attract a $wh$-phrase to be interpretable, so only a derivation where a $wh$-phrase is successfully attracted to this position converges, requiring all lower $v$ and C heads to have the relevant feature; in non-interrogative derivations, $v$ and C are conversely barred from hosting the relevant features, since if they did they would have to externally merge with a $wh$-element, and such elements are only interpretable in the specifier of an interrogative C. Alternatively, we can follow Preminger (2014) in assuming that the A′-type merge features are always present, but cannot license external merge. If there is no $wh$-phrase in the local domain of a given $v$ or C head, i.e., internal merge is not licensed, Merge simply fails to take place. This is the view that I adopt in Chapter 5, where I formalize the system described here, although the results of this chapter do not depend on it.

Finally, I want to point out that the only additional syntactic constraint on the application of Merge and Agree that I will assume is cyclicity. This ensures that only those operations associated with the head of the maximal projection at the root of the tree may apply, as is standard. However, if this head is associated with multiple operations, there is no fixed order that they must apply in, as long as the result is interpretable. This amounts to the null hypothesis: positing a syntactic ordering on the operations available at a head imposes additional structure on the derivation, and so would require additional justification.

---

[8]It is crucial to the main results of this section, that Merge always be capable of accessing the entire lexicon/workspace, and in particular that merge not be limited to combining elements from a numeration. Immediate empirical support for this view comes from the pair in (7). If we assume that merge is confined to select from a predetermined numeration, and if that numeration happened to lack an expletive, then we would erroneously predict that Spec(TP) need not be filled, since there would be no suitable XP in the numeration or in the syntactic structure to merge in Spec(TP) in (7). Indeed, on the analysis here, the EPP property follows precisely because the conditions on the application of Merge are always met at T, since it can always introduce a new element from the lexicon.

### 2.2.2.2 Feature Maximality

With the basics of the theory of feature-driven Merge in place, I turn to motivating the economy condition proposed in Section 2.2.1. The main point I want to make is that *Feature Maximality* represents the extension of a well-established family of economy constraints to a system where both agreement and merge are feature-triggered operations.

To this end, one of the core insights in the literature on derivational economy is that agreement operations originating at a single head should target the smallest possible number of phrases. In practice, this preference has been encoded in a variety of ways, two of the most prominent of which are the so-called *free rider* constraint on *Agree* (Chomsky 1995: 4.4.4, 4.5.2, 2001: 15-19; Bruening 2001: 5.7; Rezac 2013: 310) summarized in (8), and the closely related *Multitasking* conditions proposed by Pesetsky and Torrego (2001) and Van Urk and Richards (2015), respectively, as in (9).

(8)   **Free Rider property**:
      If an *Agree* relation obtains between two items $\alpha$ and $\beta$, it must maximize to include all their features
      (Rezac 2013: 310)

(9)   **Multitasking**:
      At every step in a derivation, if a probe can trigger two operations A and B, and the features checked by A are a superset of those checked by B, the grammar prefers A.
      (Van Urk and Richards 2015: 132)

These principles encode slightly different perspectives on the basic insight sketched above, but in practice they yield essentially the same results. To illustrate, it's helpful to consider a toy example. Suppose head *H* has, in present terms, features [A:_], [B:_], and [C:_] that trigger agreement with a phrase bearing these features. Suppose further that there is a phrase XP bearing features [A], [B], [C], a phrase YP bearing features [B], [C], and that XP and YP are both licit targets for agreement at *H*.[9] Then both (8) and (9) dictate that a derivation where agreement at *H* targets XP for all three features is preferable to one where agreement targets XP for some features and YP for the remaining features. This result is trivial for (9). For (8), it arises because there is a preference for agreement to be maximally general: if *H* agrees with XP for feature [A], this relationship must extend to all features shared in common. Both principles converge, at least in cases like this, to the basic preference to minimize the number of items operated on by agreement.

Both the *Free Rider* constraint and *Multitasking* were originally proposed in Uninterpretable-Features-based frameworks that posit a stark distinction between agreement and merge. Agreement operations are regulated by the distribution of interpretable and uninterpretable features, and are take place to satisfy output filters, while *Merge* operations operate more or less freely, assembling the syntactic structure. As mentioned above, however, we are assuming that these two operations are governed by the same logic: both are lexically associated with certain heads and apply at the root of the structure if they can. Given this lack of distinction, my proposal is that the basic notion of economy expressed in (8) and (9) should apply equally to agreement and merge. This is captured in the statement of *Feature Maximality*, repeated below.

(3)   **Feature Maximality** (FM):
      Given head H with features [F$_1$] ... [F$_n$], if XP discharges [F$_i$], XP must also discharge each

---

[9]This could come about in a variety of ways, e.g., perhaps agreement with XP is followed by movement of XP to Spec(HP), thus exposing YP to agreement, or perhaps XP and YP are in a configuration such that neither asymmetrically c-commands the other.

[F$_j$] that it is capable of.

This principle is an extension of the Free Rider property of agreement to syntactic operations in general: if two items are singled out as syntactic co-operands, this relationship must be as general as possible, and hence encompass all syntactic operations that can legitimately act on the two items. In this way, *Feature Maximality* encodes the basic notion of economy captured by the Free Rider property and by Multitasking in a framework which posits minimal differences between agreement and merge.

### 2.2.2.3 The Moravscik-Bobaljik-Preminger theory of Case

I now take up the final piece of theoretical machinery relevant for the account, the Moravscik-Bobaljik-Preminger theory of Case (Moravcsik 1974; Bobaljik 2008; Preminger 2014). The theory has two essential components. The first is that morphological case on DPs is determined configurationally, following Marantz (1991), rather than via agreement with functional heads (as in, e.g., Chomsky 2000, 2001). I adopt a formalization of this insight due to Preminger (2014), in which the determination of morphological case proceeds as follows. Every DP is endowed with a Case feature that is, by default, unvalued when the DP enters the derivation. This feature may then be valued by one of two syntactic processes. First, there are certain syntactic heads are lexically specified to value the Case feature of their specifier or complement. The Case feature of a DP occupying the specifier or complement of such a head is valued as *lexical/oblique* as soon as the DP is merged in the relevant position, as encoded in (10a). The morphological realization of the lexical/oblique value is determined according the specific lexical instructions of the licensing head. Second, the Case feature of a DP can be valued by virtue of the DP being merged in a special syntactic configuration with another DP, provided the Case features of both DPs are unvalued. Valuation takes place instantaneously when the relevant configuration is achieved. The value determined in this way is denoted *dependent* and is realized morphologically as accusative.

(10)    **Case valuation procedures**:
    a.    <u>Lexical/Oblique</u>: Given the configuration [H DP] or [$_{HP}$ DP [H …]], where H is a lexical case assigner, value the case feature on DP to *lexical/oblique*
    b.    <u>Dependent Case</u> (*nominative*): Given the configuration [DP$_1$ [… [… DP$_2$…]]], where the Case features on DP$_1$ and DP$_2$ are unvalued, value the Case feature on DP$_2$ to *dependent*[10]

An important aspect of this system is that many DPs do not have their Case feature valued in the course of the derivation, e.g., most external arguments. On this theory, this is unproblematic: *Case valuation plays no role in nominal licensing*, so there is nothing inherently wrong with a DP having an unvalued Case feature at the end of the derivation. Unvalued Case is realized morphologically as nominative, depending on the case system of the language.

I illustrate the procedures in (10) with two simple examples. First, consider the derivation of a simple transitive clause. Both the external argument (EA) and internal argument (IA) enter the derivation with an unvalued Case feature. At the stage in the derivation when the EA is merged in Spec(*v*P), the condition in (10a) is met on Case valuation, so the Case feature on the IA is valued

---

[10]There is an additional cross-linguistically attested system of dependent case valuation, the 'ergative-absolutive' system. Here, in the relevant configuration, it is DP$_1$ that gets its Case feature valued, not DP$_2$. Because the languages under discussion in this paper do not manifest the ergative-absolutive pattern, I won't discuss it further, except to briefly note (see fn. 27) that we do not expect PPA-type agreement patterns in such languages.

(see (11)). The Case feature on the EA remains unvalued throughout the derivation. At PF, the IA is therefore spelled out with accusative case, and the EA, by virtue of having an unvalued Case feature, is spelled out with nominative case.

(11)    **Dependent Case valuation**
        Transitive clause: Merge EA, value Case on IA:
        [$_{vP}$ **EA** . . . [$_{VP}$ V IA]]
              Case valuation

The condition in (10b) is intended to capture the fact that some heads idiosyncratically assign a case value to their complement or specifier that is not expected according to the calculus in (10a). For example, certain verbs in German require that their IA surface with dative case, as in (12), rather that the accusative (dependent) case we would expect given (10a).

(12)    Ich helfe dir/*dich.
        I   help  you.DAT/*you.ACC
        'I'm helping you'                                                    *German*

The valuation procedure in (10a) explains such data on the assumption that certain heads are lexically specified to assign case to their complements or specifiers:

(13)    **Lexical case valuation**
        Merge complement/specifier, value Case:
        [$_{HP}$ H  DP]         or         [$_{HP}$ DP   [ H . . .]]
              Case valuation                    Case valuation

     The second component of the Bobaljik/Moravcsik theory is the hypothesis that *φ-Agree* is case discriminating (Bobaljik 2008; Preminger 2014): Case valuation determines whether or not a given DP is accessible to *φ-Agree*, with accessibility parameterized across languages according to the *Revised Moravcsik Hierarchy*:

(14)    **Case Accessibility**:
        Accessibility to *Agree* is determined according to the *Revised Moravcsik Hierarchy*:
        *unvalued Case* » *dependent Case* » *lexical* and other Case

This hierarchy ranges over languages, not sentences, and should be interpreted as follows: if agreement is licensed in a given language, it is licensed with DPs with unvalued Case; if agreement is additionally licensed with DPs with other Case values, it is with DPs with dependent Case; and so on. In Chapter 5, I present some of Bobaljik's (2008) cross-linguistic evidence supporting this view.

## 2.3   Movement-Based PPA

With these theoretical preliminaries in place, I take up in this section the task of formalizing the account of movement-based PPA sketched in Section 2.2.1. The main data that will be accounted for are: (i) the fact that in many languages, PPA is blocked with *in situ* objects, and (ii) the fact that in these languages, movement facilitates PPA. The discussion here will therefore be focused primarily on French, Standard Italian, and Mainland Scandinavian, where facts (i) and (ii) hold

unambiguously.

### 2.3.1 Transitive clauses, *in situ* objects

I begin by considering the case of transitive clauses with *in situ* internal arguments, as these cases serve well to highlight the main components of the account. PPA is strictly impossible in movement-based PPA languages in this context, as illustrated in (15).[11]

(15)  a.  Ho       mangiat-**o**/*a    **la  mela**.
          have.1.SG eaten-M.SG/*F.SG the apple.F.SG
          'I have eaten the apple'                              *Standard Italian*
          (D'Allessandro & Roberts 2008)
      b.  Jean n'a       jamais fait(***es***)   **ces  sottises**
          Jean NEG.have.3SG never  done-.M.SG/*F.SG these stupid things.F.PL
          'Jean has never done these stupid things'                   *French*
          (Belletti 2006)
      c.  Jens har skut-**it**/*-**et**        ett lejon.
          Jens has shot-SUPINE/*-3.SG.N a   lion
          'Jens has shot a lion.'                                     *Swedish*
          (Christensen and Taraldsen 1989)

Recall from the previous section that I assume PPA is triggered by an agreement operation associated with the head that introduces the external argument. It follows that transitive *v* is associated with at least a *φ-Agree* operation, for triggering PPA, and with a merge operation, for introducing the external argument. Following the notation introduced in Section 2.2.2.1, *v* therefore has the following feature makeup:

(16)     Feature makeup of transitive *v*:
      a.  *φ-Agree*: [*φ*:_], for triggering PPA
      b.  Merge: [●D●], for introducing the external argument

Let us also assume that in the languages in question (French, Standard Italian, MSc), DPs with dependent Case are not accessible to *φ-Agree*. I set aside the task of justifying this assumption to the next section.

(17)     **Case Accessibility**: French, Standard Italian, and MSc make only DPs with unmarked Case accessible to *φ-Agree*:
         <u>unmarked case</u> >> dependent case >> oblique case
         French, St. Italian, MSc

With this in place, consider the stage in the derivation of a transitive clause when *v* has just been merged in the structure. Given the feature make-up we have posited on *v*, there are three derivational options available at this point: (i) the merge operation at *v* can take place, introducing an EA; (ii) the *φ-Agree* operation at *v* can take place, targeting the internal argument (IA); (iii) the merge operation at *v* can take place, targeting the IA and triggering movement to Spec(*v*P). Options (i) and (iii) are licensed because merge operations can trigger both internal and external merge. Option (ii) is licensed because the conditions on agreement between *v* and the IA are

---

[11]In Mainland Scandinavian, this is complicated by the fact that in at least some languages (Swedish, some dialects of Norwegian; Svenonius & Larson 2012), the perfect participle is distinct from the passive participle, and never inflects. Nonetheless, the fact remains that PPA is impossible with the *in situ* object.

met: recall that all DPs enter the derivation with an unvalued Case feature, so at this stage the IA is both local to $v$ and Case-accessible, and hence a suitable target for agreement.

Moreover, because I assume no inherent ordering on the operations associated with a given head (see Section 2.2.2.1), all three operations are equally available. Let's explore first what happens if option (i) is chosen: the EA is merged. As discussed in previous section, merger of the EA instantaneously triggers Case valuation on the IA, which is therefore valued with dependent Case. At this point, the question arises as to whether the agreement operation associated with $v$ can target the EA that merges in its specifier. I take the stance that agreement is contingent on asymmetric c-command, so an agreement operation at head H may target XP if and only if H asymmetrically c-commands XP (Chomsky 2000: 122). It follows that EA never triggers agreement at $v$, which correctly captures the empirical fact that PPA in the languages in question never targets external arguments.[12] Turning our attention to the IA, while it is both local to $v$ and asymmetrically c-commanded by it, it likewise is not an accessible target to the agreement operation at $v$, as it bears dependent Case. Since the languages in question do not allow agreement to target DPs with dependent Case, agreement is not licensed here, capturing the absence of PPA. Setting aside for the moment the consequences of the fact that agreement fails to obtain, this derivation is otherwise convergent. We therefore correctly derive the structure of basic transitives clause in French, Standard Italian, and MSc, and moreover capture the absence of PPA.

(18)    *Merge* EA; Case valuation; *φ-Agree* blocked; ✗ PPA

Case Valuation

$[_{vP}$ EA $[_{vP}$ $v$ $[_{VP}$ V IA$]]]$
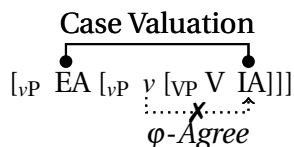
*φ-Agree*

Before moving on, let's return to the question of the consequences of the untriggered agreement operation in the derivation in (18). As mentioned in the previous section, the two most prominent theories of agreement, the UF model of Chomsky (Chomsky 2000; Chomsky 2001) and the ObOp model of Preminger (2014), differ as to whether they allow agreement operations to go untriggered. On the UF model, agreement-triggering features are illegible at the LF interface, and hence must be discharged in the course of the derivation by triggering an agreement operation. It follows that some special mechanism must be invoked to explain the fact that agreement is allowed not to obtain in cases like (18), where there is no accessible target. As discussed in Chapter 5, and pointed out by Preminger (2014), this problem is not unique to PPA. There are a variety of cross-linguistic contexts where agreement operations can seemingly go untriggered in the absence of a suitable target. At the very least, then, the UF model must adopt some mechanism to allow untriggered agreement features in some contexts. One option is to posit a last-resort principle that discharges the agreement feature with default values. Regardless of what mechanism is chosen, I assume that it must apply in the PPA cases, so that the failure of agreement poses no special challenge.

On the ObOp model, in contrast, syntactic operations are assumed to be obligatory but fallible: they must apply if the conditions on their application are met, but if these conditions are not met, they unproblematically fail to apply. This naturally fits the profile of the PPA data in (18), and indeed is the approach I adopt in Chapter 5, where I formalize the framework developed in Section 2.2.2.1. That said, it's important to point out that the account is compatible with the UF view as long as there is some mechanism to accomodate failed agreement in at least some contexts.

---

[12]In Section 2.5.2, I consider a variety of Italo-Romance, Abruzzese, where PPA does target subjects.

Moving on, there are two additional derivational options to consider for simple transitives clauses at the point when *v* is merged: option (ii) from above – trigger agreement at *v* with the IA – and option (iii) from above – trigger internal merge of the IA in Spec(*v*P). To this end, recall that at the point when *v* is merged in the structure, the IA is a suitable target for both the agreement and merge operations at *v*: the former follows because IA is both local to *v* and bears an unvalued Case feature, and the latter because the merge operation can trigger internal merge of a local XP in addition to external merge. By *Feature Maximality*, then, it follows that if IA is targeted for either agreement or merge at *v*, it must also be targeted for the other operation. In other words, the IA is capable of discharging both the [•D•] and the [φ:_] features on *v*, so if either option is selected, it will necessarily extend to include the other, by *Feature Maximality*. It follows that derivational options (ii) and (iii) both result in the IA agreeing with and being attracted to the specifier of *v*, discharging both [•D•] and [φ:_]. The consequence is that if the IA triggers PPA, it must move to Spec(*v*P).

(19)     *Agree* w/ IA; *Move* IA ([•D•])

[*v*P  IA [*v*P  *v* [VP V IA]]]
                    *φ-Agree*
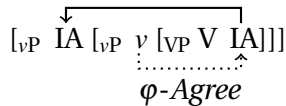
Crucially, this movement exhausts the merge operation at *v*: by hypothesis, each feature at a given head triggers exactly one syntactic operation. It follows that there is no way to introduce the external argument, as [•D•] is the only feature on *v* capable of introducing a new argument.[13] The derivation then continues, and T attracts the IA to Spec(TP), producing a clause with transitive morphology but unaccusative syntax, as in (20).

(20)     *Some apples have eaten ~~some apples~~.

This is obviously an undesirable result that needs to be ruled out. The challenge posed by (20), however, is neither unique to the present framework nor particularly serious. To see why, it's helpful to consider the example in (21), where an expletive has been merged in Spec(*v*P) of a transitive clause.

(21)     *It.EXPL has persuaded John to leave.
         (cf. Chomsky 1981: 40)

From a syntactic perspective, its not clear that anything is wrong with this example. We know from examples like *it is raining* that *it* expletives are licensed in subject position more generally, so (21) is arguably well formed from the perspective of purely syntactic considerations. The upshot is that an independent means of requiring transitive clauses to have semantically contentful external arguments is needed, *on any theory*. There are a variety of proposals for accomplishing this in the literature, from which we can take our pick. All will successfully rule out data like (20) on the grounds that no external argument is introduced, defusing the challenge these data pose.[14]

---

[13]There are also arguably features to trigger A′-movement on *v*, but these cannot be used to introduce an external argument; see Section 2.3.1.

[14]Two prominent solutions are worth noting. The first is θ-theory (Chomsky 1981), which builds the argument requirement directly into the syntax by endowing all argument-selecting heads with a special θ-feature that they discharge onto their argument when it is merged. Each θ-feature must be discharged, ensuring that all necessary arguments are introduced, and each argument must bear exactly one θ-role, ensuring that every argument is introduced in an appropriate position. The example in (20) is then ruled out either because *v* never discharges its θ-role,

It's worth pausing at this point to highlight the work that *Feature Maximality* does in the context of the wider framework. One way to summarize our conclusions to say that *Feature Maximality* directly ties agreement at *v* to movement to Spec(*v*P) if the external argument has not been merged. It therefore induces a competition between *Agree* with the internal argument and *Merge* with the external argument. Because the external argument must be merged in a transitive clause, it always "wins" this competition, with the effect that *φ-Agree* is obligatorily delayed until after the external argument has been merged. The absence of PPA is then a side effect of this delay, reflecting the Moravcsik-Bobaljik-Preminger observation that *φ-Agree* is often impossible with DPs valued with dependent Case.

The role of *v* as an argument introducer is therefore fundamental to blocking PPA: if there was no semantic/thematic need to merge an argument in Spec(*v*P), derivation (ii)/(iii) from above, where the internal argument moves to Spec(*v*P) concomitant with PPA, might be expected to converge.[15] As I will now argue, this is exactly the state of affairs that obtains with passive and unaccusative clauses, deriving the second core class of PPA data from Section 2.1.

### 2.3.2 Passive/unaccusative predicates

In this section I consider the behavior of PPA with passive/unaccusative predicates in movement-based PPA languages. The data are as follows. In French, PPA is directly tied to object promotion, giving rise to the contrasts in (22) and (23) with passives and unaccusatives, respectively.

(22)    a.    Il a   été   fait**(\*es)**    **deux erreurs**.
              it has been made.(\*F.PL) two   errors
              "There have been three errors made"

        b.    **Trois erreurs** ont été fait**\*(es)**.            *French*

(23)    a.    Il est mort(**\*es) trois  sauterelles**.
              it is   died.(\*PL) three grasshoppers
              'There died three grasshoppers.'

        b.    **Trois sauterelles** sont mort**\*(es)**.            *French*

Passive and unaccusative clauses in MSc pattern the same, except that some varieties allow an intermediate promotion structure with passives, as in (24b). I illustrate with a passive from Swedish and an unaccusative from West Norwegian.

(24)    a.    Det  har  blivit skriv-**et**/\*na    **tre   böker**  om detta.
              EXPL have been written-N.SG/\*PL three book.PL on  this
              'There have been three books written on this'

---

or because it discharges it onto IA, so IA bears two *θ*-roles.

    The second, formalized by Heim and Kratzer (1998), builds the argument requirement directly into the meaning of the relevant heads. This requirement is then checked as a part of the interpretive mechanism that translates syntactic structures into their corresponding extensions. The lexical entry for a transitive *v*, for example, specifies that its extension is a predicate with an open argument position for the agent of the event being described. If *v* is not combined with a syntactic (external) argument, the open argument position in its extension isn't saturated; the interpretive machinery is hence unable to combine the extension of *v*P with the extension of higher functional heads, which can only combine with fully saturated predicates. A syntactic structure with a transitive *v* but no external argument will thus be uninterpretable and hence ungrammatical. (20) is then ruled out on the hypothesis that moved phrases do not saturate open argument positions, as encoded in Heim & Kratzer's (1998: Ch. 5) rule of Predicate Abstraction.

    [15]Alternatively, if *v* had more than one [●D●] feature, we would expect that it could both trigger movement of IA and merger of EA. None of the languages under consideration seem to allow this option, although we might expect to find it cross-linguistically, e.g., in languages where there is overt evidence for multiple A-specifiers. I set aside this interesting extension for now.

b. Det har blivit **tre böker** skriv-**na**/*et om detta
EXPL have been three book.PL written-PL/*N.SG on this

c. **Tre böker** har blivit skriv-**na**/*et om detta.
three book.PL have been write.PRTP-PL/*N.SG on this
'Three books have been written on this'                  *Swedish*
(Holmberg 2001: 86)

(25)  a. Det er nett kom-**e**/*-**ne nokre gjester**.
IT  is just arrived.SG/*PL some guests.PL
'There have just arrived some guests.'

b. **Gjestene** er nett kom-**ne**/*-**e**.
guests-the is just arrived.PL/*SG
'The guests have just come.'                          *Western Norwegian*
(Christensen and Taraldsen 1989)

In all cases, PPA is tied to movement. I set aside Italian, where PPA can target an *in situ* internal argument in passive/unaccusative clauses, until Section 2.5.1.2.

### 2.3.2.1  Feature composition at passive/unaccusative *v*

As in the case of transitive clauses, the treatment of these facts depends on our assumptions concerning the operations associated with passive/unaccusative *v*. Because the facts are somewhat more controversial in this domain, I take some time here to outline and justify the hypothesis that will be relevant for the analysis, namely that passive/unaccusative *v* is associated with a merge operation despite the fact that it does not introduce an external argument.

There are two clear arguments to this effect. The first is that in the languages in question, there is evidence that expletives are inserted in the specifier of passive/unaccusative *v* (Richards 2005; Richards 2007; Deal 2009; Wu 2018). Deal (2009) develops what is arguably the clearest argument to this effect, showing that expletives in English are licensed just in case Spec(*v*P) is not otherwise occupied by a thematic argument. Thus in transitive/unergative clauses, where the EA is introduced in Spec(*v*P), expletive insertion is barred (see (26a)), whereas in passive, unaccusative, and existential constructions, where there is no thematic external argument, expletive insertion is tolerated (see (26b,c,d)). Deal (2009) provides a number of additional contexts supporting this generalization, which I will not go into here.

(26)  a. *There has a man eaten the apple.
b. There have been many men arrested.
c. There have emerged many new and exciting ideas.
d. There is a man in the garden.

An identical pattern is observed in the languages in question, as I illustrate below with examples from French and Swedish.

(27)  a. *Il  a  un homme mangé une pomme.
EXPL has a  man  eaten  an apple
'There has a man eaten an apple.'

b. Il  a  été  arrêté  trois hommes.
EXPL has been arrested three men
'There have been arrested three men.'

33

c. Il    est venu  un homme.
   EXPL is  come a    man
   'There is arrived a man.'
d. Il    est un homme dans le   jardin. (*high register*)[16]
   EXPL is  a   man    in    the garden
   'There is a man in the garden.'                                    *French*

(28)  a. *Det  har  många studenter redan   läst  den här   boken.
         EXPL have many   students   already read this book
         'There have many students read this book already.'
         (Holmberg 2001: 92)
      b. Det  har   blivit skrivet tre     böker om detta.
         EXPL have been   written three books on  this
         'There have been three books written on this.'
         (Holmberg 2001: 86)
      c. Det   har kommit många lingvister hit.
         EXPL has come    many  linguists  here
         'There have arrived many linguists here.'
         (Cardinaletti 1997: 523)
      d. Det  finns hundar i   trädgården
         EXPL exists dog.PL in garden.DEF
         'There is a dog in the garden.'                              *Swedish*
         (Valentine Bordal 2017: 8)

The second argument, due to Sauerland (2003), is that A-movement out of a passive/unaccusative *v*P in English can reconstruct to a clause-medial position, here identified with Spec(*v*P). Thus in (29), the surface subject that raises across the unaccusative predicate *seem* may take scope above *seem*'s internal experiencer argument, as indicating by the binding, but below sentential negation, which is below T. This suggests that the relevant A-movement that moves the subject across *seem* must have an intermediate landing site at Spec(*v*P), to facilitate this intermediate scope.

(29)  Every participant$_1$ didn't seem to his$_1$ coach *t* to be in bad shape.
      ≈ It's not the case that every participant$_1$ seemed to be in bad shape to his$_1$ coach.

                                                          (*not* » ∀ » his coach)

The null hypothesis is that the same facts hold in other languages. This is borne out in French, which is the only language I have data for. To illustrate, consider the example in (30), which features subject-to-subject raising out of the infinitival complement to the passivized ECM predicate *voir*, 'to see.' Crucially, this example tolerates a reading where the raised subject takes scope below matrix negation, yet also binds into the matrix *by* phrase. Following Sauerland, this means that the raised subject is reconstructing to a matrix position below negation but above VP, and

---

[16]For maximum similarity to English, I provide a high-register existential example. In standard colloquial French, existentials involve the more common *il y a* construction, as in (i). Nothing hinges on the high-register form being possible.

(i)   Il    y     a    un homme dans le   jardin.
      EXPL there has a    man    in    the gardin
      'There is a man in the garden'                                  *French*

hence that this position – identified here as passive Spec($v$P) – must be an intermediate landing site for movement across it.

(30)     Context: A group of parents are with their children at a park. Some parents are closely watching their children play, but others are engrossed in their phones and completely inattentive

   a.    [Tous les  enfants]$_1$ n'ont              pas été   vus       par leurs$_1$ parents [$t_1$
          all     the children$_1$ NEG.have.3.PL not been seen.PL by   their$_1$ parents
          en train de jouer].
          while     play.INF
          'All the children weren't seen by their parents to be playing.'
          $\approx$ It's not the case that each child was seen by his parents to be playing

   b.    LF: [not [$_{v\text{P}}$ all the children$_1$ [$_{\text{VP}}$ seen by their$_1$ parents [$_{\text{Inf}}$ $t_1$ to be playing]]]]
          (Keny Chatain, p.c.)

The same argument can also be made for unaccusative $v$ on the basis of the subject-to-subject raising example in (31). Here, the surface subject takes scope below matrix negation, but also binds into a matrix-VP adjunct *because*-adjunct. Again, this entails reconstruction to a matrix position above the VP but below negation, suggesting unaccusative Spec($v$P) is also an intermediate landing for movement across it.

(31)     Context: We're at the museum of optical effects. Certain lines on the paintings attached to the wall look smaller than they actually are. Sometimes, it is due to the painting's frame being rigged in a particular way; sometimes, it's due to the colour of the ink of the line. I felicitously comment on this situation by saying:

   a.    [Toutes les  lignes]$_1$ ne    semblent pas [$t_1$ être    plus  petites]  parce que leurs$_1$
          all       the lines    NEG seem.PL not     be.INF more small.PL because   their$_1$
          cadres sont   légèrement déformés
          frames are.PL slightly      bent
          'All the lines don't seem to be smaller than they are because their frames are slightly bent'
          $\approx$ It's not the case that all the lines seem smaller than they actually are because their frames are bent

   b.    LF: [not [$_{v\text{P}}$ all the frames$_1$ [$_{\text{VP}}$ seem [$_{\text{Inf}}$ $t_1$ to be bent] [becasue their$_1$ …]]]]
          (Keny Chatain, p.c.)

It follows that we have additional empirical evidence that both passive and unaccusative $v$ in French is associated with a merge operation. On the basis of these two arguments, I therefore adopt the view that passive/unaccusative $v$ is associated with a merge operation, just like transitive/unergative $v$. While this stance is empirically well-motivated, it raises the question of why $v$ should be associated with this operation if it does not need to introduce a semantic/thematic argument. That said, we already have independent evidence that there are heads that have no semantic or $\theta$-theoretic need to introduce an argument but that nevertheless are associated with a merge operation, T being the most obvious example. The fact that passive/unaccusative $v$ does not introduce a semantic/thematic argument is therefore not a conceptual barrier to it being associated with this operation. We can moreover find conceptual motivation for positing a merge feature on passive/unaccusative $v$ if we adopt Legate's (2003) conclusion it is a phase-head, just like transitive $v$. Under the assumption that phase heads are barriers to movement, so that all

phrases moving past a phase head must first move to its edge (Chomsky 2000; Citko 2011), then *v* must have a merge feature to facilitate A-movement across it.[17] This assumption is in no way required for the ensuing analysis, but it does provide some conceptual motivation for positing that *v* has merge features, as the data suggests.

### 2.3.2.2 Capturing the PPA data

We are now prepared to address the main issue of this section – the distribution of movement-based PPA in passive/unaccusative clauses. As in the transitive case, I focus on the stage of the derivation directly after merger of *v*, which by hypothesis is associated with (at least) two syntactic operations: *φ-Agree* and merge. Assuming as before that there is no implicit order on the operations, there are three derivational options at this junction: (i) discharge the agreement operation by agreeing with the IA, (ii) discharge the merge operation by attracting the IA to Spec(*v*P); (iii) discharge the merge operation by externally merging an expletive. Option (i) is licensed because the IA is both local to *v* and has an unvalued Case feature. Option (ii) is licensed because IA is local to *v* and a licit target for A-movement. Finally, option (iii) is licensed given that expletives can be inserted in Spec(*v*P) in the languages in question, as discussed in the previous section. As before, I consider these options in turn, beginning with options (i) and (ii), which end up being equivalent due to *Feature Maximality*.

Suppose first that we take option (i). In this case, *Feature Maximality* dictates that the IA must move to Spec(*v*P): it has been targeted for an operation at *v*, and hence all possible operations at *v* that can target it must. Likewise, if we decide to take option (ii) and attract the IA to Spec(*v*P), we must generalize the relationship between *v* and the IA to include agreement as well. In both cases, then, we end up with the same result: *v* agrees with IA and attracts it to its specifier. The logic so far is identical to the transitive case. The crucial difference, however, is that the present derivation does not run afoul of $\theta$-theory/interpretability: passive/unaccusative *v* is not semantically/thematically specified to introduce an external argument, so there is no $\theta$-theoretic/interpretability issue if we move the IA to Spec(*v*P).

(32)    *Agree*(*v*, IA), *Move* IA; ✓ PPA

   [*v*P IA [*v*P *v* [VP V IA]]]
            *φ-Agree*
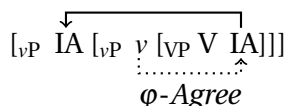
From this point, the derivation proceeds unfettered, with the IA then being attracted to canonical subject position. PPA is therefore correctly predicted to be obligatory in such cases.

---

[17]It is crucial to the ensuing analysis that passive/unaccusative *v* is not a barrier to agreement across it, at least if that agreement operation originates at T. Even if we do assume that passive/unaccusative *v* is a phase, however, we predict it should be permeable to agreement under at least the version of the Phase Impenetrability Condition (Chomsky 2001; Citko 2014) that allows agreement to cross one intervening phase boundary. This view recieves additional support from the fact that agreement triggered by T is possible across a transitive *v*, which is unequivocally a phase head in all versions of Phase Theory, in many languages. Thus in the Icelandic example in (i), main verb agreement triggered at T targets a *v*P-internal transitive object (see Harley 1995, Jónsson 1996 for arguments that the object is *v*P internal).

(i)     Jóni     líkuðu þessir     sokkar
        Jon.DAT liked.PL these.NOM socks.NOM
        'Jon liked these socks'                                    *Icelandic*
        (Jónsson 1996)

This account extends straightforwardly to Italian, where promoted objects of passives and unaccusatives also trigger obligatory PPA.

(33) a. **Due ladri** sono entrat-**i/\*o** dalla finestra.
two robbers are entered-M.PL/*M.SG from the window
'Two robbers entered from the window'
(Belletti 2006: ex. 34c)

b. **Alcuni sindaci** sono stati arrestat-**i/\*o**
some.M.PL mayors.M.PL are.PL been.M.PL arrested.M.PL/*SG
'Some mayors were arrested'

With the exception of the partial promotion case in (24b), to which I return shortly, the analysis thus correctly captures the full array of object-promotion data. [18]

Derivational option (iii) – discharge the merge operation associated with $v$ by introducing an expletive – proceeds much as in the transitive case, except that an expletive rather than an EA is merged in Spec($v$P). PPA is thus predicted to be impossible if and only if the expletive induces case valuation on the lower DP:

(34) *Merge* EXPL; Case assignment; *φ-Agree* blocked; ✗ PPA:

Case Valuation

$$[_{vP} \text{ il}_{[\varphi:5]} \; [_{vP} \; v_{[\varphi:\underline{7}]} \; [_{VP} \text{ V } \text{IA}_{[\varphi:7]}]]]$$
*φ-Agree*
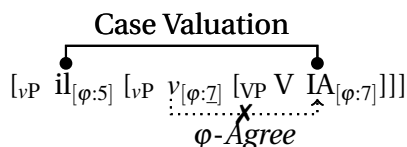
Both French and most Mainland Scandinavian dialects use the default third singular pronoun as an expletive in the passive/unaccusative contexts we are considering. In French, this is the third singular masculine pronoun *il*, and in Mainland Scandinavian the third singular neuter pronoun *det*. Because case is only marked in these languages on pronouns, and because pronouns are generally barred from appearing as the associate to an expletive, it is not possible to directly confirm that these expletives are case competitors. That said, on their non-expletive uses, the third person singular default pronoun in both languages is clearly a case competitor, inducing dependent (accusative) case on its co-arguments.

(35) a. Il *(m')a mordu (*je).
3.SG.M/N CL.1.SG.ACC-has bitten 1.SG.NOM

---

[18]Italian arguably provides an additional instantiation of movement-based PPA, unaccusative absolute small clauses (ASCs; see (ia)). These data are explained if we adopt Belletti's (1990) analysis: in unaccusative ASCs, a complementizer directly embeds a $v$P, with the participle raising through $v$ to C and the internal argument raising to Spec($v$P), as in (ib). Because no external argument is merged, the IA's Case feature is not valued and it surfaces as nominative, as Belletti independently shows to be the case. It is thus a licit target for *φ-Agree* triggered at $v$, explaining the PPA.

(i) a.Arrivata Maria, siamo andati al 'Maria having arrived, we went to the movies.'
arrived.F.SG Maria we.are gone to.the b. Structure of unaccusative ASC:
cinema.
movies $[_{CP} \text{C}+v+\text{V} [_{vP} \text{ IA } [ \; v \; [_{VP} \text{ V IA}]]]]$
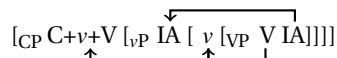
As an anonymous reviewer points out, PPA is also licensed in transitive ASCs. The structure of such clauses is less certain (see D'Alessandro and Roberts 2008 for discussion), although Belletti (1990) argues they involve a PRO subject and an *in situ* object. If there is indeed no object movement, these examples do not immediately follow on the present account, although it's worth pointing out that Belletti's analysis of PPA likewise does not extend to such cases, which are instead explained with an ad hoc mechanism. I leave this issue open.

       'He/it bit me.'                                             *French*

b.   Det    slog mig/*jag

      3.SG.N bit  1.SG.ACC/*1.SG.NOM

      'It bit me'                                        *Swedish*

Let us therefore adopt the null hypothesis that the expletive and non-expletive version of the pronoun have the same case and agreement properties, so the expletive in these languages is a case competitor.[19]. In Chapter 5, I defend this view in much more detail. PPA is therefore predicted to be blocked with *in situ* internal arguments in the presence of expletive subjects, as observed in (22a), (23a), (24a), (25a). This pattern holds across all Mainland Scandinavian languages with the third person neuter expletive *det*. I provide an additional Norwegian example below.

(36)    Det  har vorte skriv-**e/\*ne**    **mange bøker**   um dette.

        EXPL has been written-PL/\*SG many   book.PL on  this

        'There have been many books written on this'            *West Norwegian*

        (Holmberg 2001: 86)

    The final case that remains to be explained is the partial promotion possible in MSc passives, where the internal argument surfaces to the left of the participle but subject position is occupied by an expletive (see (24b)). To handle these cases, I follow Deal (2009) in assuming that passive constructions involve an additional unaccusative *v*, spelled out as *be*, e.g., *two books have **been** written*, that is itself capable of introducing an expletive. The partial promotion examples thus involve movement of IA to Spec(*v*P), saturating the [●D●] and [$\varphi$:_]-features, followed by expletive insertion in Spec($v_{be}$). Because the expletive is inserted *after* the agreement operation is triggered at *v*, dependent Case is also valued on IA *after* agreement, and hence does not interfere. PPA is thus correctly predicted to be obligatory.[20]

(37)      Partial promotion (cf. (24b))

---

[19]This is equivalent to the widespread assumption in the Uninterpretable Features framework that these expletives bear both Case and $\varphi$-features (Chomsky 1995, 2000, 2001; a.o.)

[20]The intermediate position is unavailable in Romance and Danish (Holmberg 2001), and obligatory in English (see Rezac 2006a for arguments):

(i)    a.   Il   a  été  (\*trois journalistes) arrêté   \*(trois journalistes).

          EXPL has been (three journalists)  arrested three  journalists

          'There have been three journalists arrested'              *French*

          (Svenonious 1998: 1)

    b.   È    stato (\*un libro) messo \*(un libro) sul    tavolo

          has been a    book put   a    book on.the table

          'There has been a book put on the table.'              *Italian*

          (Lasnik 1995: 630)

    c.   There were \*(three men) arrested (\*three men)

The availability of this position is not correlated with whether a language licenses participle agreement: neither English nor Danish license PPA, but English requires movement to the intermediate position and Danish forbids it; likewise, Swedish and French both license PPA, but Swedish tolerates movement to the intermediate position and French forbids it. Nor is there a correlation with the status of the expletive: English and Danish both use a *there*-type expletive in such cases, but they are split on whether they allow the intermediate position; Swedish and French both use a 3.SG expletive, but they are split on whether they allow the intermediate position. The availability of the intermediate position is therefore not correlated with any of the factors we are discussing here, so I will not attempt to address it further.

$$[_{TP} \text{ EXPL } [_{TP} \text{ T } [\dots [_{beP} \text{ EXPL } [_{beP} v_{BE} [\dots [_{vP} \text{ IA } [_{vP} v [_{VP} \text{ V IA}]]]]]]]]]]$$

$\varphi\text{-}Agree$ (PPA)

Summarizing, we have arrived at two main conclusions in this section. First, we saw empirical and conceptual arguments that passive/unaccusative *v* is associated with a merge operation, just like its transitive and unergative counterparts. This in turn facilitates an analysis of the PPA facts in passive and unaccusative clauses in the same terms as the analysis of transitive examples. When the expletive is merged in Spec(*v*P), it triggers Case valuation on the IA, thus blocking PPA. If, however, the IA moves to Spec(*v*P), PPA is triggered obligatorily per *Feature Maximality*. From this point, an expletive can either be merged in the higher $v_{BE}$, as in some MSc varieties, or the IA can be promoted to subject position.

### 2.3.3 PPA with clitics/*wh*-phrases

The final instance of movement-based PPA that we will consider is the PPA that is triggered by clitic and *wh*-movement. The languages in question differ interestingly in this domain. To begin, in French, PPA is optional with fronted clitics and with *wh*-phrases (Belletti 2005: 497).[21]

(38)  a.  Jean ne **les**     a          jamais fait(es)
             Jean NEG THEM.CL have.3SG never   done-F.PL
             'John has never done them.'
     b.  **Les sottises**      [que Jean n'a        jamais fait**(es)**]…
             the stupid things.F.PL that Jean NEG.have.3SG never  done-.F.SG
             'The stupid things that John has never done…'              *French*
             (adapted from Belletti 2006)

Standard Italian is similar, except that third person clitics trigger obligatory agreement, while *wh*-phrases never trigger PPA.

(39)  a.  **L**'ho         vist-**a**/*o.
             CL.F.SG-have.1.SG seen-F.SG/*M.SG
             'I have seen it.'
     b.  **Ci/vi**        ha      vist-**e/i/o**.
             CL.1.PL/CL.2.PL has.3.SG seen.-F.PL/M.PL/M.SG
             'He has seen us/you (pl)'
     c.  **Quanti**     **libri**      hai      lett-**o**/*i?
             how.many.M.PL books.M.PL have.2.SG read-M.SG/*M.PL
             'How many books have you read?'           *Standard Italian*
             (Belletti 2006)

This sort of PPA does not appear to be licensed in Mainland Scandinavian. Per Holmberg's Generalization, object pronouns can't move across the participle in transitive clauses, and PPA is not reported to be possible with *wh*-movement.[22]

---

[21]A caveat is necessary: as Belletti (2006: fn. 4) and others have pointed out, normative grammars indicate that PPA is obligatory for both clitics and *wh*-phrases. Whether this prescriptive indication reflects the grammar of actual speakers is unclear, however, especially given the widespread report in the literature (see e.g., Obenauer 1992, 1994; Déprez 1998; Belletti 2006) that the presence or absence of agreement has a semantic correlate in the case of *wh*-movement (see also fn. 26). I will therefore not attempt to analyze such cases beyond the discussion in fn. 24.

[22]Additional complications make this difficult to independently verify. In Swedish and some dialects of Norwegian, there are two forms for the participle: (i) the passive participle, which appears in passives, and (ii) the *supine*, which appears in the perfect. Only the passive participle inflects for number and gender, making it impossible to

To account for these data, recall from Section 2.2.2.1 that A′-movement, which by hypothesis involves internal merge, is also a feature-triggered operation. It follows that all heads whose specifiers are intermediate and final landing sites for A′-movement must be endowed with merge features to attract the closest relevant phrase, if there is one.[23] I adopt the well-supported proposal that transitive $v$ is an intermediate landing site for A′-movement (McDaniel 1989; Fox 1999; McCloskey 2000; Chomsky 2000; Gračanin 2004), entailing the existence of these features here as well.

With this in mind, I now show how the present analysis treats these cases of PPA, beginning with the cases of *wh*-movement. For the sake of discussion, let's focus on the French pair in (40).

(40)    a.  Jean n'a          jamais fait        ces   sottises.
            Jean NEG.have.3.SG never   done.M.SG these silly things
        b.  Les sottises      [que Jean n'a             jamais fait(es)]          …
            the silly things that  Jean NEG.have.3.SG never   done.M.SG/F.PL
            'The silly things that Jean has never done …'

Granting that *wh*-movement is triggered by a [●*wh*●]-feature, the derivation of (40a) and its counterpart in (40b) differ in that a [●*wh*●]-feature on $v$ in the latter but not the former attracts the IA to Spec($v$P). I argue that the extra degree of freedom afforded by applying this additional merge operation licenses the type of PPA we observe in such cases.

To this end, consider the stage of the derivation of (40b) where $v$ has just been merged in the structure. The three derivational options possible in the case of simple transitive clauses are also possible here: (i) discharge the merge operation at $v$ to introduce the EA; (ii) discharge the merge operation at $v$ to attract the IA; (iii) discharge the agreement operation at $v$ to agree with the IA. As in the transitive case, options (ii) and (iii) are equivalent and result in agreement with the IA and its displacement to Spec($v$P). Both options are ruled out on semantic/$\theta$-theoretic grounds, by the same logic as with simple transitive clauses. It follows that only option (i) is licit here.

In addition to these operations, however, we also have the option of discharging the [●*wh*●] feature on $v$ and attracting the IA. Let's see what happens if we take this option. According to *Feature Maximality*, we must ask which of the operations associated with $v$ can be discharged by the IA, then discharge them all as well. To this end, recall that $v$ has at least the features [●D●], [●*wh*●], [$\varphi$:_]. Assume for now that the IA can't discharge both merge features simultaneously (I derive this assumption from independent principles below). It follows that discharge of [$\varphi$:_] is the only other available option, and hence must be taken, by *Feature Maximality*. It follows

_____

test whether *wh*-movement can trigger PPA in these dialects. In passive/unaccusative clauses, A-movement of the internal argument triggers PPA, so we would need to test whether *wh*-movement of an *in situ* internal argument triggers PPA. But PPA is independently ruled out here in French by the definiteness effect (see fn. 26), so we have no reason to expect it to be possible in MSc. Likewise, while *wh*-phrases in transitive object position might be expected to trigger PPA, transitive participles are invariant. The only cases where we might expect to find PPA, then, is with *wh*-movement in those dialects with a transitive participle that can be inflected. These dialects are less common, and to the best of my knowledge this is not possible, although I have no data on the matter.

[23]As discussed in Section 2.2.2.1, we need to ensure that the presence of these features does not give rise to the incorrect prediction that A′-type elements can be externally merged in A′-positions. In Chapter 5, I develop a formalization of the feature-driven system of merge employed in this chapter that correctly captures this effect, namely by positing that a merge feature may trigger external merge if and only if it is associated with an A-position. As discussed in Section 2.2.2.1, we could also presumably assume that A′-merge features are only present when necessary to facilitate movement that is required for interface legibility, as in the theory of Chomsky (2001) and McCloskey (2000). I will not speculate on this issue further in this Chapter. I simply assume that the relevant A′-features are present when necessary, and ignore the option of external merge in these positions.

that A′-movement of the object to Spec($v$P) is accompanied by obligatory $\varphi$-*Agree*, triggering PPA. The EA can then be merged, exhausting [●D●] and trigger Case valuation on the IA. The derivation converges, yielding the variant of (40b) with agreement.

(41)     Move/$\varphi$-*Agree* IA; *Merge* EA; assign case; ✓ PPA:

$$[_{vP} \text{ EA } [_{vP} \text{ IA}_{\text{WH}} \ [_{vP} \ v \ [_{VP} \text{ V } \text{IA}_{\text{WH}}]]]]$$

Case valuation          $\varphi$-*Agree*
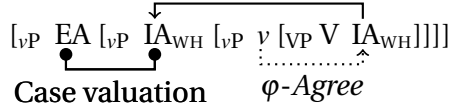
Alternatively, suppose that upon merging $v$ we decide to first merge the EA, discharging [●D●]. The IA will then be assigned dependent case, rendering it inaccessible to $\varphi$-*Agree*. When the IA is subsequently attracted to Spec($v$P) to discharge the [●$wh$●] feature, this operation will not extend to the discharge of [$\varphi$:_], so A′-movement will not be accompanied by $\varphi$-*Agree*. This derives the version of (40b) without PPA. Finally, the option where we chose to discharge [●D●] first by attracting the IA is blocked on the same lines as in the simple transitive case (see (19)).

(42)     *Merge* EA; assign case; Move IA; ✗ PPA:

$$[_{vP} \text{ IA}_{\text{WH}} \ [_{vP} \text{ EA } [_{vP} \ v \ [_{VP} \text{ V } \text{IA}_{\text{WH}}]]]]$$

Case valuation
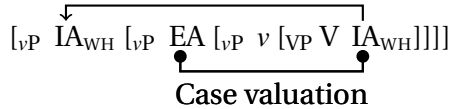
It follows that we correctly predict the optional nature of PPA with French *wh*-objects.

The analysis of PPA with clitics is similar. I assume, following the analysis of Sportiche (1996), that object clitic fronting is driven by a dedicated clitic projection in TP domain that attracts a pronoun merged in direct object position. We can reprise this analysis in present terms by postulating the existence of a special feature, call it [●cl●], which attracts the closest object clitic in its domain. This feature is then present on whatever head in the TP domain clitics ultimately end up at, as well as on all obligatory intermediate landing sites along the way, which in our case includes $v$ (see Wurmrband 2015 for a modern elaboration of an analysis on these basic terms). The derivation of optional PPA with French direct object clitics then proceeds as in the case of *wh*-movement.

At the stage where $v$ has just been merged, there are two viable derivational options: (i) discharge the [●cl●] feature on $v$ and attract the object clitic; (ii) discharge the [●D●] feature on $v$ and merge the EA. Option (i) yields PPA, as above: *Feature Maximality* dictates that [$\varphi$:_] must be simultaneously discharged, triggering PPA. The EA then merges, exhausting [●D●] and trigger Case valuation on the clitic.

(43)     Move/$\varphi$-*Agree* IA; *Merge* EA; assign case; ✓ PPA:

$$[_{vP} \text{ EA } [_{vP} \text{ IA}_{\text{CL}} \ [_{vP} \ v \ [_{VP} \text{ V } \text{IA}_{\text{CL}}]]]]$$

Case valuation          $\varphi$-*Agree*
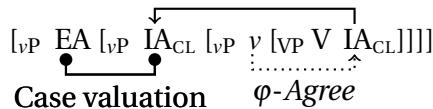
Option (ii) yields an absence of PPA. As soon as the EA is merged, the object clitic is valued with dependent Case, rendering it inaccessible to $\varphi$-*Agree*. The subsequent discharge of [●cl●] will then not extend to the discharge of [$\varphi$:_], so movement will not be accompanied by $\varphi$-*Agree*.

(44)     *Merge* EA; assign case; Move IA; ✗ PPA:

$$[_{vP} \text{ IA}_{\text{CL}} \ [_{vP} \text{ EA } [_{vP} \ v \ [_{VP} \text{ V } \text{IA}_{\text{CL}}]]]]$$

Case valuation
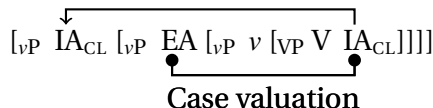
PPA is therefore licensed in these cases exactly because clitics and *wh*-phrases have an additional operation available to them: movement to Spec(*v*P) triggered by [●cl/*wh*●] features. This movement is independently necessary, given that transitive *v* is an intermediate landing site for movement across it, and provides an additional means of satisfying feature maximality while agreeing with the IA. Agreement with the IA therefore need not exhaust the feature responsible for merging the EA. Alternatively, the EA can be merged before agreement/movement of the IA to satisfy [●cl/*wh*●], in which case Dependent Case is valued on the IA and PPA correspondingly does not take place.

Because both these derivations are possible, the upshot is that optionality of PPA with object *wh*-phrases and clitics is a feature of the present account that follows directly from our framework assumptions. In French, this conforms with the facts, corroborating the analysis.[24] In Standard Italian, however, the pattern of total optionality breaks down, so more needs to be said. As documented in (39), the breakdown happens in two independent places: (i) PPA is not licensed with *wh*-phrases; (ii) PPA is obligatory with 3rd person clitics.

I consider breakdown (i) first. Following a suggestion by Nico Baier (p.c.), this can be analyzed as an instance of *anti-agreement* (Ouhalla 1993). This terms refers to a phenomenon whereby the overt realization of $\varphi$-agreement with a given DP varies according to whether that DP bears A′-features or not. Crucially, in languages showing such behavior, the manifestation of agreement in the case where the DP bears A′-features is always less specific/more impoverished than when in the case where it does not, even holding all other factors such as grammatical role and syntactic position constant. Perhaps the best known instance of this pattern comes from the Berber family. For example, in Tarifit, verbs usually agree in person, number and gender with their subjects. But if the subject bears *wh*-features, agreement is impossible, as illustrated in (45).

(45)  **man   tamghart** ay **yzrin**/\*t-zra        Mohand.
      which woman    C  see.ptcp/3.F.SG-see Mohand
      'Which woman saw Mohand.'                                          *Tarifit (Berber)*
      (Ouhalla 1993: 479)

Baier (2018) argues at length that this is ultimately a morphological rather than a syntactic phenomenon, and it best explained in terms of the independently motivated morphological operation *impoverishment* (Halle 1990; Halle and Marantz 1993). In short, he posits that in some cases the spell-out of $\varphi$-features on a given head is subject to the rule in (46), which deletes the $\varphi$-features from a feature bundle when that bundle also contains an A′-feature.

(46)  **Impoverishment of $\varphi$-features in the context of an A′-feature**:
      $[\varphi] \rightarrow \emptyset \ / \ [\_\_, A']$

Baier (2018) documents instances of this phenomenon in 63 genetically and geographically diverse languages, showing that it is both widespread and common. In the present context, (46) suggests a straightforward explanation of the impossibility in Italian of PPA with *wh*-objects. Let's suppose that PPA in such cases takes place as predicted by our system, just as in French. Unlike in French, however, the overt manifestation of this agreement is blocked because the spell out rule for $\varphi$-features on Italian participles is superseded by (46).

---

[24] As mentioned in fn. 21, its unclear that the prescriptive mandate that PPA is obligatory with French clitics and *wh*-phrases actually reflects the grammar of speakers. If it does, it can at least be encoded in the present system if we introduce an ordering on the operations at *v* such that external-argument introduction must follow all A′-movement. See Müller (2010) for an attempt to derive just such an ordering from independent principles.

While this approach is somewhat difficult to independently corroborate – its only prediction is what we set out to derive: that the overt manifestation of otherwise expected $\varphi$-agreement on Italian participles is blocked just in case the agreement target has A′-features – it provides a principled analysis in terms of a cross-linguistically widespread and common operation of an otherwise unexplained (on any theory, as far as I know) difference between French and Italian. This explanation, moreover, is fully compatible with the present account of PPA in general.

The sole remaining unexplained data point, then, is the one summarized in (ii) above: PPA in Italian is obligatory with third person clitics. Assuming this behavior has a syntactic, and not a morphological, origin, it is equivalent to requiring that third person clitics obligatorily move to Spec($v$P) prior to merger of the external argument, as in (43). In other words, the otherwise licit derivation where EA is merged first, as in (44), must be blocked. As it stands, I see no way of forcing this without enriching our hypotheses, so I will have to leave this as an open question

A final comment is in order concerning an as of yet unmotivated assumption invoked in the derivations above. Recall that it was crucial to the analysis of PPA with clitics and *wh*-phrases that the IA can't simultaneously discharge both [●D●] and [●wh●] on $v$. If this were possible, then in a derivation like (43), movement of IA to Spec($v$P) prior to EA merger would exhaust the feature needed to introduce EA, leading to an uninterpretable structure. I now show that this assumption follows without further stipulation from the conception of features and syntactic operations that we have been implicitly relying on all along.

To this end, it's crucial to recall the role that features play in our system: they are a notational aid representing instructions to carry out discrete derivational operations at a given head; they crucially are not representational constraints on the final output. Thus a [●X●] feature on head $H$ encodes an instruction to carry out a merge operation at $H$ with a YP bearing property X, not a requirement that at the end of the derivation $H$ must have a YP with property X (or its trace) in its specifier. The assumption that one merge operation can't discharge two features therefore follows, as merge features are instructions to carry out operations. Two merge features thus call for two merge operations, even if the target of the first merge operation has the property demanded by the second merge operation. In this way, the relevant assumption reduces to the hypothesis, implicit in the discussion so far., that the our framework is strongly derivational, as encoded below.

(47)    Each feature encodes an instruction to carry out one and only one syntactic operation.[25]


### 2.3.4 Summary

Let's review where things stand at this point. I have proposed that the interaction between agreement and movement is governed by the economy constraint *Feature Maximality*, which dictates that if two syntactic objects enter into a syntactic relationship, this relationship must be as general as possible. The pertinent consequence is that agreement at head H triggers movement if and only if H has an independent, unsatisfied need to project a specifier. When combined with

---

[25]Note that this does not block a single ZP from be the target of multiple operations at a given head, as long as these operations may be enacted in a discrete sequence such that the conditions on the operation at each step are met. Thus a ZP may be the target of both an agreement and a merge operation at head $H$, since the output of agreement between $H$ and ZP meets the conditions on merge of $H$ and ZP. Likewise, multiple agreement relations originating at $H$ may target the same ZP, provided the conditions on the application of each of them is met. *Feature Maximality* therefore still applies as before. However, because internal merge is, by hypothesis, subject to locality, once ZP has been merged at $H$, it no longer qualifies as a target for merge at $H$. This rules out a derivation where ZP is merged to $H$ per one obligatory operation, then immediately remerged per another.

the Moravscik-Bobaljik-Preminger theory of Case, this is sufficient to capture the PPA data in languages where participle agreement is correlated with movement.

The analysis goes as follows. Beginning with transitive clauses, PPA is triggered by the head, *v*, that is also responsible for introducing the external argument. As such, *v* is associated both with a merge operation and an agree operation. It follows from *Feature Maximality* that if *v* enters into an agreement relationship with the IA before the EA is merged, then agreement must trigger movement, since IA is a licit target for the merge operation at *v*. In other words, PPA triggers movement. This movement operation, however, exhausts the merge operation at *v*, precluding the introduction of the EA. The resulting structure is therefore ill-formed, for interpretability/$\theta$-theoretic reasons. The only valid derivational option at *v* is therefore to exhaust its merge operation by introducing the EA. Doing so, however, triggers dependent Case valaution on the IA, thus rendering it inaccessible to $\varphi$-agreement and precluding PPA. We therefore correctly predict that PPA is impossible with *in situ* IAs.

If the IA is a clitic or *wh*-phrase, an additional derivational option becomes available. Because transitive *v* is an intermediate landing site for movement across it, by hypothesis it is also associated with additional merge operations for facilitating this intermediate movement. The presence of this extra merge operation means that *v* can agree with and attract the IA to its specifier without exhausting its ability to introduce the EA. *Feature Maximality* predicts that agreement at *v* with the IA should trigger movement, just as in the case described in the last paragraph, but in this case this movement is licit, as it does not block the introduction of the EA.[26] As such, we correctly predict that PPA should be possible with the IA when it is a clitic/*wh*-phrase. Alternatively, we also always have the option in such cases of introducing the EA first, in which case dependent Case valuation is triggered on the IA. The subsequent movement of IA to Spec(*v*P) will therefore fail to trigger PPA, as the IA is not an accessible target.

The present account therefore offers the following answer to the essential challenge raised by PPA on the agreement at a distance model. The Spec-Head behavior of PPA in the cases we have so far considered arises as a side effect of the complex interaction between Case, argument/expletive insertion, and agreement in the *v*P domain. PPA is essentially different from TP-domain agreement – which more transparently exhibits the at-a-distance property – because it is triggered at a head that is also responsible for introducing syntactic (and semantic) arguments, and is thus more deeply intertwined with the calculus of case and predicate saturation. Agreement at *v* thus interacts with these processes directly, whereas agreement triggered by higher heads merely accesses the output of this process, rather than directly taking part in it. The theory therefore captures why PPA is contingent, in many cases, on movement while maintaining the at a distance nature of agreement.

### 2.4 PPA *in situ*

Movement-based PPA, of course, is only part of the cross-linguistic PPA paradigm we set out to explain. It remains to be seen how the present account deals with the PPA *in situ* data. It is to

---

[26]Otherwise impossible PPA with an *in situ* IA is not licensed by A′-movement or object cliticization in passive/unaccusative clauses. In particular, to force the IA to remain *in situ* in such cases, an expletive must be merged higher in the structure. The definiteness effect associated with expletives therefore rules out pronominal IAs, blocking clitic movement across the participle. Likewise, with *wh*-objects, PPA is associated with a specificity effect, so that those *wh*-phrases that trigger PPA must be interpreted as specific (Déprez 1998). They are therefore barred from appearing with expletives. It follows that the specific pattern addressed here, where otherwise impossible PPA with an *in situ* IA is licensed via clitic or *wh*-movement, does not arise in passive/unaccusative clauses. The analysis therefore does not require us to postulate [•A′•] features on Romance passive/unaccusative *v*, which is consistent with them not being phase heads.

adressing this issue that I turn my attention in this section. As has already been mentioned, my main proposal here is that the difference between PPA *in situ* languages and movement-based PPA languages can be accounted in terms of a single, independently needed parameter: whether DPs valued with dependent Case are accessible to agreement.

### 2.4.1 The Dependent Case accessibility parameter

Recall from Section 2.2.2.3 that we have adopted the Moravscik-Bobaljik-Preminger treatment of Case and agreement, which comprises three crucial hypotheses: (i) that Case features are valued configurationally; (ii) that $\varphi$-*Agree* is sensitive to the case on the target DP; (iii) that languages vary in which DPs they make accessible to $\varphi$-*Agree*, according to the implicational hierarchy in (14):

(14)  **Case Accessibility**:
      Accessibility to *Agree* is determined according to the *Revised Moravcsik Hierarchy*:
      *unvalued case* » *dependent case* » *lexical/oblique* case

We've already seen the basic action of hypotheses (i) and (ii), so I'd like to take a moment to explore and justify hypothesis (iii). Following Bobaljik, the Indo-Aryan languages present an especially clear demonstration that closely related languages can differ according to which DPs they make accessible, so I present data from Hindi-Urdu and Nepali. Note that both languages exhibit an ergative/absolutive case alignment in the relevant examples, where it is the higher, not the lower, of two DPs in a given domain that receives dependent case. Accordingly, it is the ergative subject, not the lower object, that bears dependent case. [27] I consider a simple transitive clause in both languages, and assume that verb agreement is licensed by an agreement probe at T (Bobaljik 2008). Crucially, this means that the subject is a closer potential target for agreement than the object. In Hindi-Urdu, agreement is nevertheless obligatorily with the object, which is unvalued for Case, not the subject, which is valued with Dependent Case (see (48a)). Following Bobaljik, this entails that Hindi-Urdu does not make DPs valued with Dependent Case accessible for agreement. Conversely, in Nepali transitive clauses, agreement is with the subject (see (48b)), which is valued with Dependent Case.[28] The conclusion is that Nepali licenses agreement with both DPs bearing unvalued Case features and DPs valued for Dependent Case.

(48)  a.  Myn-ne       iss       dukaan mein  **akhbaar         khareeda    tha**
          me-ERG.M DEM.OBL store   in    **newspaper.NOM buy.PERF.M be.PST.M.SG**
          'I bought the newspaper in this store'                                    *Hindi-Urdu*
          (Maria Abbasi, p.c.)
      b.  **Maile**      yas       pasal-mā patrikā      **kin-ē**
          **1.SG.ERG** DEM.OBL store-LOC newspaper.NOM **buy.PST-1SG**

---

[27] An anonymous reviewer raises the interesting question of whether we should ever expect to see PPA-type behavior in languages with an ergative-absolutive case system. In short, we do not, as the competition between merging the external argument and agreeing with the internal argument does not arise in these languages. Recall from fn. 10 that in ergatigve-absolutive systems, the Case feature is valued on the higher DP in a Case assignment configuration, not the lower DP. As such, when EA is merged in the structure, its Case feauture is valued and IA's feature remains unvalued. IA will thus always be accessible for agreement, whether or not it moves. We therefore never expect to see the sort of movement-dependence that arises in nominative-accusative languages, but rather just straightforward agreement with the internal, unvalued-for-Case argument. As Bobaljik (2008) documents, this is indeed the pattern attested in ergative-absolutive languages. In this way, ergative-absolutive languages behave similarly to cases of PPA in the presence of oblique expletives, discussed in the next section.

[28] As Bobaljik shows, the crucial factor here is Case, not grammatical role *per se*. Thus in Hindi-Urdu, agreement is licensed with unergative subjects, which have unvalued Case features.

'I bought the newspaper in this store.'                                  *Nepali*
(Bobaljik 2008: 309f.)

These examples teach us that closely related languages differ in terms of the Case features they make available to agreement, thus providing independent support for the universal parameter suggested in hypothesis (iii).

### 2.4.2   Capturing PPA *in situ*

Returning to PPA, our discussion in the previous subsection immediately suggests a parsimonious analysis of the observed cross-linguistic variation documented in the introduction. In particular, my proposal is that the difference between PPA *in situ* languages and movement-based PPA languages boils down to a single parameter: whether DPs with dependent Case are accessible to agreement.

(49)    **Case Accessibility** (PPA *in situ* languages):
        In PPA *in situ* languages, dependent case is accessible to $\varphi$-*Agree*

I show first how this captures the relevant data, then take up the question of motivating (49). Let's review the core data. PPA *in situ* appears to have been the default pattern in proto-Romance (Loporcaro 2016), and is preserved in a number of modern Romance varieties. According to Loporcaro (2016), at least the following languages can be counted among this set: Neapolitan (50a), pre-19th-century Italian (50b), some dialects of Occitan (50c), some dialects of Gascon (50d), and some dialects of Catalan (50e). In these varieties, PPA is crucially possible with the *in situ* object of a transitive clause.

(50)    a.   addʒə     kɔttə      a         pastə
             have.1.SG cook.PTCP.F the.F.SG pasta.F.SG
             'I've cooked the pasta'                                      *Neapolitan*
             (Loporcaro 2016: 806)
        b.   Maria ha  conosciute le   ragazze.
             Maria has known.F.PL  the girls.F.PL
             'Maria has known the girls.'                        *Pre-19th Century Italian*
             (Belletti 2006: 502)
        c.   Abiò      pla dubertos    sas       dos aurelhos.
             had.3.SG  very opened.F.PL his.F.PL two ears.F.PL
             'He had well opened both ears.'                             *Occitan*
             (Loporcaro 2016: 808)
        d.   Oun    ass      icados     éras     culhéros?
             where  have.2.SG place.F.PL the.F.PL spoons.F.PL
             'Where did you put the spoons?'                             *Gascon*
             (Loporcaro 2016: 808)
        e.   He         trobats     els        amics.
             have.1.SG  found.M.PL  the.M.PL  friends.M.PL
             'I have found the friends.'                                 *Catalan*
             (Loporcaro 2016: 808)

My proposal can then be summarized in terms of the revised Moravcsik hierarchy as follows:

(51)   <u>unmarked case</u> $\gg$ dependent case $\gg$ oblique case

      French, St. Italian, MSc

             Neapolitan, Occitan, Gascon, Catalan, …

To see how PPA *in situ* is captured, recall that PPA is blocked in movement-based PPA languages exactly when an external argument or expletive is merged in Spec($v$P), triggering dependent Case on the associate and rendering it inaccessible to agreement. If, however, dependent Case is accessible to agreement, it should be possible for $\varphi$-*Agree* to target an internal argument even after the external argument has been merged, so PPA should never be blocked for case reasons. We therefore correctly predict PPA to be obligatory with *in situ* objects.

(52)   *Merge* EA ([●D●]); Case assignment; $\varphi$-*Agree* ([$\varphi$:_]), ✓ PPA:

       **Case Valuation**

    $[_{vP}$ EA $[_{vP}\ v\ [\dots [_{VP}$ V IA$]]]]$
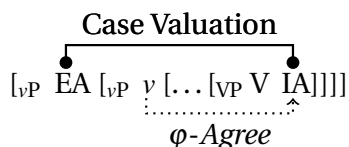
            $\varphi$-*Agree*

It follows that the difference between PPA *in situ* and movement-based PPA languages can be reduced to a single independently needed parameter, whether or not dependent case is accessible to agreement, thus satisfying the first half of the second desiderata set out in the introduction. In addition to parsimoniously explaining the cross-linguistic variation in PPA, the hypothesis in (49) is also conceptually well-motivated. We know from Bobaljik's work in general and from the specific Indo-Aryan examples that it is a typological fact that closely related languages vary in which DPs they make accessible to agreement. Positing that this variation exists in Romance is therefore the null hypothesis: independent evidence would be needed to motivate the assumption that the Romance languages fail to exhibit the variation.[29]

Before moving on, an anonymous reviewer raises an important question that is worth addressing here: does system incorrectly predict that T might trigger *Agree* with a transitive IA in languages that make dependent Case accessible for agreement? As long as the EA is accessible for agreement, however, this is not a problem. When T is merged in a transitive clause, the EA structurally intervenes between it and the IA. As such, as long as the EA is a licit target for agreement, basic concerns of locality dictate that it will always be the phrase targeted. That said, if the EA is not accessible, either because it bears lexical/oblique Case or does not have the relevant features the probe on T is looking for, we do indeed predict that agreement could obtain with the IA. Both of these scenarios are arguably borne out cross-linguistically. Thus in Icelandic quirky subject constructions, where the subject is valued with lexical dative case by $v$, agreement at T does indeed obtain with the IA.

---

[29]The question does remain as to whether additional empirical evidence independent of PPA can be brought to bear on this issue. Unfortunately, the answer appears to be no. To see why, consider what such evidence would look like. Clausal agreement in Romance is generally triggered at $v$ (PPA) and T (main verb/auxiliary agreement), so PPA-independent evidence must involve agreement at $T$. This requires a configuration where an internal argument with Dependent Case is structurally accessible to agreement at T, so that we could check if agreement is possible or not. Such a configuration could, in turn, arise in one of two ways: (i) there either must be no external argument or expletive, since such an argument would be closer to T and hence take precedence for agreement, or (ii) the external argument or expletive must not itself be a licit agreement target. In case (i), the absence of a higher argument entails that no Dependent Case assignment takes place, so this is not a viable test configuration. Case (ii) is arguably attested with quirky subjects and with certain locative expletives, as we will see in the next subsection. The issue is that DPs of this sort generally do not induce Dependent Case (Bobaljik 2008; Preminger 2014), so that again this is not a possible test case. Barring a more complicated way of empirically corroborating (49) that is independent of PPA, we will therefore have to rely on the conceptual and typological arguments.

(53)     Jóni     líkuðu     þessir     sokkar
         Jon.DAT liked.PL these.NOM socks.NOM
         'Jon liked these socks'
         (Jónsson 1996)

The derivation proceeds as follows: the EA is merged in Spec(*v*P) and assigned lexical dative case; once T is merged, its [●D●] feature attracts the EA to Spec(TP); however, since the EA is not accessible to agreement, [*φ*:_] on T is not discharged and hence may target the IA. Following Preminger (2014), we can rule out a derivation where T agrees with the IA before attracting the EA – and hence by FM is forced to attract the IA to Spec(TP) – on the assumption that quirky subjects intervene for agreement and hence must be moved to Spec(TP) before T can agree with the IA. I present an example instantiating the second case in Section 2.5.2, where I discuss the Italo-Romance variety Abruzzese.

Finally, to conclude this section, it's worth asking whether there are any Mainland Scandinavian languages that pattern similarly in making dependent case accessible to agreement, and hence licensing PPA *in situ*. To the best of my knowledge, this has not been reported in the literature except for a footnote in Holmberg's (2001: fn. 12) study of associate positions in Germanic expletive constructions. Here, it is observed that there are speakers of Swedish and Western Norwegian for whom PPA is possible as a marked alternative for *in situ* objects of passive predicates with an expletive *det* subject.

(54)     %Det blev skrivna tre böcker.
         EXPL was written.PL three books
         'There were three books written.'                              *Swedish*

This is certainly promising, although I must leave a full investigation to future research.

## 2.5   Additional Predictions

We now have in place a formalized version of the account that captures the core data set out in the introduction. The account also makes several predictions concerning the cross-linguistic manifestation of PPA in contexts beyond those we have so far considered. This section is devoted to outlining these predictions and showing that they are, by and large, borne out.

### 2.5.1   PPA *in situ* in movement-based PPA languages

To this end, I begin with a prediction concerning the manifestation of PPA in movement-based languages. Recall that these languages do not allow agreement to target DPs bearing dependent Case, by hypothesis. As such, PPA must take place before the EA is merged and triggers dependent Case valuation on the IA. However, if agreement takes place before the introduction of the EA, it must trigger movement, thus capturing the fact that *in situ* IAs do not trigger PPA. This logic crucially hinges on the assumption that the EA triggers dependent Case valuation on the IA, which follows from the Case valuation algorithm described in (10), repeated below.

(10)   **Case valuation procedures**:
       a.   <u>Lexical/Oblique</u>: Given the configuration [H DP] or [$_{HP}$ DP [H …]], where H is a lexical case assigner, value the case feature on DP to *lexical/oblique*
       b.   <u>Dependent Case</u> (*nominative*): Given the configuration [DP$_1$ [… […DP$_2$…]]], where the Case features on DP$_1$ and DP$_2$ are unvalued, value the Case feature on DP$_2$ to *de-*

*pendent*

Following (10b), dependent Case is valued on a DP at the instant a locally c-commanding DP is merged above it in the structure. We are therefore lead to the following prediction: if the XP merged in Spec(*v*P) does not trigger Case valuation, then PPA should be possible with an *in situ* internal argument even in movement-based PPA languages. I now argue that this prediction is borne out in all of the main movement-based PPA languages considered here: French, Standard Italian, and Mainland Scandinavian.

### 2.5.1.1   Mainland Scandinavian

I begin with Mainland Scandinavian. As first observed by Christensen and Taraldsen (1989), there are varities of Swedish and Norwegian that differ from the ones considered so far in having a second expletive in addition to the third singular neuter expletive, *det*, that we have encountered so far. This additional expletive is the distal locative proform *der*, cognate to English *there*. As Christensen and Taraldsen (1989) point out, examples with *der* differ from their counterparts with *det* in that PPA is licensed with an *in situ* object in the presence of the former but not the latter:

(55)  a.  **Det** vart skote-**(*n)**       **ein**     **elg**
          it    was shot.N.SG/*M.SG an.M.SG elk.M.SG

      b.  **Der**  vart skot**en**    **ein**   **elg**
          there was shot.M.SG an.M.SG elk.M.SG
          'There was an elk shot'
          (Åfarli 2008: 171)

(56)  a.  **Det** er nett kom-**e/*ne**        **nokre gjester**
          it    is just come.N.SG/*M.SG some  guests.PL

      b.  **Der**  er nett kom-**ne/*e**      **nokre gjester**
          there is just come.PL/*N.SG some  guests.PL
          'There have just arrived some guests.'
          (Christensen & Taraldsen 1989: 58)

As before, let us adopt the null hypothesis that expletive pronouns maintain the formal syntactic properties of their non-expletive variants. As a locative proform, *der* is therefore lexically oblique. This means that it can't trigger agreement – by hypothesis Mainland Scandinavian only licenses agreement with unvalued case. Crucially, however, this also means that it does not trigger dependent Case valuation on the IA. To see why, recall from (10b) that in order for a DP to trigger dependent Case valuation on a lower DP, it must itself have an unvalued Case feature. If, however, the higher DP is valued with lexical Case, it is predicted not to trigger default Case valuation. This is illustrated in the Icelandic quirky-subject example in (53), repeated below. Recall that Icelandic, the *v* head associated with certain verbs assigns lexical dative Case to its specifier; in such cases, the IA is exceptionally not valued with dependent Case, and hence surfaces with nominative.[30]

(53)  Jón**i**     líkuð-**u/*i**    [**þessir sokkar**].
      Jon.**DAT** liked.PL/*SG [these  socks].**NOM**

---

[30]In all other instances, Icelandic IAs surface with accusative morphological case, indicating that they are valued with dependent Case, as expected. See Section 2.2.2.3, Chapter 5.

'Jon liked the socks.' *Icelandic*
(Jónsson 1996: 149)

It follows that if expletive *der* has a lexically valued Case feature, it should fail to trigger dependent Case valuation. I return to the question of how the Case feature gets on *der* get valued with lexical in the next Chapter, for now simply taking it as given.[31] Because Mainland Scandinavian lacks *φ-Agree* at T, it is hard to independently verify the first assertion, although the locative expletives in closely related English and Dutch clearly do not trigger agreement, which is always with the associate.

(57)  a.  There were/*was three men arrested.
      b.  Er    zijn          enkele mensen   onverdragelijk.
          EXPL be.PRES.3.PL some   person.PL intolerable
          'There are intolerable people.' *Dutch*
          (Hoekstra 1991)

Likewise, as with the third singular neuter expletives we have encountered elsewhere, it is difficult to independently probe the case properties of expletive pronouns, since they can't readily co-occur with lower pronouns per the definiteness effect (Milsark 1974). That said, to the extent that pronouns can appear in this context, the locative expletive in Dutch fails to trigger dependent Case, as the pronoun must surface in the nominative form.[32]

(58)  Er    is       alleen ik      in de  tuin.
      EXPL be.3.SG only   **1.SG.NOM** in the garden
      'There is only me in the garden.' *Dutch*
      (Hedde Zeijlstra, p.c.)

I substantiate these assumptions concerning expletive *there* further in Chapter 3. Granting for now that this treatment is on the right track, the contrast in (55) and (56) follows immediately and confirms the basic prediction. Since *der* does not trigger dependent Case valuation on the IA, we can both insert an expletive in Spec(*v*P) and subsequently trigger agreement with the IA. PPA is therefore correctly predicted to be obligatory with *der* expletives.

(59)  *Merge* EXPL; no Case assignment; *φ-Agree* obligatory; ✓ PPA:
      [*v*P  EXPL [*v*P  *v* [VP V  IA]]]
                       *φ-Agree*

The prediction highlighted at the outset of this section is therefore borne out.

### 2.5.1.2  Standard Italian

Let's turn now to Standard Italian. As is well known, PPA is obligatory with all *in situ* objects of passive and unaccusative predicates.

(60)  a.  Sono entrat-**i/*o**         **due ladri**  dalla     finestra.
          are.PL entered-M.PL/*M.SG two robbers from the window
          'Two robbers entered from the window'

---

[31]Again, this is equivalent to the widespread assumption on the Uninterpretable Features model that *there*-expletives lack Case and *φ*-features, as proposed by Chomsky (1995).

[32]As the gloss indicates, English patterns differently in this regard. That said, I argue in Chapter 3 that accusative pronouns can sometimes be used to spell out unvalued Case, so that these data are not problematic.

b. Sono stati     arrestat-**i/\*o**    **alcuni**    **sindaci**
are.PL been.M.PL arrested.M.PL/\*SG some.M.PL mayors.M.PL
'Some mayors were arrested'

Setting aside the PPA for the moment, I would like to focus momentarily on two independent aspects of (60) that will be important for the eventual analysis. First, the data in (60) differ from all examples that we have considered so far in that there is no overt expletive higher in the structure. This is related to Standard Italian's status as a null-subject language, and can be encoded in the present system in one of two ways. First, we can assume that [●D●] is optional on T and $v$ in Italian; in cases like (60), it is absent, and Spec($v$P) and Spec(TP) are empty, whereas in cases of full object promotion (see (33)), it is present and IA moves to Spec(TP). Second, we can assume that Italian T and $v$ have [●D●], like their counterparts in French and MSc, but that Italian has a null expletive. I will not attempt to chose among these alternatives here, as it is immaterial to the analysis, although I do provide an argument in the appendix in support of the existence of null expletives in Italian, due to Sheehan 2010.

Second, *in situ* objects of passives and unaccusatives in Italian obligatorily trigger agreement at T, as in (60). Such objects are thus licit targets for *Agree*, which means they must be unvalued for case – by hypothesis, only unvalued case is accessible for agreement in Italian. Granting that Italian has a null expletive, we can conclude that this expletive is not a case competitor, i.e., that it is a *there*-type rather than an *it*-type expletive, an observation that goes back at least to Rizzi (1982). Crucially, this conclusion is completely independent of PPA; it is forced, given our framework assumptions, purely on the basis of agreement at T.

If we assume that Italian has a null expletive, then we can conclude that $v$ has a [●D●] feature, which may be satisfied by merging the expletive.[33] Because the expletive is not a case competitor, it can be merged in Spec($v$P) without rending the internal argument inaccessible to *Agree*. The agreement operation associated with $v$ is therefore free to target the IA, so we correctly predict that Italian obligatorily shows PPA with *in situ* objects in passive and unaccusative clauses.

(61)     *Merge* EXPL; no Case assignment; $\varphi$-*Agree* obligatory; ✓ PPA:
       [$_{v\text{P}}$ pro$_{\text{EXPL}}$ [$_{v\text{P}}$ $v$ [$_{\text{VP}}$ V IA]]]
              $\varphi$-*Agree*
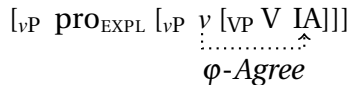
On this view, Italian passives/unaccusatives are directly analogous to the Norwegian example in (55) and (56): in both cases, a non-case-competing expletive is merged in Spec($v$P), so that PPA is obligatory with the therefore accessible internal argument. It just so happens that the expletive is overt in Norwegian and covert in Italian.

Alternatively, if Italian does not have a null expletive, then passive/unaccusative $v$ has a variant without a [●D●] feature. The [$\varphi$:_] must therefore be discharged via *Agree* with the object, and no movement ensues because $v$ has no feature to trigger it.

In either case, the basic prediction outlined at the outset of this section is borne out: PPA is possible with an *in situ* IA if and only if it is not valued with dependent Case, either by virtue of

---

[33]This raises a language acquisition question: how does a language learner determine the Case properties of a null expletive, an element with neither an LF nor a PF realization? If we assume that the EPP property is universally satisfied by DP-merger (e.g., Chomsky 1981), then the challenge does not necessarily seem harder than others. The existence of data like (60) immediately cue the learner that there is a null expletive in Italian. Recognizing that it is not a Case competitor is then akin to recognizing the overt fact that agreement at T is with the internal argument. The existence and Case properties of the expletive can hence be deduced from the overt distribution of the internal argument and of agreement. I thank an anonymous reviewer for bringing this to my attention.

their being a non-case-competitor merged in Spec(*v*P) or nothing merged here at all.

### 2.5.1.3 French

To argue that the prediction is also borne out in French, I consider the *Stylistic Inversion* construction on display in (62) and (63). Descriptively speaking, *Stylistic Inversion* (Kayne and Pollock 1978; Kayne and Pollock 2001) refers to the possibility for subjects of transitive and unergative verbs and internal arguments of passive and unaccusative verbs to appear in a non-canonical post-verbal position in subjunctive and interrogative contexts. This position is not ordinarily available for transitive/unergative subjects, as illustrated by the contrast between (62a), which involves stylistic inversion, and (62b), which does not. With passive/unaccusative predicates, stylistic inversion is unique in that the internal argument can appear post-verbally in the absence of an expletive, which as we have seen is otherwise obligatory if the internal argument is to appear post-verbally. This is illustrated by the contrast between (62a), which features stylistic inversion, and (62b), which does not. For the remainder of this section, we will be focused on the passive/unaccusative data, although I present the basic transitive/unergative pattern in (62) for the sake of completeness.[34]

(62) Transitive/unergative

    a. A qui    a    téléphoné **ton ami**?
       to whom has called    your friend

    b. *(**Ton ami**) a téléphoné (***ton ami**) a Jean (***ton ami**).        *French*
       (Kayne and Pollock 2001: 107f.)

(63) Passive/unaccusative

    a. Il faut    que **(il)** aient    été condamnés **au moin trois hommes**
       it requires that EXPL have.SBJ.PL been sentenced  at least  three
       'It's necessary that there have been least three men sentenced.'

    b. **\*(Il)** a    été condamné  **au moin trois hommes**
       EXPL has been condemned at least  three men    *French*

    While I do not have a proposal for why interrogative and subjunctive contexts license this behavior, there is evidence that in cases like (63a), the internal argument is at least optionally *in situ*. Specifically, at least some speakers allow *en*-cliticization of the NP component of the internal argument in these contexts (see also Kayne and Pollock 2001: 112, fn.9). This operation is generally limited to *in situ* internal arguments (Kayne 1975; Rizzi 1982; Kayne and Pollock 2001).

(64) a. %Il faut    qu'**en**$_1$    aient    été condamnés  au moins [**trois** $e_1$]
       it requires that-of them have.SBJ.PL been sentenced.PL at least  three
       'It's necessary that there have been at least three of them sentenced.'

    b. %Il faut    qu'**en**$_1$    aient    repeintes    au moins [**trois** $e_1$].
       it requires that-of them have.SBJ.PL repainted.PL at least  three
       'It's necessary that there have been at least three of them repainted.'

    Granting that French has [●D●] features at *v* and T, we are therefore led to the conclusion that

---

[34]As Kayne and Pollock 2001, who give an analysis of the transitive/unergative data acknowledge (p.112, fn.9), the passive/unaccusative examples likely represent a different phenomenon with a distinct derivation.

French licenses a null expletive in these cases.[35] Moreover it must be a non-agreeing and non-case-assigning expletive, as agreement at T is with the *in situ* internal argument. Such cases are thus exactly parallel to Italian passive/unaccusative clauses with *in situ* objects. We therefore predict that PPA should be obligatory here, as the expletive does not induce dependent Case valuation. We also predict that if we re-insert the overt case-assigning expletive, which is also licensed in all stylistic inversion contexts, PPA should become impossible again. Both predictions are borne out.[36]

(65) a. Où ont été exécute**s** **des innocents**?
where have.PL been executed.PL some innocents
'Where have there been some innocents executed?'
(Cardinaletti 1997: 521)

b. Où a-t-**il** été exécut(**\*es**) **des innocents**?
where have.SG-it been executed.(\*PL) some innocents
'Where have there been some innocents executed?'

(66) a. Il faut que aient été repeint**es** **trois chaises**.
it requires that have.SBJ.PL been repainted.PL three chairs
'It's necessary that there have been three chairs repainted.'

b. Il faut qu'**il** ait été repeint**\*(es)** **trois chaises**.
it requires that-it has.SBJ.SG been repainted.(\*PL) three chairs
'It's necessary that there have been three chairs repainted.'

(67) a. Il faut que soient mort**es** **trois sauterelles**.
it requires that are.SBJ.PL died.PL three grasshoppers
'It's necessary that three grasshoppers have died.'

b. Il faut qu'**il** soit mort(**\*es**) **trois sauterelles**.
it requires that-it is.SBJ.SG died.(\*PL) three grasshoppers
'It's necessary that three grasshoppers have died.'

While there remains the very important question of why subjunctive and interogative contexts are unique in licensing the null non-agreeing expletive in French (or alternatively in licensing a relaxing of the EPP; see fn. 35), these data are exactly predicted on the present account: in just those contexts where French shows Italian-type behavior with respect to agreement at T and null expletives, it too shows Italian-type behavior with respect to PPA. Once again, then, the prediction that dependent Case valuation is the essential factor in blocking PPA with *in situ* internal arguments is borne out.

Taking stock, we have now seen that Mainland Scandinavian, Standard Italian, and French all license exceptional PPA with *in situ* internal arguments just in case these arguments fail to have their Case feature valued. This corroborates the central hypothesis of this chapter, that PPA is blocked with *in situ* internal arguments exactly because they bear dependent Case.[37]

---

[35]As in Italian, the prediction concerning the presence of PPA in such cases is the same if we assume, alternatively, that French T and *v* optionally lack a [●D●] feature in such cases.

[36]Note that the agreement on the participle is not with *en*, which does not trigger PPA for the speakers who accept (64b,c). In general, PPA with *en* is a marked option that is impossible for most speakers (Belletti, 2006), including all those I have consulted.

[37] Standard Italian also licenses *in situ* PPA in reflexive and impersonal *si*-constructions, as in (ia).

### 2.5.2 PPA in Abruzzese

We have now seen how *Feature Maximality*, in conjunction with the Moravcsik-Bobaljik-Preminger theory of Case, captures the fact that PPA is movement-dependent in some but not all languages. One of the major upshots of the analysis is that the peculiar movement-dependence of PPA arises because a single head, *v*, is the locus for both PPA and EA/expletive merger. *Feature maximality* thus forces agreement at *v* to compete with the need to introduce an EA/expletive. In transitive clauses, the semantic requirement to saturate the *v*P with an argument always takes precedent, with the effect that agreement must be postponed until after the EA is merged and hence after dependent Case is valued on the IA. Unless dependent Case is accessible to agreement, however, the IA is therefore not a suitable agreement target and PPA is blocked. The introduction of an additional movement trigger at *v* relaxes the calculus and allows agreement with the IA before the EA is merged, explaining why PPA is possible under movement.

This leads to the prediction that if PPA in a given language were triggered by a head that was demonstrably distinct from *v*, it should show fundamentally different behavior than the languages analyzed so far, both with respect to movement dependence and the other properties discussed above. In this final section, I argue that Abruzzese is just such a language, and that its pattern of PPA is well predicted by the analysis so far developed, corroborating the overall approach.

The defining property that sets Abruzzese apart from the languages discussed so far is that it allows PPA to target transitive subjects, as in (68). This immediately forces the conclusion that the triggering head must be distinct from and above *v*, since by hypothesis agreement is only possible with phrases in the c-command domain of the agreement trigger (Chomsky 2000: 122), and the basic merge site of the subject is Spec(*v*P).[38] Below, I denote the head responsible for triggering PPA *F*.

(68)  **Giuwanne e Mmarije** a    pitt**i**te    nu mure.
      [John    and Mary].PL have.3 painted.PL a   wall.SG
      'John and Mary have painted a wall'                           *Abruzzese*
      (D'Alessandro & Roberts 2010)

So what exactly does the present account predict about such a language? I limit discussion

---

(i)  a.  Si sono viste   le       ragazze.          b.  Se   citesc  cărti         bune.
         SI are.PL seen.F.PL the.F.PL girls.F.PL          SI.ACC read.3.PL books.NOM.F.PL good.F.PL
         ' The girls have been seen.'    *St. Italian*          'People read good books.'    *Romanian*
         (D'Alessandro and Roberts 2008)                        (D'Alessandro 2007: 61)

These data pose no special challenge to our conclusions if we adopt the basic analysis developed by D'Alessandro (2007), which can be translated into present terms as follows: *si* clitics are merged above the internal argument and, in at least some cases, assigned lexical case. This both renders the clitic inaccessible to agreement and ensures that the internal argument's Case feature goes unvalued. This can be seen overtly in impersonal *si* constructions in Romanian, where the lexical case on *si* is spelled out as accusative (as in some Icelandic constructions, see Zaenen and Maling 1984) and the internal argument surfaces as nominative (see (ib)). Agreement at *v* and at T therefore targets the internal argument, thus deriving the obligatory PPA. Reflexive *si* constructions can presumably be handled the same way assuming, following Kayne (1989) and D'Alessandro and Roberts (2008), that they also involve a mediopassive structure.

[38]It's worth noting that this conclusion is not unique to our framework, but is required by any theory that postulates a downward-probing *Agree* operation, most notably the uninterpretable features model of Chomsky (2000, 2001) and the elaborations stemming from it. An important question is how such a treatment of *Agree* can be extended to account for the cases that motivated Béjar and Rezac (2009) to posit Cyclic-Agree. While a detailed exploration of this data is beyond the present scope, see Colley (2018) for an analysis of the relevant cases that is compatible with our assumptions.

to transitive clauses, because these are the only cases discussed by D'Alessandro and Roberts (2010). First, since the subject is closer to *F* than the object, we predict that the subject should trigger agreement whenever it is accessible. Granting that dependent case is accessible to agreement in Abruzzese (see fn. 40), we moreover predict that PPA should be allowed to target the object, but only if the subject is not an accessible target. PPA should, moreover, be obligatory unless both the subject and object are inaccessible targets. In sum, then, PPA in Abruzzese should show a preference to target subjects, with object agreement if and only if the subject is not an accessible agreement target, and no agreement if and only if both the subject and object are not accessible.

I argue now that these predictions are borne out. Demonstrating this requires being slightly more precise about the structure and nature of $\varphi$-features than we have been so far, so I begin by introducing the relevant elaboration of the theory of $\varphi$-features we have been working with. First, in the discussion thus far, it has been sufficient to assume that the *Agree* operation is sensitive to the full set of $\varphi$-features – person, number, and gender – on a given DP, and that it copies these features together in unison onto the triggering head. Cross-linguistic evidence (see, e.g., Nevins 2007, 2011; Preminger 2014; Coon and Bale 2014; Deal 2014; van Urk 2015; and references cited therein) strongly suggests, however, that in many cases the agreement operation can be sensitive to individual features or pairs of features, rather than the full set of person, number, and gender.

Second, we will need to be more precise about the actual values that $\varphi$-features may take. I focus on number features here, as they will be the most relevant for the ensuing discussion. The question, then, is how to best encode in the syntax the morphological fact that there are two possible number specifications, at least in the languages in question: singular and plural. One simple option is to posit that syntactic number features straightforwardly reflect the morphological realization, and hence take on a value of [+singular] or [+plural]. Considerable evidence has accumulated in both the morphological and syntactic literature, however, that this is the wrong approach (Harley and Ritter 2002; McGinnis 2005; Béjar and Rezac 2009; Preminger 2014; van Urk 2015; a.o.). These authors have argued that the behavior and morphological realization of number agreement cross-linguistically is best captured in a system where number is syntactically represented by the single feature [plural]. Syntactically and semantically plural phrases have this feature, while syntactically and morphologically singular phrases lack a number feature altogether.

One upshot of this approach to number features is that it can predicts that singular DPs, because they lack a number feature altogether, are inaccessible to number agreement. This means that a number agreement operation – #-*Agree* hereafter – may potentially skip over a singular DP to target a lower plural DP, if this lower DP is otherwise accessible. This mechanism has been argued to underlie a variety of so-called *omnivorous agreement* patterns, and will be crucial for the analysis of Abruzzese.

(69)  [ $H_{[\#:\_]}$ ... [DP.SG ... [ DP.PL ...]]]
       #-*Agree*

We are now in a position to analyze Abruzzese PPA in full generality. The basic facts to be accounted for are the following: (i) PPA is limited to number features; (ii) PPA targets the plural argument in a clause, if there is one, be it subject or object.

(70)   a.   Giuwanne a       pittate    nu mure.
            John.SG   have.3  painted.SG  a  wall.SG
            'John has painted a wall'                                    [subj.SG-obj.SG → pp.SG]

    b.   Giuwanne a       pitt**i**te    **ddu mure**.
         John.SG    have.3 painted.PL two       wall.PL
         'John has painted two walls'                [subj.SG-obj.PL → pp.PL]

    c.   **Giuwanne e Mmarije** a     pitt**i**te     nu mure.
         [John     and Mary].PL have.3 painted.PL a    wall.SG
         'John and Mary have painted a wall'          [subj.PL-obj.SG → pp.PL]

    d.   Giuwanne e   Mmarije a       pitt**i**te     ddu mure.
         [John     and Mary].PL have.3 painted.PL two walls.PL
         'John and Mary have painted two walls'        [subj.PL-obj.PL → pp.PL]

Following the discussion above, I take the view that (i) reflects the fact that the *Agree* operation behind PPA in Abruzzese involves only number features. [39] The agreement patterns in (70), then, are exactly as we predicted. Because PPA is possible with subjects, we know the triggering head *F* must be above *v* and hence the basic merge site of the subject. The [#:_] feature on *F* must therefore target the closer subject if it is accessible, which in this case means it is plural and hence bears a number feature. If the subject is singular and hence not a target for number agreement, the [#:_] feature at *F* may be discharged by targetting the object, if it is plural.[40] Finally, if neither argument is plural, there is no suitable target to discharge [#:_], so no PPA occurs, and if both arguments are plural, PPA trivially occurs, since the subject is again in this case an accessible target.[41]

(71)    a.   Singular subject, singular object: ✗ PPA
         [*F* ... [$_{vP}$ EA.SG [*v* [$_{VP}$ V IA.SG]]]]

    b.   Plural subject: ✓ PPA
         [ *F* ... [$_{vP}$ EA.PL [*v* [$_{VP}$ V IA.SG/PL]]]]
           *#-Agree*

    c.   Singular subject, plural object: ✓ PPA
         [ *F* ... [$_{vP}$ EA.SG [*v* [$_{VP}$ V IA.PL]]]]
               *#-Agree*

    Because PPA in Abruzzese is triggered by a head above *v*, it necessarily takes place after ar-

---

[39]This assumption simplifies the discussion, but it is not a technical requirement. In particular, once we allow that person, number, and gender agreement can proceed independently, we can also capture the Abruzzese facts if the agreement triggering head *F* licenses agreement for person and gender as well as number. On this account, the number agreement operation proceeds in the manner described in this section, targeting the closest DP with a number feature. The person and gender agreement operations proceed likewise, targeting the closest DP with a person and gender feature, respectively. Since these operations are all separate, there is no requirement that they target the same DP, so the presence of person or gender features on a DP does not affect its accessibility to the number agreement operation. Finally, to capture the fact that only number agreement is spelled out, we can assume that Abruzzese morphology is such only the formal number feature on the participle is actually spelled out, much like only number features are spelled out on the English verb *be* in the past tense, despite the evidence from the present tense that English verbal agreement is sensitive to person as well. See also fn. 1.

[40]Note that this requires assuming that Abruzzese is among those Romance varieties that make dependent case accessible for agreement.

[41]I remain agnostic as to whether *F* also has an [•D•] feature. If it does, then by feature maximality it would be expected attract the object over the subject in examples like (70b). Since both the subject and the participle ultimately surface to the left of the object, both these phrases would need to then be attracted higher in the clause. I know of no evidence supporting or denying the existence of such movement in Abruzzese.

gument introduction and Case valuation are complete. As such, there is no interplay between PPA and these operations; the *#-Agree* operation merely acts on the output. That this results in a fundamentally different pattern of PPA than in the cases we have so far discussed corroborates the central claim of this paper, namely that the movement-dependence of PPA reduces to the interplay of agreement, Case valuation, and argument introduction. When independent factors intervene to separate these operations, the pattern breaks down.

## 2.6 Alternative treatments

While PPA received wide attention following Kayne's (1989) work, there have been few subsequent studies that approach the phenomenon from a perspective accepting that agreement intrinsically operates at a distance.[42] The only work of this sort that I am aware of is due to D'Alessandro and Roberts (2008, 2010). In this section, I review this analysis and argue that it is not sufficient to capture the full array of data explored in this paper. That said, it shares an interesting similarity with the present account in that it reduces the exceptional (from the perspective of agreement at a distance) nature of PPA to the special status of *v*.

D'Alessandro and Roberts (2008) propose the following account of PPA in Italian, couched in the Uninterpretable Features model Chomsky 2000; 2001): transitive and passive/unaccusative *v* are endowed with agreement features, and always undergo *φ-Agree* with IA; this agreement is only spelled out morphologically, however, when the head hosting the agreement is in the same phase as the target. The account is based on three main claims. The first is that agreement is only spelled out morphonologically when the trigger and goal are in the minimal complement of the same phase head:

(72)  **Phasal Agreement Condition** (D'Alessandro and Roberts 2008: 482)
   a. Given an *Agree* relation A between probe P and goal G, morphophonological agreement between P and G is realized iff P and G are contained in the complement of the minimal phase head H
   b. XP is in the complement of a minimal phase head H there is no distinct phase H′ contained in XP whose complement YP contains P and G

The second claim is that in Italian transitive clauses, the head hosting the participle raises to at least *v*. They provide as evidence the fact that Italian participles must raise above manner adverbs in active sentences (Cinque 1999: 102f.).

(73)  Hanno  \*(accolto) bene (\*accolto) il   suo spettacolo solo loro.
      have.PL (recieved) well  (recieved) the his  show        only they
      'They alone have received his show well."

The third claim is that transitive *v* is a phase head in active but not passive sentences, and that unaccusative *v* is never a phase head. Granting these three claims, the main Italian data are then derived as follows. First, in transitive clauses, *v* always agrees with IA. However, because the participle raises to *v*, it is not in the minimal complement to *v*, whereas an *in situ* object is. By (72), PPA is not spelled out (see (74a)). If IA is a clitic, however, it must raise into the TP domain. Assuming C is the next phase head, both the participle, which is by hypothesis at *v*,

---

[42]It should be noted that Loporcaro has conducted a number of subsequent studies on the typological distribution of PPA and the various implicational hierarchies among the sorts of objects that license it, from the perspective of relational grammar.

and IA will therefore be in the minimal complement to C, so PPA is spelled out. Finally, in passive/unaccusative clauses, *v* is not a phase head, so irrespective of the position of the participle, V and IA will always be in the minimal complement to phase head C, and hence PPA will always be spelled out (see (74b)).

(74)    a.    [$_{TP}$ I [have [$_{vP}$ **eaten**+*v* [$_{VP}$ ~~eaten~~ **the apple**]]]]
$\underbrace{\phantom{[_{VP}\ \text{eaten the apple}]}}_{\text{spell-out domain}}$

        b.    [$_{CP}$ C [$_{TP}$ **them**.CL [$_{TP}$ I [have [$_{vP}$ **eaten**+*v* [$_{VP}$ ~~eaten them~~]]]]]]
$\underbrace{\phantom{\text{them.CL I have}}}_{\text{spell-out domain}}$ $\underbrace{\phantom{\text{eaten them}}}_{\text{spell-out domain}}$

There are two major challenges facing this account. The first and more serious is that PPA isn't conditioned on the height of the participle cross-linguistically. In particular, there are languages where the participle can stay very low in the structure, possibly even *in situ*, and yet PPA is impossible in transitive clauses, as well as languages where the participle raises at least as high as in Italian, and yet PPA is licensed with *in situ* objects. In the former class is French, where the participle can't raise above manner adverbs like *bien*, and may appear below much lower VP-level adverbs like *presque, à peine, souvent* (Pollock 1989; Cinque 1999). As we have seen, however, PPA is robustly impossible in transitive clauses.

(75)    a.    Il en a (bien) compris (*bien)à peine la moitié.
            (Cinque 1999: 46)
    b.    Guy a (presque) mis (presque) fin au conflit.
    c.    Jean a (à peine) vu (à peine) Marie.
            (Pollock 1989: 417)

An instance of the latter class of languages is Neapolitan, where transitive active participles must raise above *bene*[43] (see (76)), and yet PPA is licensed with *in situ* objects.

(76)    kill    a    (*tuttə) kapitə    (tuttə) e    kkill    a:tə    nunn a    kapitə
        that-one has all    understood all    and that-one other not    has understood
        njentə
        nothing
        'He understood everything and the other one didn't understand anything'
        (Loporcaro 2010: 235)

(77)    addʒə    kɔttə/*kwottə    a    pastə
        have.1.SG cookPTCP.F/cookPTCP.M the.F.SG pasta.F.SG
        'I've cooked the pasta'
        (Lopocaro 2010: 226)

The second major challenge is the correlation between PPA in passive/unaccusative clauses and the status of the higher expletive. As we have seen in Italian, French, and Mainland Scandinavia, if the expletive is itself an agreement trigger and case competitor, PPA is blocked, whereas if the expletive is an oblique and thus not a case competitor, PPA is licensed. It is hard to see how these facts could be given a principled analysis on the present account. Presumably, it would be

---

[43]Following Cinque (1999: 119), quantifiers floated from the object are above *bene/bien*.

(i)    Li ho spiegati (tutti) bene (*tutti) a Gianni.
    'I have explained well all to Gianni'
    (Cinque 1999: 119)

necessary to reduce these facts to a difference in the phasal status of the *v* introducing oblique vs. non-oblique expletives, since this is the main tool at our disposal on this account. But I see no principled ground on which to motivate the contrast.[44]

## 2.7 Conclusion

At the outset of this paper, we endeavored to address the technical challenge raised by PPA on the modern understanding of agreement. Our preliminary discussion outlined two essential challenges highlighted by these data. The first, which I termed the narrow technical challenge, was to address why PPA is correlated with movement in some but not all languages. The second, broader challenge is that despite the evidence that agreement and movement are formally dissociated, they do appear to be correlated in large number of instances cross-linguistically.

We have now sketched a theory in terms of agreement at a distance that addresses the narrow technical challenge. At its core, the proposal is that the movement-dependence of PPA ultimately reduces to the economy condition *Feature Maximality*. In the context of *v*, which we have assumed is the locus of PPA, *Feature Maximality* essentially forces agreement to compete with the need to introduce an external argument. The semantic/$\theta$-theoretic requirement to saturate the *v*P with an argument always takes precedent, with the effect that agreement must be postponed until after the external argument is merged. Adopting the Moravcsik-Bobaljik-Preminger conjecture that introduction of the external argument triggers dependent Case valuation on the internal argument, we therefore predict that agreement should be possible if and only if the relevant language allows agreement to target DPs bearing dependent Case. The introduction of an additional movement trigger at *v*, as when the IA is a clitic or *wh*-phrase that must move higher in the structure, relaxes the calculus and allows agreement to take place before the external argument is merged and Case is assigned to the IA. PPA is therefore possible, even in languages that do not allow agreement to target DPs with dependent Case.

There are two main upshots. First, the peculiar behavior of PPA, including its movement dependence, is directly tied to the fact that *v*, the triggering head, is a locus of argument/expletive insertion. As we saw in Abruzzese, if PPA is triggered by a head other than *v*, the main properties that are the focus of this paper do not obtain. Second, there is no formal syntactic link between agreement and movement, as under the strong *Agree*-at-a-distance theory. All interaction between these operation is instead governed by the independently needed economy constraint *Feature Maximality*, which holds that when both agreement and movement operations are licensed at the same head, they must act concurrently if possible, i.e., agreement triggers movement when it can. This both preserves Chomsky's (2000) (2000, 2001) hypothesis that agreement and merge are formally dissociated while allowing the flexibility to capture the cases where they appear to be coupled.

The proposal also sheds light on the broader conceptual challenge. In particular, consider the conditions under which the present theory predicts that agreement should be possible in the absence of concomitant movement. First, this is predicted if the triggering head does not have an independent need to project a specifier. In this case, *Feature Maximality* does not apply and agreement operates in a purely at-a-distance fashion. In many languages of the world, however, it appears that main verbal agreement goes hand in hand with an EPP-requirement, i.e., we can plausibly assume that the head that triggers agreement is also subject to the requirement that

---

[44]An anonymous reviewer points out an additional issue outside of the domain of PPA. Arregi and Nevins (2012) show that all agreement in Basque, including with the IA of a transitive clause, is triggered by T, not *v*. Nevertheless, there is evidence that at least some transitive IAs stay *in situ* within the *v*P phase (Preminger, 2009). The Phrasal Agreement Condition therefore does not seem to apply in general.

it project a specifier. In such cases, we predict that agreement should be correlated with movement in all cases except those where another phrase merges to satisfy the specifier requirement. As we saw in the PPA examples, for agreement to obtain in such cases, the specifier must either not trigger Case valuation on the lower DP, or the language must allow agreement with dependent Case. And indeed, many of the unequivocal cases of agreement at a distance cited in the literature are of exactly the former type. Two of the best known examples are worth highlighting here, as they will be relevant in the next Chapter: Icelandic quirky-subject constructions, and English expletive and locative-inversion constructions.

In both English and Icelandic, the head triggering finite verb agreement, which I will assume here is T, arguably has the EPP-property, so by *Feature Maximality*, agreement is predicted to trigger movement. This prediction is borne out in most cases: the phrase that moves to the canonical subject position in Spec(TP) obligatorily triggers finite verb agreement:

(78)  a.  I am/*is happy.                                                    *English*

      b.  (79)  **þeir**        seld-**u**/*i*    bókina.
                they.PL.NOM sold.PL/*SG book.the.SG.ACC
                'They sold the book.'                                        *Icelandic*
                (Thráinsson 2007: 134)

In both languages, however, agreement at T may take place without concomitant movement of the agreed-with phrase to Spec(TP) just in case Spec(TP) is occupied by a phrase that (i) is not itself a licit agreement target, and (ii) does not trigger dependent Case valuation on the next highest DP. As we have seen, in Icelandic this configuration manifests in quirky-subject constructions, as in (53) repeated below. In English, as I argue in detail in the next Chapter, the same pattern manifests in two related contexts: locative inversion, as in (80a), and with examples involving the distal locative expletive *there*, as in (80b). In both cases, I argue, the locative/expletive that occupies Spec(TP) is neither a suitable target for agreement itself, nor a trigger for dependent Case on the next highest DP. As expected, then, agreement takes place without concomitant movement.

(80)  a.  In the room were/*was five students.
      b.  There were/*was five students in the room.

## 2.8  Appendix

In this appendix I present an argument that Italian employs a covert expletive in some passive/unaccusative constructions. The main structure of the argument is due to Sheehan (2010), to which I refer the reader for a fuller presentation.

The argument hinges on two observations concerning Italian passive and unaccusative clauses. To begin, Italian allows the internal argument of most passive/unaccusative clause to appear post-verbally. I limit discussion here to wide-focus contexts, where the post-verbal DP receives no special focus and is arguably *in situ* (Rizzi 1982; Pinto 1997). These contexts can be forced by construing the relevant example as an answer to the question *what happened*. The post-verbal position alternates in such contexts with variants where the subject appears in a pre-verbal A-position, which I will assume is Spec(TP) (Pinto 1997). Relevant minimal pairs are presented in (81) and (82).[45]

---

[45]Note that these examples show that Italian is superficially different from English in such contexts in that despite the fact that the post-verbal argument is arguably *in situ,* there is no definiteness effect.

(81)   a.   What happened?
b.   È entrato Dante.
   is entered Dante
c.   È affondata la   Attilio Regolo.
   is sunk      the Attilio Regolo
d.   È morto Fellini.
   is died   Fellini
   (Pinto 1997: 20)

(82)   a.   What happened?
b.   Dante è entrato
   Dante is entered
c.   La Atilio Regolo è affondata
   the Attilio Regolo is sunk
d.   Fellini è morto
   Fellini is died
   (Pinto 1997: 23)

The first observation, due to Pinto (1997), is that the examples with pre- and post-verbal arguments have subtly different interpretations: in examples with post-verbal arguments, the action or event being described is obligatorily speaker oriented, whereas no such requirement holds in examples with a pre-verbal subject. Thus in (83a), *Gianni* must have arrived either at the speaker's location or some other salient location related to the speaker. In (83b), there is no special requirement on the arrival.

(83)   a.   È arrivato Gianni
   'Gianni arrived here'
b.   Gianni è arrivato
   'Gianni arrived (somewhere)'

To capture this, Pinto (1997) argues that passive and unaccusative verbs that allow post-verbal arguments in wide-focus contexts optionally project locative argument; this argument can be covert, and when it is it receives an obligatorily deictic interpretation. Granting this, the data in (83) teach us that the locative argument must be projected when the DP argument is post-verbal but not when it is pre-verbal.

The second observation is that if the locative argument is overtly realized, both it and the internal argument can't remain *in situ* unless the internal argument is non-specific (Belletti and Rizzi 1988; Sheehan 2010).

(84)   a.   Che cosa      è successo?
   what happened

| | | |
|---|---|---|
| b. ??È partito Dante da Firenze. | | ??[V DP PP] |
| c. Dante è partito da Firenze. | | ✓ [DP V PP] |
| d. Da Firenze è partito Dante. | | ✓ [PP V DP] |

(85)   

| | | |
|---|---|---|
| a. È partito un uomo da Firenze. | | ✓ [V DP PP] |
| b. Un uomo è partito da Firenze. | | ✓ [DP V PP] |
| c. Da Firenze è partito un uomo. | | ✓ [PP V DP] |

Taken together, these two observations furnish an argument for a traditional EPP and a covert

expletive in Italian. The first observation, that post-verbal arguments must be accompanied by a (covert) locative argument, suggests that Italian Spec(TP) must be filled by an argument. If the internal argument of a passive or unaccusative verb remains *in situ*, the locative argument must be projected and moved to this position. If the internal argument itself moves here, there is no independent need to project the locative and move it, although this should still be possible.

(86)　a.　[$_{TP}$ LOC [T … [V DP]]]　　　　　　　　　　(obligatory *speaker orientation*)
　　　b.　[$_{TP}$ DP [T … [V (LOC)]]]　　　　　　　　　　(optional *speaker orientation*)

The second observation further corroborates this view and suggests the existence of an expletive: if both the locative and DP arguments are overt, there are two ways to satisfy EPP: (i) one of the overt arguments can move to Spec(TP);[46] (ii) a null expletive can be merged to satisfy EPP, allowing both the DP and locative argument to remain *in situ*. If option (ii) is selected, the internal argument is subject to the well-known definiteness effect that arises in expletive constructions, both in Romance (French is a particularly clear case) and in general.

(87)　Option (i)

　　　a.　[$_{TP}$ LOC [T … [V DP]]]　　　　　　　　　　　　　　　　　(✓ EPP)
　　　b.　[$_{TP}$ DP [T … [V LOC]]]　　　　　　　　　　　　　　　　　(✓ EPP)
　　　c.　[$_{TP}$ ∅ [T … [V DP LOC]]]　　　　　　　　　　　　　　　　(✗ EPP)

(88)　Option (ii):
　　　[$_{TP}$ EXPL [T … [V DP$_{NS}$ LOC]]]　　　　　　　　(✓ EPP, ✓ definiteness effect)

　　　Note that these effects are directly paralleled in English, where there are two ways by which the internal argument of a passive/unaccusative can remain *in situ* in English: (i) a locative phrase can be projected and moved to Spec(TP), in which case there is no definiteness effect (see (89a)); (ii) an expletive can be merged and moved to subject position, in which case there is a definiteness effect (see (89b,c)).

(89)　a.　Out of the mist appeared John.
　　　b.　*There appeared John (out of the mist).
　　　c.　There appeared a ghostly figure (out of the mist).

This analysis of the Italian facts therefore both captures the full array of data in a parsimonious way and reduces the differences between Italian and English to the independent possibility for null-subjects in Italian.

---

[46]Norvin Richards (p.c.) suggests that this might have an explanation along the lines of Moro's "dynamic antisymmetry," e.g., movement is forced because the VP can't host two overt arguments, not because of EPP. On this view, however, data like (85) are mysterious.

# Chapter 3

# On the nature of formal features on expletives

## 3.1 Introduction

The study of expletive elements has played an outsize role in the development of generative syntactic theory, especially over the past twenty five years. In particular, investigations into (i) the formal properties of these elements – essentially, how they interact with agreement and movement – and (ii) their distribution, both within languages and cross-linguistically, have motivated important theoretical claims pertaining to agreement, cyclicity, scope-taking, and more. That said, in both these domains there remain significant and unanswered questions, both technical and conceptual. This chapter is devoted to highlighting and addressing some of these questions in the former domain – the formal properties of expletive elements. Along the way, we will see that the behavior of the locative expletive in languages like English and Dutch sheds light on the puzzling fact, highlighted in the previous chapter, that agreement which is correlated with movement tends to be more robust cross-linguistically then agreement that takes place at a distance (see, e.g., Preminger 2011).

To this end, the primary means of probing the formal status of expletives is to consider how they interact with agreement and movement. I therefore begin by highlighting the essential data in this domain. If the expletive element is a third person singular proform, agreement on the verb is always third person singular, even if the highest non-expletive argument in the clause is plural. I illustrate with examples from English and French, but a similar pattern can be observed in some form in German, Dutch, Swedish, and Norwegian.[1] In English, this pattern holds if the highest non-expletive argument is a DP or a CP. The former is illustrated in (1a) and the latter on the basis of the contrast in (1b,c): the post-verbal CP complex triggers plural agreement when it appears in surface subject position, as in (1c), but not in the presence of an expletive, as in (1b).

(1)  a. It strikes/*strike us that John is guilty.
     b. It **seems/*seem** equally likely for it to rain and for it to snow.
     c. For it to rain and for it to snow are/??is equally likely.          *English*

(2)  Il **est/*sont**    mort(**\*es**)    **trois sauterelles**.
     it be.SG/*be.PL died.M.SG/*F.PL three grasshoppers
     'There died three grasshoppers.'                                       *French*

---

[1]In the last two languages, the relevant agreement is on the participle, not the highest auxiliary. I discuss such data in detail in Chapter 2.

In contrast, if the expletive element is a locative proform, as is possible in at least English, Dutch, Danish, and some varieties of Norwegian, the verb in a clause with an expletive subject agrees in number but not person with the highest non-expletive DP in the structure, hereafter the associate DP.[2] These facts are well known in English (see Sobin 2014 and references therein), so I illustrate the relevant pattern with Dutch; essentially the same pattern holds in all the other languages with a locative expletive, insofar as it is possible to test. First, to see that number agreement is licensed, observe that if the highest non-expletive DP in the structure is plural, it triggers obligatory plural agreement on the verb.

(3)  a.  dat er  **veel mensen** in de tuin  **zijn/*is**
         that EXPL many people   in the garden are/*is
         '…that there are many people in the garden'                     *Dutch*
         (Hedde Zeijlstra, p.c.)

To see that person agreement is not licensed, observe that a first person singular associate DP triggers third person singular agreement.[3,4]

(4)  ?Er  **is/*ben**       alleen **ik**      in de  tuin.
      EXPL be.3.SG/*be.1.SG only   1.SG.NOM in the garden
      'There is only me in the garden.'                                *Dutch*
      (Hedde Zeijlstra, p.c.)

These facts have been widely noted, and there are various technical proposals in the literature for capturing them. Concerning the third person singular expletive, there is a general consensus that it has a full set of $\varphi$-features and hence triggers agreement in the same way as an ordinary subject (see Chomsky 1995; Hazout 2004; Ruys 2010 for explicit versions of this proposal). Concerning locative expletives, the most empirically successful accounts share in common the idea that the expletive is deficient in number but not person features. As such, it triggers only third person agreement on the verb, which must then agree in number with the next available argument. The proposals then differ primarily in how they handle this latter agreement. Two prominent ideas are that it is mediated by the expletive (Hazout 2004 Deal 2009), or directly triggered by the head responsible for verbal agreement (Chomsky 1995, 2000, 2001).

While these accounts achieve varying degrees of success in capturing the agreement behavior listed above, they seem to miss an important cross-linguistic generalization. In particular, the agreement profile of the locative expletive is shared by two other types of subjects cross-linguistically: locative subjects in locative inversion contexts, and non-nominative subjects in Icelandic. Beginning with locative inversion, let us grant that the construction involves A-movement of a VP-internal locative argument to the surface subject position, Spec(TP) (Bresnan 1994; Collins 1997; Culicover and Levine 2001). The key observation is that the verb agrees in number but not person with the highest non-locative DP in such contexts. This is true if the fronted locative phrase is the locative proform *there* or a full PP. The possibility for number

---

[2]There is considerable intra-language variation in terms of how obligatory agreement is in these contexts. I return to this issue in Section 3.5.3.

[3]Investigating person agreement in expletive constructions is complicated by the fact that person features are licensed only on pronouns, and pronouns tend to be marginal in expletive constructions due to the well-known definiteness effect. I have manipulated the examples provided here to maximize the acceptability of the pronoun, although they are still somewhat marginal.

[4]I discuss these data in more detail in Section 3.5.1 where I consider and dismiss the analytical option that pronominal associates simply do not trigger agreement.

agreement is illustrated in (5).[5]

(5)  a. There go/*goes my friends (pointing to the distance)
     b. I walked in, and there, at the table, were/*was sitting my brothers. (pointing to the table)
     c. In this port were/*was built the ships that won us the war.
     d. In Sally's room have/*has been found three damning pieces of evidence.

The impossibility of person agreement is slightly harder to show, as special context is needed to license first and second person pronouns in locative inversion. The example in (6) provides an attempt at this, and we indeed see that person agreement with a first person singular pronoun is impossible.

(6)  Context: I'm sitting with my son showing him pictures and videos of my graduation, which he attended as a baby.
     a. In this picture is/*am me, and in that one is/*are you.
     b. Look at the video! There goes/*go me, walking up to get my diploma.

Moving on to Icelandic, non-nominative subjects in certain varieties are associated with exactly the same agreement profile. Thus, for example, in sentences with dative subjects, verbal agreement is obligatorily with the nominative object (see Thráinsson 2007 for a review of the arguments that the dative is indeed a subject in such instances). Agreement, moreover, is limited to number. The possibility for number agreement is illustrated in (7).

(7)  Honum lík**a**     **þeir**
     him.DAT like.3.PL 3.PL.NOM
     'He likes them'                                              *Icelandic*
     (Sigurðsson and Holmberg 2008: 254)

Illustrating the absence of person agreement is again complicated, in this case because Icelandic is subject to a restriction that is not in force in English or Dutch: if a first or second person nominative argument is introduced in a finite clause, it must trigger person agreement in that clause. If this agreement fails for any reason, the result is ungrammatical (Sigurðsson and Holmberg 2008). The absence of person agreement is thus entailed by the ungrammaticality of (8).

(8)  *Honum lík-**ar/a/um**      **við**
     him.DAT like-3.SG/3.PL/1.PL 1.PL.NOM
     'He likes us'                                               *Icelandic*
     (Sigurðsson and Holmberg 2008: 254)

The generalization, then, is that sentences containing locative expletives show the same basic agreement behavior as sentences containing locative subjects in locative inversion contexts, as well as sentences with non-nominative subjects in Icelandic.

Although they have not been previously assimilated with the locative-expletive data, the Icelandic facts are well known, and there is a consensus that the particular agreement profile on display here derives from the fact that it bears so-called inherent dative case (Holmberg and Hróarsdóttir 2003; Bobaljik 2008; Sigurðsson and Holmberg 2008; Preminger 2014; a.o.). I pro-

---

[5]Note that we can be sure that the examples with *there* involve non-expletive uses of the proform for two reasons: (i) the expletive use of *there* is not compatible with definite objects, while the locative use is; (ii) the pronoun can be interpreted deictically, as illustrated by the parenthesized string.

pose in this chapter that this analysis should also be extended to locatives and locative exple-tives. The proposal has two components. The first is that expletive elements have the same formal features as the non-expletive forms from which they are derived. In the case of the default third person expletive, this amounts to the widespread view in the literature, and I will consequently spend less time on it. The second is that the relevant formal features shared in common are the following: the default third person pronoun bears valued $\varphi$-features and an unvalued Case feature. It thus functions with respect to Case and agreement like any other DP. The locative pronoun, in contrast, bears lexically valued inherent case, akin to the dative case on Icelandic dative subjects. Granting that inherent case is the factor responsible for the Icelandic agreement facts, following Sigurðsson and Holmberg (2008), Bobaljik (2008), Preminger (2014), the agreement profile of sentences with locative and locative-expletive subjects follows.

In addition to solving the technical challenge posed by the new generalization pointed out above, I argue that this account also sheds light on two important questions that have not been addressed previously: (i) why do expletives bear the particular formal features that they do, and (ii) why are the types of syntactic objects that are grammaticalized as expletives so remarkably stable cross-linguistically? Indeed, to the best of my knowledge, the only form that can be plau-sibly analyzed as an expletive but that is not either a locative proform or a default third person pronoun is the Icelandic *það*, which is derived from a demonstrative.

The remainder of this chapter is structured as follows. In Section 3.2, I introduce the core pro-posal in full detail, along with some background assumptions. Section 3.3 works through the ba-sic facts concerning the default third person expletive, which is the simpler case. In Section 3.4, I take up the shared fact that agreement in sentences with dative subjects and locative-expletive subjects targets the next highest DP in the structure. Abstracting away from the absence of per-son agreement in such cases, I show that inherent case is the crucial factor in deriving the pat-tern in Icelandic. The parallel behavior in English expletive constructions then follows by anal-ogy given our core proposal. Section 3.5 then returns to the person agreement facts. Following Sigurðsson and Holmberg (2008), I argue that inherent case is once again the crucial factor in ex-plaining the Icelandic data, so that the parallel behavior in examples with locative and locative-expletive subjects follows by analogy. I also address in this section the existence of English and Icelandic varieties where number agreement is also blocked in constructions with expletive and dative subjects, respectively. Section 3.6 deals with some superficially problematic data for the account involving the morphological case on English pronouns in expletive constructions, the possibility to use the contracted singular form of the copula in the presence of a plural agree-ment target in expletive constructions, and the phenomenon of closest conjunct agreement in expletive constructions. In Section 3.7 I contextual the proposal and its main results by returning to the two questions introduced above, arguing that the present account fares better in answer-ing them than its main competitors. Finally, in the appendix, I discuss one account of the effects of inherent case on agreement and its consequences on the formal status of expletives.

## 3.2 Proposal

This section spells out my proposal in full detail. Because it ultimately hinges on the notion of inherent case, I preface my remarks with some basic terminological remarks on morphological case and Case Theory. In the languages under consideration here, it will be relevant to distin-guish three basic morphological case forms: (i) nominative, or unmarked, case; (ii) accusative, or dependent, case; (iii) inherent case. The distribution of the first two forms is predictable ac-cording to the structural position of the relevant DP and the valence of the associated verb: in finite matrix clauses, the external argument of transitive and unergative clauses and the internal

argument of unaccusative and passive predicates appears with nominative case, and the internal argument of transitive clauses appears with accusative case. I illustrate with an example from Icelandic:

(9)    **Við**    lásum    bókina
       we.NOM read.1.PL book.the.SG.ACC
       'We read the book'                                       *Icelandic*
       (Sigurðsson 1996)

The third form, in contrast, is not predictable on the basis of structural configuration and valence alone, and is instead idiosyncratically associated with particular prepositions and verbs. For our purposes, what will be relevant is that certain verbs require that their internal or external argument surface with a case form that diverges from the expected nominative/accusative pattern on display above. In Icelandic, the most common pattern is for this argument to surface with dative case. I illustrate a verb requiring a dative subject in (10a) and a verb requiring a dative object in (10b).

(10)    a.    að    **henni**    líkuðu    þeir.
             that her.DAT liked.3.PL they.NOM
             '...that she liked them.'                            *Icelandic*
             (Sigurðsson and Holmberg 2008: 260)
       b.    Ég        hjálpaði    **honum**.
             1.SG.NOM help.1.SG him.DAT
             'I helped him.'                                      *Icelandic*
             (Zaenen and Maling 1984: 445)

While the analysis I develop does not depend on a particular theory governing the distribution of morphological case, it will be helpful in the remainder of the chapter to have in mind the two main competing accounts of these data. To this end, let us make the foundational assumption that morphological case reflects the spell-out of a syntactic Case feature that is valued in the course of the derivation. This is not universally accepted, although there are versions of both main theories of Case that do assume this. With this in mind, the first theory, the so-called *functional-head* view (Chomsky 1995; 2000, 2001), holds that nominative and accusative case reflect the spell-out of Case feature values assigned to nominals as a reflex of them entering into an agreement relationship with a functional head: nominative is associated with agreement at T, and accusative with agreement at *v*. In contrast, on the second approach, the *configurational* view, nominative and accusative case are determined on the basis of the relative structural position of the nominals in question (Marantz 1984; Bobaljik 2008; Preminger 2014): all nominals enter the derivation with an unvalued Case feature, and there is a rule that values this feature as dependent just in case the relevant nominal is locally c-commanded by another nominal bearing an unvalued feature. Unvalued features are spelled out as nominative, and features valued to dependent as accusative. Inherent case is handled similarly in both systems: certain heads are lexically endowed with the ability to either directly value the Case feature of their complements/specifiers, or to select for a complement/specifier that is itself lexically endowed with a valued Case feature. The dative subject in (10a) then reflects the fact that the *v* associated with the verb *like* in Icelandic idiosyncratically requires its specifier to bear inherent Case.[6]

     With this in mind, we are now in a position to spell out the proposal. The first component is

---

[6]On some versions of the *functional-head* view, dative case reflects the presence of a covert preposition that assigns dative case. On this view, then, *v* specially selects for this PP.

that expletives share the same formal feature makeup as their non-expletive counterparts. In the case of the default third person expletive, this means that the expletive bears $\varphi$-features valued to third person singular, as well as an unvalued Case feature. As such, this expletive functions with respect to case and agreement just like any other DP. Concerning the locative expletive, my proposal is that it bears inherent case. Given the hypothesis that expletives bear the same feature make-up as their non-expletive counterparts, this likewise entails that locative expressions in general bear inherent case.

(11) **Formal uniformity hypothesis for expletives**:
Expletive pronouns bear the same formal features as their non-expletive variants

    a.    The default third person expletive *it, det, il, …* bears default third person singular $\varphi$-features and an unvalued Case feature

    b.    The locative proform expletive *there, der, er, …* bears inherent case[7]

The proposal immediately captures the behavior of the default third person expletive: because this form bears valued $\varphi$-features and an unvalued Case feature, it will always be a licit target for agreement operations at T, and hence will always trigger default third person agreement. Likewise, the presence of an unvalued Case feature means that this expletive behaves unexceptionally with respect to the Case-system, and is expected to surface with nominative case when it is the subject of a finite clause. With the locative expletive, the argument is slightly more subtle. Let us grant for now that the agreement facts in Icelandic examples with dative subjects – that the verb agrees with the nominative object in number but not person – can be isolated to the fact that the subject bears inherent case. Then the fact that locative and expletive subjects show the same behavior follows by virtue of the fact that these forms also bear inherent case. The main task in the rest of this chapter is therefore to substantiate the proposal that inherent case is indeed the crucial factor governing this behavior in Icelandic.

Before taking up this task, however, there are two remaining issues concerning the locative expletive that I would like to address. First, I leave open the question of whether the locative expletive bears $\varphi$-features in addition to inherent case. As I argue in the appendix, the answer ultimately depends on how we account for two crucial properties of XPs with inherent case, which are summarized in (21) below.[8] Whatever theory we adopt, the main point in this chapter is that the decisive factor in determining the behavior of XPs with inherent case is the inherent case itself. If inherent case does or does not entail the presence of $\varphi$-features is a secondary question dependent on our particular theoretical assumptions concerning case, agreement, and intervention.

Second, there is a question as to how the locative expletive comes to bear inherent case. As we will see, in Icelandic, inherent case is idiosyncratically associated with the specifier or complement of particular syntactic heads. Granting this, I see two possible analytic options for capturing the proposed behavior of the locative expletive. The first is that inherent case on

---

[7]I return to the question of whether the locative expletive bears $\varphi$ features shortly.

[8]The crucial point here is how we derive the fact that XPs with inherent case block agreement between a head and another phrase when they structurally intervene between the two (see (20)). On Rezac's (2008) account of this behavior, XPs with inherent case do not intervene, per se, but rather trigger default agreement themselves, and hence must bear $\varphi$-features. It is unclear how this account can be generalized to explain the fact that if the XP with inherent case A-moves above the triggering head, agreement is once again licensed (see (20b)). On Preminger's (2014) account, what is relevant is that XPs with inherent case be visible to the agreement operation, even if they cannot trigger agreement themselves. As I discuss in the appendix, there is evidence that in Icelandic and English, being visible to $\varphi$-agreement does not depend on bearing $\varphi$-features, but rather on having a Case feature, unlike in languages with omnivorous agreement. If this is true, locative expletives need not bear $\varphi$-features.

the locative expletive has been lexicalized. In other words, the expletive is directly specified in the lexicon with inherent case, and never appears in any other form. The second option is that the head responsible for introducing the expletive assigns it inherent case. This is plausible in English, where Deal (2009) has argued that only certain special varieties of *v* are capable of introducing expletives. We could then tie the inherent case directly to these heads. That said, in languages like Dutch and Belfast English (Henry and Cottell 2007), it appears that the expletive can be inserted in a much wider variety of positions, including Spec(TP). It seems less plausible that all of these heads should be associated with inherent case, especially since nominative subjects that move to Spec(TP) do not surface with inherent case. Given this concern, I will tentatively adopt the position that inherent case has been lexicalized on the locative expletive.

## 3.3 The default third person expletive

In this section I give a detailed analysis of the cross-linguistic agreement facts in constructions involving the default third person expletive. I begin with this form because it is comparatively simple and uncontroversial. I focus here on agreement triggered in the TP domain, although as argued in Chapter 2, the proposal in (11) also interacts with agreement triggered at *v*. As such, the ensuing discussion will largely exclude Mainland Scandinavian varieties, as they lack overt agreement at T, looking instead to French, English, and Dutch as the paradigmatic cases for agreement with default third person expletives.

The ensuing discussion depends on two background assumptions about agreement and movement in the TP domain. Both are fairly uncontroversial and both will be refined and substantiated in this chapter (especially Section 3.5.2). The assumptions are that there is at least one A-position in the TP domain and that verbal agreement is generally triggered here. For now, it is sufficient to localize both these properties to a single head, so I will assume T both triggers agreement and licenses an A-position. Second, I assume, following Richards (2005), Richards (2007), and Deal (2009), a.o., that languages can generally be divided into two classes on the basis of where they allow expletives to be inserted. In languages like Standard English, French, and Mainland Scandinavian, where expletives are barred in transitive and unergative clauses, I assume that expletive-insertion is generally limited to Spec(*v*P). In languages like Dutch, German, and Icelandic, where expletives are tolerated with transitive and unergative verbs, I assume expletives may likewise also be inserted in Spec(TP).

With these assumptions in place, consider the derivation of a sentence involving the default third person expletive in languages like English and French, which place verb-class restrictions on expletives. The expletive is therefore introduced in Spec(*v*P), by hypothesis. As a $\varphi$-feature bearing DP with an unvalued Case feature, it is an accessible target for the agreement operation at T, and hence we predict that it should always trigger agreement. This is borne out, as we have seen in (1), repeated below.

(12)   a.   It seems/*seem equally like that the president will be
            reeelected and that he will be impeached.                    *English*
            (McCloskey 1991: 565)
       b.   Il          est/*sont        mort trois  sauterelles.
            EXPL.3.SG be.3.SG/*be.3.PL died  three grasshoppers
            'There died three grasshoppers.'                             *French*

For the sake of completeness, I walk through the relevant stages of the derivation of examples like those in (12). First, the *it* expletive is merged in the structure, in Spec(*v*P). The derivation

then continues until T is merged, at which point it both attracts and agrees with the expletive.

(13)    [ EXPL [ T . . . [ EXPL [ v . . . ]]]]

   *φ-Agree*

In languages like Dutch that do not place a verb restriction on the use of expletives, the only potential difference is that the expletive could be inserted in Spec(TP). As we will see in Chapter 4, Dutch generally limits the default third singular form to unaccusative predicates taking CP complements and meterological verbs. I show that in such cases, the third person pronoun is obligatorily merged within the *v*P, for independent reasons. As such, Dutch patterns with English and French when it comes to this form. We therefore correctly predict that third person singular agreement is obligatory, as is borne out.

(14)    Get an example

   Concerning case, the default third person expletive behaves unexceptionally, and hence is expected to surface with the case form expected for the subject of a finite clause. In English, French, and Dutch, this form is nominative. In English and Dutch, we cannot verify this prediction, as there is nominative/accusative syncretism on the default third person pronoun. In French, however, the expletive surfaces with what is clearly nominative case.

(15)    Il/*lui est mort trois sauterelles.
        EXPL.NOM/*.ACC be.3.SG died three grasshoppers
        'There died three grasshoppers.'                                      *French*

A final comment is in order: French on the one hand and English and Dutch on the other differ in the types of environments where the default third person expletive can be used. In French, it is the sole expletive, while in English and Dutch, it is more or less in complementary distribution with the locative form. I set aside the question of what governs this differential distribution until Chapter 4, as it does not directly come to bear on the agreement facts.

   The present analysis therefore captures the core cross-linguistic agreement facts with third person default expletives. I turn my attention now to the class of non-agreeing expletives, which are considerably more complex.

## 3.4   The locative expletive: deriving the basic effects

In this section, I take up the basic agreement facts in sentences containing the locative expletive. In particular, I focus on the fact that agreement in such cases is never with the locative expletive, but rather with the highest non-expletive DP, if there is one. I set aside the question of why person agreement fails in these contexts until the next section.

   Following the basic logic of the argument sketched in Section 3.2 our task here is twofold: (i) to show that the agreement profile of Icelandic sentences whose subject bears inherent case matches the profile of English and Dutch sentences with locative and locative-expletive subjects; (ii) to show that this behavior ultimately reduces to the inherent case on the subject. It then follows that the locative and locative expletive data are captured on the basis of the fact that they bear inherent case.

70

### 3.4.1 Establishing the empirical parallel

To this end, let's remind ourselves of the Icelandic data. In a simple transitive clause, if the subject bears inherent case, agreement is obligatorily with the object, which surfaces with nominative case. If there is no additional DP in the clause, the verb surfaces with default third person agreement. These facts are illustrated in (16a,b), respectively.

(16)    a.    að **henni** líkuðu     þeir.
                that her.DAT liked.3.PL they.NOM
                '…that she liked them.'
                (Sigurðsson and Holmberg 2008: 260)
    b.    Strákunum     **leiddist/*leiddust**.
                boy.the.DAT.PL were.bored.**3SG/*3PL**
                'The boys were bored.'           *Icelandic*
                (Sigurðsson 1996)

To establish point (i) from above, observe that these facts are exactly paralleled in examples with locative-expletive subjects in English and Dutch. While I do not illustrate it here, we saw in the introduction that the same facts also hold for examples with locative subjects in English. As illustrated in (17), agreement is obligatorily with the associate DP, if there is one. If there is no associate, the verb surfaces with default third person agreement, as in (18).[9]

(17)    a.    There often **are**/*is **many books** on the table.     *English*
    b.    dat er     **veel mensen** in de tuin     **zijn**/*is
                that EXPL many people   in the garden are/*is
                '…that there are many people in the garden'     *Dutch*
                (Hedde Zeijlstra, p.c.)

(18)    Er     wordt/*worden gedanst
    EXPL is/*are           danced
    'People are dancing'           *Dutch*
    (Ruys 2010: 143)

### 3.4.2 Deriving the basic agreement profile

To complete the argument, we must now establish point (ii) from above, namely that the agreement profile in the Icelandic examples follows from the inherent case borne by the subject. To this end, the analysis will rely on two key properties of XPs bearing inherent case in Icelandic, which I now pause briefly to introduce.

#### 3.4.2.1 Properties of XPs with inherent case

The first relevant property is that XPs with inherent case cannot trigger agreement. As we have already seen, a singular subject with inherent case fails to trigger singular agreement, as in (16a), and a plural subject with inherent case fails to trigger plural agreement, as in (16b).[10] In both cases, this holds despite the fact that the subject (i) bears $\varphi$-features, and (ii) is structurally the closest argument to the agreement trigger at T. The example in (16b) is particularly illustrative,

---

[9]As I discuss in Chapter 4, English *there* is not licensed in the absence of a higher DP, so parallel examples to the Dutch form here cannot be constructed in English.

[10]By itself, this does not explain why agreement in (ia) must target the object, which is the fact we hope to derive.

as it shows that the failure of XPs with inherent case to trigger agreement holds independently of whether there is a lower nominal to agree with.

(16)   a.   að **henni** líkuðu þeir.
              that her.DAT liked.3.PL they.NOM
              '…that she liked them.'
              (Sigurðsson and Holmberg 2008: 260)

       b.   Strákunum **leiddist/\*leiddust**.
              boy.the.DAT.PL were.bored.**3SG/\*3PL**
              'The boys were bored.'          *Icelandic*
              (Sigurðsson 1996)

This property is not limited to Icelandic. As argued by Bobaljik (2008), Preminger (2014), and others, it is very common cross-linguistically for nominals bearing inherent case not to be able to trigger agreement. I illustrate with an additional example from German.

(19)   Ihm würden sie gefallen haben.
       him.SG.DAT would.1/3PL they.PL.NOM liked have
       'He would have liked them.'
       (Sigurðsson and Holmberg 2008: 254)

The second relevant property is that in many languages, DPs with inherent case block otherwise licit agreement operations when they structurally intervene between an agreement trigger and its target (Holmberg and Hróarsdóttir 2003; Hiraiwa 2004; Nomura 2005; Chomsky 2008). If the intervening DP A-moves to a position above the triggering head, however, agreement becomes possible. Thus the matrix verb in (20) may agree with the embedded nominative subject if and only if the dative argument does not structurally intervene between the two.[11] If it does, the verb obligatorily surfaces with default third person singular agreement.

<div align="center"><em>φ-Agree</em></div>

(20)   a.   það finnst/\*finnast **einhverjum stúdent** [SC tölvurnar ljótar].
              EXPL find.SG/find.PL some student.SG.DAT computer.the.PL.NOM ugly
              'Some student finds the computers ugly.'

<div align="center"><em>φ-Agree</em></div>

       b.   [**Einhverjum stúdent**]$_1$ finnast $t_1$ [SC tölvurnar ljótar].
              some student.SG.DAT find.PL computer.thePL.NOM ugly
              'Some student finds the computers ugly.'       *Icelandic*
              (Holmberg and Hróarsdóttir 2003: 999f.)

The analysis does not depend on a particular analysis of why these facts hold. That said, it

---

[11]There is a variety of Icelandic where agreement is possible in (20a). Following Sigurðsson and Holmberg (2008), however, this is because the dative subject has raised to a position above the agreement triggering head, not because datives do not intervene. Indeed, in this variety, if the dative is demonstrably below the probe, as in (i), agreement is blocked, confirming that datives are interveners for agreement:

(i)    Okkur virtist/\*virtust **henni** hafa leiðst þeir.
       us.DAT seemed.3.SG/\*3.PL her.DAT have found-boring they.NOM
       'It seemed to us that she found them boring.'       *Icelandic*
       (Sigurðsson and Holmberg 2008: 265f.)

will be helpful at various points to have a basic sense of the two types of accounts that have been proposed.[12] The first, due to Rezac (2008), holds that inherent case reflects the presence of a preposition above the relevant nominal which assigns the inherent case and, in languages like Icelandic, bears default third person singular $\varphi$-features. It thus triggers default verbal agreement in cases like (20a), which leads to the impression that it blocks agreement with the lower nominative. In addition to certain conceptual issues pointed out by Preminger (2014: 8.3.2), the main issue I see with this account is that an additional stipulation must be invoked to explain why the dative does not trigger default agreement in examples like (20b), where agreement is with the internal argument. The second account, due to Preminger (2014), reduces the agreement facts to Bobaljik's (2008) hypothesis that $\varphi$-agreement is sensitive to the case borne by target nominals, and that nominals with inherent case are not accessible. In cases like (20a), locality dictates that agreement must target the dative, but since it is not accessible, agreement fails. If the dative subject moves out of the domain of the agreement trigger, however, the closest target becomes the nominative subject, which can and therefore does trigger agreement. In the appendix I develop a version of Preminger's (2014) analysis couched in the framework from Chapter 5 that is fully consistent with the proposals of this chapter, but again the proposal does not depend on this approach being correct.

Summarizing, then, the crucial results concerning inherent case that underlie the account in the rest of this chapter are the following:

(21)    **Inherent case and $\varphi$-agreement**
   a.    XPs with inherent case do not trigger agreement
   b.    XPs with inherent case intervene for agreement

### 3.4.2.2  Capturing the effect

With these facts in place, I now argue that the agreement profile in the Icelandic examples follows from the inherent case borne by the subject. To this end, consider the derivation of an example like (16a). Granting that subjects with inherent case are true subjects, merged in Spec($v$P), we therefore arrive at the following structure in (22) at the point when T is merged. Granting that XPs with inherent case fail to trigger agreement, and intervene for agreement across them, it follows that in the structure in (22), T cannot agree with anything: the subject is not a licit target, as it bears inherent case, and the internal argument is not accessible, as the expletive intervenes.

(22)    [$_{TP}$ T [ ... [$_{v}$P DP.DAT [... DP.NOM ...]]]]
            ⋯⋯⋯⋯⋯⋯⋯⋯✗⋯⋯⋯⋯⋯⋯⋯⋯
                    $\varphi$-*Agree*

The only available operation is therefore for the subject to move to Spec(TP). Now, recall the intervention effect induced by XPs with inherent case is ameliorated if the relevant DP undergoes A-movement above the agreement-triggering head. It follows that once the subject has raised to Spec(TP), agreement at T with the internal argument is licensed. We therefor correctly predict that agreement at T should target this argument.

(23)    [ DP.DAT [ T ... [ DP.DAT [$v$ [... DP.NOM...]]]]]
                    ⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯
                        $\varphi$-*Agree*

[12]The *Activity Condition* of Chomsky (2001) has also been invoked as a possible explanation for these facts. I do not consider this account here, as the activity condition can be straightforwardly falsified in a variety of languages and configurations. I refer the reader to Preminger 2014: 8.3.1 for more discussion.

Finally, we predict that the internal argument in these cases should surface with nominative case on both major theories of case. On the functional-head based theory, this follows because the internal argument undergoes agreement with T. On the configurational theory, this follows because XPs with inherent case do not trigger dependent case valuation. I return to this prediction in more detail in Section 3.6.1.

The derivation of examples like (16b) proceeds identically, except that in such cases there is no lower argument for T to agree with. I follow Bobaljik (2008: 304f.) and Preminger (2014: Ch.8) in assuming that the absence of agreement is universally spelled out as default third person singular, which correctly yields the observed features at T in such cases.[13] The conclusion, then, is that the Icelandic agreement facts indeed follow directly from the fact that the subject bears inherent case.

By analogy, we therefore capture the identical agreement facts in English and Dutch with expletive subjects. For completeness, I briefly walk through the derivation of the English and Dutch examples in (17). As highlighted in the previous section, I assume that expletives in English are universally inserted in Spec($v$P). As a consequence, expletive *there* is limited to appear in constructions where there is no external argument to occupy this position, essentially in copular constructions and with passive and some unaccusative verbs (Deal 2009). I adopt the small-clause analysis of copular sentences, whereby $v$ embeds a small clause who subject can optionally raise to surface subject position (Stowell 1978; Partee 1987). The $v$P-level structure of expletive sentences is as in (24), with $v$ embedding either a small clause or a passive/unaccusative VP.

(24)  a.  [$_{v}$P there [$_v$ [$_{SC}$ DP PP]]]                          *copular construction*
      b.  [$_{v}$P there [$_v$ [$_{VP}$ V DP]]]                          *passive/unaccusative construction*

At the point when T is merged, we therefore have the basic structure in (25). As in Icelandic, T cannot agree with anything in this structure: the expletive is not a licit target, as it bears inherent case, and the internal argument is not accessible, as the expletive intervenes.

(25)    [$_{TP}$  T [ ... [$_{v}$P there [... DP.NOM ...]]]]
                $\varphi$-Agree

Once the expletive has raised to Spec(TP), however, agreement at T with the internal argument is licensed. We therefor correctly predict that agreement at T must target this argument.

(26)    [ there [ T ... [ there [$_v$ [... DP.NOM...]]]]]
                $\varphi$-Agree

We also predict that the internal argument in these cases should surface with nominative case, by the same logic as in the Icelandic examples.

The situation is identical in Dutch, except that the expletive can arguably also be inserted in Spec(TP). In such examples, the expletive does not linearly intervene, so T can trivially agree with the internal argument. Agreement is therefore predicted to be obligatory with the highest non-expletive DP, as is borne out.

---

[13]Data of this sort are not predicted under the usual Uninterpretable Feature view of agreement, which holds that T bears uninterpretable features that must be deleted via entering into an agreement relationship with an XP bearing $\varphi$-features. The fact that these examples are grammatical can thus be taken as evidence against this model of agreement and in favor of the Obligatory Operations view (Preminger 2014), which I present and develop in Chapter 5. I also present additional arguments there against the Uninterpretable Features model.

(27)     [EXPL [ T [ … [ DP.NOM [*v* …]]]]]
             └┄┄┄┄┄┄┘
             *φ-Agree*

Finally, in examples where *there* appears without a clause-mate DP, the verb surfaces in the default third person singular, signifying and absence of agreement, as expected (see (18)).[14]

To summarize, I have shown that the basic agreement profile in sentences with a locative-expletive subject exactly parallels the profile in Icelandic sentences with a subject bearing inherent case. Moreover, we have seen that the relevant agreement behavior in Icelandic reduces to the inherent case on the subject. In short, XPs with inherent case fail to participate in agreement operations. As a consequence, the next highest DP in the clause triggers agreement at T, provided it is structurally accessible. This correctly captures the fact that verbal agreement in the relevant examples is always with the highest non-expletive DP in the structure. A secondary prediction of the account is that the agreed-with DP should surface with nominative case. Finally, because *there* bears inherent case, it is predicted to block agreement if it structurally intervenes between the triggering head and the target. In the cases considered so far, this does not ultimately affect the possibility for agreement, since by hypothesis *there* always undergoes A-movement above the agreement trigger, ameliorating the intervention effect. This effect is still worth highlighting here, however, as it is the crucial factor underlying the account of the impossibility of person agreement with dative, expletive, and locative subjects. I turn my attention to developing this account in the next section.

Before moving on, two caveats must be pointed out. First, the analysis as stated does not capture the impossibility of person agreement. I return to this issue in Section 3.5, where I refine the account developed here. Second, there are at least three environments under which agreement in expletive constructions is less than obligatory, which is not immediately predicted here. Thus some speakers of English tolerate a complete absence of number agreement in examples like (28a). Even among speakers who reject singular agreement in (28a), however, apparent singular agreement is possible in the presence of a plural associate DP in two other contexts. First, the contracted singular form of the copular, *'s*, is possible with a plural associate DP, as in (28b). Second, if the associate DP is a conjunction of two singular DPs, or a singular DP and a plural DP, singular agreement is possible provided the first conjunct is singular. This phenomenon is sometimes referred to in the literature as closest conjunct agreement, as the verbal agreement seems to target the closest phrase in the conjunction.

(28)     a. %There was not many dogs in the yard.
              (Schütze 1999: 480)
         b.   There's several books on the table.
         c.   There has/??have emerged a challenge and several solution.

I address examples like (28a) in Section 3.5.3, and examples like (28b,c) in Section 3.6.

## 3.5  Deriving the absence of person agreement

This section addresses the second key property of sentences with locative and locative-expletive subjects highlighted in the introduction: the fact that person agreement is impossible with the highest DP, in contrast to number agreement. My proposal is that this fact also reduces to fact that the expletive bears inherent case. The structure of the argument is the same as in the pre-

---

[14]As mentioned in fn. 9, English and Dutch differ in whether they allow the locative expletive to appear in the absence of a co-argument. I address this issue in Chapter 4.

vious section: I show that the basic facts in English and Dutch expletive sentences also manifest in Icelandic sentences whose subject bears inherent case. Following Sigurðsson and Holmberg (2008), I then argue that this behavior ultimately reduces to the fact that the subject bears inherent case: in short, the proposal is that person and number agreement are triggered by different heads, with the person head above the number head; subjects with inherent case then block person but not number agreement because they raise to a position above the number head but below the person head, and hence structurally intervene for the person but not number agreement. Granting this, we capture that locative and locative-expletive subjects in English should induce a similar intervention effect, capturing the main facts. Finally, I show that there are varieties of Icelandic where subjects with inherent case block both person and number agreement, leading to the prediction that we should see this sort of variation in expletive sentences as well. This then accounts for the existence of varieties of English, noted at the end of the last section, where number agreement also fails to obtain in expletive sentences.

### 3.5.1 The failure of person agreement: the empirical picture

I begin by establishing that person agreement, in contrast to number agreement, fails to obtain in both Icelandic constructions whose subject bears inherent case and in English and Dutch examples with locative-expletive subjects.

To this end, in both English and Dutch, first and second person singular pronouns, to the extent that they can appear in expletive constructions at all, trigger third person singular agreement. This can be most clearly demonstrated with the verb *be*, which exhibits a three-way person distinction in the singular (see (29)) in both English and Dutch.

(29)    a.    English inflectional paradigm: *be*        b.    Dutch inflectional paradigm: *zijn*

|   | Singular | Plural |
|---|----------|--------|
| 1 | am       | are    |
| 2 | are      | are    |
| 3 | is       | are    |

|   | Singular | Plural |
|---|----------|--------|
| 1 | ben      | zijn   |
| 2 | bent     | zijn   |
| 3 | is       | zijn   |

In constructions involving the locative expletive and a first or second person singular agreement trigger, *be* obligatorily surfaces with third person singular agreement in both languages.

(30)    a.    There is/*am only me in the garden.                   *English*
        b.    Er    is/*ben           alleen ik       in de tuin.
             EXPL be.3.SG/*be.1.SG only    1.SG.NOM in the garden
             'There is only me in the garden.'                  *Dutch*
             (Hedde Zeijlstra, p.c.)

Faced with these data, we have two main analytical options. The first is that agreement is somehow exceptionally not licensed in expletive constructions when the target is a pronoun, so that the third person singular agreement in (30) reflects the default spell out of a failed agreement operation. The second is that (30) reflects a distinction between person and number agreement, such that only the latter is licensed in expletive constructions. On this view, agreement in (30) matches the singular feature of the target, but not the person feature, which is then spelled out as the default – third person (see Harley and Ritter 2002; Preminger 2014 for arguments that third person is the syntactic default). Both options are compatible with the data from earlier in the section, which involved a third person, plural, non-pronominal target, and which are hence expected on both accounts to trigger third person plural agreement, as observed.

(31)    a.    Option (i): No agreement with pronominal targets:
             [EXPL [ T ... [ pro.1.SG ...]]]
                            φ-Agree

       b.    Option (ii): Number but not person agreement:
             [EXPL [ T ... [ pro.1.SG ...]]]
                      π-Agree
                    #-Agree

We can tease these two options apart by considering how first and second person plural pro-
nouns behave in these contexts. If agreement is generally blocked with pronominal targets, we
should see default third singular agreement here too. If instead it is only person agreement that
is blocked, we should see plural agreement on the verb. In both English and Dutch, plural agree-
ment is indeed possible in such cases, suggesting that option (ii) is the correct way of analyzing
the data.[15]

(32)    a.    There usually were only us (five) at the meetings.
       b.    There often are only us [who do our homework] at office hours.        *English*
       c.    ?Er zijn alleen wij in de tuin.
             EXPL are only 1.PL.NOM in the garden
             'There are only us in the garden'                                     *Dutch*
             (Hedde Zeijlstra, p.c.)

The upshot is that person but not number agreement is generally blocked in constructions in-
volving the locative expletive in English and Dutch.

   Turning to Icelandic, two qualifications are necessary before presenting the data. First, as
with the English data in (32) (see fn.15), there is considerable speaker variation in this domain
(Sigurðsson and Holmberg 2008), so I will focus here on the variety of Icelandic termed Icelandic
A by Sigurðsson and Holmberg (2008), which represents one fairly stable pattern of judgements
shared by many speakers. Second, Icelandic is subject to a curious restriction that is not in force
in English or Dutch: if a first or second person nominative argument is introduced in a finite
clause, it must trigger person agreement in that clause. If this agreement fails for any reason,
the result is ungrammatical.[16] No such restriction exists if the first/second person nominative is
introduced in a non-finite clause (see (35)).

   With these qualifications in mind, the failure of person but not number agreement in Ice-
landic dative-subject constructions is illustrated below. In (33a) and (33b), person agreement is
not licensed with the first person plural and second person plural nominative objects, respec-

---

[15] In English but not Dutch, singular agreement is possible in such cases as well, at least for some speakers (Sobin
2014). This probably reflects a dialectal division whereby singular agreement is generally allowed with all manner of
plural associates. I discuss this pattern in detail in Section 3.5.3. Moreover, various factors conspire to make plural
agreement obligatory. Thus when the relevant pronoun binds another pronoun in the structure, as in (32), or when
the pronoun is followed by an overt cardinal numeral or NP, as in (i), plural agreement is mandatory. Note that the
use of the pronoun in (i) can be independently seen to have first person plural φ-features, as evidenced by the fact
that they can bind first person plural pronouns (see (ib)), with binding requiring φ-feature matching (Heim 2008). I
will not discuss the marginal singular agreement further here.

(i)    a.    There were/*was only us linguists/us four at the party.
       b.    [Us four]$_1$/[us linguists]$_1$ did our$_1$/*their$_1$ homework.

[16]See Preminger (2014: 10.2) for remarks on how to derive a related restriction in a manner consistent with the
ObOp framework adopted here.

tively, resulting in ungrammaticality, per the second qualification above. In contrast, a third person plural nominative object unproblematically triggers plural agreement, as in (33c).

(33)  a.  *Honum  lík-**ar/a/um**  **við**
          him.DAT like-3.SG/3.PL/1.PL 1.PL.NOM
          'He likes us'
      b.  *Honum  lík-**ar/a/ið**  **þið**
          him.DAT like-3.SG/3.PL/2.PL 2.PL.NOM
          'He likes you all'
      c.  Honum  lík**a**  **þeir**
          him.DAT like.3.PL 3.PL.NOM
          'He likes them'                                      *Icelandic A*
          (Sigurðsson and Holmberg 2008: 254)

Because the failure of person agreement results in ungrammaticality in environments like (33), it is not possible to test whether number agreement can target first and second person plural forms in the absence of person agreement, as was possible in English and Dutch. As mentioned above, however, there are contexts where the requirement that first/second person nominatives trigger number agreement is relaxed, making it possible, in principle, to check for such partial agreement. One such construction is with experiencer verbs that take non-finite complements. In these cases, the dative matrix experiencer argument appears in surface subject position, and the matrix verb agrees either with the non-finite clause (Sigurðsson and Holmberg 2008: 255), resulting in default third singular agreement, or with the infinitival nominative subject.

(34)  Honum  mund-**i/u**  virðast **þeir**  vera hæfir
      him.DAT would-3.SG/3.PL seem   they.NOM be   competent
      'They would seem competent to him.'                       *Icelandic A*
      (Sigurðsson and Holmberg 2008: 255)

Crucially, the requirement that person agreement obtain with nominative first/second person arguments is not in force for the infinitival subject here, since it was not merged in a finite clause. It is therefore possible, in principle, to test in such cases whether number agreement with a first/second person nominative argument can obtain in the absence of person agreement. Before presenting the data, however, there is a final caveat. In English and Dutch, the overt manifestation of verbal agreement is the same for all person values in the plural number (see, e.g., the inflectional paradigm in (29)). It follows that in the plural, the form of the verb can be predicted purely on the basis of its number specification. In other words, the failure of person agreement has no bearing on the spell-out of plural number agreement, since the latter does not depend on person specification. Icelandic does not generally show the same degree of syncretism in the plural, where there are usually distinct forms for first, second, and third person plural agreement. As Sigurðsson and Holmberg (2008) argue, the morphology of Icelandic is such that even if number agreement is licensed in the absence of person agreement, it is generally not possible to spell out the resulting feature specification, since the realization of plural number is dependent on a person value.[17]

---

[17]In English and Dutch in the singular, the verb *be* exhibits a three-way person distinction. Unlike in Icelandic, however, number agreement for singular in the absence of person agreement is uniformly spelled out as the third person singular form (see (30)). This teaches us that the morphology of Dutch and English is different from that of Icelandic in that the former but not the latter treats third person as a default form that is employed in the absence of

The upshot is that with verbs showing a three-way person distinction in the plural, it is generally not possible to agree with a first/second person nominative infinitival subject in constructions like (34) in number alone. Default third person agreement – agreement with the infinitive clause as a whole – is therefore the preferred option, with both second and third person plural agreement generally barred.

(35)    Henni  mund-**i/?\*u/\*uð**      hafa leiðst       þið
           her.DAT would-3.SG/3.PL/2.PL have found.boring 2.PL.NOM
           'She would have found you boring.'                *Icelandic A*
           (Sigurðsson and Holmberg 2008: 269)

Crucially, however, Sigurðsson and Holmberg (2008) show that agreement for number in the absence of person agreement is possible in cases like (35) just in case the agreeing verb shows person syncretism in the plural, as illustrated in (36).

(36)    Henni  vert-**ist/ust**      **þið**        eitthvað   einkennilegir
           her.DAT seem-3.SG/2-3.PL you.NOM.PL somewhat strange
           'You seemed somewhat strange to her.'           *Icelandic A*
           (Sigurðsson & Holmberg 2008: 270)

The possibility of plural agreement here both corroborates the morphological explanation for why plural agreement is not licensed in (35), and shows that number agreement can obtain in the absence of person agreement in Icelandic. In conjunction with the evidence from (33), this in turn supports the view that person but not number agreement is blocked in Icelandic dative subject constructions.

In conclusion, then, Icelandic constructions whose subjects bear inherent case pattern like English and Dutch constructions involve the locative expletive in that person but not number agreement is blocked.

### 3.5.2  Capturing the effect

As before, the second step of the argument is now to show that this behavior can in Icelandic can be reduced to the fact that the subject bears inherent case. Before delving into the analysis, it is necessary to review some prerequisite hypotheses concerning the nature of $\varphi$-agreement. For the most part, it has been sufficient in this thesis to treat $\varphi$-agreement as a unitary operation that is sensitive to the full set of $\varphi$-features – person, number, and gender – on a given DP. However, as we have already seen in Chapter 2, with the number-sensitive nature of participle agreement in Abruzzese, there is considerable evidence that this view is too simplistic, and that agreement can be sensitive to the individual features person, number, and gender, or to pairs of such features (see, e.g., Nevins 2007, 2011; Sigurðsson and Holmberg 2008; Preminger 2014; Coon and Bale 2014; Deal 2014; van Urk 2015; and references cited therein). The data discussed above offer yet another argument that agreement operations for various $\varphi$-features in a single domain, in this case person and number, can be discrete and subject to different conditions on their application. I therefore grant that it is possible, in principle, for agreement operations to be sensitive to both individual $\varphi$-features and to combinations thereof.

With this in mind, I now present Sigurðsson and Holmberg's (2008) argument that the failure of person agreement in Icelandic is related to the inherent case on the subject.[18] At the heart of

---

a person specification.

   [18]I have changed certain minor details of the account to simplify the exposition. The changes do not affect any of

the analysis is a hypothesis about the structure of the TP domain. Given the fact that number agreement can obtain to the exclusion of person agreement in the languages in question, we know that the person- and number-agreement operations in the TP domain must be discrete. The hypothesis, then, is that they are associated with different heads, such that (i) the person-agreement triggering head, call it $\pi$, c-commands the number-agreement triggering head, call it #, and (ii) the specifier of # is the highest A-position in the clause.

(37)  **Split agreement hypothesis** (Sigurðsson and Holmberg 2008: 258):
      In Icelandic, English, and Dutch, the TP domain is structured as follows:
      $[\pi\ [\underbrace{\quad}_{\text{A-position}}[\#\ [\text{T}\ [\dots$

Sigurðsson and Holmberg (2008) provide independent morphological evidence in favor of such a treatment: the order of tense, number, and person morphemes on the Icelandic verb is the mirror image of the postulated hierarchical order of the corresponding syntactic heads, as expected under the mirror principle on morphological realization (Baker 1985):

(38)  lær-ð-u-m = learn-PAST-PL-1

The agreement facts are then captured as follows. Consider the stage in the derivation of a dative-subject example where # has just been merged in the structure, as in (39a). By hypothesis, # has the potential to both attracts the closest DP to its specifier and to trigger number agreement. Agreement is not licensed at this stage, however, by virtue of the intervening dative subject, as we have seen. The only possible derivational option is thus for # to attract the dative subject to its specifier. Once this has taken place, the dative no longer intervenes for number agreement, which is then free to target the lower nominative DP. We therefore correctly predict the presence of number agreement. This is schematized in (39b).

(39)  a.  [ # … [DP.DAT [… DP.NOM…]]]]
              #-*Agree*

      b.  [ DP.DAT [ # … [ D̶P̶.DAT [… DP.NOM…]]]]
              #-*Agree*

At this point, the head associated with person agreement is merged in the structure. As in (39a), the dative intervenes for agreement with the lower nominative DP. Unlike in (39a), however, there is no higher A-position that the dative can raise to ameliorate intervention. Person agreement is therefore predicted to be impossible, as desired.

(40)  [ $\pi$ [DP.DAT [# [… DP.NOM…]]]]
              $\pi$-*Agree*

It follows that the absence or person agreement reduces to the inherent case on the subject, and in particular to the fact that XPs with inherent case intervene for agreement. Under the hypothesis that the locative expletive shares the formal properties of dative subjects, we likewise expect it to intervene for agreement (see discussion in Section 3.5). Assuming that English and Dutch have the same general structure in the TP domain as Icelandic, we therefore predict that constructions involving the locative should fail to show person agreement, as observed.

---

the core results.

To spell this out explicitly, in constructions involving the locative expletive, the expletive intervenes for person- but not number-agreement: when # is merged in the sturcture, the expletive intervenes for number agreement with the lower DP (see (41a)); this intervention is ameliorated by A-movement of the expletive to Spec(#P) (see (41b)); however, from this position the expletive still intervenes for person agreement at $\pi$, which is therefore ruled out (see (41c)).

(41)    a.    [ # ... [there [... DP.NOM...]]]]
             *#-Agree*

     b.    [ there [ # ... [ ~~there~~ [... DP.NOM...]]]]]
                 *#-Agree*

     c.    [ $\pi$ [there [# [... DP.NOM...]]]]]
             *$\pi$-Agree*

As a final step, it is important to verify that the analysis correctly predicts that both person and number agreement should be obligatory with nominative subjects in the absence of an expletive, as in (42):

(42)    a.    I am/*is in the garden.                            *English*

     b.    Ik        ben/*is in de tuin.
          1.SG.NOM am/*is in the garden
          'I am in the garden.'                              *Dutch*

Indeed these facts follow trivially: when the # head is merged in the structure, the nominative DP is accessible to the number agreement operation, and hence undergoes both number agreement and A-movement to Spec(#P) (see (43a)). From this position, it is accessible to the person agreement operation at the $\pi$ head (see (43b)).

(43)    a.    [ DP.NOM [ # ... [ DP.NOM ...]]]
                 *#-Agree*

     b.    [ $\pi$ [ DP.NOM [# ...]]]
         *$\pi$-Agree*

The blocking effect of the English/Dutch locative expletive and the Icelandic dative subject therefore reduces to the fact that both forms have inherent case.

### 3.5.3    Failed number agreement and oblique subjects

The discussion so far in this section has focused on a variety of English where number but not person agreement is generally obligatory in constructions involving the locative expletive. This variety is widespread and well-attested in the literature. However, there are reports in the literature of a second variety, which can be distinguished by the fact that number agreement is generally allowed to fail in constructions involving the locative expletive, despite being required in non-expletive environments (Meechan and Foley 1994; Sobin 1997; Smallwood 1997; Schütze 1999; Sobin 2014). Examples like (44) thus surface with the singular form of the verb.[19]

---

[19]This variation may be reflected geographically: both Meechan and Foley (1994) and Smallwood (1997) report the non-agreeing forms are present among Canadian English speakers, and I have yet to find a speaker of American English who genuinely accepts data like (44).

(44)  a. %On the top line there is three sick people.
          (Smallwood 1997: 11)
      b. %There was not many dogs in the yard.
          (Schütze 1999: 480)

Let us grant, then, that there are speakers for whom number agreement may be suspended in constructions involving the locative proform, but who require number agreement when the target appears in the canonical subject position.[20] The existence of this variety presents a challenge to the present account, which predicts that number agreement should be obligatory in such cases.[21]

   To address this challenge, I show that the exact same dialectal variation in the possibility for number agreement also manifests in Icelandic with quirky-subject constructions. Following Sigurðsson and Holmberg (2008), I then extend the analysis of the person/number split developed in Section 3.5.2 to capture both the English and Icelandic data in a manner consistent with our core proposal. The superficial challenge posed by the existence of this dialectial variation is therefore not only unproblematic, but it in fact offers confirmation of the essential hypothesis that the locative expletive shares its formal properties with Icelandic dative subjects.

   To this end, in addition to the variety of Icelandic we have seen so far, where number agreement with the nominative argument is preferred in dative-subject constructions, Sigurðsson and Holmberg (2008) identify an additional variety where number agreement is strongly disfavored. Following Sigurðsson and Holmberg (2008), I refer to the first variety as Icelandic A and the second variety as Icelandic C. Both varieties show obligatory number agreement with nominative subjects in clause-initial position.[22]

(45)  a. að henni likuðu/?likaði        þeir
         that her.DAT liked.3.PL/liked.3.SG pro.3.PL.NOM
         'That she liked them.'                                          *Icelandic A*
      b. að henni ??likuðu/likaði        þeir
         that her.DAT liked.3.PL/liked.3.SG pro.3.PL.NOM
         'That she liked them.'                                          *Icelandic C*
         (Sigurðsson and Holmberg 2008: 260)

---

[20] The references cited above are unclear as to whether the relevant speakers require singular agreement in cases like (44), or merely allow it as a permissible option. They also do not report if singular agreement is possible with plural agreement triggers in non-expletive constructions. I assume it is not, since this striking fact would surely have warranted iunclusion in their reports.

[21] Once again, it's important to point out that this is a different phenomenon from the possibility to use the contracted form of the copula, *'s*, with a plural agreement target and the phenomenon of closest conjunct agreement, both of which are observed with speakers who reject (44). I analyze these phenomena in detail in the next section.

[22] Sigurðsson and Holmberg (2008) also identify a third variety, Icelandic B, where number agreement with the nominative argument in dative-subject constructions is optional:

(i)   að henni likuðu/likaði        þeir
      that her.DAT liked.3.PL/liked.3.SG pro.3.PL.NOM
      'That she liked them.'                                          *Icelandic*
      (Sigurðsson and Holmberg 2008: 260)

As Sigurðsson and Holmberg (2008) point out, this variety is a historical intermediary between the conservative Icelandic A, prevalent among older speakers, and the innovative Icelandic C, prevalent among younger speakers. Sigurðsson and Holmberg (2008: 261f.) suggest, moreover, that speakers of Icelandic B do not have a separate grammar, *per se*, but rather may resort to both the Icelandic A and Icelandic C grammars. The judgements in (i) are therefore likely to be an epiphenomenon, so I will not discuss them further here.

Icelandic A shows the agreement pattern familiar from Standard English: number agreement is preferred with the post-verbal nominative argument when the subject is not itself an agreement trigger.[23] The varieties of English that tolerate singular agreement in the presence of a plural agreement target are, in contrast, equivalent to Icelandic C in rejecting argeement.[24]

With these data in place, recall that on the analysis developed above, person agreement fails in dative-subject and expletive constructions because the dative/expletive intervenes between the head triggering person-agreement and the associated target. Number agreement is licensed, in contrast, as the dative/expletive raises above the triggering head and hence does not intervene. The difference between person- and number-agreement thus reduces to the relative location of the highest A-position in the clause. I now show how this account can be minimally extended to account for Icelandic C, and in turn, the varieties of English that accept (44).

Following Sigurðsson and Holmberg (2008), I propose that number agreement is blocked in Icelandic C because the dative subject intervenes between the agreement target and the agreement trigger at the stage of the derivation where agreement is triggered. This can be encoded as follows: Icelandic A and Icelandic C differ minimally in that the highest A-position in the clause in Icelandic C is below rather than above #, say Spec(TP).[25] It follows that in this variety, dative subjects intervene for both person and number agreement, capturing the pattern in (44c). A basic derivation proceeds as follows: when T is merged in the structure, it attracts the dative subject to its specifier; the number-agreement triggering head is then merged, but the dative intervenes and no agreement obtains; the person-agreement triggering head is then merged, and agreement is likewise blocked and hence fails to obtain.

(46)    $[\,\pi\,[\,\#\,[\ldots[\text{DP.DAT}\,[\text{T}\,[\ldots\,\text{DP.NOM}\ldots]]]]]]$
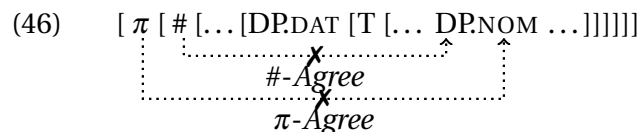
    #-Agree

    $\pi$-Agree

Examples with nominative subjects differ in that the nominative itself raises to Spec(TP), where it is accessible to both agreement operations. The analysis therefore correctly captures the agreement pattern in Icelandic C.

(47)    $[\,\pi\,[\,\#\,[\ldots[\,\text{DP.NOM}\,[\text{T}\ldots]]]]]$
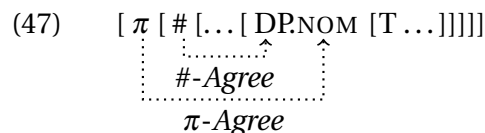
    #-Agree

    $\pi$-Agree

The same analysis extends immediately to the varieties of English where (44) is acceptable.

---

[23]Sigurðsson and Holmberg (2008) report that singular agreement is marginally possible here, unlike in the variety of English discussed above. That said, there appears to be variation even in this domain, with at least some speakers roundly rejecting singular agreement, more in line with the English data (Schütze 1999: 108f.).

[24]As mentioned in fn. 20, it is unclear whether plural agreement is possible for those speakers who tolerate (44). If it is, then this variety of English is more akin to the Icelandic variety described in fn. 22. Even so, following Sigurðsson and Holmberg's (2008) treatment of this Icelandic variety, the English data can also presumably be viewed as resulting from the competition of two grammars, one that requires number agreement and one that bars it.

[25]The insight that the dative intervenes for number agreement in Icelandic C but not Icelandic A is due to Sigurðsson and Holmberg (2008), although they analyze this in terms of differential derivational timing rather than differential positioning of the highest A-position. On their account, Icelandic C is subject to an independent constraint that forces number probing to take place before the dative subject raises to the position between # and $\pi$. One of the core features of the present framework is that it eschews reference to order of operations, so we cannot make recourse to a similar mechanism. As discussed by Preminger (2014: 4.4.1), such timing effects must be directly encoded in the syntactic structure on the present account. As such, I have opted to encode the Icelandic-C type behavior in terms of differential positioning of the highest A-position in the clause.

Granting that the heads that trigger both person- and number-agreement are above the highest A-position in the clause, the locative expletive will always intervene for both agreement operations, just like dative subjects in Icelandic C:

(48)  [ $\pi$ [ # [... [there [T [... DP.NOM ...]]]]]]
                    #-Agree
              $\pi$-Agree

Also as in Icelandic C, non-expletive subjects will always be accessible to both agreement operations, as in such cases there is no higher DP with oblique/lexical Case to intervene (see (47)).

Before moving on, there is a final issue that warrants mention.[26] Granting that grammars can differ in terms of whether particular TP-level heads license A-positions or not, we might expect to observe a third variety of English or Icelandic, where the highest A-position in the clause is above both the $\pi$ and # heads. In such a variety, both person and number agreement would be obligatory in the presence of a quirky subject or expletive. While I am not aware of any such variety of English or Icelandic, this pattern does in fact obtain in Standard German, which also licenses quirky subjects. In such cases, then, both person and number agreement are obligatory with the nominative object.

(49)  Ihm         würde-t/*n        ihr              gefallen haben.
      him.DAT would-2PL/*1/3PL you.NOM.PL liked     have
      'He would have liked you.'                                    *German*
      (Sigurðsson and Holmberg 2008: 254)

It follows that we have evidence for all three possible combinations of A-positions and person and number heads: the highest A-position is below both heads (Icelandic C; varieties of English), the highest A-position is above both heads (German), and the highest A-position is between the two heads (Icelandic C; English; Dutch). This lends credence to the idea that grammars can differ idiosyncratically in this way.

### 3.5.4 Summary

In this section, we have seen that Icelandic examples with subjects marked for inherent case share in common with English and Dutch examples with locative-expletive subjects the fact that person agreement is impossible. Following Sigurðsson and Holmberg (2008), I argued that this behavior in Icelandic reduces to the well-known fact that XPs with inherent case intervene for agreement: the subject bearing inherent case raises to a position above the number head but below the person head, and thus blocks person but not number agreement. By analogy, the same account extends to locative expletives on the hypothesis that they have inherent case, corroborating the analysis. Finally, I showed that there are varieties of English where the locative expletive obviates number agreement as well. Strikingly, this pattern is also observed in varieties of Icelandic with dative subjects, a fact that has been analyzed by Sigurðsson and Holmberg (2008) as again deriving from the fact that XPs with inherent case intervene for agreement. The fact that English and Icelandic show the same variation in this regard further corroborates the overall proposal assimilating dative subjects and locative expletives.

---

[26]Thanks to David Pesetsky (p.c.) for bringing this to my attention.

### 3.6 Other exceptional case and agreement behavior

We have now seen that the hypothesis that the locative expletive bears a lexically valued Case feature accounts for the essential Case and agreement facts observed in constructions involving this form. In this section, I turn my attention to three cases that are superficially at odds with the present account, showing in each case that the challenge is only apparent, and that the relevant data can be understood straightforwardly in present terms. The facts are these. First, in English constructions involving the locative expletive, if the highest non-expletive DP is a pronoun, it surfaces in the accusative form, not the nominative predicted by the present account.

(50)    There was me/*I in the room

Second, in expletive constructions involving the copula, the contracted singular form *'s* is possible in the presence of a plural agreement target (Sobin 1997). Crucially, this pattern holds even among speakers who generally require number agreement, so that the contracted form contrasts with the non-contracted singular *is*.

(51)    a.   There's often several books on that table.
        b.   *There often is several books on that table.

Finally, when the highest non-expletive DP in English is a conjunction, agreement is preferentially with the first conjunct, rather than the conjunction as a whole. This is again possible even for speakers that generally require plural number agreement with plural agreement targets in expletive constructions.

(52)    a.   There was/??were a man and two women in the room.
        b.   A man and two women were/*was in the room.

### 3.6.1 Exceptional pronominal case

To illustrate the first set of challenging data, recall that the present account predicts that the associate DP in a sentence involving the locative expletive should surface with nominative case. On the functional-head view, this follows because T agrees with this nominal, and on the configuration view because XPs marked with inherent case do not trigger dependent Case valuation on lower DPs (Marantz 1991; Bobaljik 2008). Indeed, in Icelandic examples with subjects bearing inherent case, the next highest nominal surfaces with nominative case, as we have seen.

   Testing this prediction in English and Dutch is complicated by the fact that case morphology is only visible on pronouns, and pronouns require special context to appear in expletive constructions (see, e.g., Ward and Birner 1995). Controlling for this, we observe the following. In Dutch, only the expected nominative form is licensed.

(53)    a.   ?Er    is alleen ik/*mij              in de  tuin.
             EXPL is only   1.SG.NOM/*1.SG.ACC in the garden
             'There is only me in the garden'
        b.   ?Er    zijn alleen wij/*ons          in de  tuin.
             EXPL are  only   1.PL.NOM/*1.PL.ACC in the garden
             'There are only us in the garden'                           *Dutch*
             (Hedde Zeijlstra, p.c.)

As has been frequently observed in the literature (see Sobin 1997, 2014 and references therein),

however, English patterns differently in requiring the accusative form in such contexts, apparently counter to the predictions of the present account.

(54)    a.    There will be only me/us/*I/*we in the garden.
           b.    There might be just them/*they at the dinner tonight.

In this section, argue that these English data are ultimately not problematic for the present account. In particular, I show that the that the surface form of English pronouns does not accurately reflect their underlying Case valuation, following Emonds (1986): the use of what I will hereafter term the 'subjective' forms – *I, he, she, they* – is in fact limited to environments where the relevant pronoun surfaces as an 'immediate constituent' of a finite TP which contains an overt inflected verbal element at T.[27] The subjective form is therefore crucially excluded in a wide variety of positions where the present theory predicts DPs should have nominative case. The conclusion is that surface form of English pronouns therefore does not accurately reflect their underlying Case valuation, so that data like (54) pose no special challenge to the present theory. For terminological convenience, I will hereafter use the term 'nominative Case' to refer to the particular Case-feature value that is predicted to appear on subjects of finite clauses. This description should be understood as theory neutral, and hence can be taken to represent either the value associated with agreement with T on the functional-head model or unvalued Case on the configurational model. The proposal, then, is that pronouns can bear nominative Case and yet not surface in the subjective form.

To be slightly more formal, I follow Emonds (1986) in assuming that the surface realization of English personal pronouns is determined by a morphological process that is blind to the value of the pronoun's Case feature. In Emonds' terms, subject pronouns are distinguished from the other non-possessive form by a morphological diacritic, [+SUBJECT], which is assigned post-syntactically in virtue of being an immediate constituent of a finite TP with overt manifestation of inflection. The distribution of the subject form is then governed by the following morphological rule, which makes no reference to Case valuation:

(55)    **English pronoun spell-out rule** (Emonds 1986):
        [+PRONOUN] $\Rightarrow$ [+PRONOUN,+SUBJECT] / [$_{TP}$ __ [$_{TP}$ T . . . ]]

Emonds (1986) argues for (55) on the basis of the distribution of pronominal forms in a variety of environments, three of which I discuss here. In present terms, they are all environments where DPs are uncontroversially expected to receive nominative Case under both main theories of Case introduced in Section 3.2, but where the pronoun nevertheless surfaces in the non-subjective form, lending credence to the idea that surface morphology simply does not reflect Case valuation in English.

The first such environment involves comparatives. The example in (56a), where the comparative clause features an overt manifestation of T and requires the subjective form, thus contrasts with the example in (56b), where the comparative clause lacks such an overt realization of T and requires the non-subjective form.

(56)    a.    John and Mary are both doctors, but she gives more shots to children in one day than he/*him does to adults in the entire year.
           b.    John and Mary are both doctors, but she gives more shots to children in one day than him/*he to adults in the entire year.

---

[27]XP is an immediate constituent of YP iff YP dominates XP and there is no ZP distinct from YP that dominates XP but does not dominate YP.

Following Heim (2000) and Lechner (2001), we can assign the structures in (57a,b) to (56a,b), respectively.[28] It follows that the pronoun following *than* in (56b) must surface in the accusative form despite the fact that it is unequivocally a clausal subject, and hence should surface with nominative Case under both main theories. The contrast with (56a) shows, moreover, that the overt manifestation of T is the crucial factor.

(57)  a.  …[than…[$_{TP}$ he does [$_{VP}$ ~~give shots~~ $t_1$] [to adults]$_1$ in the entire year]]
      b.  …[than…[$_{TP}$ him [$_{TP}$ ~~gives shots~~ $t_1$] [to adults]$_1$ in the entire year]]

Emonds' second environment is the interior of a subject coordinate-structure. As illustrated in (58), both the first and second conjuncts must surface in the non-subjective form.

(58)  a.  Mary and him/*he are late.
      b.  Are your friends or us/*we going to pick up John?
      c.  Sometimes her/*she and us/*I were late.
          (Emonds 1986: 96)

As before, we expect DPs in at least some of these positions to bear nominative Case. On the functional-head view, the coordinate structure is in subject position and triggers agreement at T, and hence is expected to bear nominative Case. In languages with robust systems of case marking, nominative percolates to the DPs inside the coordinate structure, as illustrated in German below.

(59)  Der      junge und der     hund sind hier.
      the.NOM boy   and the.NOM dog  are  here
      'The boy and the dog are here.'                                              *German*

We therefor plausibly expect both nominals in (58) to have nominative Case. On the configurational view, the entire coordinate structure is a subject and hence is not c-commanded by a clause-mate DP, so it should be unvalued for Case. Within the coordinate structure, there is evidence that the first conjunct c-commands the second (Munn 1993), so depending on how the dependent Case valuation algorithm is defined, we might expect the second conjunct to receive dependent Case, which would explain the accusative form in (59a,b). That said, as (59c) shows, the challenge is more general, since the first conjuct also shows up in this form, despite plausibly being unvalued for Case. This behavior is predicted by the rule in (55), however, since both conjuncts are arguably embedded in the coordinate structure (Munn 1993) and hence neither is immediately dominated by TP. These data therefore support the rule in (55), and the corresponding proposal that pronominal case morphology does not reflect Case valuation.

The third data point concerns so-called demonstrative uses of pronouns, as in (60).

(60)  a.  Us/%we commuters are often blamed for smog.
      b.  How much would us/%we with insurance have to pay?

---

[28]The examples in (56a) and (56b) instantiate two distinct types of comparatives, clausal and phrasal, respectively. While it is widely accepted that clausal comparatives involve full clausal structure in the comparative clause (along with VP-ellipsis; see Heim 2000), this is less universally agreed upon for phrasal comparatives. One tradition analyzes all phrasal comparatives as involving full phrasal structure and TP- rather than VP-level ellipsis (Heim 1985; Hackl 2000; Lechner 2001; (ib)). Another tradition, however, holds that at least some phrasal comparatives do not involve clausal structure, and that the DP following *than* is a prepositional object (Brame 1983; Napoli 1983; McConnel-Ginet 1973; Pancheva 2006; (ic)). Following Lechner (2001), this distinct is irrelevant for present purposes, since the phrasal comparative in (56) involves gapping and is hence unambiguously clausal in nature.

These forms arguably involve the pronoun in the determiner position of a DP, with the NP a complement (see Elbourne 2005 and references therein). On both theories of case, the subject in these instances bears nominative Case. Now, in languages that mark case on determiners, it must match the case of the overall DP (see (61)), so we *a priori* expect that the subjective form should be required if it truly spells out nominative Case. This is not borne out, as (60) demonstrates.

(61)  de-r/*n      Hund beiβt de-n/*r      Mann.
      the-NOM/*ACC dog    bites the-ACC/*NOM man
      'The dog bites the man'                                        *German*

Again, these data support the generalization in (55), since in (60) the pronoun is part of a larger structure and hence not immediately dominated by TP. The conclusion, once again, is that pronominal case morphology does not reflect Case valuation in English.

  We have now seen three contexts where a pronoun that is uncontroversially predicted to bear nominative Case nevertheless is spelled out in the non-subjective form.[29] Moreover, we have seen that all three cases fall under Emonds's (1986) rule for morphological realization in (55), which restricts the nominative form to pronouns immediately dominated by a TP with an overt realization of T. The upshot is that the distribution of subjective forms does not reflect Case valuation, so the absence of the expected subjective form in English examples with expletive *there* is not a challenge to the theory.

### 3.6.2  The contracted singular copula

The second case of exceptional behavior I consider is the fact that the contracted version of the third person singular form of the copula *'s* is generally possible in the presence of plural agreement targets, as in (62). Crucially, this pattern is possible for speakers who generally require number agreement.

(62)  a.   There's several books on the table.
      b.   There's many ways to solve that problem.

---

[29]Emonds (1986) discusses three additional contexts where he claims the accusative form is exceptionally licensed: exceptives, appositives to subjects, and predicate nominals.

(i)   a.   Everyone but me/*I got a promotion.
      b.   Judy thinks that the best math student, namely her/*she, ought to get a scholarship.
      c.   I like Bob, but I don't want to be him/*he

I don't discuss exceptives or appositives in detail because the proper syntactic treatment is not obvious, but at least on the straightforward analysis that eschews ellipsis, both involve DPs that are not in a position to be valued for dependent Case but that nevertheless surface with accusative. The purported argument from predicate nominals faces a different issue. In languages with robust systems of morphological case, the case form on a predicate nominal generally must match the subject. Thus in Icelandic, the predicate nominal in (iia) matches the quirky dative case on the subject.

(ii)  Ólafi    fannst gaman      að vera fyrstum.
      Olaf.DAT found pleasurable to be    first.one.the.DAT
      'Olaf found it pleasurable to be the first one.'              *Icelandic*
      (Sigurðsson 2008: 415)

We therefore expect that the predicate nominal should surface in nomative form in (i), so that these data support (55). That said, I am unaware of how to account for these facts, so I will not count them as an argument in favor of the main proposal in this section.

As we have seen in Sections 3.4 and 3.5, the highest non-expletive DP is generally accessible to number agreement in constructions involving the locative expletive, so such agreement should be obligatory. If we grant that the contracted form *'s* of the copula spells out singular agreement on the verb, then the data above are therefore problematic in that number agreement has not taken place, on the hypothesis that singular reflects an absence of number (see Chapter 2).

That said, however, several facts militate against the conclusion that *'s* is a strictly singular form. Instead, I propose that in certain contexts, the contracted form of the copula is available as a present tense spell-out for third person *be*, independent of number specification. The examples in (62) thus involve the expected underlying plural agreement, with *be* nevertheless optionally spelled out as *'s* rather than *are*. Following Chomsky (1995: 384), the possibility for the contracted form to appear in cases like (62) is therefore the result of a special morphological rule, not the failure of number agreement.

The first evidence that *'s* can spell out plural agreement is that it this form is possible for speakers who otherwise require plural agreement, to the effect that the contracted and non-contracted singular forms diverge in acceptability in such contexts.

(63)    a.    There's often many ways to solve a problem.
        b.    There often are/*is many ways to solve a problem.

Granting that *is* and *are* are the canonical spell out of third person singular and plural agreement on the copula, respectively, these data show that number agreement is indeed obligatory in the syntax in cases like (63), as expected. This, in turn, suggests that *'s* is licensed in the presence of a plural number feature at T.

The second piece of evidence is that the contracted form is possible in the presence of a plural agreement trigger in a variety of contexts that do not involve the locative expletive (Dixon 1977, Nathan 1981, Sparks 1984, a.o.). Notably, it is also possible with the locative use of the proform *there*, as in (64e).

(64)    a.    Where's my pants?
              (Dixon 1977: 600)
        b.    When's the races for the children?
        c.    How's your feet?
              (Sparks 1984: 181f.)
        d.    Where on earth's the horses?
              (Nathan 1981: 152)
        e.    There's my pants! (pointing to pants)

Crucially, the non-contracted singular form is again impossible in these contexts, entailing that number agreement is obligatory. The conclusion is once again that *'s* can spell out plural agreement.

(65)    a.    Where are/*is my pants?
        b.    When are/*is the races for the children?
        c.    Tomorrow are/*is the races for the children.
        d.    How are/*is the horses?
        e.    Where on earth are/*is the horses?
        f.    There are/*is my pants!

The upshot is that the contracted form *'s* is possible in a variety of contexts where plural agreement has taken place in the syntax. While there remains the interesting question of what specific

89

factors govern the distribution of the contracted form (see Sparks 1984 for some preliminary suggestions), the above data should suffice to show that *'s* is not a strictly singular form, eliminating the challenge posed by (62).

### 3.6.3 Closest conjunct agreement

The final case of superficially exceptional behavior I consider is the phenomenon known as closest-conjunct agreement (CCA). In the context of expletive constructions, CCA manifests as follows: if the highest non-expletive DP in an expletive construction is a conjunction, verbal agreement preferentially targets the structurally closest conjunct rather than the entire conjunction (see Sobin 1997 for experimental confirmation of the effect). Thus in (66a) and (66b), verbal agreement is preferentially with the singular first conjunct, even though the conjunction itself is semantically plural. When the first conjunct is plural, verbal agreement is plural as well (see (66c,d)). Once again, these facts hold for speakers that usually require number agreement, suggesting that this is a separate phenomenon from the general absence of number agreement observed in some varieties of English (see Section 3.5.3).

(66)  a.  There has/??have emerged a challenge and a solution.
      b.  There has/??have emerged a challenge and two solutions.
      c.  There have/??has emerged two challenges and a solution.
      d.  There have/??has emerged two challenges and two solution.

In corresponding examples where the conjoined DP is moved to subject position, however, agreement obligatorily tracks the features of the conjoined phrase as a whole, and is hence plural for each of the conjuncts above.

(67)  a.  A challenge and a solution have/*has emerged.
      b.  A challenge and two solutions have/*has emerged.
      c.  Two challenges and a solution have/*has emerged.
      d.  Two challenges and two solutions have/*has emerged.

To formally articulate the challenge that (66) poses, let's adopt the standard analysis of conjoined DPs (see, e.g., Munn 1993), which holds that they are parsed along the following lines:

(68)  Structure of conjoined DPs:
      [$_{\&P}$ DP$_1$ [& DP$_2$]]

CCA in English expletive constructions therefore appears to violate the locality condition on $\varphi$-Agree: agreement targets the highest conjunct rather than the conjoined phrase that contains it, despite the fact that the conjoined phrase is itself a viable agreement trigger, as seen in (67).[30] These data thus constitute a challenge to the basic analysis developed here.

(69)  [there [ T ... [$_{\&P}$ DP [& DP]] ... ]]                    (✗ *locality*)
                  $\varphi$-*Agree*

The remainder of this section is devoted to showing that the challenge is superficial, and that CCA can, like the phenomena in the previous two sections, be captured in terms of the present analysis. The argument here is comparatively simple. I show, following Hirsch (2017),

---

[30]Here and throughout, I continue to represent $\varphi$-agreement as a unitary operation triggered at T. This is for expository purposes only; the results of the previous section have no bearing on these data, so I do not include the concomitant complication in the structure of the TP domain.

that conjoined DPs in object position do not involve the coordination of DPs, as in (68), but rather the coordination of $v$Ps, with concomitant across-the-board (ATB) extraction of the $v$P-internal subject and VP ellipsis in the second conjunct.

(70)  a.  John met a man and a woman

ATB-movement

b.  [John [T … [&P [$_{vP}$ ~~John~~ [$v$ [VP met a man]]] [& [$_{vP}$ ~~John~~ [$v$ ~~[VP met $t_1$]~~ a woman$_1$]]]]]]

VP-ellipsis
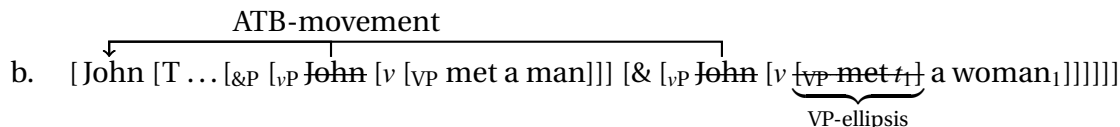
The structure underlying CCA, as in, e.g., (71a), is therefore not the locality-violating configuration in (69), but rather the structure in (71b), where the closest non-expletive DP to accessible to the agreement operation at T is the internal argument of the higher $v$P – the first 'conjunct' DP. CCA is therefore in conformity with basic notions of locality, and follows straightforwardly.[31]

(71)  a.  There has/*have emerged a problem and a solution.

ATB-movement

b.  [ there [ T … [&P [$_{vP}$ there [$v$ [VP emerged  DP]]] [& [$_{vP}$ there [$v$ ~~[VP emerged $t_1$]~~ DP$_1$]]]]]]

$\varphi$-Agree

VP-ellipsis
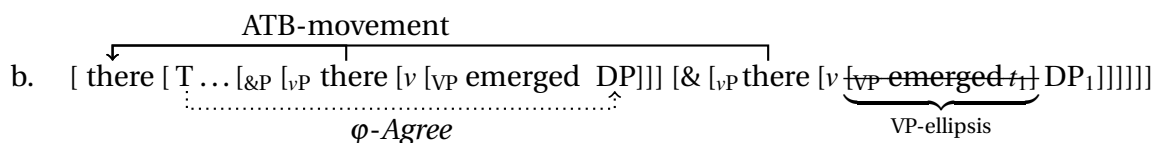
Following Hirsch (2017), I refer to this analyis of conjoined object DPs as the conjunction-reduction (CR) analysis. My proposal, then, reduces to the following: CCA is felicitously explained in the present system if we adopt the CR hypothesis in (72).

(72)  **Conjunction-reduction hypothesis** (Hirsch 2017):
All surface-level coordination of VP-internal DPs underlyingly involves coordination of $v$Ps.

In the remainder of the section, I review Hirsch's (2017) arguments in support of the hypothesis in (72).

   To begin, while the syntax underlying the CR analysis may seem baroque, the basic mechanisms involved have been independently proposed and motivated to account for a distinct construction: gapping (Johnson 2009), as in (73a). Following Johnson (2009), gapping also involves $v$P-level coordination, and is derived as follows: first, the $v$P-internal subject raises out of the left conjunct $v$P to surface subject position; the internal argument in the second conjunct $v$P evacuates the VP, which is then elided:

(73)  a.  John saw Sue and Mary Bill.
b.  [John [T … [&P [$_{vP}$ ~~John~~ [$v$ [VP saw Sue]]] [& [$_{vP}$ Mary [$v$ ~~[VP saw $t_1$]~~ Bill$_1$]]]]]]

The CR analysis of object coordination differs only in that the $v$P-internal subject is the same in

---

[31]CCA is also possible in expletive constructions like (ia), which arguably involve a small-clause complement to $v$. All of the arguments provided below in favor of the conjunction-reduction analysis extend to such cases (see fn. 33), which can thus presumably be taken to involve $v$P-level coordination followed by ATB rightward movement of the predicational phrase, as in (ib).

(i)  a.  There was a man and three women in the garden.
b.  There was [&P [$_{vP}$ ~~there~~ [a man $t_1$]] [& [$_{vP}$ ~~there~~ [three women $t_1$] ]]] [in the garden]$_1$

both conjuncts, and hence undergoes ATB movement to Spec(TP). The basic syntactic mechanisms that underly the CR hypothesis are therefore independently motivated to account for gapping.

In addition to this conceptual support, Hirsch (2017) provides a variety of empirical arguments in favor of the CR hypothesis. The first is that *v*P-level adverbs are licensed to appear between the *and* and the second conjunct in object coordination structures. Hirsch (2017: Sec. 2.3) argues at length thus such adverbs cannot be adjoined to DP, and are hence unexpected in this position if coordination targets object DPs (see (75a)). In contrast, this data is readily predicted on the CR analysis, where the adverb can simply adjoin to the *v*P in the second conjunct, as in (75b).

(74)  a.  John read a book and, yesterday, a magazine.
      b.  Sue ate an apple and, yesterday, a banana.

(75)  a.  *John read [&P [DPa book] [& [DPyesterday [a magazine]]]]
      b.  [TP John [T … [&P [*v*P John [*v* [read a book]]] [& [*v*P yesterday [John [*v* read *t* a magazine]]]]]]]

We can replicate the core data with expletive constructions, confirming the argument also extends here.

(76)  There emerged a problem and, yesterday, a solution.

The second argument hinges on the fact that the CR analysis and the DP-conjunction analysis differ in that on the former, there is a VP contained in each of the two conjuncts, while on the latter a single VP contains the two conjuncts (cf. (77a), (77b)):

(77)  Harvard invited Labov and Chomsky.
      a.  Harvard [&P [*v*P Harvard [*v* [**VP invited Labov**]]] [& [*v*P Harvard [*v* [**VP invited Chomsky**]]]]]
      b.  Harvard [*v*P Harvard [*v* [VP invited [&P Labov [& Chomsky]]]]]

Bearing this in mind, the argument is that the VP-ellipsis in the adverbial clause in (78) must be understood as involving the VP *invited Chomsky*. As such, only the structure in (77a) furnishes an appropriate antecedent, since in (77b), the only VP present contains the conjoined DP, i.e., *invited Labov and Chomsky*, and antecedent and elided VPs must be structurally identical modulo focus (Sag 1976; Williams 1977; Takahashi and Fox 2005). I refer the reader to Hirsch (2017: 2.4) for more discussion.

(78)  Harvard invited Labov and, ten years after Brandeis did Δ, Chomsky.
      a.  = Harvard invited Labov and – ten years after Brandeis invited Chomsky – Harvard invited Chomsky.
      b.  ≠ Harvard invited Labov and – ten years after Brandeis invited Labov and Chomsky – Harvard invited Chomsky.

Once again, we can replicate the argument on the basis of expletive constructions, as in (79).

(79)  There emerged a problem and, ten years after John predicted there would Δ, a solution.

The third and final argument is that the *and* can take scope above VP-level material when conjoining object DPs, which is predicted only if coordination is at the VP-level or higher. To

set up an illustrative example, some basic background is needed. The example will rely on the determiner *little*, which, following Heim (2008) decomposes into a negation component and *much*. The sentence in (80a) is thus most naturally paraphrased as in (80b), where negation takes scope above *need*, which in turn takes scope above *much*.

(80)  a.  This plant needs little water.
      b.  ≈ This plant does **not** need **much** water.                    (*not > need > much*)

The argument, then, is that if coordination of *little*-DPs yields a reading where *and* scopes above *need* (see (81b)). Crucially, this is exactly the reading that is predicted if *and* coordinates at the *v*P level, since in this position it naturally scopes above two independent occurrences of *need little X* (see (81c)).

(81)  a.  This plant needs little water and little light.
      b.  ≈ This plant doesn't need much water and it doesn't need much light
                                                              (*not > and > need > much*)
      c.  [This plant [… [$_{\&P}$ [~~this plant~~ **[need little water]**] [& [~~this plant~~ **[need little light]**]]]]]]

In contrast, if coordination took place at the DP level, we would expect a reading where *and* scoped below *need* (see (82b)), yielding a reading paraphrased as in (82a). This reading is consistent with a state of affairs where, for example, te plant needs a lot of light but not water, or vice versa, which is clearly not consistent with the actual meaning of (80a).

(82)  a.  This plant doesn't need both a lot of water and a lot of light.  (*not > need > and > much*)
      b.  [This plant [… [~~this plant~~ [need [$_{\&P}$ little water [& little light]]]]]]

We can replicate this argument with *there* sentences, once again, as in (83a), where *and* must scope above, not below, *exists*. Once again, these readings can be distinguished by the fact that the latter but not the former is compatible with a scenario where there is a lot of interest but no incentive, or vice versa.

(83)  a.  There exists little appetite and little incentive to tackle this problem.
      b.  There isn't much appetite and there isn't much incentive to tackle this problem.
                                                              (*not > and > exists > much*)
      c.  There isn't both a lot of interest and a lot of incentive to tackle this problem.
                                                              (*not > exists > and > much*)

Granting on the basis of these arguments[32] that the CR hypothesis is correct, we can conclude that the CCA facts are exactly as predicted by the present account: agreement in constructions involving the locative expletive always targets the highest non-expletive DP in the structure.[33]

---

[32]Hirsch (2017) also provides a forth argument, on the basis of the scope possibilities for the conjoined indefinites in sentences like (i). The natural reading of this sentence is that a single company hired both a cook and a maid. Crucially, it does not seem to tolerate a reading where one company hired a cook and another company a maid.

(i)      Some company hired a cook and a maid.

Hirsch (2017) argues that this is predicted on the CR analysis, but not the conjoined-DP analysis. The analysis depends, however, on a particular stance on the meaning of *and*, and moreover does not readily translate to expletive sentences, since it depends on the presence of an indefinite external argument. I therefore set it aside here.

[33]As mention in fn. 31, the arguments above also go through for expletive sentences involving small-clause comple-

Two final remarks are in order. First, as pointed out to me by Sabine Iatridou (p.c.), the CR hypothesis appears to be suspendable in certain contexts, for example when the [DP & DP] structure is modified by a relative clause that demands a plural subject.

(84)    At the party, there will be a man and a woman who will dance with each other.

This example seems to require that *a man and a woman* be parsed as a single conjoined DP, so as to bind the reciprocal *each other* in the relative clause. Strikingly, closest conjunct agreement is ruled out in such contexts.

(85)    At the party, there were/*was a man and a woman who danced with each other.

These data suggest that the Conjunction-reduction hypothesis may be too strong. Indeed, it is fully compatible with all of the data we have seen so far that there is a strong but not insurmountable preference to analyze post-verbal conjoined DPs in terms of $v$P- rather than DP-level coordination. What is crucial for our purposes is that whenever this preference is overridden, closest-conjunct agreement should disappear. This prediction is borne out, as in (85). This ties in with a second issue, namely that conjoined DPs in surface subject position clearly trigger plural agreement (see (67), (86)). This suggests that coordination is at the DP level in these cases. This in turn entails that there is no inherent problem with conjoining DPs, contra Hirsch (2017), even if there is a preference to parse post-verbal conjoined DPs in terms of $v$P- rather than DP-level coordination.

(86)    a.    John and Bill are/*is coming to the party.
        b.    [&P [TP John ~~came to the party~~] [& [TP Bill ~~came to the party~~]]] [came to the party]

Again, I want to highlight that allowing DP-level coordination is not a problem for our account, since in all the cases we have seen where DPs are plausibly conjoined, there is no closest-conjunct agreement. The analysis developed here only depends on the weaker proposal, defended at length above, that there is a strong prefernece to parse conjoined post-verbal DPs in terms of $v$P- rather than DP-level coordination.

## 3.7    Summary & Outlook

### 3.7.1    Summary

In this chapter, I have presented and defended a general theory of the formal features on expletives. At its core, the theory comprises two related hypotheses: (i) that the formal features of expletive proforms are identical to their non-expletive variants; (ii) that this entails that the default third person singular expletive bears $\varphi$-features and an unvalued Case feature, and that the locative expletive bears lexically valued inherent Case. The proposal concerning the default third person expletive is equivalent to the prevailing view, and I have little more to say about

---

ments to $v$. I demonstrate with the following three examples, which are of the form underlying the three arguments above, respectively.

(i)     There was a jay and, yesterday, a finch in the garden.
(i)     There was a jay and, just as John predicted there would be, a finch in the garden.
(i)     The ideal job is one where there is little time and little effort required.

In conjunction with the discussion above, these examples support a CR analysis of such cases along the lines suggested in fn. 31, whereby the predicational phrase, in this case the PP, undergoes rightward ATB movement out of the $v$P.

it. With the locative expletive, however, the proposal is a major departure from the existing literature in that it directly assimilates the formal features of the locative expletive with those of both other locative XPs and non-nominative subjects in Icelandic. This assimilation was based on the observation that all three forms share in common a particular agreement profile when they occupy Spec(TP) of a finite clause – verbal agreement in such cases is obligatorily with the highest non-subject DP in number but not person. I showed that this agreement behavior in Icelandic derives from the inherent case of the subject, thus corroborating the proposal that this is the feature shared in common by all three subjects.

We then saw additional evidence in favor of this assimilation in the form of dialectal variation. In particular, there are both varieties of English and Icelandic where sentences with expletive and dative subjects, respectively, fail to exhibit number as well as person agreement. Following Sigurðsson and Holmberg (2008), I argued that this behavior also reduces to the inherent case on the subject, again corroborating the core proposal.

Finally, we saw that various other superficially problematic data including the case on English pronouns, the distribution of the contracted form of the copula, and closest conjunct agreement can all be handled in a manner consistent with the theory.

With the details of the account now fully in place, I would like to briefly address two remaining issues that arise as a consequence of the analysis. The first pertains to the idea that locative XPs bear inherent case. Given that case is usually a feature associated with DPs, not PPs, it is natural to ask how case comes to be associated with locative phrases, and what the consequences of this proposal are beyond the domain of agreement considered above. Second, as mentioned in the introduction, there are existing analyses of the locative expletive that achieve a parallel degree of empirical success in at least some of the domains discussed above. I will therefore briefly compare the present analyses to these alternatives, using as a metric the two conceptual questions highlighted in the introduction.

### 3.7.2 Locatives and inherent case

At the heart of the account of expletive sentences sketched in this chapter is the proposal that expletives share their formal features in common with the non-expletive elements from which they are grammaticalized. In the case of the locative expletive, which we argued bears inherent case, this means that we are also committed to the view that locative XPs bear inherent case. Empirically, this view is corroborated by the fact that locative XPs that move to Spec(TP) in locative inversion contexts show the same behavior with respect to agreement as locative expletives and Icelandic dative subjects, behavior which we argued reduces to the presence of inherent case.

In the context of locative XPs, this proposal raises two questions. First, with the possible exception of the pronouns *here, there*, locative phrases are exclusively PPs in the languages in question. Given that case is most often associated with DPs cross-linguistically, are there any special obstacles to assuming that locative PPs likewise bear a Case feature? Second, how do locative PPs come to bear a Case feature? With expletive *there*, we plausibly assumed that inherent Case was lexicalized on the pronoun itself. Should this also be extended to locative PPs?

I begin with the second question. With pronominal locative expressions like *here, there*, I see no barrier to assuming that the postulated inherent case feature is directly associated with the pronoun in the lexicon. The same cannot be said, however, about locative PPs in general. Locative expressions are an open class in the sense that they can be formed by combining a locative preposition with any place denoting noun, so to posit that locative PPs are lexically associated with a inherent case would commit us to the undesirable view that all locative expressions are pre-formed in the lexicon. I will therefore adopt the following alternative analysis. Locative

prepositions, I will assume, are lexically specified to assign inherent case to their complements. In this sense, they are no different then the *v* head associated with certain Icelandic verbs that assigns dative case to the subject. The complement of the locative preposition, then, receives inherent case, and I simply assume that this feature value percolates to the locative PP itself.

Granting this, we arrive at the first question highlighted above, namely what are the consequences of positing that locative PPs can bear case, a feature normally reserved for nominals. The most obvious answer is that we predict that locative PPs should behave like nominals bearing the same inherent case feature with respect to agreement, a prediction we have seen is borne out. Aside from this, neither of the two prominent theories of case mentioned in Section 3.2 are especially revealing concerning the proposal that locative PPs bear case. On the one hand, positing this feature is not problematic on either theory, and on the other its not clear that either theory makes any clear predictions concerning the behavior of locative PPs beyond the ones related to agreement mentioned above. I will therefore take it that there is no special problem with assuming that locative PPs bear inherent case.

To go one step further, there is even some additional evidence, albeit tentative, that locative PPs do indeed bear case features. In particular, locative PPs are unlike all other PPs in English in two important ways: (i) they intervene for agreement, and (ii) they can move to Spec(TP). We have already seen properties (i) and (ii) hold for locative expressions, so to illustrate the contrast I consider experiencer PPs in English. As illustrated in (87), neither property (i) nor (ii) hold of these PPs in English. Strikingly, both properties do hold of experiencer arguments in Icelandic (see (88)), so the behavior in English is not due to some inherent property of experiencer arguments.

(87)   a.   There seem/*seems **to me** to five men in the room.
       b.   \***To me** seems to be five men in the room.

(88)   (20)

       a.   það   finnst/*finnast   **einhverjum stúdent**        [$_{SC}$ tölvurnar               ljótar].
            EXPL find.SG/find.PL some              student.SG.DAT   computer.the.PL.NOM ugly
            'Some student finds the computers ugly.'

       b.   [**Einhverjum stúdent**]$_1$        finnast $t_1$ [$_{SC}$ tölvurnar        ljótar].
            some          student.SG.DAT find.PL      computer.thePL.NOM ugly
            'Some student finds the computers ugly.'                             *Icelandic*
            (Holmberg and Hróarsdóttir 2003: 999f.)

What I would like to tentatively suggest is that these properties of locative expressions in English arise precisely because locative PPs bear a case feature. In other words, the presence of a case feature is the crucial factor in English in determining whether a given XP is (i) visible to the agreement operation and hence a potential intervener, and (ii) capable of moving to Spec(TP). The unique properties of locative PPs then follows because they bear a case feature in English, unlike experiencer PPs. In the appendix, I provide independent evidence from the intervention effects of XPs with inherent case in English and Icelandic in support of this view, although I want to emphasize that the account developed in this chapter in no way depends on this suggestion being correct.

This is a natural point to segue to the second major issue of this section, the question of how the presence account fares with respect to its main competitors, a task I now take up.

### 3.7.3 The proposal in context

In this section, I compare the present proposal with respect to its main competitor in the context of the two important questions set out in the introduction that I believe have been overlooked in the literature on expletives: (i) why do expletives bear the particular formal features that they do, and (ii) why are the types of syntactic objects that are grammaticalized as expletives so remarkably stable cross-linguistically? While there are a multitude of proposals in the modern literature staking claims about expletives, the only approaches with a chance of capturing the full empirical picture on display in this chapter adopt some version or other of the idea, which originated with Chomsky (2000, 2001), that the locative expletive bears a valued person feature, but is deficient in number, either lacking a number feature altogether (Chomsky 2000, 2001), or having an unvalued number feature (Hazout 2004; Deal 2009). The expletive therefore values the person but not the number feature at T, which can then agree with a lower nominal in number. The primary point of variation among the theories is how this agreement is achieved. I set aside these differences here, as they are not relevant to the main point I would like to make.

With this in mind, consider question (i). On the alternative account sketched above, the feature makeup of the locative expletive is idiosyncratic and untethered to any other type of syntactic object. Essentially, the locative expletive on these proposals has the features it does because these are the features needed to capture the data given certain theoretical assumptions. This is not in and of itself a problem, but it does not provide any insight into the deeper question of why we see the particular feature combination that we do. For example, if the features on the expletive are truly the idiosyncratic combination proposed on these accounts, we expect that there should be languages where the features differ. As far as I know, however, with the exception of English varieties where number agreement is impossible, there is no interesting variation. We do not, for example, find languages where person but not number agreement is possible in expletive constructions. If we turn to learnability, the problem is even more acute. Granting that the behavior of expletives reduces to its idiosyncratic $\varphi$-feature makeup, the language learner must learn the identity and value of the features on the expletive. But to learn that person agreement is blocked, and hence that the expletive has a valued person feature, the learner must be exposed to expletive sentences with both first and second person singular and plural pronominal associates. As we have seen, such examples require highly specialized contexts, and are extremely rare.

Against this backdrop, the present account arguably provides novel insight into this question. To begin, the feature makeup on the expletive is directly inherited from non-expletive uses of the pronoun. In a narrow sense, this answers the question of why locative expletives have the features that they do: because the grammaticalization process that transformed the locative proform into an expletive left its formal features unchanged. Taking a step back, the present account arguably also provides insight into why the agreement facts are the way they are, i.e, why we never find expletive sentences with person but not number agreement. In particular, Preminger (2011) argues that there is a pervasive cross-linguistic tendency for person agreement between a head and a target that is not in its specifier (person agreement at a distance) to be much more likely to fail than number agreement at a distance. Preminger (2011) thus suggests that there is an implicational hierarchy whereby if number agreement at a distance is disrupted in a given language, person agreement at a distance is as well.

(89)  **Person-number agreement hierarchy**:
   a. #agreement between $\langle \alpha, \beta \rangle$ disrupted $\Rightarrow \pi$ agreement between $\langle \alpha, \beta \rangle$ disrupted
   b.  $\pi$ agreement between $\langle \alpha, \beta \rangle$ disrupted $\nRightarrow$ # agreement between $\langle \alpha, \beta \rangle$ disrupted

As Preminger (2011) observes, this generalization is naturally captured if we assume that there is a universal ordering on $\pi$ and # heads in the clausal spine, as suggested in Section 3.5.2.[34] Person agreement is thus more likely to be disrupted because it is higher in the structure and hence more likely to be intervened upon. On the present account, then, the failure of person but not number agreement in expletive constructions reflects a potentially universal ordering on heads in the clausal spine. The alternative account of expletives generalizes much less well, as here the failure of person but not number agreement follows from an idiosyncratic feature specification on a lexical item. Given the huge variety of lexical variation cross-linguistically, it is implausible that a pervasive cross-linguistic generalization about agreement is rooted here.

Preminger's (2011) point also has consequences for learnability. If we grant that there is a universal ordering on heads on the clausal spine, then the main fact that must be learned about expletives is that they bear inherent case. Assuming that this is derived from their status as locative elements, the problem is further simplified: what must be learned is that locatives bear inherent case. Recall at this point that I tentatively suggested in the previous section that the crucial factor in determining whether an XP can move to Spec(TP) in English is whether it bears case. Locatives are then be distinguished from experiencers in that the locative XP itself bears inherent case. If this is on the right track, it further reduces the learning burden, as one instance of locative inversion implicates a case feature on locatives.[35]

This ties in naturally to the second question, which is why the inventory of expletive items is so consistent cross-linguistically. As far as I can tell, the alternative accounts do not provide insight into this question. To be fair, previous accounts never set out to address this issue, but the fact remains that the idiosyncratic feature makeup that is postulated on *there* does not depend in any way on the proform being locative, as best I can tell. On the present account, in contrast, the cross-linguistic stability of expletive forms is at the very least unsurprising, if not immediately predicted. To see why, let us begin by granting that locatives are licensed in Spec(TP) to the exception of all other non-DP arguments by virtue of some aspect of their formal status. Whether case is the relevant aspect or not, it seems unavoidable that there must be some formal difference between locatives and other PPs that allows them to appear here. Given our hypothesis that expletive elements share the formal syntactic properties of their non-expletive variants, and given that expletives must be capable of occupying Spec(TP), it is therefore unsurprising that the inventory of expletives should be drawn from the categories of elements capable of occupying Spec(TP), namely DPs and locatives. Both types of expletive, then, can be seen as arising from a uniform grammaticalization process: the semantically and morphologically least marked element of the given class, DPs and locatives, respectively, undergoes a semantic alteration that leaves formal features unchanged. [36] In this sense, then, the locative proform and the

---

[34]Preminger (2011) argues for the opposite ordering of $\pi$ and # than the one we have proposed. This is for particular theory internal reasons related to the intervention effect induced by XPs with inherent case. For Preminger, this effect is ameliorated when the person probe attempts and fails to agree with the relevant XP with inherent case. An account along these lines can presumably be extended to the data we have considered. Alternatively, we might likewise attempt to capture the PCC data motivating Preminger's proposal on the order $\pi > \#$ by assuming that the dative argument raises to a position above number and below person, as suggested in Section 3.5.2. I leave it to future research to explore whether the accounts can indeed be fully unified.

[35]Preminger (2014) argues that English, French, etc., differ from Icelandic in that they allow an XP to move to Spec(TP) only if it has undergone agreement with T. In light of the data concerning expletives and locatives in Spec(TP), this seems too strong, although it does provide a precedent for restricting the types of objects that can appear in Spec(TP) based on their formal features.

[36]Concerning the default third person expletive, there is an abundance of evidence that third person neuter singular are the least marked features from a morphological perspective (Harley and Ritter 2002; Preminger 2014). From a

default third person pronoun are the forms grammaticalized as expletives because they require the least alteration. While this discussion does not do justice to the historical record, it should suffice to show that the core proposal offers new insight into the inventory of expletive elements cross-linguistically.

### 3.8   Appendix: deriving the intervention effect

In this section, I present an account of the intervention effect of XPs with inherent case on agreement, due to Preminger (2014). I include this discussion in the present chapter because, in addition to providing a formal treatment of a foundational fact underlying the proposal, this account has implications both for the question of whether locative-expletives bear $\varphi$-features and for the tentative proposal in Section 3.7.2 that case is the crucial factor in governing whether an XP is visible to agreement and capable of moving to Spec(TP) in English. That said, because the overall proposal in this chapter does not depend on how the intervention effect is derived, the results of this section do not affect the viability of the proposal on the whole.

The account depends on a background theory governing the interaction of case and agreement, which I now introduce. To begin, let us grant that all DPs enter the derivation with an unvalued Case feature which is valued configurationally in the syntax according to the rules in (90). Case feature valuation occurs at the instant in the derivation when the relevant configuration is achieved.

(90)   **Case valuation procedures**:
    a.   <u>Lexical/Oblique</u>: Given the configuration [H DP] or [$_{HP}$ DP [H …]], where H is a lexical case assigner, value the case feature on DP to *lexical/oblique*
    b.   <u>Dependent Case</u> (*nominative*): Given the configuration [DP$_1$ [… [… DP$_2$…]]], where the Case features on DP$_1$ and DP$_2$ are unvalued, value the Case feature on DP$_2$ to *dependent*

An important consequence is that many DPs do not have their Case feature valued in the course of the derivation, for example, most subjects. On this theory, this is unproblematic: *Case valuation plays no role in nominal licensing*, so there is nothing inherently wrong with a DP having an unvalued Case feature at the end of the derivation. The system thus yields the following three-way distinction among Case values: *lexical/oblique*, valued by virtue of proximity to a special syntactic head (see (90a)) and spelled out morphologically as dative in most instances; *dependent*, valued by virtue of being in the same local domain as another DP (see (90b)) and spelled out as accusative in most cases; *unvalued*, achieved by virtue of not appearing in the configurations necessary for *lexical/oblique* or *dependent* valuation and spelled out as nominative in most cases.

With this in mind, the crucial assumption underlying the account is the following: whether or not a given DP is accessible to $\varphi$-agreement is determined on the basis of its Case feature, with accessibility parameterized across languages according to the implicational hierarchy below.

semantic perspective, this is true except for singular number, which is sometimes but not always assumed to be the marked feature (see Chierchia 1998; Sauerland et al. 2005; Spector 2007; Grimm 2012; Kiparsky and Tonhauser 2012; Marti 2017 for discussion). Concerning the locative, it is unmarked in the sense that it is a proform. In English, the distal form is chosen, whereas in Dutch the locative expletive is an unstressable pronoun that is unspecified for distal vs. proximal. Relatedly, Åfarli 2009 and Larsson (2014) report that there are varieties of Mainland Scandinavian that appear to have grammaticalized the proximal locative proform as the expletive.

(91)　**Revised Moravcsik hierarchy** (syntactic version):
　　　*unvalued* Case » *dependent* Case » *lexical/oblique* Case

This hierarchy ranges over languages, not sentences, and should be interpreted as follows: if $\varphi$-agreement is licensed in a given language, it is licensed with DPs with unvalued Case; DPs with dependent Case are accessible to $\varphi$-agreement only if DPs with unvalued Case are accessible; DPs with lexical/oblique Case are accessible only if DPs with dependent Case are accessible. It follows that when determining whether a DP is accessible to $\varphi$-agreement at head H, the Case value of the DP must be taken into account along with standard notions of locality. Following Preminger (2014), I assume that both English and Icelandic fail to tolerate agreement with XPs marked with inherent case.

　　The necessary background is now in place to present the account. To this end, let's consider the derivation of an Icelandic example with a dative subject and a nominative object, and specifically the stage in the derivation when T has just been merged in the structure. Let us grant that T has the potential to both attract the external argument to its specifier and to trigger agreement.

(92)　　$[_{TP}$ T [ ... $[_{vP}$ DP.DAT [...DP.NOM ...]]]]

While the dative DP can be felicitously attracted to Spec(TP), the conditions on agreement at T are not met in (92). To see why, observe that there are two XPs in the structure that are, in principle, capable of being targeted by agreement: the dative DP and the *v*P-internal DP. Neither phrase is a licit target, however: the dative is the closest DP to T, and hence satisfies basic notions of locality, but it is not case-accessible, by virtue of the fact that it bears dependent case; the *v*P-internal DP, in contrast, is case-accessible, but it is not local to T, given that the dative DP is closer. Agreement is therefore not licensed at this stage of the derivation. If no additional movement takes place, we therefore predict that agreement should be impossible in this clause. This is borne out, as illustrated in (93), where an expletive has been inserted in Spec(TP), blocking movement of the dative subject to Spec(TP). The verb therefore surfaces with default third person singular agreement, reflecting the failure of agreement.

(93)　　það　lᷓkaði/*líkuðu　　　　einum málfræðingi þessar hugmyndir.
　　　　EXPL liked.3SG/*liked.3.PL one　linguist.DAT these  ideas.NOM
　　　　'There liked one linguist these ideas.'　　　　　　　　　　　*Icelandic*
　　　　(Sigurðsson and Holmberg 2008: 257)

　　In contrast, suppose that the dative subject moves to Spec(TP). As we know, agreement should be possible in this configuration, as A-movement of XPs with inherent case ameliorates intervention. For now we can encode this by saying that only the highest copy in a movement chain is accessible to agreement. Preminger (2014) does not address why this is the case, and I do not have any additional insight into this question. The upshot, however, is that agreement at T is licensed once the dative has moved to Spec(TP): the *v*P-internal DP is both case-accessible and the closest potential agreement target.

(94)　　[ DP.DAT [ T ... [ D̶P̶.DAT [*v* [... DP.NOM...]]]]]
　　　　　　　　　　　　　　　　*φ-Agree*

We therefore correctly predict that agreement targets the *v*P-internal argument. Modulo the stipulation about A-movement, this account therefore captures the intervention effect on agreement induced by XPs with inherent case.

　　What I would now like to show, however, is we delve deeper into the technical details, an

interesting problem arises that suggests we need to refine our definition of agreement. To this end, recall that intervention arises on this account because the dative is visible to the agreement operation, but cannot itself trigger agreement by virtue of its case feature. There is thus no way to satisfy locality and case-accessibility, so agreement fails. The account thus hinges on the dative being a potential target for agreement, which we have assumed is true by virtue of the fact that it bears $\varphi$-features.

With this in mind, there is cross-linguistic evidence that agreement is sensitive to $\varphi$-features in a more fine-grained way that what we have been assuming so far, and in particular that certain feature values are in fact privative. I focus on number features here, as they will be the most relevant for the ensuing discussion. The pertinent question is how to best encode in the syntax the morphological fact that there are (at least) two possible number specifications, singular and plural. One simple option is to posit that syntactic number features straightforwardly reflect the morphological realization, and hence take on a value of [+singular] or [+plural]. Considerable evidence has accumulated in both the morphological and syntactic literature, however, that this is the wrong approach (Harley and Ritter 2002; McGinnis 2005; Béjar and Rezac 2009; Preminger 2014; van Urk 2015; a.o.). These authors have argued that the behavior and morphological realization of number agreement cross-linguistically is best captured in a system where number is syntactically represented by the single feature [plural]. Syntactically and semantically plural phrases have this feature, while syntactically and morphologically singular phrases lack a number feature altogether.

If singular reflects an absence of number, and if number agreement can, in some languages, be singled out as a unitary operation, then we are lead to the following prediction: number agreement – *#-Agree* hereafter – should be able to skip over a singular DP to target a lower plural DP, if this lower DP is otherwise accessible. This mechanism has been argued to underlie a variety of so-called *omniverous agreement* patterns.

(95)   $[\,H_{[\#:\_]} \ldots [\,\text{DP.SG} \ldots [\,\text{DP.PL} \ldots]]]$
       #-*Agree*

I illustrate one such pattern in Abruzzese participle agreement, which I discuss in more detail in Chapter 2. The basic pattern is that number agreement on the participle targets the plural argument in a clause, if there is one, be it subject or object. Crucially, then, agreement may skip over a singular subject to target a plural object (see (96b)).

(96)   a.   Giuwanne a        pittate      nu mure.
            John.SG    have.3 painted.SG a   wall.SG
            'John has painted a wall'                        [subj.SG-obj.SG → pp.SG]
       b.   Giuwanne a        pitt**i**te      **ddu mure**.
            John.SG    have.3 painted.PL two          wall.PL
            'John has painted two walls'                      [subj.SG-obj.PL → pp.PL]
       c.   **Giuwanne e   Mmarije** a        pitt**i**te      nu mure.
            [John        and Mary].PL have.3 painted.PL a   wall.SG
            'John and Mary have painted a wall'              [subj.PL-obj.SG → pp.PL]
       d.   Giuwanne e   Mmarije a        pitt**i**te      ddu mure.
            [John        and Mary].PL have.3 painted.PL two  walls.PL
            'John and Mary have painted two walls'           [subj.PL-obj.PL → pp.PL]

Returning to Icelandic, we have seen evidence in Section 3.5.2 that person and number agreement are likewise unitary, discrete operations here. By the logic above, then, we appear to predict

that a singular dative DP should not intervene for number agreement with a plural nominative object: since the dative is singular, it lacks a number feature and hence is not even a potential target for number agreement. This prediction is not borne out:

(97)  það  finnst/*finnast  **einhverjum stúdent**  [$_{SC}$ tölvurnar  ljótar].
       EXPL find.SG/find.PL some       student.SG.DAT   computer.the.PL.NOM ugly
       'Some student finds the computers ugly.'

Likewise, if we take third person to represent an absence of person (Harley and Ritter 2002; Heim 2008), we expect that third person datives should never intervene for person agreement, by the same logic. This is once again not borne out: as we saw extensively in Section 3.4.2.1, datives intervene for person agreement regardless of the $\varphi$-feature values.

To account for this difference, I would like to suggest that languages parameterize the types of XPs that count as 'visible' to a given agreement operation. In languages like Icelandic and English, where it appears that XPs intervene for agreement relations irrespective of both the particular $\varphi$-features on the XP and the $\varphi$-features implicated in the agreement relation, an XP is counted as visible for the purposes of agreement if and only if it bears a Case feature. The presence of $\varphi$-features are irrelevant. Datives and locative expletives thus intervene because they bear inherent case, and we do not have to posit $\varphi$-features on locative expletives. In contrast, in languages like Abruzzese that show omnivorous agreement, XPs are visible to agreement operations if and only if they bear the particular $\varphi$-feature involve in the relevant agreement operation.

This has two important consequences for the theory developed in this chapter. First, it entails that locatives and locative-expletives need not bear $\varphi$-features to count as interveners for agreement. This property follows exclusively from the presence on these XPs of inherent case. We are therefore not committed to positing $\varphi$-features on these forms, unlike other accounts of the locative expletive. Second, this discussion provides independent evidence for the suggestion in Section 3.7.2 that the crucial factor in differentiating locative PPs from other PPs in English is the fact that the former bears a case feature.

# Chapter 4

# On the distribution of expletives and ersatz expletives

## 4.1  Introduction

In addition to the differential agreement profiles of default third person expletives and locative expletives, the formal features on expletive elements have often been invoked in the literature to capture the differential distribution of these two types of elements in languages that make use of both. The basic phenomenon at stake is this. In languages with both a default third person expletive and a locative expletive, they are in roughly complementary distribution. The distal locative expletive is used in constructions involving an associate DP, essentially in existential constructions and with unaccusative, passive, transitive, and unergative clauses where the highest non-expletive argument is a DP. The default third person expletive, in contrast, is used with meterological predicates, and with unaccusative and passive predicates whose highest internal argument is a CP rather than a DP. I illustrate the pattern with English, but the same basic pattern also holds in Danish and Dutch (see Vikner 1995, Ruys 2010, respectively), with slight differences to be introduced shortly.

(1)   a.   There/*it is a man talking to Sue.
      b.   There/*it emerged a solution.
      c.   There/*it was a man arrested.

(2)   a.   It/*there rained.
      b.   It/*there seems that John is guilty.
      c.   It/*there is believed that Sue stole the money.

Given that the investigations in the previous two chapters of the agreement profile of the two expletive elements in the $v$P- and TP-domains has furnished a novel understanding of the formal make-up of expletive elements, the data in (1) and (2) raise a number of questions. First and foremost, can the differential distribution of the two classes of expletives be explained in terms of the formal features on the different classes of expletive? If so, does the proposal defended in the previous chapter extend here? If not, what is the crucial factor governing the differential distribution of these forms? This chapter is devoted to addressing these questions.

The hypothesis that I will defend, originally due to Ruys (2010), is that formal features are irrelevant to the distribution of the default third person expletive and the locative expletive in English, Danish, and Dutch. Rather, the facts on display above essentially reduce to a selectional difference: the default third person expletive is not a true expletive, in the sense that it is always

selected as the argument of a predicate; the locative expletive, in contrast, is never selected, and may be inserted in any A-position up to interpretability. Notwithstanding the fact that I have yet to define 'selection' in a formal way, the hypothesis is summarized below:

(3) **Expletive selection hypothesis** (*preliminary version*; Ruys 2010: 159):
The default third person expletive is always selected as the argument of a predicate; the locative expletive is never selected.

On the traditional view that expletives are elements inserted into non-$\theta$-positions to satisfy the EPP-property, it follows that I am proposing the in English, Dutch, and Danish, the default third person pronoun is never a true expletive; indeed, in these languages the only expletive element is the locative proform. Hereafter, I will therefore refer to the default third person pronouns in the contexts above as ersatz expletives.

The basic structure of the argument, and the chapter, is the following. First, in Section 4.2, I introduce the account of the contrast on display above in terms of formal features, due in its essential details to Chomsky (2000; 2001). I show that this account faces serious empirical and conceptual challenges, and that it should therefore be abandoned. I then introduce the proposal summarized in (3) in more detail, along with a formal definition of selection. Finally, to set the stage for the remainder of the chapter, I distinguish two uses of the ersatz default third person expletive: as an internal argument linked to a clause-mate CP – the CP-linked use – and as an external argument – the quasi-argument use. These two uses are illustrated in (4a,b), respectively.

(4)  a.  Sue proved it that Mary is a genius.
     b.  It appears that Mary is a genius.

Section 4.3 is devoted to developing a novel account of the CP-linked use based on a recent proposal by Kratzer (2006) and Moulton (2015) that CPs denote predicates of individuals. This account both overcomes the empirical challenges facing the existing accounts of CP-linking and captures the core behavior that distinguishes the CP-linked use of the ersatz expletive from the quasi-argument use. I then argue, in Section 4.4, that the account should be extended to cases where the CP intuitively associated with the expletive is an *if*-clause, as in (5). I show, contra existing analyses of such cases (Pesetsky 1991; Thompson 2012; Hinterwimmer 2014), that the *if*-clause is not a conditional adjunct, but rather functions syntactically and semantically on a par with the *that*-CP in CP-linking environments.

(5)  a.  I'd hate it if Mary hired Bill.
     b.  I'd prefer it if Sue picked me up.

In Section 4.5 I then analyze the quasi-argument use, arguing that the *it* pronoun in cases like (4b) is a $\theta$-marked external argument of the associated predicate. The conclusion is that all uses of the default third person expletive are indeed $\theta$-marked, confirming the basic hypothesis of this section.

## 4.2  Proposal

My proposal has two main components, which are introduced in Sections 4.2.1 and 4.2.2, respectively: (i) that no account based on formal features is sufficient to capture the full array of data concerning the cross-linguistic differential distribution of the locative expletive and the ersatz default third person singular expletive; (ii) that these data should instead be understood in

terms of selection, along the lines suggests in (3).

### 4.2.1 Against an account based on formal features

The differential distribution of the locative expletive and the ersatz default third person expletive cannot be based on formal features alone, contra Chomsky (2001) and Hazout (2004). To see why, it's helpful to consider the existing accounts based on formal features in more detail. These accounts depend on two assumptions from the Uninterpretable Features (UF) framework (Chomsky 1995, 2000, Chomsky 2001). The first is that T is universally associated with uninterpretable $\varphi$-features that must be checked via agreement with a DP; DPs, conversely, bear interpretable $\varphi$-features that can be targeted by agreement, as well as uninterpretable Case features that are checked as a side-effect of a successful $\varphi$-agreement relation. The second is that failure to check the uninterpretable $\varphi$-features on T or the uninterpretable Case features on DPs results in ungrammaticality. Granting that expletive *there* is not a suitable target for agreement[1], and that expletive *it* has both valued $\varphi$-features and a valued Case feature (see Chapter 3, Chomsky 1995, 2000, 2001), the contrast described in the previous section then follows. In examples like (1), T must agree with the associate DP in order to check its Case feature. Expletive *it*, which presents a closer agreement target than the associate DP, is therefore ruled out, but expletive *there*, which does not trigger agreement, is acceptable, since T can then agree with the associate. In cases like (2), the *it* expletive must be used, in contrast, since there must be a $\varphi$-bearing DP for T to agree with and check its uninterpretable $\varphi$-features.

While the formal features account can therefore capture the basic contrast described above, there are at least four additional contexts where it fails to capture the distributional contrast between the two types of expletives. The first occurs in both Danish and Dutch, where the locative expletive and the default third person expletive are in free variation with certain CP-argument taking predicates, as illustrated in (6) in Danish (the exact same facts hold in Dutch; see Ruys 2010: 144, 150). In all other contexts, expletives in both languages show the same distribution as English. Moreover, there is no evidence that the expletives in these languages differ from their English counterparts in formal features. These data suggest that formal features are irrelevant to the choice of expletive, as both forms are acceptable in this context.[2]

---

[1]This could come about because it bears inherent case, as proposed in Chapter 3, or because it either lacks $\varphi$-features, as proposed by Chomsky (1995), or is deficient in $\varphi$-features, as proposed by Chomsky (2000; 2001).

[2]David Pesetsky (p.c.) wonders if we could explain these data by positing that the locative expletive optionally bears default $\varphi$-features in Danish and Dutch. This leads to two incorrect predictions: (i) that agreement at T in examples with a locative expletive and an associate DP should be optional with the associate DP, and (ii) that the locative expletive and third person expletive should be in free variation in all other environments as well. That prediction (i) is not borne out is illustrated in (i), and that (ii) is not borne out is illustrated by the fact that the locative expletive cannot be used as the subject of a meterological or *seems*-class verb (see (ii)).

(i)     dat er    veel  mensen in de tuin   zijn/*is
          that there many people  in the garden are/*is
          '…that there are many people in the garden.'        *Dutch*
          (Hedde Zeijlstra, p.c.)

(ii)   a.   het/*er schijnt CP              b.   het/*er regende
          it/there seems  CP                     it/there rained
          'It seems CP.'                       'It rained.'       *Dutch*
                                                  (Ruys 2010: 142ff.)

(6)  Der/det          blev sagt [CP at   du  ville komme]
     EXPL.LOC/EXPL.DFT was  said    that you will  come
     'It was said that you will come'                                    *Danish*
     (Vikner 1995: 243f.)

The second context, also from Danish and Dutch, involves passivized unergative verbs, so-called impersonal passives. Such contexts require a locative expletive despite the fact that there is no DP associate in the structure.[3]

(7)  a.  er/*het   wordt gedanst
         there/*it was    danced
         'There was dancing'                                             *Dutch*
         (Ruys 2010: 143)
     b.  at   der/*det er   blevet danset
         that there/*it was been   danced
         '…that there was dancing'                                       *Danish*
         (Vikner 1995: 209f.)

The third context is CP-linking environments in English. As outlined in the introduction, such cases involve an ersatz default third person expletive that optionally appears in direct-object position along with a co-argument CP (Postal and Pullum 1988). I set aside until Section 4.3 the precise nature of the relationship between the erstaz expletive and the CP in these environments, merely pointing out here that the locative expletive is never tolerated in such environments.

(8)  a.  Joan regrets (it/*there) that John was fired.
     b.  Sally hates (it/*there) that Sue got the job.

The crucial point is that choice among these forms cannot reduce to formal features, at least under standard assumptions. The fact that the expletive is optional teaches us that there is no independent need for an object DP to check the uninterpretable $\varphi$-features of a functional head. As such, given that these verbs do allow for DP complements, there is no formal reason why *there* should not be just as acceptable as *it*.

The forth and final context involves certain constructions in English where there is a DP associate but where *there*-expletives are nevertheless ruled out. Thus meterological predicates that select for a DP internal-argument, as in (9), never tolerate a *there*-expletive. Likewise, verbal psych-predicates like *strike* require the default third person expletive even though there is an internal DP argument that presumably can serve as an associate (see (9a)).[4]

---

[3]Ruys (2010: fn.7) considers and rejects the possibility that such examples involve a covert cognate object DP, i.e., *there was danced a dance*. The main argument is that *er* is required even in contexts where a cognate object is impossible, as in (i):

(i)  er     werd *(een dans) [zonder PRO eerst ingestudeerd te    zijn]     gedanst
     there was  a      dance without PRO first  having          been practiced danced
     'There was a dance danced without having first been practiced'         *Dutch*
     (Ruys 2010: 147)

[4]Two objections can be raised to this line of argumentation. First, given that the internal argument in cases like (10) is an experiencer, and experiencers are frequently valued with lexical dative case cross-linguistically, a possible response is that the internal argument is a dative and hence cannot trigger agreement at T, thus necessitating the *it*-expletive. We can dismiss this option, however, as the internal argument can be promoted to subject and trigger

(9)  a.  It's/*there's brewing up a tempest.
     b.  It/*there rained cats and dogs/an inch yesterday.
         (Bolinger 1973: 262)

(10) a.  It/*there strikes me that Sue is guilty.
     b.  It/*there offends me that you invited Bill.

In both cases then, the distribution of expletives cannot simply reduce to a contrast in formal features.

The upshot is that once we broaden our empirical domain, there is significant evidence that formal features cannot be the only factor at stake in the distribution of expletives. It's worth noting that this conclusion is expected under the most prominent competitor to the UF model of agreement, the Obligatory Operations (ObOp) model of Preminger (2014). This model holds that agreement is never required for the satisfaction of an output filter. Instead, it is obligatory in the sense that it must take place if there is an accessible agreement target, but otherwise is allowed to unproblematically fail. It follows that neither the need to trigger agreement nor the need to be agreed with can drive the choice of one expletive over the other. Thus while the choice of expletive can have effects on the agreement in the clause, as we saw in Chapters 2 and 3, agreement itself cannot drive the choice of forms. The fact that the distribution of expletives cannot be based purely on their formal features therefore lends additional support to the ObOp view, which I develop in detail in Chapter 5.

### 4.2.2 The expletive selection hypothesis

Having established that an account based purely on formal features faces serious empirical shortcomings, I now propose and develop an alternative account. As mentioned in the introduction, my proposal depends on a notion of argument 'selection' that has so far not been defined formally, so I begin by addressing this issue.

To set the stage, I want to point out the observation, which goes back to Chomsky (1981), that there is a close correlation between the set of A-positions and the set of positions into which an argument nominal may be externally merged. Thus, for example, the specifier of a transitive *v* both licenses external merge of the subject and counts as an A-position from the perspective of the standard diagnostics. That said, there is a systematic class of exceptions to this correlation: heads whose specifiers are clearly A-positions, but that apparently fail to license general external merge. Two such cases that have been relevant elsewhere in this thesis are T and unaccusative *v*. The specifiers of both these heads are A-positions, and yet semantically contentful argument nominals cannot be merged here, as illustrated by the unacceptability of (11a,b), respectively.

(11) a.  *A professor has three students asked the same questions.
     b.  *I have arrived a train.

Of course, as we have already seen, the break-down in such instances is only partial; both T and

---

agreement if the verb is passivized, as in (i). True lexical case is never over-written in such a manner (Bobaljik 2008; Preminger 2014).

(i)    I am/*is constantly struck by John's foolishness.

Another means of potentially saving the UF theory would be to posit that transitive *v*, but not passive/unaccusative *v*, is a barrier to agreement, so that the default third person expletive is required in such cases because T cannot agree with the *v*P-internal DP. This position is untenable once cross-linguistic data is taken into account, however. To mention one example of many, Icelandic T can target a VP-internal DP in transitive clauses with quirky subjects.

unaccusative *v* arguably do license external merge of expletives. Thus the variants of (11a,b) where the contentful argument is replaced with an expletive are grammatical, at least in some varieties of English.

(12)   a.   There have three students asked the same question.     *Belfast English*
            (Henry and Cottell 2007: 293)
      b.   There has arrived a train.     *Standard English*

In light of these data, it would seem that a complete rejection of the correlation between A-positions and external merge is not warranted. Instead, I will adopt essentially the position defended by Chomsky (1981), namely that A-positions are indeed exactly those positions that license external merge of an argument nominal, but that there are additional semantic restrictions that govern the distribution of argument nominals. As discussed in Chapter 2, this view is common in the literature, and various ways of encoding the aforementioned semantic restrictions have been proposed. The precise formal details are not relevant for our purposes, so I will not attempt to choose a particular theoretical stance here, although see fn. 5. Instead, I highlight in informal terms the necessary assumptions, which are derived in some form or other on all theories of argument introduction that I am aware.

    To this end, the foundational assumption is that there are two types of external merge operations: those where the introduced phrase is interpreted as an argument that is added to the event structure of the associated clause, and those where the introduced phrase is not. Semantically contentful DPs may be introduced only by the former type of merge operations, and expletives only by the later.[5] With this in mind, we can define selection as follows: those phrases introduced by the former type of merge operation are selected – they are thematic arguments of the event – whereas those in the latter case are not. In these terms, then, transitive *v* selects the argument that it introduces in Spec(*v*P), whereas T and unaccusative *v* do not. Expletives may thus be inserted in Spec(TP) and unaccusative Spec(*v*P) but not transitive Spec(*v*P), and contentful argument nominals may be introduced in transitive Spec(*v*P) but not Spec(TP) or unaccusative Spec(*v*P).

    With this in mind, my proposal is that the distribution of expletives and ersatz expletives is governed by the following hypothesis, which translates (3) into present terms:

(13)   **Expletive selection hypothesis** (*final version*; Ruys 2010: 159):
      In languages with both a distal locative expletive and a ersatz default third person expletive, the former is never selected, while the later is always selected.

---

[5]Two prominent ways of encoding this assumption are worth noting. The first is $\theta$-theory (Chomsky, 1981), which posits that those A-positions responsible for introducing arguments are also associated with so-called $\theta$–features that they discharge onto their specifier when it is merged. Each $\theta$-feature must be discharged, ensuring that all necessary arguments are introduced, and each argument must bear exactly one $\theta$-role, ensuring that every argument is introduced in an appropriate position. Arguments may thus only be introduced by heads with a $\theta$-feature, and expletives by heads lacking a $\theta$-feature.

  The second, formalized by Heim and Kratzer (1998), captures the semantic requirement directly in the meaning of the relevant heads: certain heads are semantically specified to impose requirements on their specifiers, a requirement that i is then checked as a part of the interpretive mechanism that translates syntactic structures into their corresponding extensions. The lexical entry for a transitive *v*, for example, specifies that its extension is a predicate with an open argument position for the agent of the event being described. If *v* is not combined with a syntactic (external) argument, the open argument position in its extension isn't saturated; the interpretive machinery is hence unable to combine the extension of *v*P with the extension of higher functional heads, which can only combine with fully saturated predicates. Conversely, if T is merged with a semantically contentful argument, there will be no way to compose this argument with the TP, likewise resulting in ungrammaticality.

To defend this proposal, we must show both that the locative expletive is never inserted in a position where it would be selected, and that the default third person expletive is always inserted in such a position. The former point is the default assumption already in the literature, and warrants no special discussion here beyond the following brief demonstration that locative expletives are in complementary distribution with contentful argument nominals. For further discussion of this issue, see Deal (2009). [6]

(14)    a.    Spec(TP):
               <u>There/*a professor has three students asked the same question.</u>    *Belfast English*
        b.    Transitive Spec(*v*P):
               <u>*There/a woman bought a book.</u>
        c.    Unaccusative Spec(*v*P):
               <u>There/*I arrived a train.</u>
        d.    Complement of V:
               <u>Sue read *there/a book.</u>    *Standard English*

The remainder of this chapter will therefore focus primarily on the ersatz default third person expletive, and on defending the proposal that it is always selected.

### 4.2.3    Classifying uses of the ersatz expletive

The basic strategy I will pursue in defending the proposal in (13) is to show that the ersatz expletive can be plausibly analyzed as being selected on all its uses. In support of this goal, I would like to briefly argue here, following Ruys (2010), that there are two distinct uses of the ersatz expletive: as the non-referential external argument of certain predicates, and as a referential internal argument that is intuitively linked to a CP co-argument also present in the clause. Following the literature, I refer to the first use as the quasi-argument use, and the second as the CP-linked use. In the remainder of this section, I present some preliminary syntactic evidence for distinguishing these two uses.

I take it as my point of departure that the quasi-expletive use exists and is instantiated with so-called meterological predicates, as in (15). Following Chomsky (1981), the non-referential subject *it* in such cases is the selected external argument of the associated predicate. For now I take this as given, reserving a full defense of this position to Section 4.5.
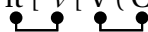
(15)    a.    It rained all day.
        b.    It was hot yesterday.

---

[6]The fact that (14a) is impossible in Standard English even with the expletive suggests that there may also be additional factors governing the distribution of expletives in certain cases. The obvious question is whether these factors reflect a deep difference between Belfast English and Standard English, or an idiosyncratic fact that should not be expected to follow from independent principles. As argued by Henry and Cottell (2007), the absence of verb-class restrictions in Belfast English would seem to point towards the latter view. The basic argument is this. Henry and Cottell (2007) survey the literature on transitive-expletive constructions and identify six properties that have been argued in the literature to correlate with the possibility of using expletives with transitive verbs. In all six cases, those languages other than Belfast English that license transitive-expletives tend to behave similarly with respect to the property in question. Crucially, however, Belfast English behaves apart with respect to each and every property Henry and Cottell (2007) explores. Despite this, there are no obvious syntactic differences between the transitive-expletive constructions in Belfast English and other languages. At the technical level, this suggests that the properties that have been adduced in the literature as being correlated with the possibility for transitive-expletives are on the wrong track. Taking a step back, the conclusion is that there are no obvious ways in which Belfast English differs from Standard English that would support a principled account of the different number of A-positions in the TP-domain. As it stands, then, this appears to be a idiosyncratic fact that does not have a deeper significance.

Granting this, the proposal is that all remaining uses of the default third person expletive are either selected external arguments, as in (15), or else selected internal arguments that are linked with an optional clause-mate CP, in a manner to be specified in detail in Section 4.3. I argue that the ersatz expletives in cases like (16) fall into the former class, while the ersatz expletives in cases like (17) instantiates the later.

(16)    a.    **It** seems that John is upset.
         b.    **It** appears that Fred will not be coming.

(17)    a.    Sue regrets **it** that Bill is coming.
         b.    **It** was considered unacceptable that Sally wasn't invited.

Schematically, the proposal is therefore that the default third person expletive is either introduced in a structure like (18a), representing (15) and (16), or in a structure like (18b), representing (17). For now I assume that the CP in cases like (17) is an adjunct, setting questions of how it is linked to the pronoun until Section 4.3.footnoteFor the passive example in (17c), the expletive presumably then moves to subject position.

(18)    a.    $[ \text{it} [ \ _v [ \text{V} ( \text{CP})]]]$
              $\theta$-marking  ($\theta$-marking)

         b.    $[_v [ \text{V} \ \text{it}_i] \text{CP}_i]$
              $\theta$-marking

While the proposed analysis of (15) is fairly well-known, it is less immediately obvious that there is any argument-structure differences between the use of expletives in (16) and, e.g., (17b). Before proceeding, then, I would like to preliminarily justify this distinction by illustrating three pertinent syntactic differences between the two types of constructions. This demonstration is not intended as a full defense of the proposal, which will be provided in the remainder of the paper, but simply as preliminary evidence that the two constructions differ in important ways.

The first argument pertains to the possibility of omitting the expletive and/or the CP in the two constructions. I make the argument on the basis of English examples, but the exact same generalizations also hold in Dutch (Ruys 2010: 4.1). In cases like (16), the expletive can never be replaced by the CP co-argument, nor can the CP co-argument be omitted.

(19)    a.    *That John is guilty seems.
         b.    *It appears.

In cases like (17), however, the expletive can be replaced with the CP, or the CP can be omitted.

(20)    a.    Sue regrets that Bill is coming.
         b.    That Sally wasn't invited was considered unacceptable.

(21)    a.    Sue regrets it (=that Bill is coming).
         b.    It (=that Sally wasn't invited) was considered unacceptable.

While the contrast here is sufficient to make the point, it can be understood in terms of the main proposal on an informal level as follows. By definition selected arguments are interpreted as saturating open argument slots. As such, if they are omitted, the resulting structure is uninterpretable. Neither argument in cases like (16) can therefore be omitted. In cases like (17), in contrast, there is single selected argument position, so we predict that the only requirement is that this position be filled, either by the erstaz expletive, as in (21a), or by the CP, as in (21b).

110

The second argument pertains to *as*-parentheticals. With the examples in (16), the expletive must be present when the CP argument position contains the gap of an *as*-parenthetical.

(22)  a.  Sue is innocent, as *(it) originally appeared.
      b.  Mary is a capable doctor, as *(it) has seemed from the start.

In contrast, examples like those in (17) require the expletive to be absent if the CP argument position contains the gap of an *as*-parenthetical. This holds in cases where the expletive is a surface direct-object (see (23a,b)) and in cases where it has been promoted to subject (see (23c,d)).

(23)  a.  The arguments were flawed, as Bill explained (*it) to me.
      b.  Three is a prime number, as Mary definitively proved (*it) to me.
      c.  Sally is guilty, as (*it) was expected.
      d.  Bill came on time, as (*it) was important.

Ruys (2010: 165f.) makes a related observation in Dutch on the basis of speaker oriented slifting, where the same pattern is observed. The basic analysis that I pursue here is to posit that the CP in CP-linking examples like (23) is a modifier of the verb that restricts the argument position which *it* saturates, whereas in cases like (22), the CP is a true argument. I argue that as a consequence, the modifier CP cannot be gapped for simple type-theoretic reasons, whereas the CP-argument can be, deriving the contrast.

The third argument is that cases like (16) do not tolerate pseudo-clefting, whether or not the expletive is present, whereas cases like (17) do (Bresnan 1972: 136), provided the expletive is not present. Once again, Ruys (2010: 156f.) shows that the same pattern holds in Dutch.

(24)  a.  *What (it) seems is that John isn't here.
          (Bresnan 1972: 136)
      b.  *What Bill said (it) appears is that Mary will give a talk after all.

(25)  a.  What Bill explained (*it) to me is that Sue is his friend.
      b.  What (*it) was claimed is that Bob betrayed Jill.

While the contrast here is, once again, sufficient to make the point, such cases can be understood informally in terms of (18) as follows. In the relevant examples, the pseudo-cleft involves a derived predicate formed by operator extraction that is then predicated of a CP. As such, the operator must originate in a position where a CP can be interpreted. With verbs like those in (16), the expletive is a non-referential external argument, and hence we do not expect a CP to be interpretable here. With predicates like those in (17), in contrast, the expletive is a $\theta$-marked argument that bears the same thematic relationship to the event as the associated CP. It is therefore in a position that should allow CP-interpretation, as desired.

Having established at least preliminarily that there are two distinct uses of the third person expletive – as a selected external argument, and as an internal argument linked to an optional clause-mate CP – I turn to developing the analysis in detail. I begin with CP-linked expletives, where I provide a syntax and semantics that predicts various facts about their behavior, including those on display above. I then take up the quasi-argument uses, arguing, following Chomsky (1981), that the ersatz expletive is a selected quasi-argument.[7]

---

[7]It's worth noting that while the proposal I defend here is originally due to Ruys (2010), this chapter expands upon his work in several important ways. First, Ruys's (2010) syntactic and semantic analysis of the various uses of expletives does not extend beyond the descriptions provided in (18), and hence leaves open important questions, not the least of which being how the various structures are interpreted, how to best understand the argument-structural

## 4.3 CP-linking

In broad terms, the goal of this section is to defend the proposal that the default third person pronoun that appears in CP-linking contexts is indeed a selected pronoun. The form of the argument will be the following: I develop a novel analysis of CP-linking whereby the pronoun is indeed selected, then show that it can successfully capture the main facets of the construction. As already mentioned, the basic idea is that the expletive functions as an internal argument of the verb, with the optional clause-mate *that*-CP spelling out the propositional content associated with the argument position that the expletive saturates.

(26)   $[_v [\text{ V it}_i] \text{ CP}_i]$
       $\theta$-marking

The major question raised by (26) is of course what the precise nature of the relationship between the CP and the expletive pronoun is. I therefore begin by developing an answer to this question. Once the proposal is in place, I show that it correctly predicts the full array of behavior discussed above, including that the *it* or the CP but not both can be omitted, that the *it* is impossible in *as*-parentheticals, and that pseudo-clefts are incompatible with the presence of *it*. I then extend the analysis to cases involving CPs headed by complementizers other than *that*, as in (5).

### 4.3.1   Capturing CP-linking

The first task in defending the analysis sketched in (26) is to provide an analysis of the CP-expletive linking, a task I take up in this section. I am aware of two explicit attempts in the literature to analyze such forms, so I begin by showing that neither is fully sufficient.

    The first analysis, due to Rosenbaum (1967), holds that the CP and the expletive together form a complex NP structure, as in (27a), with the CP complementing the expletive NP. On this view, such examples are thus on a par with cases like (27b), where the noun *claim* takes a CP complement.

(27)   a.   Sue proved [_DP it [_CP that John was invited]]
       b.   Sue proved [_DP the claim [_CP that John was invited]]

As argued by Postal and Pullum (1988), this analysis therefore predicts that the CP in cases like (27a) should be a strong island, as complex NPs are well known to block movement. This is not borne out: the unambiguous complex NP in (28) very clearly blocks object extraction, whereas the CP-linked expletive construction in (29) does not.

(28)   a.   I saw to Bill's request that the chef make pasta.
       b.   *What did you see to Bill's request that the chef make *t*?

(29)   a.   He saw to it that the bishop was introduced to the actress.
       b.   It was the actress that he saw to it that the bishop was introduced to.
            (Postal and Pullum 1988: 661)

---

differences between, e.g., *seem* and *is claimed*, and why they arise, why the data from *as*-parentheticals pattern as they do, etc. The analysis I develop addresses these issues in detail. Relatedly, Ruys (2010) does not provide an analysis of CP-expletive linking beyond preliminary remarks. I propose and defend a full-fledged theory that can capture the data we have seen so far, then extend the analysis in new directions, including to cases like (25). The remainder of this chapter is can therefore be thought of as both a formalization and an extension of Ruys's (2010) original proposal.

A second argument can be adduced based on the fact that the CP in certain CP-linking constructions must be linearly separated from the expletive, whereas when a complex NP is inserted in the same configuration, the CP preferably appears adjacent to the NP it complements. I conclude that the complex-NP analysis is untenable.

(30)  a.  I regard the claim (that Bob stole your money) as false (??that Bob stole your money).
      b.  I regard it (*that Bob stole your money) as false (that Bob stole your money).

The second existing analysis is due to Bennis (1986), and holds that the CP is a VP-level adjunct that binds the expletive, which serves as the complement to V. Once again, the fact that the CP is not a barrier to extraction militates against this analysis. A second argument against this approach is that if the relationship between the CP and expletive is one of binding, we expect that the CP should be generable in a higher clause, since binding is not generally subject to a clause-mate restriction. As (31) illustrates, however, this is impossible. In this example, the coreference between the embedded subject *he* and the object in the purported adjunct-CP forces a parse where the adjunct CP is base generated in the matrix clause. Note that the matrix predicate, *mention*, can participate in the CP-linking construction, and so should be independently expected to license a CP adjunct on this analysis. The result is nevertheless ill formed.

(31)  *Sue [$_{VP}$ mentioned the fact [that he$_1$ regretted it$_i$] to me] [$_{CP_i}$ that I picked Bill$_1$ up at five].

I conclude that the existing analyses are not sufficient. With this in mind, I turn now to developing a novel treatment of the construction. The account will hinge on recent proposals (Kratzer 2006; Moulton 2015) concerning the interpretation of CPs, so I begin by introducing the crucial hypotheses.

### 4.3.1.1  The Kratzer-Moulton theory of CP meanings

This section introduces the Kratzer-Moulton theory of CP interpretation (Kratzer 2006; Moulton 2015), which underlies the account of CP-linking. The theory has two main components. The first is that CPs denote functions mapping individuals to propositions, type $\langle e, \langle st \rangle \rangle$, rather than propositions, type $\langle st \rangle$, as is usually assumed (Hintikka 1969).

(32)  Standard *that*-clause denotation:
      $[\![_{CP}$ that Sue is a genius$]\!] = \lambda w.$ Sue is a genius in $w$

(33)  Kratzer-Moulton *that*-clause denotation:
      $[\![_{CP}$ that Sue is a genius$]\!] = \lambda x_c.\lambda w.$ CONT$(x_c)(w) = \lambda w'.$ Sue is a genius in $w'$
      (Moulton 2015: 312)

In slightly more detail, the Kratzer-Moulton theory holds that CPs denote functions on a special subset of the domain of individuals: individuals with propositional content (Kratzer 2006; Moltmann 2013; Moulton 2015). Such individuals are unique in that they can be projected to propositions compatible with their information content, as encoded in the function CONT in (33), defined in general in (34a). Granting this, Kratzer (2006) and Moulton (2015) propose that this function is associated with the *that*-complementizer, which takes as its arguments a proposition and an individual with propositional content, and equates the two (see (34b)). As such, *that*-CPs denote predicates of individuals: they take an individual and identify its propositional content with the proposition expressed by the clause (see (34c)).

(34)  a.  CONT $= \lambda x_c.\lambda w.\lambda w'. w'$ is compatible with the intensional content determined by $x_c$ in $w$

b. $\llbracket \text{that} \rrbracket = \lambda p_{st}.\lambda x_c.\lambda w. \text{CONT}(x_c)(w) = p$

c. $\llbracket \text{that Sue is a genius} \rrbracket = \lambda x_c.\lambda w. \text{CONT}(x_c)(w) = \lambda w'. \text{Sue is a genius in } w'$
(Moulton 2015: 312)

The second component of the theory is that CP-argument taking verbs take individuals with propositional content, rather than propositions, as their internal arguments. This proposal is based on the observation that most CP-argument taking predicates also allow the relevant argument slot to be filled with a content-noun DP, as in (35).[8]

(35)    a.    I proved the theorem/that Sue was a genius.
          b.    I believed the claim/that Fred was a doctor.
          c.    I explained the proposal/that CPs are predicates of individuals.

For expositional continuity with Kratzer (2006) and Moulton (2015), I adopt a Kratzerian event semantics (Kratzer 2006): by hypothesis, the external argument is severed from the verb and introduced via a higher functional head, so attitude predicates take an internal argument and an event argument. A predicate like *prove*, then, has a denotation as in (36), taking an individual with propositional content and an event argument.

(36)    $\llbracket \text{prove} \rrbracket = \lambda x_c.\lambda e_l.\lambda w_s. \text{proving}(e)(w) \wedge \text{theme}(x_c)(e)(w)$

Summarizing, the theory is therefore that *that*-CPs universally denote predicates of individuals with propositional content, type $\langle e, \langle st \rangle \rangle$, and that CP-argument taking verbs universally take individuals with propositional content as their internal arguments.

    A final question remains, namely how do CP arguments compose with their selecting verb? Because both verbs and CPs are ultimately predicates of individuals, the CP cannot directly saturate the open internal-argument slot of the verb, as under the standard Hintikkan semantics. Kratzer (2006) and Moulton (2015) differ in how they handle this challenge. Kratzer (2006) posits that the verb and the CP compose via the action of a special composition rule, *Restrict*, first proposed by Chung and Ladusaw (2004) and presented in detail in the next section. The essential idea is that the CP restricts the open internal argument slot of the verb, yielding a single predict of individuals and events (see (37a)). The resulting predicate is then existentially closed, as in (37b).

(37)    a.    LF: $[_{vP} \exists [_{VP} \text{V CP}]]$
          b.    $\llbracket \text{VP} \rrbracket = \lambda x_c.\lambda e. \lambda w.\llbracket \text{V} \rrbracket(x_c)(e)(w) \wedge extnCP(x_c)(w)$
          c.    $\llbracket \text{vP} \rrbracket = \lambda e.\lambda w.\exists x[\llbracket \text{V} \rrbracket(x)(e)(w) \wedge extnCP(x)(w)]$

    Moulton (2015) proposes instead that the type-mismatch is resolved via movement: the CP moves out of VP, leaving behind a type *e* trace that can saturate the open individual-argument slot of the verb. At the VP-level, the structure and interpretation is therefore as in (38).

(38)    a.    LF: $[\text{CP } [1 \dots [_{VP} \text{prove } t_1]]]$
          b.    $\llbracket \text{VP} \rrbracket^g = \lambda e.\lambda w. \text{proving}(e)(w) \wedge \text{theme}(g(1))(e)(w)$

This leaves open the question of how the CP is interpreted in its final landing site, as well as why we should expect it to leave a type *e* trace. Moulton (2015) resolves both of these questions, but the details are non-trivial, so I will not go into them here. Indeed, for our purposes it is

---

[8]There are verbs that do not allow content-noun DPs to replace their CP arguments, such as *boast, comment, complain, seem, appear.* All of the predicates that appear in the CP-expletive linking construction, however, allow content-noun DP arguments.

not necessary to choose amongst these competing views; all that matters is that there is some mechanism for composing CPs with their selecting verbs.[9] I will therefore not comment further on which approach is to be preferred, although I refer the interested reader to Moulton 2015 for additional arguments in favor of the movement-based account.

### 4.3.1.2 Proposal

Recall that we have proposed that the CP-linking construction involves a $\theta$-marked third person pronoun that is intuitively linked to a clause-mate CP, in a manner yet to be made specific (see (26), repeated below). In this section, I develop a formalization of this account based on the Kratzer-Moulton theory of CP-interpretation.

(26)    $[_v [ \text{V } \text{it}_i] \text{CP}_i]$
        $\theta$-marking

The account has two components. The first concerns the semantic composition of the CP and the verb. As we saw in the previous section, on Moulton's (2015) theory CPs do not directly saturate the internal argument slot of their selecting verbs. Moulton (2015) shows that one way of rendering such CPs interpretable is moving them to a higher position in the clause. Following Chung and Ladusaw (2004) and Kratzer (2006), I propose that there is an additional way of interpreting argument CPs, namely via the compositional rule *Restrict*. This rule, which is a generalization of the *Predicate modification* rule we have employed elsewhere, takes two predicational sister nodes such that the arguments of one sister are a subset of the arguments of the other, and composes them into a single predicate. The result is that the sister with fewer arguments restricts but does not saturate the arguments of the sister with more arguments.

(39)    *Restrict*
        If $\alpha$ is a branching node with daughters $\{\beta, \gamma\}$ such that $[\![\beta]\!]$ and $[\![\gamma]\!]$ are $n$ and $m$ place predicates respectively with $m \leq n$, and each argument $x_i$ of $[\![\gamma]\!]$ corresponds to a unique argument $y^i$ of $[\![\beta]\!]$, then
        $[\![\alpha]\!] = \lambda y_1 \ldots . \lambda y_n . [\![\beta]\!](y_1) \ldots (y_n) \wedge [\![\gamma]\!](y^1) \ldots (y^m)$

Chung and Ladusaw (2004) originally proposed this rule to account for certain noun-incorporation data in Austronesian, so I illustrate its basic action with a parallel example from English. Consider the noun-verb compound toy example in (40a). We can naturally capture such forms if we assume that *mountain* directly composes with *climb* via *Restrict*, forming a restricted predicate of individuals that is then saturated by the true internal argument, *Kilimanjaro*.[10]

(40)    a.    Sue mountain-climbed Kilimanjaro.
        b.    LF: $[_{vP}$ Sue $[_v [_{VP} [_V$ mountain climb$]$ Kilimanjaro$]]]$
        c.    $[\![\text{mountain}]\!] = \lambda x. \text{mountain}(x)$
        d.    $[\![\text{climb}]\!] = \lambda x. \lambda e. \text{climbing}(e) \wedge \text{patient}(x)(e)$

---

[9] Note that while the Krazter-Moulton theory eschews the standard Hintikkan syntax and semantics for *that*-clauses, it is not incompatible with the Hintikkan truth conditions for attitude predicates. As highlighted by Elliott (2016), it is possible to achieve essentially the same truth conditions that are achieved via quantification over possible worlds on the Hintikka theory but positing a special meaning postulate that spells out what it means to be in the beleif state of a given individual $x_c$. I thank Danny Fox (p.c.) for pointing this out to me.

[10] This examples is somewhat stilted in English, but fully acceptable in the languages Chung and Ladusaw (2004) discuss. I include it here only as a helpful illustration, and am in no way committed to its acceptability.

e. $[\![_V \text{ mountain climb}]\!] = \lambda x. \lambda e. \text{climbing}(e) \wedge$
$$\text{patient}(x)(e) \wedge \text{mountain}(x) \qquad \textit{via Restrict}$$

f. $[\![\text{VP}]\!] = \lambda e_l. \text{climbing}(e) \wedge \text{patient}(\underline{\text{Kilimanjaro}})(e) \wedge \text{mountain}(\underline{\text{Kilimanjaro}})$

Returning to the case at hand, I follow Kratzer (2006) in assuming that the same mechanism can compose CPs and verbal predicates. The result is a predicate of individuals with propositional content, subject to the constraint that this individual must satisfy the denotation of both the CP and verbal predicate. I illustrate with the toy example in (41a):

(41) a. LF: [prove [$_{\text{CP}}$ that Sue is a genius]]
b. $[\![\text{prove}]\!] = \lambda x_c.\lambda e.\lambda w. \text{proving}(e)(w) \wedge \text{theme}(x_c)(e)(w)$
c. $[\![\text{CP}]\!] = \lambda x_c.\lambda w.\text{CONT}(x)(w) = \lambda w'. \text{Sue is a genius in } w'$
d. $[\![\text{prove CP}]\!] = \lambda x_c.\lambda e.\lambda w. \text{proving}(e)(w) \wedge \text{theme}(x_c)(e)(w) \wedge$
$$\text{CONT}(x_c)(w) = \lambda w'. \text{Sue is a genius in } w'$$

I depart from Kratzer, however, in assuming that this open individual argument position must be existentially closed. Rather, the second component of the proposal is that the *it* in CP-linking constructions is a referential pronoun ranging over individuals with propositional content that functions as the internal argument, saturating the open argument position of the predicate formed by restricting the verb with the CP. The LF for a CP-linking construction as in (42a) is therefore as in (42b), and the VP-level interpretation is as in (42c).

(42) a. Mary proved it that Sue was a genius
b. LF: [$_{\text{VP}}$ [prove CP] it$_7$]
c. $[\![\text{VP}]\!]^g = \lambda e.\lambda w. \text{proving}(e) \wedge \text{theme}(g(7))(e)(w) \wedge \text{CONT}(g(7))(w) = \lambda w'. \text{Sue is a genius in } w'$

The resulting sentence will be true if and only if the pronoun refers to an individual whose propositional content is that Sue is a genius, as desired. The main proposal can therefore be summarized as in (43).

(43) **CP-linking hypothesis**:
In the CP-linking construction, the verbal predicate is restricted by the CP and takes the pronoun *it*, which is a variable ranging over individuals with proposition content, as its selected internal argument.

Before moving on to show that this analysis captures the main behavior outlined above, there are two pressing questions to address. The first is how the correct linear order is derived. Given the LF in (43b), we might expect the CP to be allowed to precede the pronoun, counter to fact.

(44) Mary proved *(it) that Sue was a genius (*it).

This is a species of a more general problem that arises in analyses of a variety of constructions, including CP-argument-taking psych-predicates (Hartman 2012: 119f.), CP arguments of degree heads (Heim 2000; Meier 2003), CP-arguments to *tough*-predicates (Longenbaugh 2016), etc. As with the CP-linking construction, there is syntactic and semantic evidence that the CP arguments in these contexts is merged in a clause-medial position, yet it must appear on the right periphery in the linearized string. Following these authors, I will therefore assume that there is a requirement for prosodically heavy material like CPs to appear to the right, and that CPs undergo semantically vacuous PF movement to satisfy this constraint.

The second question is whether adopint a *Restrict*-based analysis of CP-linking commits us to Kratzer's (2006) *Restrict*-based view of CP-verb composition over the movement-based view

of Moulton (2015). It is perfectly possible that *Restrict* is an active compositional rule that combines verbs and CPs, but that there is no general VP-level operation of existential closure. The analysis therefore does not require us to commit to Kratzer's (2006) view over Moulton's (2015). In fact, there is even preliminary syntactic evidence supporting the Moulton (2015) view. Following Stowell (1981), CP arguments of verbal predicates block preposition stranding from within the VP that they occur in, as in (45). Moulton (2015) argues that this effect results from the obligatory CP movement that feeds interpretation. This view is further supported by the fact that CP arguments to nominals, which are interpretable *in situ* (see fn. 29), do not cause a similar effect (see (46)).[11]

(45)   a.   *Who did you say to *t* that I would buy the guitar?
       b.   *Who will Andrew disclose to *t* that he is married?
            (Stowell 1981: 208)

(46)   a.   Who did you give the impression to *t* that you were happy?
       b.   Who did you give the book to *t* that Mary wanted?
            (Moulton 2015: 323)

For the sake of the argument, then, let us accept Moulton's (2015) claim that the impossibility of CP-movement in (45) is indeed due to CP-movement. The crucial observation is that preposition stranding is possible in cases like (45) if the *it* argument is added, lending credence to the notion that (non-PF) CP-movement is not required in cases with the *it*.

(47)   a.   Who did you say **it** to *t* that I would buy the guitar?
       b.   Who will Andrew disclose **it** to *t* that he is married?

### 4.3.2   Capturing the core behavior

With the account of CP-linking now in place, I show that it accounts for the main facts concerning CP-linking constructions that we have seen so far. First and most importantly, the account supports the main thesis of this chapter, namely that there are no true 'expletive' uses of the default third person pronoun. In particular, the *it* in CP-linking examples is both $\theta$-marked and referential, as it saturates the open internal-argument slot of the verb.

The account also captures the various properties we have seen to be associated with the CP-linking construction. To begin, recall that the *it* and the CP, but not both, can be omitted from the CP-linking construction:

(20)   a.   Sue regrets that Bill is coming.
       b.   That Sally wasn't invited was considered unacceptable.

(21)   a.   Sue regrets it (=that Bill is coming).
       b.   It (=that Sally wasn't invited) was considered unacceptable.

That the CP can be omitted follows because its contribution is to restrict rather than to saturate the open individual argument slot of the verbal predicate. It therefore functions semantically as a modifier rather than an argument, and its presence is not required. That the *it* can be omitted follows because the CP can be interpretable as the saturating argument of the verbal predicate, provided it either moves to a higher position in the clause or combines with the verb via restrict and is then existentially closed.

---

[11]These cases involve rightward CP-movement, which I again presume is post-syntactic and hence semantically vacuous.

The account also captures the behavior of the CP-linking construction with respect to pseudo-clefting. As introduced in Section 4.2.3, the main facts are these: the CP argument of verbs participating in the CP-linking construction can be pseudo-clefted if and only if the *it* is omitted.

(25)     a.    What Bill explained (*it) to me is that Sue is his friend.
          b.    What (*it) was claimed is that Bob betrayed Jill.

Adopting one prevalent analysis (nothing hinges on this), the free-relative in subject position in (47) involves a movement-derived predicate that is closed off by a uniqueness/maximality operator (Partee 1987; Jacobson 1994, 1995, 1999; Sharvit 1999). The licit version of (47a), for example, then has the following syntax and semantics. A uniqueness/maximality operator is merged as the internal argument of *explain*, and undergoes A′-movement into the left-periphery. Assuming that both CP and DP movement leave behind type $e$ traces/copies (see, e.g., Heim and Kratzer 1998, Fox 1999 for DPs; Moulton 2015: 326f. for CPs), the underlying category of this operator is immaterial, and its trace saturates the open individual argument slot of the verb. The structure resulting from the movement is interpreted as a predicate of individuals with propositional content, as illustrated in (48c). This predicate is then closed off by the uniqueness/maximality operator, yielding an individual with propositional content, as in (48d). This can then serve as the argument of the post-copular CP, which by hypothesis denotes a predicate of individuals with propositional content.

(48)     a.    LF: [$_{CP}$ Op [$_{C'}$ 1 [$_{TP}$ Bill [$_{VP}$ explained $t_1$ to me]]]]
          b.    $[\![VP]\!] = \lambda e.\lambda w.\text{explaining}(e)(w) \wedge \text{theme}(g(1))(e)(w) \wedge \text{patient}(\underline{\text{me}})(e)$
          c.    $[\![C']\!] = \lambda x_c.\lambda w.\ \exists e[\text{agent}(\underline{\text{Bill}})(e) \wedge \text{explaining}(e)(w) \wedge \text{theme}(x_c)(e)(w) \wedge \text{patient}(\underline{\text{me}})(e)]$
          d.    $[\![CP]\!] = \iota x_c.\text{MAX}(x_c)(w) \wedge \exists e[\text{agent}(\underline{\text{Bill}})(e) \wedge \text{explaining}(e)(w) \wedge \text{theme}(x_c)(e)(w) \wedge \text{patient}(\underline{\text{me}})(e)]$

Psuedo-cleft formation is then incompatible with CP-linking because the trace of CP-movement is, by hypothesis, type $e$ rather than type $\langle e, st\rangle$. It therefore may function only as a saturating, not a restricting, argument of the verb. It follows that in such cases, the verb is 'over-saturated,' as there are two arguments that can saturate the single open argument individual argument slot: the *it* pronoun and the trace of operator movement. Since there is only one argument position to saturate, the result is uninterpretable. We therefore correctly predict that pseudo-cleft formation in the presence of an *it* should be uninterpretable.[12]

(49)     a.    LF: [$_{VP}$ [explain $t_1^{CP}$] it$_7$]
          b.    $[\![t_1^{CP}]\!]^g = g(1)$, $[\![it_7]\!]^g = g(7)$
          c.    $[\![[\text{explain } t_1^{CP}]]\!] = \lambda e.\lambda w.\text{explain}(g(1))(e)(w)$
          d.    $[\![VP]\!] = \text{UNDEFINED}$

---

[12]David Pesetsky (p.c.) suggests an alternative analysis of these facts that is also compatible with our account. The basic idea is that the relative pronoun involved in pseduo-clefting must receive Case, and hence is limited to originating in positions that can independently host DP arguments. If the *it* is omitted, then the *what* can originate in the internal-argument position of the relevant verb, a Case position. If the *it* is present, then the *what* can only originate in the adjunct position that hosts the CP in CP-linking environments. Given that DPs are not tolerated in this position (see (i)), it must not be a Case position, or so the logic goes. The relative pronoun therefore does not receive Case, and the result is ill-formed.

(i)      Sue failed to mention it *John/that . . .

I will not adopt this analysis here, as I do not want to commit to the position that DPs must be Case-licensed. Moreover, the analysis of CP-linking straightforwardly derives these facts, so I see no reason to introduce additional Case-based machinery to capture them.

This highlights a general prediction of the account, namely that the CP should be barred from undergoing leftward movement in the CP-linking construction: assuming that CP movement always leaves a type *e* trace/copy, moving the predicate-restricting CP from a CP-linking environment will always result in the over-saturation problem highlighted above. We therefore also correctly predict that topicalization should be impossible in such contexts.

(50) a. That John is guilty, I have claimed (*it) many times.
     b. That they should hire Sue, Mary has shown (*it) beyond doubt.

Assuming that *as*-parentheticals also involve movement (Ross 1984; Postal 1994; Potts 2002), this analysis should presumably extend here as well, thus correctly capturing the fact that the CP-linked *it* is impossible in such cases (see (23)). That said, *as*-parentheticals are significantly more complex than topicalization, so it's worth considering them in more detail.

### 4.3.3 *as*-parentheticals

The goal of this section is to argue that the account of CP-linking developed here accounts for the fact that the constructions is generally incompatible with *as*-parentheticals, which are otherwise licensed with CP-argument taking verbs:

(23) a. The arguments were flawed, as Bill explained (*it) to me.
     b. Three is a prime number, as Mary definitively proved (*it) to me.
     c. Sally is guilty, as (*it) was expected.
     d. Bill came on time, as (*it) was important.

I take as my point of departure the following preliminary properties of *as*-parentheticals established by Potts (2002). First, *as*-parentheticals involve with a gap in the clause that forms the complement of *as*. This gap is associated with movement of a null operator to the left edge of the relevant clause, rather than with ellipsis (Potts 2002: Sec. 2.1). Perhaps the strongest argument to this effect is that the gap in an *as*-parenthetical cannot be inside an island:

(51) a. *Durians are delicious, exactly as Nina spoke with a grocer who claimed *e*.
     b. *Jim Durrow is a blackjack ace, just as they smiled politely when he reported *e*.
        (Potts 2002: 631)

Second, the gap in *as*-parentheticals involves null-operator movement, rather than movement of the *as* itself; *as*-parentheticals therefore have the following internal structure:[13]

(52) a. Ames stole important documents, as the FBI said he had.
     b. [$_{PP}$ as [$_{CP}$ Op$_1$ [the FBI said he had $t_1$]]]
        (Potts 2002: 638)

Potts's (2002) main argument that *as* does not move is based on Stowell's (1987) observation that *as* can never appear *in situ*, in contrast to other CP proforms.

(53) a. (So) I hope (so)
     b. *(As) I hoped (*as).

Finally, *as*-parentheticals adjoin directly to the linguistic material that determines their meaning. In other words, the sister of the *as*-parenthetical determines the interpretation of the gap.

---

[13]I follow Potts (2002) in assuming that the *as* is a preposition, but nothing hinges on this.

One argument to this effect can be established on the basis of the following contrast:

(54)    Alan claimed that cryptography is a blast, as you mentioned.

    a.   *as*-clause = you mentioned that cryptography is a blast.
    b.   *as*-clause = you mentioned that Alan claim that cryptography is a blast.

(55)    Alan claimed that, as you mentioned, cryptography is a blast.

    a.   *as*-clause = you mentioned that cryptography is a blast.
    b.   *as*-clause ≠ you mentioned that Alan claim that cryptography is a blast.

These facts follow if the sister of the *as*-clause determines the interpretation of the gap: (54) is compatible with a parse where *as* is adjoined to either the matrix or embedded clauses, capturing the ambiguity; in (55), in contrast, only adjunction to the embedded clause is possible, capturing the impossibility of (55b). I refer the reader to Potts (2002: Sec. 2) for more arguments supporting these three assumptions.

Putting these observations together, Potts (2002) proposes the following basic theory: *as*-clauses denote propositional modifiers which introduce the presupposition that the CP complement to *as* is true when the proposition modified by the *as*-parenthetical is substituted in the gap site (see Potts 2002: 3.1 for more evidence that *as*-parentheticals introduce a presupposition). I illustrate with the example in (56):

(56)    Sue is a genius, as John claimed.

    a.   LF: [$_{CP}$ [Sue is a genius] [$_{PP}$ as [Op$_1$ [John claimed $t_1$]]]]
    b.   $[\![PP]\!] = \lambda q.\lambda w : [\![claim]\!](\underline{John})(q)(w) = 1.\ q(w)$
    c.   $[\![CP]\!] = \lambda w : [\![claim]\!](\underline{John})([\![that\ Sue\ is\ a\ genius]\!])(w) = 1.$ Sue is a genius in $w$

This basic theory will serve as our point of departure. What remains, then, is to analyze the composition semantics with in the *as*-parenthetical. In this domain, we must minimally deviate from Potts's (2002) analysis so as to bring the account in line with the Kratzer-Moulton theory of CP meanings. To set the stage for making this departure, I want to highlight one additional aspect of the internal syntax of *as*-parentheticals, namely that the gap can only occupy a position that can independently host a CP. The construction therefore differs from other types of CP-movement, e.g., CP topicalization, which are only possible if the gap occupies a position that can independently host a DP. Thus in (57), the verb *insist* takes a CP complement only; a DP complement requires the addition of the preposition *on* (cf. (57a,b)). The gap in an *as*-parenthetical is not compatible with the *on*, while the gap associated with CP-topicalization requires it (cf. (57c,d)). The same point can be made on the basis of verbs like *boast, complain*, which take CP but not DP arguments (see (58a)). The complement of such verbs may thus serve as a gap in an *as*-parenthetical, but not in a CP-topicalization structure.

(57)    a.   We insisted (*on) that Sonia attend the interview.
    b.   We insisted *(on) that fact.
    c.   Sonia attended the interview, as we insisted (*on)
    d.   That Sonia attend the interview, we couldn't insist *(on).
        (Postal 1994: 70)

(58)    a.   Albert boasted *it/*that/that his results were fantastic.
    b.   His results were fantastic, as Albert boasted.
    c.   *That his results were fantastic, Albert boasted.
        (Postal 1994: 72, 78, 86)

Potts (2002) proposes a semantic account of these effects. The basic premise that CPs underlyingly denote propositions, type $\langle st \rangle$, but that they may be type-shifted to denote individuals as well, type $e$. Verbs that take DP internal-arguments are then assumed to have an unambiguous type $e$ internal argument slot, as on our account. Those CPs that can appear in such positions have therefore always been type-shifted to type $e$. Verbs like *insist, boast, …* that only take CP arguments have a type $\langle st \rangle$ internal argument slot, in contrast. CPs but not DPs are thus interpretable in this position. Concerning *as*-parentheticals, Potts's (2002) claim is then that the associated gap must always be type $\langle st \rangle$, whereas the gap in other CP-movement constructions must always be type $e$.

This account therefore depends on treating CPs as denoting propositions. As we have seen, however, our account of CP-linking crucially depends on the Kratzer-Moulton idea that CPs denote predicates of individuals. I would therefore like to suggest the following minimal revision of Potts's (2002) account: rather than treating the CP-requirement of *as*-parenthetical gaps as a type-theoretic effect, I propose to encode it instead in terms of syntactic selection. In particular, I propose that predicates like *boast* are syntactically specified to take only CP arguments, whereas predicates like *prove* syntactically select for both CPs and DPs. There is therefore no need to posit a semantic difference among these predicates, nor to claim that CPs are type-ambiguous. Returning to *as*-parentheticals, then, we can capture the behavior on display above by assuming that the associated null operator is CP- rather than DP-type, and hence can only be merged in the structure in a position that can host a CP. This achieves the exact same empirical coverage as Potts's (2002) account, without committing us to the view that CPs are type-ambiguous.[14]

With this in mind, we can provide an explicit compositional semantics for *as*-parentheticals. First, to account for the fact that the gap in *as*-parentheticals is limited to environments that can host CPs, I propose that the null operator involved in this construction is a CP. In support of this position, I point out that English has an unambiguous CP-proform, *so*, which like the gap in *as*-parentheticals can only appear in contexts that also allow full CPs. The null operator in *as*-parentheticals can thus be thought of as a covert analagoue to this proform.

(59)  a.  John boasted so.
      b.  I convinced Frank *it/so/that Sue was a genius.
      c.  I convinced Frank of it/*so/*that Sue was a genius.

The basic derivation of *as*-parentheticals then involves operator movement to Spec(CP) in the parenthetical clause (see (60b)). The resuling CP is thus a predicate of individuals (see (60c)). As such I minimally revise Potts's (2002) definition of *as* along the lines in (60a). After combining with the CP, the *as*-phrase thus denotes a predicate of propositions, just as on Potts's (2002) approach. It therefore maintains all the benefits of his account.

(60)  a.  $[\![as]\!] = \lambda P_{\langle e, \langle st \rangle \rangle}. \lambda q_{\langle st \rangle}. \lambda w : \exists x_c [\text{CONT}(x_c)(w) = q \wedge P(q)(w)].q(w)$
      b.  LF: $[_{\text{PP}} \text{ as } [_{\text{CP}} \text{ Op } [1 \text{ [Mary proved } t_1]]]]$
      c.  $[\![\text{CP}]\!] = \lambda x_c. \lambda w. \exists e[\text{agent}(\underline{\text{Mary}})(e) \wedge \text{prove}(x_c)(e)(w)]$

---

[14]A natural question at this juncture is whether there is any empirical evidence that would help us differentiate these two approaches. Potts (2002) suggests that there is, and in particular that the fact that CPs can enter into copular constructions with DPs, as in (i), suggests that they have a type $e$ denotation. This hinges on the copula being equative rather than predicational, i.e., on the CP being equated with the DP rather than being predicated of it. The latter option is what is expected on the Kratzer-Moulton theory, where CPs are predicates. In the appendix, I offer independent arguments in support of structures like (i) being predicational.

(i)      The idea is that Bill is a genius.

d. $[\![\text{PP}]\!] = \lambda q.\lambda w : \exists x_c[\text{CONT}(x_c)(w) = q \wedge \exists e[\text{agent}(\underline{\text{Mary}})(e) \wedge \text{prove}(x_c)(e)(w)]].q(w)$

At long last, we are prepared to account for the issue that inspired this section, namely that *as*-parentheticals are incompatible with the CP-linking construction. By hypothesis, the null operator movement involved in the formation of an *as*-parenthetical leaves a type *e* trace, like all CP-movement. This is therefore ruled out in the presence of an *it* argument for the same over-saturation problem described in the previous section: in such instances, the verb has a single open individual argument slot but two type *e* arguments to saturate it, resulting in unin-terpretability. The behavior of *as*-parentheticals is therefore captured on the present analysis.[15]

### 4.3.4 Open issues

Before moving on, I want to pause briefly to flag two open issues with the present account of CP-linking. The first is that only the default third person pronoun *it* can saturate the open argument position of the verb after it has composed with the CP via *Restrict*. Thus while (61a) is an accept-able utterance, it only has the structure where the CP is an argument of the noun *claim*, rather than a resticor of the verb (cf. (61b,c)). That only this structure is available is demonstrated in (62), where the impossibility of extraction suggests the CP is an argument of the noun.

(61)    a.    Mary mentioned the claim that Sue read Bill's thesis.
       b.    [mention [the claim that Sue read Bill's thesis]]
       c.    *[[mention [that Sue read Bill's thesis]] the claim]

(62)    a.    *It was Bill's thesis that Mary mentioned the claim that Sue had read.
       b.    It was Bill's thesis that Mary mentioned it that Sue had read.

As far as I can tell, nothing on the proposed analysis predicts this. Once the verb and CP have composed via restrict, the resulting predicate has an open argument slot for individuals with propositional content that matches the content of the CP. Why a content-noun DP like *the claim* cannot satisfy this predicate is a mystery.

The second open question concerns the possibility of extracting the CP-linked *it*. While this form can undergo A-movement, for example when the associated verb is passivized, as in (63), it seems uniformly barred from undergoing A′-movement. It is therefore impossible, for example, as a target of *tough*-movement, as first observed by Postal and Pullum (1988). This is illustrated in (64), where the post-verbal preposition forces the presence of the pronoun.

(63)    a.    It was proved that Sue is a genius.
       b.    [$_{\text{TP}}$ it$_1$ [T … [$_{\text{VP}}$ [prove CP] $t_1$]]]

(64)    a.    We counted on it that Bill would come.
       b.    *It was foolish to count on *t* that Bill would come.
       c.    That Bill would come was foolish to count on *t*.

One promising approach, which is essentially the one taken by Longenbaugh (2017), is that the *it* is semantically incompatible with the information-structural effects of TM. It's not clear that this approach is tenable, however, as *it* pronouns denoting individuals with propositional content are acceptable targets in other contexts:

---

[15]It's worth pointing out that the Case-theoretic analysis suggested in fn. 12 does not extend to *as*-parentheticals. In particular, because the gap in an *as*-parenthetical is limited to positions that can host CPs, which under traditional assumptions cannot bear Case (Stowell 1981), we cannot reduce the impossibility of *as*-parentheticals with an *it* in CP-linking environments to Case-theoretic reasons.

(65)  a.  A: We had good evidence that Bill would come.
      b.  B: Yes, but it (=that Bill would come) was nevertheless foolish to count on.

I must leave this issue to further research.

## 4.4  The non-logical-*if* construction

Having established a basic theory of CP-linking, I turn my attention in this section to the ostensibly similar construction from (5), repeated below, where a direct object *it* pronoun is associated with an *if*- rather than a *that*-CP. As argued by Postal and Pullum (1988), this construction features an optional default third person pronoun that arguably functions as an 'expletive' on a par with the pronouns in CP-linking environments. If the proposal that all uses of the default third person pronoun are selected arguments is to be substantiated, we must therefore show that such pronouns are likewise thematic arguments of their associated predicates.

(5)  a.  I'd hate it if Mary hired Bill.
     b.  I'd prefer it if Sue picked me up.

To this end, this section is devoted to arguing that such constructions should be analyzed in essentially the same manner as the other cases of CP-linking we have so far encountered, with the *if*-clause functioning as a predicate that restricts but does not saturate the associated verb, and the *it* a referential pronoun functioning as the saturating internal argument.

### 4.4.1  Defining characteristics and previous analyses

Because it will be relevant for the ensuing discussion and analysis, I begin by outlining some of the characteristic properties of the construction, which I will hereafter refer to as the non-logical-*if* construction, following Williams (1974). In addition to the presence of the *if*-clause and the associated default third singular pronoun, it has two characteristic properties. First, it requires the presence of an modal in the matrix clause, e.g., the *would* in (65), as well as past tense morphology in the *if*-clause. At least the following modals license this construction: *would, might, will, should.* If either of these conditions fails to be met, a *that*-clause must be used in place of the *if*-clause:

(66)  a.  I like it that/*if John was on time.
      b.  I would like it that/*if John is coming.

Second, the construction is licensed by a wide array of verbal and adjectival predicates, as illustrated in (67). These predicates share in common the fact that they give rise to factive inferences when they are combined with *that*-clauses in the indicative mood (see (68)).[16]

(67)  a.  It would be absurd/fine/nice/strange/shocking if Sue were arrested.
      b.  Bill would appreciate/enjoy/hate/like/prefer/regret it if he wasn't invited.

(68)  a.  John likes that Bill is tall ⤳ Bill is tall.

---

[16]The only exception to this that I know of is the verb *prefer*, which licenses the construction (see (ia)), but fails to give rise to a factive inference in the indicative mood. I thank Sabine Iatriodu (p.c.) for pointing this out to me.

(i)  a.  I'd prefer it if John picked me up.
     b.  I prefer that Sue wins the race. (⤳̸ Sue won the race)

b.   It is absurd that Sue wasn't invited ⤳ Sue wasn't invited.

As mentioned in the introduction, despite the superficial similarities to the CP-linking forms discussed so far, the prevalent view in the literature posits a radically different syntax and semantics for the non-logical-*if* construction. I therefore begin by introducing this view, which I will ultimately argue against. It has several related instantiations, but all start from the basic premise that the *if*-clause functions syntactically and semantically as the antecedent of a conditional, and is hence a clausal adjunct that restricts a covert operator or adverb of quantification. The varying approaches then differ primarily in how they treat the *it* pronoun. For Pesetsky (1991), the *it* is a placeholder that is replaced at LF with a *that*-clause whose proposition content is identical to that of the *if*-clause. An example like (68a) is therefore transformed at LF into something like (69a). Hinterwimmer (2014) updates this analysis, proposing that the *it* is the spell out of a complex DP of the form [D CP] whose CP has been elided. On this approach, the CP is identical to the *if*-CP but with a *that*-complementizer. This approach thus assumes essentially the same LF as Pesetsky's (1991) view (see (69b)). Finally, Thompson (2012) proposes that the *it* is a pronoun over situations that gets bound by the operator or adverb that the *if*-clause restricts (see (69c)).[17]

(69)   a.   [[Op [if Mary hired Bill]] [I'd hate that Mary hired Bill]].          (Pesetsky 1991)
       b.   [[Op [if Mary hired Bill]] [I'd hate [D ~~that Mary hired Bill~~]](=it)].     (Hinterwimmer 2014)
       c.   [[Op$_1$ [if Mary hired Bill]] [I'd hate it$_1$]]          (Thompson 2012)

My first task in this section will be to show that the assumption underlying this view, namely that the *if*-clause functions syntactically and semantically like a conditional adjunct, is not tenable. I argue instead that this *if*-clause behaves, for all intents and purposes, like the *that*-clause in CP-linking environments, which I refer to hereafter as 'linked *that*-CPs.' The argument has a syntactic and a semantic component. I first establish that the *if*-clause functions syntactically like the *that*-clause in the CP-linking construction, and unlike a conditional clausal adjunct. With this in place, I then argue that the *if*-clause does not restrict a clausal covert operator or adverb of quantification, but rather behaves like a semantic argument of the associated predicate, just like the CP in CP-linking environments.[18] Once these two points have been established, I propose a semantics for the non-logical-*if* construction building on von Fintel and Iatridou's (2019) cross-linguistic study of counterfactual desire reports that captures the behavior of the pronoun in a manner parallel to the CP-linking constructions we encountered previously.

### 4.4.2   Syntax: the *if*-clause is not a conditional adjunct

This section presents the syntactic arguments that the *if*-clause behaves like a linked *that*-CP rather than a conditional adjunct. First, unlike adjunct *if*-clauses (see (70)), but like linked *that*-CPs (see (29)), the *if*-clauses in question are not strong islands (see (71)), as first observed by Pullum (1987).[19]

---

[17]Note that on both Hinterwimmer's (2014) and Thompson's (2012) analyses, the *it* is a selected argument, not a pronoun, so technically both of these approaches are compatible with the main hypothesis of this chapter. That said, I believe there are compelling reasons to reject these analyses (see Sections 4.4.2, 4.4.3), so I will continue to develop an alternative approach.

[18]While the CP is not technically the argument of the verb on the proposed account of CP-linking, a pronoun referring to an individual that shares its propositional content does saturate the internal argument slot of the predicate.

[19]David Pesetsky (p.c.) suggests that these facts can be accounted for on his proposal if we assume extraction is really taking place from the silent *that*-clause, with a parasitic gap in the *if*-clause

(70)  a.  I would fire Bill if he downloaded anything onto this computer.
  b.  *This is the computer onto which I would fire Bill if he downloaded anything $t$.

(71)  a.  I would mention it to my boss if Bill downloaded anything on this computer.
  b.  This is the computer onto which I would mention it to my boss if Bill downloaded anything $t$.

The second argument, also due to Pullum (1987), is that conditional *if*-clauses cannot be the focus of a pseudo-cleft (see (72)), whereas the *if*-clauses in question can, provided the associated pronoun is left out (see (73)). This is the exact pattern observed with linked *that*-CPs (see (25)).

(72)  a.  John would come over if we didn't invite Mary.
  b.  *What John would come over is if we didn't invite Mary.

(73)  a.  John would hate (it) if we invited Mary.
  b.  What John would hate (*it) is if we invited Mary.

The third argument is that if the pronoun is left out, the *if*-clause must be present. Conditional *if*-clauses, on the other hand, are adjuncts and hence never obligatory. These facts suggest that the *if*-clause can function as an argument if the *it* is omitted, just like linked *that*-clauses.[20]

(74)  a. %I'd prefer *(if John came).
  b. %I'd like *(if you didn't invite Sue).
  c. %Bill would regret *(if he skipped this party).

The fourth argument is from Principle C effects. Observe that direct objects trigger Principle C violations in linked *that*-CPs (see (75a)), but not in adjunct conditional clauses (see (75b)). Under this diagnostic, *if*-clauses in the relevant cases pattern once again like linked *that*-CPs and unlike conditional adjuncts (see (75c)).

(75)  a.  *It horrified her$_1$ that Mary$_1$ ran over a bug.
  b.   It would horrify her$_1$ that Bill ran over a bug if we told Mary$_1$.
  c.  *It would horrify her$_1$ if Mary$_1$ ran over a bug.

The fifth argument is that conditional *if*-clauses license NPIs, whereas the *if*-clauses in (5) do not. This observation is due to Karina Wilkinson. Once again, then, the *if*-CPs in the non-

---

(i)    This is the computer onto which [I would hate it [that Bill downloaded anything $t$] [if Bill downloaded anything $pg$]]

We can rule this out by observing that extraction is possible in contexts that reject parasitic gaps, as illustrated in (ii) and (iii).

(ii)   No PG in anti-pronominal contexts

  a.  *Mondays are easy to enjoy $t$ without going to class on $pg$.
     (Stanton 2016)
  b.  *Which color does John like $t$ after having painted his house $pg$?

(iii)  Extraction from argument *if*-clause fine in anti-pronominal contexts

  a.  What day would John like it if he could stay home from class on $t$?
  b.  Which color would John like it if we painted his house $t$?

[20]For some speakers, the *it*-pronoun cannot be omitted with certain predicates. I am unsure of how to account for this behavior, and will simply point out here that there are speakers for whom pronoun omission is universally possible, just like in the CP-linking environments we have discussed previously.

logical-*if* construction pattern like linked *that*-CPs (which also fail to license NPIs, see (77)) rather than conditional adjuncts.[21]

(76)  a.  *I would like it if he played the violin anymore.
      b.  If he played the violin anymore, I would like that he did.
          (Pesetsky 1991: 61)

(77)  a.  *Sally proved it that anyone came.
      b.  *Fred expected it that anyone would pass the test.

The sixth argument is that in cases where the *if*-clause is associated with a pronoun, the relationship must be local, just as we observed with CP-linking constructions. The *if*-clause in (78), which is in the same clause as the pronoun, therefore shows CP-linking type behavior, as evidenced by the possibility to extract out of it. In contrast, the *if*-clause in (79), which is generated in the clause above the one containing the pronoun, must be parsed as a conditional adjunct, and is hence a barrier to extraction.

(78)  a.  Bill would like it if you came over before 5.
      b.  When would Bob like it [if I came over *t*]?

(79)  a.  Bill would pretend [to hate it] if you came over before 5.
      b.  *When would Bob pretend [to hate it] [if I came over *t*]?

Likewise, the non-logical-*if* construction seems to be incompatible with fronting of the *if*-CP. While the resulting structure is not unacceptable, the *if*-CP no longer behaves syntactically like a linked *that*-CP. It thus becomes an island for extraction (see (80)) and licenses NPIs (see (81)), suggesting it is obligatorily a conditional adjunct in such cases. This again matches the behavior of linked *that*-CPs, which cannot be moved leftward in the CP-linking construction.[22]

(80)  a.  Where did Bill say that he'd like it [if we held the party *t*]?
      b.  *Where did Bill say that [if we held the party *t*] he'd like it?

(81)  a.  *Mary might enjoy it if anyone made a mess.

---

[21]Pesetsky (1991) argues that his account can likewise account for these facts. On this analysis, there is a semantic identity constraint that forces the *that*-clause substituted in for the pronoun at LF to be semantically identical to the *if*-clause modulo choice of comeplementizer. Pesetsky (1991) argues that this *that* clause will therefore contain an NPI as well, and NPIs are not licensed in this context overtly:

(i)  a.  *I'd like it if he played the violin anymore.
     b.  If he played the violin anymore, I'd like that he played the violin ***anymore**.

There is reason to be suspicious of this argument, however. In particular, NPIs do not need to be overtly licensed by negation in other environments where they are not pronounced. Thus VP-ellipsis examples like (ii) are well formed despite the fact that there is no NPI-licensor in the elided clause. We must therefore conclude either that the semantic identity constraint on ellipsis does not require the NPI to also be present in the elided clause, or else that NPIs that are not overtly realized at PF do not need to be licensed.

(ii)  a.  I don't like anything Bill wrote, but Mary does.

Given that Pesetsky's (1991) account relies on substituting in a copy of the *if*-clause at LF but not at PF, we might likewise expect that NPIs in the copied clause should not pose any particular problem.

[22]Unlike in the CP-linking construction, however, fronting of the *if*-clause does not improve if the *it* is omitted. I suspect this is because *if*-clauses simply cannot be topicalized, so cases with a fronted *if*-clause simply involve base generation in the left periphery. This still conforms to our basic argument, however, as there is no way for the *if*-clause to compose with the verb if it is generated high.

b.  If anyone made a mess, Mary might enjoy it.
    (cf. Pesetsky 1991: ex. 238)

The conclusion, then, is that the *if*-clause in cases like (5) behaves syntactically like the *that*-CP in the CP-linking environment, and unlike true conditional adjunct clauses. The second (pseudo-clefting) and third (omissability) arguments are particularly revealing, as they suggest that the relationship between the *if*-clause, the associated pronoun, and the selecting verb is the same as in CP-linking contexts. Thus the fact that the *if*-clause is required if the *it* is omitted suggests they compete for a single argument position, a stance further corroborated by the fact the *if*-clause can be pseudo-clefted only if *it* is absent. This in turn suggests that the *if*-clause is a restricting but not saturating argument, just like linked *that*-CPs.

### 4.4.3  Semantics: the *if*-clause does not restrict a modal quantifier

To further support this basic position, I now argue that the *if*-clause in non-logical-*if* constructions do not function semantically like conditional *if*-clauses, but rather like semantic arguments of the associated verbal predicate. To make this argument, we need to understand what the semantics of utterances like (5) are expected to be if the *if*-clause is indeed the antecedent of a conditional. For concreteness, let's therefore consider what interpretation is expected of the structure proposed by Pesetsky (1991), repeated in (82).

(82)    a.  I would like it if John were invited.
        b.  ≈ If John were invited, I would like that he was invited.

The conditional in (82b) is what is known as a counterfactual or subjunctive conditional (Iatridou 2000, a.o.). Its meaning has two core parts, a conditional part and counterfactual part. The former conveys the meaning that in all relevant situations where John is invited, I like the fact that he is invited. I will not attempt to chose among the competing formal analyses of how this meaning arises, as all our compatible with our broader point (see Kratzer 1981, 2012 and Stalnaker 1968 for two prominent views). The later part of the meaning conveys the meaning that the proposition expressed by the *if*-clause is either false or not necessarily true in the actual world. Thus (81b) conveys that John either won't be invited to the party, or at least has not yet been invited. How this meaning is compositionally achieved is controversial (see at least Iatridou 2000; Romero 2014; Mackay 2015; Khoo 2015; von Fintel and Iatridou 2019), so I will not attempt to explain it here. I simply observe that counterfactuality is associated obligatorily with past-tense marking in the *if*-clause and modal *would* in the consequent clause. If either of these are omitted, it disappears.

Putting together the conditional and counterfactual parts, we arrive at the following basic semantics for an example like (82b): John has not been invited to the party, but in all situations where he is invited, I like the fact that he was invited. Crucially, these examples therefore report on the attitude holder's desires/attitude in counterfactual situations. I will now argue that this is not the meaning that examples like (82a) really have, and that they instead report the attitude holders's desires/attitude in the actual world *towards* a counterfactual situation. The upshot is that the associated *if*-clause is not the antecedent of a counterfactual conditional.

(83)    **Proposal**:
        The non-logical-*if* construction reports desires/attitudes in the actual world concerning counterfactual situations.

The differences between the counterfactual conditional interpretation summarized above

and the one proposed in (83) are subtle, but the two can be distinguished by a number of tests. To begin, it is generally not possible to use a counterfactual conditional to report an attitude about a situation where the attitude holder is dead or otherwise does not exist. This is expected, since an attitude predicate in the consequent of a counterfactual conditional reports about attitudes/desires in the counterfactual scenario expressed by the antecedent clause. If the attitude holder is dead in such scenarios, they cannot have an attitude. The general impossibility of such forms is on display in (84). Following the sixth syntactic argument above, we can be sure such forms involve conditionals rather than the non-logical-*if* construction since the latter is incompatible with fronted *if*-clauses.

(84)    a.   #If Sue died young, she would hate it.
         b.   #If we buried him in France, Bill wouldn't mind it.

If the non-logical-*if* construction reports an actual-world desire about a counterfactual scenario, we predict, in contrast, that it should be possible to use this construction to report on an attitude holders desire/attitude concerning a situation where they are dead. This follows straightforwardly, as someone can clearly have attitudes about scenarios where they do not exist. This prediction is borne out, as illustrated in (85). Such examples thus have none of the awkwardness of their conditional counterparts in (84).

(85)    a.   Sue would hate (it) if she died young.
         b.   Bill wouldn't mind (it) if we buried him in France.

A second test is possible based on the projection of presuppositions in conditionals. In particular, when evaluating the presuppositions in a conditional consequent, the antecedent is taken to be true (Karttunen and Peters 1979; Heim 1983). Thus while (86a) is judged as infelicitous, a presupposition failure because Mary does not have constituents, (86b) is fully acceptable, since the antecendent limits discussion to worlds where Mary is a congresswoman.

(86)    Mary has never held elected office, but she is very popular in Georgia.
         a.   #Her constituents love her.
         b.   If she represented Georgia in congress, her constituents would love her.

This leads to the following prediction: if the non-logical-*if* construction involves a true counterfactual conditional, a counterfactual presupposition introduced in the consequent should be acceptable provided the antecedent limits discussion to worlds where the presupposition is satisfied. This is not borne out. While the unambiguously conditional example in (87a) is acceptable, if we force the non-logical-*if* parse by omitting the *it* (see (87b)), extracting from the *if*-clause (see (87b)), or pseudo-clefting the *if*-clause (see (87c)), a presupposition failure results.[23] The same point is made with an additional set of examples in (88).

(87)    Mary has never held elected office there, but she is very popular in Georgia.
         a.   If she represented Georgia in congress, her constituents would like it.
         b.   Her constituents would like #(it) if she represented Georgia in congress.
         c.   #Which state would her constituents like it if she represented in congress?
         d.   #What her constituents would like is if she represented Georgia in congress.

(88)    Sue is a gifted neuroscience researcher, but he does not practice medicine.
         a.   If she practiced neurology, her patients would like it.

---

[23]Recall that we have shown in Section 4.4.3 that conditional adjuncts are blocked in each of these environments.

b. Her patients would like #(it) if she practiced neurology.

c. #What sort of medicine would her patients like it if she practiced.

d. #What her patients would like is if she practiced neurology.

This data is immediately expected, however, under the proposal in (83). If the non-conditional-*if* construction reports actual world attitudes about counterfactual situations, then the relevant attitude holder must exist in the actual world. But in these examples, Mary and Sue do not have constituents or patients, respectively, in the actual world. As such, the attitude holders in these cases do not exist, i.e., such cases involve routine presupposition failures.

Summarizing, we have now seen syntactic and semantic evidence against the conditional analysis of the non-logical-*if* construction (Pesetsky 1991; Thompson 2012; Hinterwimmer 2014) and in favor of an analysis that reduces it to the CP-linking discussed previously. Syntactically, the *if*-clauses in the non-logical-*if* construction behave like linked *that*-CPs, not like conditional adjuncts. Semantically, they likewise fail to behave as conditional clauses, as evidenced by the fact that the overall utterance expresses an actual-world attitude about a counterfactual scenario, not an attitude in a counterfactual scenario.

There are two major remaining questions. First, now that we have established that (83) is a more accurate description of the meaning of the non-logical-*if* construction, how does this meaning arise compositionally? Second, what are the denotations of the verb and the *if*-clause, and are they amenable to an analysis in terms of *Restrict* as in the case of CP-linking?

### 4.4.4   X-marking and the semantics of the non-logical-*if* construction

To answer these questions, I begin with a brief digression into the cross-linguistic morphology of counterfactual conditionals and counterfactual desire reports. As originally observed by Iatridou (2000), in many languages there is a striking parallel between the morphology employed to mark a conditional as counterfactual, and the morphology used to report desires about counterfactual scenarios. I illustrate with Spanish. To form a counterfactual conditional in Spanish, special morphology is added to the antecedent and consequent of an ordinary conditional: the verb in the antecedent clause is marked with past subjunctive, and the verb in the consequent clause with so-called "conditional" mood (see (89a)). Alternatively, to report an actual-world desire about a counterfactual scenario in Spanish, special morphology is added to an ordinary desire report: the desire predicate is marked with conditional mood, and the complement clause with past subjunctive (see (89b)).

(89)  a. Si **fuera**            más  alto **sería**         un juagador de balconcesto.
         if  be.3.SG.PST.SBJ more tall  be.3.SG.COND a   player     of basketball
         'If s/he was taller, s/he would be a basketball player.'

      b. **Querría**          que **fuera**           más  alto de   lo      que es.
         want.3.SG.COND that be.3.SG.PAST.SBJ more tall   than 3.SG.M that be.3.SG.PRES
         'S/he wishes s/he was taller than s/he is.'                                    *Spanish*
         (von Fintel and Iatridou 2019: 10f.)

The pattern, then, is that the morphology that turns a conditional into a counterfactual conditional is the same as the morphology that turns a desire report into a counterfactual desire report: the morphology marking the antecedent of the counterfactual conditional also marks the embedded clause of the counterfactual desire report, and the morphology marking the consequent of the conditional also marks the matrix clause of the desire report, as schematized in (90), where $M_1$ and $M_2$ stand for particular combinations of morphemes on the verb. von Fintel

and Iatridou (2019) term this morphology X-marking, so that, e.g., a counterfactual conditional is formed by adding X-marking to a conditional.

(90)    **X-marking generalization**:
    a.  If $M_1$ ...then...$M_2$...             *Counterfactual conditional*
    b.  want-$M_2$ that ...$M_1$...          *Counterfactual desire report*
      (Iatridou 2000: 239)

While the precise identity of the X-marking morphology differs cross-linguistically, von Fintel and Iatridou (2019) show that the pattern on display in Spanish also manifests in a wide variety of genetically unrelated languages, including Greek, Hungarian, and French.

The necessary information is now in place to propose a preliminary answer to the questions posed at the end of the last section, namely how does the interpretation of the non-logical-*if* construction arise, and is it amenable to an analysis in terms of *Restrict* along the lines of the one proposed for the CP-linking construction. To this end, recall that the non-logical-*if* construction reports an actual world desire about a counterfactual scenario, i.e., it is a counterfactual desire report. Building on the discussion so far in this section, my proposal is then that the non-logical-*if* construction is simply an X-marked desire report. In particular, the matrix clause *would* and the embedded clause past tense, which as we have seen are required in the non-logical-*if* construction, are a manifestation of the same X-marking employed in counterfactual conditions. The non-logical-*if* construction therefore exhibits the X-marking pattern in (90), as we saw in Spanish.

(91)    **Non-logical-*if* as X-marking hypothesis**:
    The characteristic morphology associated with the non-logical-*if* construction is X-marking, and gives rise to the counterfactual inference associated with the construction.

The proposal immediately captures the semantics and the morphology of the non-logical-*if* construction: the construction reports an actual-world attitude about a counterfactual situation, exactly the semantics associated with X-marking on an attitude predicate, and the characteristic morphology associated with the construction is the canonical English X-marking morphology exhibited in counterfactual conditionals.[24] This morphology is, moreover, obligatory: the matrix clause must have a *would*, and the embedded clause a past-tense verb:

(92)    I (*would) like it if John was/*is invited.

Before we can propose an explicit semantics, a final detail that must be worked out is what

---

[24]As Iatridou (2000) observes, English only partially adheres to the X-marking generalization in other contexts. Thus while counterfactual desire reports always show X-marking in the embedded clause, many desire predicates cannot be marked with *would* on the intended reading. To illustrate that X-marking is required in the embedded clause, note that English has a inherently counterfactual desire predicate, *wish*. As illustrated below, X-marking (past tense) is obligatory in the embedded clause.

(i)      I wish I had/*have a car.

To illustrate that X-marking is not always possible in the matrix clause, note that adding *would* to a *want* desire report does not render it counterfactual, even if the embedded clause is past tense. Thus (ii) cannot be used to express an actual-world desire about a counterfactual scenario.

(ii)     I would want that John was tall.
       $\neq$ I wish that John was tall.

role *if* plays in the construction. To this end, there are two crucial observations to point out. First, *if* is an integral part of the construction: if a *that* complementizer is used instead, as in (93), the result must be interpreted as a report about desires in counterfactual situations rather than actual-world desires about counterfactual situations. This is illustrated in (93b) using the first test from the last section.

(93)    a.    I would like (it) that John was invited.
        b.    #I would like (it) that I was buried in France.

Second, the predicates that participate in the non-logical-*if* construction give rise to a factivity inference when used with a *that*-complement. This inference carries over to uses like (93), which give rise to the inference that in the counterfactual scenarios being considered, John was invited. To confirm this, observe that if an *if*-clause is added to (93a) that explicitly denies the truth of the proposition associated with the *that*-clause, the result is infelicitous:

(94)    #If John wasn't invited, I would like (it) that he was invited.

This factive inference, however, crucially does not extend to the non-logical-*if* construction: recall that the embedded clause here denotes a counterfactual proposition, i.e., one that is not true in the actual world, just the opposite of what we expect if there is a factive inference.

    With this in mind, I propose that the primary function of *if* is to signal that the factivity inference associated with the predicate when it is combined with a *that*-clause is not present. To encode this, let's follow Kratzer (2006) in assuming that the factive inference associated with the predicates that license the non-logical-*if* construction arises not with the predicate itself, but rather with the *that*-complementizer that introduces the embedded clause. The role of the *if*-complementizer is then to signify that the complement clause should not be assumed to be true in the actual world.

    We can formalize this in terms of the Kratzer-Moulton framework by assuming, following Kratzer (2006), that there is a special factive version of the *that*-complementizer that introduces the factive inference. I provide one possible denotation for this complementizer in (95a). Support for this proposal can be derived from the fact that many languages furnish a special factive complementizer that is used in all environments that give rise to a factive inference. I illustrate with an example from Greek:

(95)    a.    nomizo        oti  i   Maria irthe
              believe.1.SG that the M     came
              'I believe that Maria came'
        b.    cherome       pu         i   Maria irthe
              am.glad.1.SG COMP.FACT the M     came
              'I am glad that Maria came'                                              *Greek*
              (Sabine Iatridou, p.c.)

    Two immediate questions arise at this juncture. First, granting that there is a factive version of *that*, how do we restrict its distribution such that it only complements those predicates that give rise to a factive inference? Second, how do we rule out use of the ordinary *that* with such predicates, given that the presence of a *that* unambiguously gives rise to a factive inference in these cases? This is a well-known problem with Kratzer's (2006) proposal, and various solutions have been proposed in the literature (see Schueler 2016; Hanink and Bochnak 2017). I will adopt a solution based on syntactic selection here. In particular, I propose that those verbs that give rise to the factive inference select for a complement clause whose head bears a special feature

131

[+F(active)]. The [+F] version of the complementizer *that* introduces a presupposition that its comeplement is true in the world of evaluation of the matrix predicate, as in (96a), thus yielding the factive inference. The *if*-complementizer, which I take to likewise bear the [+F] feature, has no such presupposition, as in (96b). This captures the fact that, as we have seen, there is no factive inference with *if*. On this view, then, *if* is simply the non-factive complementizer that appears in [+F] environments, i.e., in the complement position of those verbs that are capable of triggering a factive inference.

(96)  a.  $[\![\text{that}_{[+F]}]\!]^w = \lambda x_c.\lambda p : p(w).\ \text{CONT}(x_c)(w) = p$
      b.  $[\![\text{if}_{[+F]}]\!]^w = \lambda x_c.\lambda p.\ \text{CONT}(x_c)(w) = p$

This analysis leaves two important questions open, which I want to briefly highlight here. First, the [+F] feature is a stipulation encoding the differential behavior of *that* with factive and non-factive predicates. Ideally it should be derived from independent principles, along with an explanation for why these contexts differ in the way they do. Second, it remains unclear why *if* is employed as the non-factive complementizer in these contexts. It is potentially telling that this behavior is not limited to English: in both Hungarian and Greek, those predicates that give rise to a factive inference in the presence of a finite-indicative complement must appear with an *if*-complement when they are X-marked, just as in English. This suggests that this use should be related to other uses, although I see no direct route forward. The challenge is especially acute if we adopt the Kratzerian approach to conditionals sketched above, where the *if* is semantically vacuous and just functions to mark the clause that restricts the modal quantifier.

(97)  tha mu        areze       **an** i Maria diavaze     poli
      FUT me.GEN like.PST.IMP.3SG **if** the M     read.PST.IMP a lot
      'I would like it if Mary read a lot'                              *Greek*
      (Sabine Iatridou, p.c.)

(98)  Sára szeret-né   **ha** Marcsi tud-ná       a   válasz-t.
      Sara like-NA.3SG **if**  Marsci know-NA.3SG the answer-ACC
      'Sára would like it if Marsci knew the answer.'                   *Hungarian*
      (Dóra Kata Takács, p.c.)

    These issues notwithstanding, the proposal in (96) formally encodes a coherent semantics for the clausal argument in the non-logical-*if* construction that both captures the intuitive meaning and provides a way of realizing the main goal of this section: understanding the non-logical-*if* construction in terms of CP-linking. To this end, we can give the following (partially) compositional analysis of the construction. Drawing on the fact that the *if*-clause behaves identically to linked *that*-CPs with respect to the syntactic tests in Section 4.4.2, I propose that they compose with their associated predicates via the same two mechanisms. In particular, let us grant that those predicates that license the non-logical-*if* construction ultimately take individual internal arguments. Given that *if*-clauses denote predicates of individuals, by assumption, the compositional mechanisms available in such cases are therefore identical to CP-linking environments: the *if*-clause can either move higher in the structure, in which case an *it* does not appear, or the it can combine with the verb via *Restrict*, in which case an *it* must be inserted to saturate the internal argument of the verb.

(99)  a.  I'd like if Sue picked me up.
      b.  LF: [CP$_{\text{if}}$ [1 … [VP like $t_1$]]]

(100)   a.  I'd like it if Sue picked me up.

      b.    LF: [[$_{VP}$ like CP$_{if}$] it]                                                 *via* Restrict

Finally, for a fully compositional analysis, it is also necessary to spell out the precise contribution of X-marking. Unfortunately, there is no compositional analysis of X-marking (see von Fintel and Iatridou 2019), and I will not attempt to develop one here. I instead take for granted that the presence of the X-marking morphology imparts the requisite counterfactuality to the attitude report.

The upshot is that the non-logical-*if* construction involves an identical syntax to the CP-linking cases we have already seen, thus capturing the fact that the two constructions behave identically with respect to the syntactic tests in the previous section. Moreover, the *it* pronoun in the non-logical-*if* construction is a $\theta$-marked argument, so that this construction likewise adheres to the main thesis of this chapter that there are no true expletive uses of the default third person pronoun.

## 4.5 Quasi-arguments

With the account of CP-linked expletives now in place, I take up in this section the proper analysis of the other 'expletive' use of the default third person pronoun, namely with meterological predicates and verbs like *seem, appear, happen.* My proposal concerning these cases is that the expletive is selected as a $\theta$-marked external argument:

(101)      [ it [ $_v$ [ V ( CP)]]]
        $\theta$-marking  ($\theta$-marking)

Before presenting syntactic arguments in support of (101), there is a thorny semantic issue that warrants mention, namely exactly what role the expletive plays in the thematic structure of the associated clause. Unlike in the case of CP-linking, where there is a reasonable case to be made that the relevant pronoun is interpreted as a participant in the event denoted by the clause, the *it* subject in cases like (102) is less clearly so interpreted. Nevertheless, as we will see it behaves like a $\theta$-marked argument with respect to a variety of syntactic tests. This problem has been previously noted by Chomsky (1981), who proposes the following analysis. In addition to the thematic roles we are familiar with from the discussion so far, e.g., *agent, patient, theme, etc.*, some verbs distinguish a special *quasi*-argument role. The *it* in question, then, bears this role, i.e., it is a *quasi*-argument. While this approach is admittedly unrefined, it will be sufficient for our purposes, so I adopt it here.

I turn now to arguing that the *it* subject that surfaces with meterol009ial predicates and with verbs like *seem, appear* are indeed $\theta$-marked external arguments.

### 4.5.1 Meterological predicates

I begin with meterological predicates, where it is relatively uncontroversial that the expletive subject is $\theta$-marked. The main argument to this effect, due to Chomsky (1981), is that this *it* can participate in control, as in (102a) and (102b) (see Chomsky 1981 for arguments that these cases involve control). I present data from English, but the same pattern holds in Dutch as well (Bennis 1986: 96f.).

(102)      a.    They forced it [PRO to rain].
                (Chomsky 1981: 147, fn.108)

    b.    It sometimes rains after [PRO snowing].
        (Chomsky 1981: 324)

A fundamental of control theory is that PRO can only be bound by $\theta$-marked DPs (Chomsky 1981: 323ff.). Locative expletives thus never control PRO, as illustrated in (103). The contrast between (102) and (103) therefore supports the conclusion that the subject of meterological predicates is $\theta$-marked and the locative expletive is not.

(103)    a.  *There emerged a question before [PRO$_{there}$ emerging a solution].
        b.  *There was a man in the room without [PRO$_{there}$ being a door to let him in].

The second argument is that the default third person pronoun can never be omitted from meterological constructions. This is true even if there is another phrase present that can satisfy the EPP, suggesting that the *it* is not inserted merely for EPP satisfaction, but rather functions as an argument of the associated predicate. To illustrate, observe that in English, locative predicates may front to satisfy the EPP in clauses where there is no external argument, as in (104a,b) (see Bresnan 1994; Culicover and Levine 2001; Rezac 2006b). As such, all internal arguments may remain within the VP. With predicates that take an external argument, locative inversion is impossible, as illustrated in (104c).[25]

(104)    a.  In this room emerged a brilliant solution.        *Unaccusative*
        b.  In Boston was arrested a man.        *Passive*
        c.  *In France rioted the protestors.        *Unergative*

With this in mind, the *it* in meterological constructions cannot be replaced with a locative DP, suggesting that it is an external argument rather than an expletive inserted for EPP satisfaction.[26] I include examples with internal arguments to show that the impossibility of omitting *it* cannot simply be because T has no target to agree with.

(105)    a.  It was raining (cats and dogs) in Cambridge yesterday.
        b.  In Cambridge (*it) was raining (cats and dogs).

(106)    a.  It snowed ten feet in Boston in 2015.
        b.  In Boston (*it) snowed ten feet in 2015.

A third argument is that the *it* in such cases must be merged internal to the *v*P. This argument is based on Wu's (2018) observation that sluicing (TP-level ellipsis) but not VP-ellipsis is possible in contexts like (107):

(107)    a.  I know it rained a lot, but I have no idea how much (*it did).
        b.  Sue told me it snowed a lot all night, but not how much (*it did).

---

[25]If the post-verbal DP is prosodically heavy, inversion can target transitive and unergative verbs, as in (i). See Culicover and Levine (2001) for arguments that this is a different construction.

(i)    In the enclosure, among the chicks, hopped the most recent chil- dren of Nepomuk and Snow White.
        (Culicover and Levine 2001: 291)

[26]Locative inversion is also not possible in CP-linking constructions, whether or not the *it* is present, an observation Bresnan (1994) attributes to David Pesetsky:

(i)    *In this courtroom was (it) proved that John is a robber.

Following Hartman (2011), Wu (2018) argues that these effects indicate that *it* must be merged in Spec(*v*P), as expected if it is an external $\theta$-marked argument. While this is not by itself sufficient to prove that *it* is an argument, it corroborates the conclusions of the other two arguments. On these grounds, I therefore conclude that the default third person subject of meterological predicates is indeed |*theta*-marked, as desired.

### 4.5.2 *seem*-class verbs

Having established that the subject of meterological predicates is indeed $\theta$-martked, I turn now to examining the second class of quasi-argument expletives, those in subject position of verbs like *seem, appear, happen.* As discussed in Section 4.2.3, such verbs can be distinguished from their CP-linking counterparts on the basis of three main types of behavior. First, unlike with CP-linking constructions, neither the pronoun nor the CP can be omitted, even if the CP replaces the pronoun in surface subject position.

(19)    a.    *That John is guilty seems.
        b.    *It appears.

Second, in *as*-parentheticals, the pronoun must be present if the CP is gapped:

(22)    a.    Sue is innocent, as *(it) originally appeared.
        b.    Mary is a capable doctor, as *(it) has seemed from the start.

Finally, the CP in such cases cannot be the focus of a pseudo-cleft, whether or not the *it* is present:

(24)    a.    *What (it) seems is that John isn't here.
              (Bresnan 1972: 136)
        b.    *What Bill said (it) appears is that Mary will give a talk after all.

Verbs that behave in this way include *seem, appear, happen, sound, taste, ....* I refer to them collectively as *seems*-class predicates, following Ruys (2010).

I first argue that the *it* is indeed a selected argument, then account for the remaining facts from above. To this end, the three arguments from the last section can all be reprised here. Thus the *it* subject of a *seems*-class verb can participate in control, at least for some speakers, as first observed by Hornstein (1999: fn. 29), but contra Chomsky (1981).[27]

---

[27]All speakers I consulted expressed a preference to use the complementizer *like* in cases like (108). I suspect this is because the use of *like* licenses an additional parse of these sentences involving the so-called *copy-raising* construction (Potsdam and Runner 2001, a.o.). Under *copy raising*, the matrix subject of a *seems*-class verb appears to be in an A-chain with an overt finite subject in the complement clause:

(i)     a.    John seems like/*that he is upset.
        b.    The shit seems like/*that it's hitting the fan.
        c.    There seems like/*that there is going to be a riot.

As illustrated above, this construction is only possible with the complementizer *like*. This suggests that when we substitute a *like* complementizer in (108), the relevant structure is as in (ii), where the subject of the embedded clause rather than the ersatz expletive is the controller.

(ii)    It now seems that John$_1$ is guilty despite PRO$_1$ originally seeming like he was innocent.

(108)  a. %It$_1$ seemed that Clinton won reelection without PRO$_1$ appearing that he had won a majority.
   (Hornstein 1999: fn. 29)
   b. %It$_1$ now seems that John is guilty, despite [PRO$_1$ originally appearing that he was innocent].

To highlight the availability of control, it is helpful to compare the examples in (108) with their counterparts in (109), where there is no ersatz expletive to control into the adjunct clause:

(109)  a. *Clinton won reelection without appearing that he had won a majority.
   b. *John is guilty despite originally seeming that he was innocent.

Second, as illustrated in (22), the *it* cannot be omitted, even if the CP co-argument moves to subject position. This once again suggests that the *it* is an obligatory argument and hence $\theta$-marked.[28]

Third, we can again use Wu's (2018) diagnostic to argue that the pronoun originates *v*P-internally, as expected if it is a $\theta$-marked external argument.

(110)  It appeared to someone that Sue was genius, but I can't remember to whom (*it did)

Granting then that *seems*-class verbs select a quasi-argument *it* as their external argument alongside a CP internal-argument, the remaining characteristic facts can be accounted for as follows. Beginning with *as*-parentheticals, recall that the associated gap is limited to appearing in environments that can host CPs. The internal-argument position of *seems*-class verbs meets this requirement trivially, so we expect that an *as*-parenthetical gap should be fine here. The impossibility of omitting *it* in such cases likewise follows trivially from the fact that it is an independent $\theta$-marked argument of the verb. Nothing more need be said.

---

[28]Two caveats must be mentioned here. First, most verbs in the *seem*-class can also take small-clause and infinitival arguments, in which case they do not select *it* as external-argument.

(i)  a. *It seems [Sue to have won the race]
   b. Sue seems [to have won the race]
   c. *It seems [$_{SC}$ Sue upset]
   d. Sue seems [$_{SC}$ *t* upset]

In a purely technical sense, these data are not problematic, as we can assume that the version of *seem* that selects for non-finite and small-clause complements simply does not $\theta$-mark an external *quasi*-argument. Why the quasi-argument must be suppressed here, however, is unclear. One possibility, following a recent proposal by Pesetsky (2019), is that infinitival clauses are derived from finite clauses by movement out of them. In this case, the omission of *it* is required to furnish a landing site for the movment that gives rise to the infinitival clause.

Second and relatedly, in languages like German where the EPP property in the left periphery of the clause can arguably be satisfied by adverbs as well as DPs, there is a notable contrast between meterological predicates and *seems*-class predicates. In particular, the ersatz expletive is required with the former predicates and optional with the later when an adverb appears clause-initially:

(ii)  a. Gestern  hat *(es) geregnet
      yesterday has it   rained
      'It rained yesterday.'
   b. Nun scheint (es), daβ…
      now seems it   that  …
      'It now seems that …'                                    *German*
      (Kai von Fintel, Verena Hehl, p.c.)

These data are again not technically probleamtic: they merely confirm that *seems*-class verbs only optionally select for an external argument.

The impossibility for the CP to serve as the focus of a pseudo-cleft likewise follows immediately. Recall from Section 4.3.2 that the gap in pseudo-clefts is limited to appearing in positions that can host DPs, a fact we analyzed in terms of a selectional restriction: the operator involved in pseudo-cleft formation is a DP, and hence must be merged in a position that syntactically allows DP arguments. The object position of *seems*-class verbs do not meet this requirement (see (111)), and hence pseudo-clefts formed about this position are expected to be unacceptable.

(111)    a.   *It seems a claim/a rumor/an idea.
           b.   *It happened a party/a riot/an event.

To summarize, there is significant evidence that the default third person pronoun in these cases is indeed $\theta$-marked. Moreover, the characteristic behavior of *seems*-class verbs differentiating them from CP-linking constructions can be immediately accounted for in these terms, supporting the wider proposal.

## 4.6 Summary

The differential distribution of the locative expletive and the defualt third person expletive are traditionally handled in terms of the differential formal-feature makeup of these two forms. While I have likewise defended the view that these forms differ significantly in terms of their formal properties, I argued in this section that this cannot be the crucial factor in determining the differential distribution (see Section 4.2.1). The argument was both empirical and conceptual: there are contexts where accounts based on formal features make the wrong predictions; moreover, the ObOp hypothesis that syntactic operations are obligatory but fallible is incompatible with the notion that one lexical item is chosen over another in a particular context to facilitate agreement or any other operation. Granting that formal features are not the decisive factor in determining the differential distribution, I proposed to account for these data instead in terms of selection, as summarized in the proposal below (see Section 4.2.2) following Ruys (2010).

(13)    **Expletive selection hypothesis** (*final version*; Ruys 2010: 159):
        In languages with both a locative expletive and a default third person expletive, the former is never $\theta$-marked, while the later is always $\theta$-marked.

In the course of defending (111), I defended a binary classification on so-called expletive uses of this pronoun: as an internal argument intuitively linked to a clause-mate CP – the CP-linked use – and as an external argument – the quasi-argument use, following Ruys (2010). I developed a novel analysis of the former class in terms of the Kratzer-Moulton hypothesis that CPs denote predicates of individuals. The basic premise is that the CP and verb in cases like (111a) compose together into a single predicate of individuals with propositional content. The default third person pronoun then functions as the $\theta$-marked internal argument of this predicate, saturating its open individual argument slot. I also extended the analysis to cases where the pronoun is intuitively linked to an *if*-clause rather than a *that*-clause. In particular, I showed that the leading account of such cases, which treats the *if*-clause as a conditional adjunct, should be abandoned in favor of an analysis where the *if*-clause is a true argument of the predicate. I then offered a syntax and semantics for the construction, based on von Fintel and Iatridou's (2019) observations about the cross-linguistic morphological signature of counterfactuality.

Finally, I defended the view that the default third person pronoun in so-called quasi-argument contexts is a $\theta$-marked external argument of the associated predicate.

### 4.7 Appendix

### 4.7.1 Moulton's (2015) arguments that CPs denote predicates of individuals

In this section of the appendix, I review Moulton's (2015) arguments that CPs denote predicates of individuals, rather than propositions. The first argument is that CPs can appear as the post-copular phrase in a copular construction with a DP subject, as in (112).

(112)    The idea/claim/myth/rumor is that Sue is a genius.

These examples are readily interpretable if CPs are predicates of individuals, however, provided we treat content nouns as predicates of individuals with propositional content (Kratzer 2006; Moltmann 2013; Moulton 2015), as the CP can then be directly predicated of the subject.[29]

(113)    a.    The idea is that Sue is a genius.
         b.    $[\![$the idea that Sue is a genius$]\!] = \lambda w.\, \text{CONT}(\iota x_c.\, \text{idea}(x_c)(w))(w) = \lambda w'.$ Sue is a genius in $w'$
               (Kratzer 2006: 4; Moulton 2015: 312)

For this argument to go through, however, we must show that (113) involves a predicational, rather than an equative, copular construction. To be more specific, let's assume with Heycock and Kroch (1999) that copular sentences may be either equative, in which case the pre- and post-copular XPs are directly equated with each other, or predicative, in which case the post-copular XP is predicated of the pre-copular XP (Heycock and Kroch 1999).

(114)    XP is YP

         a.    Equative: $[\![\text{XP}]\!] = [\![\text{YP}]\!]$
         b.    Predicational: $[\![\text{YP}]\!]([\![\text{XP}]\!])$

If (113) involves an equative copular clause, then we must conclude that CPs can directly denote individuals, as suggested by Potts (2002) (see Section 4.3.3). Alternatively, if (113) is predicational, it supports the Kratzer-Moulton view that CPs denote predicates of individuals. Moulton (2015) does not show that (113) involves a predicational structure, so as stated, his argument does not go through. I would now like to briefly consider whether this view can indeed be substantiated.

To begin, Potts (2002) provides two arguments that (113) involves an equative rather than predicational structure. The first is that predicational copular sentences tend to have small-clause counterparts, as illustrated in (115). Equative copular sentences, in contrast, tend to lack small clause counterparts, as illustrated in (116). With respect to this test, cases like (112) pattern like equative, not predicational, constructions (see (117)).

(115)    a.    Mary is the top student in the class.
         b.    I consider [$_{SC}$ Mary the top student in the class].

(116)    a.    Your attitude towards Jones is my attitude towards Davies.

---

[29] The proposal also extends to cases where CPs complement content nouns, as in (ia). By hypothesis, both the content noun itself and the CP denote predicates of individuals with propositional content. They can therefore combine with Intensional Predicate modification, yielding the intuitively correct meaning, as in (ic).

(i)    a.    The [$_{NP}$ idea that Sue is a genius]
       b.    $[\![\text{NP}]\!] = \lambda x_c.\lambda w.\, \text{idea}(x_c)(w) \wedge \text{CONT}(x_c)(w) = \lambda w'.$ Sue is a genius in $w'$
             (Moulton 2015: 313)

b. *I consider [SC your attitude towards Jones my attitude towards Davies].
      (Heycock and Kroch 1999: 374)

(117)  a. *I consider [SC the claim that Sue is a genius].
       b. *I consider [SC the rumor that Bill is guilty].

Second, both arguments of an equative construction tolerate modification with a non-restrictive relative, whereas the predicational argument of a predicational construction does not (cf. (118a,b); in (118b), the small-clause forces a predicational reading). Potts (2002) points out that the CP in cases like (112) can indeed be modified by a non-restrictive relative (see (119)).

(118)  a. The duty nurse, who is very efficient, is Rina, who I am very fond of.
       b. *I consider Rina the duty nurse, who is very efficient.
          (Heycock and Kroch 1999: 374)

(119)  The problem, which Ed has already pointed out, is that Joan is bonkers, which we didn't know when we hired her.
       (Potts 2002: 68)

While these arguments do seem to support the view that (112) involves an equative structure, the data is considerably more mixed than Potts's (2002) arguments suggest.

   First, there are unambiguous predicates that nevertheless support modification by restrictive relatives in copular constructions, as in (120), so that the second argument does not go through.

(120)  a. John is tall, which I have also heard Mary is.
       b. I consider Mary very smart, which many people also consider Bill

Moreover, there is also evidence that cases like (112) do involve a predicational structure. First, observe that equative but not predicational constructions disallow extraction of the pre-copular argument (cf. (121a,b); Heycock and Kroch 1999: 376f.). Examples like (112) pattern like predicative rather than equative constructions under this test (see (122); Potts 2002: fn. 13 acknowledges this fact).

(121)  a. Who do you consider [SC t the best student in the class]?
       b. *Which of the themes do you think t is that phrase of music?
          (Heycock and Kroch 1999: 377)

(122)  a. Whose proposal was that John is guilty?
       b. Whose answer was that Sue is a genius?

Second, the pre-copular phrase in cases like (112) can be quantificational:

(123)  a. Nearly every proposal made at the conference was that climate change is real.
       b. Each statements given to the police was that Sue was at the scene of the crime.

Even if CPs do denote individuals, this is not sufficient to explain why they can be equated with generalized quantifiers, if we adopt the equative analysis. In contrast, such examples are readily interpretable on the predicative analysis, analogously to the predicational examples below:

(124)  a. Nearly every student is in the garden.
       b. Both reporters were at the event.

Taking stock, we have now seen that there is only a single argument that copular constructions involving a CP in the post-copoular position are equative: the fact that CPs are not licensed as small-clause predicates in the complement of the verb *consider*. This must therefore be weighed against the arguments that the CP is indeed a predicate, although I leave this issue here.

Moulton's (2015) second argument concerns the relationship between the verb and its CP-argument. Unlike on standard accounts where CPs directly saturates the open argument slot of the corresponding predicate, verbs and CPs cannot compose directly in Moulton's (2015) theory, since the verb is type $\langle e, \langle l, \langle st \rangle \rangle \rangle$ and the CP type $\langle e, \langle st \rangle \rangle$ (see Moulton 2015: 318f. for more discussion). I set aside the precise manner in which composition takes place here; for now, it suffices to conclude that the CP does not saturate an open argument of the verb. In contrast, content-noun DP-arguments can directly saturate the verb, since they denote, by hypothesis, individuals with propositional content – exactly the type of internal argument the verb needs.

With this in mind, the argument is based on the fact that CP-taking predicates can form argument-structure nominalizations (ASNs) in the presence of a DP, but not a CP, argument. Following Grimshaw (1990), ASNs generally require the presence of an internal argument, so the fact that DPs but not CPs are sufficient to license ASNs suggests that CPs are not arguments of the verb in the same way that DPs are, i.e., they do not semantically saturate it. This is as predicted on Moulton's (2015) account. I illustrate the relevant contrast in (125): following Grimshaw (1990), ASNs are characterized by being able to take Aktionsart modifiers, so the impossibility of this modifier signifies that the nominalization is not an ASN (see Moulton 2015: 316ff).

(125)   a.   Mary proved that three is prime in five minutes.
        b.   *Mary's proof that three is prime in five minutes impressed the panel.
        c.   Mary's proof of the theorem in five minutes impressed the panel.

### 4.7.2   Locative expletives and Dutch/Danish CP-linking verbs

This section of the appendix addresses the possibility of using the locative expletive in Dutch and Danish with certain CP-linking predicates. As mentioned in the introduction, the pattern is the following. In all those CP-linking environments where the default third person pronoun surfaces as a syntactic subject, it may alternate with the locative expletive. This is not true, however, for cases where the default pronoun appears in object position.

(126)   a.   Het/er              wordt betreurd dat  Jan   ziek is
             EXPL.3.SG/EXPL.LOC is     regretted that John ill    is
             'It is regretted that John is sick'
             (Bennis 1986: 108)
        b.   Het/er              blijkt    dat Jan   ziek is
             EXPL.3.SG/EXPL.LOC turns.out that John ill    is
             'It turns out that John is sick'                                    *Dutch*
             (Ruys 2010: 142)

On the surface, this behavior is puzzling, as it suggests that the locative and default pronouns are in free variation, contra our hypothesis that the latter but not the former is always selected. To resolve the apparent challenge posed by these data, I argue that the two pronouns are not in free variation: there are structural differences between the cases involving the locative and default third person pronouns. Moreover, once the structures have been disambiguated, the distribution of expletives is exactly as predicted by the present account.

To begin, following Bennis (1986) and Ruys (2010), the contexts in which the choice of ex-

pletive appears to be free can be broadly divided into two categories: passives of CP-argument taking verbs that can participate in the CP-linking construction, as in (126a), and unaccusative CP-argument taking verbs, as in (126b). I begin by considering the former cases, as the analysis is more transparent here and it sets the stage for the eventual account of the unaccusative cases.

To this end, the cases involving the third person singular pronoun in subject position can be straightforwardly analyzed as passivized versions of the CP-linking construction. The verb thus composes with the CP via *Restrict*, then the *it* saturates the open individual argument slot. Finally, because the verb is passivized, the internal argument *it* raises to subject position to satisfy the EPP. Such cases are thus directly parallel to the passivized English CP-linking examples in (128), which we have already encountered.

(127)    a.    It was regretted CP
            b.    LF: $[_{\text{TP}}$ it$_1$ [... $[_{v\text{pass}}$ [[regretted CP] $t_1$]]]]]

(128)    a.    It was believed/expected/mentioned/asserted/proved that John is guilty.
            b.    LF: $[_{\text{TP}}$ it$_1$ [... $[_{v\text{pass}}$ [[V CP] $t_1$]]]]]

Recall now that CP-linking constructions always alternate with a version that lacks the default third person pronoun, as in (129).

(129)    I believe/proved/mentioned (it) that Mary is guilty.

I propose that the cases with the locative subject are instead passivized versions of this CP-linking variant without the default third person pronoun. The CP thus functions as the $\theta$-marked argument of the verb, and the locative expletive is inserted at the $v$P-level, just as with passive verbs with a DP internal argument.

(130)    a.    There was regretted CP
            b.    LF: $[_{\text{TP}}$ there$_1$ [... $[t_1$ $[_{v\text{pass}}$ [[V CP] $t_1$]]]]]]

As in the case of passives with a DP internal-argument, such cases are interpretable provided the CP moves to Spec($v$P). This both provides a type $e$ trace to saturate the verbs internal argument slot, as well as furnishes a predicate of individuals for the locative expletive to close off. I illustrate the derivation in detail below, assuming as argued for in the previous chapter that the locative expletive is an existential quantifier (see (131c)) and that the passive $v$ adds an existentially quantified external argument (see (131d)). For simplicity, I omit the world arguments from the derivation. The verb first combines with the trace of the CP, saturating its internal argument and yielding a predicate of events (see (131e)). The passive $v$ then adds an existentially quantified agent, and the trace of CP movement is bound by the $\lambda$-operator introduced by movement (see (131f)). The result is a predicate of individuals and events. The CP then composes with this predicate via restrict, yielding a predicate of individuals and events, as in (131g). Finally, the *there* existentially closes the individual argument of this predicate, yielding a predicate of events, as desired (see (131h)). The correct word order is then derived via the proposed PF restriction requiring CPs to appear on the right periphery of the clause (see Section 4.3.1.2).

(131)    a.    There was regretted CP.
            b.    LF: $[_{\text{XP}}$ there $[_{v\text{P}}$ CP $[_{v'}$ 1 $[_{v\text{pass}}$ $[_{\text{VP}}$ regretted $t_1$]]]]]]
            c.    $[\![\text{there}]\!] = \lambda P_{\langle e,\langle st\rangle\rangle}.\lambda e.\ \exists x[P(x)(e)]$
            d.    $[\![v_{\text{pass}}]\!] = \lambda P_{\langle st\rangle}.\lambda e.\ \exists x[\text{agent}(x)(e) \wedge P(e)]$
            e.    $[\![\text{VP}]\!]^g = \lambda e.\text{regret}(e) \wedge \text{patient}(g(1))(e)$
            f.    $[\![v']\!] = \lambda x.\lambda e.\exists y[\text{agent}(y)(e) \wedge \text{regret}(e) \wedge \text{patient}(x)(e)]$

g. $[\![\text{CP}]\!] = \lambda x.\text{CONT}(x) = [\![\text{C}']\!]$

h. $[\![v\text{P}]\!] = \lambda x.\lambda e.\text{CONT}(x) = [\![\text{C}']\!] \wedge \exists y[\text{agent}(y)(e) \wedge \text{regret}(e) \wedge \text{patient}(x)(e)]$

i. $[\![\text{XP}]\!] = \lambda e.\exists x[\text{CONT}(x) = [\![\text{C}']\!] \wedge \exists y[\text{agent}(y)(e) \wedge \text{regret}(e) \wedge \text{patient}(x)(e)]]$

It follows that the distribution of expletives with passivized CP-linking predicates is exactly as predicted by our theory. As in CP-linking constructions more generally, either a third person pronoun is inserted to saturate the internal argument slot of the verb or the CP directly saturates the internal argument of the verb via movement. In the former case, this pronoun is promoted to subject position, as is standard in passives. In the latter, a locative expletive can be optionally inserted in the $v$P domain, as in all other types of passive clauses.

Concerning the second class of predicates allowing the apparent free choice of expletives, I propose that they involve essentially the same structure, except that the predicates involved are unaccusative rather than passive. The version with the default pronoun thus involves a canonical CP-linking construction where the CP-linked pronoun fronts to subject position, and the version with the expletive involves the variant of CP-linking without the pronoun, in which case an expletive can be inserted in Spec($v$P) to satisfy EPP and to existentially close off the internal argument of the verb. Such cases are then interpretable in a manner directly parallel to unaccusatives with DP-internal arguments, with *there* existentially closing the internal-argument slot of the verb.

(132)  a.  $[_{\text{TP}}$ it$_1$ $[\ldots [v$ $[[\text{turns.out CP}]$ $t_1]]]]$

b.  [TP there$_1$ $[\ldots [t_1$ $[v$ [turns.out CP]]]]]

All that remains, then, is to show that these predicates are indeed unaccusative. To this end, Ruys (2010) shows that they pattern as unaccusatives with respect to the two unaccusativity tests that can be successfully applied. First, verbs in this class take the *be*-auxiliary in the perfect tense, a marker of unaccusativity.

(133)  het is/*heeft      gebleken   CP
       it   is.PERF/has.PERF turned.out CP
       'It has turned out CP'                                           *Dutch*
       (Ruys 2010: 152)

Second, verbs in this class can function as prenominal modifiers, which is again indicative of unaccusativity in Dutch (Ruys 2010: 153).

(134)  a.  de gebleken   feiten
           the turned.out facts
       b.  het mooi     gebleken   boek
           the beautiful turned.out book
           (Ruys 2010: 152)                                            *Dutch*

I conclude, then, that these cases are likewise as expected on the present account.

The final question the remains concerning these facts is why parallel examples involving the locative expletive are ungrammatical in English. As we have seen, the locative expletive is interpretable in such constructions, and moreover it can independently be inserted in English in the $v$P domain of passive and unaccusative clauses, but it is nevertheless impossible with English CP-linking verbs.

(135)  a.  It/*there was regretted that John is sick.

b.   It/\*there turned out that John is sick.

Ruys (2010) also points out this issue, and proposes that it reflects the fact that English, unlike Dutch and Danish, lacks a morphological rule for spelling out default agreement at T.

(136)    **Default φ-valuation**:
Dutch, Danish, …have a morphological rule of default valuation [3, sg] at T. English does not.
(Ruys 2010: 143)

This proposal captures the facts, although it raises questions concerning the *Obligatory Operations* assertion that agreement is allowed to fail if there is no accessible target. In essence, (136) is an output filter that requires agreement to take place in English, although it differs from the UF-type output filters in two crucial ways: it is morphological rather than semantic in nature, and it is limited in the sense that it does not apply in many languages. It is therefore not technically incompatible with our other assumptions, although it does amount to an admission that idiosyncratic principles can conspire to render agreement infallible in certain contexts. While I am not aware of any other explanation for this contrast between English on the one hand and Dutch and Danish on the other, I will therefore stop short of fully embracing this view here, and merely point out that it is consistent with the facts.

That said, there is additional preliminary evidence that (136) might be on the right track, namely that the distal locative expletive becomes possible in analogues to (135) where there is an accessible DP to serve as the target of *φ-Agree* at T. In particular, many CP-linking verbs can also take infinitival arguments, and *there* becomes possible if a DP raises out of the infinitive into the domain of the matrix T. I modify the raised DP with a full relative clause to block a reduced relative parse.

(137)    a.   There is a man I know believed to be guilty.
             b.   There are many people we like expected to donate to the rebuilding effort.

# Chapter 5

# Towards a theory of feature-driven syntax

## 5.1  Introduction

With the core results of the thesis in place, I turn my attention in this final chapter to formalizing the theory of feature-driven syntax that is developed informally in Chapter 2. At the heart of the theory is the idea that all syntactic operations, including agreement, internal merge, and external merge, are lexically associated with certain syntactic heads. These operations then apply when the associated head is at the root of the tree, according to the logic of the Obligatory Operations (ObOp) framework developed by Preminger (2014). The chapter is structured as follows. First, in Section 5.2 I introduce the Moravscik-Bobaljik-Preminger theory of Case that will underlie the theory. I then turn, in Section 5.3, to introducing the ObOp logic, and explaining how it applies to agreement and A′-movement, following Preminger (2014). Finally, I develop an extension of this basic framework to merge operations more generally (Section 5.4).

## 5.2  The Moravcsik-Bobaljik-Preminger theory of Case and Agreement

This section is devoted to introducing and motivating the Moravcsik-Bobaljik-Preminger theory of Case. The structure is as follows. In Section 5.2.1, I present the typological generalization concerning agreement and grammatical role, due to Moravcsik (1974), that serves as the inspiration for the theory. Following Bobaljik (2008), I then highlight two important classes of examples that motivate revising the generalization to state it in terms of morphological case, rather than grammatical role. In Section 5.2.2, I discuss the important question of whether case and agreement are fundamentally syntactic or morphological operations, ultimately siding with Preminger (2014) in assuming the former. Finally, I summarize the important hypotheses for the remainder of the chapter in Section 5.2.3. Readers familiar with the argumentation behind the Moravcsik-Bobaljik-Preminger theory can skip to the definitions in Section 5.2.3.

### 5.2.1  The revised Moravcsik hierarchy and case-discriminating agreement

The Moravcsik-Bobaljik-Preminger theory of Case and agreement has two main premises. The first is the idea, originally due to Marantz (1984), that morphological case is determined configurationally. This view takes as its point of departure the fact that both accusative and ergative case morphology are distributionally dependent on the existence of an additional DP in their local domain: accusative case is limited to transitive direct objects, which by definition must

appear with a corresponding subject, and ergative case is limited to transitive subjects, which by definition must appear with a corresponding object. In contrast, both nominative and un-marked/absolutive case are independent of the presence of another local DP: both forms are licensed on intransitives subjects, where there is by definition only one argument DP, as well as in transitives. Marantz formalizes this distinction by postulating a procedure of case determi-nation with the following logic. DPs are specified to surface with *dependent* case just in case they appears in a special syntactic configuration with another DP, defined in (1). This correctly captures the distribution of accusative and ergative case morphology in nominative and ergative systems, respectively, which differ only in how they define the case-licensing configuration.

(1)   **Dependent case**:
    a. <u>Nominative</u>: given the configuration [$DP_1$ [... [... $DP_2$...]]], $DP_2$ is marked with de-pendent (accusative) case.
    b. <u>Ergative</u>: given the configuration [$DP_1$ [... [... $DP_2$...]]], $DP_1$ is marked with depen-dent (ergative) case.

The distribution of nominative and unmarked/absolutive case can then be understood via a default or elsewhere condition, in keeping with the logic above: those DPs that do not surface in the configuration relevant for licensing dependent case surface as nominative/absolutive.

This basic procedure suffices to capture the majority of morphological case realization in basic transitive and intransitive sentences cross-linguistically. As we have seen throughout the thesis, however, this is not the whole picture. In particular, recall that the subjects of certain Ice-landic verbs appear with exceptional (according to (1)) dative case, rather than the expected nominative, and moreover that the direct object surfaces with exceptional nominative case, rather than the expected accusative.

(2)   Jóni      líkuð-**u/*i**   [**þessir sokkar**].
      Jon.DAT liked.PL/*SG [these  socks].NOM
      'Jon liked the socks.'                                              *Icelandic*
      (Jónsson 1996: 149)

Exceptional behavior like this is common cross-linguistically: certain verbs and prepositions li-cense case morphology on their arguments that deviates from the canonical pattern predicted by (2). Moreover, the appearance of these exceptional forms appears to be mostly idiosyncratic, tied to particular lexical items rather than subject to deep semantic or cross-linguistic gener-alizations. As such, Marantz proposes an additional procedure for determining morphological case to account for this behavior: certain syntactic heads (including $v$, $V^0$, $P^0$) are idiosyncrati-cally specified in the lexicon to license a case form on their complement or specifier that is not expected according to the basic logic of (2). Case determined in this manner is denoted lexi-cal/oblique, and may surface as dative, accusative, etc. Finally, the rules in (2) must be amended so that they only apply to DPs that are not already determined to bear lexical/oblique case.

(3)   **Lexical/oblique case**:
      Given the configuration [DP [H ...]] or [H DP], where H is lexically specified to induce a particular case form on its specifier/complement, DP surfaces with this case form.

Summarizing, the two procedures for case determination above yield a three way distinc-tion among morphological case forms. First, all those DPs in the specifier/complement of an idiosyncratic case-assigning head are assigned the relevant form, which I will hereafter denote

*lexical/oblique* case. Second, the remaining DPs are evaluated with respect to (1), and those DPs in the distinguished position are assigned what I will denote as *dependent* case. Finally, all remaining DPs are assigned *unmarked* case, the elsewhere form.

The second major premise of the Moravcsik-Bobaljik-Preminger theory is the hypothesis that the cross-linguistic manifestation of verbal agreement is conditional on morphological case in the manner encoded in the implicational hierarchy below.

(4)    **Revised Moravcsik Hierarchy** (Bobaljik 2008):
        unmarked case $>>$ dependent case $>>$ oblique case

This hierarchy should be understood as follows: if verbal agreement manifests in a given language, it is with DPs bearing unmarked morphological case; if agreement manifests with DPs bearing an additional case form, it is dependent case; etc.

To illustrate the basic action of (4), I compare the closely related languages Hindi-Urdu and Nepali. Both languages exhibit an ergative/absolutive case alignment in the relevant examples, where it is the higher, not the lower, of two DPs in a given domain that receives dependent case. Accordingly, it is the ergative subject, not the lower object, that bears dependent case. I consider a simple transitive clause in both languages, and assume that verb agreement is licensed by an agreement probe at T (Bobaljik 2008). Crucially, this means that the subject is a closer potential target for agreement than the object. In Hindi-Urdu, agreement is nevertheless obligatorily with the object, which is unvalued for Case, not the subject, which is valued with Dependent Case (see (5a)). Following Bobaljik, this entails that Hindi-Urdu does not make DPs valued with Dependent Case accessible for agreement. Conversely, in Nepali transitive clauses, agreement is with the subject (see (5b)), which is valued with Dependent Case.[1] The conclusion is that Nepali licenses agreement with both DPs bearing unvalued Case features and DPs valued for Dependent Case.

(5)    a.   Myn-ne    iss      dukaan mein **akhbaar**    **khareeda  tha**
              me-ERG.M DEM.OBL store    in    **newspaper.NOM buy.PERF.M be.PST.M.SG**
              'I bought the newspaper in this store'          *Hindi-Urdu*
              (Maria Abbasi, p.c.)
    b.   **Maile**    yas      pasal-mā patrikā     **kin-ē**
             **1.SG.ERG** DEM.OBL store-LOC newspaper.NOM **buy.PST-1SG**
             'I bought the newspaper in this store.'         *Nepali*
             (Bobaljik 2008: 309f.)

It follows that the differences in the agreement systems of closely related Hindi-Urdu and Nepali reduce to a single parameter: whether or not dependent case is accessible to agreement, as in (6). This substantiates the implicational hierarchy in (4) and, by virtue of parsimoniously capturing complex cross-linguistic variation in a single parameter, corroborates the overall account.

(6)    <u>unmarked case</u> $>>$ dependent case $>>$ oblique case
              Hindi-Urdu
                        Nepali

---

[1]As Bobaljik shows, the crucial factor here is Case, not grammatical role *per se*. Thus in Hindi-Urdu, agreement is licensed with unergative subjects, which have unvalued Case features.

### 5.2.2 Agreement and case are syntactically determined

The discussion above has been purposefully non-committal about how the determination of case and agreement interface with the rest of the syntactic derivation. In this subsection, I clarify my position on this point, arguing with Preminger (2014) that both case determination and agreement are syntactic operations that take place in the course of the derivation.

While it may seem uncontroversial to assume that the determination of agreement and case are both fundamentally syntactic operations, Bobaljik (2008) takes a different stance. Following Marantz (1991), he assumes that morphological case is fundamentally extra-syntactic process that operates on fully formed syntactic structures according to the process outlined above. Granting that agreement is contingent on morphological case, as argued above, it follows that the determination of agreement too must be an extra-syntactic process.

This argument crucially hinges on Marantz's assumption that the determination of morphological case is purely extra-syntactic. To justify this position, Marantz claims that while the determination of morphological case depends on syntactic structure, there is no evidence that syntactic operations (other than agreement) ever make reference to morphological case. That is, the morphological case on a given DP never informs or interacts with the syntactic operations that target it in the course of the derivation, but merely operates on their output. As Preminger (2014) points out, if evidence of this sort can be provided, it would both defuse the Bobaljik/Marantz argument that case and agreement are determined extra-syntactically and support the alternative position that they are determined as a part of the structure-building procedure, the syntax.

Preminger (2014) provides an argument to this effect based on the fact that English and Icelandic differ in the types of DPs that can surface in canonical subject position. Specifically, Icelandic but not English allows dative experiencer arguments to move to subject position. This is illustrated for Icelandic in (7), where the internal experiencer argument of the verb *find* can either appear *in situ*, as in (7a) where an expletive occupies subject position, or move to subject position as in (7b). In corresponding English examples, the dative experiencer cannot move to subject position, as in (8).

(7)  a.  það finnst **einverjum stúdent**         tölvurnar              ljótar
         EXPL find.SG some       student.DAT.SG computer.the.NOM.PL ugly
     b.  **einverjum stúdent**         finnast tölvurnar              ljótar
         some       student.DAT.SG find.PL computer.the.NOM.PL ugly
         'Some students find the computer ugly'                          *Icelandic*
         (Holmberg and Hróarsdóttir 2003)

(8)  a.  It seems to some students that the computer is ugly.
     b.  *To some students seems that the computer is ugly.
     c.  *Some students seems (to) that the computer is ugly.

Preminger (2014) offers the following analysis of these facts. In English, movement to canonical subject position is contingent on agreement: a DP is eligible to move to subject position of a given clause only if it also triggers main verb agreement in that clause. In Icelandic, no such restriction is in force. The highest DP in the structure moves to canonical subject position, in keeping with basic principles of locality. The argument, then, is that movement to subject position in English is contingent on agreement, which is itself contingent on morphological case. It follows that the morphological case on a given DP informs its accessibility to movement, so determination of morphological case must be syntactic.

While I agree with Preminger's (2014) position that case and agreement are determined syn-

tactically, I don't think the particular argument sketched above goes through. In particular, as we saw in detail in Chapter 3, English arguably licenses movement to canonical subject position without agreement in at least two independent circumstances. The first is in locative-inversion structures, as in (9). There is substantial evidence that in such examples, the fronted PP occupies canonical subject position, despite the fact that agreement is with the post-verbal DP (see at least Stowell 1981, Bresnan 1994, Culicover and Levine 2001, Rezac 2006a).

(9)    a.    In this room are/*is decided all court's major rulings.
       b.    From that lab have/*has emerged countless groundbreaking discoveries.

The second is expletive and existential constructions involving expletive *there*. Once again, there is convincing evidence that the expletive in such cases is merged in a low position and moves to the canonical subject position (Richards 2005; Richards 2007; Deal 2009; Wu 2018), despite the fact that agreement in such cases is obligatorily with the associate DP.

(10)   a.    There were/*was three men arrested.
       b.    There are/*is three men in the room.

In Chapter 3, I argued that the *there* expletive receives lexical/oblique case and hence is not a target for agreement, further confirming that (10) are problematic for Preminger's (2014) analysis.

   The upshot is that while the basic logic behind Preminger's (2014) argument is sound, the specific data he provides does not support the conclusion that case/agreement inform syntactic operations. I therefore briefly sketch another data set that more robustly support Preminger's main point by providing evidence that agreement is contingent in some cases on a syntactic operation – movement, in the relevant examples – taking place in the derivation, not merely on the output of this operation. The conclusion is that agreement must therefore itself be syntactic.

   The dataset in question concerns the possibility for participle agreement in certain varieties of Mainland Scandinavian (MSc), which I discussed in detail in Chapter 2. Participle agreement in passive and unaccusative clauses is generally contingent on promotion of the internal argument to subject position (Christensen and Taraldsen 1989; Holmberg 2001).

(11)   a.    Det  har  blivit skriv-**et**/*na       **tre   böker**   om detta.
             EXPL have been  written-N.SG/*PL three book.PL on  this
             'There have been three books written on this'
       b.    **Tre   böker**   har  blivit skriv-**na**/*et          om detta.
             three book.PL have been  write.PRTP-PL/*N.SG on  this
             'Three books have been written on this'                    *Swedish*
             (Holmberg 2001: 86)

This can be naturally analyzed in terms of the Moravcsik-Bobaljik-Preminger system as follows. In (11a), the condition in (1) on the assignment of dependent case is satisfied in virtue of the presence of the expletive, so the internal argument surfaces with dependent case.[2] As such, it cannot be targeted for agreement. In (11b), in contrast, there is no second DP present to trigger dependent case, so the internal argument surfaces with unmarked case and is hence free to trigger participle agreement. This general story is corroborated by the existence of MSc varieties that use the distal locative proform, cognate to English *there*, as the expletive in examples like

---

[2]This hinges on the assumption, following Chomsky (1995), that the expletive, which is identical to the third person neuter nominative pronoun, behaves as an ordinary DP for the purposes of case and agreement.

(11b). Following the suggestion above, substantiated in Chapter 3, this expletive is assigned lexical/oblique case. In passive clauses involving this expletive, the conditions on (1) are not met, since the expletive bears lexical/oblique case, and the internal argument does not receive dependent case. It may therefore be targeted by agreement.

(12)    a.    Higher expletive is oblique ⇒ no dependent case on IA:
             [there [... [V  IA]]]
             Dependent case

        b.    Higher expletive is unmarked ⇒ dependent case on IA:
             [ it [... [V  IA]]]
              Dependent case

That the status of the expletive is the crucial factor is confirmed by the existence of varieties, as observed by Christensen and Taraldsen (1989), that allow a free choice between *it* and *there* expletives, with agreement only possible in the latter case:

(13)    a.    **Det** vart skote-**(*n)**      **ein**     **elg**
             it    was shot.N.SG/*M.SG an.M.SG elk.M.SG

        b.    **Der**  vart skot**en**    **ein**    **elg**
             there was shot.M.SG an.M.SG elk.M.SG
             'There was an elk shot'                              *Western Norwegian*
             (Åfarli 2008: 171)

    This simple picture is complicated by the existence of data like (14), which involves a non-oblique expletive and obligatory participle agreement.

(14)    Det har blivit **tre  böker**  skriv-**na**/*et       om detta
        EXPL have been three book.PL written-PL/*N.SG on  this
        'There have been three books written on this'                    *Swedish*
        (Holmberg 2001: 86)

The full paradigm of data, then, can be summarized as in (15).

(15)    a.    it ... [V IA]          ✗ agreement
        b.    there ... [V IA]       ✓ agreement
        c.    it ... [IA [V I̶A̶]]      ✓ agreement

In descriptive terms, the challenge these data pose is the following: if participle agreement in MSc is indeed governed by the logic of the Moravcsik-Bobaljik-Preminger hypothesis, as (15a,b) seem to indicate, why is agreement also possible in (15c), where the internal argument bears dependent case but has moved across the participle?

    In Chapter 2, I proposed the following general solution to this challenge. Agree is blocked in (15a) and licensed in (15b) along the lines sketched above, per the Moravcsik-Bobaljik-Preminger logic. The exceptional agreement in (15c) is licensed by virtue of the movement operation: the existence of this operation in the derivation of (15c) allows agreement to take place before the expletive is merged and dependent case is determined, subverting the Moravcsik-Bobaljik-Preminger calculus that blocks agreement in (15a). It is essential to the logic of this analysis that agreement be allowed to interact directly with other syntactic operations – movement, in this

case – not merely to act on their output. On this treatment, the paradigm in (15) furnishes the sort of evidence we endeavored to find: a bona fide case where agreement is contingent on a syntactic operation itself, not merely on its output. To the extent that the account is successful, it provides an argument that agreement is a syntactic operation. Granting that agreement is syntactic also commits us to the position that case determination is a fundamentally syntactic operation, at least if we accept the Moravcsik-Bobaljik-Preminger hypothesis concerning case and agreement.

### 5.2.3 Summary

In this section, I presented the basics of the Moravcsik-Bobaljik-Preminger theory of case and agreement, which as two main components: (i) that agreement is determined on the basis of morphological case according to the *Revised Moravcsik hiearchy*; (ii) that the determination of agreement, and hence of morphological case, is a syntactic operation, computed during the structure-building procedure. In the remainder of the chapter, it will be convenient to have a formal encoding of these hypotheses, so to conclude this section I implement one here. The main details are due to Preminger 2014.

To begin, every DP is endowed with a Case feature that is, by default, unvalued when the DP enters the derivation. This feature may then be valued by one of two syntactic processes. First, there are certain syntactic heads are lexically specified to value the Case feature of their specifier or complement. The Case feature of a DP occupying the specifier or complement of such a head is valued as *lexical/oblique* as soon as the DP is merged in the relevant position. This method of Case-feature valuation, moreover, takes precedence over all others. The morphological realization of the lexical/oblique value is determined according the specific lexical instructions of the licensing head. Second, the Case feature of a DP can be valued by virtue of it being merged in a special syntactic configuration with another DP, provided the Case features of both DPs are unvalued. Valuation takes place instantaneously when the relevant configuration is achieved. The configuration differs in nominative and ergative case systems, and is given in (16b) and (16c), respectively. The value determined in this way is denoted *dependent* and is realized morphologically as accusative or ergative, depending on the case system in question.

(16)  **Case valuation procedures**:
  a.  <u>Lexical/Oblique</u>: Given the configuration [H DP] or [$_{HP}$ DP [H …]], where H is a lexical case assigner, value the case feature on DP to *lexical/oblique*
  b.  <u>Dependent Case</u> (*nominative*): Given the configuration [DP$_1$ [… [… DP$_2$…]]], where the Case features on DP$_1$ and DP$_2$ are unvalued, value the Case feature on DP$_2$ to *dependent*
  c.  <u>Dependent Case</u> (*ergative*): Given the configuration [DP$_1$ [… [… DP$_2$…]]], where the Case features on DP$_1$ and DP$_2$ are unvalued, value the Case feature on DP$_1$ to *dependent*

An important aspect of this system is that many DPs do not have their Case feature valued in the course of the derivation, e.g., most subjects in languages with a nominative case system. On this theory, this is unproblematic: *Case valuation plays no role in nominal licensing*, so there is nothing inherently wrong with a DP having an unvalued Case feature at the end of the derivation. Unvalued Case is realized morphologically as nominative or absolutive, depending on the case system of the language. Finally, once a Case feature has been valued, its value cannot be further manipulated by the rules in (16).

The system thus encodes the hypothesis that morphological case is determined in the syntax, and yields the following three-way distinction among Case values, mirroring the values in the Revised Moravcsik hierarchy: *lexical/oblique*, valued by virtue of proximity to a special syntactic head; *dependent*, valued by virtue of being in the same local domain as another DP; *unvalued*, acheived buy virtue of not appearing in the configurations necessary for *lexical/oblique* or *dependent* valuation. For convenience, I will hereafter refer to DPs whose Case feature is valued to *X* as 'DPs with *X* Case.'

With this in place, the Moravcsik-Bobaljik-Preminger hypothesis concerning the interaction of case agreement can be encoded as follows. There is a syntactic operation *Agree*, to be defined in full detail in the next section, that is responsible for copying person, number, and gender features from DPs onto other syntactic heads. Whether a given DP is an accessible target for this operation is determined based on the value of its Case feature, with accessibility parameterized across languages according to the implicational hierarchy below.

(17) **Revised Moravcsik hierarchy** (syntactic version):
*unvalued* Case » *dependent* Case » *lexical/oblique* Case

As before, this ranges over languages, not sentences, and should be interpreted as follows: if agreement is licensed, it is licensed with DPs with unvalued Case; DPs with dependent Case are accessible to agreement only if DPs with unvalued Case are accessible; DPs with lexical/oblique Case are accessible only if DPs with dependent Case are accessible.

### 5.3   The *Obligatory Operations* Framework

This section introduces the Obligatory Operations logic that underlies the theory of feature-driven syntax. At the core of this conception is the so-called *Obligatory Operations* (ObOp) hypothesis, summarized in (18).

(18) **Obligatory Operations hypothesis** (Preminger 2014:
Syntactic operations are associated with structural conditions on their application; if, in the course of the derivation, the conditions on a given application are met, that operation must apply; if, however, the conditions are never met, the operation unproblematically fails to apply.

The remainder of this section is devoted to exploring the conceptual and technical consequences of (18), especially as they pertain to the two operations that Preminger (2014) considers in detail: agreement and A′-movement. Before getting into this discussion, however, I want to pause briefly to flag the core innovation encapsulated in (18). In the syntactic literature of the past 25 years, it has been a prevalent view that at least some syntactic operations take place to satisfy output filters (Chomsky 1995, 2000, 2001, 2008): *Agree*, for example, takes place because certain heads are endowed with $\varphi$-features that are uninterpretable on those heads at the LF interface; these features must be checked via unification with a DP bearing interpretable $\varphi$-features, and deleted. Failure to *Agree* results in ill-formedness at LF and hence in ungrammaticality. The ObOp approach takes a fundamentally different stance, eschewing the idea that agreement takes place to satisfy output filters. On this view, syntactic operations are obligatory but fallible: they must apply when they can, but if they cannot, the failure does not yield ungrammaticality. In the coming subsections, I provide empirical arguments supporting the ObOp conception of agreement and merge over one driven by output filters, so it's important to bear in mind the fundamental difference that is at stake.

### 5.3.1 ObOp & *Agree*

In this section, I explore the consequences of (18) pertaining to agreement. In particular, I define the *Agree* operation in ObOp terms, explore how it functions in basic derivations, and enumerate how it interacts with the Moravcsik-Bobaljik-Preminger theory outlined above.

The ObOp treatment of agreement takes as its point of departure the hypothesis that agreement is a syntactic process that copies features from phrases onto c-commanding heads. The target features are so-called $\varphi$-features – person, number, and gender – and by hypothesis they are inherently present on DPs, reflecting underlying semantic properties of the relevant DP, e.g., whether it is singular or plural, first or second person, masculine or feminine, etc. For example, the Hebrew pronoun *at*, 'you.2.F.SG' is valued for second person, feminine gender, singular number, reflecting the fact that its referent must be an atomic (number), female (gender), non-speaker speech act participant (person). Agreement is then triggered by certain syntactic heads that are lexically specified to license agreement operations. To be slightly more explicit, we can define the *Agree* operation in general below. In keeping with the framework, I provide both the operation component and conditions on its application.

(19)     *X-Agree* at head *H*

    a.   Operation: copy the value of feature *X* on phrase YP onto *H*

    b.   Condition: apply *X-Agree* at *H* iff there is some YP such that:

        (i)    Locality: *H* c-commands YP and there is no ZP c-commanded by *H* and asymmetrically c-commanding YP that bears feature *X*

        (ii)   Accessibility: YP is Case-accessible to *H* and bears feature *X*

Several aspects of (19) are worth commenting on in more detail. First, as is assumed in some form by all theories of agreement that I am aware of, all agreement operations are lexically associated with syntactic heads. For example, *v* in French is lexically specified to trigger an *Agree* operation targeting the features gender and number (see Chapter 2). This lexical specification, however, is not mediated by 'unvalued' copies of features. Instead, the fact that a given head triggers a given *Agree* operation is directly encoded in that head's lexical entry. This is primarily a notational choice, as we could just as well encode this behavior with a feature diacritic, but it also serves to highlight the stance, made explicit later in this section, that all syntactic operations are lexically encoded on syntactic heads, then take place at will according to the ObOp logic. The second important aspect of (19) is that agreement is bound by familiar notions of locality, as expressed in condition (i): agreement originating at head H must target the structurally closest DP in the c-command domain of H with the relevant features, with distance defined on the basis of asummetric c-command. Third, in keeping with the Moravcsik-Bobaljik-Preminger theory, agreement is sensitive to the Case-value on a given DP, as encoded in condition (ii).

With the definition in place, I turn my attention to how agreement interacts with the ObOp hypothesis in (18). The basic idea is this: if a head H is associated with an agreement operation *Agree*-X, this operation must take place if there is a locally accessible target. If no such target is locally present (condition (i) in (19)) or accessible (condition (ii) in (19)), the *Agree*-X operation unproblematically does not apply, and the derivation proceeds without crashing. In Preminger's (2014) terms, agreement is *obligatory* but *fallible*.

To better illustrate the ObOp logic, it's helpful to consider an explicit example. The data concerns subject-verb agreement in Icelandic, which I assume is triggered by a head in the TP domain. As we saw in Section 1, dative DPs in Icelandic are not accessible to agreement. In present terms, this can be explained by making reference to condition (ii) in (19): DPs bearing certain

case values are not accessible to agreement in certain languages. With this in mind, consider the Icelandic verb stem *leiddist*. On one use, this stem means 'be bored,' and is associated with a *v* that assigns quirky lexical dative case to its subject, as in (20a). Crucially, because lexical case is not accessible to *φ-Agree* in Icelandic, the *φ-Agree* operation at T has no accessible target and hence, by the ObOp logic, fails to apply. The result is obligatory default agreement, third person singular. On another use, the same stem means 'walk hand in hand' and does *not* assign quirky lexical case to its subject, as in (20b). The subject therefore surfaces with unvalued, or nominative, case. In this example, the *φ-Agree* operation at T does have an accessible target and hence must take place, per the ObOp logic. The result is obligatory agreement with the subject, in this case third person plural.

(20)  a.  Strákunum    **leiddist/*leiddust**.
          boy.the.DAT.PL were.bored.**3SG/*3PL**
          'The boys were bored.'
     b.  Strákarnir    **leiddust/*leiddist**.
          boy.the.NOM.PL were.bored.**3PL/*3SG**
          'The boys were bored.'                                                   *Icelandic*
          (Sigurðsson 1996)

This pair thus shows the characteristic ObOp signature: agreement is obligatory when it can take place, but if it cannot, its failure to apply does not crash the derivation.

#### 5.3.1.1   Comparison with the UF model

Given that the ObOp view of agreement is a major departure from the prominent Uninterpretable Features model, a natural question is whether there are empirical or conceptual arguments for one theory over the other. In previous work, Preminger (2014: Ch.5,6) argues at length that ObOp is indeed preferable, based on agreement patterns in Kichean, Zulu, and Basque. In this section, I make an additional argument on the basis of the Icelandic paradigm presented above.

To facilitate this comparison, I begin by explicitly spelling out the Uninterpretable Features (UF) model of agreement, due to Chomsky (2000, 2001). The basic premise of the UF model is this: as on our view, DPs are inherently specified for *φ*-features, and these features encode semantic notions that make sense to evaluate on a DP. In Chomsky's terms, these features are therefore 'interpretable' on DPs. In contrast, agreement triggering heads are said to have 'unvalued' copies of *φ*-features. Moreover, because *φ*-features encode semantic notions that do not necessarily make sense to evaluate on non-DPs, these features are said to be uninterpretable on agreement triggering heads. Uninterpretable features, by hypothesis, must then be checked and deleted via agreement before LF. If they are not, the derivation crashes at LF, due to the presence of uninterpretable features. On the UF model, then, agreement is both obligatory and infallible.

The ObOp and UF models therefore make the following divergent prediction: if a head that is a known agreement trigger is present in the structure but demonstrably fails to agree, the result should be well-formed on the ObOp view but not the UF view. I now argue on the basis of agreement patterns in Icelandic that the predictions of the ObOp view, not the UF view, are borne out.

The argument depends on the agreement patterns in two varieties of Icelandic, termed Icelandic A and C by Sigurðsson and Holmberg (2008). To begin, both varieties show obligatory verbal agreement with nominative subjects. This is true with unergatives, as in (20b), transitives, as in (21a), and passive/unaccusatives, as in (21b).

(21) a. **Við** **lásum/\*las** bókina
we.NOM read.1.PL/\*read.3.SG book.the
'We read the book'

b. **Fjórir bílar** mund-**u/\*i** hafa verið seldir
four car.PL.NOM would-PL/\*SG have been sold
'Four cars would have been stolen' *Icelandic A/C*
(Sigurðsson 1996)

Both varieties also fail to license agreement with dative subjects, as shown in (22), where the first person plural dative subject fails to trigger verbal agreement.

(22) **Okkur** virt**i**st/\*virt**u**st henni hafa leiðst þeir.
us.DAT seemed.3.SG/\*seemed.3.PL her.DAT have found.boring they.NOM
'She seemed to us to have found them boring.' *Icelandic A/C*
(Sigurðsson and Holmberg 2008: 265)

On the UF model, these facts commit us to the following assumptions: (i) there is a head in the TP domain, let's say T, with uninterpretable, unvalued $\varphi$-features; (ii) dative DPs are not accessible targets. Assumption (i) is forced by the obligatory nature of agreement in (21), and (ii) by the fact that agreement is never possible with datives, even if it is the closer DP to T, as in (22). I abstract away from how exactly the non-agreeing status of datives is captured on the UF framework (see Chomsky 2001; Abels 2003; Rezac 2008; a.o. for proposals).

With this in mind, the challenge for the UF framework stems from the fact that there is no agreement at T in clauses without a locally accessible nominative argument. We have already seen an example of this in (20a) and (22) (where the nominative is embedded in the infinitival clause and hence not local to the matrix T), but it is fully general. Thus in addition to the quirky unergative subject in (20a) and the dative experiencer subject in (22), agreement is also blocked for derived dative subjects, as in (23a) and (23b). The first example features the passive of the verb *skila*, 'return', which assigns lexical case to its internal argument, and the second the unaccusative verb *close*, which likewise assigns lexical dative case to its internal argument.

(23) a. Bókunum **var** skilað
book.the.DAT.PL was.SG returned
'The books were returned'

b. Gluggunum **var** lokað
windows.DAT.M.PL was.SG closed.SG
'The windows were closed' *Icelandic A/C*
(Sigurðsson 1996)

To illustrate the challenge in detail, let's consider the possible responses to such data in the UF framework. Granting as we have that datives cannot trigger agreement, there are two analytical options: either T in such cases must not have uninterpretable $\varphi$-features, or there must be some 'last resort' mechanism that deletes the features and rescues the derivation. I consider both in turn.

Suppose first that the T in cases like (22) and (23) lacks uninterpretable $\varphi$-features. This means that Icelandic has two varieties of T, one with the agreement-triggering features and one without. The question is then how to predict which T head appears in which context. Without introducing additional assumptions, the choice cannot be free: if the non-agreeing T head were available in general, it should be possible in cases like (21), which means that agreement should

be optional here, counter to fact. We might therefore try to link the distribution of T to the status of the verb as a lexical case assigner: the non-agreeing example in (20a) involves a subject with lexically assigned dative case, and the non-agreeing examples in (23) involve internal arguments with lexically assigned dative. This approach also fails in general: in Icelandic A, agreement at T is still required with verbs that assign lexical dative to their subjects if they have an internal nominative argument, as in (24a); likewise, agreement at T is obligatory with verbs assigning lexical dative to their internal arguments if they have a nominative subject in both Icelandic A and C, as in (24b).

(24)  a.  að henni lík**uðu** þeir.
          that her.DAT liked.3.PL they.NOM
          '…that she liked them.'                                    *Icelandic A*
          (Sigurðsson and Holmberg 2008: 260)
      b.  **Ég**      **hjálpaði** honum.
          1.SG.NOM help.1.SG him.DAT
          'I helped him.'                                            *Icelandic A/C*
          (Zaenen and Maling 1984: 445)

The upshot is that there is no distinction related to verb-class, valence, passive vs. active, lexical case-assignment, etc., that predicts when agreement is required. The sole factor that dictates the presence of agreement is whether there is a nominative argument in the clause.

One final way we might try to make sense of these facts is to introduce, following Chomsky (2001), the additional case-theoretic assumption that all nominals have a Case feature that must be licensed through agreement with an appropriate head. In this system, nominative is the case form associated with agreement at T; in other words, all nominative DPs must be licensed via agreement with T. Granting this, we could then allow the choice of T heads to be free. The agreeing version can then be safely ruled out in a derivation without an agreement target, since its uninterpretable features won't have any way to delete. Likewise, the non-agreeing version will be ruled out in clauses with a nominative argument, since agreement is necessary to check and delete the case feature on the nominative.

In addition to the conceptual cost of introducing the additional assumption, however, this approach runs into the empirical that Icelandic nominative DPs can be independently seen not to need licensing via agreement with T. We have already seen such a case in (22), repeated below, where the embedded nominative object is licensed even though it does not trigger agreement.[3]

(22)  Okkur virt**is**t/*virt**u**st          henni hafa leiðst    **þeir**.
      us.DAT seemed.3.SG/*seemed.3.PL her.DAT have found.boring they.NOM
      'She seemed to us to have found them boring.'                 *Icelandic A/C*
      (Sigurðsson and Holmberg 2008: 265)

---

[3]David Pesetsky (p.c.) suggests that the problem poses by (22) can be avoided if we adopt the framework of Pesetsky (2019), which posits that infinitival clauses involve construction of a finite TP, followed by deletion of the TP layer. The example in (22) would then involve a finite embedded T that agrees with the nominative object prior to being deleted. That said, this derivation is problematic for theory-internal reasons. In Pesetsky's framework, the deletion responsible for deriving infinitival clauses depends on the subject of the clause remaining below Spec(TP) prior to deletion, a fact which Pesetsky argues for independently. Granting this, (22) poses the following challenge. Dative arguments in Icelandic are well known to block agreement from taking place if they intervene linearly between the triggering head and the target. As such, for agreement to target the nominative object in the finite counterpart to the embedded clause in (22), the dative subject must have moved to at least Spec(TP). But then infinitive-forming deletion should not be possible, as the subject has raised to Spec(TP).

The same point can be made on the basis of agreement in mono-clausal dative subject constructions in Icelandic C, where agreement with the nominative object is impossible, in contrast to Icelandic A (Sigurðsson and Holmberg 2008):

(25)  að henni ??lík**uðu**/lík**aði**       **þeir**.
      that her.DAT liked.3.PL/liked.3.SG they.NOM
      '…that she liked them.'                                    *Icelandic C*
      (Sigurðsson and Holmberg 2008: 260)

Crucially, agreement in this variety is obligatory for nominative subjects, as in (21), and impossible with dative subjects, as shown in, e.g., (24) (Sigurðsson and Holmberg 2008). It follows that (25) does not exhibit agreement with the dative subject. In Chapter 3, I provided an analysis of this variety that is consistent with the ObOp view of agreement. Independent of the analysis of such examples, however, this variety of Icelandic shows that while agreement preferentially targets nominative DPs, they need not be specially licensed via agreement with T. In sum, then, the UF model is left to stipulate that T has agreement features just in case there is a nominative argument to agree with, which is just a description of the facts.

The alternative strategy encounters the same problem: if we grant that there is a 'last resort' mechanism that deletes the $\varphi$-features on T, we have to explain why this mechanism is only available when there is no agreement target in the clause. Suppose we do have such a mechanism, and that it rescues data like (25) by deleting the uninterpretable features on T before transfer to LF. Now, recall that under the UF model, the obligatory nature of agreement is based purely by the need to satisfy an output filter; there is no syntax-internal constraint that forces agreement to take place. It follows that no syntax-internal mechanism rules out examples like those in (21), but where agreement has not taken place, as in (26). The only mechanism the theory has to rule out such an example is the LF ban on uninterpretable features.

(26)  *Við    **las**    bókina
      we.NOM read.3.SG book.the
      'We read the book'                                         *Icelandic*

From the perspective of the features on T, however, (26) is indistinguishable from (23), where the last resort deletion applies. Yet the last resort mechanism cannot be allowed to apply in (26), lest we predict optional agreement, which is impossible. Again, then, we are forced to stipulate that the features on T can be deleted by a last resort mechanism only if they *could not* have been checked and deleted in the syntax. This amounts, once more, to little more than a description of the phenomenon. The conclusion, then, is that the UF model is at a loss the explain the agreement facts in Icelandic.

What about the ObOp theory? How does it fare? We have already seen that data like (20) pose no special challenge, and indeed the full array of data presented above follow without further stipulation from the independently needed assumption that T (or some nearby head) is an agreement trigger in Icelandic. In clauses with a nominative argument, agreement is always possible, and hence it takes place obligatorily, per the ObOp logic. If there is no nominative argument, there is by hypothesis no accessible target for agreement, since as we saw in Section 1, Icelandic only allows agreement with DPs unvalued for Case. Agreement therefore unproblematically fails to take place in such cases, capturing the full set of data. I therefore conclude that the ObOp approach to agreement obtains better empirical coverage than the UF model, which again is at a loss to explain the obligatory but fallible nature of Icelandic verb agreement. See Preminger (2014: Ch.5, Ch.7, Ch.10) for several additional arguments in favor of the ObOp view.

### 5.3.2 ObOp & A′-movement

The previous section introduced the ObOp hypothesis by way of exploring its consequences on agreement. In this section, I extend the theory to A′-movement, following Preminger (2014: 10.1.3). The basic premise of Preminger's (2014) proposal is this: *wh*-movement in particular and, I argue, A′-movement in general, are triggered by the operation *Displace*, defined below. As with agreement, certain syntactic heads are lexically specified to trigger this operation, and its application is governed by the general ObOp logic.

(27)   *Displace-X* at head H (Preminger 2014: 10.1.3)
   a.   Operation: merge (a projection of) H with an YP bearing the feature *X*
   b.   Condition: apply *Displace-X* at H iff there is some YP with feature *X* such that H c-commands YP and there is no ZP c-commanded by H that both asymmetrically c-commands YP and bears the feature *X*

To illustrate the basic workings of (27), I consider the derivation of a basic *wh*-question. Let us grant that *wh*-movement proceeds through all Spec(CP) positions along its path, so that the derivation of (28a) contains at least the two steps in (28b).

(28)   a.   What did John say that Sue bought?
   b.   [CP What [did John say [CP ~~what~~ [that Sue bought ~~what~~]]]]

We can capture both *wh*-movement steps in a uniform and parsimonious way by assuming that all C heads, interrogative and not, are lexically specified to trigger the operation *Displace-wh*. The derivation of (27) then proceeds as follows. When the embedded C is merged in the structure, the object *wh*-phrase is in its local domain, so the condition on the application of (28) is met. By the ObOp logic, then, this operation must take place, attracting the *wh*-phrase into the specifier of the embedded C, as in (29a). The derivation then continues until the matrix C is merged, at which point the same basic logic applies: the moved *wh*-phrase is in the local domain of the matrix C, so the conditions on (28) are met and the operation applies obligatorily, as in (29b). Both steps of *wh*-movement are therefore motivated and triggered in the same way.

(29)   a.   Embedded clause:

   [ what [C [Sue buy what]]]
   <u>*wh*-phrase present locally</u>
   b.   Matrix clause:

   [ what [C [John said [what [Sue bought ~~what~~]]]]]
   <u>*wh*-phrase present locally</u>

This account crucially depends on all C heads, interrogative and not, being lexically specified to trigger *Displace-wh*. It remains to be see, then, that this assumption does not cause problems in clauses without *wh*-phrases. To this end, recall that the ObOp hypothesis states that syntactic operations are obligatory *just in case the conditions on their application are met.* Crucially, in a clause without a *wh*-phrase, the conditions on the application of *Displace-wh* are not met, as there is no *wh*-phrase in the local domain of the triggering head. This is is illustrated in (30). Accordingly, *Displace-wh* will unproblematically fail to apply, in conformity with the ObOp hypothesis. Such cases are therefore directly analogous to the examples of failed agreement in

Icelandic discussed in the previous section.

(30)    a.    Sue bought a piano.
        b.    [C [Sue bought a piano]]
              ⏟
              no *wh*-phrase present locally

It follows that we can safely assume that all C heads are lexically specified to trigger the *Displace-wh* operation, completing the account. This analysis can be extended straightforwardly to other cases of A′-movement by positing the relevant *Displace* operations at C, e.g., *Displace*-Topic, *Displace*-Focus, etc., which again are only triggered in the presence of an XP bearing the relevant feature.

This analysis has the benefit of capturing all instances of *wh*-movement, both intermediate and terminal, with the same mechanism. No special devices are needed to motivate the intermediate movement. As Preminger (2014) argues, this constitutes a distinct advantage over the UF treatment of long-distance *wh*-movement (Chomsky 2000, 2001; McCloskey 2002). It's worth pausing briefly to review the argument, as it highlights an advantage of the ObOp system that will be important throughout the thesis.

In basic terms, the UF model posits that all interrogative C heads bear special features that must be checked and deleted at LF via attraction of a *wh*-phrase into Spec(CP). This correctly predicts that in mono-clausal constructions, an interrogative C head must attract a *wh*-phrase into its specifier, since if it does not, the relevant feature will not be checked and deleted and the derivation will crash.[4] A similar logic forces the conclusion that non-interrogative C heads need not bear the special feature for attracting *wh*-phrases. If they did, a simple transitive clause like (30) would crash at LF, as there is no *wh*-phrase to attract to Spec(CP). This is a reasonable enough assumption, and it allows us to directly link the presence of the feature for attracting *wh*-phrases to the interrogative status of the relevant C head. This link breaks down, however, in cases of long-distance *wh*-movement. To illustrate the problem, consider (28). In this case, the embedded C head must bear a feature for attracting the *wh*-phrase even though it is not interrogative. The UF model must therefore posit two types of non-interrogative C heads: one without the attraction feature, for use in clauses without *wh*-phrases, and one with the attraction feature, to trigger intermediate movement in long-distance movement constructions.[5] The question is then how to predict the distribution of these non-interrogative C heads. As we saw with the UF treatment of Icelandic agreement, however, the distribution of C heads does not follow from any independent principle related to clause type, interlocutional force, etc. Instead, a given non-interrogative C must be assumed to bear the feature for attracting a *wh*-phrase just in case there is a *wh*-phrase in its domain that needs to be attracted. Once again, this simply amounts to a description of the phenomenon in question.

The ObOp treatment therefore has two advantages over this account. First, it allows for a uniform syntactic treatment of all C heads, limiting the difference between interrogative and non-interrogative cases to semantics and eliminating the need for two varieties of non-interrogative head. Second, it reduces the basic nature of *wh*-movement to Spec(CP) – obligatory if there is a suitable *wh*-phrase in the local domain of C but otherwise unproblematically omissible – to a universal principle that governs all syntactic operations.

---

[4]A consequence is that for each interrogative C head, there must be at least one *wh*-phrase in its local domain that can be attracted. Interrogative Cs are therefore correctly ruled out in non-interrogative clauses. On the ObOp approach, this fact can be captured by assuming that interrogative C heads contribute a particular interpretation to the clause, so that in non-interrogative contexts they are simply uninterpretable.

[5]McCloskey's Irish argument, and how it's not really an argument.

### 5.4 Generalizing the theory

In the previous section, I presented Preminger's (2014) Obligatory Operations theory, and explored its consequences in the domain of agreement and A′-movement. At its core, the theory is grounded in the following two assumptions: (i) syntactic operations are obligatory but fallible, as encoded in the ObOp Hypothesis (see (18)) (ii) the operations responsible for triggering agreement and A′-movement are lexically encoded on syntactic heads. In this section, I propose to generalize this theory to syntactic operations in general. In particular, my overarching goal is to develop and substantiate an ObOp treatment of the syntactic operation *Merge*. Given that we have already seen how the ObOp logic handles A′-movement, the two remaining instances of merge that must be accounted for are the internal merge operation associated with A-movement, and the external merge operation associated with argument introduction.

#### 5.4.1 A-movement and external merge

To this end, my essential proposal is A-movement and argument introduction are the result of the same syntactic operation, *Merge-X*, defined in (31).

(31)   *Merge-X* at head $H$
  a.   Operation: merge (a projection of) $H$ with an YP bearing the feature $X$
  b.   Conditions: apply *Merge-X* at $H$ iff
    (i)   There is some YP with feature $X$ present in the lexicon/workspace, but not in the syntactic structure containing $H$, *or*
    (ii)   There is some YP with feature $X$ such that $H$ c-commands YP and there is no ZP c-commanded by $H$ that both asymmetrically c-commands YP and bears the feature $X$

Let's unpack this definition. First, *Merge-X* is sufficiently general to capture external merge; condition (i) ensures that a suitable phrase can be selected from the lexicon/workspace and merged into the structure. Second, as encapsulated in condition (ii), this operation can also yield movement, in the same way as the *Displace-X* operation defined above. I also assume that the choice between whether to apply condition (i) or condition (ii) is free: a given *Merge-X* operation can either trigger argument introduction or movement. In some cases, both operations will yield licit derivations, and in others, concerns of interpretability will block one or the other result, but there is no syntactic constraint that forces the choice of which condition applies. Finally, unlike with *Agree*-X and *Displace*-X, the structural conditions on the application of *Merge*-X are always met, since it is always possible to select a suitable target from the lexicon/workspace, per condition (i). As such, the ObOp logic dictates that *Merge*-X, unlike *Agree*-X and *Displace*-X, will always obligatorily take place when a triggering head is merged in the structure.

   With this definition in place, my proposal, as mentioned, is that A-type behavior is directly correlated with *Merge-X*:

(32)   **A- and A′-positions**:
      An DP is in an A-position if and only if it was introduced into that position by an application of *Merge-X*. If a DP is not in an A-position, it is in an A′-position.

Granting that A-movement is movement to an A-position, it follows that *Merge-X* triggers both argument introduction (external merge) and A-movement.

   Taking a step back from the technical consequences of (31) and (32), the resulting theory en-

codes a conceptual choice that is important to highlight. In particular, this account partitions the space of merge operations so that A-type internal merge and external merge are grouped together, to the exclusion of A′-type internal merge. There is of course another prominent way of partitioning this space, namely by grouping together the movement operations (A- and A′-type internal merge) to the exclusion of external merge. From the perspective of ObOp, both approaches are *a priori* equally plausible: we could just as well take *Displace-X* to be the operation that triggers all movement, and devise a new operation to capture only external merge.[6] Some independent justification is therefore called for in order to choose one or other of the options. In Chapter 2, I provided an empirical argument to this effect: the analysis of PPA in Romance and MSc hinged crucially on external merge and A-movement being sister operations triggered by a single feature. There is, however, a less technical argument to this effect that is worth making here.

The argument is based on a twofold generalization. First, all positions exhibiting A-type properties are arguably positions into which arguments can be externally merged, at least if we broaden the notion of 'argument' to include expletives. In Chapter 2, I provided independent evidence that expletives are indeed introduced syntactically according to the same logic as arguments, so let's grant they are arguments from the syntactic perspective. The generalization then holds straightforwardly for the three canonical A-positions in the transitive clause: the surface subject position in Spec(TP), the basic merge site of the subject in Spec($v$P), and the basic merge site of the object, the complement of V. The latter two positions introduce arguments directly, and hence meet the generalization trivially. Spec(TP) does not introduce a semantically contentful argument, but it can arguably introduce expletives, at least in some languages, satisfying the generalization.[7] Second, argument introduction seems to be generally impossible in A′-positions. For example, Spec(CP) arguably cannot introduce a *wh*-phrase from the lexicon, instead being limited to attracting such phrases from its local domain.[8] Generally speaking, it therefore appears that all A-positions license external merge, but no A′-positions do. The argument is then that partitioning the space of merge operations so as to group together A- and A′-movement to the exclusion of external merge misses this generalization. It must be independently explained, on this view, why A-movement and external merge are correlated. In contrast, on the account sketched here, A-positions are correlated with external merge *by definition*. Nothing else must be said.

It is additionally worth pointing out that the idea of grouping together of A-movement and external merge is not novel to this paper. In fact, Chomsky's (1981) original definition of A-position encodes essentially the same insight. According to Chomsky, A-positions are exactly those positions that have the potential to introduce an argument, i.e., that are possible $\theta$-positions. With the exception of Spec(TP), which on modern theories is never a $\theta$-position, Chomsky's proposal thus overlaps directly with the conception of A-positions and external merge adopted in this work.

---

[6]An additional question we might ask, given that the *Merge-X* operation is more general than Preminger's (2014) *Displace-X* operation, is whether the latter is needed at all. In short, unless we introduce additional theoretical machinery, we do still need this operation. To see why, suppose all C heads were associated with a *Merge-wh* operation, to capture *wh*-movement effects. Since it is always possible to select a *wh*-phrase from the lexicon/workspace, the ObOp logic would dictate that Spec(CP) should always be filled with a *wh*-phrase. This is clearly not borne out in non-interrogative clauses. There are various ways we might try to get around this issue, e.g., by positing silent, semantically vacuous *wh*-expletive that can be merged in Spec(CP), but I will not pursue them further here (see McDaniel 1989 on *wh*-expletives, and Dayal 1993, Horvath 1997 for critiques).

[7]Expletives arguably cannot be introduced in Spec(TP) in Standard English (Richards 2005; Richards 2007; Deal 2009; Wu 2018), although this is possible in the Belfast variety (Henry and Cottell 2007).

[8]David mentioned a possible exception to this, but I can't remember it.

To conclude this section, I illustrate the basic mechanics of (31) by analyzing the EPP effect in English. I focus on three cases that together summarize the main effect: (i) the subject must raise to Spec(TP) in transitive clauses; (ii) in passive/unaccusative clauses with an internal DP argument, either the internal DP argument must raise to Spec(TP) or an expletive must be present in Spec(TP); (iii) in clauses without any DP arguments, an expletive must be present in Spec(TP).

(33)  a.  A man has ~~a man~~ talked to Mary.
      b.  *∅ has a man talked to Mary.

(34)  a.  There have arrived three men
      b.  Three men have arrived ~~three men~~.
      c.  *∅ have arrived three men.

(35)  a.  It seems like John is upset.
      b.  *∅ seems like John is upset.

I limit my attention to three heads: T, whose specifier I take to be the surface position of the subject; $v$, which I take to be responsible for introducing the external argument in transitive clauses; and V, which I take to introduces the internal argument. In a transitive clause, V and $v$ both introduce arguments, and T triggers A-movement to its specifier, so all three heads must, by hypothesis, be associated with a *Merge*-D operation ('D' here being a stand in feature characterizing DP arguments). In passive/unaccusative clauses, V and T are associated with a *Merge*-D operation by the same logic; while $v$ does not introduce an external argument in these cases, following Sauerland (2003), it is an intermediate landing site for A-movement across it, so it too must be associated with a *Merge*-D operation. It follows that in all clauses, all three heads are associated with a *Merge*-D operation.

The effects in (33) - (35) then follow straightforwardly. Beginning with transitive clauses, the *Merge*-D operation at V is invoked to introduce an object from the lexicon/workspace. Because there is no other DP present in the structure at this point, this is the only operation available at V. Moreover, because it is always possible to select an argument from the lexicon/workspace, this operation *must* take place, per the ObOp logic. At $v$, the *Merge*-D operation has the potential to trigger two different operations, reflecting the two conditions in (31): selection and merger of a subject from the lexicon/workspace, or attraction of the object via A-movement. As I discuss in detail in Chapter 2 and 4 the latter option is ruled out by $\theta$-theoretic concerns, so only the introduction of the subject is licit. And again, because this operation is possible, it must take place, per the ObOp logic.

(36)  *Merge*-D at $v$:
      a.  Option (i): merge subject (see condition (i) in (31)):
          [DP$_1$ [$v$ ... [V DP$_2$]]]
      b.  Option (ii): attract object (see condition (ii) in (31)):
          *[DP [$v$ ... [V ~~DP~~]]] (✗ on interpretive grounds)

Finally, the *Merge*-D operation at T can either trigger external merge of a DP from the lexicon/workspace or attraction of the subject. In Standard English the former option is blocked, although there are many languages that allow expletives to be inserted in this position. Perhaps most notable in the present context is Belfast English, which in addition to (33) tolerates *There has a man talked to Mary* (Henry and Cottell 2007). In Standard English, however, the only available option is to attract the subject. Again, because this operation can take place, it must; leaving

Spec(TP) empty would violate the ObOp principle that syntactic operations must apply if they can, capturing (33).

(37) *Merge*-D at T
   a. Option (i): external merge (see condition (i) in (31)):
      *[DP$_1$ [T ... [DP$_2$ [*v* ...]]]] (✗ on interpretive grounds)
   b. Option (ii): attract subject (see condition (ii) in (31)):
      [DP [T ... ~~DP~~ [*v* [...]]]] (✗ on interpretive grounds)

Moving on to (34), in passive/unaccusative clauses the internal argument is introduced at V by the same logic as in the transitive case. At *v*, the *Merge*-D operation may again be satisfied in one of two ways, reflecting the two conditions in (31). The first is by attracting the internal argument, which must then be attracted to T by the ObOp logic, capturing (34b). Alternatively, the *Merge*-D may be invoked to select an expletive from the lexicon and merge it into Spec(*v*P).[9] By the same logic as above, the expletive will then be attracted to Spec(TP), deriving (34a). Because it will always be possible to either attract the internal argument to or merge an expletive in Spec(*v*P), ObOp logic dictates that one of them must always be applied, ruling out (34c).

(38) *Merge*-D at *v*:
   a. Option (i): external merge (see condition (i) in (31)):
      [EXPL [*v* ... [V DP]]]
   b. Option (ii): attract object (see condition (ii) in (31)):
      [DP [*v* ... [V ~~DP~~]]]

A similar logic captures the contrast in (35). When *v* is merged, there is no suitable XP present in the structure that may be targeted by its associated *Merge*-D operation, since the CP argument of *seem* cannot raise to Spec(TP): *like John is upset seeems.* The ObOp logic therefore dictates that an expletive must be selected from the lexicon and merged in this position: since this operation is permitted, it must take place. This correctly ensures that there is a DP in the structure that can then be attracted to Spec(TP), capturing the contrast in (38). The three main EPP facts described above are hence captured straightforwardly under the ObOp hypothesis assuming that V, *v*, and T are associated with a *Merge*-D operation.

Finally, it is crucial to the analysis of the EPP developed above that *Merge-X* always be capable of accessing the entire lexicon, as is implicit in the definition in (31). In particular, the account is incompatible with the idea that the derivation is limited to combining elements from a numeration – a set of lexical items gathered before the start of the derivation. The problem with allowing numerations is this. Suppose we are deriving (35), and we happen to have a numeration without an expletive. This leads to the prediction that *Merge-X* at *v* and T can go untriggered, since there is no suitable XP to merge here, neither in the structure nor the numeration. We therefore generate the unacceptable example in (35). This contrasts with the UF view, where such a derivation is ruled out because having an empty Spec(TP) violates an output filter, but the present framework does not make recourse to any extra-syntactic filters like this. Indeed, on the analysis sketched above, the EPP property follows precisely because the conditions on the

---

[9]Two qualifications are necessary here, and are spelled out in much greater detail in Chapter 4. First, since passive/unaccusative *v* cannot introduce an argument semantically, expletives are the only type of DP suitable to be externally merged here. Second, I assume independent principles govern the choice between the *it* and *there* expletives in English. In Chapter 4, I provided a theory that predicts the observed distribution.

application of *Merge-X* are always met, since it can introduce a new element from the lexicon. It therefore follows that a *Merge-X* operation may never go untriggered, as desired. It is therefore essential to eschew numerations altogether. I view this as a welcome result, as the notion of numeration introduces an extra layer of structure on the syntax that was never properly motivated.

### 5.4.2 Summarizing the framework

We have now seen the feature-driven treatment of the four essential syntactic operations: *Agree*, A′-movement, A-movement, and external merge. The main premise is that heads are specified in the lexicon with the syntactic operations they may trigger. If the conditions on application of a given operation are met, that operation must apply, but otherwise it can unproblematically fail to apply. In the case of *Merge*, I argued for a two-way distinction between A′-movement, on the one hand, and A-movement and external merge, on the other. I showed how such a treatment yields straightforward analyses of *wh*-movement and EPP effects. The essential results of this section are summarized in the definitions below.

(19)    *X-Agree* at head *H*

    a.   Operation: copy the value of feature *X* on phrase YP onto *H*

    b.   Condition: apply *X-Agree* at *H* iff there is some YP such that:

        (i)    Locality: *H* c-commands YP and there is no ZP c-commanded by *H* and asymmetrically c-commanding YP that bears feature *X*

        (ii)   Accessibility: YP is Case-accessible to *H* and bears feature *X*

(27)    *Displace-X* at head *H* (Preminger 2014: 10.1.3)

    a.   Operation: merge (a projection of) *H* with an YP bearing the feature *X*

    b.   Condition: apply *Displace-X* at *H* iff there is some YP with feature *X* such that *H* c-commands YP and there is no ZP c-commanded by *H* that both asymmetrically c-commands YP and bears the feature *X*

(31)    *Merge-X* at head *H*

    a.   Operation: merge (a projection of) *H* with an YP bearing the feature *X*

    b.   Conditions: apply $o_i$ at *H* iff

        (i)    There is some YP with feature *X* present in the lexicon/workspace, but not in the syntactic structure containing *H*, *or*

        (ii)   There is some YP with feature *X* such that *H* c-commands YP and there is no ZP c-commanded by *H* that both asymmetrically c-commands YP and bears the feature *X*

(32)    **A- and A′-positions**:
An argument in an A-position if and only if it was introduced into that position by an application of *Merge-X*. If an argument is not in an A-position, it is in an A′-position.

    There are two important points to clarify before moving on. First, I will be assuming that *all* syntactic operations available at a given head are governed by the same ObOp logic developed in the analysis of agreement, *wh*-movement, and EPP effects. Explicitly, I propose that each syntactic primitive is associated in the lexicon with the set of possible *Agree* and *Merge* operations that it may trigger, and that these operations must take place if and only if the conditions on their application are met. Second, I assume that the only additional syntactic constraint on the application of operations is cyclicity. This ensures that only those operations associated with the head of the maximal projection at the root of the tree may apply, as is standard. However,

if this head is associated with multiple operations, there is no fixed order that they must apply in, as long as the result is interpretable. Both these assumptions are the null hypotheses in their respective domains. Once we admit that some *Merge* and *Agree* operations are governed by the ObOp logic, it requires an additional assumption to restrict this to only some cases. Likewise, positing a syntactic ordering on the operations available at a head imposes additional structure on the derivation, and so would require additional justification.

The syntactic derivation can thus be conceived of as a finite series of discrete steps: a given head associated with a set of syntactic operations is merged in the structure; for each of the associated operations, the conditions on their application are then checked, and, if met, the operation applies; if there are multiple operations at a given head, they may apply in any order, so that the derivation potentially proceeds non-deterministically along many branches, each reflecting a unique ordering of operations; the derivation of a given phrase or clause terminates when all of the operations associated with the root node have been given the chance to apply, per the ObOp logic. There remain several questions about the nature of the derivation in the present framework, e.g., how does it begin, how can complex phrases be externally merged, etc. I provide a more complete definition and discussion of these and other aspects of derivation not directly relevant to the thesis in Section 5.4.3.

Finally, as a notational convenience, I encode the operations available at a given head in terms of the features below, and say that a given feature is discharged by the associated operation. These features should crucially be thought of as instructions to carry out syntactic operations, not representational constraints on the structure (see Section 3.3). My notation for merge features is borrowed from Müller (2010), who also develops a theory of feature-driven syntax.[10]

(39)   a.   Agree features: [X:_], trigger *Agree* with a YP with feature X
       b.   Displace features: [∘X∘], trigger A′-movement of a YP with feature X
       c.   Merge features: [•X•], trigger external merge or A-movement of a YP with feature X

### 5.4.3   The derivation in detail

In Section 5.4.2, I left open several questions concerning the nature of the syntactic derivation, including the conditions under which it begins, how complex phrases can be externally merged into an existing structure, the conditions under which the derivation terminates, etc. This section provides basic answers to these questions.

In the present framework, syntactic operations are driven according to the lexically encoded instructions on the current root node, according to the ObOp logic. For the derivation to begin, then, a head must be specially singled out from the lexicon as the active root. I will therefore assume that each derivation furnishes a 'workspace' of active heads and phrases, and that there is a freely applying extra-syntactic process that introduces heads into the workspace. Once introduced into the workspace, I assume that a head is 'active' and the operations associated with it are triggered according to the ObOp logic. I assume there is no limit on the number of active heads in a given workspace, so that multiple sub-derivations may proceed in unison in a given workspace. Following Chomsky (2000, 2001), I assume moreover that an active root node can trigger external merge of elements in the lexicon and other elements in the workspace. The conception of workspace thus furnishes a means of combining two complex syntactic objects: the

---

[10]The present framework differs from Gereon Müller's theory of feature-driven merge (e.g., Müller 2010) in two key ways: (i) in Müller's system, features are pre-arranged on a stack which dictates the order in which feature discharge must take place; (ii) as an anonymous reviewer points out, Müller's theory does not allow operations to go untriggered.

active root node of a complex syntactic object in the workspace can freely access other complex objects for the purposes of external merge.

I illustrate the basic system by means of a sample derivation. In keeping with the results of this chapter, I assume that *all* syntactic operations are triggered by lexically specified instructions on the active head, including all instances of internal merge, external merge, and agreement. In the sample derivation, I make the following simplifying assumptions: (i) the clausal spine is defined by the heads V, *v*, T, C, in that order, with each head selecting for (a projection of) the immediately lower head in the structure, e.g., *v* selects for a (projection of) V; (ii) within the DP, there is at least a D head and an N head, with D selecting for (a projection of) N; (iii) C and *v* are obligatory intermediate landing sites for A′-movement, and *v* introduces the external argument. It follows that the heads V, *v*, T, C, D, and N are associated with the following operations: V has at least a [●D●] feature for introducing the internal argument; *v* has a [●V●] feature for merging with the VP, a [●D●] feature for merging the external argument, and various displace features for attracting A′-elements; T has a [●*v*●] feature for merging with *v*P, a [●D●] feature for attracting the subject, and a [φ:_]-feature for triggering φ-agreement; C has a [●T●] feature as well as features for attracting various A′-elements; D has a [●N●] feature for merging with NP.

(40)  a.  V: {*Merge*-D}
      b.  *v*: {*Merge*-V, *Merge*-D, *Displace*-A′}
      c.  T: {*Merge*-v, *Merge*-D, *φ-Agree*}
      d.  C: {*Merge*-T, *Displace*-A′}
      e.  D: {*Merge*-N}
      f.  N: ∅

Example (42) is then derived as follows, with the order of operations determined by concerns of interpretability. First, V is introduced into the workspace. To satisfy its [●D●] feature, it selects *what*, which I assume lacks complex structure, from the lexicon and merges with it. The resulting VP is then cached in the workspace. Next, D is introduced in the workspace, and it selects *man* from the lexicon and merges with it, satisfying its [●N●] feature. The resulting DP is then stored in the workspace. Next, *v* is introduced in the workspace. It merges with VP to satisfy its [●V●] feature, then with *a man* to satisfy its [●D●] feature, and finally attracts *what*, satisfying its [○*wh*○] feature. The resulting *v*P is cached, then, following introduction of T into the workspace, merged with T to satisfy [●*v*●]. The [φ:_] feature on T is then satisfied via agreement with *a man*, and the [●D●] feature by attracting *a man* to Spec(TP). Finally, C is introduced in the workspace, merges with TP, and attracts *what*.

(41)  a.  What did the man buy?
      b.  [~CP~ what [C [the man [T [~~what~~ [Mary [*v* [buy ~~what~~]]]]]]]]

(42)  Derivation of (42):
      a.  Introduce V
      b.  Build VP: merge V with *what*, = VP
      c.  Introduce D
      d.  Build DP: merge D with *man*, = DP
      e.  Introduce *v*
      f.  Build *v*P: merge *v* with VP, then with DP, then attract *what*, = *v*P
      g.  Introduce T
      h.  Build TP: merge T with *v*P, then agree with and attract *a man*, = TP
      i.  Introduce C

      j.     Build CP: merge C with TP, then attract *what*, = CP

I crucially assume that the introduction of heads into the workspace is completely free. In the derivation above, then, nothing forces the introduction of say *v* in step (42e). Rather, this particular derivation can only proceed if this option is chosen. Moreover, nothing forces the VP to be constructed before, say, the external argument DP. It's just that only certain orders will yield phrases that are capable of combining with each other.

A final caveat is in order: the derivation above should therefore be thought of not as a paradigm to be dissected and studied in order to understand what is to come, but rather as a brief demonstration that the notion of 'derivation' can be coherently defined and captured in the present framework.

# Bibliography

Abels, K. (2003). *Successive cyclicity, anti-locality, and adposition stranding.* PhD thesis, University of Connecticut.

Arregi, K. and Nevins, A. (2012). *Morphotactics: Basque auxiliaries and the structure of spellout*, volume 86. Springer Science & Business Media.

Baier, N. (2018). *Anti-Agreement.* PhD thesis, University of California, Berkeley.

Baker, M. (1985). The mirror principle and morphosyntactic explanation. *Linguistic inquiry*, 16(3):373–415.

Baker, M. C. (2008). *The syntax of agreement and concord*, volume 115. Cambridge University Press.

Béjar, S. and Rezac, M. (2009). Cyclic agree. *Linguistic Inquiry*, 40(1):35–73.

Belletti, A. (1990). *Generalized verb movement: Aspects of verb syntax.* Rosenberg & Sellier.

Belletti, A. (2006). (past) participle agreement. *The Blackwell companion to syntax*, pages 493–521.

Belletti, A. and Rizzi, L. (1988). Psych verbs and theta-theory. *Natural Language and Linguistic Theory*, 6(3):291–352.

Bennis, H. (1986). *Gaps and dummies.* Berlin: Foris.

Bhatt, R. (2005). Long distance agreement in hindi-urdu. *Natural Language & Linguistic Theory*, 23(4):757–807.

Bobaljik, J. D. (2008). Where's phi? agreement as a post-syntactic operation. In Harbour, Daniel Adger, D. and Béjar, S., editors, *Phi theory: Phi-features across interfaces and modules.* Oxford: Oxford University Press.

Boeckx, C. (2004). Long-distance agreement in hindi: Some theoretical implications. *Studia linguistica*, 58(1):23–36.

Boeckx, C. (2010). On long-distance agreement. *Iberia*, pages 1–32.

Bolinger, D. (1973). Ambient *it* is meaningful too. *Journal of Linguistics*, 9(2):261–270.

Brame, M. (1983). Ungrammatical notes 4: Smarter than me. *Linguistic Analysis*, 12(3):323–328.

Bresnan, J. (1972). *Theory of complementation in English syntax.* PhD thesis, Massachusetts Institute of Technology.

Bresnan, J. (1994). Locative inversion and the architecture of universal grammar. *Language*, pages 72–131.

Bruening, B. (2001). *Syntax at the Edge: Cross-Clausal Phenomena and the Syntax of Passamaquoddy.* PhD thesis, Massachusetts Institute of Technology.

Cardinaletti, A. (1997). Agreement and control in expletive constructions. *Linguistic inquiry*, pages 521–533.

Chierchia, G. (1998). Plurality of mass nouns and the notion of 'semantic parameter'. In Rothstein, S., editor, *Events and grammar*, volume 70, pages 53–103.

Chomsky, N. (1981). *Lectures on government and binding.* Foris Publications, Dordrecht, The Netherlands.

Chomsky, N. (1991). Some Notes on Economy of Derivation and Representations. In Freidin, R., editor, *Principles and Parameters in Comparative Grammar*, pages 417–454. Cambridge, MA: MIT Press.

Chomsky, N. (1993). A minimalist program for linguistic theory. In Hale, K. and Keyser, S., editors, *The View from Building 20*, pages 1–52. Cambridge, MA: MIT Press.

Chomsky, N. (1995). *The minimalist program.* MIT Press, Cambridge, Massachusetts.

Chomsky, N. (2000). Minimalist inquiries: The framework. In Martin, R. Michaels, D. and Uriagereka, J., editors, *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, pages 89–155. MIT Press.

Chomsky, N. (2001). Derivation by phase. In Kenstowicz, M., editor, *Ken Hale: A life in language*, pages 1–52. MIT Press.

Chomsky, N. (2008). On phases. In Freidin, R. Otero, C. P. and Zubizarreta, M., editors, *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, pages 133–166. Cambridge, MA: MIT Press.

Christensen, K. and Taraldsen, T. (1989). Expletive chain formation and past participle agreement in Scandinavian dialects. In Benincà, P., editor, *In Dialect variation and the theory of grammar*, pages 53–83. Foris, Dordrecht, Holland.

Chung, S. and Ladusaw, W. A. (2004). *Restriction and saturation*, volume 42. MIT press.

Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective.* Oxford University Press.

Citko, B. (2011). Small clauses. *Language and Linguistics Compass*, 5(10):748–763.

Citko, B. (2014). *Phase theory: An introduction.* Cambridge University Press.

Colley, J. (2018). Object movement derives object preference. *Talk given at NELS 48.*

Collins, C. (1997). *Local Economy.* Cambridge: MIT Press.

Coon, J. and Bale, A. (2014). The interaction of person and number in Mi'gmaq. *Nordlyd*, 41(1):85–101.

Culicover, P. W. and Levine, R. D. (2001). Stylistic inversion in English: a reconsideration. *Natural Language & Linguistic Theory*, 19(2):283–310.

D'Alessandro, R. (2007). *Impersonal* si *constructions: Agreement and interpretation.* Berlin: Mouton de Gruyter.

D'Alessandro, R. and Roberts, I. (2008). Movement and agreement in italian past participles and defective phases. *Linguistic Inquiry*, 39(3):477–491.

D'Alessandro, R. and Roberts, I. (2010). Past participle agreement in Abruzzese: Split auxiliary selection and the null-subject parameter. *Natural Language and Linguistic Theory*, 28:41–72.

Dayal, V. S. (1993). Scope marking as indirect wh-dependency. *Natural language semantics*, 2(2):137–170.

Deal, A. R. (2009). The origin and content of expletives: evidence from "selection". *Syntax*, 12(4):285–323.

Deal, A. R. (2014). Properties of probes: Evidence from Nez Perce complementizer agreement. *Presentation at NELS 45, MIT.*

Déprez, V. (1998). Semantic effects of agreement: The case of French participle agreement. *Probus*, 10:1–67.

Dixon, R. M. (1977). Semantic neutralization for phonological reasons. *Linguistic Inquiry*, 8(3):599–602.

Elbourne, P. D. (2005). *Situations and individuals*, volume 90. MIT Press Cambridge, MA.

Elliott, P. D. (2016). Explaining DPs vs. CPs without syntax. In *Proceedings of CLS 52*, volume 52, pages 171–185.

Emonds, J. (1986). Grammatically deviant prestige constructions. In Brame, M., editor, *A*

*festschrift for Sol Saporta.* Seattle, WA. Noit Amrofer.

Etxepare, R. (2006). Number Long Distance Agreement in (Substandard) Basque. *Anuario del Seminario de Filología Vasca Julio de Urquijo: International Journal of Basque Linguistics and Philology*, 40(1):303–350.

Fox, D. (1999). Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry*, 30(2):157–196.

Gračanin, M. (2004). V-N Compounds in Italian and Croatian. *Ms.*

Grimm, S. (2012). Plurality is distinct from number neutrality. In *Proceedings of NELS*, volume 41.

Grimshaw, J. (1990). *Argument Structure.* MIT Press, Cambridge, Massachusetts.

Hackl, M. (2000). *Comparative quantifiers.* PhD thesis, Massachusetts Institute of Technology.

Halle, M. (1990). An approach to morphology. In Carter, J., editor, *Proceedings of NELS 20.* Amherst, MA: GLSA.

Halle, M. and Marantz, A. (1993). Distributed Morphology and the pieces of inflection. In Hale, K. and Keyser, S. J., editors, *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, pages 111–176. Cambridge: MIT Press.

Hanink, E. and Bochnak, M. R. (2017). Factivity and two types of embedded clauses in Washo. In *Proceedings of NELS 47*, volume 47, pages 65–78.

Harley, H. (1995). Abstracting away from abstract case. In Beckman, J., editor, *NELS 24: proceedings of the North East Linguistic Society*, pages 207–221. Amherst: University of Massachusetts, Graduate Linguistic Student Association.

Harley, H. and Ritter, E. (2002). Person and number in pronouns: A feature-geometric analysis. *Language*, pages 482–526.

Hartman, J. (2011). (Non-) intervention in A-movement: Some cross-constructional and cross-linguistic considerations. *Linguistic Variation*, 11(2):121–148.

Hartman, J. (2012). *Varieties of clausal complementation.* PhD thesis, Massachusetts Institute of Technology.

Hazout, I. (2004). The syntax of existential constructions. *Linguistic Inquiry*, 35(3):393–430.

Heim, I. (1983). On the projection problem for presuppositions. In *WCCFL 2*, pages 114–âĂŞ125. Barlow, M. et al.

Heim, I. (1985). Notes on Comparatives and Related Matters. *Unpublished manuscript.*

Heim, I. (2000). Degree Operators and Scope. In *Proceedings of SALT X,* pages 40–64. Cornell University.

Heim, I. (2008). Features on bound pronouns. In Harbour, by Daniel Adger, D. and Béjar, S., editors, *Phi theory: Phi-features across modules and interfaces*, pages 35–56. Oxford: Oxford University Press.

Heim, I. and Kratzer, A. (1998). *Semantics in generative grammar.* Blackwell.

Henry, A. and Cottell, S. (2007). A new approach to transitive expletives: evidence from Belfast English. *English Language & Linguistics*, 11(2):279–299.

Heycock, C. and Kroch, A. (1999). Pseudocleft connectedness: Implications for the LF interface level. *Linguistic Inquiry*, 30(3):365–397.

Hinterwimmer, S. (2014). If vs. when, wenn vs. als: Microvariation in the Semantics of Conditional and Temporal Complementizers in English and German. *Unpublished Ms.*

Hintikka, J. (1969). Semantics for propositional attitudes. In *Models for modalities*, pages 87–111. Springer.

Hiraiwa, K. (2004). *Dimensions of symmetry in syntax: Agreement and clausal architecture.* PhD thesis, MIT.

Hirsch, A. (2017). *An inflexible semantics for cross-categorial operators.* PhD thesis, MIT.

Hoekstra, E. (1991). *Licensing Conditions on Phrase Structure.* PhD thesis, University of Gonin-

gen.

Holmberg, A. (2001). Expletives and agreement in Scandinavian passives. *The Journal of Comparative Germanic Linguistics*, 4(2):85–128.

Holmberg, A. and Hróarsdóttir, T. (2003). Agreement and movement in Icelandic raising constructions. *Lingua*, 113(10):997–1019.

Hornstein, N. (1999). Movement and control. *Linguistic Inquiry*, 30(1):69–96.

Horvath, J. (1997). The status of 'wh-expletives' and the partial wh-movement construction of hungarian. *Natural Language & Linguistic Theory*, 15(3):509–572.

Iatridou, S. (2000). The grammatical ingredients of counterfactuality. *Linguistic inquiry*, 31(2):231–270.

Jacobson, P. (1994). Binding connectivity in copular sentences. In *Proceedings of Semantics and Linguistic Theory IV*, pages 161–178.

Jacobson, P. (1995). On the quantificational force of English free relatives. In *Quantification in natural languages*, pages 451–486. Springer.

Jacobson, P. (1999). Towards a variable-free semantics. *Linguistics and philosophy*, 22(2):117–185.

Johnson, K. (2009). Gapping is not (VP-) ellipsis. *Linguistic Inquiry*, 40(2):289–328.

Jónsson, J. G. (1996). *Clausal architecture and Case in Icelandic*. PhD thesis, University of Massachusetts, Amherst.

Karttunen, L. and Peters, S. (1979). Conventional implicatures in Montague Grammar. In Oh, C.-K. and Dineen, D., editors, *Syntax and semantics 11: Presupposition*, pages 1–56. New York: Academic Press.

Kayne, R. (1975). *French Syntax*. Cambridge MA: MIT Press.

Kayne, R. and Pollock, J.-Y. (1978). Stylistic inversion, successive cyclicity, and move np in french. *Linguistic inquiry*, pages 595–621.

Kayne, R. and Pollock, J.-Y. (2001). New thoughts on stylistic inversion. In Hulk, A. and Pollock, J.-Y., editors, *Subject inversion in Romance and the theory of Universal Grammar*, pages 107–162. Oxford University Press.

Kayne, R. S. (1989). Null subjects and clitic climbing. In Jaeggli, O. and Safir, K. J., editors, *The Null Subject Parameter*, pages 239–262. Kluwer Academic Publishers, Dordrecht, Holland.

Keine, S. (2013). On the role of movement in hindi/urdu long-distance agreement. In Keine, S. and Sloggett, S., editors, *Proceedings of NELS 42*, volume 42. Amherst, MA: GLSA.

Khoo, J. (2015). On indicative and subjunctive conditionals. *Philosophers Imprint*.

Kiparsky, P. and Tonhauser, J. (2012). Semantics of inflection. In Maienborn, C. Heusinger, K. and Portner, P., editors, *Semantics: An International Handbook of Natural Language Meaning*, pages 2070–2097.

Koopman, H. (2006). Agreement congifugurations: In defense of Spec-Head. In Boeckx, C., editor, *Agreement Systems*, volume 92, page 159. John Benjamins Publishing.

Kratzer, A. (1981). The notional category of modality. In Eikmeye, H.-J. and Reiser, H., editors, *Words, Worlds, and Contexts*, pages 38–74. Walter de Gruyter.

Kratzer, A. (2006). Decomposing attitude verbs. *Unpublished Ms, UMass Amherst*.

Kratzer, A. (2012). *Modals and conditionals: New and revised perspectives*, volume 36. Oxford University Press.

Larsson, I. (2014). Choice of non-referential subject in existential constructions and with weather-verbs. *Nordic Atlas of Language Structures Journal*, 1(1).

Lasnik, H. (1995). Case and expletives revisited: On Greed and other human failings. *Linguistic inquiry*, pages 615–633.

Laurent, R. (1999). *Past participles from Latin to Romance*, volume 133. University of California

Press.

Lechner, W. (2001). Reduced and phrasal comparatives. *Natural Language & Linguistic Theory*, 19(4):683–735.

Legate, J. A. (2003). Some interface properties of the phase. *Linguistic Inquiry*, 34(3):506–516.

Longenbaugh, N. (2016). Non-intervention and *tough*-movement. In *Proceedings of NELS*, volume 46.

Longenbaugh, N. (2017). Composite A/A′-movement: evidence from English *tough movement*. *Unpublished ms, MIT, http://ling.auf.net/lingbuzz/003604.*

Loporcaro, M. (2016). Auxiliary selection and participial agreement. In Maiden, M., editor, *The Oxford Guide to the Romance Languages*, volume 1. Oxford University Press.

Mackay, J. (2015). Actuality and fake tense in conditionals. *Semantics and Pragmatics*, 8:12–1.

Marantz, A. (1984). *On the Nature of Grammatical Relations.* MIT Press.

Marantz, A. (1991). Case and licensing. In Westphal, G., Ao, B., and Chae, H.-R., editors, *Proceedings of the 8th Eastern States Conference on Linguistics (ESCOL 8)*, pages 234–253. Columbus: Ohio State University: Department of Linguistics.

Marti, L. (2017). Inclusive plurals and the theory of number. *Ms.*

McCloskey, J. (1991). There, it, and agreement. *Linguistic Inquiry*, 22(3):563–567.

McCloskey, J. (2000). Quantifier float and wh-movement in an irish english. *Linguistic inquiry*, 31(1):57–84.

McCloskey, J. (2002). Resumption, successive cyclicity, and the locality of operations. In Epstein, S. and Seely, T., editors, *Derivation and explanation in the minimalist program*, volume 6, pages 184–226. Oxford: Blackwell.

McConnel-Ginet, S. (1973). *Comparative Constructions in English: A Syntactic and Semantic Analysis.* PhD thesis, University of Rochester.

McDaniel, D. (1989). Partial and multiple wh-movement. *Natural Language & Linguistic Theory*, 7(4):565–604.

McGinnis, M. (2005). On markedness asymmetries in person and number. *Language*, 81(3):699–718.

Meechan, M. and Foley, M. (1994). On resolving disagreement: Linguistic theory and variation – There's bridges. *Language Variation and Change*, 6:63–85.

Meier, C. (2003). The meaning of too, enough, and so. . . that. *Natural Language Semantics*, 11(1):69–107.

Milsark, G. (1974). *Existential Sentences in English.* PhD thesis, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Moltmann, F. (2013). *Abstract objects and the semantics of natural language.* OUP Oxford.

Moravcsik, E. A. (1974). ObjectâĂŞverb agreement. In *Working Papers on Language Universals 15*, pages 25–140.

Moulton, K. (2015). CPs: Copies and compositionality. *Linguistic Inquiry*.

Müller, G. (2010). On deriving CED effects from the PIC. *Linguistic Inquiry*, 41(1):35–82.

Munn, A. (1993). *Topics in the Syntax and Semantics of Coordinate Structures.* PhD thesis, University of Maryland.

Napoli, D. J. (1983). Comparative Ellipsis: A Phrase Structure Account. *Linguistic Inquiry*, 14:675–694.

Nathan, G. S. (1981). What's these facts about? *Linguistic inquiry*, 12(1):151–153.

Nevins, A. (2007). The representation of third person and its consequences for person-case effects. *Natural Language & Linguistic Theory*, 25(2):273–313.

Nevins, A. (2011). Multiple agree with clitics: Person complementarity vs. omnivorous number. *Natural Language & Linguistic Theory*, 29(4):939–971.

Nomura, M. (2005). *Nominative Case and AGREE(ment)*. PhD thesis, University of Connecticut.

Obenauer, H.-G. (1992). L'interpr etation des structures wh et l'accord du participe pass e. In Obenauer, H.-G. and Zribi Hertz, A., editors, *Structure de la Phrase et Th eorie du Liage*. Presses Universitaires de Vincennes.

Obenauer, H.-G. (1994). *Aspects de la syntaxe A′*. PhD thesis, University of Paris 8.

Ouhalla, J. (1993). Subject-extraction, negation and the antiagreement effect. *Natural Language & Linguistic Theory*, 11(3):477–518.

Pancheva, R. (2006). Phrasal and clausal comparatives in slavic. In *Formal approaches to Slavic linguistics*, volume 14, pages 236–257. Citeseer.

Partee, B. (1987). Noun phrase interpretation and type-shifting principles.

Pesetsky, D. (1991). Zero Syntax: Vol. 2-Infinitives. *Unpublished manuscript available at http://web.mit.edu/afs/athena.mit.edu/org/l/linguistics/www/pesetsky/infins.pdf*.

Pesetsky, D. (2019). Exfoliation: towards a derivational theory of clause size. *Unpublished ms. MIT*.

Pesetsky, D. and Torrego, E. (2001). T-to-C movement: Causes and Consequences. In Kenstowicz, M., editor, *Ken Hale: A life in language*, pages 355–426. MIT PRess.

Pinto, M. (1997). *Licensing and interpretation of inverted subjects in Italian*. PhD thesis, Massachusetts Institute of Technology.

Polinsky, M. and Potsdam, E. (2001). Long-distance agreement and topic in tsez. *Natural Language & Linguistic Theory*, 19(3):583–646.

Pollock, J.-Y. (1989). Verb movement, universal grammar, and the structure of ip. *Linguistic inquiry*, 20(3):365–424.

Postal, P. M. (1994). Parasitic and pseudoparasitic gaps. *Linguistic Inquiry*, 25(1):63–117.

Postal, P. M. and Pullum, G. K. (1988). Expletive noun phrases in subcategorized positions. *Linguistic Inquiry*, 19(4):635–670.

Potsdam, E. and Runner, J. (2001). Richard returns: Copy raising and its implications. *Proceedings of CLS*, 37:453–468.

Potts, C. (2002). The Lexical Semantics of Parenthical-as and Appositive-which. *Syntax*, 5(1):55–88.

Preminger, O. (2009). Breaking agreements: Distinguishing agreement and clitic doubling by their failures. *Linguistic Inquiry*, 40(4):619–666.

Preminger, O. (2011). Asymmetries between person and number in syntax: a commentary on Baker's SCOPA. *Natural Language & Linguistic Theory*, 29(4):917–937.

Preminger, O. (2014). *Agreement and its failures*, volume 68. MIT Press.

Pullum, G. (1987). Implications of English extraposed irrealis clauses. In *Proceedings of the Fourth Eastern States Conference on Linguistics*, pages 260–270. The Ohio State University, Columbus, Ohio.

Åfarli, T. (2009). Passive participle agreement in norwegian dialects. *Groninger Arbeiten zur Germanistischen Linguistik*, 49:167–181.

Rezac, M. (2006a). The interaction of th/ex and locative inversion. *Linguistic Inquiry*, 37(4):685–697.

Rezac, M. (2006b). On tough-movement. In Boeckx, C., editor, *Minimalist essays*, pages 288–325. Amsterdam: Benjamins.

Rezac, M. (2008). Phi-Agree and theta-related Case. In Harbour, D., Adger, D., and Béjar, S., editors, *Phi theory: Phi-features across interfaces and modules*, pages 83–129. Oxford: Oxford University Press.

Rezac, M. (2013). Case and licensing: evidence from ECM+DOC. *Linguistic Inquiry*, 44(2):299–319.

Richards, M. D. (2005). *Object shift and scrambling in North and West Germanic: A case study in symmetrical syntax.* PhD thesis, University of Cambridge.

Richards, M. D. (2007). On feature inheritance: An argument from the Phase Impenetrability Condition. *Linguistic Inquiry*, 38(3):563–572.

Rizzi, L. (1982). *Issues in Italian syntax.* Foris Publications, Dordrecht, Holland.

Romero, M. (2014). 'Fake Tense' in Counterfactuals: A Temporal Remoteness Approach. In *The art and craft of semantics: A festschrift for Irene Heim*, volume 2, pages 47–63.

Rosenbaum, P. S. (1967). *The grammar of English predicate complement constructions.* MIT Press, Cambridge, Massachusetts.

Ross, H. (1984). Inner islands. In *Annual Meeting of the Berkeley Linguistics Society*, volume 10, pages 258–265.

Ruys, E. (2010). Expletive selection and CP arguments in Dutch. *The Journal of Comparative Germanic Linguistics*, 13(2):141–178.

Sag, I. A. (1976). *Deletion and logical form.* PhD thesis, MIT, Cambridge, MA.

Sauerland, U. (2003). Intermediate adjunction with A-movement. *Linguistic Inquiry*, 34(2):308–314.

Sauerland, U., Anderssen, J., and Yatsushiro, K. (2005). The plural is semantically unmarked. In Kepser, S. and Reis, M., editors, *Linguistic evidence*, pages 413–434. Mouton de Gruyter Berlin.

Schueler, D. (2016). Factivity and Complement-Types. *Studia Linguistica*, 70(3):297–335.

Schütze, C. T. (1999). English expletive constructions are not infected. *Linguistic inquiry*, 30(3):467–484.

Sharvit, Y. (1999). Functional relative clauses. *Linguistics and Philosophy*, 22(5):447–478.

Sheehan, M. (2010). 'Free' inversion in Romance and the Null Subject Parameter. In Holmberg, A. and Roberts, I., editors, *Parametric variation: Null subjects in minimalist theory*, pages 231–261. Cambridge University Press.

Sigurðsson, H. Á. (1996). Icelandic finite verb agreement. *Working papers in scandinavian syntax*, 57.

Sigurðsson, H. Á. (2008). The case of pro. *Natural Language & Linguistic Theory*, 26(2):403–450.

Sigurðsson, H. Á. and Holmberg, A. (2008). Icelandic dative intervention: Person and number are separate probes. *Agreement restrictions*, pages 251–280.

Smallwood, C. (1997). Dis-agreement in Canadian English existentials. In *Proceedings of the 1997 Annual Conference of the Canadian Linguistic Association*, pages 227–238. Calgary Working Papers in Linguistics, University of Calgary.

Sobin, N. (1997). Agreement, default rules, and grammatical viruses. *Linguistic inquiry*, pages 318–343.

Sobin, N. (2014). Th/Ex, Agreement, and Case in expletive sentences. *Syntax*, 17(4):385–416.

Sparks, R. B. (1984). Here's a few more facts. *Linguistic Inquiry*, 15(1):179.

Spector, B. (2007). Aspects of the pragmatics of plural morphology: On higher-order implicatures. In Sauerland, U. and Stateva, P., editors, *Presupposition and implicature in compositional semantics*, pages 243–281. Springer.

Sportiche, D. (1996). Clitic constructions. In Rooryck, J. and Zaring, L., editors, *Phrase structure and the lexicon*, pages 213–276. Kluwer.

Stalnaker, R. (1968). A theory of conditionals. In Rescher, N., editor, *Studies in logical theory (American Philosophical Quarterly Monograph Series 2)*, pages 98–112. Oxford: Blackwell.

Stowell, T. (1978). What was there before there was there. In *Papers from the... Regional Meeting. Chicago Ling. Soc. Chicago, Ill.*, volume 14, pages 458–471.

Stowell, T. (1981). *Origins of Phrase Structure.* PhD thesis, Massachusetts Institute of Technology.

Stowell, T. (1987). As so, not so as. *Ms.*

Takahashi, S. and Fox, D. (2005). MaxElide and the re-binding problem. In *Proceedings of SALT*, volume 15, pages 223–240.

Thompson, A. (2012). Deriving some properties of protasis-referring conditionals. In *Proceedings of the 29th West Coast Conference on Formal Linguistics*, pages 250–258.

Thráinsson, H. (2007). *The syntax of Icelandic*. Cambridge: Cambridge University Press.

Valentine Bordal, H. (2017). Negation of existential predications in swedish: A corpus study.

van Urk, C. (2015). *A uniform syntax for phrasal movement: A case study of Dinka Bor*. PhD thesis, Massachusetts Institute of Technology.

Van Urk, C. and Richards, N. (2015). Two components of long-distance extraction: Successive cyclicity in dinka. ms. *Linguistic Inquiry*.

Vikner, S. (1995). *Verb movement and expletive subjects in the Germanic languages*. Oxford University Press.

von Fintel, K. and Iatridou, S. (2019). Prolegomena to a theory of X-marking. *Unpublished Ms.*

Ward, G. and Birner, B. (1995). Definiteness and the English existential. *Language*, pages 722–742.

Williams, E. (1974). *Rule Ordering in Syntax*. PhD thesis, MIT.

Williams, E. S. (1977). Discourse and logical form. *Linguistic inquiry*, 8:101–139.

Wu, D. (2018). Ellipsis as a diagnosis of movement in the expletive there construction. *Ms. MIT*.

Wurmrband, S. (2015). Restructuring cross-linguistically. In Özyildiz, D. and Bui, T., editors, *Proceedings of the North Eastern Linguistics Society Annual Meeting 45*, pages 227–240. University of Massachusetts, GLSA.

Zaenen, A. and Maling, J. (1984). Unaccusative, passive, and quirky case. In *Proceedings of the Third West Coast Conference on Formal Linguistics*, volume 3.