Icelandic Morphosyntax and Argument Structure

by

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A dissertation submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

Department of Linguistics

New York University

May, 2012

Alec Marantz — Advisor

Dedication

To my mother, Mary Wood-Gauthier.

Acknowledgments

I owe a huge debt of gratitude to many people, starting with my advisor, Alec Marantz. I started taking classes with Alec from the first semester I was here, when Amanda Dye, Inna Livitz and I decided to take his morphology class. Alec's classes were as inspiring as they were fascinating. He always managed to make language look even more mysterious than it already did, while simultaneously making a convincing argument that we were making real progress toward understanding it. He was also the perfect advisor, in every capacity. He always found time to meet, and in our meetings, he always hit all the relevant points: from the details of my research, to my progress on writing and updates on submissions, to administrative details in the department. I always looked forward to my meetings with Alec, and I was never disappointed. The lessons I learned from Alec extend far beyond linguistics, and I'll always be grateful for the opportunity to learn from him.

To the rest of my dissertation committee, Chris Barker, Halldór Ármann Sigurðsson, Stephanie Harves, Richie Kayne, I am also deeply indebted.[1] Chris Barker was a wonderful teacher and DGS chair from the start; I can't imagine my first couple of years without Chris around, and I probably would never have attempted to go near semantics if it weren't for him. He always had the most succinct and sound advice, and I almost never knew what he was going to say next. In the past couple of years, he helped me in many ways, from having exactly the right comments during practice talks to helping me contextualize my work on Icelandic syntax within the broader linguistic world.

Naturally, I found Halldór's work through my study of Icelandic syntax, but studying

[1]When I list names in alphabetical order, I will alphabetize Icelanders by their first names, as is done in Iceland.

Halldór's work did much more than teach me about Icelandic (though it did that too, of course!). His work fundamentally changed the way I thought about language, and I still remember where I was sitting when I read his paper "Meaningful silence, meaningless sounds" some years ago. I first met Halldór when our department was lucky enough to have him as a colloquium speaker, and he has been a constant source of support, encouragement and inspiration ever since. I don't know how I'll ever be able to repay him for the amount of time he has spent answering my emails, commenting on my papers, and meeting in person whenever we were in the same place (be it New York, Iceland or Sweden). It has been an enormous priviledge to work with him and learn from him, and I continue to feel humbled and amazed at being able to talk about the details of Icelandic with such an interesting thinker and unbelieveably skilled linguist.

When Stephanie Harves came to NYU in my third year, I started working with her almost immediately. She taught extremely interesting seminars on argument structure, which allowed me to continue work I had started in Alec's classes while at the same time inspiring me to look at more and more challenging topics. Stephanie showed us worlds of puzzles and tantalizing constellations of data extending all across the linguistic globe, and constantly pushed us to find ways to address and appreciate all of it. Much of the work in this dissertation and elsewhere would never have gotten done if it weren't for Stephanie's support. I also learned from her how to be a teacher, when I worked as her Teacher's Assistant for a very memorable undergraduate syntax class. She worked tirelessly with me, treating me like a co-teacher rather than an assistant. I learned more about teaching that semester than any other.

Finally, Richie Kayne has been a constant source of inspiration and critical discussion. His Syntax III class was possibly the most productive single class of my graduate career, and at least several other students felt the same way. He has always challenged me on

my own terms, with fair, hard questions. He makes it impossible to take almost anything for granted; at the same time, he takes you into linguistic territory no one else goes into. The depth and delicate sophistication of Richie's understanding of natural language is astonishing, and it has been an enormous privilege to study with him.

Outside of my committee I want to thank all the other NYU linguistics professors that I learned from or worked with while I was here. First and foremost, I have learned an incredible amount from Chris Collins and Anna Szabolcsi. Chris is an outstanding teacher, and I have been fortunate to have taken many classes with him, from Syntax II, to several seminars, to Field Methods (which he co-taught with John Singler). I continue to work on projects that were inspired by his classes. Anna, in addition to teaching Semantics II (for my year), was kind enough to teach an incredibly memorable seminar on control, the fallout of which has shown up in almost every conversation Neil Myler, Inna Livitz and I have had about syntax since. Anna's comments and criticisms on practice talks and papers were one of the most valuable aspects of studying at NYU. I am also grateful to Mark Baltin for working with me on the argument structure 'bounded sources' for a long, interesting time; to Paul Postal, for some great meetings and for taking the time to give us a mini-course on Arc Pair / Metagraph Grammar; to Liina Pylkkänen for teaching me the basics of Neurolinguistics and involving me in her lab's experimental work for my first couple of years at NYU; and to Philippe Schlenker for being such an outstanding semantics teacher, and such an enthusiastic researcher. Outside of syntax/semantics, I want to thank Adamantios I. Gafos, Maria Gouskova, Greg Guy and John Singler, with a special thanks to John Singler for chairing my first qualifying paper and for the Field Methods class he taught with Chris Collins.

I would also like to thank everyone who shared my time at NYU with me. First and foremost, Amanda Dye and Inna Livitz, the other two students from my cohort, shared an

office with me for five years, and I am grateful for every bit of it. From every Simpson's trivia question (where Amanda almost always beat me), to every time we closed the doors to talk about whatever it was that we didn't want other people to hear; from every statistics exam to every anxious or joyful moment we shared. I will really miss you two! I also owe a special thank you to Simon Charlow, who joined our office three years ago, for helping me with semantics on so many occasions, and for providing many, many laughs over the past few years. Special thanks also to Tricia Irwin, Inna Livitz, and Neil Myler for meeting up in the pub every week to talk about syntax; I'll probably miss that more than almost anything else. Thanks to all the other syntax and semantics folks, who made NYU such an exciting place to study syntax, including especially Eric Besson, Jon Brennan, Andrea Cattaneo, Dan Lassiter, Tom Leu, Tim Leffel, Lisa Levinson, Laziz Nchare, Txuss Martín, Salvador Mascarenhas, Laura Rimell, Oana Săvescu, Mike Solomon, Violeta Vázquez-Rojas, and more recently Meera Saeed Al Kaabi, Ruth Brillman, Itamar Kastner, Jeremy Kuhn, K-C Jason Lin, Katie Wallace, Linmin Zhang, and Vera Zu. Thanks to all the others who made NYU so wonderful and interesting, including Maryam Bakht, Carina Bauman, Kara Becker, Vincent Chanethom, Elizabeth Coggshall, Suzanne Dikker, Danny Erker, Nicole Holliday, Sangjin Hwang, Sang-Im Lee, Kim Leiken, Tal Linzen, Sean Martin, Timothy Mathes, Tuuli Morrill, Luiza Newlin-Lukowicz, Emily Nguyen, Jennifer Nycz, Marcos Rohena-Madrazo, Kevin Roon, Allison Shapp, Cara Shousterman, Daniel Szeredi, Mike Taylor, James Whang, and Amy Wong.

After my linguistic home at NYU, I owe my most immediate thanks for this dissertation to the Icelanders (in addition to Halldór) who helped make it happen. I started studying Icelandic when I was in the Air Force stationed in Keflavík, Iceland, where I worked as a rescue helicopter crew chief. Studying Icelandic while I was there is what ultimately led me to linguistics. Most recently, I have been able to conduct research in

Iceland with the support of a Leifur Eiríksson Foundation Fellowship.[2] In my recent trips to Iceland, I owe a special thanks to Einar Freyr Sigurðsson for hours and hours of fascinating discussions, which, in a way, defined my trips to Iceland. Einar's subtle and astute observations about Icelandic are unlike anyone else's that I've met. I also owe a special thanks to Jóhannes Gísli Jónsson, for agreeing to sponsor me in my trips to Iceland, for being so supportive and encouraging during those trips, and for being so generous with his time. Thanks to Anton Karl Ingason for helping me get started on some of my earliest research projects on Icelandic; to Ásgrímur Angantýsson for all the great conversations in Reykjavík coffee shops; to Eiríkur Rögnvaldsson for all the subtle, important observations that no one else made; to Hlíf Árnadóttir for talking about so many sentences in such detail at some very crucial times (and for saving me and Einar from having to walk home from Háma in the snowstorm!); to Höskuldur Þráinsson for many careful discussions of Icelandic sentences, for contextualizing the development of the study of Icelandic syntax, as well as for all the interesting stories and anecdotes that he is famous for; to Kristín Jóhannsdóttir for the great conversations about semantics and Icelandic in my most recent trip (I look forward to more!); to Sigríður Sigurjónsdóttir for her enthusiastic support and help, and for having me over for dinner with Joan Maling; to Theódóra Torfadóttir for helping me with one of my first projects on Icelandic; and to Þórhallur Eyþórsson for many interesting meetings that extended far beyond my dissertation work into areas I hope to study in the next few years. While we are in Iceland, thanks also to Matthew Whelpton, for his comments on my work on several occasions, including a memorable conversation about denominal *-st* verbs in Háma. And it only feels right, at this point, to thank Joan Maling for the great conversations in Germany and at Sigga's place in Iceland.

[2]Huge thanks to the Leifur Eiríksson Foundation for making this possible, and to Björg Jóhannsdóttir for originally suggesting that I apply! I can't imagine what this dissertation would have looked like without the work I was able to do in Iceland.

Joan is something of a hero of mine, so it is always an honor to talk to her. Going further back a couple of years, I owe an enormous debt of gratitude to the non-linguist Icelanders who patiently worked with me in New York City for many meetings of many hours, including Hallvarður Ásgeirsson, Júlía Hermannsdóttir, and especially Björg Jóhannsdóttir and Erla Skúladóttir. Working with Björg and Erla (though I don't know if they have ever met!) built the empirical foundation for the work in this thesis and a number of other projects. On more than one occasion, their observations drastically changed the direction of my research. Björg also introduced me to what became one my favorite coffee shops to work in in NYC. Ég get ekki þakkað ykkur nægilega mikið!

In the past few years, NYU has had a lot of visitors who helped me in various important ways (whether they realize it or not), including David Adger, Gabriela Alboiu, Judy Bernstein, Eefje Boef, Joan Bresnan, Jeroen van Craenenbroeck, Daniel Harbour, Anders Holmberg, Dalina Kallulli, Jason Kandybowicz, Ivona Kučerova, Sophia Malamud, Lucie Medova, Dennis Ott, Tom Roeper, Poppy Slocum, Gabriela Soare, Edward Stabler, Adam Szczegielniak, Tarald Taraldsen, Arhonto Terzi, and Christina Tortora. Thanks to David Adger and Daniel Harbour for the series of talks on φ-features, argument structure and phrase structure that they gave at NYU in April 2011. It was an incredible and stimulating experience, one that continues to inform the way I think about language. I expect to engage more directly with their work in the future than I was able to in this dissertation. Thanks also to Dalina Kallulli for many interesting and helpful conversations about argument alternations and non-active voice in Albanian.

There are a number of linguists outside of NYU who I have learned from and interacted with in various ways, and who have helped me tremendously or provided great conversations along the way, including Jessica Coon, Marcel Den Dikken, Vera Dvorak, Dave Embick, Josef Fruehwald, Andrew Garrett, Lisa Green, Heidi Harley, Gary Holland,

Larry Horn, Norbert Hornstein, Alexandra Ioannidou, Gianina Iordachioaia, Michelle Johnson, Jóhanna Barðdal, Tony Kroch, George Lakoff, Oksana Laleko, Howard Lasnik, Julie Legate, Christen Madsen, Jean-Philippe Marcotte, Sam Mchombo, Line Mikkelsen, Edmund O'Neill, Teresa O'Neill, Alexander Pfaff, Jeremy Rafal, Henrik Rosenkvist, Sara Schmelzer, Hooi Ling Soh, Eve Sweetser, Christina Tortora, Matthew Tucker, Joel Wallenberg, Alexander Williams, Charles Yang and Raffaella Zanuttini. Going to NYU comes with the benefit that you can go right up the street to CUNY and take classes with Marcel Den Dikken. Marcel's classes were always engaging, fast-paced, and intensely interesting. He is a great teacher, and a brilliant syntactician, and I am fortunate to have had the chance to learn from him. Thanks to the folks at Lund University for making my visit there in November 2011 so memorable, especially Verner Egerland, Halldór Sigurðsson, Marit Julien, Christer Platzack and Dominika Skrzypek. Thanks to Artemis Alexiadou, Marcel Pitteroff, Florian Schäfer for inviting me to Stuttgart and working with me there. I actually owe a special thanks to Artemis, whose 2007 LSA Summer School class on unaccusativity planted the seed that eventually grew into this dissertation.[3] I hope that the influence of Florian Schäfer's work on this dissertation is obvious, but if not, let me state outright that his work provided the primary model and most direct or immediate inspiration for the approach pursued here. Thanks to Peter Svenonius, for his fascinating LSA Summer School class on prepositions in 2007, which ultimately inspired huge portions of this thesis, as well as for extremely interesting discussions in Iceland in August 2011.

I want to mention two people who we lost during my time as a graduate student, because I will never forget them, here or elsewhere. The first is Kyle Major, our friend and colleague at NYU. The best way I can think of to describe Kyle is to mention the

[3]Peter Svenonius's class on prepositions that same summer should get its due credit here as well, though I didn't notice the connection between the two until several years later, while working with Björg and Erla.

time he bought me a helicopter lego set for my birthday; I haven't touched a lego since I was a kid, but I did fix helicopters in the military for five years. That's the kind of person Kyle was—thoughtful, quirky, and full of surprises. I'll never forget him; he made life at NYU better. The second is Gunnar Hrafn Hrafnbjargarson, who I never met in person. Gunnar was one of the first linguists I interacted with outside of my home university (which was University of New Hampshire, at the time), and he was the first Icelandic linguist I was ever in touch with. I'll always feel grateful to him; he helped me on numerous occasions, and given the number of times I've seen him cited in footnotes for personal communications, I clearly wasn't alone. Gunnar was a hard working linguist and his presence continues to reverberate through the field that he gave so much to, even beyond his own papers.

Thanks to everyone who has worked on collaborative projects with me over the years, including Mark Baltin, Hélène Blondeau, Chris Collins, Einar Freyr Sigurðsson, Stephanie Guitard, Halldór Ármann Sigurðsson, Inna Livitz, Neil Myler, Naomi Nagy, Liina Pylkkänen, Oana Săvescu and Jason Shaw. I'm lucky to have worked with you. Thanks to Larry Horn and Raffaella Zanuttini for involving me in the LSA 2011 workshop on grammatical variation in North American English. Thanks to our department administrators, Aura Holgin and Teresa Leung, for helping me with so many different kinds of issues, so many times. Thanks to the linguists that got me started at the University of New Hampshire, namely Naomi Nagy, Shelly Lieber, and Mary Clark. I would never have ended up at NYU in the first place if it weren't for them. I owe Naomi in particular a debt of gratitude for continuing to work with me throughout my first few years at NYU.

Finally, thanks to my family for really being there for me these past few years. To my brother John, what can I say? It's been amazing living next to each other for so long.

You're the most insightful person I've ever met, and it's impossibe to describe what it's like for me to have like you for a counterpart, knowing exactly where I am coming from but providing a 'second lens' to filter everything through. Thank you for everything. To my sister Joanne, you'll never know what it's been like for me and John to have you in our lives. You are brilliant and hardworking, and frighteningly, just like us in most ways! (Not without some amusing, and surprising twists though!) Me and John cherish every minute we spend with you, and your support has meant everything to me. To our mother, Mary Wood-Gauthier, to whom this dissertation is dedicated, you are the reason I bother to do anything. Some of my friends have joked that serving in the military gave me my work ethic, but the truth is, if I have any work ethic at all, it comes from watching my mother do the impossible, all the way through her MSN (had to say it!). You amaze everyone who knows you, Mom, and this thesis, along with everything else I do, belongs to you. Thanks to my father for all of his support, too, and for all the great conversations and debates over the years. Thanks to the rest of my family, especially to the Corkery clan, to Aunt Jo and Uncle Rocky, and to Pete and Mike: the warmth of a Ricci house isn't matched anywhere else. Thanks to Melinda for being a wonderful friend all the way back to our Dover days; thanks for the conversations about everything from language (including sentence judgments!), to music, to dogs and other mammals—and thanks for helping us get our dog Jack, another patient family member who has always been there for me! Thanks to Andrei, Olga, and Katie, for being far more supportive than I could have imagined. Finally, to my wife Julia, the person I've shared my life with since before I ever applied to graduate school. Thank you for challenging me, teaching me, and inspiring me; for every time I was stressed about something or other; for making me laugh at will; for 'making the rules' with me; for your honesty; for being so driven, so creative, and so smart; for being my friend. Thank you for being the center of my life.

Abstract

This dissertation is about the elements that build verbs, the elements that introduce arguments, and how these elements interact to determine the interpretation of arguments and events. A theory of argument structure is a theory how arguments are introduced syntactically, interpreted semantically, and marked morphologically, and how this information is linked to predicates and their morphological shape. Through a detailed empirical study of Icelandic verbal alternations, this dissertation contributes to a line of research in which much of the work of argument structure is handled by the syntax, the component of language responsible for combining elements into larger structures, rather than a pre-syntactic lexicon.

The major theoretical contribution of this thesis is a syntactic theory of argument structure which is much more syntactically autonomous than its closest relatives. The system proposed shares with construction-based approaches to argument structure the assumption that structures generate meanings independent of the lexical roots embedded in them. That is, lexical roots play a secondary role in effecting argument structures. However, it differs from most syntactic approaches in that the syntax is far less deterministic of semantics, much as late insertion theories of morphology take syntax to underdetermine morphophonology.

In the present theory, syntactic structure may underdetermine interpretation in three ways. First, a functional head may be compatible with multiple 'allosemes', or denotations, which are decided post-syntactically on the basis of surrounding material. The categorial v head, for example, may have the interpretation of an activity or a cause (among other possible interpretations), depending on the interpretation of its complement. Second, a DP may be interpreted as an entity, or may be type-shifted to be interpreted as a

(stative) eventuality. Third, a lexical root is associated with a web of possible semantic contributions, but the selection from among them is made on the basis of surrounding structure, after such structure has been built.

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Chapter 1

Introduction

At the broadest level, this is a study of the division of labor between syntax and semantics, viewed through the lens of Icelandic argument structure. Syntax is understood as the system which combines elements into larger structures and establishes dependencies among those elements, while semantics is understood as the system which interprets the structures and dependencies built in the syntax. Studying the division of labor between those two systems comes with the inherent difficulty that we cannot directly 'see' either one. What we 'see' of language is strings, which are idealizations of the phonetic realizations of sentences. From these strings we can induce certain structural analyses and find ways to relate these structural analyses to speakers' intuitions about the meanings they seem to generate.

It is hard to really know what information to attribute to the syntax and what information to attribute to the semantics. One possible view is that the syntax is entirely deterministic. For every semantic distinction, we assume that there is some syntactic diacritic instructing the semantic component to make that distinction. The strongest view of this determinism would hold that every aspect of meaning, from the functions marking thematic and scopal relations, to connotations of individual lexical items, to their appro-

priateness of use in a language community, would be encoded directly in the syntactic system to provide unambiguous interpretations at all levels. Surface strings could still be ambiguous, but every minute difference in meaning would correspond to a difference in structure, even if the difference were as small as an extra diacritic on some element.

Most researchers who take a deterministic view of the syntax-semantics interface do not hold this strongest view, but rather allow at least some aspects of meaning, such as connotation, metonymy, certain felicity restrictions, etc., to be determined by systems which are outside the combinatorial syntax. On this view, only certain types of meaning are deterministic. For example, thematic relations and aspectual distinctions might be marked with unique diacritics in the combinatorial syntax, but, say, connotation would not. This view is compatible with a number of views of where 'connotation' arises, as discussed by Ramchand (2008:12ff.). Ramchand (2008:15) shows connotation with lexical entries, so that next to the information that says that the English verb *run* is an activity—which directly affects the syntax of the verb *run*—is the information that associates running with exercise, boredom, heart attacks, etc.[1]

However, this associative meaning plays no direct role in her syntactic system; it sits with the verb as it combines with elements in the syntax, and then comes into play presumably after the syntax is finished and the sentence is interpreted. She describes her conception of the lexical item as follows:

> [...] each lexical item is a bundle of information in radically different modalities (phonological, articulatory, syntactic, conceptual and even personal/associational) in some kind of memorized association. In terms of meaning, the lexical item contributes a huge store of conceptual and encyclopedic con-

[1]For Ramchand, *run* is an activity by being specified to associate syntactically with two verbal heads, Proc and Init (Ramchand 2008:195) (on which see below).

> tent, but it is the syntactic feature information that allows that content to be accessed and deployed within a linguistic computational system. (Ramchand 2008:58)

The reason that associative semantic properties play no role in the syntax in her system is presumably that they do not interact in any special way with the combinatory system. While 'boredom' may well be associated with running, we never see special morphology reflecting 'boredom' nor syntactic properties restricting 'boring' verbs; 'boring' verbs have no special selectional properties, nor are there any restrictions baring 'boring' verbs from, say, VP-fronting.

There is a sense in which storing such information in the lexical entry for *run* is deterministic, since it might be thought of as giving explicit instruction to the semantics; but in practice, this information is not doing any real work in Ramchand's system. If she decided to allow the semantic component to scan the lexical items post-syntactically to determine connotative meaning, nothing important would change in her system. In this sense, her system, like most others, distinguishes between semantically deterministic syntactic information, such as the information determining aspectual semantics, and other meaning, such as the association of running with boredom. The information that ultimately makes *run* an activity, however, could not be removed from her system without consequence since this information not only gives explicit instructions to the semantics, but also plays a direct role in the combinatorial syntax, allowing *run* to combine with some elements and not others. It may be that her analyses could be recast in a system that scans the structure, determines it is an activity structure, and then determines that the meaning of *run* is appropriate for this structure, but this would be a non-trivial change for her theory.

In Distributed Morphology (DM) (as well as other systems), the meaning associat-

ing running with boredom is referred to as ‘encyclopedic’ knowledge. The encyclopedia refers to the interface between the semantics of linguistic expressions and world knowledge. Borer (2005a,b) also makes crucial use of the encyclopedia, within what she refers to as the ‘exo-skeletal’ (XS) model. For her, encyclopedic meaning is post-syntactic; the grammatical system is rigid, and generates syntactic expressions which get a semantic interpretation independent of the conceptual properties associated with the lexical words or roots embedded in those expressions.

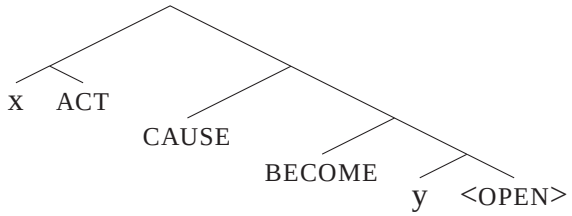
> Within an XS-model, then, the particular final meaning associated with any phrase is a combination of, on the one hand, its syntactic structure and the interpretation returned for that structure by the formal semantic component, and, on the other hand, by whatever value is assigned by the conceptual system and world knowledge to the particular listemes embedded within that structure. These listemes, I suggest, function as modifiers of that structure. (Borer 2005a:9)

For Ramchand, the lexical item is the formal link between a web of conceptual properties and the semantics contributed by the syntactic structure, while for Borer, the ‘listeme’ does not serve this function directly, but rather serves as a modifier of the semantics contributed by the syntactic structure.

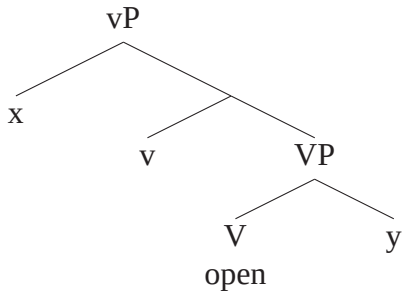
The systems in DM, Ramchand, Borer, and others, address the question of the syntax/semantics division of labor with respect to what has previously been attributed to the lexicon. They are arguing against a system where rich, structured lexical representations determine the syntactic representation, which in turn may then determine the semantics, in part on the basis of the syntax itself and in part on the basis of the semantic properties of the lexical items. Instead, they argue that rich syntactic representations determine the semantics. There are a number of reasons for this shift. Perhaps one of the strongest

reasons is that the structured lexical entries of lexicalist theories tend to mirror the syntax so closely in the first place that the projection of lexical items into the syntax results in a redundancy of structure. For example, a structured lexical entry for a causative verb *open* might have a lexical entry as in (1a) (taken from Rappaport Hovav and Levin 1998:108) projecting minimally onto a syntactic structure as in (1b), given widely-adopted assumptions about verb phrase structure since at least Chomsky (1995) and Kratzer (1996).

(1) a.



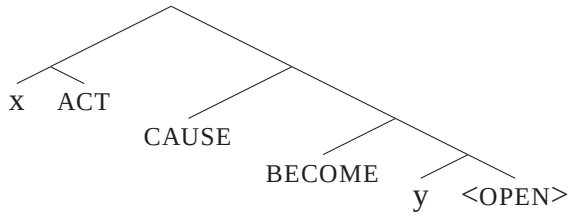
b.



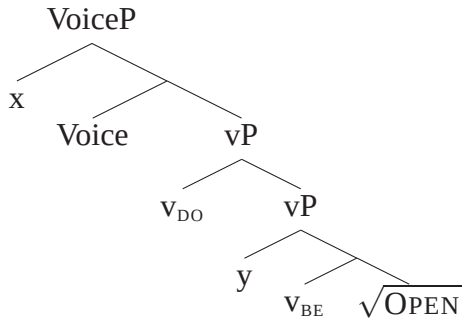
The structures are already extremely similar. In both cases x is structurally higher than y, and there are at least two heads between them. Further, the structure in (1a) exists for a large number of verbs, and so exists independently of *open*, which is also the root of the adjective *open*. If we think of *open* as being inserted in the appropriate slot in (1a), then there is a sense in which the root and category are independent of each other on even a lexicalist theory. That is, the root $\sqrt{\text{OPEN}}$ exists independently of the category 'V', and 'V' is a category without the root $\sqrt{\text{OPEN}}$. This observation lends plausibility to the hypothesis that complex lexical structure simply is syntactic structure. Hale and Keyser (1993) pursue this hypothesis in a somewhat conservative form. They assume a 'l(exical)-syntax' which operates in the lexicon, but with the same principles as 's-syntax' (for 's-structure syntax'). Some work in this tradition posits syntactic structures that resemble the

structured lexical entries of the sort in (1a) very closely. For example, Cuervo's (2003:26) analysis of causatives makes use of subcategories of v, as shown in (2b).[2]

(2) a.



b.



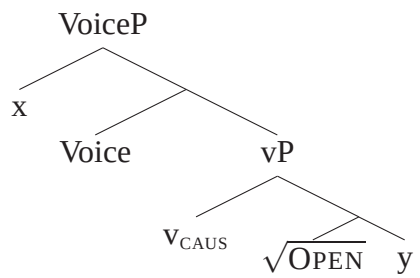
In Cuervo's structure, Voice introduces an external argument, potentially an agent, and v_{DO} is an activity light verb which expresses causation when its complement is stative. The stative complement is headed by another light verb, v_{BE}, which combines with the lexical root $\sqrt{\text{OPEN}}$ and the internal argument ('y'). There are some differences between this and the structure in (2a). The v_{DO} in (2b) corresponds to both CAUSE and BECOME in (2a), and the state expressed by v_{BE} in (2b) is implicit in the position of the the root <OPEN> in (2a). However, these are not framework-dependent differences. If one wished, one could propose a syntactic analysis that looks like (2a) or a structured lexical entry that looks like (2b). Both decompose a change-of-state expression into smaller, hierarchically-arranged pieces to reflect a compositional semantics of argument structure. In the various instantiations of the program pursued by Hale and Keyser, Cuervo, Ramchand, Borer, and many others, the claim is that rich lexical representations of the sort in (2a) can be dispensed with, since syntactic structures closer to the sort in (1b) or (2b) can do the work

[2] I replace Cuervo's 'closed' with 'open' and the argument positions with 'x' and 'y'.

of the former and are needed independently.

My purpose here will not be to defend this shift away from structured lexical entries, since it has been defended at length by the above-cited authors, among others. Instead, assuming this shift, I will ask how much information needs to go into the pieces that build syntactic structures such as (2b). For example, we might ask whether the syntax needs access to a privative feature [CAUSE] in order to effect causative semantics. One possibility, invoked in one form or another in recent years, is to say that a subcategory of v, say v_{CAUS}, has features of this sort, and that the admissible structures built with v_{CAUS} are determined by the way that the semantic pieces go together; that is, the deterministic semantics of v_{CAUS} will only be interpretable if v_{CAUS} has the right kind of complement.[3] In this view, the structure of causatives might be as in (3).

(3)



The subcategory v_{CAUS} would have a dedicated semantics, and this semantics would constrain the sort of complements that v_{CAUS} can take; the complement must be stative or eventive, for example. Much of the work in the 'flavors of v' tradition takes this approach (Harley 1995; Embick 1997, 2004; Cuervo 2003; Folli and Harley 2004, 2006).

Another possibility is to say that actually, the syntactic structure has no semantic diacritics like [CAUSE], and the interpretation of the pieces is vastly underspecified; v gets its interpretation based on what is around it within the phase. So if the complement of v is a state or an event, then v will be interpreted as causative. This particular analysis

[3]For example, Ramchand (2008:59) states, "Merge of syntactic features in the wrong order will create gibberish at the interface."

of causative semantics is proposed by Marantz (2009a,b), and in an earlier framework by Hoekstra (1988). Hoekstra (1988), discussing the argument structure of transitives with and without resultative phrases in Dutch, writes:

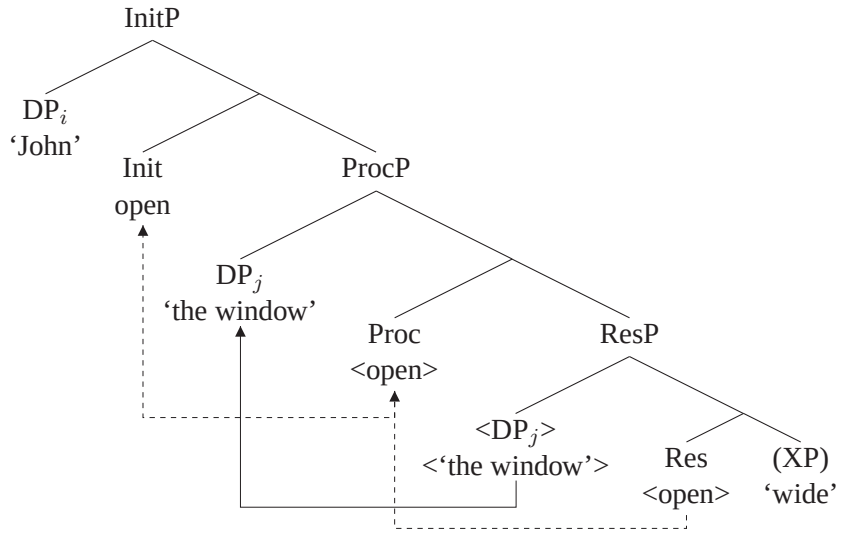
> This approach to verb complementation leads to an analysis in which a verb such as *build* is semantically classified as an activity. The state of affairs resulting from the activity can be represented by either a SC [‘small clause’] or an NP. This is what we find in [(4)]:
>
> (4) a. Jan bouwt [$_{SC}$ de stad vol]
> John builds the city full
>
> b. Jan bouwt [$_{NP}$ een huis]
> John builds a house
>
> From this point of view there is no difference between [(4a)] and [(4b)]. [. . .] The argument structure of *bouwen* [‘build’] is identical in both constructions. It might be represented as ⟨Agent, Result⟩, where, as stated above, ⟨Result⟩ may be structurally represented by either a SC or an NP. However, we may wonder whether it is in fact required to state the argument structure in this way, since as stated above, every activity denoting predicate may be combined with a result denoting complement. (Hoekstra 1988:129-130)

Thus, assuming that this insight should be localized in v, it is v whose interpretation is underdetermined: if its complement denotes a stative result, v is interpreted as ‘CAUS’, otherwise it interpreted as an activity. To the extent that diacritic semantic features such as ‘CAUS’ are predictable by their environment, such features would be thought of as useful notational devices which play no direct syntactic role. This way of doing things is also exploited in part in Cuervo’s structure in (2b). While Cuervo does follow the ‘flavors of v’ approach, and has semantically-motivated subcategories of v, for Cuervo,

v_{DO} is fundamentally an activity verb, which is interpreted as causative when its complement is headed by v_{BE}. Marantz (2009a,b) differs in proposing even less structure, and argues that direct objects themselves can be interpreted as states (much as Hoekstra 1988 anticipated); when they are, v can be interpreted as causative. In this view, the DP in position 'y' in (3) is interpreted as a state (without a dedicated v_{BE} facilitating this), the root $\sqrt{\text{OPEN}}$ names this state, and v is interpreted as causative since its complement is semantically a state.

This kind of contextual interpretation is somewhere between the deterministic interpretation of syntactically encoded features and the associative, non-syntactically deterministic semantics, such as 'boredom' in Ramchand's system. In fact, Ramchand's system has some contextual interpretation of this sort. She posits three core heads in the verbal domain, Init (for 'Initiator'), Proc (for 'Process'), and Res (for 'Result').

(5)



In a sentence like *John opened the window (wide)*, the window is the 'subject of result', so it appears in SpecResP, and it is also the 'subject of process', so it moves to SpecProcP. The agent is the 'subject of initiation', and occupies SpecInitP. The interpretation is that the agent initiates a process on the window which results in the window being open. The verb *open* would be specified to appear in Proc and Res, and could optionally appear in

Init as well.

While Ramchand typically uses these three separate labels, she argues that Init and Res can be thought of as derived interpretations of the same fundamental category (Ramchand 2008:44). She claims that they both express states, and that a state taking a ProcP complement will be interpreted as an 'initiator', while a state that is the complement of Proc will be a 'result state'. She defines a primitive 'leads to' relation, such that each subevent is interpreted as leading to the subevent of its complement: Init leads to Proc, and Proc leads to Res.[4]

This example nicely illustrates a partially deterministic system. In one sense, it is deterministic since she sets it up in a way that gives the semantics no choice. But in another sense, if Init and Res are the same type of element in different places, then the interpretation of this Init/Res element is not determined by its inherent features, but by its features in combination with its position in the syntactic structure. This is similar to the proposal that v_{CAUS} is a derived interpretation of a more general v head, rather than a syntactically distinct subcategory of v.

One could think of a number of considerations to bring to bear on the question of how to decide which features are syntactically encoded (like grammatical category in Ramchand's system), which are not encoded but partially deterministic (like the Init/Res distinction in Ramchand's system) and which are not encoded in a syntactically relevant way at all (like 'boredom' in Ramchand's system). Assumptions about compositionality and the primitive elements of the semantic system might play a role. Considerations of systemic parsimony might also contribute. We might, for example, find a deterministic system to be a priori more desirable, or we might want to try to argue that it captures

[4]More specifically, Init (e_1) leads to a complex event in which Proc (e_2) leads to Res (e_3), so ($e_1 \rightarrow (e_2 \rightarrow e_3)$).

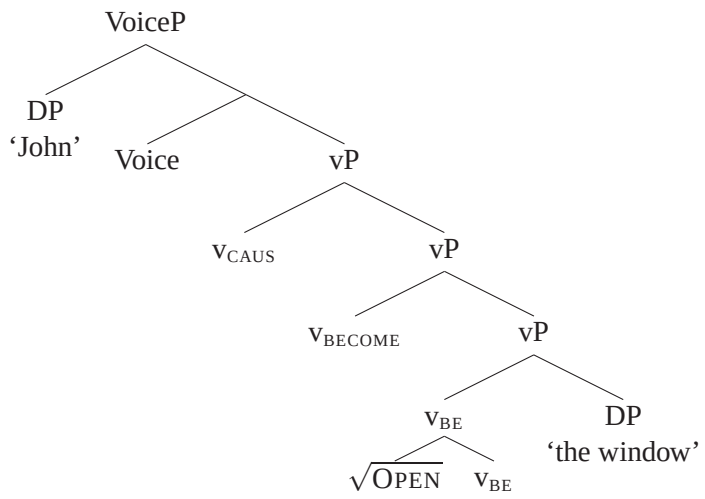
cross-linguistic variation in a more satisfying way.

In the present study, the guiding assumption will be that the elements distinguished in syntax should show up, at least sometimes, in overt morphology, as affixes and function words, for example.[5] From this perspective, we might expect Cuervo's structure in (2b) to have overt reflexes of both v_{BE} and v_{DO}. Very frequently, however, syntactically active elements are silent; past tense T_{PAST}, for example, does not always correspond to an overt affix, though this lack of overtness in no way affects the syntactic behavior of the T head. The 1st person singular form of the Icelandic verb *snerta* 'touch' is *snerti* in both the present and the past tense, but this has no special syntactic consequences; *snerti* 'touch/touched' still, for example, undergoes verb raising in the same way as any other finite verb in Icelandic.

Despite the frequent non-expression of syntactic heads, the expectation that they should be overt sometimes seems to be necessary in the present investigation of the division of labor between syntax and semantics. Methodologically, if certain features or heads were never overt, then the question of whether to put them in the syntax or leave them to the semantics would probably be decided by systemic parsimony over anything else. From the present perspective, if we were to adopt Ramchand's system, we would be led to suppose that we should see a verb with a dedicated RES suffix, followed by a dedicated PROC suffix, followed by a dedicated INIT suffix. Similarly, if we were to take the structured lexical entry given in (1a) above and map it to a syntax with the same heads, we might have a structure such as the following.

[5]They can also show up in the form of non-concatenative morphology; for example, a certain kind of little v head might condition a morphophonological rule on a nearby element.

(6)



If we want to use morphology to ask the question of whether the semantic component needs such explicit syntactic instruction, we would ask whether we ever see morphological stacking such as *open*-BE-BECOME-CAUS-AGENT (where AGENT realizes Voice). The alternative would be the one proposed above: one little v head, which the semantics interprets as 'cause' in certain environments.

In the present study, these questions are addressed through a detailed study of Icelandic morphosyntax. While I will be working within the tradition that takes a syntactic approach to argument structure, I will generally be aiming to do so with fewer categorial heads, and fewer subcategories of those categories. The general proposal will be that just as syntax is underdetermined with respect to the pronunciation of its terminal elements, it is also underdetermined with respect to the interpretation of its terminal elements. The basic model is this: syntax combines elements into complex structures, and at some point (the 'phase'), it spells out the structure, shipping it to both the PF and the LF interfaces. The PF interface determines how to package that structure into a pronounceable string, while the LF interface determines how to package that structure into a meaningful representation. It is still a partially deterministic system, since the categorial features of heads will determine the set of possible interpretations they receive. But more often than not,

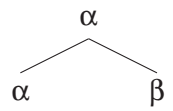
a given functional head will be compatible with more than one interpretation, the choice being governed by the properties of surrounding elements. Lexical roots are systematically different from functional heads, in that their meanings are computed on the basis of the encyclopedic knowledge attached to them in conjunction with the event structure they are embedded in for a given sentence. They are similar to the 'listemes' of Borer (2005b,a), as mentioned above, in that they act as modifiers of independently-built event structural representations. Roots do, however, appear to be restricted to certain syntactic environments and not others, an issue that will be discussed at various points throughout this thesis.

1.1 The Present System

1.1.1 Syntax

In this section I outline the properties of the present system and how they relate to the properties of related systems. The basic architecture I assume draws from the Minimalist Program combined with Distributed Morphology. In this system, there is a syntactic component which combines elements by an operation called 'Merge'. Applying Merge to two syntactic elements α and β yields the set of those elements $\{\alpha, \beta\}$. The label of the set formed will be one of the two elements.[6] Supposing it is α, this is sometimes notated as $\{\alpha, \{\alpha, \beta\}\}$, which is equivalent to an ordered pair, $\langle\alpha, \beta\rangle$. These structures will generally be presented as tree structures in the present thesis.

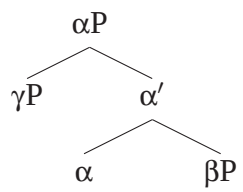
(7)



[6]See Chomsky (2012) for the details of labeling, where however labeling is argued not to be part of Merge, but instead, occur at the phase level. See also the references in footnote 10.

I will make use of bar-level and XP-level labels, but this is for expository reasons only (such as referring in the text to particular nodes), and I do not attach any theoretical significance to them. Thus, for a traditional X′-like structure with a filled specifier and complement, the bare phrase structure $\{\alpha, \{\{\gamma, \{\gamma, \ldots\}\}, \{\alpha, \{\alpha, \{\beta, \{\beta, \ldots\}\}\}\}\}\}$ or its equivalent $\langle\langle\alpha, \langle\beta, \ldots\rangle\rangle, \langle\gamma, \ldots\rangle\rangle$ will be presented in tree form as in (8).

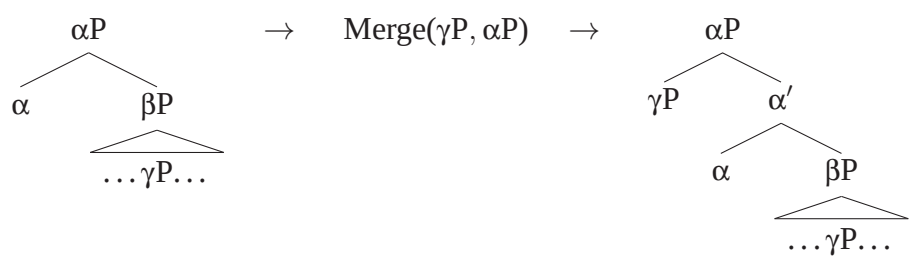
(8)



Despite the notation, what we real construct are sets of terminals, hierarchically arranged. It is that structured set of terminals, whatever features they have, that are sent to the interfaces.

Movement, in this theory, is derived by applying Merge(α, β), where β is contained within within α; this is referred to as Internal Merge, to be contrasted with External Merge, where β does not contain α, nor does α contain β. For example, if γP in (8) has been moved from inside βP, then Merge(γP, αP) has applied, where γP was dominated by βP.

(9)



This is the basic function of the combinatory syntactic system; it combines elements into hierarchical structure by the operation Merge (whether internal or external). Such combinations will be restricted by the properties of the elements involved, such as c-

selection, as will be discussed further below.[7] At a certain point in the derivation, referred to as the 'phase' level, a part of the structure assembled in the syntax will be sent to the interfaces, PF and LF (Chomsky 2007, 2008; Marantz 2007). At PF, spellout rules will determine how to pronounce the terminal nodes of the structure. Within the DM literature, there are a number of rules that operate post-syntactically, and there are a number of debates as to which rules are necessary for the theory. In the present work, the most important post-syntactic rule is Vocabulary Insertion, which determines the morphophonological exponents—the 'allomorphs'—for functional heads on the basis of surrounding structure. I will discuss the theory of Vocabulary Insertion assumed in this thesis in section 1.1.3. I will propose that at LF, semantic component determines the 'semantic exponents'—or 'allosemes'—for functional heads on the basis of surrounding structure. The system I propose for this is outlined in section 1.1.4.

Before presenting the interfaces, however, I turn in the next section to the pieces I assume to be operative in the syntax itself. This will include a basic clausal architecture for the verb phrase level as well as the features and mechanisms I assume to be operative in the syntax.

1.1.2 The Syntactic Pieces

The system developed here is based on the assumption that while certain direct objects are introduced directly by the verb, other arguments are introduced by dedicated, argument-introducing heads (Pylkkänen 2002, 2008). This study will primarily be a study of the categorial v head, which builds verbs and introduces eventive semantics, along with three argument-introducing heads: Voice, p, and Appl. In addition, there will be a special focus

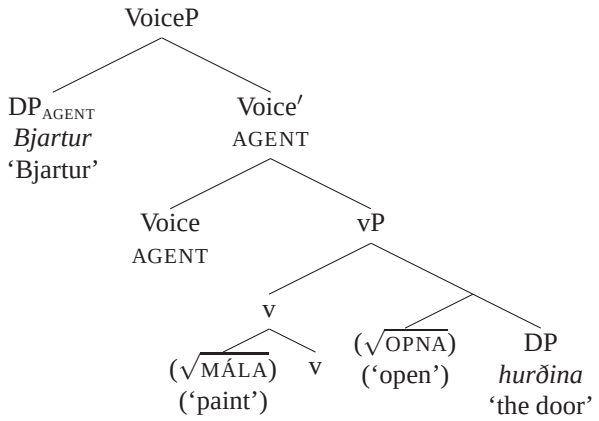
[7] I also assume that the syntactic system establishes dependencies via an Agree relation, as in (Chomsky 2007, 2008), but this will not play major role in the present study.

on two ways of imposing valency reduction. First, each argument-introducing head can merge with a feature demanding that it project a syntactic specifier, or it can remain specifierless. Following Schäfer (2008), this will be annotated with a D-feature, indicating that the head needs a specifier of category 'D'. So next to $\text{Voice}_{\{D\}}$, $\text{Appl}_{\{D\}}$, $\text{p}_{\{D\}}$, which require specifiers, we have $\text{Voice}_{\{\}}$, $\text{Appl}_{\{\}}$, and $\text{p}_{\{\}}$, which do not. Second, for heads that do project a specifier, that specifier can be filled by an expletive-like element that cannot bear any thematic interpretation.

Very roughly, the thematic properties of the argument-introducing heads are as follows. Voice typically introduces external arguments, such as agents; Appl introduces indirect objects and certain experiencers; and p introduces a 'figure', which is the subject of a small clause headed by a locative prepositional phrase. A basic transitive sentence is shown below.[8]

(10) Bjartur { málaði / opnaði } hurðina.
Bjartur.NOM { painted / opened } door.the.ACC
'Bjartur painted/opened the door.'

(11)



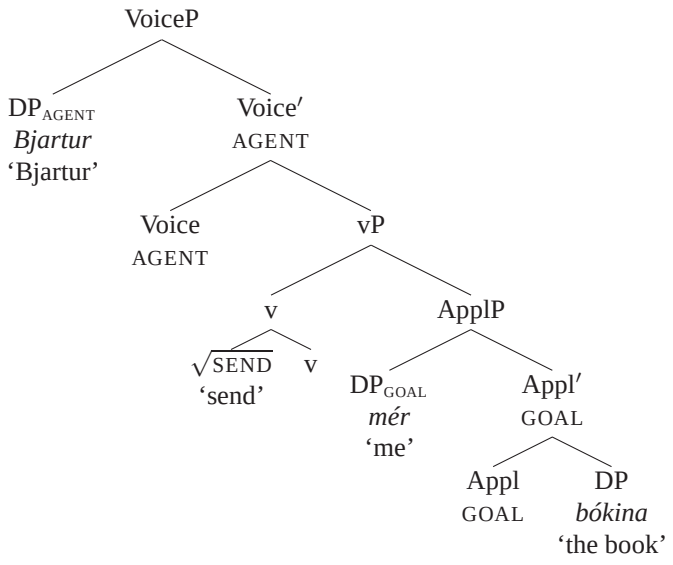
[8] I will, where relevant, list open θ-roles in small caps under the node in whose denotation the role is unsaturated. In such cases, I show subscript the role to the DP which eventually saturates that role at semantics. It is important to keep in mind, however, that in the architecture adopted and argued for here, this is not going on all at once, and there are no thematic 'features' in the syntax.

In this structure, Voice introduces the external argument *Bjartur*. Verbal roots can be merged in one of two places, directly with the v head as with $\sqrt{\text{MÁLA}}$ 'paint', or directly with the direct object DP as with $\sqrt{\text{OPNA}}$ 'open'. The positioning of the roots makes a difference in the details of the analyses to be presented below, but is not specifically crucial to the major claims of this thesis.

The Appl head is shown introducing the indirect object of (12) in (13).

(12) Bjartur sendi mér bókina.
Bjartur.NOM sent me.DAT book.the.ACC
'Bjartur sent me the book.'

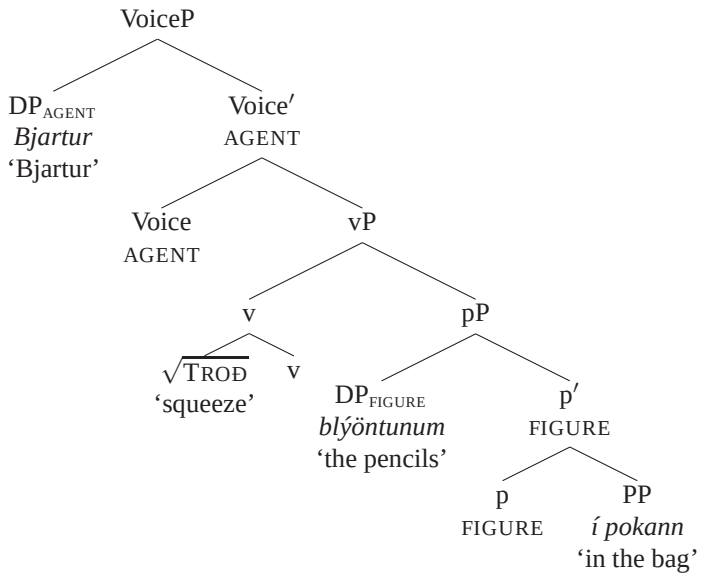
(13)



Here, everything is the same as above, except that Appl introduces a goal argument in its specifier. Finally, the p head is illustrated introducing a 'figure' argument—the external argument of a prepositional phrase—in (15).

(14) Bjartur tróð blýöntunum í pokann.
Bjartur.NOM squeezed pencils.the.DAT in bag.the
'Bjartur squeezed the pencils into the bag.'

(15)



Each head, in principle, may vary with respect to the following properties in (16):

(16) Syntactic Properties of Heads

a. **C-selection**: a head may be specified to select the category of its complement.

b. **Case-selection**: a head may specify a particular case on its complement or specifier.

c. **Specifier requirement**: a head may be specified to take a specifier or not.

These are syntactic properties of heads which are independent of semantics or morphophonology. There may be other purely syntactic properties which can vary for heads, such as the ability to force the head-raising of complement heads (which might be behind verbs like *aðlagast* 'adapt', discussed in §6.5). Similarly, heads might have other features imposing or failing to impose movement dependencies of various sorts. These will, however, play no role in the present thesis.

The proposal I will make for the syntax of the Icelandic system is as follows. Voice, p, and Appl are similar in that they may or may not take a specifier. Appl, however,

differs from Voice and p in that Appl may require its specifier to be dative, whereas p and Voice cannot make any special case demands on their specifiers. The event introducer, v, may have a feature requiring a particular case (dative or genitive) on its object (see §3.3). Finally, the c-selectional properties are such that Voice may select v, and v may select p or Appl. Appl c-selects for a DP complement, and p c-selects for a PP complement. This is summarized in Table 1.1.

A few remarks on the interpretation of Table 1.1 are in order. First, the requirement for a specifier refers to an externally merged specifier, not to an internally merged (moved) specifier. Whether the two types of requirements can be collapsed is an open question. In much work within the Minimalist Program, movement is driven by an [EPP] subfeature of a probe, which is itself a subfeature of a head (Chomsky 2007, 2008; Adger and Svenonius 2011).[9] Second, v stands out with respect to c-selection in selecting a wide array of categories. In fact, the list in Table 1.1 is incomplete, as there are structures where v might take a CP, TP, VoiceP complement as well (for example control, raising, and causative verbs, respectively). I leave open the question of whether particular subcategories of v are needed to specify possible complements. Third, I will argue in chapter 5 that Icelandic Appl differs from Appl in some other languages (such as German) in that it cannot select a vP complement. That is, there are no 'high' applicatives in Icelandic as there are in German.[10] There also may be cases where Appl selects a CP complement, such as certain object control sentences (or ditransitives where the second

[9] See also Chomsky (2012) for an argument against the existence of specifiers as phrase structural entities; Kayne (1994) for a reduction of the specifier/adjunct distinction; Sigurðsson (2012c) and Lohndal (2012) additional proposals to do away with specifiers; and Sigurðsson (2010b) for an account of movement without the use of privative [EPP] features.

[10] In Wood (2010b), I attempted to derive this property of Icelandic from other properties of the language, so c-selection might not be at issue.

Table 1.1: Syntactic Properties of Argument/Event Introducers

	Argument Introducers			Event Introducer
	Voice	Appl	p	v
Specifier	$\text{Voice}_{\{D\}}$	$\text{Appl}_{\{D\}}$	$p_{\{D\}}$	
	$\text{Voice}_{\{\}}$	$\text{Appl}_{\{\}}$	$p_{\{\}}$	$v_{\{\}}$
Case	No	Appl_{DAT} (specifier)	No	v_{DAT} (complement)
				v_{GEN} (complement)
C-selection	__ v	__ D	__ P	__ { D / Appl / p }

argument is a finite clause). This would be in line with the general observation due to Thráinsson (1979) that in Icelandic, CPs distribute like DPs generally, more so than in other languages such as English.[11]

Finally, it is an open question whether all of the elements in this table need to be primitive. For example, Voice and p, in Icelandic, share all properties except for their category and the category of their complement. We might, then, imagine a further reduction where certain functional elements are underspecified with respect to grammatical category. Sigurðsson (2012c) provides a system which seems capable of exploring this possibility; the idea of categorial underspecification with respect to functional elements was pursued in a general way in Hiraiwa (2005).[12] Similarly, Voice and Appl share certain properties, cross-linguistically and in Icelandic; both introduce a 'non-core' argument into the structure via their specifier (Pylkkänen 2002, 2008). They differ in that Appl, but

[11] For example, CPs in Icelandic very frequently occur as the complements to prepositions; this difference between the two languages is in need of an explanation.

[12] See Bošković (2004) for a further parallel between the verbal projection and the prepositional projection based in part on Icelandic data.

not Voice, has a special case requirement on its specifier in Icelandic. Languages will vary; ergative case might be the 'dative' of Voice in some languages (cf. Legate 2002, 2008; Sigurðsson 2011:154), and Appl does not always have a special case requirement. Reduction of the primatives above could thus proceed in at least two ways. First, recognition that two categories are distinguished by only one property—say, the category of their complement or a case-requirement on their specifier—might lead to positing one category which can do both things in different contexts.[13] Second, distinguishing properties might be syntactically decomposed, so that, say, $\text{Voice}_{\{\text{D}\}}$ is derived by combining a 'Voice' feature with a 'D' feature (Sigurðsson 2012c).

Such reductions, however, will not play a role in the present thesis. Here, it will make no difference whether the complex categories and feature bundles are derived by combining smaller elements or whether they are part of a finite set of a parametric options made available by the language faculty. What is important here is that the features that are visible to both the PF and LF interface are syntactic features, specifying how the pieces combine (or have combined) with each other, but dictating no particular semantic or phonological properties of them. The goal in the present work is to see how far a system can go without specifying semantic features such as $\text{Voice}_{\text{AGENT}}$ or v_{CAUS}, as well as without specifying phonological features, such as $\text{v}_{\textit{-ka}}$ for Icelandic verbs ending in the *-ka* affix or $\text{Voice}_{\textit{-na}}$ for Icelandic verbs ending in the *-na* suffix.

Semantically and morphologically, we have the following expectations as well: (i) a

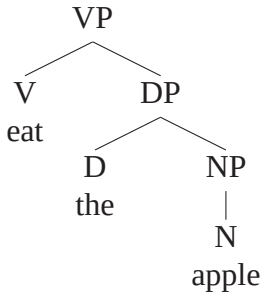
[13]For example, Richard Kayne (p.c.) points out to me that ergative case seems to be incompatible with strict SVO languages; if so, then perhaps the possibility of a case requirement defines the difference between Voice and Appl (especially 'high' Appl, which Icelandic does not seem to have; cf. §5.1.1). This might fit in with the view that some Voice head is always present in every sentence, but Appl is somehow 'extra'. If this turns out to be right, then ergative case would not be the 'dative' of Voice, and a different analysis of ergative case would be necessary.

head may or may not have an overt morphological expression, and (ii) a head may or may not be associated with a semantic interpretation. The first expectation is fairly standard in many theories of morphology; the second is less so, but reflects the mode of investigation here. Saying that each head is associated with a distinct interpretation presupposes one answer to the very question I am asking here, which is how much semantic information needs to be deterministically specified in the syntax. Therefore, the study is carried out under the assumption that a syntactic head need not always be semantically interpreted, just like it need not always be morphologically overt. Much of what follows will make crucial use of this assumption. I will discuss the mechanics of these assumptions in sections 1.1.3 and 1.1.4.

1.1.3 Morphology

In this section, I present an overview of the system of Vocabulary Insertion (VI) assumed here, namely the system in Embick (2010). That system outlines how an abstract hierarchical structure transfered from syntax to the PF component can be converted into a linear string capable of being pronounced. For illustration, consider a traditional VP structure for the phrase *eat the apple*.

(17)



This is linearized first in a way that retains syntactic bracketing. Embick (2010) uses the notation '*', which for present purposes can be interpreted as 'is left-adjacent to'.

(18) a. (V * DP)

b. (V * (D * NP))

c. (V * (D * (N)))

This translates a purely hierarchical structure into a linear hierarchical structure. Alternatively, Kayne (2010c) has argued that linear precedence is encoded in the syntax as a part of Merge. He proposes that instead of Merge(α, β) yielding the unordered set $\{\alpha, \beta\}$, as discussed above, it yields the ordered pair $\langle\alpha, \beta\rangle$, which in turn translates into immediate linear precedence.[14] If so, then the information in (18) is trivially present in the structure that is spelled out.

These linear hierarchical relations are then concatenated, creating a set of purely linear statements. Concatenation is represented by a binary operator '$^\frown$'.

(19) V$^\frown$D, D$^\frown$N

Finally, these statements are "chained" into a single linear statement, notated with a hyphen.

(20) V-D-N

I will not make any use of linearization statements here, but will, when appropriate, illustrate derivations with concatenation and chaining.

In the theory of Distributed Morphology assumed here, functional elements, including category-determining affixes, do not have a phonological form until the concatenation stage shown in (19). For example, assume that *marriage* has a structure consisting of a root $\sqrt{\text{MARRY}}$ attached to a category-determining noun head n, as in [$_{\text{n}}$ $\sqrt{\text{MARRY}}$ n].

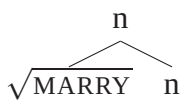
[14] That is, this is distinct from the use of the ordered pair notation to indicate labeling, where $\{\alpha, \{\alpha, \beta\}\} = \langle\alpha, \beta\rangle$. In Kayne's proposal, $\langle\alpha, \beta\rangle$ is immediate linear precedence, so that α precedes β and nothing else precedes β without also preceding α.

The statements pairing n with (morpho)phonological material apply at concatenation. The *-age* suffix will have a rule listing the roots conditioning its application, including the roots for *marriage*, *carnage*, *carriage*, *garbage*, etc.

(21) [n] $\leftrightarrow$ -age / $\{\sqrt{\text{MARRY}}, \sqrt{\text{CARN}}, \sqrt{\text{CARRY}}, \sqrt{\text{GARB}}, \ldots\}^{\frown}$___

This rule says to spell out the categorial n head as *-age* when it is concatenated with any of the roots on that list. The derivation of *marriage* will be as in (22).

(22) a.



b. $\sqrt{\text{MARRY}}^{\frown}$n (Concatenation)

c. $\sqrt{\text{MARRY}}^{\frown}$[n, -age] (Vocabulary Insertion)

The verb *marry* has the structure [$_{\text{v}}$ $\sqrt{\text{MARRY}}$ v], where the categorial v node will be realized as -Ø in the context of the root $\sqrt{\text{MARRY}}$.

One important aspect of the theory involves zero affixes and what Embick (2010) calls 'pruning'. Embick (2010) argues that in order for the form of a functional head to be sensitive to the identity of the root, it must be phonologically adjacent to it. This is implemented by 'pruning' of zero morphs at PF, as schematized here:

(23) Pruning schema:

$\sqrt{\text{ROOT}}^{\frown}$[x, -Ø], [x, -Ø]$^{\frown}$Y $\rightarrow$ $\sqrt{\text{ROOT}}^{\frown}$Y

Thus, consider the distribution of the zero affix for English past tense, which is idiosyncratic to a list of roots. $\sqrt{\text{HIT}}$ is on this list, whereas $\sqrt{\text{PIT}}$ is not. The verb *tolerate*, which consists of the root $\sqrt{\text{TOLER}}$ and the verbal affix *-ate* (cf. *tolerant*, *tolerable*, etc.), patterns with *pit* rather than *hit* with respect to the choice of the past tense allomorph.

(24) a. He { hit-Ø / *hitted } me yesterday.

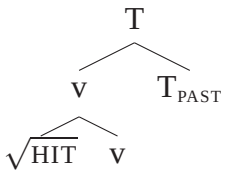
b. He { *pit-Ø / pitted } all the peaches yesterday.

c. He { *toler-ate-Ø / toler-ate-ed } me.

Since Vocabulary Insertion is stated at the concatenation stage, a past tense morpheme can be sensitive to the identity of a particular root only if T_{PAST} is concatenated with that root. Structurally, v intervenes between T_{PAST} and the root, so T_{PAST} will first be concatenated with v. This is where the pruning schema in (23) becomes important: if v is Ø, it will be pruned and T_{PAST} will be concatenated directly with the root. The root can then condition a special allomorph of T_{PAST}. To illustrate, past tense *hit* would be derived as follows:

(25) a. $[T_{PAST}] \leftrightarrow$ -Ø / $\{\sqrt{\text{HIT}}, \sqrt{\text{CAST}}, \sqrt{\text{HURT}}, \sqrt{\text{BURST}}, \ldots\}^\frown$___

b.



c. $\sqrt{\text{HIT}}^\frown$v, v$^\frown T_{PAST}$ (Concatenation)

d. $\sqrt{\text{HIT}}^\frown$[v, -Ø], [v, -Ø]$^\frown T_{PAST}$ (Vocabulary Insertion)

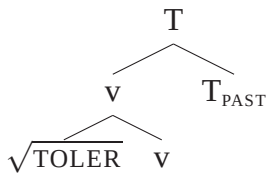
e. $\sqrt{\text{HIT}}^\frown T_{PAST}$ (Pruning)

f. $\sqrt{\text{HIT}}^\frown$[T_{PAST}, -Ø] (Vocabulary Insertion)

Here, *hit* takes the past tense allomorph -Ø because the root $\sqrt{\text{HIT}}$ is on the list for this allomorph, and because the zero exponence of v puts the root adjacent to T. In (25c), $\sqrt{\text{HIT}}$ is concatenated with v, and v is concatenated with T_{PAST}. Vocabulary insertion inserts the null -Ø exponent of v, as shown in (25d), so it is pruned, as shown in (25e). Since (25f) meets the structural description in (25a), the idiosyncratic -Ø allomorph of T_{PAST} is inserted.

The verb *pit* does not get this allomorph because $\sqrt{\text{PIT}}$ is not on the list in (25a). However, in the derivation of *tolerate*, the overt v affix *-ate* would prevent the root $\sqrt{\text{TOLER}}$ from ever being adjacent to T, since there is no pruning. Thus, there is no chance for the root to condition a special allomorph of T, since the two are never concatenated.

(26) a.



b. $\sqrt{\text{TOLER}}$⌒v, v⌒T_{PAST} (Concatenation)

c. $\sqrt{\text{TOLER}}$⌒[v, -ate], [v, -ate]⌒T_{PAST} (Vocabulary Insertion)

d. $\sqrt{\text{TOLER}}$⌒[v, -ate], [v, -ate]⌒[T_{PAST}, -ed] (Vocabulary Insertion)

e. $\sqrt{\text{TOLER}}$-ate-ed (Chaining)

In (26c), the *-ate* exponent of v is chosen, and therefore there is no pruning of v. Since there is no pruning, T_{PAST} would never concatenate with $\sqrt{\text{TOLER}}$, and $\sqrt{\text{TOLER}}$ would not be able to condition a special allomorph of T_{PAST}, even if $\sqrt{\text{TOLER}}$ were on the list in (25a). Of course, it is entirely possible that $\sqrt{\text{TOLER}}$ simply is not on the list, much as $\sqrt{\text{PIT}}$ is not on the list. But the claim is more general: since Vocabulary Insertion is stated at concatenation, no listed root will condition a special allomorph of an element it is not concatenated with. The purpose here is not to defend this view of the locality of allomorphy, since it is argued for at length in Embick (2010). However, we will see several instances of it at work in chapter 3.

1.1.4 Semantics

As discussed above, in the mapping from hierarchical syntax to phonetic strings, there are several layers of processes that apply. First, the hierarchical structure is linearized (a

step which follows trivially in the system of Kayne (2010c)). Second, the terminal nodes are concatenated and the exponents of functional heads are determined (Vocabulary Insertion). Third, the elements are chained into a single linear statement with phonological material. After this, further, purely phonological and/or phonetic processes will apply. In this thesis, I am mostly concerned with concatenation and Vocabulary Insertion on the PF branch.

At semantics, too, there will be several layers of processes in the system proposed here.[15] First, the denotations of terminal nodes will be determined; this is analogous to Vocabulary Insertion. Second, the denotations so determined will combine with the denotations of their sisters by a limited set of compositional rules. This might be analogous to chaining or to phonological processes that occur after chaining. Finally, the semantic representation created after composition might undergo further processing. This involves determining the encyclopedic semantics of roots, as well as the actual interpretations of the elements in the representation (such as the AGENT relation, for example).

I will first describe the compositional rules I assume in this thesis, and then describe how the denotations—or 'allosemes'—of terminal nodes are determined. The denotations are typed functions which will be notated with the lambda calculus. I will notate the types of operators binding variables as subscripts on the operators. I will use type e for 'entities', type s for 'events', and type t for 'truth values'. The four basic compositional rules I assume are Functional Application, Event Identification, Function Composition, and Predicate Conjunction. In fact, Event Identification could be collapsed with Predicate

[15]It may seem that I am taking a different position from Chomsky (2012), who argues that the design of language is better-suited for constructing thought/meaning than for constructing PF strings. I'm not sure that the present proposal commits me one way or the other; it could be that the hierarchical structures generated by the syntax are particularly well-suited for "thought"—whatever that is—but that does not entail that "thoughtstuff" is present in the syntax.

Conjunction, since they are both conjunction operations (as we will see), but I keep the two separate here since Event Identification has played a particularly important role in the theory of argument introduction.

Functional Application applies when an element is in the domain of a function (see Heim and Kratzer 1998:44). For a function f: X $\rightarrow$ Y, applying f to an element of type X yields something of type Y. The definition used in Heim and Kratzer (1998:44) is as follows.[16]

(27) **Functional Application**:

If α is a branching node, $\{\beta, \gamma\}$ is the set of α's daughters, and $[\![\beta]\!]$ is a function whose domain contains $[\![\gamma]\!]$, then $[\![\alpha]\!] = [\![\beta]\!]([\![\gamma]\!])$.

For example, Kratzer (1996:125) provides the following denotation for T_{PAST}.

(28) $[\![T_{\text{PAST}}]\!] = \lambda P_{\langle s,t \rangle}.\exists e_s.\ P(e) \wedge past(e)$

Here, the lambda operator is a function whose domain is expressions of type $\langle s, t \rangle$. Expressions of type $\langle s, t \rangle$ are functions from events (s) to truth values (t). If the denotation of the complement of T_{PAST} is a set of events, then it will be in the domain of this denotation for T_{PAST} and Functional Application will apply. Suppose, for example, some VoiceP for the sentence *Mittie fed the dog* is the complement of T_{PAST}, and that VoiceP has the following denotation (again taken from Kratzer 1996).

(29) $\lambda e'_s.$ AGENT(Mittie,e′) $\wedge$ feed(the dog,e′)

Since there is one lambda operator, and it binds variables of type s (events), this expression is of type $\langle s, t \rangle$. It is a function from events to truth values. Since T_{PAST} and VoiceP

[16] In this thesis, I use the bracket notation '$[\![\ \ ]\!]$' to indicate the denotation of the material within the brackets; I omit the usual superscripts, such as the assigment function, context and world variables, since they play no role in this thesis.

are sisters, and the denotation of VoiceP is in the domain of the denotation of T_{PAST}, Functional Application will replace all instances of the variable P in (28) with the denotation of VoiceP in (29).

(30) $[\![T_{\text{PAST}}]\!]([\![\text{VoiceP}]\!]) \rightarrow$

$[\lambda P_{\langle s,t\rangle}.\exists e_s.\ P(e) \wedge past(e)](\lambda e'_s.\ \text{AGENT}(Mittie,e') \wedge feed(the\ dog,e')) \rightarrow$

$[\exists e_s.\ (\lambda e'_s.\ \text{AGENT}(Mittie,e') \wedge feed(the\ dog,e'))(e) \wedge past(e)]$

At this stage, we see that by putting the denotation of VoiceP wherever there was a variable P (only one instance, here), Functional Application may apply again. The lambda expression $\lambda e'_s$ is looking for expressions of type s, and the e variable is of type s. Functional Application thus replaces all instances of e' with the variable e, resulting in the following expression.

(31) $[\exists e_s.\ (\underline{\lambda e'_s}.\ \text{AGENT}(Mittie,\underline{e'}) \wedge feed(the\ dog,\underline{e'}))(\underline{e}) \wedge past(e)] \rightarrow$

$[\exists e_s.\ \text{AGENT}(Mittie,\underline{e}) \wedge feed(the\ dog,\underline{e}) \wedge past(e)]$

This expression says that there exists an event of feeding the dog, Mittie is the agent of this event, and this event took place in the past.[17]

Predicate Conjunction takes the conjunction of two predicates of the same type. For functions f and g, where f: X → Y → Z and g: X → Y → Z, Predicate Conjunction yields a single function h: X → Y → Z, by conjoining functions f and g. Another way of putting this, in the form used in Heim and Kratzer (1998), is as follows.

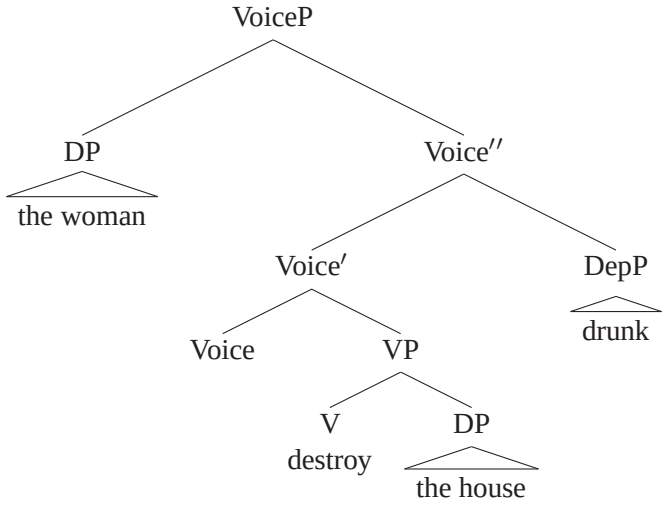
[17] This, of course, glosses over many issues in the semantics of past tense, among other things. Its purpose here is simply to illustrate how Functional Application works.

(32) **Predicate Conjunction** (general):

If α is a branching node, {β,γ} is the set of α's daughters, and ⟦ β ⟧ and ⟦ γ ⟧ are both in D_f, f a semantic type which takes n arguments, then ⟦ α ⟧ = $\lambda(a_1, \ldots, a_n)$. ⟦ β ⟧$(a_1, \ldots, a_n) \wedge$ ⟦ γ ⟧$(a_1, \ldots, a_n)$.

An example of Predicate Conjunction comes from Pylkkänen's (2002:29) analysis of depictives, such as in the sentence *The woman destroyed the house drunk*, where the woman is both the agent of the destroying event and the argument of the predicate *drunk*.[18] For Pylkkänen, the structure is as follows. (Again, I attach no significance to node labels, which are present for expositional purposes.)

(33)



The point of structure at issue is when DepP combines with Voice′. In Pylkkänen's analysis, they have the following denotations.[19]

(34) a. ⟦ DepP ⟧ = $\lambda x_e.\lambda e_s.\exists s_s.$ drunk(s) $\wedge$ in(x,s) $\wedge$ overlap(e,s)

b. ⟦ Voice′ ⟧ = $\lambda x_e.\lambda e_s.$ AGENT(x,e) $\wedge$ destroy(the house,e)

[18]See also Kratzer (2009:194) for another use of Predicate Conjunction with the same types, i.e. two expressions of type $\langle e, \langle s, t\rangle\rangle$.

[19]This has been adapted for consistency in non-crucial ways. Also, for notational clarity, I write overlap(e,s) instead of e_os.

The DepP is a function from individuals x to events e such that x is drunk, and x's being drunk overlaps with the events e. Both DepP and Voice′ are of the same type, $\langle e, \langle s, t\rangle\rangle$. Thus, they combine by Predicate Conjunction; that is, we simply conjoin the terms of each predicate. This yields the following representation.

(35) $\lambda x_e.\lambda e_s.\exists s_s.$ AGENT(x,e) $\wedge$ destroy(the house,e) $\wedge$ drunk(s) $\wedge$ in(x,s) $\wedge$ overlap(e,s)

This expression is still of type $\langle e, \langle s, t\rangle\rangle$, and denotes (roughly) the set of individuals who are drunken agents of house-destroying events.[20] The basic intuition behind Predicate Conjunction should be simple enough: when two expressions are the same type, simply conjoin their terms into one expression and identify the variables of the same type with each other.

Event Identification is quite similar to Predicate Conjunction, in that it conjoins the terms of each expression (see Kratzer 1996:122). The difference is that Event Identification applies when a function from individuals to a set of events combines with a set of events, and yields a function from individuals to set of conjoined events.

(36) **Event Identification**:

If α is a branching node, {β, γ} is the set of α's daughters, where ⟦ β ⟧ is in $D_{\langle e,\langle s,t\rangle\rangle}$ and ⟦ γ ⟧ is in $D_{\langle s,t\rangle}$, then ⟦ α ⟧ $= \lambda x_e.\lambda e_s.$ ⟦ β ⟧(x)(e) $\wedge$ ⟦ γ ⟧(e).

A standard example involves the introduction of an agent by Voice. Suppose we have a verb phrase *destroy the house* and Voice takes this verb phrase as a complement, introducing an agent relation. In this case, we have:

[20]The structure of destroying events will be assumed to be more complex than this in the main body of this thesis, but the text example suffices for present purposes.

(37) a. $[\![$ Voice $]\!]$ = $\lambda x_e.\lambda e_s.$ AGENT(x,e)

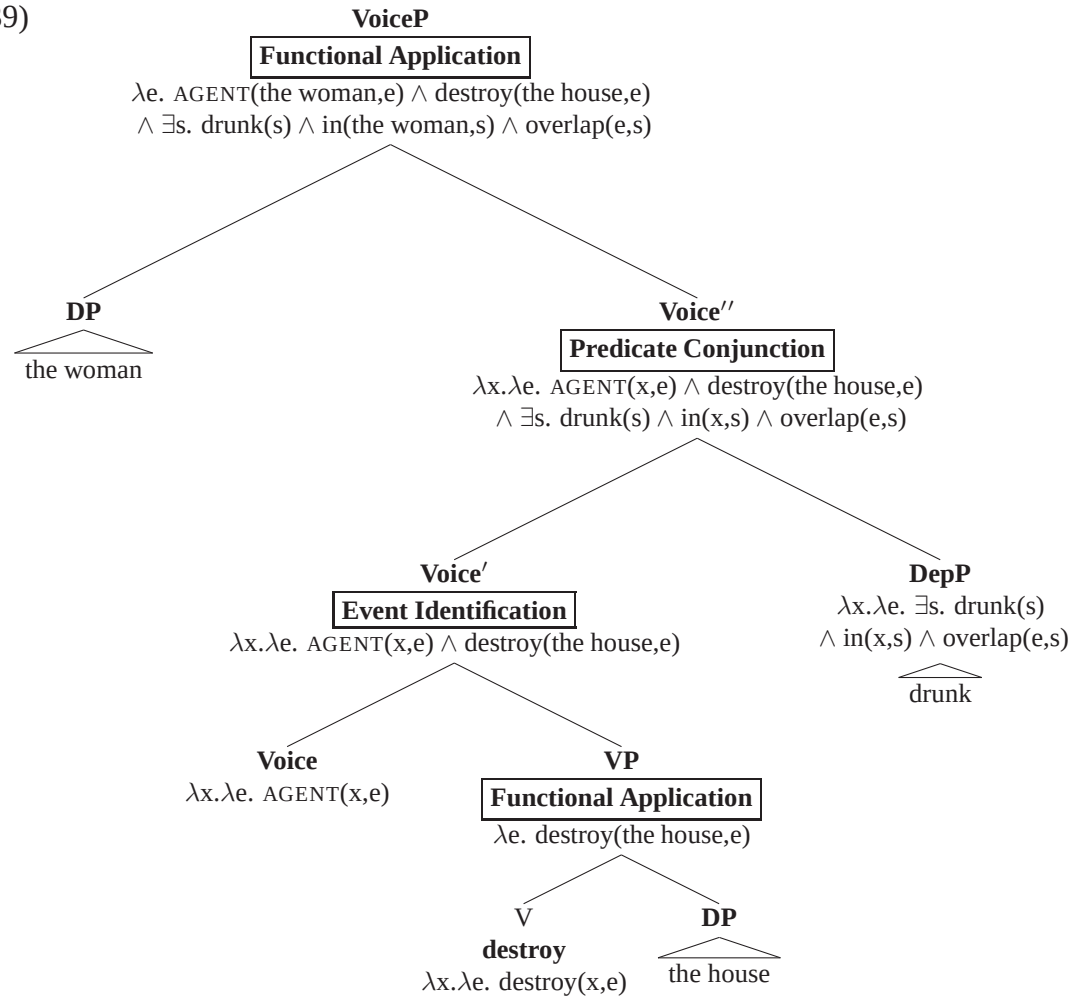
b. $[\![$ VP $]\!]$ = $\lambda e_s.$ destroy(the house,e)

The VP is of type $\langle s, t\rangle$ and Voice is of type $\langle e, \langle s, t\rangle\rangle$, and thus, they meet the structural description for Event Identification. The result of combining them is:

(38) $\lambda x_e.\lambda e_s.$ AGENT(x,e) $\wedge$ destroy(the house,e)

The result is an expression denoting the set of individuals who are agents of house-destroying events. Putting Functional Application, Predicate Conjunction, and Event Identification together into one expression, again adapting the analysis in Pylkkänen (2002:29):

(39)



Starting from the bottom, the verb *destroy* combines with *the house* by Functional Application. Thus in the mother node, the lambda operator binding x disappears, and every instance of x is replaced by *the house*. This VP node is sister to Voice, which meets the structural description for Event Identification. Thus, in the mother node, the event variables for both daughters are bound by the same lambda operator. This node is sister to DepP, which according to Pylkkänen (2002) is of type $\langle e, \langle s, t \rangle \rangle$, just like Voice′. This meets the structural description for Predicate Modification, so the mother node is the conjunction of both daughters, bound by the same lambda operators. Note in particular that the argument of "agent" becomes the same as the argument of "in." This will force

them to be coreferent. Finally, *the woman*, which is an entity, is of the appropriate type to function as the argument of the higher Voice$''$. Thus, *the woman* combines with Voice$''$ by functional application: 'λx' disappears and every instance of x is replaced by *the woman*.

Function Composition applies when the results of one function provide the argument for another. (See Kobele (2010) for Function Composition within a Heim and Kratzer (1998) style system.) For functions f and g, where f: X $\rightarrow$ Y and g: Y $\rightarrow$ Z, Function Composition yields a function h: X $\rightarrow$ Z.

(40) **Function Composition**:

If α is a branching node, $\{\beta, \gamma\}$ is the set of α's daughters, where $[\![\beta]\!]$ is in $D_{\langle b,c \rangle}$ and $[\![\gamma]\!]$ is in $D_{\langle a,b \rangle}$, then $[\![\alpha]\!] = \lambda x_a.\ [\![\beta([\![\gamma(x)]\!])]\!]$.

For example, consider the following two English sentences, which are closely related to Icelandic sentences that will be discussed in detail in chapter 4.

(41) a. John broke Mary out of jail.

b. John broke out of jail.

Suppose that in both sentences, the complement of *break* is a small clause denoting a set of states, and *break* is a causative verb. In the first case, the complement of *break* will denote a set of states, so the causative verb can apply Functional Application.

(42) a. $[\![\text{out of jail}]\!] = \lambda x_e.\lambda s_s.$ out-of-jail(x,s)

b. $[\![\text{Mary out of jail}]\!] = [\![\text{out of jail}]\!](\text{Mary}) = \lambda s_s.$ out-of-jail(Mary,s)

c. $[\![\text{break}]\!] = \lambda P_{\langle s,t \rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)$

d. $[\![\text{break Mary out of Jail}]\!] = [\![\text{break}]\!]([\![\text{Mary out of jail}]\!]) =$

$[\lambda P_{\langle s,t \rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)](\lambda s_s.$ out-of-jail(Mary,s)) =

$\lambda e_s.\exists e'_s.\lambda s_s.$ out-of-jail(Mary,s)$(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e) =$

$\lambda e_s.\exists e'_s.$ out-of-jail(Mary,e$') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)$

Here, the small clause "Mary out of jail" is a set of states, and it becomes the argument of the causative verb 'break'. So it is, roughly, the set of breaking events which caused Mary to be out of jail. In (41b), on the other hand, the PP small clause is an unsaturated predicate. Here, we combine the denotation of *break* in (42c) directly with the denotation of *out of jail* in (42a), by Function Composition.

(43) a. $[\![$ break $]\!]([\![$ out of jail $]\!])$ =

b. $[\lambda P_{\langle s,t\rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)\ ](\lambda x_e.\lambda s_s.\ \text{out-of-jail}(x,s))$

c. $\lambda x'_e.\ [\lambda P_{\langle s,t\rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)\ ]((\lambda x_e.\lambda s_s.\ \text{out-of-jail}(x,s))(x'))$

d. $\lambda x'_e.\ [\lambda P_{\langle s,t\rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)\ ](\lambda s_s.\ \text{out-of-jail}(x',s))$

e. $\lambda x'_e.\lambda e_s.\exists e'_s.\lambda s_s.\ \text{out-of-jail}(x',s)(e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)$

f. $\lambda x'_e.\lambda e_s.\exists e'_s.\ \text{out-of-jail}(x',e') \wedge \textsc{cause}(e',e) \wedge \text{break}(e)$

What Function Composition allows is for something like *break*, which combines with an expression of type $\langle s,t\rangle$, to combine directly with *out of jail*, which is of type $\langle e,\langle s,t\rangle\rangle$. The result is that the entity argument is still open, bound by the lambda operator. So under this analysis, the VP *break Mary out of jail* is of type $\langle s,t\rangle$, whereas *break out of jail* is of type $\langle e,\langle s,t\rangle\rangle$.

The advantage to this is that the denotations of all the shared elements in (41a) and (41b) are the same. For example, we do not have to assume the meaning of *out of jail* is different in the two sentences. Instead, it is the mode of composition that is different. In chapters 3 and 4, I will show how this provides the ingredients for a novel analysis of the *-st* morpheme, namely as a semantically expletive valency-reducing clitic. This

morpheme shows up in sentences like (44b), which are analogous to the English examples above except that there is not morphological marking in English.

(44) a. Þau vilja brjóta rúðuna.
they want break window.the
'They want to break the window.'

b. Þeir vilja brjótast út úr fangelsi.
they want break-ST out of prison
'They want to break out of prison.'

The idea is that *-st* fills a syntactic position in the clause, but is interpreted as if it is not there. I assume that *-st* denotes a type-neutral identity function, that is, a function which takes the denotation of its sister and returns that same denotation.

(45) $[\![\textit{-st}]\!] = \lambda x.\ x$

This is basically equivalent to 'deleting' *-st* prior to LF. Then, the claim is that *-st* syntactically saturates the position that *Mary* occupies in (41a), forming [$_{pP}$ *-st út úr fangelsi*] '[$_{pP}$ *-st* out of prison]'. Since *-st* fills the syntactic position but is interpreted as in (45), the result is the semantics in (43). More generally, I will show how the denotation of *-st* in (45) derives both anticausatives and reflexive-like sentences, depending on the position *-st* is merged in.

I will briefly sum up the modes of composition assumed here in an informal way.

(46) a. **Functional Application** applies when the sister of A is the type A is looking for.

b. **Function Composition** applies when the sister of A is one argument away from being the type A is looking for.

c. **Predicate Composition** applies when the sister of A is the same type as A.

d. **Event Identification** applies when the sister of A is one argument away from being the same type as A.[21]

I now turn to the second relevant component of the semantic system, namely, the rules determining the denotations of terminal nodes.

1.1.5 Interpretation and Allosemy

In this section, I discuss some interpretive rules which will play a role in the thematic properties of the constructions discussed in this thesis. First, I assume two basic interpretations of the v head, a stative and a dynamic one. Their most basic interpretation, if no other rules apply, will be as shown in (47):

(47) a. $[\![\text{v}]\!] \leftrightarrow \lambda \text{e}_s.\ \text{activity(e)}$

b. $[\![\text{v}]\!] \leftrightarrow \lambda \text{e}_s.\ \text{state(e)}$

That is, v denotes an activity or a state. I also follow Marantz (2009a,b) in assuming that if the complement of v is an eventuality (stative or dynamic), then v will be causative.

(48) $[\![\text{v}]\!] \leftrightarrow \lambda \text{P}_{\langle \text{s,t} \rangle}.\lambda \text{e}_s.\exists \text{e}'_s.\ \text{activity(e)} \wedge \textsc{caus}(\text{e,e}') \wedge \text{P(e}')$ / ___ (eventuality)

[21] Event Identification was defined above for a specific configuration, but it could easily be defined in a more general way. This is done in (i) below, where we might call it 'argument identification', since it is not restricted to events.

(i) **Argument Identification**:

If α is a branching node, {β,γ} is the set of α's daughters, where $[\![\beta]\!]$ is in $\text{D}_{\langle a,\langle b,c\rangle\rangle}$ and $[\![\gamma]\!]$ is in $\text{D}_{\langle b,c\rangle}$, then $[\![\alpha]\!] = \lambda \text{x}_a.\lambda \text{y}_b.\ [\![\beta]\!](\text{x})(\text{y}) \wedge [\![\gamma]\!](\text{y})$.

Since I only use this mode of composition for events, I stick to the more specific formulation of Event Identification here.

The result is that the activity or state denoted by v is interpreted as causing the event denoted by the complement of v. (The thematic predicate 'CAUS' should be understood as 'direct causation' in the sense of Dowty (1979); I will not be concerned with its semantics in this thesis.) These allosemes thus compete for the denotation of v, much like Vocabulary Insertion on the PF branch. The denotations in (47) are inserted on the basis of the roots attached to them, as long as no other denotation is specified, such as the causative denotation in (48), which is inserted only if the denotation of the element it combines with is an eventuality.

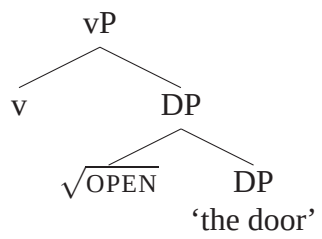
Turning to DPs, I assume that some DPs are interpreted purely as entities, but that others can be interpreted as events. Some DPs are eventive by virtue of their inherent meaning, such as DPs headed by nouns like *trip* or nominalizations like *attainment*. Others, again following Marantz (2009a,b), are coerced into being eventive, specifically as a state. That is, I assume that in some cases, a DP can be interpreted with a rule such as the following:

(49) $[\![\text{DP}]\!] \rightarrow \textsc{state}([\![\text{DP}]\!]) = \lambda s_s.\ \text{state}(s,\text{DP})$

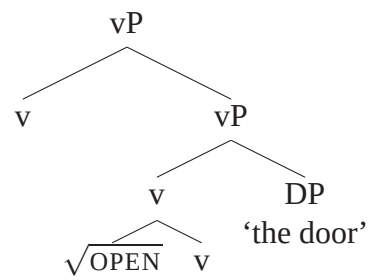
$\approx$ 'the set of states s such that the state of DP is s'

Here, "DP" is short hand for the entity x such as the DP refers to x, and the overall translation is "the set of states held by the DP." This point is controversial, so I will elaborate briefly. An alternative way of achieving this would be to postulate a functional head in the syntax, perhaps a variety of v, which would take a DP entity and return a semantics like (49) (cf. Cuervo 2003; Campanini and Schäfer 2011). The two competing analyses are shown below:

(50) a.



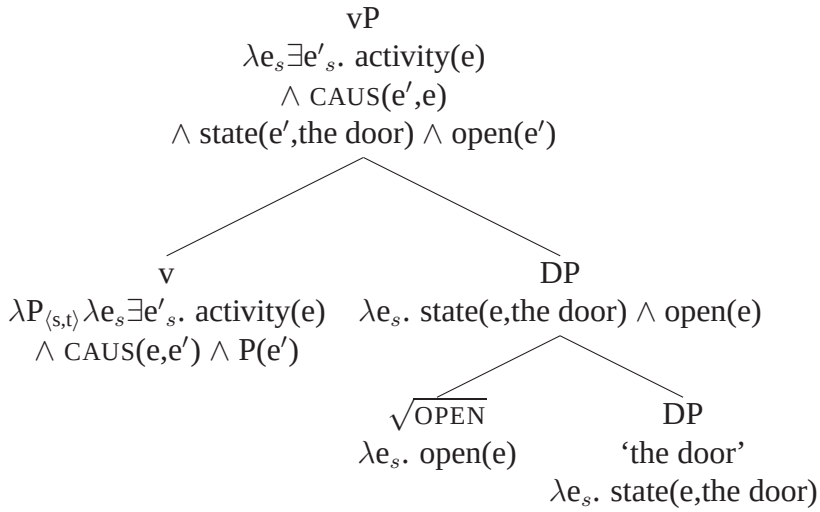
b.



In the structure in (a), the DP is modified by the root $\sqrt{\text{OPEN}}$ directly, and consequently, the DP must be interpreted by a rule as in (49). In (b), v will be endowed with semantics to give the result in (49), and $\sqrt{\text{OPEN}}$ can modify this v. Semantically, the choice between them does not make much of a difference; either way, the complement of v will be a stative event, and will thus be interpreted as in (48a). Morphosyntactically, the argument for (a) over (b) is that cross-linguistically, we don't see two verbal heads at once in the way that the structure in (50b) would lead us to expect. I will not evaluate the validity of this argument here, which would be far beyond the scope of the present work. Assuming that $\sqrt{\text{OPEN}}$ has the semantics in (51a), the structure in (50a) would be interpreted as in (51b):

(51) a. $[\![\sqrt{\text{OPEN}}]\!] = \lambda e_s.\ \text{open}(e)$

b.



Starting from the bottom, the root $\sqrt{\text{OPEN}}$ combines with the DP 'the door' by Predicate Conjunction, resulting in the meaning "the set of states which are open states and are the state of the door." This combines with causative v (by two instances of Functional Application) resulting in the meaning "the set of activities which caused the door to be in the open state."

Turning to Voice, I assume that there are at least three interpretations of Voice: agent, state holder, and Ø. I set the Ø interpretation of Voice aside for now, and will return to it in the next section. The agentive and state holder interpretations of Voice go back to Kratzer (1996). If the vP complement of Voice is dynamic, then Voice may be interpreted as agentive; if vP is stative, then Voice may be interpreted as a state holder.

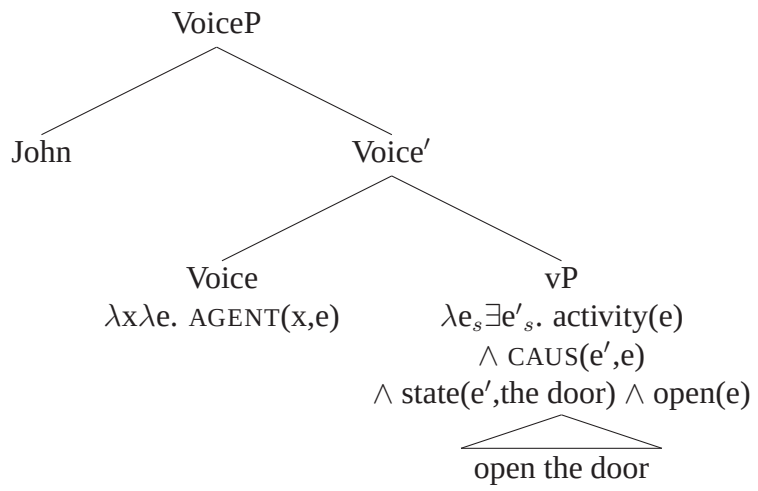
(52) a. $[\![\text{Voice}]\!] \leftrightarrow \lambda x_e.\lambda e_s.\ \text{AGENT}(x,e)$ / ___ (agentive, dynamic event)

b. $[\![\text{Voice}]\!] \leftrightarrow \lambda x_e.\lambda e_s.\ \text{HOLDER}(x,e)$ / ___ (stative event)

c. $[\![\text{Voice}]\!] \leftrightarrow \lambda P_{\langle s,t\rangle}.\ P$ / ___ (elsewhere)

The alloseme of Voice in (52c) will be referred to as expletive Voice, $\text{Voice}_{\text{EXPL}}$, or semantically Ø Voice. That is, it is an identity function on eventive predicates, and contributes no extra semantic material of its own. The allosemes in (52a-b) will often combine with eventive expressions denoted by the vP by Event Identification. This is illustrated below with a continuation of the example given above. For example, suppose the complement of Voice is the vP *open the door*. If we understand the set of events denoted by this vP as agentive, then the denotation in (52a) will be chosen.

(53)



The denotation of Voice will combine with the denotation of vP by Event Identification, just as we saw above, and John will saturate the variable x, resulting in him being interpreted as the agent of the event which caused the door to be open. I will discuss causative alternations in more detail in chapter 3. For now, the point about semantics is that it is the interpretation of the vP complement of Voice that determines the alloseme of Voice. This is cyclic; the interpretation of the vP must be determined first. Some events, such as those describing door-opening, are underspecified, in that they may be interpreted as agentive or not agentive. If the agentive interpretation is chosen, then Voice will be agentive. Other interpretations and their interaction with vP-internal material are discussed further in chapter 3.

In sum, there are two kinds of semantic variation introduced in this section. First, there are rules specifying the available denotations, called allosemes, for terminal nodes such as Voice and v. Some allosemes will be contextually specified to occur in certain semantic environments. (This is analogous to phonologically-conditioned allomorphy.) Others will be elsewhere forms, inserted into certain kinds of heads by default. Second, there are general rules allowing DPs to be interpreted as states; this is a kind of type shifting. After the denotations of DPs and functional heads in a certain domain are determined, they will combine with the denotations determined for their sisters by the four mechanisms

introduced in the previous subsection (Functional Application, Function Composition, Predicate Composition, Event Identification). I now turn to a brief discussion of how argument structure alternations are conceived of in the present system.

1.1.6 What Are 'Argument Structure Alternations'?

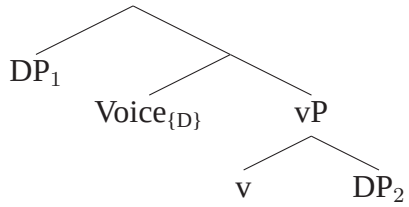
To summarize the system so far, the syntax is the component that combines primative elements/symbols into complex structures (§1.1.1). The input to this component is the set of lexical roots and functional heads, which have various properties governing possible combinations (selectional features, case diacritics, etc.) (§1.1.2). At spellout, a chunk of syntactic structure is shipped to PF and LF; PF will determine which allomorphs to insert into the functional heads (§1.1.3), and LF will determine which allosemes to insert into the functional heads (§1.1.4-1.1.5). On the PF side, those morphemes and allomorphs will then combine together by general phonological principles, and on the LF side, the allosemes will combine together by general semantic combinatory principles.

A lot of very productive work in argument structure has focused on 'alternations'; cases where one verb appears to be compatible with more than one argument structure. One line of work, represented by Levin (1993), aims to classify verbs on independent semantic grounds and from there figure out which alternations followed from which semantic classes. It turned out, however, that semantic classification on this sort could only partly predict argument structure alternations. For almost every verb class in Levin (1993), one can find verbs which differ from the other members of the class in non-trivial respects.

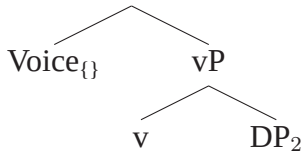
In the present study, where lexical roots play a less central role, it is important to distinguish two senses of argument structure alternations. First, argument structure alternations are understood in one sense as the systematic, predictable relationship between

one structure and another. For example, one instantiation of the causative alternation involves the following two structures:

(54) a.

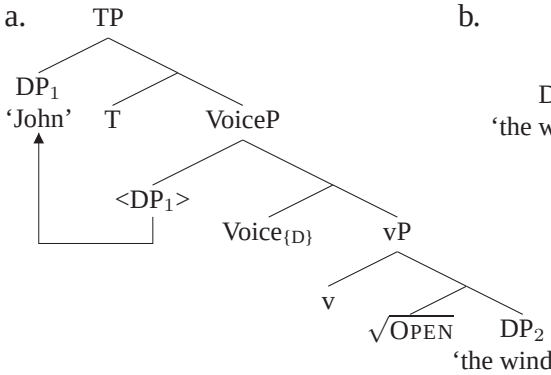


b.

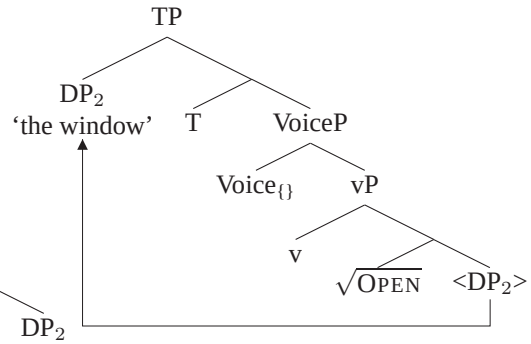


The structure in (54a) instantiates the causative alternant (e.g. *John opened the window*) while (54b) instantiates the inchoative alternant (e.g. *The window opened*). This is an argument structure alternation, independent of any lexical root, because there are aspects of the (a) structure which systematically correspond to the (b) structure. They both have internal DP arguments and a little v head; they differ in that the (a) structure has a different subcategory of Voice—the specifier-taking $\text{Voice}_{\{D\}}$ for the (a) structure, and the specifierless $\text{Voice}_{\{\}}$ for the (b) structure. This difference will have further consequences. For example, in English, T will attract the closest DP to its specifier, which will be DP_1 in the (a) structure but DP_2 in the (b) structure.

(55) a.



b.



This difference does not need to be explicitly stated since it is a general property of the English system, independent of argument structure. Roots play no role in this sense of 'argument structure alternation'. There is no real alternation, but rather there are differences (and similarities) between two structures which are independently generable.

The other sense of ‘argument structure alternations’ involves the ability of one root to appear in two distinct structures. This will be predictable in some cases and not in others, depending on how the two structures can correspond to the semantics, and on what contribution the root makes. While roots can be choosy with respect to certain aspects of the structures they appear in, the structures still have a life of their own independent of the roots that appear in them. A root can only choose from the structures that are independently generable by the system; there is no special, root-based argument structure. However, there will be certain options that are only chosen by a small number of roots. All structures are generated by the same primitive elements in the syntax, and to the extent that we can understand a structure in terms of those elements, it can receive an analysis even if we do not have an immediate explanation for why a structure may be compatible with some roots and not others.

1.2 On the Data

The data for this thesis comes from a number of sources. First, some of the data in this thesis comes from the linguistic literature. In this case, I notate with the sentence its source and page number. Second, a lot of the data in this thesis comes from native speaker judgments I have gathered from linguists and non-linguists. Third, I have been fortunate enough to be able to use a number of corpora and online resources. These include a tagged corpus at http://mim.hi.is, the online dictionary at http://www.snara.is, the inflection bank at http://bin.arnastofnun.is/, the searchable corpus at http://www.lexis.hi.is/corpus/leit.pl, and the verb and sentence database at http://fraedi.is/sagnflokkar/. I owe a debt of gratitude to the linguists in Iceland for developing these resources, which have been incredibly useful to me. While I do cite example sentences taken directly from these corpora, the amount of data in this thesis that ultimately comes from working with these corpora is

actually far greater than it would seem from the citations, since in many cases the corpora provided a spring-board from which I worked with native speakers, linguists and non-linguists alike, in constructing further examples, often modifying them in various ways to the point where the original source is no longer identifiable.

In many cases, I also use examples taken from the internet, books or television shows. I cite the sources for all such examples. Unless otherwise noted, I have checked these examples with at least two native speaker linguists, usually more. There are a number of reasons for using this kind of data. First, using naturally occuring examples decreases the chances that some property of a paradigmatically constructed set of sentences affects the acceptability of some of their members, obscuring the validity of the basic empirical claim. Paradigmatically constructed examples are often useful for theoretical discussion; they are clear, controlled and easy to read, without the host of extra material that often accompanies sentences that occur naturalistically. It is easier with such examples to focus on the theoretical point at hand, to draw trees and analyses with all and only the relevant properties, etc. However, they are often best used for very common kinds of examples, where the data are well-understood and widely discussed (either in Icelandic or other languages). It does not take a whole lot of context, for example, for a reader to imagine what a sentence like *He shattered the window* or *The window shattered* means and when it might be used. However, in lesser discussed cases, many sentences will seem strange out of context, and it would be more distracting to present a paradigmatically constructed set of sentences out of context than to just present the examples as they occur naturally (if such sentences are available). In this way, the reader can more easily see how the meaning and structure of those sentences bear on the analysis at hand. This is especially the case in sections where I discuss the distribution of verbal roots and lexical variation among speakers.

Another situation where it is appropriate to use attested examples instead of constructed ones is when there is variation across speakers regarding the syntactic use of a particular root/verb. In these cases, it is one thing for me to claim that I have found speakers to accept an example of a particular kind—and sometimes that is all that I am able to do (in the absence of a relevant attested example). If, however, I can support this claim by showing examples of the use in question, then this should be enough to convince the reader that the use is real and part of someone's language. I find very plausible the conjecture in Kayne (2000a:7-8) that probably no two speakers of any language share the same judgments of every sentence. However, this often does not "feel" obvious to us as speakers of a language—or even if we agree in principle, we may well underestimate the extent to which our judgments differ from others' judgments. Since I am not a native speaker of Icelandic, the data I present, especially on sentences subject to speaker variation, might be greeted with a certain amount of natural skepticism. Presenting attested examples, then, especially when I have found speakers to accept those (or similar) sentences, might help to lessen this skepticism. I have taken great pains to explicitly present the empirical picture as I understand it, and I explicitly note when I present sentences for which I have encountered speaker variation. I also note when I present attested sentences that no speaker I have talked to accepts, but for which there is reason to be believe such speakers exist (i.e. that the sentence in question is not an error, a typo, or the work of a non-native speaker). However, no data points like this in any way undermine the main points of this thesis, as far as I am aware. I should be clear, though, that if I present an attested example instead of a constructed one, it is usually not because there is speaker variation, but rather for the reasons discussed in the previous paragraph; I note speaker variation explicitly. Constructed examples for which speaker-judgments vary will be notated with a large '%', and attested examples for which speaker-judgments vary will be notated with

a small '%'. Constructed examples for which speakers vary in terms of marginality will be notated with what I see as the "average" judgment, and I will discuss such situations explicitly in prose.

1.3 A Brief Overview of Icelandic Morphosyntax

In this section, I provide the reader with a very brief overview of Icelandic morphosyntax, with pointers toward the generative literature that has developed over the last four decades. The main purpose of this section is to provide the backdrop that I feel is necessary for this thesis. The sections on oblique subjects, expletive constructions and verb movement (§1.3.1-§1.3.3) serve to provide an analytical backdrop, so that the reader is familiar with the basic, 'standard' analytical assumptions that may or may not ultimately bear on the proposal in this thesis, but which are all the same necessary background. The sections on long-distance reflexives, local reflexives and progressive aspect (§1.3.4-§1.3.5) serve to provide the reader with some information on Icelandic syntax that will make parsing example sentences (especially the attested ones) easier. The section on the 'New Passive' and dative-accusative constructions (§1.3.6) serves to orient the reader to some relevant issues which are the subject of ongoing research on Icelandic, issues which may ultimately shed further light on the topics of this thesis.[22]

1.3.1 Oblique Subjects and Case Morphology

Icelandic has four morphological cases, nominative, accusative, dative and genitive. In addition, Icelandic is a very rich case-agreement language. Almost every major con-

[22]There are, of course, many important topics which I cannot begin to address or mention. For example, there is no discussion here of DP structure, on which see Sigurðsson (1993, 2006a); Julien (2005).

stituent within a DP takes different morphology depending on the case of that DP, including quantifiers, demonstratives, adjectives, numerals, the head nouns themselves, and definite markers. Definite markers are usually attached to the head noun as a suffix or clitic (depending on the analysis). Moreover, predicate nominals and adjectives agree with their subject in case, as do secondary predicates of various sorts.

To some extent, the case categories serve to mark the basic grammatical functions: many subjects are nominative, many direct objects are accusative, many indirect objects are dative, and many possessors are genitive. However, the relationship between syntax and case-marking is far more intricate than this description would suggest. It was noticed quite early in generative work on Icelandic, for example, that some accusative, dative, and genitive DPs seemed to be syntactically more subject-like than similar elements in related languages. In traditional grammar these were called *frumlagsígildi*, a compound word derived from *frumlag* 'subject' and *ígildi* 'equivalent'; the idea was that they were the equivalent of subjects, but by definition could not be true subjects, since they are not nominative.[23]

Starting with Andrews (1976/1990, 1982a), developing through Thráinsson (1979:462-476), Zaenen et al. (1985), Sigurðsson (1989:204-209), and Jónsson (1996:115-124), it was established that Icelandic oblique subjects behaved syntactically like nominative subjects in almost every way, the main difference being that oblique subjects do not trigger subject-verb agreement. According to a line of analysis going back at least to Sigurðsson (1989) (see also Marantz 1984:79-83 and Platzack 1987:392-4), and adopted by many since (cf. Marantz 1991/2000; Holmberg and Platzack 1995; Jónsson 1996; McFadden 2004), oblique subjects in Icelandic are always derived by promotion

[23]I'd like to thank Höskuldur Thráinsson for discussing much of the material in this section with me, including the term *frumlagsígildi*.

of an internal argument to subject position, standardly SpecTP. This accounts for, among other things, the fact that the number of attested case patterns is so small, as discussed in Yip et al. (1987). For example, verbs with oblique subjects never have two internal arguments (see also Jónsson 2000a). The now infamous 'subjecthood tests', then, are tests for whether a DP is of the type that can or does move to SpecTP.

1.3.2 Expletive Constructions

An extremely pervasive aspect of Icelandic syntax is its use of expletive constructions. Expletive constructions will show up in a number of ways throughout this thesis, so I will provide a brief overview now. One prominent topic throughout the 1990s involved so-called 'Transitive-Expletive Constructions' (Vangsnes 1995, 2002; Jonas 1996a,b; Bobaljik and Jonas 1996; Bobaljik and Thráinsson 1998), though many of the relevant observations go further back (Thráinsson 1979:473ff.; Zaenen et al. 1985; Maling 1987, 1988; Sigurðsson 1989; Vikner 1991, 1995). An example is provided in (56).

(56) Það hefur einhver stúdent étið hákarlinn.
EXPL has some student eaten shark.the
'Some student has (apparently) eaten the shark.' (Sigurðsson 1989:287)

Vangsnes (1995, 2002) showed further that different quantifiers may occupy distinct positions lower than SpecTP in expletive constructions. Movement of a DP to SpecTP is generally only obligatory for pronouns and many definite subjects (see above references; see also Jónsson 2000b; Sigurðsson 2000, 2010b). While TECs have played a major role in the theoretical literature, they seem to be a particular sub-case of the general pervasiveness of expletive constructions in Icelandic. This thus applies to unergatives, unaccusatives and passives as well, as illustrated with the following examples, taken from Thráinsson (2007:310).

(57) a. Það hlupu þrjár rollur yfir veginn.
EXPL ran three sheep over road.the
'Three sheep ran over the road.' (Unergative)

b. Það bráðnaði stórt stykki af jöklinum.
EXPL melted big piece from glacier.the
'A big piece melted off the glacier.' (Unaccusative)

c. Það hafði verið skotinn ísbjörn í fjárhúsunum.
EXPL had been shot polar.bear in sheep.houses.the
'A polar bear had been shot in the sheep houses.' (Passive)

Work on oblique subjects and TECs soon crossed paths, and a lot of research has been devoted to agreement intervention effects of Transitive-Expletive Dative-Nominative constructions (Holmberg 2002; Holmberg and Hróarsdóttir 2004; Kučerova 2007; Sigurðsson and Holmberg 2008; Ussery 2009); speakers seem to vary with respect to whether a verb can or must agree with a plural nominative object when a dative argument intervenes between the finite verb and the nominative object, and for some speakers, the choice of quantifier matters for this.

Note that the expletive in all expletive constructions discussed so far is a 'first-position' expletive; that is, it is not overtly present whenever something topicalizes or when the verb moves to form a wh- or yes-no question. This also applies to weather pronouns, as illustrated below.

(58) a. Það rigndi mikið í Reykjavík þá.
EXPL rained much in Reykjavík then
'It rained a lot in Reykjavík then.'

b. Þá rigndi (*það) mikið í Reykjavík.
then rained (*EXPL) much in Reykjavik
'Then it rained a lot in Reykjavík.'

c. Rigndi (*það) mikið í Reykjavík þá?
rained (*EXPL) much in Reykjavík then
'Did it rain much in Reykjavík then?' (Thráinsson 2007:481)

This should be kept in mind throughout this thesis, as I will often employ a first-position adverbial in certain test sentences, with the effect that *það* will not appear overtly. An expletive construction can generally be recognized in such cases by an adverbial followed directly be the finite verb, followed by something other than a subject DP.

Expletive constructions, while not the topic of this thesis, will be lurking in the background throughout, and many questions which arise regarding why a particular analysis cannot apply to English or other related languages seems to stem from this general property of Icelandic. One particularly puzzing case involves the grammaticality of sentences like (59), discussed in §4.3.2.

(59) a. Nú slokknar á báðum kertunum.
now goes-out on both candles.the
'Now, both the candles go out.' (Sigurðsson 2011:26)

b. Það logaði á kertinu.
EXPL flamed on candle.the
'The candle flamed.' (Sigurðsson 1989:285)

Given the grammaticality of pseudo-passives in English, it is not at all obvious why (60a) cannot mean something like (60b). (It can only have the irrelevant reading, 'The candle continued to flame'.) It is furthermore not clear why (60c) is not possible in English, particularly if the English expletives *there* and *it* are simply surface position place-holders.

(60) a. # The candle flamed on.

b. There was a flame on the candle.

c. * There/It flamed on the candle.

I do not have an answer to this question, but I bring it up because in evaluating the various constructions studied in this thesis, and comparing them to other languages, it is important to keep in mind this ill-understood but very interesting difference between English

and Icelandic. The expletive construction which plays the strongest role in this thesis, however, is the impersonal passive (along with its sub-types), since it is often a fairly reliable way to force an agentive reading on a predicate (making it a useful diagnostic for argument structure), though as discussed in §1.3.6, one must be careful in exactly what, specifically, to conclude from this diagnostic.

1.3.3 Verb Movement and Word Order

Work on Icelandic word order has long assumed that the finite verb may move around, for example to form questions (Thráinsson 1979, 1986; Sigurðsson 1986b). In earlier work, not much was understood about the landing site of this verb movement, but with more general work on the topic cross-linguistically (Pollock 1989), and Holmberg's (1985; 1986) adoption of Kayne's (1981; 1984) proposal that syntactic structure is uniformly binary branching, the standard view came to be that Icelandic has V-to-T movement independent of V-to-C movement, unlike Mainland Scandinavian languages (which have only V-to-C movement), since the verb precedes negation even in embedded wh-clauses, relative clauses, adverbial clauses and control clauses (Rögnvaldsson and Thráinsson 1990; Thráinsson 1993, 2003, 2009; Johnson and Vikner 1995; Vikner 1995; Bobaljik and Thráinsson 1998). As clause structure became more elaborated, some basic version of this analysis was mantained by most researchers.

A number of issues interact with head movement, most notably Object Shift, which is movement of an object to a high position in the clause (preceding sentence adverbials), and seems to be contingent on the verb moving to the left as well (Holmberg 1986, 1999; Collins and Thráinsson 1996). The following illustration of this is taken from Collins and Thráinsson (1996:394). In (61), we see that the verb has moved to T from its base-generated position and the object may or may not move to the position preceding

the negative marker *ekki* ‘not’.

(61) Object Shift is optional when verb moves

a. Jón$_i$ las$_j$ [$_{VP}$ ekki [$_{VP}$ t$_i$ [$_{v'}$ t$_j$ bækurnar]]]
John read not books.the
‘John didn’t read the books.’ (No Object Shift)

b. Jón$_i$ las$_j$ bækurnar$_k$ [$_{VP}$ ekki [$_{VP}$ t$_i$ [$_{v'}$ t$_j$ t$_k$]]]
John read books.the not
‘John didn’t read the books.’ (Object Shift)

In (62), on the other hand, the verb does not move as high as T, since an auxiliary is there. In that case, the object cannot shift to the left of the negative adverb, as shown in (62b). (62c) shows that negation cannot normally appear clause-finally (that is, unless everything happens to move its left).

(62) Object Shift is impossible when verb doesn’t move

a. Jón$_i$ hefur [$_{VP}$ ekki [$_{VP}$ t$_i$ [$_{v'}$ lesið bækurnar]]]
John has not read books.the
‘John hasn’t read the books.’ (No Object Shift)

b. * Jón$_i$ hefur bækurnar$_k$ [$_{VP}$ ekki [$_{VP}$ t$_i$ [$_{v'}$ lesið t$_k$]]]
John has books.the not read
INTENDED: ‘John hasn’t read the books.’ (*Object Shift)

c. * Jón hefur lesið bækurnar ekki.
John has read books.the not
INTENDED: ‘John hasn’t read the books.’ (*Final Negation)

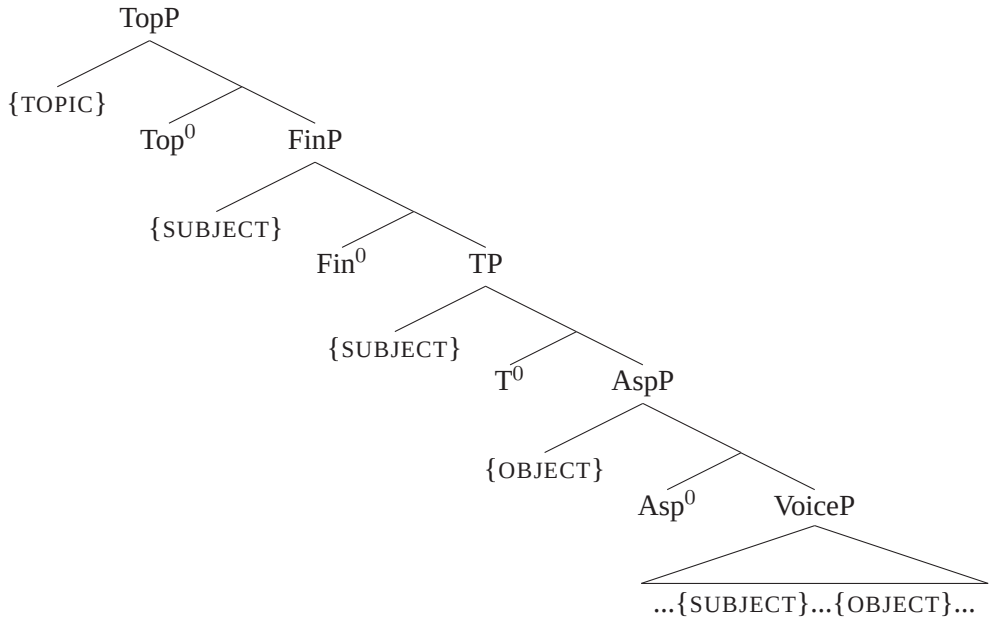
This correlation between verb movement and Object Shift became known as Holmberg’s Generalization, and is discussed further in §2.3.

A number of issues with respect to verb-second and V-to-T movement remain active research areas. Angantýsson (2001, 2007, 2011) has shown in some detail that for many speakers, verb movement does not seem as obligatory as it was once thought to be (though see also Sigurðsson 1986b; Thráinsson 1986). This was also observed

by Wiklund et al. (2007), as part of a larger project on verb-movment attempting to, among other things, reconcile Icelandic and other Scandinavian languages with a finer-grained CP structure (along the lines of Rizzi (1997) and subsequent work), analyze Scandinavian verb-movement as remnant vP movement (rather than head movement), and eluciate information structural and clause-typing effects on verb movement (Hróarsdóttir 2000a,b; Bentzen 2005, 2007; Wiklund et al. 2009; Hróarsdóttir et al. 2007; Bentzen et al. 2007a,b; Hrafnbjargarson and Wiklund 2009).

Most of these issues are more or less independent of the analyses presented in this thesis. As a point of reference, however, we can take the basic clause structure to be fairly simplified, with the understanding that this glosses over many interesting aspects of the syntax of the language. I will assume, in general, clause structure along the lines in (63).

(63)



VoiceP is the domain where arguments are introduced; its structure is the topic of most of this thesis, and I therefore gloss over it for now. I assume two object positions, one VoiceP-internal and one in the inflectional domain, labeled AspP here. AspP is the area of clause structure responsible for encoding verbal aspect (perfect, progressive, etc.). I

also assume at least three subject positions: a VoiceP-internal base-generated subject position, and two subject positions in SpecTP and SpecFinP. TP is the area of the clause structure responsible for encoding Tense and is the locus of finite and perhaps infinitive verb morphology. FinP is responsible for encoding finiteness and is the lowest CP head. TopP is a position to move topicalized XPs. The finite verb head-moves through the various heads in the clause until it is blocked by an auxiliary, though I assume it only moves to Top^0 if an XP moves to SpecTopP. I must emphasize that this should be seen as a point of reference rather than an analysis I am advocating. It is certainly over-simplified, and as presented, raises a whole host of questions, many of which have been the topic of the research cited above. It suits present purposes because, as mentioned above, the present thesis is concerned primarily with the structure of VoiceP. I will revisit and slightly revise this clause structure in §2.3, where I propose a particular view of clitic licensing in Icelandic.

1.3.4 Simplex, Complex, and Long-Distance Reflexives

A long line of literature in Icelandic syntax has focused on reflexive constructions, which raise a number of interesting questions. First, it has been noted and discussed extensively since the earliest generative work on Icelandic that the reflexive pronoun *sig/sér/sín* (ACC/DAT/GEN) need not take a local antecedent, but may take an antecedent in a superordinate clause (Thráinsson 1975, 1979, 1990, 1991; Maling 1984, 1986; Rögnvaldsson 1986; Anderson 1986; Sigurðsson 1986a, 1990; Sells 1987; Sigurjónsdóttir and Hyams 1992; Sigurjónsdóttir 1992; Reuland and Sigurjónsdóttir 1997; Reuland and Everaert 2001; Reuland 2006a,b, 2011).

(64) Jón$_i$ segir að þú elskir { sig$_i$ / hann$_i$ }.
John$_i$ says that you love.SBJV { REFL.ACC$_i$ / him.ACC$_i$ }
'John$_i$ says that you love him$_i$.' (Sigurðsson 1986a:1)

Whether a reflexive pronoun can be interpreted long-distance depends on the matrix verb, such that the reflexive denotes the "point-of-view" of the proposition expressed. For many (but not all) speakers, subjunctive morphology is necessary, but it is also not sufficient, since not all subjunctive clauses allow a reflexive pronoun to take a long-distance antecedent. There is much to say about these sorts of reflexives, but it is mainly their existence that is important to be aware of in the present thesis.

With respect to locally bound reflexives, it has been noted that some languages have more than one type of local anaphor (as discussed in Everaert 1988 for Dutch and Hellan 1988 for Norwegian). Hyams and Sigurjónsdóttir (1990); Sigurjónsdóttir and Hyams (1992) and Sigurjónsdóttir (1992) were the first to point out that Icelandic is among these languages, and has at least three classes of 'reflexive verb' (see Sigurjónsdóttir 1992:ch.2 for an excellent overview; see also Reuland 2006b; Thráinsson 2007:461ff.).[24] First, inherent reflexives are verbs which only occur with a reflexive pronoun, but no other, non-reflexive DP object. Second, 'natural' reflexives are verbs which may take a non-reflexive object, but which normally take a simplex reflexive pronoun when they are reflexive. These may take a complex 'self'-reflexive under contrastive focus. Third, naturally disjoint verbs are generally quite odd or ungrammatical with simplex reflexives, but require a 'self'-reflexive to express reflexivity.

[24] Actually, the number would be at least four, in the typology of Reuland (2011), including the non-reflexive pronoun+self constructions discussed there. These play no role in the present thesis.

(65) a. Egill$_i$ hegðar { *honum / sér$_{i/*j}$ / *SJÁLFUM sér vel }
Egill$_i$ behaves { *him / REFL$_{i/*j}$ / *SELF REFL well }
'Egill behaves himself.'
(Inherent Reflexive)

b. Egill$_i$ rakaði { hann$_{*i/j}$ / sig$_{i/*j}$ / SJÁLFAN sig$_{i/*j}$ }
Egill$_i$ shaved { him$_{*i/j}$ / REFL$_{i/*j}$ / SELF REFL$_{i/*j}$ }
'Egill shaved him/himself/himSELF.'
(Natural Reflexive)

c. Egill$_i$ elskaði { hann$_{*i/j}$ / *sig / sjálfan sig$_{i/*j}$ }
Egill$_i$ loved { him$_{*i/j}$ / *REFL / self REFL$_{i/*j}$ }
'Egill loved himself.'
(Naturally Disjoint)

Recent work has shown that the typology of reflexive constructions that are relevant to syntax may well be far more intricate than previously thought; see §1.3.6 for references and discussion.

1.3.5 Progressive Aspect

Icelandic has a very productive progressive construction, which is important to be aware of in order to parse many of the example sentences in this thesis. The basic progressive involves the verb *vera* 'be' followed by a preposition or infinitive marker *að* 'to' and then the infinitive form of the verb.

(66) Jón var að vinna (þegar ég kom).
John was to work when I came
'John was working when I came.' (Jóhannsdóttir 2011:6)

Jóhannsdóttir (2011) provides the most detailed and most recent study of the Icelandic progressive, along with a comparison to the English progressive (see also Friðjónsson 1982; Jóhannsdóttir 2005, 2007; Torfadóttir 2008). The *að* in this construction could either be an infinitive marker or a preposition. In earlier stages of the language, both were

present simultaneously. The following example comes from the 13th century text *Njál's Saga*, taken from Jóhannsdóttir (2011:15), who cites Thráinsson (1999:219).

(67) Hann var **að að** hlaða skútuna.
he was at to load vessel.the
'He was loading the vessel.' (13th Century Icelandic)

It is not completely obvious which remains in the present day language. Thráinsson (1979:443) points out that the preposition clearly shows up in a related construction:

(68) a. Er hann að borða?
is he to eat
'Is he eating?'

b. Já, hann er að því.
Yes, he is at/to it.DAT
'Yes, he's doing that.' / 'Yes, he's at it.' (Thráinsson 1979:443)

In (68b), *að* assigns dative case to the (eventive) pronoun, suggesting it is a preposition. I will in this thesis, however, follow standard practice and gloss progressive *að* as 'to'.

1.3.6 The 'New Passive' and Dative-Accusative Constructions

There are a number of recently discovered phenomena that have emerged from work on Icelandic which I have not been able to do justice to in this thesis. The most prominent among these is no doubt the 'New Passive', also called the 'New Impersonal' or simply 'New Construction', the terminology reflecting a debate over how to analyze it. The construction in question was first discussed in Sigurðsson (1989:355), and became a prominent topic of research through the work of Maling and Sigurjónsdóttir (1997), Sigurjónsdóttir and Maling (2001) and Maling (2006), with further studies continuing through Eythórsson (2008), Jónsson (2009b), Sigurðsson (2011), Árnadóttir et al. (2011), Maling and Sigurjónsdóttir (2012a,b) and Sigurðsson (2012a).

(69) % Það var kosið hana í gær.
EXPL was elected her.ACC yesterday
'She was elected yesterday.' (Sigurðsson 1989:355)

The most prominent and interesting facts about this construction include the accusative case marking on the object as well as the fact that it cannot move to the subject position. The primary debate over the analysis of this construction for the past 10-15 years has been over whether this is an active construction with a silent impersonal subject, or whether it is a passive construction with no silent subject, but rather a marked case and A-movement pattern. Given traditional understanding of Icelandic syntax, either analysis would be anomalous: under the passive analysis, the case-marking is surprising, but the fact that the underlying object DP does not move to the subject position is perhaps even more surprising; under the active analysis, the availability of a null impersonal active subject is surprising, since such subjects only appear in a marked set of constructions, and this one looks suspiciously passive otherwise.

One of the more interesting results of the debate over the New Construction is the questions it has raised about other aspects of Icelandic syntax. For example, it brought to the forefront another fact originally noticed by Sigurðsson (1989): that passive constructions with accusative case-marked reflexive objects are not as bad as one might have expected.

(70) a. Fólkið baðaði sig á laugardögum.
people.the bathed REFL.ACC on Saturdays
'The people took a bath on Saturdays.'

b. (%) Það var baðað sig á laugardögum.
EXPL was bathed REFL.ACC on Saturdays
'There was bathing on Saturdays.' (Sigurðsson 1989:355)

Sigurðsson (1989) judged (70b) as '??' (noting that it was surprisingly good, however). Work on the New Construction has shown that many speakers are even more favorable

to passives of reflexive verbs, which, due in large part to work by Schäfer (2011a,b), have become the focus of subsequent research in its own right. The recent study in Árnadóttir et al. (2011) revealed a number of further striking facts. One is that passive of reflexive sentences such as (70b) have been attested for a long time, even in some formal written publications. The second, discussed also in Eythórsson (2008), is that the presence of a reflexive in a passive makes it possible, for some speakers, to have a non-reflexive object in the accusative, such as in the following example.

(71) % Það var auðvitað fengið sér hamborgara.
EXPL was of.course gotten REFL.DAT hamburger.ACC
'(People) of course got themselves a hamburger.' (Árnadóttir et al. 2011:56)

That is, there are speakers who might reject (69) but would accept (71). I bring this up here because impersonal passive constructions, which are clearly related to these constructions, will play a major role throughout this thesis, mainly as a diagnostic. These include impersonal prepositional passives such as (72).

(72) Þá var oft talað um Ólaf.
then was often talked about Olaf.ACC
'(People) then often talked about Olaf.' (Sigurðsson 2011:169)

While I think that the diagnostic uses of the passive constructions in this thesis are appropriate, it is important to keep in mind that as a diagnostic, it may not be so obvious exactly what the analysis of them is. While (72) is accepted by every speaker of Icelandic, as far as I know, and (69), (70b), and (71) are subject to significant speaker variation, it may be that the analysis of the latter sentences holds important consequences for our understanding of what the structure of sentences like (72) is, and it is important to keep this in mind throughout. See Schäfer (2011a,b) for a very intriguing cross-linguistic comparison and an analysis of sentences like (70b) in a framework which is very closely related to the present one (see also Jónsson 2011).

Another relevant topic, which is only starting to be understood, involves the spreading of sentences with a dative subject and an accusative object. Certain constructions of this kind have been around for a long time; an example is given in (73).[25]

(73) Okkur gaf góðan byr.
us.DAT gave good wind.ACC
'We had a fairwind.' (Maling 1990b:ex. 71)

Another example involves what has been called *þágufallssýki* 'dative sickness' or *þágufallshneigð* 'dative substitution', referring to the tendency of speakers to use a dative subject where prescriptively (and traditionally), accusative is used. As originally pointed out by Yip et al. (1987:231), when this occurs on the subject of *vanta* 'need/lack', the object remains accusative.

(74) a. Mig vantar hníf.
me.ACC lacks/needs knife.ACC
'I need/lack a knife.'

b. Mér vantar hníf.
me.DAT lacks/needs knife.ACC
'I need/lack a knife.' Yip et al. (1987:231)

Dative substitution itself has been the subject of a lot of research (Eythórsson 2000; Jónsson and Eythórsson 2005, 2011)

While dative-accusative constructions seem to be fairly well entrenched in Faroese (Barnes 1986; Eythórsson and Jónsson 2003; Jónsson 2009a) (though perhaps starting

[25]It seems likely to me that this is related to or is an example of what Sigurðsson (2006b) calls the 'fate' accusative construction, a construction which has been extensively discussed in the literature (Zaenen and Maling 1984, Ottósson 1988, Sigurðsson 1989, Haider 2001, Svenonius 2002, 2005, 2006, Platzack 2006, Sigurðsson 2006b, 2009b, 2011, 2012b, Schäfer 2008:304ff.). See §3.1 for a brief discussion.

to give way to nominative-accusative constructions, to some extent), they have generally been a fairly marginal or peripheral aspect of Icelandic syntax. The recent study in Árnadóttir and Sigurðsson (2012), however, has revealed that dative-accusative constructions of the Faroese sort seem to be gaining ground for some speakers. Moreover, not all traditionally dative-nominative verbs are equally likely to be accepted or attested with accusative objects, and preliminary research suggests that the argument structure of such verbs may play an important role in how this develops. Since this is likely to be related to properties of VoiceP-internal structure, further research on this topic will no doubt have an impact on our understanding of the issues discussed in this thesis.

Chapter 2

The Morphosyntax of *-st*

The majority of this thesis will focus on certain argument structure alternations, many/most of which involve the *-st* morpheme. An emphasis will be placed on the interface with semantics—thematic interpretation, in particular. I will argue that *-st* externally merges in certain argument positions, with potentially distinct interpretive consequences depending on where it merges. However, much of this analysis rests on a clitic analysis of *-st*, since it will originate in distinct positions but, like argument clitics cross-linguistically, will end up in a restricted set of positions in clausal functional structure. To set the stage for the analyses in later chapters, then, I first present morphosyntactic arguments in favor of a clitic analysis that are more or less independent of thematic concerns.

In some cases, I will present examples of *-st* verbs that will not receive a complete argument structural analysis in this thesis, if such verbs have properties that make it easier to set up the relevant tests. The examples in this chapter are thus intended to illustrate more general properties of *-st*, which seem to cut across verb classes and provide clues as to its formal properties. First, I discuss the analysis of *-st* as a clitic, and support this analysis by examining the morphosyntactic properties of *-st* and comparing it to those of clitics. Then, I discuss various possible implementations of the clitic analysis, for the

sake of clarity, and outline a particular analysis in more detail.

2.1 On *-st* Morphology: What *-st* is and isn't

A major empirical contribution of this dissertation is a detailed study of the *-st* morphology in Icelandic, which has taken to reflect the 'middle voice'. The *-st* morpheme in Icelandic originally developed from the reflexive pronoun *sik* (modern day *sig*; see Ottósson 1992 on the historical development of *-st*). It has been the subject of many studies, many of which focus on the different apparent 'uses' of *-st*. Works such as Vigfusson (1866), Smári (1920:136ff.), Einarsson (1949:147ff.), Valfells (1970), Ottósson (1986), Sigurðsson (1989:259-263), and Anderson (1990) divide *-st* verbs into distinct classes, while ther studies discuss or focus on one particular 'use' of *-st*, such as the reciprocal (Irie 1996), the reflexive (Roehrs 2005), the anticausative (Svenonius 2006) or the generic middle (Maling 2001:440-2). Examples of these uses are provided in (75).

(75) a. Jóna og Siggi kysstust eftir ballið.
Jóna.NOM and Siggi.NOM kissed-ST after dance.the
'Jóna and Siggi kissed after the dance.' (Jónsson 2005:399) (Reciprocal)

b. Jón dulbjóst sem prestur.
John.NOM disguised-ST as priest
'John disguised himself as a priest.' (Jónsson 2005:400) (Reflexive)

c. Glugginn opnaðist af sjálfu sér.
window.the.NOM opened-ST by itself
'The window opened by itself.' (Sigurðsson 1989:268) (Anticausative)

d. Rafmagnsbílar seljast (vel) hér.
electric.cars.NOM sell-ST (well) here
'Electric cars sell well here.' (Generic Middle)

On the one hand, most of the different uses of *-st* do not seem particularly shocking from a cross-linguistic perspective, since similar uses are common for reflexive affixes,

clitics and pronouns in the world's languages. On the other hand, one sometimes gets the impression that *-st* is more idiosyncratic than most reflexive clitics. First, there are a number of *-st* verbs that take accusative direct objects and do not seem to have any semantics associated with anticausatives, reflexives, etc. These include motion verbs like *fjarlægjast* 'move away from', *forðast* 'avoid', *nálgast* 'approach', and *varast* 'avoid', and certain psych-verbs like *ágirnast* 'covet', *ásælast* 'covet', *girnast* 'crave', *hræðast* 'fear', *óttast* 'fear', and *undrast* 'marvel'. Verbs of this class have been taken to be arbitrarily listed lexical exceptions (Andrews 1982b:457).

(76) a. Pétur forðaðist Hlyn.
Peter.NOM avoided-ST Hlynur.ACC
'Peter avoided Hlynur.'

b. Drengurinn undraðist mannfjöldann.
boy.the.NOM marveled-ST crowd.the.ACC
'The boy marveled at the crowd.'

Second, as noted in Ottósson (1986), Sigurðsson (1989:262), and Anderson (1990), *-st* can be used productively to form denominal activity verbs from nominal stems that often cannot be a verb without *-st* . This is even attested with proper names, as shown in (77). Nonce formations are often considered quite slangy and may be prescriptively frowned upon. However, there are some relatively common and standard *-st* verbs formed from nominal stems, such as *ferðast* 'travel' from *ferð* 'trip'.

(77) a. ég er núna í boston og er að **trompetast**
I am now in Boston and am to trumpet-ST
'Now I'm in Boston trumpeting.'[1]

b. en allt í einu kom nonni og byrjaði að **nonnast**
but all at once came Nonni and began to Nonni-ST
'But all of a sudden, Nonni showed up and starting acting like Nonni.'[2]

[1] http://gummiogolof.vitum.net/comments/recent?page=10

[2] http://gummig.blogcentral.is/?page=9

Third, as noted in Sigurðsson (1989:261-2), *-st* verbs very often require a preposition that is not required (or possible) for the non-*st* use of the same verb. This preposition can in turn take a finite or infinitival clausal complement, as in (78) or a DP complement, as in (79).

(78) a. Ég vona (*til) að ég nái profinu.
I hope (*for) that I pass exam.the
'I hope that I will pass the exam.'

b. Ég vonast *(til) að ég nái prófinu.
I hope-ST *(for) that I pass exam.the
'I hope that I will pass the exam.'

c. Ég vonast *(til) að PRO ná prófinu.
I hope-ST *(for) to PRO pass exam.the
'I hope to pass the exam.' (Sigurðsson 1989:261)

(79) a. Ólafur dáði Pétur.
Ólafur adored Pétur
'Ólafur adored Pétur.'

b. Ólafur dáðist *(að) Pétri.
Ólafur adored-ST *(at) Pétur
'Ólafur admired Pétur.' (Sigurðsson 1989:262)

c. Börnin sækja sælgæti.
children.the.NOM get candy
'The children get candy.'

d. Börnin sækjast í sælgæti.
children.the.NOM get-ST to candy
'The children try to get candy.'

Despite the impression that the *-st* morpheme is idiosyncratic, its role in the overall Icelandic system has been quite stable over the past millennium; looking at descriptions of the Old Norse ancestor of *-st*, one does not find anything radically different from the present day system, other than some lexical differences. I will argue below that Icelandic

-*st* is not particularly exceptional in terms of idiosyncrasy, either empirically (across languages) or systemically (within Icelandic). As we will see, I take the presence of -*st* to reflect certain properties of the syntax; it is involved in structure building and in generating verbal expressions, specifically in that it is one way of building a structure with a reduced valency.

One view of -*st* morphology has been that it is far too idiosyncratic to find a place in the syntactic system. I will argue that this is misguided in two ways. First, the argument assumes that there should be a direct semantic relationship between a root in one structure and the same root in another structure; the goal of the present work, in probing the syntax-semantics interface, can make no such a priori assumption. In fact, a direct relation between two fully built structures is impossible to state in the system proposed here. Second, the idiosyncrasy one finds with -*st* is no more severe than the idiosyncrasy one finds with all sorts of elements that no one would deny are part of the syntactic system, in the sense that they are generated in unique phrase-structural positions and subject to syntactic constraints.

Consider, for example, the relationship between the following three sentences. As shown in (80c), the root $\sqrt{\text{FAR}}$ 'go' with the -*st* morpheme can refer to dying, if the death is understood to have happened in some sort of accident.

(80) a. Hann fór.
he.NOM went
'He went.'

b. Hann er farinn.
he.NOM is gone
'He is gone.'
'He has died.'

c. Hann fórst í bílslysi.
he.NOM went-ST in car.accident
'He died in a car accident.'

The relationship between the non-*st* verb *fara* ‘go’ and the -*st* verb *farast* ‘die’ has been taken to be among the idiosyncratic lexical properties of -*st* verbs that renders them so problematic. However, there is systematicity here: *farast* is a change of state unaccusative marked with -*st*, and one of the more common uses of -*st* is to mark change of state unaccusatives. Moreover, the meaning of the root $\sqrt{\text{FAR}}$ ‘go’ in this structure is compatible with an independently attested meaning of $\sqrt{\text{FAR}}$ ‘go’, as shown in (80b). From the present perspective, there is a sense in which the structure generating (80c) is systematic, even if the ‘sense’ of the root $\sqrt{\text{FAR}}$ ‘go’ that emerges in this structure may not be a priori predictable.

The sense in which *farast* ‘die’ seems to be idiosyncratic is that it does not correspond to a transitive structure with the same meaning of the root, unlike the alternation between *drepa* ‘kill’ and *drepast* ‘die’.[3]

(81) a. Hann drap hundinn.
he.NOM killed dog.the.ACC
‘He killed the dog.’

b. Hundurinn drapst.
dog.the.NOM killed-ST
‘The dog died / got killed.’

(82) a. * Ég fór hann.
I.NOM went him.ACC
INTENDED: ‘I killed him.’

b. Hann fórst.
he.NOM went-ST
‘He died.’

[3]However, with a prepositional prefix *fyrir* ‘for’, it can form an inherent reflexive *fyrirfara sér* meaning to ‘commit suicide’. This is another example of the ‘die’ meaning with the root $\sqrt{\text{FAR}}$ ‘go’ which is independent of *farast* ‘die’.

While (81b) seems straightforwardly to be an anticausative of (81a), there seems to be no transitive variant to relate (82b) to. However, from the present perspective, this is a matter of what sorts of roots are compatible with a transitive structure, not a matter of -*st* being idiosyncratic.

In the following subsections, I will discuss a number of properties of -*st* and -*st* verbs. I first show that -*st* is not the usual way of making a reflexive or a passive. I then provide some reasons to think that -*st* has no case feature, but may have one or more φ-features.

2.1.1 Reflexive -*st* Verbs

Adding the -*st* morpheme to a verb is not the normal way of forming reflexives in Icelandic. While Smári (1920:136) considered the reflexive use of -*st* to be the 'true' middle, and Anderson (1990:251) claims that any verb with the right semantics will allow an -*st* reflexive, Ottósson (1986:90) suggests that discussions of -*st* have been strongly influenced by considerations of its historical development rather than its synchronic use. He argues for a division among -*st* verbs: those that are productive and predictable (such as anticausative middles), and those that are not. Reflexive -*st* verbs are argued to fall into the latter class.[4]

A great many verbs do not allow an -*st* reflexive, though they are perfectly compatible with reflexive semantics. Inherent reflexives, which do not allow a non-coreferent object, do not allow -*st* (e.g. *hegða sér*/**hegðast* 'behave oneself'; *skemmta sér*/**skemmtast* 'enjoy oneself'). Verbs like *raka* 'shave' allow the reflexive pronoun *sig*, but not -*st* (**rakast*) (see Jónsson 2005:398). Nor can -*st* be used on naturally disjoint verbs like

[4]Ottósson (1986) states this in terms of inflection (productive) versus derivation (non-productive or lexicalized).

elska ‘love’ to mean ‘love oneself’.[5]

(83) a. Jón hegðar sér vel.
John behaves REFL.DAT well
‘John behaves well.’

b. * Jón hegðast vel.
John behaves-ST well
(Inherent Reflexive)

(84) a. Jón rakaði sig.
John shaved REFL.ACC
‘John shaved.’

b. * Jón rakaðist.
John shaved-ST
(Natural Reflexive)

(85) a. Jón elskaði sjálfan sig.
John loved self.ACC REFL.ACC
‘John loved himself.’

b. * Jón elskaðist.
John loved-ST
(Naturally Disjoint)

Sigurðsson (1989:264, fn31) states that there are many “minimal pairs of reflexive verbs and middle verbs.”

(86) a. Steinninn { hreyfðist / *hreyfði sig }
stone.the { moved-ST / *moved REFL.ACC }

b. Páll { ?? hreyfðist / hreyfði sig }
Paul { ?? moved-ST / moved REFL.ACC } (Sigurðsson 1989:264, fn31)

Moreover, many *-st* verbs which do have reflexive meaning seem to have an idiosyncratic semantic relationship with the corresponding non-*st* verb that has to be learned individually. According to Ottósson (1986:89), “Middle verbs which have been considered to be of the reflexive group generally do not have clear reflexive meaning, but rather some specialized meaning.”[6] Some cases of this will be discussed in chapter 4, particularly in §4.2.3-§4.2.4.

Ottósson’s conclusion that the middle/anticausative use of *-st* is primary has been generally accepted in the literature. Sigurðsson (2002:4) states: “there are some instances

[5]Though *elskast* has a reciprocal use meaning ‘make love’.

[6]Original: “Miðmyndarsagnir sem taldar hafa verið til afturbeygilega flokksins hafa yfirleitt ekki hreina afturbeygilega merkingu, heldur einhverja sérhæfðari merkingu.” See also Jónsson (2005:398) for the same claim.

where a reflexive verbs (e.g. *klæða sig* 'get dressed') can be replaced by an -*st*-verb (e.g. *klæðast* 'get dressed') but generally, this is not the case." Thráinsson's (2007) discussion of the syntax of -*st* alternations focuses on this use, and only mentions the reflexive use in passing. Sigurjónsdóttir (1992), which focuses on the acquisition of classes of anaphora in Icelandic, does not include -*st* in her study. Jónsson (2011:105-106) notes that -*st* is not a 'bound variant' of the reflexive pronoun. In chapter 4, I will discuss a particular kind of -*st* reflexive which I think is quite systematic and productive, and I will show how reflexive-like semantics can be derived while maintaining that -*st* is a clitic but without assuming that -*st* is a bound variant of the reflexive pronoun. Other reflexive -*st* verbs are discussed in §6.5.

2.1.2 -*st* is Not (Usually) Passive

The -*st* morpheme is not normally passive, and differs in the respect from cognate morphemes in some other Scandinavian languages, most notably Swedish. I take the difference between the passive and anticaustive to be that the passive has an understood external argument, and thus can occur with agentive by-phrases, purpose clauses, and agent-oriented modifiers, and may not occur with *af sjálfu sér* 'by itself'.

(87) Passive

a. Rúðunni var splundrað { viljandi / *af sjálfu sér }
window.the.DAT was shattered { intentionally / *by itself }
'The window was shattered on purpose.'

b. Rúðunni var splundrað (af ræningjunum).
window.the.DAT was shattered (by robbers.the.DAT)
'The window was shattered by the robbers.'

c. Rúðunni var splundrað (til þess að gera hann reiðan).
window.the.DAT was shattered (for it to make him mad)
'The window was shattered in order to make him mad.'

(88) Anticausative

a. Rúðan splundraðist {*viljandi / af sjálfu sér }
window.the.NOM shattered-ST {*intentionally / by itself }
'The window shattered by itself.'

b. Rúðan splundraðist (*af ræningjunum).
window.the.NOM shattered-ST (*by robbers.the.DAT)
'The window shattered (*by the robbers).'

c. Rúðan splundraðist (*til þess að gera hann reiðan).
window.the.NOM shattered-ST (*for it to make him mad).
'The window shattered (*in order to make him mad).'

There are some possible cases where constructions with *-st* do seem to show marginally passive-like behavior, as discussed in §6.2-§6.3. In this dissertation *-st* itself serves a purely syntactic function, occupying an argument position, and other material around it will be involved in the overall interpretive effect. Thus, the claim in §6.2-§6.3 is that to the extent that an agent can be implied in an *-st* construction without an overt external argument, this implication arises from material that is merged higher than the VoiceP domain. These facts ultimately support the analysis of anticausatives proposed in chapter 3.

2.1.3 *-st* Appears to be Caseless

I argue below that syntactically, *-st* is a clitic. However, it is important to observe that it is evidently not a CASE-BEARING clitic. There is no evidence that it has any case (or 'Case') feature or that it is licensed in the inflectional domain in the same way that full DPs are licensed; this is not surprising given that clitics are very often licensed in different ways or in different positions from full DPs, but it is worth pointing out explicitly.

It is perhaps impossible to argue conclusively that *-st* is not a case-bearing element; however, wherever a possible positive diagnostic exists, the facts do not point to the pres-

ence of any case feature on *-st*. One piece of evidence against *-st* bearing any case feature comes from the fact that *-st* verbs themselves can take arguments bearing DPs marked with every case in the language (nominative, accusative, dative and genitive).

(89) a. Ég forðaðist hana.
I.NOM avoided-ST her.ACC

b. Ég giftist henni.
I.NOM married-ST her.DAT

c. Ég þarfnaðist hennar.
I.NOM needed-ST her.GEN

This does not, of course, mean that *-st* isn't marked with different cases with different verbs, but it seriously complicates any attempt to link *-st* to morphological case.

As mentioned in §1.3.1, Icelandic is a very rich case-agreement language, exhibiting case agreement on predicative nominals and adjectives, for example. If *-st* were a case-bearing element, we might expect it to trigger case agreement on such elements. However, whenever *-st* shows up in such environments, it fails to diagnose the presence of any morphological case that is not present on some other element in the clause (cf. Andrews 1990:199-200). For example, in (90a), while the predicate nominal *prest(ur)* 'priest' can agree with either the accusative reflexive pronoun or the nominative subject, only the nominative is possible with the *-st* variant in (90b). In ECM contexts such as (90c), where the subject is accusative, the DP in the *sem*-phrase is also accusative, so we cannot simply say that *-st* is itself enforcing nominative case.

(90) a. Hann dulbjó sig sem { prestur / prest }
he.NOM disguised REFL.ACC as { priest.NOM / priest.ACC }

b. Hann dulbjóst sem { prestur / *prest }
he.NOM disguised-ST as { priest.NOM / *priest.ACC }
'He disguised himself as a priest.'

c. Ég sá hann dulbúast sem { *prestur / prest }
I.NOM saw him.ACC disguise-ST as { *priest.NOM / priest.ACC }
'I saw him disguise himself as a priest.'

Strictly speaking, this is compatible with *-st* bearing the same case as the 'other' argument in its clause, or with *-st* bearing some case feature but being unable to trigger agreement for some reason. Friðjónsson (1980:106) discusses examples where inherently reflexive verbs, which cannot take non-reflexive objects, cannot trigger predicative agreement.

(91) a. Hann hagaði sér sem (alger) bjáni.
he.NOM behaved REFL.DAT as (real) fool.NOM
'He acted like a real fool.'

b. * Hann hagaði sér sem (algerum) bjána.
he.NOM behaved REFL.DAT as (real) fool.DAT

This shows that overtly case-bearing elements cannot always trigger predicative agreement. But importantly, there is no positive evidence that *-st* bears any case of its own, abstract or otherwise.

2.1.4 *-st* Has One or More φ-Features

Despite the fact that *-st* is invariant—it does not change form either in terms of person/number features or even appear in distinct phonologically conditioned allomorphs—there are reasons to think it has some φ-feature. First, when *-st* is present on a finite verb, no person distinctions on the verb can be made in the singular (Einarsson 1949:100; Thomson 1987:434-440; Anderson 1990:242; Taraldsen 1995:fn2; Sigurðsson and Holmberg 2008:270), and this is demonstrably not for phonological reasons (cf. Anderson 1990; Wood 2010a). Two examples of singular person syncretism is illustrated in Table 2.1. In Wood (2010a), I proposed that singular syncretism arises with *-st* because *-st* can intervene for person agreement in a way that can be circumvented in

the plural. Whatever the correct explanation is, the syncretism facts show that *-st* interacts with the φ-feature complex of verbal morphology.

Table 2.1: *-st* Syncretism

Strong *-ur*-verb

mylja 'pulverize' – Present

	Sg	**Pl**	**Sg**	**Pl**
1	myl	mylj-um		mylj-um-st
2	myl-ur	mylj-ið	myl-st	mylj-i-st
3	myl-ur	mylj-a		mylj-a-st

Strong *-rð*-verb

þvo 'wash' – Present

	Sg	**Pl**	**Sg**	**Pl**
1	þvæ	þvo-um		þvo-um-st
2	þvæ-rð	þvo-ið	þvæ-st	þvo-i-st
3	þvæ-r	þvo		þvo-st

The second indication that *-st* has some φ-feature comes from periphrastic personal passives. In Icelandic, passive participles require agreement between the promoted subject and the passive participle in case, number, and gender, when the derived subject is marked with structural nominative case (or structural accusative case, if the subject is embedded in an ECM context); see (92a). When dative or genitive objects are promoted to subject, however, they retain dative/genitive case, and there is no agreement; the participle shows up in a default form, which is homophonous with the 3rd person singular neuter form (glossed as 'DFLT' for 'default' below); see (92b).

(92) a. Þeir voru barðir.
they.NOM.M were.3PL hit.NOM.M.PL
'They were hit.'

b. Þeim var hrint.
them.DAT was.DFLT pushed.DFLT
'They were pushed.' (Sigurðsson 2011:148)

An important property of *-st* verbs is that they may not be passivized when such passivization would require agreement on the participle. This holds even when a 3rd person neuter noun is used (where the needed form of the participle is known, available, and would correspond to the 'default' form, which is grammatical in the impersonal passive; cf. 94a).[7]

However, it is perfectly possible to use an *-st* verb in an impersonal passive construction (94a), or in a personal passive when the derived subject is dative or genitive (e.g. *krefjast* 'demand', *minnast* 'remember'; cf. Anderson 1990:247; Thráinsson 2007:286) (94b)—both being constructions which never require or allow agreement. The difference between (93b) and (94a) is that in (93b), (nominative) neuter 3rd singular would have been expected because *forðast* 'avoid' would be expected to agree with the nominative subject, and *barnið* 'the child' happens to be 3rd singular neuter. In (94a), (nominative) neuter 3rd singular is expected because participles always take the default form in impersonal passives, not because an agreement relation is expected.

(93) a. Ég forðaðist barnið.
I.NOM avoided-ST child.the.N.ACC
'I avoided the child.'

b. * Barnið var forðast.
child.the.NEUT.NOM was avoided.NOM.N.SG-ST
INTENDED: 'The child was avoided.'

[7] An exception is that there are two posture verbs, *sitjast* 'seat oneself' and *leggjast* 'lie down', which appear to take agreeing participle forms *sest(ur)* and *lagst(ur)*, respectively (which are nevertheless not passive) (Einarsson 1949:148; Anderson 1990:245; Thráinsson 2007:286).

(94) a. Það var forðast að nefna Jón.
EXPL was.DFLT avoided.DFLT-ST to mention John
'(People) avoided mentioning John.' (Ottósson 1992:236)

b. Peninganna var krafist (af þeim).
money.the.GEN was demanded.DFLT-ST (by them)
'The money was demanded (by them).' (Thráinsson 2007:259)

These facts suggest that *-st* has a φ-feature that interferes with the necessary agreement relation.[8]

2.2 Clitic properties of *-st*

Though *-st* has traditionally been regarded as a suffix (e.g. Andrews 1982b, 1990; Ottósson 1986; Anderson 1990; Irie 1996; Enger 2002; see also Zaenen et al. 1985:96), many authors have come to view it as being more like a clitic (see Kissock 1997; Svenonius 2006; Sigurðsson 2012b and Julien 2007:226-232). The view that it is a clitic is attractive in that the one function that *-st* seems to have consistently across the widest range of cases, as observed in Sigurðsson (1989:262), is that *-st* seems to absorb an argument position.[9] If *-st* is a clitic, this property can be accounted for by assuming that

[8] I propose in this thesis that *-st* is not interpreted thematically, despite merging in argument positions. Possibly, there is a correlation between "φ-size"—the number and content of φ-features—and the ability to be referential. Then, *-st* might be a "featural-subset" of reflexive pronouns, given that the latter can do in other languages much of what *-st* does in Icelandic. Depending on the details, this might also explain why *-st* does not seem to intervene for φ-licensing (in the sense of Sigurðsson 2012b). Schäfer (2008:300) briefly sketches a proposal along these lines; I cannot, however, go into this further in the present study.

[9] Sigurðsson (1989) excluded denominal *-st* verbs from this, and expressed appropriate skepticism about *-st* verbs with PP complements. However, I will argue in later chapters that both do, in fact, involve the absorption of an argument position, on cross-linguistic and language-internal grounds.

it merges in an argument position in the syntax and later cliticizes to the verb.[10] This is the analysis I will adopt in this dissertation for the role of -*st* in Icelandic syntax. In this section, I will support this position by illustrating the morphosyntactic properties of -*st*, and showing that these properties either support or are at least consistent with a clitic analysis, on the basis of how clitics behave cross-linguistically.

The clitic analysis of -*st* has a number of advantages, including the possibility of accounting for the following properties:

- **Mobility**: -*st* has somewhat limited mobility. However, the mobility it does have strongly suggests that it is a clitic, since it is of a nature that is very rare for affixes.
- **Positioning**: -*st* normally sits outside tense and agreement morphology, as well as participial morphology.
- **Form**: -*st* is itself invariant, and interacts with the stem morphologically in ways that are basically limited to the immediate site of attachment.
- **Valency reduction**: -*st* verbs often alternate with non-*st* verbs, such that the -*st* verb has one fewer argument. This is explained if -*st* is a clitic originating in an argument position.
- **Idiosyncrasy**: -*st* often has idiosyncratic effects on the meaning of the verb, but is often quite systematic and predictable. This fact has caused some problems under the assumption that it is an affix, because it is unclear what kind of affix it could be. Clitics, however, have just this property, with idiosyncratic requirements for particular verbs, as will be shown below.

[10]How this interacts with the thematic structure is the primary topic of subsequent chapters, so I will have nothing to say about it here.

Since the notion of neither 'pronoun' nor 'clitic' is unified or atomic (cf. Cardinaletti and Starke 1999, Déchaine and Wiltschko 2002; see also Börjars and Harries 2008), and neither should be taken to be primatives of linguistic theory, we should ask what properties that element has and how those properties compare to similar elements cross-linguistically. Clitics, paradigmatic voice affixes (as in Greek), and non-clitic reflexives used for middles (as in German) share the properties of valency reduction and idiosyncrasy. It is the mobility, positioning, and form of *-st* that make it look more like a clitic than an affix or non-clitic reflexive.

In what follows I will illustrate the above properties, address properties often considered to suggest that *-st* is not a clitic, and show that they actually turn out to be properties borne by elements that are uncontroversially considered clitics. They do not, therefore, show that *-st* is a suffix rather than a clitic. The form of the argument, then, is that there are several ways in which *-st* looks more like a clitic than anything else (mobility, positioning, form), and that its other properties are consistent with the clitic analysis. I then outline a specific proposal for how *-st* is positioned in the clause, which incorporates elements from the literature on Romance and Slavic clitics, as well as what is understood about Icelandic clause structure.

2.2.1 Positioning and distributional properties

The clitic analysis of *-st* is supported by the fact that *-st* generally sits outside tense and agreement morphology, unlike typical 'Voice-like' morphemes both cross-linguistically, and within Icelandic (cf. Julien 2007:226-232), but like well-studied '*s*' clitics in Romance and Slavic. For example, the intransitive inchoative suffix *-n(a)* appears inside tense and agreement morphology. This is illustrated in (95)–(96) below.[11]

[11]The word *dyrnar* 'the door' is semantically singular, but formally plural (cf. Sigurðsson 2009a).

(95) a. Þær **opnu-ðu** dyrnar.
they opened-3PL.PST door.the
'They opened the door.'

b. Dyrnar **opnu-ðu-st**.
door.the opened-3PL.PST-ST
'The door opened.'

(96) a. Jón **hita-ði** vatnið.
John.NOM heat-3SG.PST water.the.ACC
'John heated the water.'

b. Vatnið **hit-na-ði**.
water.the.NOM heat-NA-3SG.PST
'The water heated.'

Similarly, *-st* appears outside participial morphology, again unlike *-n(a)*, as shown by the contrast in (97).

(97) a. Ólafur hefur lengi **dá-ð-st** að Pétri.
Olaf.NOM has long admire-PTCP-ST at Peter.DAT
'Olaf has long admired Peter.'

b. Vatnið hefur **hit-na-ð** vel.
water.the.NOM has heat-NA-PTCP well
'The water has heated (up) well.'

The fact that *-st* appears outside tense, agreement, and participial morphology despite being involved in argument structure alternations, suggests that *-st* is a clitic.

It is true that *-st* is not as mobile as some clitics, for example in Romance and Slavic languages. It basically attaches to the (non-auxiliary) verb in some way. It is worth keeping in mind, though, that it is clearly licensed as part of the verbal complex (i.e. the lexical verb and associated affixes and functional structure), and the verbal complex itself is rather rigid in Icelandic, being subject to an apparently rather strict syntagmatic distribution. However, like clitics, it does have some degree of mobility. First, it can sit

outside a 2nd person imperative weak pronoun for some speakers; this is non-standard, but well-attested and described (Kissock 1997; Thráinsson 2007:285).

(98) a. Se~~t~~-st-~~tu~~.
sit-ST-2SG.NOM.SUBJ

b. % Set-**tu**-st
sit-2SG.NOM.SUBJ-ST

A number of attested examples of the non-standard variant can be found online:[12]

(99) a. Ger-**ðu-st** meðlimur í klúbbnum.
do-2SG.NOM.SUBJ-ST member.SG.NOM in club.the
'Become a member of the club.'[13]

b. Kom-**du-st** að því hvort það eru laus störf hjá RÚV.
come-2SG.NOM.SUBJ-ST to it whether EXPL are free jobs at RÚV.
'Find out whether there are open jobs at RÚV.'[14]

c. Bú-**ðu-st** frekar við svölum bardagasenum í slow-motion.
expect-2SG.NOM.SUBJ-ST rather with cool battle.scenes in slow-motion
'Rather, expect cool battle scenes in slow motion.'[15]

As pointed out by Kissock (1997), this is rather striking evidence that *-st* is a clitic. The *-tu*/*-ðu*/*-du* morpheme, glossed '2SG.NOM.SUBJ', is a weak form of the nominative 2nd person singular pronoun *þú*. It consists of a dental consonant, which can be deleted in the presence of another dental consonant, plus *-u* (IPA = [ʏ]). It attaches to the right side of the imperative stem. This is illustrated for non-*st* verbs in the following examples.

[12]Thanks to Einar Freyr Sigurðsson for pointing out some of these examples and discussing them with me.

[13]http://www.makeupstore.se/isis/club.php

[14]http://itu.dk/~oskarsson/2011/tasks_ruv_new.pdf

[15]http://www.psx.is/forums/topic/16939-hver-er-sidhasta-mynd-sem-adh-thu-sast/page__st__1600

(100) a. Kom-**du** hingað!
come-2SG here.to
'Come here.'

b. Borða-**ðu**!
eat-2SG
'Eat!'

c. Þek-**tu** það!
cover-2SG it
'Cover it!'

The fact that *-st* can, for some speakers, attach to the right of a weak subject pronoun supports the claim that *-st* is a clitic rather than a suffix, since a suffix would not be expected to be separable from the element it attaches to by a seperate, nominative subject.

Another example of the distributional flexibility of *-st* comes from the fact that, for various speakers and at various stages of Icelandic, *-st* has been able to occur between tense and agreement morpholgy (cf. Thráinsson 2007:285). According to Ottósson (1992), this distribution reached its height toward the end of the 19th century, when it began to give way to the now overwhelmingly more common variant (outside tense/agreement morphology). Ottósson claims that strong prescriptive pressures played a role in this shift historically. Speakers I have consulted find that forms such as the following are not alien to them, and one can find examples of the non-standard form online, as well as discussions of it, indicating that it is still alive in the language.[16]

(101) a. Sjá-u-st-um!
see-PL-ST-1PL
'We'll see each other later!'

b. Við hitt-u-st-um seinna!
we meet-PL-ST-1PL later
'We'll meet up later!'

[16]See, for example, http://deeza.blogspot.com/2009/05/af-hverju-segja-sumir-alltaf-vi.html.

Where the standard (and more frequent) form is:

(102) a. Sjá-um-st!
see-1PL-ST
'We'll see each other later!'

b. Við hitt-um-st seinna!
we meet-1PL-ST later
'We'll meet up later!'

I gloss the *-u-* morpheme preceding *-st* in (101) as a plural marker, which is consistent with the morphology of the language. That a single inflectional feature can appear in two places in an inflectional complex is attested cross-linguistically (see Baker and Willie 2010).[17]

There are a number of ways of describing/analyzing this alternation, and chosing among them won't be crucial here. For clarity, I will sketch a few possibilities. One possibility is that *-st* is a head in (101) and a clitic, as proposed here, in (102). This would force the epenthesis analysis of the extra *-u-* described in the previous paragraph, since it would be hard to imagine where a plural marker would come from otherwise, assuming it is higher in the clause structure than VoiceP. However, it is not clear that this analysis is tenable, since *-st* still seems to occur outside tense morphology, even when it is inside agreement morphology.[18] Sigurðsson (2012b:217) describes the difference in terms of a uniform clitization analysis, analyzing the difference as having to do with the timing of cliticization:

[17] Sigurðsson (2012b), discussing a different example (*virt-u-st-um* 'appear'), suggests it is epenthetic, which is also consistent with the morphology of Icelandic, since *-u-* is an epenthetic vowel in a number of contexts (Orešnik 1985b). However, it is not clear why epenthesis should occur in (101a), in particular, given the well-formedness of the infinitival form *sjá-st* 'see-ST' (which is also the 3rd person plural from in the present tense).

[18] For example, the *t* of *vir-**t**-u-st-um* 'appear' is a past tense morpheme for the verb *virðast*.

> In the older standard variety, the -*st*-element cliticizes onto the finite verb after roll-up v/V-to-T-to-Nr-to-Pn, first yielding v/V-T, then v/V-T-Nr, then v/V-T-Nr-Pn, and finally v/V-T-Nr-Pn-*st* by shallow cliticization [...]. In the other variety, -*st* cliticizes onto T prior to v/V-raising, first yielding T-*st*, then v/V-T-*st*, then v/V-T-*st*-Nr, and finally v/V-T-*st*-Nr-Pn.

Another possibility is that the variation has to do with the positioning of -*st* in functional structure (or positioning of the verb and functional material around a fixed position for -*st*).

The analysis of the alternation in (101-102) is obviously tied up very closely with the analysis of -*st* in the first place. Here, I would only like to point out that the fact that -*st* occurs inside agreement morphology for some speakers in some cases actually supports a clitic analysis, since clitics are attested occuring with or inside agreement morphology, usually subject to some variation. Laenzlinger (1994) provides an example of a clitic appearing inside agreement morphology in colloquial French, and Harris and Halle (2005) and Kayne (2010b) analyze clitics in varieties Spanish occuring with/inside agreement morphology. An example from Spanish is presented in (103) for the clitic *lo* 'it' and the plural morpheme -*n*.

(103) a. vénda-**n-lo**
see-PL-it
'They sell it.'

b. vénda-**n-lo-n**
see-PL-it-PL
'They sell it.'

c. vénda-**lo-n**
see-it-PL
'They sell it.'

In the 'normative' (103a), the inflectional plural marker appears at the right edge of the finite verb, and the clitic -*lo* attaches to the right of that. This resembles the standard situation with -*st*, which occurs to the right of all inflectional material. (103b-c) resemble the non-standard positioning of -*st*, in that a (plural) inflectional marker appears to the right of the clitic. If the extra -*u*- in (101) is a plural marker, as proposed above, then non-standard Icelandic looks like (103b), except with the outer-most morpheme expressing person as well as number; if it is epenthetic, then non-standard Icelandic looks like (103c), with an inflectional marker to the right of the clitic. Either way, the appearance of -*st* inside agreement morphology in non-standard Icelandic is consistent with a clitic analysis of -*st*, since clitics show this behavior in other languages.

2.2.2 Paradigmatic properties – the 'form' of -*st*

Nevins (2011a,b) notes that clitics differ from agreement affixes in that clitics do not vary with tense and aspect. Clitics can be affected morphophonologically by their attachment site, but they do not vary paradigmatically, according to Nevins. This property holds of -*st*; it surfaces as [st] in present and past tense, indicative and subjunctive, on perfect participles and infinitives. In fact, it only has one form; its shape does not change depending on morphophonology or based on syntax. Note that -*st* also differs from agreement morphemes, which do not show up on non-finite forms in Icelandic. In Icelandic, perfective participles and infinitives never show agreement (though passive participles do show agreement for case, number and gender). The appearance of -*st* on perfective participles and infinitives is thus consistent with and supports a clitic analysis of -*st*.

A related property of -*st* which resembles clitics is the fact that -*st* cannot appear on nominalizations or 'stative progressive' -*andi* participles. First, consider nominalizations. The -*st* verb *undrast* 'marvel' can correspond to a nominalization, but -*st* cannot appear

there.

(104) a. Drengurinn undra-ði-st mannfjöldann.
boy.the.NOM marvel-ed-ST crowd.the.ACC
'The boy marveled at the crowd.'

b. { *undr-un-st / *undr(a)-st-un / undr-un } drengsins
{ *marvel-NMLZ-ST / *marvel-ST-NMLZ / marvel-NMLZ } boy.the.GEN
'The boy's marvelment.' (Adapted from Jóhannsdóttir 1995:68)

This is similar to the typical situation in Romance, where clitics cannot surface in nominalizations (whether reflexive or non-reflexive; cf. Kayne 1975:186,fn143). Pesetsky (1995:99), for example, discusses nominalizations such as *étonnement* 'amazement', which have the meaning of the reflexive but do not allow a reflexive clitic. The same goes for the inherent reflexive *s'évanouir* 'faint' and *évanouissement* 'fainting fit'.[19]

(105) a. Je m'étonne.
I REFL-amaze
'I am amazed.'

b. l'étonne-ment de Jean
the.amaze-NMLZ of John
'John's amazement'

Note that since *-st* can appear on non-agreeing participles and infinitives, this cannot be explained by treating *-st* as part of the functional agreement complex. If *-st* is not agreement, it is either a clitic or derivational affix. The nominalization facts are more consistent with its being a clitic, since nominalizations can often include derivational affixes, but not argument clitics.

Similar to nominalizations are *-andi* participles, illustrated below. Note that *rogast* 'struggle' is an 'inherent' *-st* verb: it always occurs with *-st* in its finite, infintive, and

[19]Thanks to Richard Kayne (p.c.) for help with the French examples.

participial forms, and does not alternate with an non-*st* verb. Nevertheless, while it can occur as an -*andi* participle, -*st* cannot appear with such a participle.[20]

(106) a. Þarna rogaðist hann með þetta.
there struggled-ST he.NOM with this
'There he struggled with this.'

b. Þarna kom hann {*rog-andi-st /*rog-st-andi /rog-andi }
there came he.NOM {*struggle-ing-ST /*struggle-ST-ing /struggle-ing }
með kassa.
with boxes
'There he came, struggling along with boxes.'

(Adapted from Ottósson 1992:236)

The paradigmatic distribution of -*st* supports a clitic analysis. Like clitics, it does not vary with tense and aspect, and in fact does not vary in form at all. Also like clitics, it occurs on non-agreeing verbal forms, such as infinitives and perfective participles. Like clitics in Romance, it cannot occur on nominalizations either, nor can it occur on -*andi* participles (which might turn out to be a kind of nominalization, though some do clearly show verbal behavior on a number of diagnostics; Thráinsson cf. 1999).

In this and the previous section, I have argued that certain properties of -*st* suggest that it is most appropriately analyzed as a clitic. First, it has a certain amount of mobility, in that it can appear to the right of a weak subject pronoun in imperatives or to the left of that pronoun. Second, it usually occurs outside tense and agreement, like clitics, though it can occur within certain agreement forms in non-standard varieties, much like clitics in

[20] According to Ottósson (1992:236, fn 29), -*st* was attested (outside) -*andi* in earlier stages of Icelandic, possibly at times due in part to influence from Latin. These constructions resemble some English -*ing* progressives, though it would be very misleading to conflate them. As pointed out by Friðjónsson (1982), they often need some adverb of temporal quantification (such as *alltaf* 'always') when they are not stative. See Jóhannsdóttir (2007) for an interesting discussion of verbal -*andi* participles to see how they differ from English -*ing* progressives.

Spanish and other languages. Third, its form does not change paradigmatically with the verb. Fourth, it appears on non-finite forms. Fifth, it does not occur on nominalizations. Taken together, these facts make -*st* look more like a clitic than anything else, cross-linguistically.

In the next few sections, I will turn to properties of -*st* which do not in themselves suggest a clitic analysis, but are entirely compatible with it, despite occasional claims to the contrary in some cases. First, I will discuss the morphophonological properties of -*st*, and show that these are attested with clitics. Second, I discuss the fact that some verbs require -*st*, and show that this is also characterisitic of clitics. Finally, I discuss the fact that -*st*, despite being a clitic, is not just a 'bound variant' of a reflexive pronoun, is not necessarily referential, and does not distribute like a DP. All of these are properties of clitics, contrary to what is sometimes assumed.

2.2.3 Morphophonological properties

The stem to which -*st* attaches does have some morphophonological interaction with -*st*. For example, dentals (*s, st, t, tt, d*) are often lost from the stem, as illustrated in Table 2.2. In one case, [ð] is lost from the stem in the present tense: *bregð* + *st* → *bregst*. Usually, it is retained in the present tense, as exemplified by *býðst* 'offer' in Table 2.3. This deletion could be (partly) phonotactic, since *býð* and *bregð* have different coda structures. However, [ð] is usually dropped in supine forms, unless it is preceded by /*á*/ [IPA=au] in the supine stem form (Thomson 1987:380), so it is also at least partly morphophonological.

The only point I would like to make here is that contra Zwicky and Pullum (1983), elements which are uncontroversially considered clitics can also induce stem allomorphy of this sort. Citing Bermúdez-Otero and Payne (2011), Nevins (2011a:22) (see also Nevins (2011b)) discusses Spanish, where the object clitic *os* 'you.PL' forces the deletion of the

Table 2.2: Dental deletion with *-st* (data from Thomson 1987:380)

Dental	*-st* verb	non-*st* stem					output	
-s-	kjósast	kýs	+	st	→		kýst	PRESENT
-t-	látast	læt	+	st	→		læst	PRESENT
-d-	haldast	held	+	st	→		helst	PRESENT
-st-	brestast	brast	+	st	→		brast	PAST
-tt-	hitta	hitt	+	st	→		hist	SUPINE

Table 2.3: Dental deletion with *-st* (data from Thomson 1987:380)

-st verb	non-*st* stem				output	
bjóðast	býð	+	st	→	býðst	PRESENT
bregða	bregð	+	st	→	bregst	PRESENT
sjá	séð	+	st	→	sést	SUPINE
dá	dáð	+	st	→	dáðst	SUPINE

imperative ending *-d*.

(107) a. amad! b. ama =os! (*amad=os)
love.2PL.IMPER love.2PL.IMPER =2PL.REFL
'Love!' 'Love yourselves!'

Nevins (2011a,b) provides several other examples where clitics induce allomorphy, and, in fact, undergo allomorphy. The latter is not found with Icelandic *-st*, which, as far as I know, surfaces as [st] regardless of the phonological properties of its stem. This is distinct from Russian *-sja*, which is similar to *-st* in many respects, but does undergo allomorphy (between *-s'* and *-sja*) depending on the phonological properties of the stem.

In fact, for the most part, *-st* does not induce much stem allomorphy either. The allomorphy it does induce is confined to the edge where *-st* attaches; it does not, for example, induce stem suppletion or vowel shifts. Nor does it interfere with vowel shifts that occur independently of it. Rather, *-st* attaches to the right edge of the verb and the

morphophonological effects it has are limited to that site.[21] Since clitics also induce such stem effects, the latter do not undermine a treatment of *-st* which puts it on par with a clitic.

2.2.4 Inherent *-st* Verbs

Clitics are often obligatory with particular verbs, much like Icelandic *-st* is. Rivero (2004:248, 265), for example, mentions Bulgarian 'laugh', which requires a reflexive clitic, as does the Polish DAT-NOM construction for 'please'.

(108) Gitarzyście podobają *(**się**) rokowe numery.
guitarist.DAT please.PRS.3PL *(REFL) rock songs.NOM
'The guitarist likes rock songs.' (Luiza Newlin-Lukowicz p.c.)

According to Luiza Newlin-Lukowicz (p.c.), the reflexive clitic is obligatory with *podobac* 'please', which is reminiscent of various Icelandic DAT-NOM psych-verbs with obligatory *-st* (e.g. *þókna*(st)* 'please', *gremja*(st)* 'anger', etc.; see §5.3 and further discussion in the next section). Similarly, in Italian, verbs which require reflexive clitics are often called 'inherent' reflexives. This term is less intuitive for Icelandic *-st* verbs, since Icelandic has inherently reflexive verbs which do not allow *-st*, but rather require a case-marked reflexive direct object (see §1.3.4). Nevertheless, abstracting away from the terminology, Italian reflexive clitics and Icelandic *-st* look similar in this regard. We see a very close pair with 'anger' in (109-110).

[21] Though see Ottósson (2008:190) for interesting properties of the Old Norse *-mk* morpheme, which was the 1st person predecessor to *-st*. Briefly, *-mk* in Old Norse apparently made the verb stem take on the 1st person plural form, even if it agreed with a 1st person singular argument. This form no longer exists in Icelandic, however.

(109) a. * Gianni ha arrabbiato { Lucia / se stesso }
Gianni has angered { Lucia / himself }
INTENDED: 'John has angered Lucia/himself.'

b. Gianni si è arrabbiato.
Gianna SI is angered
'John got angry.' (Manzini et al. 2009)

(110) a. * Jón reiddi { Maríu / sjálfan sig }
John angered { Mary / himself }
INTENDED: 'John angered Mary/himself.'

b. Jón reiddist.
John angered-ST
'John got angry.' (Halldór Sigurðsson p.c.)

Neither Italian *arrabbiarsi* 'anger' nor Icelandic *reiðast* 'anger' can occur in a transitive form without *si*/-*st*, as shown in (109a) and (110a), respectively. Both require *si*/-*st*, and form inchoative intransitives.

2.2.5 The Idiosyncrasy of -*st*: Special Meaning is No Special Problem

An issue related to the 'inherent' -*st* verbs discussed in the previous subsection that has been emphasized in the past is the fact that many -*st* verbs seem to correspond in an idiosyncratic way to their non-*st* counterparts. The conclusions drawn from this, I believe, have been too strong. For example, Asarina (2011) discusses anticausative alternations where the dative case on a direct object is not preserved on the -*st* anticausative variant, which includes examples such as the following:

(111) a. Ásta splundraði rúðunni.
Ásta shattered window.the.DAT
'Ásta shattered the window.'

b. Rúðan splundraðist.
window.the.NOM shattered-ST
'The window shattered.'

Citing Anderson (1990), she discusses alternations such as the following:[22]

(112)	a.	*klæða*	'dress someone'	—	*klæðast*	'dress oneself'	(reflexive)
	b.	*heyra*	'hear'	—	*heyrast*	'be audible'	(semantic effect)
	c.	*blessa*	'bless'	—	*blessast*	'succeed'	(non-transparent semantic effect)
	d.	*eldri*	'older' (adj.)	—	*eldast*	'get older'	(deadjectival)
	e.	*bjálfi*	'fool' (noun)	—	*bjálfast*	'act foolish'	(denominal)

On the basis of these multiple types of -*st* alternations, as well as the idiosyncratic relation of -*st* verbs to their non-*st* counterparts, Asarina (2011:157) concludes that "there is no reason to think that there is a true syntactic correspondence between the object of [(111a)] and the subject [(111b)]."[23] However, the problem with this conclusion is that the anticausative alternation is completely regular and predictable, and corresponds in a straightforward way to anticausative alternations cross-linguistically, where there is, in fact, assumed to be a syntactic correspondance between the object and the subject.

Asarina (2011) is not alone in this conclusion. In the literature on -*st* and its Old Norse ancestor, it is often taken for granted that -*st* is a suffix and efforts are taken to determine whether it is an inflectional suffix or a derivational suffix. Typically, the way this works is to assign a list of characteristics of each and determine which list -*st* matches. The assumption relevant to the present discussion is that derivational suffixes are supposed to be unpredictable semantically, while inflectional suffixes are supposed to have no unpredictable semantic effect. The conclusion is always either that -*st* is derivational, or else it is derivational in some uses but inflectional in the anticausative uses (see for example

[22]The descriptions in parenthesis correspond to her discussion of them.

[23]Asarina (2011) was specifically talking about *týna* 'lose', but the point is the same.

Ottósson (1986); Enger (2002), and references therein).[24]

However, looking at inherent reflexives, in Icelandic and other languages, it becomes clear that the special meaning effects of *-st* are by no means 'special' to affixes at all, derivational or otherwise. As emphasized in Árnadóttir et al. (2011), some verbs are 'inherent reflexives' in that their meaning with a reflexive pronoun is different than with a non-reflexive pronoun. For example, *skemmta sér*, with a reflexive pronoun, means 'have fun', whereas *skemmta* with a non-reflexive pronoun means 'entertain'.

(113) a. Jón skemmti sér í gær.
Jón entertained REFL.DAT yesterday
'Jón had fun yesterday.'

b. Jón skemmti öllum í gær.
Jón entertained everyone.DAT yesterday
'Jón entertained everyone yesterday.'

As Árnadóttir et al. (2011) put it: "In [113], it is stated that Jón had fun, but this does not necessarily entail that he did anything special to entertain himself; it is actually more likely that someone else entertained him."

As pointed out in Sigurðsson (2002), the effect of a reflexive pronoun on the meaning of a predicate can be quite extreme, as shown in the following examples:

(114)	a.	*taka til*	'clean up'	vs.	*taka **sig** til*	'get oneself ready'
	b.	*taka upp*	'record'	vs.	*taka **sig** upp*	'move (live somewhere else)'
	c.	*taka út*	'suffer; withdraw cash'	vs.	*taka **sig** vel út*	'look good'
	d.	*taka við*	'receive; take over'	vs.	*taka við **sér***	'respond'

[24]In §3.4.5, I discuss why, from the present perspective, anticausative uses of *-st* seem to be more "lexically predictable"; see also §4.2.3.

The fact that the presence of a reflexive pronoun—a separable word—can affect the meaning of a verb means that the fact that -*st* can affect the meaning of a verb cannot be an argument that -*st* is a suffix, let alone a 'derivational' suffix. Again, I do not want to imply that -*st* is a 'reduced version' or 'bound variant' of the reflexive pronoun. The point here is just that semantic interactions between -*st* and the verb do not say anything about the clitic/affix distinction one way or another.

In Icelandic, simplex reflexives seem to be more likely to have idiosyncratic effects than complex 'self' reflexives. This is illustrated in the following example.

(115) a. Jón gaf { ??sér / sjálfum sér / Siggu } bók í
Jón gave { ??REFL.DAT / self.DAT REFL.DAT / Sigga.DAT } book in
jólagjöf.
Christmas.present
'John gave himself/Sigga a book for a Christmas present.'

b. Jón gaf { sér / ??sjálfum sér / *Siggu } þessa forsendu.
Jón gave { REFL.DAT / ??self.DAT REFL.DAT / *Sigga.DAT } this premise
'Jón proposed this premise.' (??/* 'John gave himself/Sigga this premise.')

(Árnadóttir et al. 2011:79)

When *gefa* 'give' takes a simplex reflexive indirect object pronoun, the meaning is different from when it takes a complex reflexive indirect object or a non-reflexive indirect object. What the meaning is will depend on the internal argument, so that *gefa sér forsendu* means 'propose a premise'. Einar Freyr Sigurðsson (p.c.) points out that *gefa sér tíma* 'lit. give refl time' means 'take the time' or 'set aside time'.

Similarly, consider the French examples in (116) from Campanini and Schäfer (2011).

(116) a. Je me suis envoyé deux bières.
I REFL am sent two beers
READING A: 'I sent two beers to myself.' (literal, non-preferred reading)
READING B: 'I drank two beers.'

b. J'ai envoyé deux bières (à moi-même)
I've sent two beers (to me-SELF)
'I sent two beers to myself.'
* 'I drank two beers.'

According to Campanini and Schäfer (2011) (who cite Fabienne Martin for these examples), the preferred reading of (116a) is 'I drank two beers'. That is, the combination of a direct object and a reflexive clitic can have an idiosyncratic semantic effect on the verbal root, which normally means 'send'. This is only possible with the reflexive clitic, not the reflexive pronoun, as shown in (116b). However, since French reflexive clitics act as the basic reflexive marker in the language, the literal 'send' reading is available with the reflexive clitic, in addition to the 'drink' reading.

French marks many anticausatives with this 'reflexive' clitic, as illustrated in (117).

(117) L'image s'agrandit.
the.picture REFL-widens
'The picture becomes wider.' (Schäfer 2008:20)

Do we say that the French reflexive clitic in (116a) is having a special effect on the meaning of the verb the way that the Icelandic reflexive pronoun is in (115b), or is the clitic behaving more like *-st* in its more 'idiosyncratic' uses? Is it important to distinguish the 'special meaning' effects of *-st* in (112) from the 'special meaning' effects of the reflexive pronoun in (114), in a way that forces us to attach *-st* in the lexicon?[25]

[25]This sort of reasoning can of course lead to saying that reflexive pronouns and particles are attached to certain verbs in the lexicon, as idioms, but this then, forces the lexicon to itself build up or be sensitive to syntactic structure (cf. Culicover and Jackendoff 2005). This then means, in practice, that at least part of the 'lexicon' is post-syntactic: something must be able to have the rules to build and store the structures. If so, then this is already a step in the direction argued for in the present thesis, which argues that in general, structure is built prior to interpretation.

Suppose that there is a sense in which the French reflexive clitic is ambiguous between an *-st* -like use and a reflexive pronoun-like use. This would mean that French morphology is collapsing a syntactically real distinction that is made in Icelandic, a common state of affairs in cross-linguistic comparison. This means in turn that there is nothing particularly remarkable about Icelandic, in the sense that there is nothing strange about having a clitic which has generally regular properties, but which conditions idiosyncratic meaning of a verbal root in certain structures.

Many cases in French of the 'partitive' clitic *en* and the 'locative' clitic *y* involve idiosyncratic root meaning.[26] Postal (1992:24) provides the following examples, noting that "French probably has hundreds of cases of inherent clitics of one of these forms."

(118)	a.	*vouloir*	'want'	vs.	*en vouloir*	'have a grudge against'
	b.	*connaître*	'know'	vs.	*s'y connaître*	'be knowledgeable about'
	c.	*aller*	'go'	vs.	*s'en aller*	'go away'
	d.	*prendre*	'take'	vs.	*s'en prendre*	'take it out on; attack'

Note that many of these also involve the reflexive clitic *s'/se*. Russi (2008) provides an enormous number of similar examples for Italian 'locative' *ci*, 'partitive' *ne*, and 'reflexive' *si*. The fact that there are so many "inherent *-st* verbs" should not worry us in our attempt to understand the regular syntactic properties and functions of *-st*. The same semantic issue for *-st* arises for verbal particles, separable reflexives, and reflexive clitics, among other elements in the 'first phase' of the syntactic derivation of the verb phrase. It is an interesting and important issue in general, but it is not specific to *-st*, which behaves like other argument clitics cross-linguistically.[27]

[26] Kayne (2008b) proposes that 'locative' clitics are not inherently 'locative' on their own; see also Kayne (1975:102–114) and Kayne (2004a) (the latter reprinted in Kayne 2005).

[27] One important reason *-st* might seem special is probably the lack of a productive reflexive reading, making its other uses stand out more.

Taking -*st* to be a clitic, to some extent, clarifies a question of whether -*st* should be thought of as a 'derivational' suffix or an 'inflectional' suffix. In traditional terms, it is neither. In descriptive terms, the label is not important; what is important is that it is a syntactically independent element which interacts with other elements in the way that syntactically independent elements (including reflexive clitics, locative/partitive and pronominal clitics, seperable reflexive pronouns and verbal particles) usually do. It is not the goal of this thesis to account for every minute detail of every -*st* verb/alternation; the fact that there are many semantically idiosyncratic -*st* verbs/alternations is the same fact as the fact that there are many idiosyncratic inherent reflexives, which are often expressed with reflexive clitics in many languages. The point of this subsection is simply to show that -*st* is not importantly different from argument clitics with respect to idiosyncratic interpretation, supporting the approach in subsequent chapters in which -*st* merges in an argument position.

2.2.6 Alternating with a 'word'

The question of whether -*st* alternates with a 'word' is usually asked with a certain specific analysis in mind, namely, that it is a phonologically reduced version of a reflexive pronoun. This makes sense diachronically, since -*st* arose from a reflexive pronoun. The assumption, then, is that if -*st* were still a clitic, it would still be a clitic version of a reflexive pronoun. On this view, the clitic -*st* would be much like the imperative weak pronouns seen in (98-99) above: basically we would see the same linear distribution as with the non-clitic versions, with basically the same morphosyntactic properties (case marking, etc.). For example, Ottósson (2008:189) notes that -*st* does not have the same

linear distribution as the reflexive pronoun.[28] For example, the reflexive pronoun cannot move with the verb to the V2 position, unlike *-st*, and *-st* cannot be left behind in the position where the reflexive pronoun sits.

(119) a. Þá { tróðst / *tróð sér } hún gegnum
then { squeezed-ST / *squeezed REFL.DAT } she.NOM through
mannþröngina.
crowd.the
'Then she squeezed (herself) through the crowd.'

b. Þá tróð hún { *st / sér } gegnum mannþröngina.
then squeezed she.NOM { *-ST / REFL.DAT } through crowd.the
'Then she squeezed (herself) through the crowd.'

However, even clitics that plausibly (or at least possibly) correspond to some full DP, such as productive reflexive clitics in Romance and Slavic, do not distribute like a full DP. (120) illustrates for Serbo-Croatian the distinct distribution of reflexive pronouns and reflexive clitics.

(120) a. Petar brani sebe.
Petar defends REFL.ACC
'Peter defends himself.'

b. Petar se brani.
Petar REFL.ACC.CL defends
'Peter defends himself.' (Zec 1985:365)

Serbo-Croatian is a second-position clitic language, and it is often proposed that clitics of this kind cluster on C, or at least in the CP domain, much as verbs in V2 languages are attracted to C or the CP domain (see e.g. Ćavar and Wilder 1994). Whatever the distribution of Icelandic *-st* is, it is clear that distributional facts of the sort in (119) do not provide evidence against a clitic analysis.

[28] Ottósson (2008) discusses the Old Norse ancestor to *-st* (which was *-sk*, *-mk* with 1st person subjects), which patterns, as far as I can tell, like modern Icelandic *-st* in the relevant respects.

There are many situations where *-st* does not seem to be referential, and does not alternate with a full DP argument, which might seem to suggest that it is not an argument clitic.[29] One example is the verb *skammast* 'be ashamed', which is actually an inherent reflexive with *-st*; that is, when *-st* is present, an additional genitive reflexive pronoun is required.

(121) a. Jón skammast *(sín).
John.NOM shames-ST *(REFL.GEN)
'John is ashamed of himself.'

b. * Jón skammast mín.
John.NOM shames-ST me.GEN
INTENDED: 'John is ashamed of me.'

However, reflexive clitics share this property in many cases; they do not always 'absorb' an argument position and take on a referential role. Consider the following example from the Northern Italian Dialect 'Bellinzonese' (see also Kayne 2000b:148).

(122) A **ma** **sa** lavi i cavii.
SUBJ 1SG.DAT REFL wash the hair
'I wash my hair.' (Cattaneo 2009:163)

Here, a reflexive clitic *sa* co-occurs with an 'extra' 1st person dative clitic *ma*. The fact that *sa* apparently has no (independent) referential role, and does not alternate with a full, overt argument, does not mean that it is not a clitic with a syntactic function in the language. Thus, the observation that *-st* does not always alternate with a full argument or that it can occur with another reflexive pronoun does not mean that it is not a clitic with a syntactic function in Icelandic.

Another example where clitics do not alternate with an argument position involves clitic doubling, of the sort seen for indirect objects in many varieties of Spanish, and even

[29] In fact, I will propose that *-st* is never referential, despite originating in an argument position in the syntax.

for direct objects in some varieties (examples from Anagnostopoulou 2006).

(123) a. Miguelito (**le**) regaló un caramelo a Mafalda.
Miguelito DAT gave a candy a Mafalda
'Miguelito gave Mafalda a piece of candy.' All Spanish

b. **Lo** vimos a Juan.
ACC saw.1PL a Juan
'We saw John.' Rioplatense Spanish

There are also cases of reflexive clitics that add some kind of thematic or aspectual component, but do not 'replace' an argument.

The question one needs to ask is what properties of Icelandic morphosyntax relevant to -*st* changed in the synchronic grammars over time. The assumption in a lot of historical work seems to be that it changed from a clitic to a suffix, and concomitant property changes are, or should be, relatable to the difference between clitics and suffixes. I have already noted that the criteria supposedly correlated with the change from a clitic to a suffix are actually properties of clitics as well, so they do not argue in particular for a suffix analysis: saying that -*st* went from being a clitic to being a suffix does not account for any of the actual grammatical properties of -*st*.

2.2.7 Summary

The claim in this thesis is that -*st* is a clitic, in the specific sense that it originates in the argument-introduction domain (in an argument position) and later attaches to its verbal host. The claim is not that -*st* is a phonologically reduced version of a reflexive pronoun or any other element. It is an independent element with its own properties.[30] But if we look at its properties in detail, it seems to be more closely related to what have been called

[30]Though see footnote 8 on the possibility that it is, in some sense, a 'featural subset' of the reflexive pronoun.

‘pronominal clitics’ in other languages, especially reflexive clitics. In (124), I summarize the argument in favor of this position:

(124) -*st* has some properties that make it look more like a clitic than anything else, namely its positioning, its mobility, its uniform form, and its appearance on non-finite forms but not on nominalizations. Other properties of -*st* fail to show that -*st* must be a suffix:

a. Some verbs require -*st*; but some verbs require reflexive pronouns in Icelandic, which are not suffixes, and some verbs require reflexive clitics in other languages.

b. Some verbs change their meaning in the presence of -*st*; but some verbs change their meaning in the presence of a simplex reflexive pronoun in Icelandic, which is not a suffix, and the same holds for reflexive clitics in other languages.

c. -*st* does not always alternate with a full word; but clitics do not generally alternate with a full word—sometimes they do, and sometimes they don’t.

d. -*st* does not distribute like a full word; but clitics do not generally distribute like full words.

e. -*st* interacts phonologically with the stem it attaches to; but this interaction is limited and involves the site of (phonological) attachment only, and is consistent with the behavior of clitics cross-linguistically.

In fact, it seems that the claim that -*st* is anything *other* than a clitic raises far more problems than it solves, including the endlessly inconclusive question about whether it is ‘derivational’ or ‘inflectional’ suffix referred to above.[31] As a clitic, we can collapse

[31]If in addition, there is no primitive difference between ‘derivation’ and ‘inflection’, then the question of whether something is ‘derivational’ or ‘inflectional’ is not only the wrong question for -*st*, but the wrong

the problems involved in understanding -*st* with similar problems across languages. The surprising character becomes less surprising, and -*st* begins to fit into what we know about clitics cross-linguistically. This is not a solution to those problems, of course. We want to understand the behavior of (the elements we call) clitics, and also want to understand them in the sense that there is no UG primative notion of 'clitic'.

2.3 Possible Clitic Analyses of -*st*

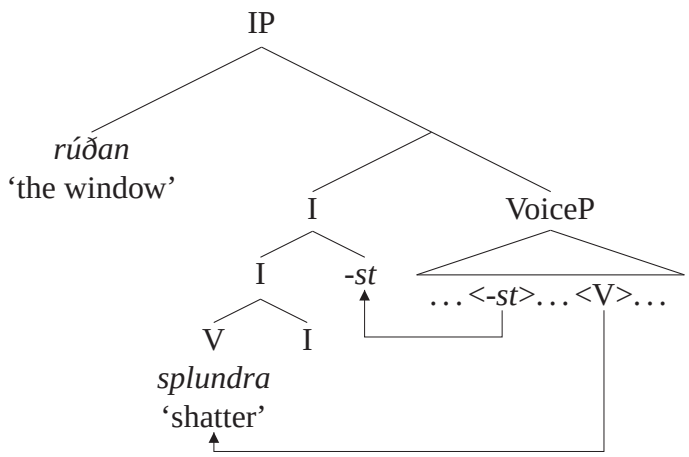
The exact analysis of clitic -*st* is independent of most of the rest of this thesis. What will be important is that it is a valency-reducing clitic which merges in an argument position before ending up in its final position. This is in principle compatible with many different approaches to cliticization. In this section, I would outline some possibilities and present a more-or-less cartographic analysis which draws in part from the literature on Romance and Slavic clitics.

2.3.1 Right Adjunction

One possibility is to take cliticization to involve plain right adjunction to the verbal head at the appropriate time in the derivation.

question for any linguitic element. The same holds for the distinction between 'clitic' and 'affix', which is why I am trying to emphasize what -*st* does, in comparison to what the elements that people have called 'clitics' do, instead of emphasizing what criteria we should use to 'categorize' it.

(125)



However, this analysis requires violating the linear correspondance axiom Kayne (1994, 2010c), and probably requires an undesireable amount of stipulation in encoding of the timing of adjunction for different kinds of V (infinitive, participial, etc.). Also, it would be hard to exclude *-st* forms of nominalizations, *-andi* participles, and so forth. It is possible that a satisfactory right adjunction analysis could be developed, but I will set this possibility aside for now.

2.3.2 Defective Goal

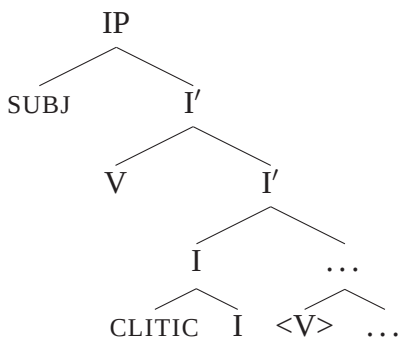
Another possibility is that *-st* is incorporated into the verb complex through Agree, as in the defective goal analysis of Roberts (2010). For Roberts (2010), a defective goal is a goal which has a subset of features of the probe. When the probe and goal enter into an Agree relation, mutually valuing each other's features, the goal is formally indistinguishable from a moved copy of the probe. For example, suppose *-st* has the feature set {D,3rd person} (where D is a categorial feature), and a probing C head has the features {D,uPERS,uNUM}. When C enters into Agree with *-st*, C will be valued as 3rd person, but will in addition have a number feature. The lower copy of *-st* will be a defective goal, and be incorporated into C. One possible advantage to this analysis is that Roberts (2010) analyzes verb movement and cliticization with the same mechanisms. Thus, the fact that

-*st* seems to stay attached to or very close to the verb might be accounted for, if one can rule out for Icelandic the mechanisms Roberts (2010) uses to derive the more variable clitic placement in other languages. Another possible advantage to this approach involves the relation between clitic-second Slavic languages and verb-second Germanic languages. Since we know that multiple clitics can cluster in the 'second position', and we know that verbs can also be required to appear in this position, there is nothing to stop a verb and a clitic like -*st* from clustering in this position in Icelandic. Of course, -*st* does not always end up with the verb in the second position, since it can appear on participles and infinitives. However, Ćavar and Wilder (1994) show that, in non-restructuring clauses, Slavic second-position clitics show up on the right side of infintive verbs and certain participial gerunds (built on present and past participles). I have not worked out the details of this approach in sufficient detail, so I will set this aside for now.

2.3.3 Adjunction to X′ or Movement to Dedicated Specifier Position

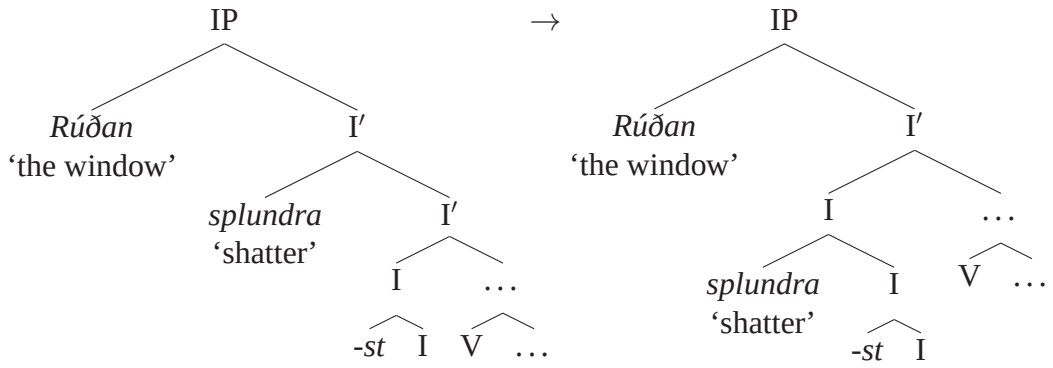
Another possibility is to assume a tradition going back to Kayne (1989, 1991) for Romance clitics in which they do not (necessarily) form a syntactic constituent with their host. Analyses of this sort have been developed extensively for clitic languages which have formed the cross-linguistic comparison class in this chapter. I will discuss this possibility in more detail in this section in order to connect the clitic analysis of -*st* to this literature. Kayne (1989) and many since have proposed that clitics adjoin to a functional head and appear as enclicitcs or proclitics depending on whether the verb moves to their left or their right. In Kayne (1991), enclitics were proposed to be derived by adjoining the verb to the intermediate projection of the head to which the clitic adjoins. A rough schematization of this is as follows:

(126)



For *-st*, there are two possibilities, and the choice between them is not important for present purposes. First, we might have the exact configuration as (126) above, followed by 'morphological merger' in the sense of Marantz (1984, 1988) and more recently, Matushansky (2006). Then, any further head movement operations would carry *-st* along with it. Morphological merger is illustrated in (2.3.3).

(127)



Note that Matushansky (2006) proposes that all head movement is derived in this way, i.e. by merging the head to the root (I′ in (), at the relevant stage of the derivation). Thus, if *-st* forms a complex head, it would go through a similar intermediate stage of adjoining to I′. The other option is to assume that encliticization of *-st* does not involve forming a complex head, but would appear to be a verbal suffix if it always ended up adjacent to the verb (Julien 2002, 2007).[32]

[32]That is, depending on one's assumptions, it does not necessarily need to form a complex head to be a morphophonological word.

A question raised by this approach is which functional head's projection is the landing site of the clitic (assuming that "IP" is too imprecise), and where this landing site is positioned in the clause. In Icelandic, *-st* always, as far as I know, ends up attached to a complex including the (lexical) verb; it is always an enclitic, never a proclitic; and as we have seen, it can attach on a verb in a low position, such as a perfect participle or infinitive. There is abundant evidence for a high clitic position at the left IP periphery (or even a high clitic field arranged into a fine-grained substructure; see Cattaneo 2009 for a particularly fine-grained cartographic proposal, and Săvescu Cuicivara 2009 for a different view). The left periphery is also, it has been proposed, the region of the clause where Slavic "second-position" clitics live (see Ćavar and Wilder 1994; Roberts 2010, inter alia). There is also abundant evidence for a low clitic position/field. Tortora (2002) argues that low enclitics in Borgomanerese, a Northern Italian Dialect remarkable for its lack of proclitics or clitic climbing, occupy a low position around the vP periphery, where aspect is encoded: "This idea requires that we locate a functional head somewhere relatively low, namely, among the lower, pre-VP, adverbs" (Tortora 2002:755). Borgomanerese is relevant in the present context, in that its clitics are always enclitics, and do not climb; they distribute like Icelandic *-st* in many ways, including encliticizing onto perfective participles.[33]

(128) Borgomanerese

a. i porta-**la**.
SCL bring.1SG-it.CL.F.SG
'I'm bringing it.' (Tortora 2002:728)

b. i o purtè-**lla**
SCL have.1SG brought-it.CL.F.SG
'I brought it.' (Tortora 2002:744)

[33]They differ in that they can attach to a limited number of prepositional and adverbial elements in addition; *-st* cannot do this.

Like *-st*, but unlike much of Romance, clitics in Borgomanerese cannot climb to the finite verb past a participle, and cannot procliticize to the left of its host.

Cardinaletti and Shlonsky (2004) argue that there are two clitic positions in the clause.

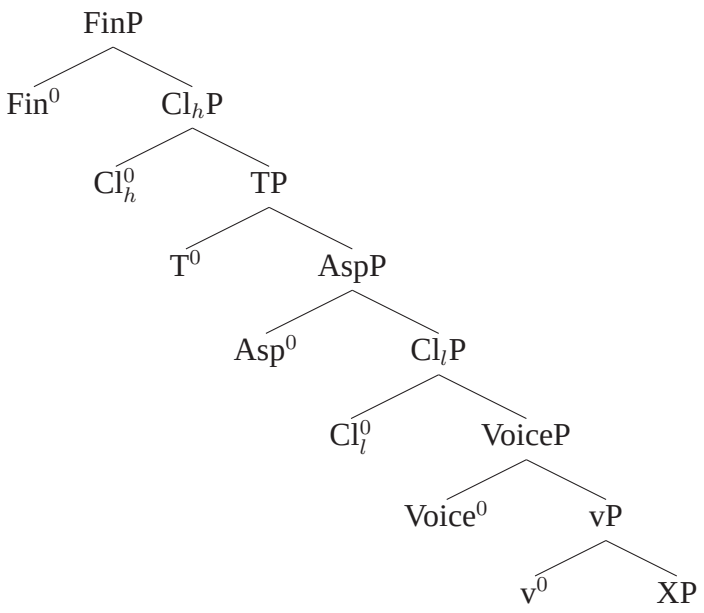
> In addition to the clausal clitic position situated in the high portion of the IP [...], a *lexical* clitic position must be assumed. This clitic position is associated with the lexical verb as part of the lexical or VP domain. Being part of the lexical domain means being either a feature on V or an independent maximal projection above V but related to it in much the same way as vP is related to VP.

They schematize this as follows:

(129) $$\underbrace{[_{\text{FP}} \ldots [_{\text{FP}} \text{ clitic } [_{\text{FP}} \ldots [_{\text{FP}}}_{\substack{\text{functional}\\ \text{domain}}} \ldots \underbrace{[_{\text{FP}} \text{ clitic } [_{\text{vP}} \; [_{\text{VP}} \;]]]]]]}_{\substack{\text{lexical}\\ \text{domain}}}$$

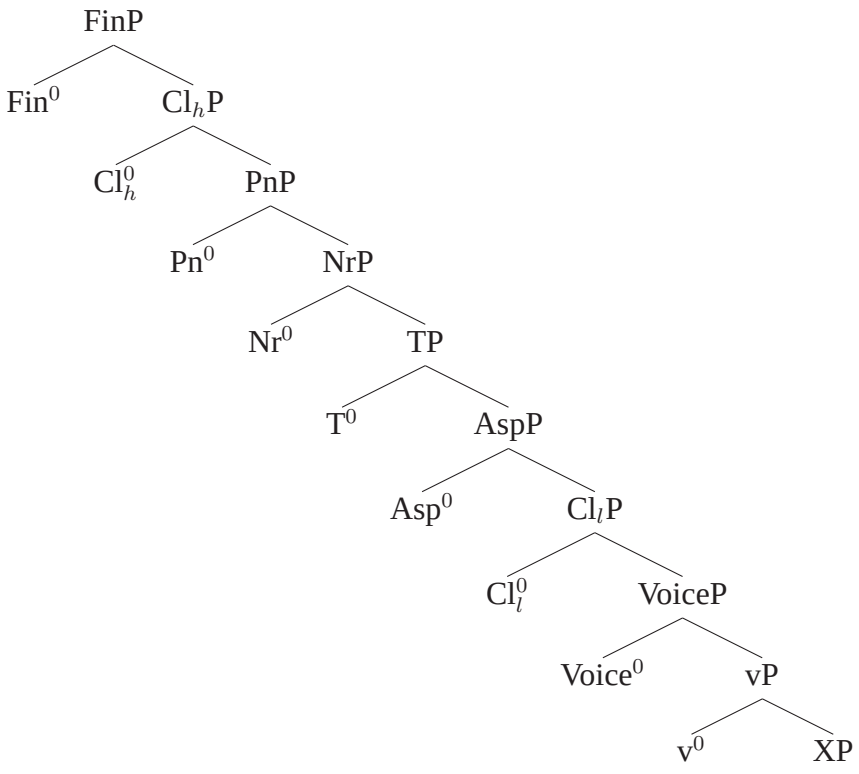
Adopting something like this, assume the following simplified clause structure, where Fin^0 is the lowest C-head in the CP domain, and there are two clitic positions, which for convenience I label 'Cl_hP' and 'Cl_lP' (for 'high' and 'low', respectively). I omit specifiers in this tree.

(130)



Here, T^0 reflects the agreement field where there are arguably P(erso)n^0 and N(umbe)r^0 heads as well, as proposed in Sigurðsson and Holmberg (2008).

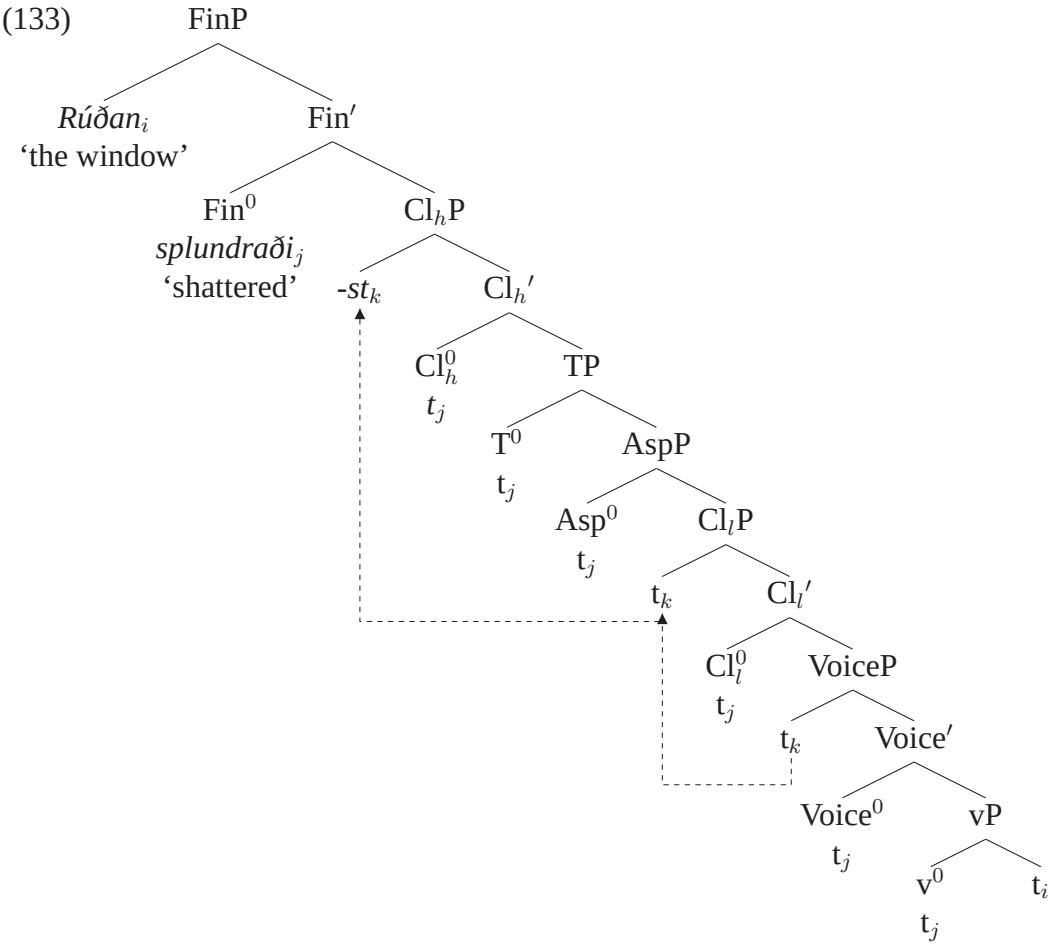
(131)



These Pn^0 and Nr^0 heads might be decomposed even further, given various proposals which make crucial use of extra positions, especially in the domain of clitic ordering, and one of these positions might even be identified with the Cl_hP (cf. Poletto 2000; Săvescu Cuicivara 2009:93fn46; Manzini and Savoia 2011). However, the clausal architecture in (130) is sufficient for present purposes. In this view the -*st* clitic in a sentence like (132) would move to the specifier of Cl_hP, as illustrated in (133).

(132) Rúðan splundraðist.
window.the.NOM shattered-ST
'The window shattered.'

(133)



In this structure, I omit intermediate specifiers. As discussed in detail in chapter 3, I propose that the clitic -*st* originates in SpecVoiceP in the derivation of anticausative sentences

such as (132). It moves first to SpecCl$_l$P and then to SpecCl$_h$P. The latter movement is only possible if the verb subsequently moves to its left, as it does in the above structure.[34] The internal argument moves to the subject position (presumably cyclically through intermediate specifiers, not shown above).

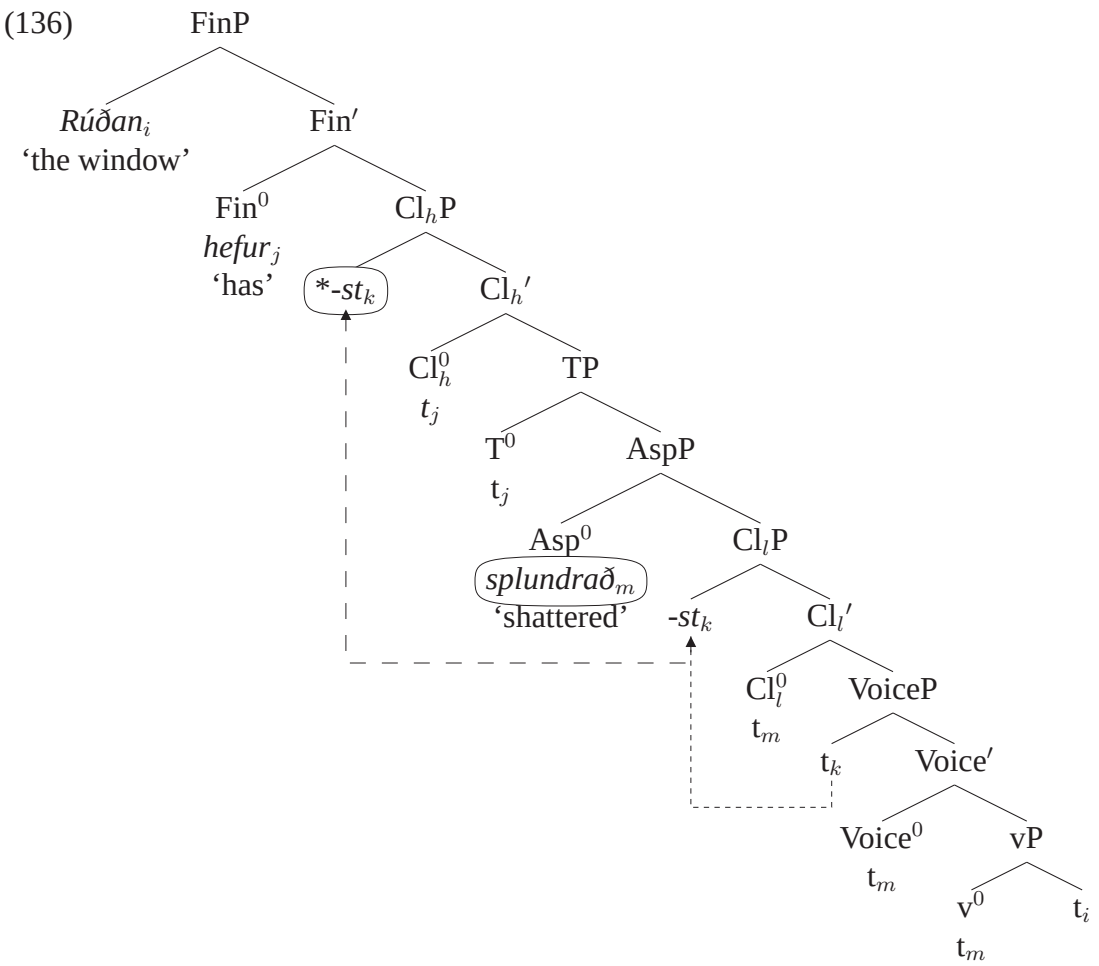
When the verb cannot move further, because there is an auxiliary present, the second movement of *-st* to SpecCl$_h$P is not possible, as illustrated by the following data and tree. Since this is for illustrative purposes, I make the excessively over-simplified and almost certain to be wrong assumption that the auxiliary *hafa* 'have' is base generated in T^0, and that that the perfect participle morphology is generated directly in Asp^0.

(134) Rúðan hefur splundrast.
window.the.NOM has shattered-ST
'The window has shattered.'

(135) * Rúðan hefst splundrað.
window.the.NOM has-ST shattered

[34] In this thesis, I assume the existence of head movement, and that Icelandic verb movement is derived by head movement. There may be theoretical reasons to abandon head movement in general, and there may be empirical reasons to abandon the head movement analysis of Icelandic verb movement. Various authors have attempted to analyze Icelandic verb movement as remnant XP movement (see references in §1.3.3 and below). If these analyses are successful and correct, it is hard to imagine how they would be incompatible with the general claims in this chapter (cf. Julien 2007:230).

(136)



In this structure, *-st* cannot move to the high clitic position, because the verb *splundrað* 'shattered' cannot move any further, due to the presence of the auxiliary. It may seem strange that clitic movement is dependent on verb movement, but this is actually similar to the distribution of weak pronouns, which undergo object shift.

(137) a. Ásta splundraði {henni} ekki {*henni}.
Ásta.NOM shattered {it.F.DAT} not {*it.F.DAT}
'Ásta didn't shatter it.'

b. Rúðan splundraði {st} ekki {*st}.
window.the.NOM shattered {ST} not {*ST}
'The window shattered.'

(138) a. Ásta hefur {*henni} ekki splundrað {henni}.
Ásta.NOM has {*it.F.DAT} not shattered {it.F.DAT}
'Ásta hasn't shattered it.'

b. Rúðan hefur {*st} ekki splundra(~~ð~~) {st}.
window.the.NOM has {*ST} not shattered {ST}
'The window has not shattered.'

I am not claiming that the distribution of *-st* is identical to that of weak pronouns. For example, the pronoun in (137a) is not entirely impossible in the unshifted position if the pronoun *henni* 'her' is stressed. My suggestion is that whatever underlies Holmberg's Generalization (HG)—the generalization that a weak pronoun can move overtly to some position only if the verb subsequently does so as well—plausibly underlies the restriction against moving *-st* to the clausal clitic position in (136). That is, the fact that *-st* does not always move to the clausal clitic position is not an argument against the claim that it moves there when the appropriate conditions are met.

Now, there is some debate as to the distribution of verbs in the clause in Icelandic, and the position one takes on that debate will have direct consequences for the particular analysis of *-st* for those cases. For example, Angantýsson (2001, 2007, 2011) has discussed in detail the fact that finite verbs in Icelandic may, in certain kinds of clausals, follow the kinds of adverbs normally invoked in diagnosing verb movement (see also Sigurðsson 1986b; Thráinsson 1986). Verbs with *-st* do not, as far as I know, distribute any differently in this respect.

(139) Það var ein spurning sem hann **ekki brást** vel við.
EXPL was one question that he not responded-ST well to
'There was one question that he didn't show positive reactions to.'

(Ásgrímur Angantýsson p.c.)

(140) Hún fór fyrst þau **ekki áfelldust** rétta fólkið fyrir
she left since they not blamed-ST right people.the.ACC for
yfirsjónina.
oversight.the.ACC
'She left since they didn't blame the right people for the oversight.'

(Ásgrímur Angantýsson p.c.)

Angantýsson (2001, 2007, 2011) and Thráinsson (2009) propose that these cases involve exceptionally high positioning of the adverb, and do not indicate a low position for the verb itself. This is not unreasonable; Zanuttini (1997) has argued on the basis of extremely complex facts in Romance languages (including various dialects) that there are four positions where clausal negation can appear, within a language and cross-linguistically, and it is an open question the extent to which languages use all of them. If the verb is in the same position regardless of the positioning of adverbs, nothing more needs to be said with respect to *-st*.[35] The other view of this fact, espoused by Bentzen (2005, 2007); Wiklund et al. (2007, 2009); Hróarsdóttir et al. (2007); Bentzen et al. (2007a,b); and Hrafnbjargarson and Wiklund (2009), is that these cases involve lack of verb movement, which for them is remnant vP movement. If so, this would suggest that *-st* is not in the clausal clitic position in such cases, but possibly occupies the lower clitic position.[36] The choice does not make much of a difference here; if the verb is low, it is like a low infinitive or participle, and *-st* wouldn't move just like object-shift cannot take place. If the verb is in the same position in both cases, then the issue of placing *-st* in the right position does not arise in any special way.

A second case involves Stylistic Fronting, a kind of movement which moves an adverb, participle, particle, adjective, DP or PP to the preverbal position whenever there

[35]This does, howver, raise the question of why the availability of those positions should correlate with clause type.

[36]Note that object shift past negation is impossible in these cases as well.

is no overt DP in the subject position (Maling 1980, 1990a; Jónsson 1991; Holmberg 2000; Hrafnbjargarson 2004; Ott 2009; Wood 2011). Of relevance here is the fact that participles, whether they have *-st* or not, can be fronted, as shown in (141b).

(141) a. Maðurinn sem hefur **troðist** gegnum mannþröngina heitir Jón.
man.the who has squeezed-ST through crowd.the is.named John
'The man who has squeezed through the crowd is named John.'

b. Maðurinn sem **troðist** hefur gegnum mannþröngina heitir Jón.
man.the who squeezed-ST has through crowd.the is.named John
'The man who has squeezed through the crowd is named John.'

Here again, there are two possibilities, depending on the correct analysis of Stylistic Fronting. If Stylistic Fronting of participles is remnant XP movement, as argued in Ott (2009), then nothing more about *-st* needs to be said; *-st* simply remains in the fronted XP with the verb.[37] If Stylistic Fronting of participles is head movement, then the natural assumption would be that this movement allows *-st* to move to the clausal clitic position, as proposed above. To maintain the analogy with Object Shift, note that in mainland Scandinavian, topicalizing a verbal participle allows a pronoun to undergo Object Shift:

(142) a. Jag har inte **kysst** **henne**.
I have not kissed her

b. * Jag har **henne** inte **kysst**.
I have her not kissed

c. **Kysst** har jag **henne** inte.
kissed have I her not
'I have not kissed her.' (Holmberg 1999)

In (142a-b), the participle is left in its ordinary position, and the pronoun cannot shift to the left of negation *inte* 'not'. However, topicalizing a participle, as in (142c), does

[37]Note in this regard that Icelandic does not have VP-movement carrying VP-internal constituents, a micro-typologically remarkable property of the language which might be explained if all VP-internal constituents vacate the VP independently of verb fronting.

allow the pronoun to shift. If -*st* can move to the clausal clitic position only when the verb moves to its left, and if Stylistic Fronting is not remnant XP movement, it may be that Stylistic Fronting allows -*st* to move just like verb topicalization allows a pronoun to shift.[38]

2.4 Summary

In this chapter, I have discussed the morphosyntactic property of -*st* verbs and reviewed several possibilities for a clitic analysis of -*st*. I discussed in the most detail the possibility that -*st* moves independently of the verb and does not form a surface constituent with it. That analysis is also is consistent with what is known about clitics cross-linguistically and Icelandic clause structure in general. If a weaker analysis were necessary, however, it would change neither the arguments that -*st* is best analyzed as a clitic, nor any of the thematic analyses presented in subsequent chapters. What would change those analyses would be a demonstration that -*st* is not a clitic at all. This seems unlikely to me; clitics behave differently cross-linguistically, and affixes do not normally behave the way -*st* does (see especially 99); that is, -*st* is closer to a clitic than anything else. What is important here is not terminology; what is important is that -*st* occupies an argument position syntactically and then later forms a (morphophonological) unit with the verb.

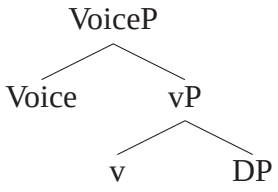
[38]This, of course, entails that the finite verb is in a different position from the auxiliary above when -*st* attaches to the finite verb, and would require a finer-grained clause structure in general.

Chapter 3

DP Internal Argument — The Causative Alternation

In this chapter, I discuss a variety of structures which have one DP for an internal argument, as shown below:

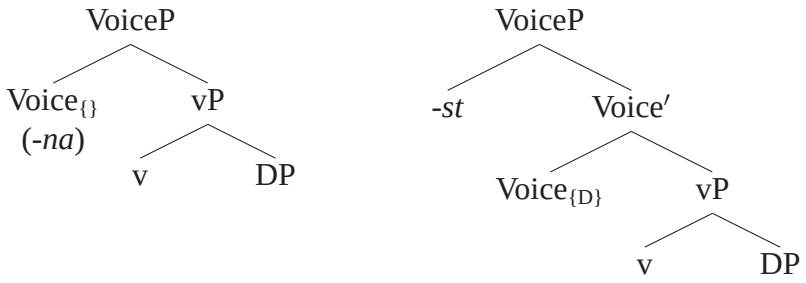
(143)



The primary focus of this chapter is the causative alternation, including how the features of v and Voice are morphologically expressed and thematically interpreted. Voice can either be forced to project an external argument ($\text{Voice}_{\{D\}}$) or not ($\text{Voice}_{\{\}}$), and v can either be specified to assign dative case to its object or not. The discussion in this chapter will form the basis for discussion in later chapters, where the internal arguments will be more complex, involving applicative heads and prepositions. Nevertheless, many of the properties of those structures will be shown to be of the same sort as those discussed in this chapter.

In the first part of this chapter, after a brief overview of the classes of verbs undergoing the causative alternation in Icelandic (§3.1), I discuss in detail the morphology of Icelandic verbs undergoing the causative alternation (§3.2). Several morphological generalizations are derived, including the fact that *-st* is incompatible with *-na*, but compatible with *-ka*, and that *-ka* is incompatible with *-na*. The purpose of this section is not only to bring well-studied morphological facts about the language into the system of the present thesis, but also to show that there are two ways, syntactically, of forming anticausatives in Icelandic, in line with the claims in Alexiadou et al. (2006), Schäfer (2008) and Alexiadou (2010). The first way, I propose, is to merge a specifierless Voice$_{\{\}}$, which is reflected in either null morphology on the anticausative verb or the *-na* suffix. The second way is to merge *-st* in the specifier of Voice$_{\{D\}}$.

(144) **Two ways of forming anticausatives**



In the second part of this chapter (§3.4), I turn to the thematic interpretation of marked and unmarked anticausatives. I propose that v may introduce a CAUSE relation, which is a relation between two events. This is independent of the properties and interpretation of Voice. Voice can be interpreted as Ø, or as introducing an AGENT relation. Voice$_{\{\}}$ must always be interpreted as Ø, since it cannot take a specifier and therefore cannot take a semantic external argument either. If Voice$_{\{D\}}$ is interpreted as Ø, it will be compatible with the non-referential clitic *-st*, or with an eventive external argument, which is interpreted as modifying (or 'restricting') the causing event introduced by v. If Voice$_{\{D\}}$ is interpreted

as agentive, its specifier must be capable of bearing this relation, which means that it must be sentient. It also means that the non-referential clitic *-st* is impossible, since it would result in VoiceP being an unsaturated predicate at semantics. This analysis correctly predicts that a vP that is obligatorily agentive—and thus forces the agentive interpretation of Voice—will be unable to form an *-st* anticausative.

The overarching conclusion from this chapter is that there are two ways of effecting "valency reduction" in a system like the present one, where structure is simply built and interpreted. The properties of argument-introducing heads like Voice are such that they may or may not carry features in the syntax that allow them to introduce a DP argument into the structure, and at semantics, through "alloseme insertion", they provide the locus for integrating the interpretation of those DPs into the interpretation of the verb phrases. However, these functions are quite generally dissociated, as we will see in detail in this chapter and later chapters.

3.1 An Overview of the Causative Alternation

In Icelandic, there are a number of ways of marking the distinction between the causative and the anticausative on the verb. First, the anticausative alternant may be marked with the *-st* morpheme, as shown in the following examples:

(145) a. Trúðurinn **opnaði** hurðina.
clown.the.NOM opened door.the.ACC
'The clown opened the door.'

b. Hurðin **opnaðist**.
door.the.NOM opened-ST
'The door opened.'

Second, the anticausative variant may be marked with a suffix *-na*.

(146) a. Jón **hita-ði** vatnið.
John.NOM heated-3SG.PST water.the.ACC
'John heated the water.'

b. Vatnið **hit-na-ði**.
water.the.NOM heated-NA-3SG.PAST
'The water heated.'

Third, the anticausative may be distinguished by a change in the stem morphology, or by distinct allomorphs of tense marking.

(147) a. Skipstjórinn **sökkti** skipinu.
captain.the.NOM sank ship.the.DAT
'The captain sank the ship.'

b. Skipið **sökk**.
ship.the.NOM sank
'The ship sank.' (Zaenen and Maling 1984:322)

Fourth, the anticausative variant can be unmarked and have the same form as the causative variant.

(148) a. Þjálfarinn **hætti** leiknum.
coach.the.NOM stopped game.the.DAT
'The coach stopped the game.'

b. Leikurinn **hætti**.
game.the.NOM stopped
'The game stopped.'

(149) a. Þjálfarinn **byrjaði** leikinn.
coach.the.NOM began game.the.ACC
'The coach began the game.'

b. Leikurinn **byrjaði**.
game.the.NOM began
'The game began.'

Many of the verbs of this last kind are marked with a *-ka* suffix, as illustrated in (150). They are unmarked anticausatives because there is no morphological difference between

the causative and anticausative; *-ka* suffix is present in both.

(150) a. Fólk **dýp-ka-ði** skurðinn.
people.NOM deep-KA-ed ditch.the.ACC
'People deepened the ditch.'

b. Skurðurinn **dýp-ka-ði**.
ditch.the.NOM deep-KA-ed
'The ditch deepened.' (Thráinsson 2007:299)

I will discuss the *-ka* suffix in more detail below.

A brief note on case marking is in order. As discussed further in §3.3, the derived subject of an *-st* marked anticausative is nominative, even if it would be a non-accusative oblique case such as dative in the causative.

(151) a. Ásta splundraði rúðunni.
Ásta.NOM shattered window.the.DAT
'Ásta shattered the window.'

b. Rúðan splundraðist.
window.the.NOM shattered-ST
'The window shattered.'

However, as originally discussed by Zaenen and Maling (1984), some transitive-unaccusative alternations preserve the object case in the unaccusative variant.

(152) a. Jón lauk sögunni.
John.NOM ended story.the.DAT
'John ended the story.'

b. Sögunni lauk.
story.the.DAT ended
'The story ended.' (Sigurðsson 1989:216)

In addition, so-called 'fate' accusatives preserve an object-like accusative case.[1]

[1]On 'fate' accusatives, see Zaenen and Maling 1984, Ottósson 1988, Sigurðsson 1989, Haider 2001, Svenonius 2002, 2005, 2006, Platzack 2006, Sigurðsson 2006b, 2009b, 2011, 2012b and Schäfer 2008:304ff..

(153) a. Stormurinn rak bátinn á land.
storm.the.NOM drove boat.the.ACC on land
'The storm drove the boat ashore.'

b. Bátinn rak á land.
boat.the.ACC drove on land
'The boat drifted ashore.'

According to Sigurðsson (2006b:25), "'accusative unaccusatives' always have a narrow, semi-idiomatic fate meaning, absent from the transitive and the passive." Ottósson (1988:148) and Sigurðsson (2006b:24) point out that this special semantics does not arise in the transitive, marked unaccusative, or passive variants.

It is clear that the fate accusative construction involves properties that are outside of the causative alternation of interest in this chapter. The dative preservation in (152) is not as obviously distinct semantically from non-case-preserving alternations, according to Sigurðsson (2006b). However, Schäfer (2008:298), citing judgments from Gunnar Hrafn Hrafnbjargarson and Thórhallur Eythórsson, points out that speakers judge *af sjálfu sér* 'by itself' as quite odd or ungrammatical with fate accusatives as well as (at least some) dative-preserving unaccusatives. Speakers I have consulted vary somewhat more in their judgment of (154a) than (154b).[2]

(154) a. Bátinn rak að landi (??af sjálfu sér).
boat.the.ACC drove at land (??by itself)
'The boat drifted to land.'

b. Sögunni lauk (*af sjálfu sér).
story.the.DAT ended (*by itself)
'The story ended.'

[2]In Halldór Sigurðsson's judgment, the use of *af sjálfu sér* 'by itself' in these constructions is odd because it is tautological, not because it is ungrammatical. There still seems to be a difference between the sentences in (154) and ordinary anticausatives, but I must leave for future work a more precise understanding of how that difference arises.

If case-preserving unaccusatives turn out generally to have thematic properties distinct from anticausatives, then it is possible that they share syntactic properties with fate accusatives even if the semantics are somewhat different. This would be compatible with the proposal in Schäfer (2008) that the 'fate' reading arises at LF, instead of being specifically encoded in the syntax. For now, however, I set this issue aside (though see §3.3 for some discussion of case marking with *-st* anticausatives).

In what follows, I will propose that the appearance of *-st* on the anticausative variant stems from its merger in SpecVoiceP. The *-na* suffix is an exponent of specifierless Voice$_{\{\}}$, while the *-ka* suffix is an exponent of v. These morphemes cannot all appear together, and deriving the interaction between *-na*, *-st*, and *-ka* will be one goal of the analysis presented below. The affixes are important in that they provide independent evidence for the separation of Voice and v heads from the lexical verb root, and these heads will be argued to be the locus of independent semantic contributions as well.

3.2 Morphology of Specifierless Voice$_{\{\}}$

3.2.1 Unmarked Alternations and *-ka* Suffixation

A number of alternations with Voice$_{\{\}}$ involve no morphological difference between the causative and anticausative. First, I will discuss the *-ka* verbs mentioned above, and repeated in (155).

(155) a. Fólk dýp-ka-ði skurðinn.
people.NOM deep-KA-ed ditch.the.ACC
'People deepened the ditch.'

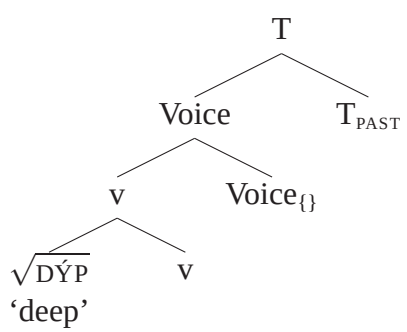
b. Skurðurinn dýp-ka-ði.
ditch.the.NOM deep-KA-ed
'The ditch deepened.' (Thráinsson 2007:299)

Since there is no effect of any properties of $\text{Voice}_{\{\}}$ on *-ka* morphology, the view taken here will be that *-ka* verbs are just verbs where v is spelled out as *-ka*. This seems to be idiosyncratic to a list of roots, though many, perhaps all of the roots on the list are also roots for adjectives.

(156) [v] ↔ -ka / {$\sqrt{\text{DÝP}}$ 'deep', $\sqrt{\text{GRÆN}}$ 'green', $\sqrt{\text{BLÍÐ}}$ 'gentle', . . . }⌒___

This analysis predicts that no overt morpheme for Voice, Tense, agreement, etc., will be able to be idiosyncratically sensitive to the identity of the root. That is, no process can demand a special allomorph of a higher head in the context of the root $\sqrt{\text{DÝP}}$ 'deep', since v will be overtly spelled out as *-ka* in the presence of $\sqrt{\text{DÝP}}$ 'deep'. To see this, consider the spellout process illustrated in (157). By head movement, the structure of the verb will be as in (157a) in a past tense context. Assuming that the default past tense morpheme (for 3rd person singular) is *-ði*, the mechanisms for Vocabulary Insertion discussed in chapter 1 (section 1.1.3) would yield the derivation in (157b-g).

(157) a.



b. $\sqrt{\text{DÝP}}$⌒v, v⌒$\text{Voice}_{\{\}}$, $\text{Voice}_{\{\}}$⌒T_{PAST} (Concatenation)

c. $\sqrt{\text{DÝP}}$⌒[v, -ka], [v, -ka]⌒$\text{Voice}_{\{\}}$, $\text{Voice}_{\{\}}$⌒T_{PAST} (Vocabulary Insertion)

d. $\sqrt{\text{DÝP}}$⌒[v, -ka], [v, -ka]⌒[$\text{Voice}_{\{\}}$, -Ø], [$\text{Voice}_{\{\}}$, -Ø]⌒T_{PAST} (Vocab. Ins.)

e. $\sqrt{\text{DÝP}}$⌒[v, -ka], [v, -ka]⌒T_{PAST} (Pruning)

f. $\sqrt{\text{DÝP}}$⌒[v, -ka], [v, -ka]⌒[T_{PAST}, -*ði*-] (Vocabulary Insertion)

g. $\sqrt{\text{DÝP}}$-ka-ði (Chaining)

First, each terminal node is concatenated with its sister. Then, Vocabulary Insertion takes place, and since $\sqrt{\text{DÝP}}$ 'deep' is on the list for spell-out of v as -*ka*, the -*ka* morpheme is inserted. This means that the v node will not be pruned. Therefore, neither $\text{Voice}_{\{\}}$ nor T_{PAST} can be sensitive to the identity of the root, since neither will be concatenated with it. Next, Vocabulary Insertion picks the -Ø (elsewhere) affix for $\text{Voice}_{\{\}}$; thus, the Voice node is subject to pruning, and v is concatenated with T_{PAST}. Since there is no special allomorph for a T_{PAST} concatenated with [v, -ka], Vocabulary Insertion picks the -*ði* (elswhere) affix for past tense.[3] This is then chained into *dýpkaði* 'deepened'. Further, the fact that the distinction between $\text{Voice}_{\{D\}}$ and $\text{Voice}_{\{\}}$ makes no difference for -*ka* follows because -*ka* is listed only as an exponent of v in the context of a particular set of roots; it has no contextual specification for Voice.[4] We will see in the next subsection that this analysis correctly predicts that -*ka* verbs cannot take the -*na* suffix.

With this much in place, the most basic alternating cases with no distinguishing morphology involve vPs which are not listed for the -*na* exponent of $\text{Voice}_{\{\}}$ or the -*ka* exponent of v. That is, unmarked alternating verbs are the left over roots to which no particular realization of v or Voice is specified, but which are syntactically compatible with either $\text{Voice}_{\{D\}}$ or $\text{Voice}_{\{\}}$.

[3]This is an oversimplification, in that the past tense morpheme will be sensitive to person, number, and mood features of the subject, or else those morphemes are separate and the default past tense morpheme will simply be -*ð*-.

[4]The account makes two further predictions. First, -*ka* verbs should not only be limited to those with 'adjective' roots. Second, there may exist pairs where the anticausative is either unmarked or appears with -*st*, perhaps with a meaning difference between the two (similar to the alternation in (217) discussed below). I do not know if these predictions are borne out.

(158) a. Þjálfarinn byrjaði leikinn.
coach.the.NOM began game.the.ACC
'The coach began the game.'

b. Leikurinn byrjaði.
game.the.NOM began
'The game began.'

Verbs like *byrja* 'begin' are just like *dýpka* 'deepen' with respect to Voice. The only difference is that they are not on the list for -*ka* insertion at v.

3.2.2 -*na*-Marked Alternations

Unlike -*ka* suffixation, the -*na* suffix is directly sensitive to the properties of $\text{Voice}_{\{\}}$.

(159) a. Jón **hita-ði** vatnið.
John.NOM heated-3SG.PST water.the.ACC
'John heated the water.'

b. Vatnið **hit-na-ði**.
water.the.NOM heated-NA-3SG.PAST
'The water heated.'

(160) a. Ég ætla að **bæta** ástand mitt.
I.NOM intend to improve situation my.ACC
'I'm going to improve my situation.'

b. Ástand mitt **bat-na-ði** aldrei.
situation my.NOM improve-NA-PAST never
'My situation never improved.'

I propose in this section that -*na* is the exponent of $\text{Voice}_{\{\}}$, i.e. a Voice head that does not have the requisite 'D' feature to take a specifier. That is, I propose the following spell-out rule for $\text{Voice}_{\{\}}$:

(161) $\text{Voice}_{\{\}} \leftrightarrow$ -na / __ $\{\sqrt{\text{BAT}}$ 'improve', $\sqrt{\text{BROT}}$ 'break', $\sqrt{\text{HIT}}$ 'heat', ...$\}^{\frown}$___

That is, -*na* is inserted for Voice$_{\{\}}$ in the context of a listed set of roots, defined at the level of concatenation. The contexual specification, relative to roots, is necessary because -*na* is not completely productive, in the sense that there exist anticausatives which are not marked with -*na* (or any overt v affix) but involve Voice$_{\{\}}$. Table 3.1 contains some examples of *na*-suffixed anticausatives provided by Ottósson (1986).

Table 3.1: A sample of -*na*-suffixed anticausatives

brotna	'break'	*molna*	'crumble, disintegrate'
klofna	'split'	*þorna*	'dry'
slitna	'wear down'	*blotna*	'get wet'
bogna	'bend'	*kólna*	'cool'
sviðna	'scorch '	*hitna*	'heat'
soðna	'cook, boil'	*losna*	'lose'
dofna	'droop, dim'	*dökkna*	'darken'
bráðna	'melt'	*kvikna*	'ignite'
fitna	'fatten'		

In the system of Embick (2010), a rule like (161) can only apply when there is no phonologically overt material intervening between Voice$_{\{\}}$ and the root. This means that v cannot be overt when -*na* is used. The rule in (161) correctly predicts that -*na* and -*ka* do not co-occur. That is, no -*ka* verb undergoes the -*na* alternation. It also correctly predicts that there will be no -*na* marked -*st* verbs, as we will see below, since -*st* merges in the specifier of Voice$_{\{D\}}$ and -*na* is an exponent of Voice$_{\{\}}$.

A strong version of the present theory is able to explain an interesting morphological fact about many alternations with -*na*, which can be illustrated nicely with 'break'. In the transitive form, which does not have the -*na* suffix, the stem form can vary depending on values of the tense, mood, and number agreement morphemes; the forms of the transitive include *brjót*-, *brýt*-, *bryt*-, *braut*-, *brut*-. In addition, the passive and perfect participial

forms take on the root *brot-*. The finite and passive participle forms are illustrated in Table 3.2. The forms for nominative and accusative passive participles and perfective participles are further illustrated in (163).[5]

(162) a. Jón **braut** gluggana.
John.NOM broke windows.the.ACC
'John broke the windows.'

b. Gluggarnir **brot-nu-ðu**.
windows.the.NOM broke-NA-PST
'The windows broke.'

(163) a. Jón hefur **brot-ið** gluggana.
John.NOM has broken-PTCP windows.the.ACC
'John has broken the windows.' (Perfect)

b. Gluggarnir hafa verið **brot-nir** (af Jóni).
windows.the.M.PL.NOM have been broken-M.PL.NOM (by John)
'The windows have been broken (by John).' (Nom. Passive)

c. Ég taldi gluggana hafa verið **brot-na** (af Jóni).
I believed windows.the.M.PL.ACC have been broken-M.PL.ACC (by John)
'I believed the windows to have been broken (by John).' (Acc. Passive)

The important point about the participial forms is that the stem form *brot-* is shared between the intransitive *brotna* 'break' and the transitive *brjóta* 'break', despite the fact that the latter has a series of other forms as well. These forms are chosen on the basis of tense, mood, and number features (but not person features). The morphophonology is quite complex, and a full analysis will not be developed here (but see Bye and Svenonius 2010

[5]For adjectival passives, especially those used attributively, there are also dative and genitive participial forms in addition to the forms shown in Table 3.2, as well as distinct endings for 'strong' and 'weak' paradigms, which modify indefinite and definite head nouns, respectively. I omit these here for reasons of space; they all take the *brot-* stem, and are consistent with everything said here.

Table 3.2: Root forms for transitive *brjóta* ‘break’

brjóta ‘break’ (transitive) – Indicative

	Present		Past	
	Sg	**Pl**	**Sg**	**Pl**
1	brýt	brjót-um	braut	brut-um
2	brýt-ur	brjót-ið	brau(t)-st	brut-uð
3	brýt-ur	brjót-a	braut	brut-u

brjóta ‘break’ (transitive) – Subjunctive

	Present		Past	
	Sg	**Pl**	**Sg**	**Pl**
1	brjót-i	brjót-um	bryt-i	bryt-um
2	brjót-ir	brjót-ið	bryt-ir	bryt-uð
3	brjót-i	brjót-i	bryt-i	bryt-u

brjóta ‘break’ (transitive) – Passive/Perfect Participles

	Singular			Plural		
	Masculine	Feminine	Neuter	Masculine	Feminine	Neuter
Nominative	brot-inn	brot-in	brot-ið	brot-nir	brot-nar	brot-in
Accusative	brot-inn	brot-na	brot-ið	brot-na	brot-nar	brot-in

for some further details/analysis). Turning to the intransitive form, Table 3.3 shows that there is only one root form when *-na* is present. That is, when *-na* intervenes between the tense/mood/number features and the root, they are unable to condition any special morphological changes to the root. This is consistent the notion that morphophonological operations are subject to phonological adjacency, as in Embick (2010).[6]

Treating *-na* as a spell-out of specifierless $\text{Voice}_{\{\}}$ is the most straightforward and direct analysis in the present system, and it straightforwardly captures its appearance on the anticausative variant as well as the fact that it does not attach to verbs with overt v heads. However, there is another possibility for formulating the *-na*, and that would be to

[6]Strictly speaking, the forms of *brjóta* ‘break’ are to be derived in the Embick (2010) system as readjustment rules, and Embick (2010) does allow some readjustment rules to apply across overt phonological material. It is nevertheless striking that the locality restrictions on ordinary allomorphy can derive the stem adjustment facts. They could be derived by assuming that readjustment is triggered by insertion of a Ø in the context of certain roots and inflectional features, and that *-na* intervenes between the root and the position where this Ø is inserted.

Table 3.3: Root forms for intransitive *brotna* ‘break’

brotna ‘break’ (intransitive) – Indicative

	Present		Past	
	Sg	**Pl**	**Sg**	**Pl**
1	brot-n-a	brot-n-um	brot-n-aði	brot-n-uðum
2	brot-n-ar	brot-n-ið	brot-n-aðir	brot-n-uðuð
3	brot-n-ar	brot-n-a	brot-n-aði	brot-n-uðu

brotna ‘break’ (intransitive) – Subjunctive

	Present		Past	
	Sg	**Pl**	**Sg**	**Pl**
1	brot-n-i	brot-n-um	brot-n-aði	brot-n-uðum
2	brot-n-ir	brot-n-ið	brot-n-aðir	brot-n-uðuð
3	brot-n-i	brot-n-i	brot-n-aði	brot-n-uðu

treat it as a spell-out of v in the context of $\text{Voice}_{\{\}}$. Such a rule would look like (164).

(164) $\text{v} \leftrightarrow \text{-na} \;/\; __ \; \{\sqrt{\text{BRÁÐ}}\text{ ‘melt’}, \sqrt{\text{GLIÐ}}\text{ ‘glide’}, \ldots\} \frown ___ \frown \text{Voice}_{\{\}}$

As discussed in Embick (2010:ch.2), while this kind of statement does introduce some complications into the system, it is in principle compatible with it. (According to Embick, certain phonological rules have the property of applying to an element in a way that depends on the properties of elements to its left and its right simultaneously.) In the absense of any independent motivation for this, I adopt the simpler rule in (161). For present purposes, both make the same point, that reference to a specifierless $\text{Voice}_{\{\}}$ is necessary to account for the distribution of *-na*.

3.2.3 Allomorphy-Marked Alternations

As mentioned earlier, some alternations are marked by a combination of stem adjustments and allomorphy on tense/agreement affixes. Consider the following examples with *brenna* ‘burn’, from Sigurðsson (1989:277).

(165) a. Þeir brenndu bókina.
they.NOM burned book.the.ACC
'They burned the book.'

b. Bókin brann.
book.the.NOM burned
'The book burned.'

In a way, stem alternations with *brenna* 'burn' are the converse of the stem alternations with *brjóta*/*brotna* 'break' discussed in the previous subsection. There, the intransitive form (suffixed with *-na*) only takes one root form (*brot-*), whereas the transitive form takes no fewer than six (*brjót-*, *brýt-*, *bryt-*, *braut-*, *brut-*, *brot-*). Here, the transitive form takes only one form (*brenn-*), and the intransitive form takes four forms, again depending on tense, number, and mood (*brenn-*, *brann-*, *brunn-*, *brynn-*).

Similarly, some alternations are marked '*rise-raise*'-type stem adjustments in the infinitive as well. For example, ***fe**lla man á prófi* 'fail someone on a test' versus ***fa**lla á prófi* 'fail on a test', or *sprengja* 'explode.TRANS' versus *springa* 'explode.INTRANS'. While all forms of transitive *fella* 'fail' have the stem form *fell-*, intransitive *falla* 'fail' has *fall-*, *fell-*, *féll-* and *föll-*.[7]. Similarly, while all forms of transitive *sprengja* 'explode' involve the stem form *spreng-*, intransitive *springa* has the stem forms *spring-/spryng-*,[8] *sprakk-*, and *sprung-*.

Importantly, there is no overt morphology intervening between the root and the (null) tense/agreement morphology which conditions the various forms. Therefore, there is nothing to prevent a readjustment rule from modifying the intransitive forms. Preventing

[7]The *föll-* form presumably is, however, phonologically conditioned by the presence of a *-u* on an inflectional affix, for example on the 1st person plural agreement morpheme *-um* in *föllum*. This is known as the '*u*-umlaut' rule (Orešnik 1985a)

[8]This is only an orthographic distinction in the modern language, since <i> and <y> both reflect the phoneme /ɪ/.

them from applying to the transitive forms only requires that the rule be sensitive to the properties of Voice: it applies in the presence of $\text{Voice}_{\{\}}$, but not in the presence of $\text{Voice}_{\{D\}}$. This can only work, however, when $\text{Voice}_{\{\}}$ is spelled out as morphologically Ø; if it were spelled out as *-na*, then no such alternations would be possible. (Recall that insertion of *-na* for $\text{Voice}_{\{\}}$ is idiosyncratically specified for a list of roots.)

3.2.4 Summary

In this section, I have presented an analysis of the morphology of verbs which occur with specifierless $\text{Voice}_{\{\}}$. $\text{Voice}_{\{\}}$ can be spelled out as *-na* as long as v is null and the root is on the list for *-na* insertion. If v is overt, realized as *-ka*, for example, *-na* will not be possible. In addition, overt v or $\text{Voice}_{\{\}}$ precludes stem alternations triggered by the φ-features of the agreement complex. Recall that *-st* anticausatives are derived by merging the *-st* clitic in SpecVoiceP. Thus, such structures do not involve $\text{Voice}_{\{\}}$ at all, but rather $\text{Voice}_{\{D\}}$. This correctly derives the fact that *-st* does not appear on *-na* verbs.

3.3 Direct Object Datives and Anticausatives

This dissertation is not primarily about case marking, so many of the complexities of Icelandic case marking will not receive an analysis here. However, there is one area where case marking facts of anticausatives are relevant to the analysis presented in chapter 5. The alternation of primary interest is between transitives which assign dative to their direct object, and the corresponding *-st* anticausatives in which the underlying object is nominative. This pattern is in contrast to the passive, where dative case is retained.

(166) a. Ásta splundraði rúðunni.
Ásta.NOM shattered window.the.DAT
'Ásta shattered the window.'

b. Rúðunni var splundrað.
window.the.DAT was shattered
'The window was shattered.'

c. Rúðan splundraðist.
window.the.NOM shattered-ST
'The window shattered.'

This paradigm is completely regular and productive, in the sense it applies to all transitive verbs taking a dative direct object, so long as they can form -*st* anticausatives.

What is important to the present thesis is that the direct object dative in (166a-b) gets its case in a different way from the Appl datives discussed in chapter 5. More exactly, the direct object in (166a-b) is neither a covert indirect object nor the complement of a silent preposition. Instead, following Svenonius (2006) and Sigurðsson (2009b, 2011, 2012b), the dative feature is associated with v; I will call a v with this feature v_{DAT}. In this thesis, I adopt a version Sigurðsson's analysis consistent with the mechanisms available in DM. Specifically, I propose that whatever feature leads to dative case assignment, the '[DAT]' of v_{DAT}, it is deleted at PF by an impoverishment rule. The rule can be stated succinctly as in (167).[9]

(167) $v_{DAT} \rightarrow v$ / [$_{VoiceP}$ -*st* Voice ___

This rule says that the [DAT] feature of v is deleted in the context of -*st*. Before discussing this further, I will first present the empirical arguments that Icelandic does have direct object datives which are distinct from indirect object datives and datives assigned by a null preposition.

It is worth emphasizing from the start that there is no one way to become a dative object. Seeing that a verb takes an object in the dative case by itself allows one to conclude

[9]Recall that, as discussed in more detail in the next section, I analyze -*st* anticausatives with -*st* in SpecVoiceP.

very little. McFadden (2004) argues that dative objects in German are of two types: indirect objects introduced by an Appl(icative) head, and PPs with a silent P which assigns dative to its object. The argument builds on a careful analysis of the syntactic behavior of dative objects, and a comparison of this to applied datives in ditransitives and to PPs. Icelandic may also have both types of dative. It clearly has datives introduced by an Appl head, as discussed in detail in chapter 5. In §6.5 I propose that some dative direct objects might involve a P head as well. However, in addition to these two types, Icelandic has a third type which seems to be absent in German: truly direct object datives, with no Appl head and no silent P. In fact, the evidence in favor of the existence of Appl dative and P datives discussed in chapter 4 also support the claim here: it is not the case that some independent, Icelandic-specific process makes Appl datives and silent P datives "look like" direct objects, since we can see what Appl datives and silent P datives "look like," and they do not look like the direct object datives discussed here.

A number of considerations lead to the conclusion that Icelandic has direct object datives. First, as pointed out by Maling (2001), Icelandic differs from German in that many dative objects may correspond to the genitive argument of a nominalization.[10]

(168) a. Sjómennirnir björguðu **flóttamanninum**.
sailors.the.NOM rescued refugee.the.DAT
'The sailor's rescued the refugee.'

b. björgun **flóttamannsins**
rescue.NOM refugee.the.GEN
'rescue of the refugee'

c. * björgun(in) **flóttamanninum**
rescue(.the).NOM refugee.the.DAT

[10]Data adapted from Svenonius (2006), but see Maling (2001:441).

d. ?% björgunin á **flóttamanninum**
rescue.the.NOM on refugee.the.DAT
'rescue of the refugee'[11]

She shows, however, that Icelandic is not in principle different from German in terms of what sorts of thematic arguments may form nominalizations: for German verbs that take dative objects, the Icelandic counterparts are like German in not corresponding to genitives in nominalizations, as shown in (169-170).

(169) Icelandic

a. Þau hjálpuðu **kennaranum**.
they.NOM helped teacher.the.DAT
'They helped the teacher.'

b. hjálp **kennarans**
help teacher.the.GEN
'the help that the teacher gave'
* 'the help that the teacher received'

c. * hjálp(in) **kennaranum**
help.the teacher.the.DAT

d. * hjálp(in) á **kennaranum**
help.the on teacher.the.DAT

(170) German

a. Hans hilft **seinem Bruder**.
Hans.NOM helps his brother.DAT
'Hans helps his brother.' (McFadden 2004:84)

b. die Hilfe **des Priesters**
the help the priest.GEN
'the help that the priest gave'
* 'the help that the priest received' (Maling 2001:452)

[11]Some speakers do not find the PP fully acceptable, though others do. Everyone I have spoken with finds a contrast between (168d) and (169d) below, with the latter being judged unacceptable by everyone.

c. * die Hilfe **meinem Freund**
the help my friend.DAT

(Maling 2001:447)

McFadden (2004) argues that the 'help' class involves an indirect object (introduced by Appl) with no direct object, an analysis that would explain a number of facts about 'help'-type verbs, as long as the object of Icelandic verbs of the type in (168a) are not indirect objects.

Second, as discussed by Maling (2001), generic middles can be formed from a dative-assigning verb in Icelandic, as shown below.

(171) a. Við læsum dyrunum.
we.NOM lock door.the.DAT
'We're locking the door.' (Svenonius 2006:17)

b. Þessi hurð læsist ekki.
this door.NOM locks-ST not
'This door doesn't lock.' (Maling 2001:441)

As with nominalizations, this is not the case for German, where middles cannot be formed from dative-assigning verbs. However, the examples that show this involve verbs which correspond to verbs that also cannot form middles in Icelandic, such as 'help'.

(172) * Er hilft sich schwer.
he.NOM helps REFL hard (Maling 2001:436) (German)

(173) * Gamalt fólk hjálpast illa.
old people help-ST poorly (Maling 2001:441) (Icelandic)

This suggests again that Icelandic and German are subject to the same thematic restrictions, but that Icelandic is able to assign dative case in thematic circumstances that German is not, namely, to direct objects (themes).

Third, dative objects may be promoted to subject position in Icelandic, showing that they do not distribute like PPs (Svenonius 2001, 2002). (In examples with a fronted

adverb, the position between the auxiliary ‘be’ and the passive participle is the subject position.) In (174b-c), we see that regardless of case morphology, the object of the preposition in the active *sparka í* ‘kick’ cannot move to the subject position, stranding the preposition; that is, pseudopassives are not possible. In (174d), we see that the whole PP cannot move to the subject position either. Rather, an ‘impersonal P passive’, with the direct object remaining the complement of the preposition, must be used, as shown in (174e) (see Sigurðsson 2011 and references there for discussion of this passive).

(174) a. Þá sparkaði Hlynur í Bjart.
then kicked Hlynur.NOM in Bjartur.ACC
‘Then Hlynur kicked Bjartur.’

b. * Þá var Bjart sparkað í.
then was Bjartur.ACC kicked in

c. * Þá var Bjartur sparkaður í.
then was Bjartur.NOM kicked in

d. * Þá var í Bjart sparkað.
then was in Bjartur.ACC kicked

e. Þá var sparkað í Bjart.
then was kicked in Bjartur.ACC
‘Then Bjartur was kicked.’

In contrast, dative direct objects move to the subject position in passives, and behave exactly like accusative direct objects in the constraint against leaving them in situ. Unlike the prepositional object in (174b-d), the object in (175b) moves to the subject position, and unlike the impersonal P passive in (174b-e), the dative object cannot be left in situ, as shown in (175c).[12]

[12]Of course, this does not apply to speakers of the ‘New Passive/New Impersonal’ construction discussed in §1.3.6.

(175) a. Þá bjargaði sjóræninginn flóttamanninum.
then rescued pirate.the.NOM refugee.the.DAT
'Then, the pirate rescued the refugee.'

b. Þá var flóttamanninum bjargað.
then was refugee.the.DAT rescued
'Then, the refugee was rescued.'

c. * Þá var bjargað flóttamanninum.
then was rescued refugee.the.DAT

Fourth, if Icelandic allows both indirect object datives and direct object datives, we expect that they would co-occur in ditransitives. This expectation is borne out: according to Jónsson (2000a:73), there are at least 29 such verbs (see also Yip et al. 1987). An example is provided in (176).

(176) Haraldur mun skila **Jóni** **peningunum** í kvöld.
Harold.NOM will return John.DAT money.the.DAT tonight
'Harold will return the money to John tonight.'

This is in contrast to German, where there are no NOM-DAT-DAT ditransitives (Fanselow 2000); this is also expected, if German differs from Icelandic in that Icelandic, but not German, has direct object datives.

Fifth, Svenonius (2001, 2002) has shown that object case marking is very often sensitive to semantics, specifically event structure.[13] When an event has two sub-events, dative case is used when the external argument is only part of the initiating sub-event. Otherwise, accusative is used. This can be seen most clearly on verbs which can take either dative or accusative, depending on the meaning.

[13]Though see the discussion surrounding examples (178).

(177) a. Þeir skutu **geimfarann** til bana.
they.NOM shot astronaut.the.ACC to death
'They shot the astronaut to death.'

b. Þeir skutu **geimfaranum** á loft.
they.NOM shot astronaut.the.DAT on sky
'They shot the astronaut into the sky.' (Svenonius 2005)

The aspectual facts suggest that the case of direct objects should be linked to functional verbal structure, rather than the identity of a particular lexical item, indirect objecthood or a null preposition. (This claim must be attenuated, however; see below.)

Sixth, admitting that Icelandic allows direct object datives, in addition to indirect object datives and covert PP datives, explains why Icelandic has far more dative objects than related languages, in terms of sheer lexical numbers. Consider the following quote by Maling (2002a,b):

> Maling (1996) [an unpublished work] contains a list of more than 750 verbs which in at least one sense occur with a dative object; this number would increase by at least 70 verbs if the borrowings and other slang verbs listed by Jóhanna Barðdal (2001:121) were included. The corresponding number of verbs for German is approximately 140, and for Russian fewer than 60 (Pul'kina and Zachava-Nekrasova 1980). (Maling 2002a:31-2)

If Icelandic has direct object datives, which, moreover, correlate in a productive way with aktionsart, then we can make sense of the fact that Icelandic has such a large number of dative-object-taking verbs without assuming that Icelandic thematic structure is radically different from other languages (or that the Icelandic lexicon is burdended with hundreds and hundreds more verbs than German and Russian listed with a special 'quirky' case feature).

If direct object case is sensitive to event structure in Icelandic, it makes sense to tie direct object datives to some feature or property of a special type of little v head, given that v is responsible for event semantics. (See below for another possibility, proposed by Schäfer 2008.) Sigurðsson (2009b, 2011) notates this head as v** (v^{*+} in Sigurðsson 2012b). I will follow Svenonius (2006) and notate this v with a subscripted 'DAT' feature, i.e. v_{DAT}; this is purely for notational transparency, however, and says nothing about the featural makeup of v_{DAT}.

Now, it should be noted here that there is, despite Svenonius's findings, still a certain amount of arbitrariness in whether a verbal root will attach to v or v_{DAT}. This is shown with the following pair of verbs, *keyra*, *aka*, which both mean 'drive'.[14]

(178) a. Ég keyri { mótorhjól / *mótorhjóli }
I.NOM drive { motorcycle.ACC / *motorcycle.DAT}
'I drive a motorcycle.'

b. Ég ek { *mótorhjól / mótorhjóli }
I.NOM drive { *motorcycle.ACC / motorcycle.DAT }
'I drive a motorcycle.' (Svenonius 2001:4)

This can be accounted for if the features leading to dative case are located in v (v_{DAT}), since this will put v in a direct, local relation with the verb root, allowing for a certain amount of lexical idiosyncrasy.

Now, consider again the proposed impoverishment rule in (167), repeated here.

(179) $v_{DAT} \rightarrow v$ / [$_{VoiceP}$ -*st* Voice ___

[14]Interestingly, Jónsson (2009c) lists *keyra* 'drive' among verbs to which dative is spreading. However, this is not an isolated example. Pairs of verbs with near synonymous meaning (with at least no meaning difference discernable to native speakers) often case-mark objects differently, so it remains true that one cannot predict from event semantics which case any given verb will assign, though there are some semantic regularities.

This rule will not have any effect on dative assigned by Appl or P; it applies to a morphologically property of a functional head, and will only apply to that head. It is most compatible with a post-syntactic analysis of case, where, at spell-out, case features are assigned on the basis of the syntactic configuration, but are not part of syntax themselves (Yip et al. 1987; Marantz 1991/2000; McFadden 2004; Sigurðsson 2000, 2009b, 2011, 2012b). Then, nominative is the 'elsewhere' case (see also Schütze 1997), assigned when nothing else is available to assign case. Direct objects are assigned dative at morphology if they agree with v_{DAT}; the impoverishment rule applies such that the case of the object DP will get the 'default' (nominative) case, since in the context of *-st*, v_{DAT} has become v. This is the function of an impoverishment rule—it involves a form taking the default, 'elsewhere' form in some special, marked environment.[15] The appropriate impoverishment rule is actually not specific to dative. Icelandic also has direct object genitives, although to a much lesser degree (in terms of productivity and number of verbs). To the extent that these can form something like an *-st* anticausative, where *-st* is clearly marking the absence of an external argument, genitive case is lost as well.

(180) a. Ég óska nýrra starfsmanna.
I.NOM wish.for new employees.GEN
'I seek new employees.'

b. Nýrra starfsmanna er óskað.
new employees.GEN are wished.for
'New employees are sought.'

c. Nýir starfsmenn óskast.
new employees.NOM are.wished.for-ST
'New employees are sought.' (Thráinsson 2007:290)

[15] In contrast, contextual allomorphy (such as the choice of specific allomorphs of T_{PAST}) involves a more marked, special form in a marked environment.

So the appropriate impoverishment rule actually deletes any special case feature on v, not just the dative feature. This is consistent with the general property that impoverishment involves an umarked form emerging in a special context.

While it is well-known that the passive in Icelandic preserves non-accusative object case, nothing in the theory should force this to be the case (cf. Alexiadou et al. 2011). Faroese, for example, has very similar passive syntax to Icelandic, but in Faroese, a dative object can easily correspond to a nominative subject (Thráinsson et al. 2004; Sigurðsson 2012b:206; Árnadóttir and Sigurðsson 2012 (though dative is occasionally preserved).

(181) **Faroese Passives**

a. Teir hjálptu { **honum** / ***hann** } uppaftur á turt.
they.NOM helped { him.DAT / *him.ACC } back on dry (land)
'They helped him back on dry land.'

b. * **Honum** varð hjálpt uppaftur á turt.
he.DAT was helped back on dry

c. **Hann** varð hjálptur uppaftur á turt.
he.NOM was helped again on dry
'He was helped back on dry land.' (Thráinsson et al. 2004)

Nor do we have any a priori expectation about whether anticausatives should preserve object case or not. It happens to be a fact about Icelandic *-st* anticausatives that the marked case of the direct object is lost.

The impoverishment analysis of these facts does not say anything deep about the case alternation. It says that what children learn when they acquire Icelandic is that the overt subject of *-st* anticausatives takes no special case. An alternative, deeper analysis is offered by Schäfer (2008). Schäfer (2008) proposes to encode the dative feature on Voice rather than v. The idea is meant to capture the semantic correlations discussed by Svenonius (2001, 2002). Since dative often arises when the external argument is involved only in the initiation of the event, but not its completion, a $\text{Voice}_{\text{DAT}}$ feature can encode this

semantically special kind of external argument. Since the projection of $\text{Voice}_{\text{DAT}}$ is lexical information, different roots can contain information as to whether they project default Voice or $\text{Voice}_{\text{DAT}}$, according to Schäfer (2008). When -*st* is present, however, there is no (semantic) external argument, so there can be no special information associated with the initial sub-event; $\text{Voice}_{\text{DAT}}$ is then impossible.

There are several reasons that I do not adopt this account. First, as mentioned above, the semantic correlations are not exact. We do not want to relate the semantically deterministic information directly to dative case because dative case is not necessary to achieve such semantics, and the semantics can occur without dative case. This semi-idiosyncrasy is implicit in Schäfer's decision to encode the information in the lexical roots rather than in $\text{Voice}_{\text{DAT}}$ itself. Second, and relatedly, genitive case also changes to nominative when -*st* is in SpecVoiceP, and genitive case assignment does not, as far as anyone has been able to tell, involve any special relation of the external argument to the initiation of a sub-event.

Third, and more importantly, the account seems to require the semantics to interact with morphology in too direct a fashion. To illustrate, the root $\sqrt{\text{SPLUNDRA}}$ 'shatter' would have the feature or property requiring the presence of $\text{Voice}_{\text{DAT}}$. However, in order for $\text{Voice}_{\text{DAT}}$ to merge, a non-expletive external argument has to merge in SpecVoiceP. So what happens when -*st* merges there? There seem to be two options. First, the [DAT] subfeature of $\text{Voice}_{\text{DAT}}$ could be deleted, just as in the present analysis. But since impoverishment rules operate post-syntactically on the PF side, this would involve deleting a feature with semantic import at PF to avoid that import at LF. A version of this analysis might try to say that the [DAT] subfeature is deleted in the syntax prior to transfer. This would not fit in well with other aspects of the theory, involving where case is determined and where certain kinds of feature deletion can apply. But even if one wanted to find a

way to accomplish this deletion, it would still seem to be predetermining a cross-interface effect: the motivation to delete the feature is semantic, but the deletion occurs in the syntax, thus involving a kind of look-ahead which is especially suspicious since the effect is primarily morphological. The second option would be never to merge $\text{Voice}_{\text{DAT}}$ when *-st* is merged in its specifier. Then, $\sqrt{\text{SPLUNDRA}}$ 'shatter' would take $\text{Voice}_{\text{DAT}}$ when there is a DP in SpecVoiceP, but ordinary Voice when *-st* is there. But then, the lexical properties of the root seem to be too powerful. It would not be clear why $\sqrt{\text{SPLUNDRA}}$ 'shatter' could not also occur with ordinary Voice when a DP is in SpecVoiceP, leading to systematic optionality of the object case. It seems preferable, when possible, to let the root make the fewest specific demands possible, so if the root wants to occur with the [DAT] feature, the simplest thing would be to let it occur with that feature, and have other aspects of the configuration govern that alternation. This favors a deletion analysis over an 'optional merge' analysis.

Nevertheless, the account in Schäfer (2008) is more ambitious than the present one, and is in fact compatible with all of the important main points. That is, if it turns out that Schäfer (2008) is correct that [DAT] is associated with Voice instead of v, and that the lack of [DAT] in *-st* anticausatives can be accounted for with reference to the relationship between Voice and its specifier, then the difference between direct object datives and indirect object datives which becomes important in chapter 5 is unchanged. What is important in the present context is that the source of dative case on the direct object of a verb like *splundra* 'shatter' is distinct from the source of dative on an indirect object. Adapting Schäfer's account to the present one would still leave intact the fact that indirect object datives are insensitive to the properties of Voice, while direct object datives are sensitive to the properties of Voice.

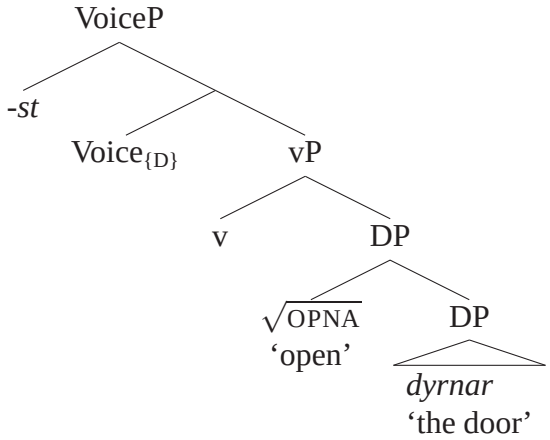
3.4 Thematic Interpretation of Causatives/Anticausatives

3.4.1 -*st*-Marked Anticausatives

In this section, I discuss the thematic interpretation of -*st* anticausatives such as (182), which have the structure in (183), in more detail. I first demonstrate that sentences like (182) are indeed anticausative. I then show how rules governing the interpretation of Voice (and other elements in the structure) derive the thematic properties of anticausatives.

(182) Dyrnar opnuðust.
door.the.NOM opened-ST
'The door opened.'

(183)



As demonstrated by Ottósson (1986:96) and Sigurðsson (1989:268) and previously illustrated in §2.1.2, -*st* marked verbs like those in (182) or (184) are neither passive nor reflexive, but rather anticausative. This is shown by the fact that they can occur with the Icelandic counterpart to *by itself*, and cannot occur with agentive modifiers, (see (184a)) (cf. Schäfer 2009:fn 29). Anticausatives also cannot occur with a passive *by*-phrase, as shown in (184b), or a purpose clause, as shown in (184c).

(184) Anticausative

a. Rúðan splundraðist { *viljandi / af sjálfu sér }.
window.the.NOM shattered-ST { *intentionally / by itself }
'The window shattered by itself.'

b. Rúðan splundraðist (*af ræningjunum).
window.the.NOM shattered-ST (*by robbers.the.DAT)
'The window shattered (*by the robbers).'

c. Rúðan splundraðist (*til þess að gera hann reiðan).
window.the.NOM shattered-ST (*for it to make him mad)
'The window shattered (*in order to make him mad).'

This is exactly opposite from the passive sentences in (185). Passive sentences allow agentive modifiers, but disallow *af sjálfu sér* 'by itself', as shown in (185a). Passives also allow the agent to be named in a *by*-phrase, as shown in (185b), as well as purpose clauses, as shown in (185c).

(185) Passive

a. Rúðunni var splundrað { viljandi / *af sjálfu sér }
window.the.DAT was shattered { intentionally / *by itself }
'The window was shattered on purpose.'

b. Rúðunni var splundrað (af ræningjunum).
window.the.DAT was shattered (by robbers.the.DAT)
'The window was shattered by the robbers.'

c. Rúðunni var splundrað (til þess að gera hann reiðan).
window.the.DAT was shattered (for it to make him mad)
'The window was shattered in order to make him mad.'

The impossibility of *by*-phrases, agentive modifiers, and purpose clauses with anti-causatives suggests that there is no implicit agent in the semantics of an *-st* anticausative.

However, there is still reason to think that the anticausative examples are bi-eventive. First, von Stechow (1996) has shown that the scope of adverbs such as 'again' must be able to target a state subevent below a causing subevent, giving a restitutive reading only.

The restitutive reading obtains for the intransitive variant of the causative alternation as well, showing that there must be two subevents in the intransitive. These facts can be replicated in Icelandic as well.

(186) Dyrnar höfðu alltaf verið opnar, en vindurinn lokaði þeim í gær.
'The door had always been open, but the wind closed it yesterday.'

a. Í dag hef ég opnað þær aftur.
today have I opened it again.
'Today, I have opened it again.'

b. Í dag hafa þær opnast aftur.
today has it opened-ST again.
'Today, it has opened again.'

In this example, there has never been a previous opening event for *aftur* 'again' to scope over. Rather, the door has previously been in an open state, and *aftur* 'again' modifies this state, not the causing event, a conclusion that holds in transitive and intransitive cases. This in turn means that there must be a stative subevent for *aftur* 'again' to modify.

Second, like anticausatives cross-linguistically, the causing event in an *-st* anticausative can be named in a PP (Ottósson 1986, 1988, 1989), (cf. Alexiadou et al. 2006; Alexiadou 2010; Kallulli 2006a, 2007; Schäfer 2008, 2009).[16]

(187) a. Rúðan splundraðist af þrýstingnum.
window.the.NOM shattered-ST from pressure.the.DAT
'The window shattered from the pressure. '

[16]Like Greek, Albanian and Latin, Icelandic can use the same preposition (*af*) to introduce a causing event in anticausatives and an agent in passives (cf. Kallulli 2007). The preposition *við* in (187b) more strongly implies temporal simultaneity than does *af* in (187a). Eiríkur Rögnvaldsson (p.c.) finds these example a bit strange, since *splundrast* 'shatter' implies an immediate, punctual event and *þrýstingurinn* 'the pressure' implies a slower process; *höggbylgjan* 'the shock wave' works better for him. Some speakers find *af*-phrase slightly degraded here as well, though everyone I know of accepts the *við*-phrase.

b. Rúðan splundraðist við þrýstinginn.
window.the.NOM shattered-ST at pressure.the.ACC
'The window shattered from the pressure.'

These examples make sense if the PP modifies the causing event, perhaps with the (b) example referring to temporal simultaneity of the event denoted by the PP and the causing event.

A third property of anticausatives in many languages is that an additional participant can be added and related to the causing event in the so-called 'unintentional causer' construction.

(188) Rúðan splundraðist hjá Jóni.
window.the.NOM shattered-ST by John.DAT
'John accidentally caused the window to shatter.'

In many languages, including Albanian, Bulgarian, German, Greek, Italian, Polish, Romanian, Serbo-Croatian, Slovenian and Spanish (Rivero 2004; Kallulli 2006b; Schäfer 2008), an unintentional causer can be expressed with a dative DP. In Icelandic, as discussed further in chapter 5, this is not possible; rather, unintentional causers are expressed with *hjá*-PPs, as first pointed out by Ottósson (1986:98).[17] Unintentional causers are cross-linguistically compatible with three kinds of scenarios: (a) the causer did something by accident, (b) the causer failed to prevent the change-of-state event, and (c) the causer tried to cause the change-of-state, but only did so with great difficulty.[18]

[17] According to (Ottósson 1986:98): "The middle voice may also be used when someone who could be called an agent does something accidentally, and then it is possible to express the potential agent in a prepositional phrase with *hjá*..." Original: "Miðmynd má einnig nota þegar einhver sem gæti svarað til geranda gerir eitthvað óvart, og má þá nefna hinn hugsanlega (potential) geranda í forsetningarlið með *hjá*..." [JW trans.].

[18] The term 'unintentional causer' is thus somewhat of a misnomer, since they are not necessarily unintentional (the success with difficulty reading) and not necessarily the 'cause' (the failed prevention reading).

(189) Dyrnar opnuðust hjá henni.
door.the.NOM opened by her.DAT

a. 'She accidentally opened the door.' (**accident**)

b. 'The door opened despite her best efforts.' (**failed prevention**)

c. 'She got the door open only with great difficulty.' (**succ. w/diff.**)

(189) is compatible with a situation where (a) a little girl is playing, and accidentally bumps the door with her elbow, causing it to open; (b) the girl's father told her to hold the door closed, but despite her best efforts, the wind blew the door open; or (c) all the children tried but no one could open the tightly closed door, until the little girl managed to do so.

What is important for present purposes is that these readings of *hjá* PPs identify anticausatives, or more specifically, unaccusative change-of-state events. What characterizes the semantics of *hjá*-PPs of this sort is that the participant must be sentient and responsible for the causing event, which is ultimately out of his/her control. Thus, the success with difficulty reading implies that the unintentional causer does not have full control over whether he/she will be successful. In Wood (2010b), I connected these readings to other uses of *hjá* PPs, arguing that generally, *hjá* relates a sentient entity x to some eventuality (stative or dynamic) e, such that x is responsible for e. The details of this analysis are not crucial here; what is important is that the *hjá* PPs interact with anticausatives like unintentional causers cross-linguistically.[19]

As mentioned above, I assume, following Kratzer (1996), Pylkkänen (2002, 2008), Alexiadou and Anagnostopoulou (2004), Alexiadou et al. (2006), and Schäfer (2008), among many others, that external arguments are introduced by a functional head Voice.

In this thesis, however, I stick with the terminology as it has been used in the literature.

[19]Interestingly, according to Rivero and Savchenko (2005), Russian unintentional causers are expressed with *u* PPs, and *u* seems to share a number of properties with Icelandic *hjá*.

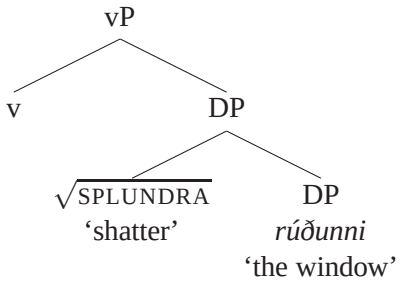
When the complement of Voice is a dynamic vP (headed by v), Voice can, in Icelandic, introduce an AGENT role or no role at all (Ø).[20] Note that Icelandic does not generally allow instrument subjects like 'the key opened the door'. However, as illustrated in (190b), causes can also be subjects, and their case-marking patterns suggest that they are introduced in Voice (cf. Jónsson 2003).

(190) a. Ásta splundraði rúðunni.
Ásta.NOM shattered window.the.DAT
'Ásta shattered the window.'

b. Þrýstingurinn splundraði rúðunni.
pressure.the.NOM shattered window.the.DAT
'The pressure shattered the window.'

This raises the question of whether we should introduce a CAUSER role in addition. I will propose, following Pylkkänen (2002, 2008) and Solstad (2009), that we should not. Solstad (2009) in particular argues on semantic grounds that external argument causers should not be interpreted as entities. Instead, CAUSE is a relation between events, not between an individual and an event. This relation is introduced by v, the functional head that category-neutral roots attach to to become 'verbs'. As mentioned earlier, whenever v, whether activity v or state v, takes an eventive complement, it is interpreted in the semantics as a CAUSE relation.

(191)



[20] I follow Jónsson (2003:132) in assuming that the 'agent' role refers to elements which use their own energy regardless of whether such use is 'volitional', so hiccuping can be agentive in this sense, even if the subject doesn't choose to hiccup, since the energy leading to the hiccuping comes from the subject.

The root in this structure names an end state, namely the set of shattered states.

(192) $[\![\sqrt{\textsc{Splundra}}]\!] = \lambda s_s.$ shattered(s)

Since the DP attached to $\sqrt{\textsc{Splundra}}$ 'shatter' is an entity, it will undergo the interpretive rule given in (49) in §1.1.5, repeated here:

(193) $[\![\text{DP}]\!] \rightarrow \textsc{state}([\![\text{DP}]\!]) = \lambda s_s.$ state(s,DP)

$\approx$ 'the set of states s such that the state of DP is s'

The DP and the root combine by Predicate Composition, yielding their conjunction: the set of shattered states s such that the window is in state s. The v in the structure in (191) fits the structural description for the causative interpretation given in (48) in §1.1.5 (omitting the 'activity' conjunct).

(194) $[\![\text{v}]\!] \leftrightarrow \lambda P_{\langle s,t \rangle}.\lambda e_s.\exists e'_s.\ \textsc{caus}(e,e') \wedge P(e')$ / ___ (eventuality)

Since the complement which v combines with is an eventuality (a state), the interpretation of v introduces a cause relation between an implicitly introduced causing event, and the caused event denoted by the DP+result component, which in this case is an end-state. The semantics of this vP is as follows:

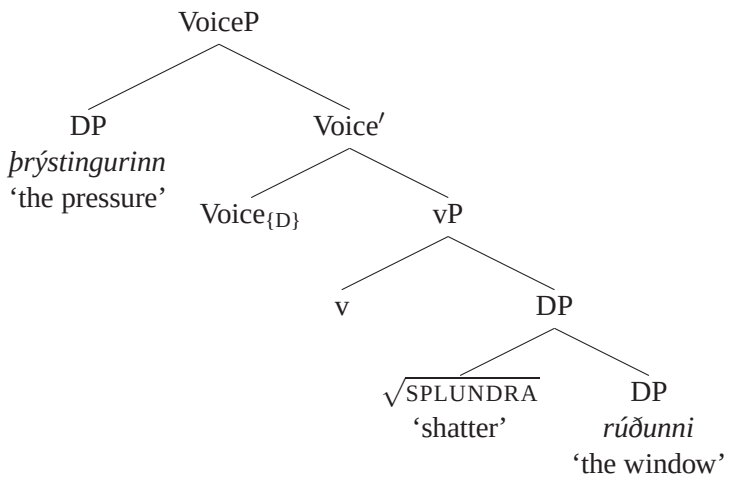
(195) $[\![\text{vP}]\!] = \lambda e_s.\exists s_s.\ \textsc{cause}(e,s) \wedge$ state(s,the window) $\wedge$ 'shattered'(s)

$\approx$ 'The event e caused a state s, where s is the state of the house and also a shattered state.'

Since this cause relation is established independently of Voice, and since I will argue below that Voice can be semantically Ø, introducing no θ-role, a straightforward analysis of (190b) would be to take the subject (*þrýstingurinn* 'the pressure') to be a semantic modifier of the causing event (as argued independently by Solstad (2009)). It is the event

associated with the pressure, not some ‘pressure entity’, that is understood as causing the shattering. Voice does not introduce a role, here; rather, the subject is interpreted as an event which modifies the causing event. The semantic result is of the structure in (196a) is shown in (196b-d).

(196) a.



b. $[\![$ Voice′ $]\!]$ = $\lambda e_s.\exists s_s.$ CAUSE(e,s) $\wedge$ state(s,the window) $\wedge$ ‘shattered’(s)

c. $[\![$ VoiceP $]\!]$ = $\lambda e_s.\exists s_s.$ ‘pressure’(e) $\wedge$ CAUSE(e,s) $\wedge$ state(s,the window) $\wedge$ ‘shattered’(s)

$\approx$ ‘The event e which was the event of pressure caused a state s, where s is the state of the window and also a shattered state.’

Semantically, then, this is the same as if the DP were merged directly in SpecvP. However, I adopt the proposal in Chomsky (2008) that SpecvP (Chomsky’s SpecVP) is a landing site for A-moved objects, and does not introduce externally merged arguments. More specifically, I adopt the proposal suggested in Schäfer (2008:252, fn. 5):

> [...] a categorial D-feature triggering first merge is not possible on v_{CAUS} at all. Thematically, causers are always associated with the event in v_{CAUS} (probably via a kind of identity relation between the event variable in the v_{CAUS} and the

> event variable in the causer argument (cf. [Alexiadou and Schäfer 2006] who notice that causers are always inherently eventive) [...] In transitives, Voice always provides categorial licensing to the element in its specifier (via a D-feature forcing external merge). Besides this categorial licensing, Voice gives thematic licensing only if necessary. That is, in the case of causer subjects, Voice gives just categorial licensing while, in the case of agent subjects, Voice gives both categorial and thematic licensing. (Schäfer 2008:252, fn. 5)

Here, the spirit of this "identity relation" is implemented by taking the eventive DP to be interpreted as a semantic modifier of the causing event, though it is still a syntactic argument.[21] The role of Voice$_{\{D\}}$ is to introduce a DP in its specifier. Since in the case of a causer, that DP is an event, and therefore non-sentient, it cannot be interpreted as an agent. Rather, it is interpreted as specifying the causing event introduced by v.

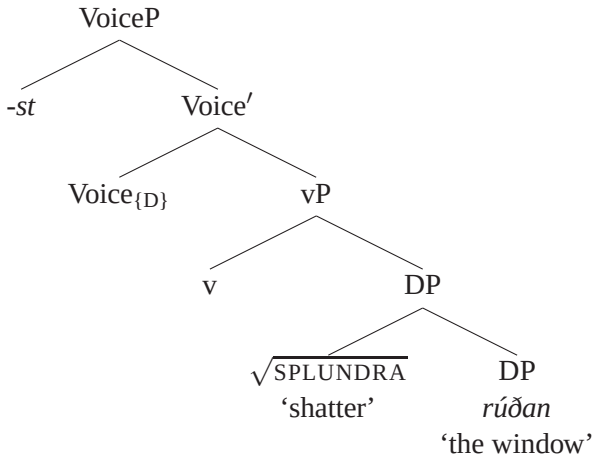
In general, the ability of Voice to be semantically null will be important to the question of whether *-st* can merge in its specifier. This is because I propose that *-st* is itself semantically null—a type-neutral identity function which passes the denotation of its sister to its mother. Given that *splundra* 'shatter' is not so restrictive on the semantic value of Voice (see 190), optionally interpreted as Ø, it is not surprising that the anticausative is acceptable, as shown in (197).

(197) Rúðan splundraðist.
window.the.NOM shattered-ST
'The window shattered.'

[21] See Chung and Ladusaw (2004), who argue in a general way that syntactic argumenthood and semantic argumenthood are dissociated. The process involved in interpreting the DP causer is in this way conceptually related to their interpretion by 'Restriction', rather than 'Saturation', since the event variable for the causing event is not saturated, but rather restricts the set of events that can satisfy it.

$\sqrt{\text{SPLUNDRA}}$ ‘shatter’ is on the list of roots that is incompatible with Voice$_{\{\}}$, and thus must exploit Voice$_{\{D\}}$+-*st* to derive an anticausative. That is, given the incompatibility of $\sqrt{\text{SPLUNDRA}}$ ‘shatter’ with Voice$_{\{\}}$, the only way to avoid projecting an external argument with semantic content is to merge -*st* in SpecVoiceP to check the D-feature. This is illustrated in (198).

(198)



The cause relation is the same as the example in (196a) above; v introduces the causing event, i.e. the event which is the cause of the state of the DP being a ‘shattered’ state. The difference is that in (196a), the event nominal *þrýstingurinn* ‘the pressure’ modifies this causing event, whereas here the causing event is unmodified. Since -*st* has no reference, neither can Voice. The result is that VoiceP has the same denotation as vP: roughly, the set of events which caused the window to be in a shattered state.

Not all verbs allow or are compatible with a semantically Ø Voice. For example, *myrða* ‘murder’ is obligatorily agentive. This can be seen clearly from the sentences in (199). The sentence in (199b) is not completely impossible, but it requires attributing sentience to the lava stream (for example in a cartoon). This is because something about ‘murder’ requires Voice to be agentive. (The nature of this requirement will be discussed further below.) However, -*st*, when it is merged in SpecVoiceP, requires that Voice be Ø. Thus, -*st* cannot merge in SpecVoiceP when Voice is projected by [$_{v}$ $\sqrt{\text{MYR}}$ v], because

-*st* and ‘murder’ make conflicting demands on the interpretation of Voice.

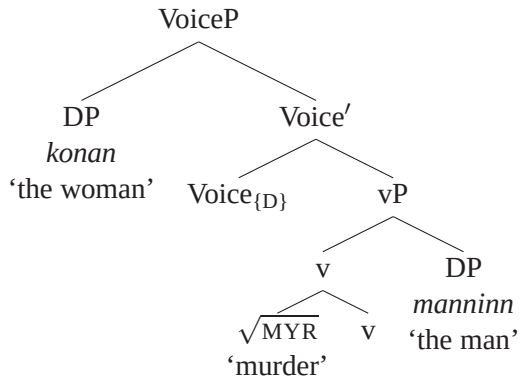
(199) a. Konan myrti manninn.
woman.the.NOM murdered man.the.ACC
‘The woman murdered the man.’

b. # Hraunstraumurinn myrti manninn.
lava.stream.the.NOM murdered man.the.ACC

c. * Maðurinn myrti(st).
man.the.NOM murdered-ST

The present account correctly predicts not only the contrast between these sentences, but also the nature of that contrast, specifically that (199c) is ungrammatical while (199b) is semantically odd. To illustrate, consider the representation of (199a).

(200) a.



b. $[\![\text{Voice}]\!] \leftrightarrow \lambda x_e.\lambda e_s.\ \textsc{agent}(x,e)$

c. $[\![\text{vP}]\!] = \lambda e_s.\exists s_s.\ \textsc{cause}(e,s) \wedge \text{murder}(e) \wedge \text{state}(s,\text{the man})$

d. $[\![\text{Voice}']\!] = \lambda x_e.\lambda e_s.\exists s_s.\ \textsc{agent}(x,e) \wedge \textsc{cause}(e,s) \wedge \text{murder}(e) \wedge \text{state}(s,\text{the man})$

(d) comes from (b) and (c) via Event Identification

e. $[\![\text{VoiceP}]\!] = \lambda e_s.\exists s_s.\ \textsc{agent}(\text{the woman},e) \wedge \textsc{cause}(e,s) \wedge \text{murder}(e) \wedge \text{state}(s,\text{the man})$

$\approx$ The set of murdering events for which the woman was the agent and

which were the cause of the state of the man.'[22]

The denotation of Voice in (200b) introduces the AGENT relation; this alloseme of Voice is selecting because the vP denotes a set of agentive events. Voice′ is, here, an open predicate of entities (indicated with 'λx_e' in 200d), whereas in (196b), it is a predicate of events. Thus, SpecVoiceP of 'murder' must be an entity, and one capable of bearing the agent relation. If *-st* were merged in such a SpecVoiceP, the derivation would crash at semantics due to the unsaturated entity argument.

This analysis derives the facts in (199b-c). (199b) can only be generated by merging *hraunstraumurinn* 'the lava stream' in SpecVoiceP, but then, it must be interpreted as a sentient agent, since that is the only interpretation of Voice which is compatible with murdering events; it can be generated, but only with a deviant interpretation. (199c) is simply not generable, since Voice introduces an agent relation which cannot be satisfied by *-st*.

Note that it is not always solely a property of the root that indicates an inherently agentive event. While some roots, like $\sqrt{\text{MYR}}$ 'murder', seem to indicate an agentive event by themselves, other roots, such as $\sqrt{\text{OPNA}}$ 'open' form inherently agentive events by virtue of the 'metonymic sense' computed on the basis of surrounding material. It makes no difference how an agentive vP is formed however; once it is formed, Voice must be interpreted as agentive and the *-st* anticausative will be impossible.

(201) a. Hurðin opnaðist.
door.the.NOM opened-ST
'The door opened.'

b. * Bankareikningur opnaðist.
bank.account.NOM opened-ST (Jónsson 2005:396)

[22] As discussed by von Stechow (1996) and Marantz (2009a,b), the 'state of the man' is named by the adjectival passive *myrða* 'murder', since adjectival passives name the 'target state' of an event.

The interpretation of the vP ‘open a bank account’, unlike ‘open the door’, is inherently agentive due to what we know about this use of the root $\sqrt{\text{OPNA}}$ ‘open’ and what we know about opening bank accounts. This inherent agentivity is not inherent to the root $\sqrt{\text{OPNA}}$ ‘open’ by itself, but once it is computed, it forces the agent alloseme of Voice.

To summarize this subsection, anticausative -*st* verbs are derived when -*st* merges in SpecVoiceP, satisfying the syntactic requirement of Voice to project a specifier. This only results in an interpretable structure, however, when Voice is independently able to be interpreted as Ø. *Splundra* ‘shatter’ differs from *myrða* ‘murder’ in that the latter requires Voice to take on a particular, agentive interpretation, whereas the former allows inanimate causes as well. The correlation between the availability of a non-sentient causer external argument and the availability of an anticausative is derived if the analysis of inanimate causes involves the same Ø Voice as -*st* anticausatives. The present analysis also explains why agentive modifiers and *by*-phrases are not possible with -*st* anticausatives: those elements require reference to an agent relation which cannot be present in the derivation of -*st* anticausatives.

3.4.2 -*na*/Ø-Marked Anticausatives

In the previous section, I showed that the correlation between the availability of an anticausative interpretation and an inanimate external causer could be derived from the assumption that both involve a Ø interpretation of Voice. When -*st* is in SpecVoiceP, Ø is forced since there is nothing to saturate any role Voice could introduce. With -*na*-marked anticausatives (as well as unmarked ones), $\text{Voice}_{\{\}}$ can take no specifier and thus could never introduce a role. This predicts that verbs alternating with -*na* should allow inanimate causers. This is borne out in the following alternation.

(202) a. Jón braut gluggana.
John.NOM broke windows.the.ACC
'John broke the window.'

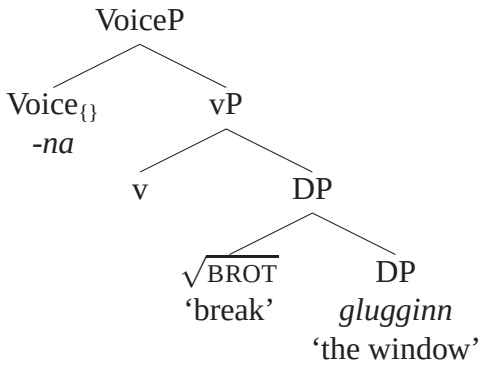
b. % Sprengingin braut allar rúðurnar í bifreiðinni.
explosion.the.NOM broke all windows.the.ACC in car.the
'The explosion broke all the windows in the car.'[23]

c. Kraftur sprengingarinnar braut næstum því alla glugga í Zygi.
force.NOM explosion.the.GEN broke almost all windows.ACC in Zygi
'The force of the explosion broke almost all windows in Zygi.'[24]

d. Glugginn brot-na-ði.
window.the.NOM break-NA-PAST
'The window broke.'

We see here that *-na* alternating verbs such as 'break' share with *-st* alternating verbs the property of allowing non-sentient 'causer' arguments, such as *sprengingin* 'the explosion' in (202b). In the analysis of causers presented in the previous section, this means that such vPs are compatible with a semantically Ø Voice head. However, here the anticausative is derived by not projecting a specifier at all—by merging Voice$_{\{\}}$ instead of Voice$_{\{D\}}$. Thus, the sentence in (202c) has the structure in (203):

(203)



Semantically, the vP denotes a change of state such that some event caused the broken state of the window. Since Voice$_{\{\}}$ cannot introduce a specifier in the syntax, it cannot

[23] http://www.mbl.is/frettir/erlent/2008/07/26/hamas_afelllist_fatah/

[24] http://www.dv.is/frettir/2011/7/11/sprenging-i-flotastod-kypur/

introduce a role at semantics either.

As discussed by Schäfer (2008:298), anticausatives marked with *-na* pass the tests outlined above for *-st* anticausatives. They allow 'by itself', and disallow agentive by-phrases, in contrast to their passive counterparts.

(204) Passive

a. Rúðan var brotin { viljandi / *af sjálfu sér }
window.the.NOM was broken { intentionally / *by itself }
'The window was broken on purpose.'

b. Rúðan var brotin (af pörupiltum) .
window.the.NOM was broken (by rascals.DAT)
'The window was broken by rascals.' (Ottósson 1989:41)

(205) Anticausative

a. Rúðan brot-na-ði { *viljandi / af sjálfu sér }
window.the.NOM broke-NA-PAST { *intentionally / by itself }
'The window broke by itself.'

b. Rúðan brot-na-ði (*af pörupiltum).
window.the.NOM broke-NA-PAST (*by rascals.DAT)
'The window broke (*by rascals).'

Like *-st* anticausatives, anticausative *-na* verbs also allow PPs which name the causing event. The following examples of *af* and *við* PPs are taken from the web. (As indicated below, some speakers find the *af* PP a bit odd.)

(206) a. Hjálmurinn brot-na-ði við byltuna.
helmet.the.NOM broke-NA-PAST at fall.the
'The helmet broke from the fall.'[25]

b. ?% Svo mikill gat atgangurinn verið við miðasölu að
such much could activity.the be at ticket.sales that

á hátindi Trinity-myndanna brotnaði önnur rúðan
at height Trinity-movies.GEN broke one(of two) window

[25]http://www.us.is/scripts/WebObjects.dll/US.woa/wa/dp?name=frett_ny&detail=4990

í miðasölunni í þúsund mola af þrýstingnum.
in ticket.sale.the in thousand pieces from pressure.the

'There could be so much activity at ticket sales that at the height of the Trinity movies, one window in the ticket booth broke into thousand pieces from the pressure.'[26]

Anticausative *-na* verbs also allow so-called "unintentional causer" *hjá* PPs.[27] Recall that such PPs have three readings: the accident reading, the failed prevention reading, and the success with difficulty reading. I illustrate two of them below. (207) illustrates the accident reading (or maybe the failed prevention reading); the speaker keeps accidentally breaking the egg-shells. (208) illustrates the success with difficulty reading; John is trying to break the board, but it is not obvious that he is in full control of whether the board will break or not.

(207) **Context:** The speaker is trying to paint a tiny picture on a delicate egg-shell, but it keeps breaking.

Æ þetta brot-na-r alltaf hjá mér.
ahh this break-NA-PRS always by me.DAT
'Ahh this is always breaking on me.'

(208) **Context:** Pétur is taking karate lessons, but is having trouble breaking the wooden boards. He complains that the board won't break because it is too strong. The instructor asks John to give it a try, and John breaks the board.

Spýtan brotnaði hjá Jóni!
board.the.NOM break-NA-PAST by John.DAT
'The board broke for John!'

In these examples, expletive Voice is derived by merging specifierless $\text{Voice}_{\{\}}$ rather than merging $\text{Voice}_{\{D\}}$ with the *-st* clitic in its specifier. The event structure of the vP,

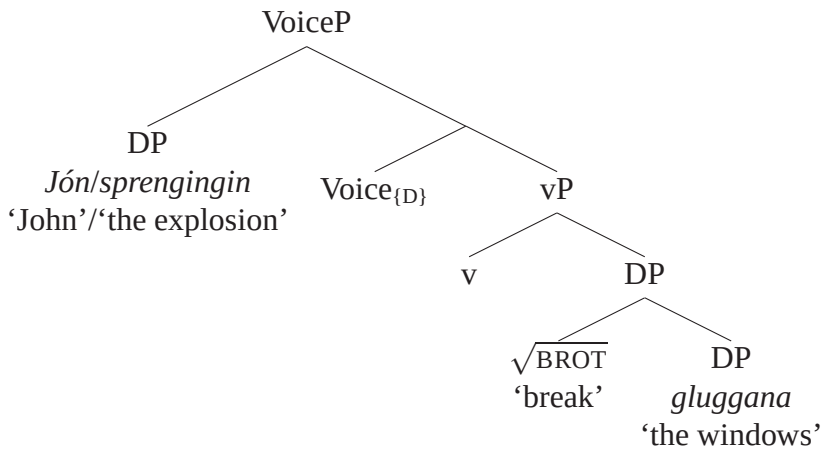
[26] http://www.mbl.is/greinasafn/grein/1241069/

[27] Thanks to Hlíf Árnadóttir for providing these examples and discussing them with me.

however, is still complex and contains a causing event with a result state. Therefore, there is no implied agent, but causer PPs and unintentional causer PPs can still identify the causing event in the same way as with *-st* anticausatives. That is, *-st* is not necessary to derive an anticausative with a complex event structure. This is as expected if this event structure is represented within the vP, and if *-st* is not the only way to derive expletive Voice in Icelandic.[28]

The transitive sentences in (202a-b) involve projecting $\text{Voice}_{\{D\}}$ instead of $\text{Voice}_{\{\}}$ and merging a DP external argument.

(209)



When the external argument is interpreted as an event, Voice will be interpreted as semantically null, and the external argument causer will be interpreted as a modifier of the causing event, as outlined in the previous subsection. Alternatively, if the external argument is sentient, Voice can introduce an agent θ-role and interpret the external argument as bearing the agent relation with respect to the causing event.

[28]See also Kayne (2009), who argues that anticausatives in Romance involve a silent "cause" element, even when there is no reflexive morphology on the verb.

3.4.3 Summary

This section has shown two ways of generating anticausatives: either merge a specifierless Voice$_{\{\}}$, or else merge Voice$_{\{D\}}$ with -*st* in its specifier. Both result in a necessarily expletive Voice. Voice$_{\{\}}$ must be expletive because it takes no specifier, and thus could never introduce an argument relation. Voice$_{\{D\}}$, on the other hand, can introduce an argument relation, but by merging -*st* in its specifier this is effectively prevented since -*st* cannot bear any thematic relation.

I also proposed that the derivation of causers should involve the same expletive Voice, and that the causer argument should be treated as a semantic modifier of the causing event introduced by (the denotation of) v. This derives the correlation between the availability of anticausative and causer interpretations directly, and predicts that alternations involving specifierless Voice$_{\{\}}$ should allow inanimate causers as well.

The analysis thus exploits a general, and I think desirable, separation of syntax and semantics. Syntax involves the rules for combining elements and establishing dependencies between them, such as the features demanding specifiers (as well as head-movement, selection, agreement, etc.); there is no reason the syntax should care about purely semantic (or phonological) properties of the elements it combines. For example, there is no reason that the syntax of the Voice head should care whether its specifier is integrated semantically by Functional Application (as with agents) or Predicate Composition (as with causers), as long as both compositional mechanisms are independently available.

Solstad (2009) saw his argument that causers cannot be interpreted in the same way as agents as resulting in an unfortunate mismatch between syntax and semantics, albeit a necessary one. My claim is that this is exactly what we should expect: the syntax of Voice cares about whether something is in its specifier, what its complement is, etc., but nothing semantic.

3.4.4 Root Distribution in Anticausatives

There are two senses of root distribution in anticausatives within the present system. First, we can talk about which roots occur with *-ka*, *-na*, etc. This distribution is captured by post-syntactic lists at the level of Vocabulary Insertion. Some roots are compatible with certain affixes, while others are compatible with other affixes. Second, we can talk about what sorts of structures roots may occur in independent of morphology. It is this sense of root distribution that I turn to now.

In this second sense of root distribution, the question is when a root is able to successfully occur in a certain structure, one that satisfies all constraints at the interfaces. Some roots are not able to occur in an anticausative structure at all; others cannot occur in a transitive structure; still others may occur in both. Since this is independent of morphology, we expect these possibilities to occur with all morphological classes of verbs. Recall that in the present system, a root "alternates" if it successfully appears in two, related structures. The relevant parts of structure here involve how the root interacts with the properties of Voice and v.

Lexical idiosyncrasy is a general issue with *-na* verbs, discussed at length by Sigurðsson (1989). First, he notes that it is impossible to determine which is 'basic', the *-na* form or the non-*na* form, and which is derived. As discussed in Schäfer (2008) and Alexiadou (2010), the problem of determining which form is 'basic' does not arise for on an approach to argument structure where each structure is built independently and interpreted cyclically: the question becomes which roots are able to appear in which structures, rather than which form is 'basic' and which is 'derived'. Second, while in many cases it seems to suffice to say that *-na* verbs are derived from adjectives, there are also *-na* verbs which appear to be derived from nouns (*svigna* 'curve'), and other verbs (*brotna* 'break'), as well as isolated 'inherent' *-na* verbs which have no apparent base

(*gliðna* ‘glide’). From a DM perspective, an important fact about all these cases is that there is no actual overt adjectival, nominal, or verbal morphology intervening between the root and the -*na* suffix. This follows from the present analysis, where -*na* verbs are derived from roots in a particular kind of (anticausative) structure, not from adjectives, nouns, or verbs (which would involve extra categorial a, n, and v heads). On the present analysis, we do not expect -*na* verbs to have any particular independent source, nor do we expect any clear ‘directionality’ between -*na* verbs and non-*na* verbs.

The properties of Voice are determined by the event structure of the vP along with the properties of the verbal roots inside the vP. As expected, not all roots can appear in both the transitive (Voice$_{\{D\}}$) and intransitive (Voice$_{\{\}}$) structures. According to Sigurðsson (1989:273-4), roots which appear in both constructions, in addition to *brjóta/brotna* ‘break’, include *gleðja/glaðna* ‘gladden’, *bræða/bráðna* ‘melt’, *sýra/súrna* ‘sour’, *hlýja/hlýna* ‘warm’, and *hvítta/hvítna* ‘whiten’. In the present system, this means that vPs constructed by these roots are compatible with both Voice$_{\{D\}}$ and Voice$_{\{\}}$. Other roots cannot be transitive; that is, they are only compatible with Voice$_{\{\}}$. These include **slekja/slakna* ‘become slack’, **blæja/blána* ‘become blue’, **græja/grána* ‘become gray’, **gylja/gulna* ‘yellow’, **þrýta/þrútna* ‘swell’, and **stirða/stirðna* ‘stiffen’. Finally, some roots can only be transitive; that is, they are only compatible with Voice$_{\{D\}}$. These include *sverta/*svartna* ‘blacken’, *lengja/*langna* ‘lengthen’, *kæta/*kátna* ‘make happy’, and *tæma/*tómna* ‘empty’.

The same pattern can be found in -*ka* verbs, as noted originally by Sigurðsson (1989). Sigurðsson (1989) proposes that -*ka* verbs are derived from adjectives, and followed by the independent process of adding additional external argument.[29] However, he also notes

[29]In a way, this is exactly the analysis proposed here, since -*ka* reflects the derivation of a verb from a root, and the external argument, if there is one, is added by Voice.

that in some cases, adding the external argument is obligatory, while in others, it is impossible.

(210) Transitive only

a. * María blíð-ka-ði.
Mary.NOM gentle-KA-PAST

b. Ólafur blíð-ka-ði Maríu.
Olaf.NOM gentle-KA-PAST Mary.ACC
'Ólafur soothed Mary.'

(211) Intransitive only

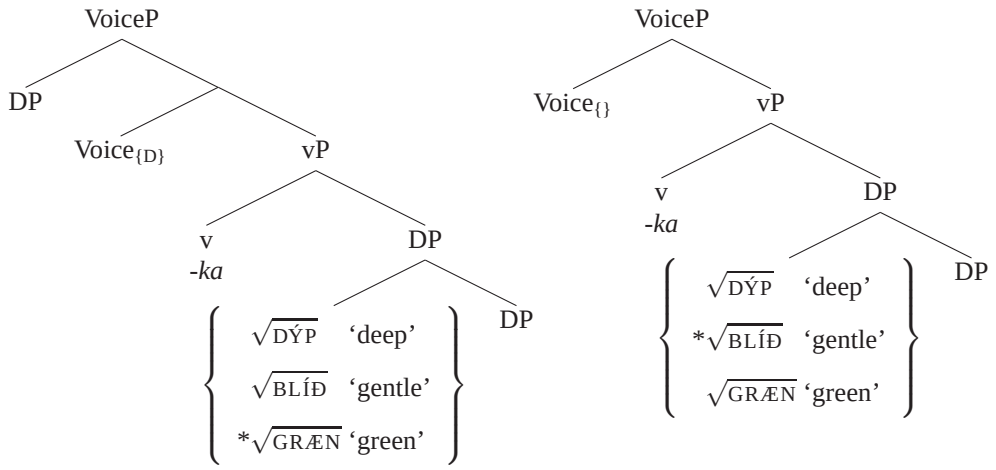
a. Billinn hefur græn-ka-ð.
car.the.NOM has green-KA-PTCP
'The car has greened (i.e. become more green).'

b. * María hefur græn-ka-ð bílinn.
Mary.NOM has green-KA-PTCP car.the.ACC

Recall that unlike with the *-na* verbs, Voice alternations with *-ka* make no morphological difference: either $\text{Voice}_{\{D\}}$, $\text{Voice}_{\{\}}$, or both may be compatible with such verbs, and it will not matter to the *-ka* morphology.

The account of why some verbs can be transitive or intransitive, while others can only be transitive or only be intransitive, is the same for both *-ka* verbs and *-na* verbs. The alternations stem from the compatibility of the root along with the DP object with $\text{Voice}_{\{D\}}$ or $\text{Voice}_{\{\}}$. This is illustrated schematically below.

(212)



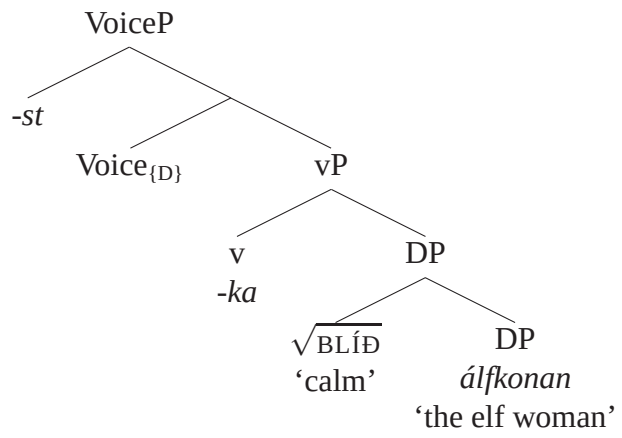
As argued in Schäfer (2008), the categorization of roots can be arranged according to properties of Voice (rather than the structure as a whole). In the present system, we might say that some roots are only compatible with Voice$_{\{D\}}$ while others are only compatible with Voice$_{\{\}}$. This kind of account predicts that for verbs that only allow Voice$_{\{D\}}$, *-st* anticausatives would still be possible, since *-st* merges in the specifier of Voice$_{\{D\}}$. This prediction is borne out: for verbs that can only appear with Voice$_{\{D\}}$, such as *blíðka* 'soothe', anticausatives will be formed by merging *-st* in SpecVoiceP. This is pointed out by Sigurðsson (1989:272): "Strikingly, only those *-k(k)a*-verbs that cannot be ergative can undergo Middle *-st*-Formation, cf. *blíðkast* 'become (more) gentle, calm down' vs. e.g. **stækkast* ['enlarge'], **grænkast*." That is, if a verb cannot form an unmarked anticausative, such as *blíðka* 'soothe' in (210a), its anticausative will be formed with *-st*.

(213) Við það blíðkaðist álfkonan og sagði að Oddur myndi ná landi í
at that calmed-ST elf.woman.the and said that Oddur would reach land in
þetta sinn.
this time

'At that, the elf woman calmed down and said that Oddur would reach land this time.'[30]

[30] http://sagnagrunnur.razorch.com/index.php?target=myth&id=9994

(214)



The same applies to non-*ka* verbs: roots which are only compatible with Voice$_{\{D\}}$ will form anticausatives with *-st*, again as pointed out by Sigurðsson (1989:274).

(215) a. Fólkið tæmdi gáminn.
people.the.NOM emptied container.the.ACC
'The people emptied the container.'

b. Gámurinn tæmdist á augabragði.
container.the.NOM emptied-ST in split.second
'The container emptied in a split second.'

(216) a. Hann hafði jú verið að tæma íbúðina.
he.NOM had of.course been to empty apartment.the.ACC
'He had of course been emptying the apartment.' (mim.hi.is)

b. Salurinn tæmdist síðan jafnt og þétt og í lokin vorum við
room.the.NOM emptied-ST then steadily and in end.the were we
ekki mörg sem sátum eftir.
not many that sat left
'The room then emptied steadily and in the end, there were not many of us left sitting in the room.' (mim.hi.is)

Since the root √TÆM 'empty' is not compatible with Voice$_{\{\}}$ in change-of-state contexts, an anticausative can only be formed by merging Voice$_{\{D\}}$ and then merging *-st* in its specifier, the same as with *blíðkast* 'calm' above.

Sigurðsson (1989:274) also notes an exceptional case that is expected on the present analysis, where either a *-na* verb or an *-st* verb can be formed from the same root. In such

cases, according to Sigurðsson (1989:274-5), "the *-na* -verb then typically [has] some 'non-central connotation' or even idiomatic reading." This is illustrated in (217). While *gleðja* and *gleðjast* both mean 'become glad', *glaðna* in (217c), which is taken from a well-known poem by Jónas Hallgrímsson called *Ferðalok* 'Journey's End', refers to the sky clearing (or getting brighter).[31]

(217) a. Hún gleður mig með tónlist sinni.
she.NOM gladdens me.ACC with music REFL.POSS
'She gladdens me with her music.'[32]

b. Ég gleðst yfir að sjá þig.
I.NOM gladden-ST over to see you
'I gladden over seeing you.'[33]

c. Himinn glað-na-ði.
sky.NOM glad-NA-PAST
'The heavens cleared.'[34]

The explanation for the idiosyncratic/idiomatic reading in such cases is the same as the explanation for why some verbs cannot form an intransitive *-na* verb or a transitive non-*na* verb in the first place. Consider the structures for the sentences in (217).

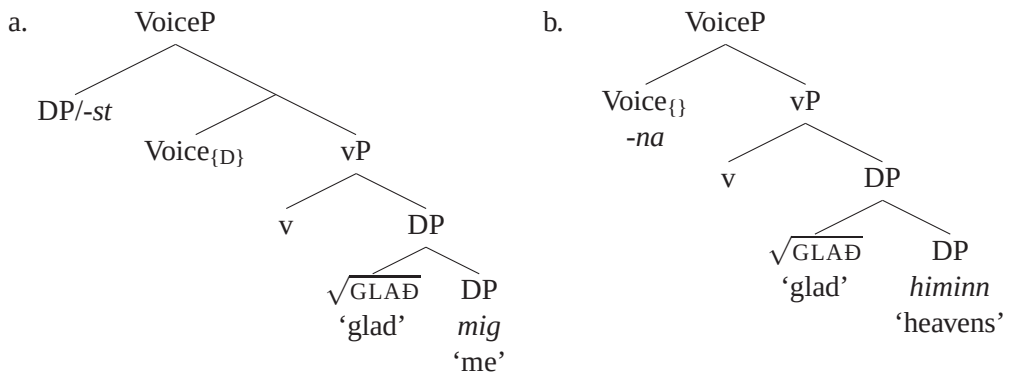
[31]Thanks to Jóhannes Gísli Jónsson for discussing this contrast with me.

[32]Adapted from http://kristjana.tumblr.com/post/6013672995/jatning-manudagskvolds-eg-er-svoliti-skotin-i; originally *Hún gleður mig líka með tónlistinni sinni*.

[33]http://www.julli.is/jol/dagur16.htm

[34]http://library.wisc.edu/etext/jonas/Ferdalok/Ferdalok.html

(218)



In (218a), the vP constructed refers to a change in a person's (mental) state, and this vP projects Voice$_{\{D\}}$; an external argument is added, specifying the cause of this change of state (or adding an agent), or else *-st* is merged there, deriving an anticausative. In (218b), on the other hand, the vP denotes a different sort of event, the 'idiomatic' reading referred to by Sigurðsson (1989). This sort of vP projects Voice$_{\{\}}$; importantly, the idiosyncratic component here is well within the 'first phase' where idiomatic/idiosyncratic meaning is computed. That is, it takes an idiosyncratic combination of the root and the internal argument to determine whether Voice$_{\{D\}}$, Voice$_{\{\}}$, or both, can be projected. In many cases, this is what governs which roots are alternating, obligatorily transitive, or obligatorily intransitive, but in other cases, the same idiosyncrasy can be extended to different uses of the same root.

What we say about the distribution of roots in these structures does not require that the relevant information is there presyntactically. If we use the root information presyntactically, we would say that $\sqrt{\text{GLAÐ}}$ 'projects' Voice$_{\{D\}}$ whenever it has a certain kind of meaning, but Voice$_{\{\}}$ when it has another kind of meaning.[35] That is, we would fix the encyclopedic meaning presyntactically, ensure that this encyclopedic meaning corresponds to the appropriate functional structure, and then integrate the encyclopedic meaning with

[35]This is the Ramchand-style analysis, where the structure does most of the work, but verbs are listed for which structures they must occur in with a feature-checking mechanism.

the rest of the elements in the structure, such as the internal argument, tense, etc. This puts part of the interpretation presyntactically, and part of it post-syntactically, and moreover allows encyclopedic knowledge to project rather abstract syntactic properties. Instead, in the present system, all interpretation is post-syntactic. Some roots (e.g. roots which cannot occur with $\text{Voice}_{\{\}}$ at all) will not be assigned an interpretation if they are not in the appropriate syntactic configuration. The root $\sqrt{\text{GLAÐ}}$, on the other hand, gets a special interpretation in the context of $\text{Voice}_{\{\}}$.[36]

3.4.5 Anticausative -*st* vis-à-vis a DP in SpecVoiceP

There is a long-standing sense that the anticausative use of the -*st* clitic is the most productive use of -*st* in Icelandic, more so than, for example, the reflexive use which is thought to reflect the historical origin of -*st* (see §2.1.1 for further discussion). There is one sense in which the anticausative use of -*st* holds a priviledged position in the present study. Since -*st* merges in the specifier of the highest argument-introducing head, and since this generally prevents Voice from introducing any semantic role, -*st* allows the VoiceP layer to be semantically wiped out. Consider what this means for alternations between causative non-*st* verbs and anticausative -*st* verbs: the transitive cases will always be a "semantic superset" of the anticausatives. Voice will either add an agent to a causative vP, or identify/restrict the nature of the causing event introduced by v, but it will never change anything within the vP. This is in contrast to some other uses of -*st* which, though systematic, have semantic effects on the vP-internally built event structure, being merged within

[36]This might be thought of as the semantic 'version' of a phonological readjustment rule. A readjustment rule changes some phonological property of a root in a particular syntactic configuration, such as $\sqrt{\text{SEE}}$+T_{PAST} resulting in *saw*. The present suggestion is that semantics can do basically the same thing, altering some semantic or encyclopedic property of a root in a particular syntactic configuration.

vP (see §4.2.3-§4.2.4). Thus, for verbs undergoing the causative alternation with -*st* on the anticausative, the "use" of -*st* will look completely systematic. In a view where lexical semantic distinctions must be stated in a pre-syntactic lexicon, other alternations would seem to have to be lexical, and not part of the productive syntax. Stating the anticausative alternation in the lexicon, however, would seem pointless on such a view, since nothing "special" needs to be said about the lexical semantics.[37]

However, excepting this lexical semantic systematicity (which is entirely expected on the present approach), it is in fact not obvious that anticausative -*st* is as "lexically straightforward" as is sometimes assumed. For one thing, everything stated above about -*st* alternations applies to -*na* alternations and unmarked (or allomorphy-marked) alternations: given that a verb alternates, its properties are predictable. Ottósson (1986) was well aware of this, and in fact considered -*na* verbs, unmarked anticausatives, and -*st* anticausatives to be different "inflectional classes" of the same category. This has been the approach taken in this chapter, where the "inflectional classes" are defined by the syntactic properties of Voice and its morphological spell-out. Thus, while both -*na*-marked anticausatives and -*st*-marked anticausatives are systematic, there is a certain amount of lexical arbitrariness as to which particular roots belong to which "inflectional class". How to state this in the present system was the purpose of §3.4.4.

Moreover, the predictive semantic relationship is between a causative structure and an anticausative structure when the two successfully alternate with the same root. We saw above that some -*na* forms and unmarked anticausatives do not have corresponding causatives. The same applies to -*st* marked anticausatives.

[37]This would not extend, of course, to frameworks like LFG where all alternations, including e.g. the passive, are stated in the lexicon.

(219) a. * Jón reiddi { Maríu / sjálfan sig }
John angered { Mary / himself }
INTENDED: 'John angered Mary/himself.' (Halldór Sigurðsson p.c.)

b. Hann reiddist óskaplega við þetta.
he.NOM angered-ST terrifically at this
'He became terrifically angry at this.' (Jónsson 2005:400)

This seems to relate in part to how roots interact encyclopedically with the semantics. Some roots appear in change-of-state vPs which are construed as inherently anticausative—the opposite of inherently agentive roots like √MYR 'murder', in a way (see Schäfer (2008) for extensive discussion within a framework very closely related to the present one). For example, √BLÓM 'flower' can form an anticausative *-st* verb, but cannot correspond to a transitive causative.

(220) a. * Garðyrkjumaðurinn hefur blómgað seljuna.
gardener.the.NOM has flowered sallow.the.ACC

b. * Sólin hefur blómgað seljuna.
sun.the.NOM has flowered sallow.the.ACC

c. ...og seljan hafi verið byrjuð að blómgast þegar í apríl.
...and sallow.the.NOM has been begun to flower-ST already in April
'...and the sallow was already beginning to flower in April.'[38]

I was only able to find one example of transitive *blómga* 'flower', and it is a metaphorical use of the word.

(221) % Eins sérkennilegt og það kann að hljóma, var það **peningarskorturinn** [*sic*]
As strange as it may to sound, was it **money.shortage**
sem blómgaði skoskan fótbolta.
which flowered Scottish football
'As strange as it may sound, it was a money shortage which made Scottish football blossom.'[39]

[38] http://www.mbl.is/greinasafn/grein/802979/

[39] http://krreykjavik.is/?p=238 Einar Freyr Sigurðsson prefers the adverb *sérkennilega* to *sérkennilegt*.

This suggests that it is not some syntactic property of the "word" *blómgast* that prevents a transitive, but rather a property of how $\sqrt{\text{BLÓM}}$ 'flower' is interpreted in a change-of-state vP. In its ordinary meaning, it is not the kind of event that takes a specified cause or agent. If the root gets a different interpretation, however, it may be compatible with a transitive structure (though speakers are likely to vary in how liberal they are with such uses of these roots).

Ottósson (1986) provides more examples which are similar to *blómgast* 'flower' in that they are inherently anticausative and occur only with *-st*. These include aging with humans.

(222) Þegar börnin stálpast / fullorðnast / eldast
When the.children grow-up-ST / come.of.age-ST / age-ST

It may be noted that many, or even most inherently anticausative *-st* verbs are derived with roots that normally form adjectives or nouns—that is, roots that denote states or entities.[40] However, this is no explanation for the absence of the causative, since there are plenty of adjectival (state denoting) or nominal (entity denoting) roots that do form alternating verbs.

(223) a. Apple tvöfaldaði hagnaðinn.
Apple doubled profit.the.ACC
'Apple doubled their profits.'[41]

[40] Anderson (1990:254) thus calls such cases "rule telescoping" (a kind function composition for word-formation rules). The idea is that one rule derives a transitive verb from an adjective (or, noun, in principle), and another rule derives an intransitive *-st* verb from a transitive verb; the rules are then combined for some words, skipping the intermediate step (going straight from adjective to *-st* verb). In the present system, such rules don't exist, of course, so we have to assume that some roots form vPs that are not compatible with an external argument (an assumption that seems to be needed in any framework).

[41] http://www.mbl.is/vidskipti/frettir/2012/01/24/apple_tvofaldadi_hagnadinn/

b. Skuldirnar hafa tvöfaldast á skömmum tíma.
debts.the have doubled-ST in short time
'The debt has doubled very quickly.' (snara.is)

(224) a. Gott að spretta svolítið en vill [*sic*] ekki að sprettir þreyti mig of mikið.
good to run a.bit but want not that running tires me too much
'Good to run a bit but don't want the running to tire me out too much.'[42]

b. Er hægt að gera eitthvað við því að ég þreytist mjög í augunum?
is possible to do something with it that I tire-ST much in eyes.the
'Is it possible to do something about the fact that my eyes tire out so much?'[43]

A more in-depth study of the semantic properties of roots may yield more a more systematic relationship between root-meaning and structure than I have been able to find. However, variation across speakers and time suggests that there will still be a certain amount of arbitrariness here. Since the focus of this thesis is primarily the syntax and semantics of the structures themselves, and secondarily with how this interacts with root semantics, I set this issue aside for now. It will come up again in §4.2.3-§4.2.4 with respect to figure reflexives, where certain additional interesting issues arise (but the conclusion will be much the same).

3.5 Summary

In the first half of this chapter, I discussed the morphology of the basic Icelandic causative alternations. With respect to morphology, a number of generalizations were derived. First, the fact that *-st* is incompatible with *-na*, but compatible with *-ka* was derived by assuming that *-na* is the spellout of $\text{Voice}_{\{\}}$ in the context of certain roots. Since *-st* merges in the specifier of $\text{Voice}_{\{D\}}$, it cannot co-occur with *-na*. There is nothing stopping it from

[42] http://biggisae.blogspot.com/2006/01/4x1600m-bretti.html Einar Freyr Sigurðsson and Ásgrímur Angantýsson prefer a definite suffix on 'running', i.e. *sprettirnir* rather than *sprettir*.

[43] https://notendur.hi.is/magjoh/almfr/augu/augu.htm

occurring with *-ka*, since the latter is basically insensitive to the properties of Voice, and is instead a spellout of v in the context of certain roots. Second, while *-ka* is compatible with $\text{Voice}_{\{\}}$, the latter is never spelled out as *-na* in the context of *-ka*. This is predicted from the present analysis, since *-na* is inserted in the context of certain roots and not others, and in the present system (adopted from Embick 2010), such contextual insertion requires phonological adjacency at spell-out. Therefore, spellout out v as *-ka* makes it impossible to spell out $\text{Voice}_{\{\}}$ as *-na*. Phonological adjacency is also at work in tense/mood/number-based stem alternations: such alternations are only possible if no overt morphology intervenes between the relevant affix and the root. According to this analysis of the interaction between *-ka*, *-na*, vowel shifts and *-st*, there are two ways of forming anticausatives—or more specifically, of building structures for which Voice will not be able to introduce a θ-role.

In the second half of the chapter, I turned to the thematic interpretation of causative and anticausative structures. The decision to interpret $\text{Voice}_{\{D\}}$ as agentive or as semantically null is made on the basis of the semantics of its vP complement. If $\text{Voice}_{\{D\}}$ is semantically null, its specifier must either be *-st* or an eventive DP which can combine directly with the causing event introduced by v. If $\text{Voice}_{\{D\}}$ is agentive, then an eventive DP will be semantically absurd (or require a 'cartoon' reading), and *-st* will be impossible. If $\text{Voice}_{\{\}}$ is merged, then it must be interpreted as semantically null, since there cannot be any element in its specifier syntactically. In addition, we have seen that a number of delicate properties go into choosing the right allosemes of all the elements involved in causative and anticausative constructions, including verbal roots, which can be compatible with one type of anticausative, but not another, or both, with a meaning difference on the root. In the next chapter, I will argue that the same two ways of forming anticausatives also manifest themselves in the prepositional domain, deriving both

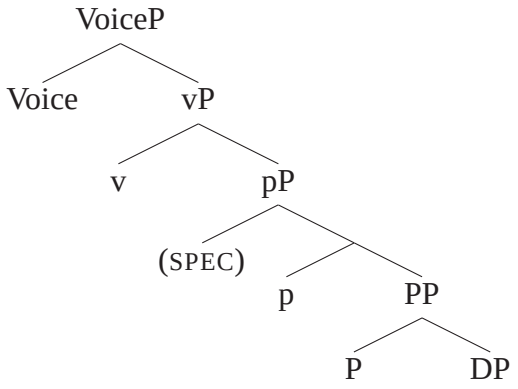
reflexive-like and non-reflexive-like event structures.

Chapter 4

pP Internal Argument — Figure Reflexives and Object ‘Demotion’

In this chapter, I discuss a variety of structures that have one pP for an internal argument, a pP which may or may not introduce its own external argument, as shown below:

(225)



The empirical focus of most of this chapter will be on what I call ‘figure reflexive’ constructions, illustrated in (226) below.

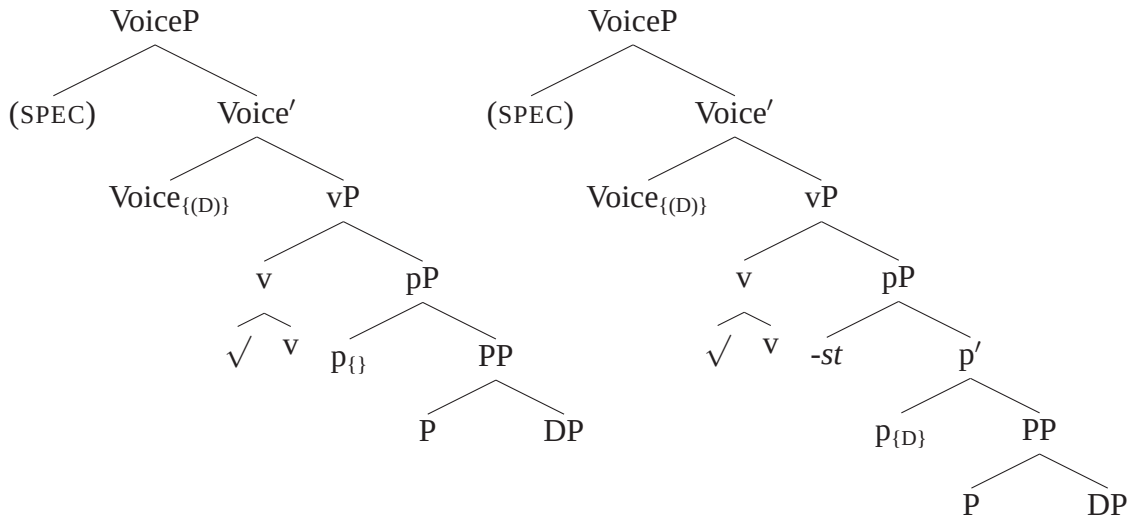
(226) a. Hann tróðst gegnum mannþröngina.
he.NOM squeezed-ST through crowd.the.ACC
‘He squeezed through the crowd.’

b. Hann labbaði inn í herbergið.
he.NOM strolled in to room.the.ACC
'He strolled into the room.'

Like anticausatives, figure reflexives may or may not be formed with the help of *-st*.

I will argue, following Svenonius (2003, 2007), that the pP domain is parallel to the VoiceP/vP domain. I will further propose that p is like Voice in that it may introduce an external argument ($p_{\{D\}}$) or not ($p_{\{\}}$), and that it may or may not introduce a semantic role. The semantic properties of v and Voice were introduced in chapter 3. With pP parallel to VoiceP, both of the structures in (227) are available.

(227) **Two ways of forming figure reflexives**



While the pP domain is structurally parallel to VoiceP, its interaction with the vP/VoiceP domain yields certain interesting results. Recall that the reason Voice cannot introduce an agent role in an anticausative structure is that there is no DP argument to bear that role semantically, since Voice is the highest argument-introducing head in the relevant local domain. Since p is not the highest argument-introducing head in this domain, it may introduce a role in such a way that a DP in SpecVoiceP can saturate it.

The primary contribution of this chapter to the overall theme of this thesis is to show how complex predicates can be formed by invoking the same syntactic processes used to form anticausatives. We then allow functional heads to be interpreted exactly as they normally are, and allow the same, limited set of combinatory mechanisms to apply as needed. We will also see, even more dramatically than in chapter 3, that when we separate the thematic interpretation of functional structure from the semantic and encyclopedic contribution of the lexical root, the thematic consistency of the syntax-semantics interface becomes clearer, and the syntactic and semantic elements conditioning the meaning of the root reveal themselves. This latter result, I believe, paves the way for a more systematic study of the lexical semantic contribution of lexical roots, such that structures that were previously considered to be too "lexically idiosyncratic" to be subject to systematic syntactic study will turn out to be systematic after all. Some specific, albeit preliminary analytical suggestions to this effect will be made in chapter 6.

After briefly introducing the terminology and pP structure (§4.1), I will discuss in detail how figure reflexives are formed and interpreted (§4.2). Both of the structures in (227) have the same thematic effect, though verbal roots will have a preference for one structure or the other. I will have more to say about roots in §4.2.3-§4.2.4. In §4.3, I propose that like Voice, p can be semantically null, in both structures in (227). When it is, it has the effect of not introducing predication, which in turn affects the interpretation of v.

4.1 An Overview of the Syntax of Figure and Ground

The terms 'figure' and 'ground', introduced by Talmy (1978, 1985), were adopted from Gestalt psychology, but given "distinct semantic interpretations" (Talmy 1985:61). Talmy (1985:61) defines them as follows:

(228) a. The **Figure** is a moving or conceptually movable object whose path or site is at issue.

b. The **Ground** is a referente-frame, or a referente-point stationary within a referente-frame, with respect to which the Figure's path or site is characterized.

(Talmy 1985:61)

It can be seen from these definitions that these notions are relational; figures and grounds are positioned with respect to each other. Thus, the figure is described by Svenonius (2003:432) as "the entity in motion or at rest which is located with respect to the Ground." The ground is the "location with respect to which the Figure is located" (Svenonius 2003:433). For example, in the expression *the keys on the table*, *the keys* is the figure, and it is positioned with respect to the ground, *the table*, by the spatial relation denoted by *on*. The figure can be in motion, as in (229a), or at rest, as in (229b).

(229) a. John threw the keys on the table.

b. John saw the keys on the table.

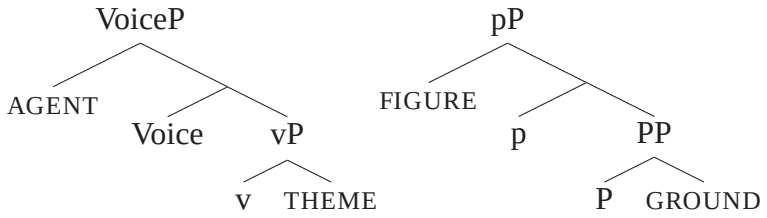
In (229a), the keys are understood to traverse a path, the endpoint of which is on the table. In (229b), the keys are at rest in a position on the table.

Svenonius (2003, 2007) argues that the figure has properties reminiscent of external arguments, while the ground has properties reminiscent of internal arguments. Many of these are similar to the asymmetries between subjects and objects familiar from Marantz (1984). Prepositions exhibit c-selectional restrictions on the ground and determine its case in a way that they do not with the figure. The interpretation of the ground is also much more dependent on the preposition than the figure is. For example, *on* specifies that its ground be interpreted as a surface, whereas *in* specifies a container ground. By

contrast, alternating between *on*/*in* has no interpretive effect on the figure. See Svenonius (2003, 2007) for more detailed discussion and argumentation.

Svenonius (2003, 2007) proposes that figures are introduced by a functional head p in a way that is analogous to the introduction of agents and state-holders by Voice (see §1.1.5).[1]

(230)



The DP in SpecpP then has to move into a higher position for licensing (e.g. SpecvP in the raising-to-object analysis of Chomsky 2007, 2008), much like a DP in SpecVoiceP has to move to SpecTP (or the like). In Icelandic, such movement is generally obligatory only for pronouns, and to some extent other definite DPs (see Sigurðsson 2010b).

4.2 Thematic Interpretation of Figure Reflexives

In the analysis of *-st* verbs presented in this thesis, *-st* serves a syntactic function, while semantically it behaves as if the position it has merged in is empty. That is not to say that it has no semantic effect; on the contrary, the semantics has to find a way to interpret a structure with a 'semantically empty' argument position. In chapter 3, it was argued that there are two ways to generate such a 'semantically empty' SpecVoiceP. First, if $\text{Voice}_{\{D\}}$ is merged, requiring a specifier, then the semantically empty *-st* clitic may merge there, making VoiceP semantically equivalent to a Voice head without a specifier. The second option is to merge $\text{Voice}_{\{\}}$, which cannot take a specifier. The reason that $\text{Voice}_{\{\}}$ or

[1]See also Svenonius (2007:78–80) on *with* and Svenonius (2007:88–89) on *of*.

Voice$_{\{D\}}$+-*st* derives an anticausative is that Voice is the highest argument-introducing head; if it introduces an agent relation, there would be no higher argument to saturate it.

With p, however, the semantic circumstances are different, because p is not the highest argument introducing head in the relevant locality domain. Thus, nothing stops it from introducing a thematic relation, as long as semantic composition is such that some higher argument eventually saturates (the entity portion of) that relation. This is accomplished by forming a complex predicate which will then semantically resemble a reflexive predicate. To illustrate briefly, my claim is that while *Bjartur* is both an agent and a figure in both sentences in (231), this is accomplished in different ways.

(231) a.

AGENT		FIGURE		GROUND
Bjartur	tróð	sér	gegnum	mannþröngina.
Bjartur.NOM	squeezed	REFL.DAT	through	crowd.the.ACC

'Bjartur squeezed through the crowd.'

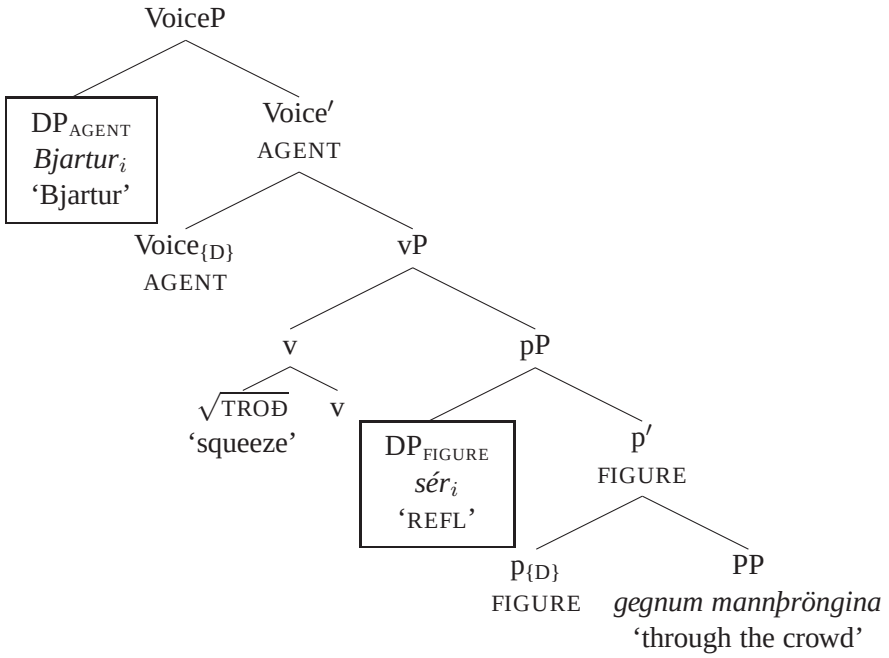
b.

AGENT/FIGURE			GROUND
Bjartur	tróðst	gegnum	mannþröngina.
Bjartur.NOM	squeezed-ST	through	crowd.the.ACC

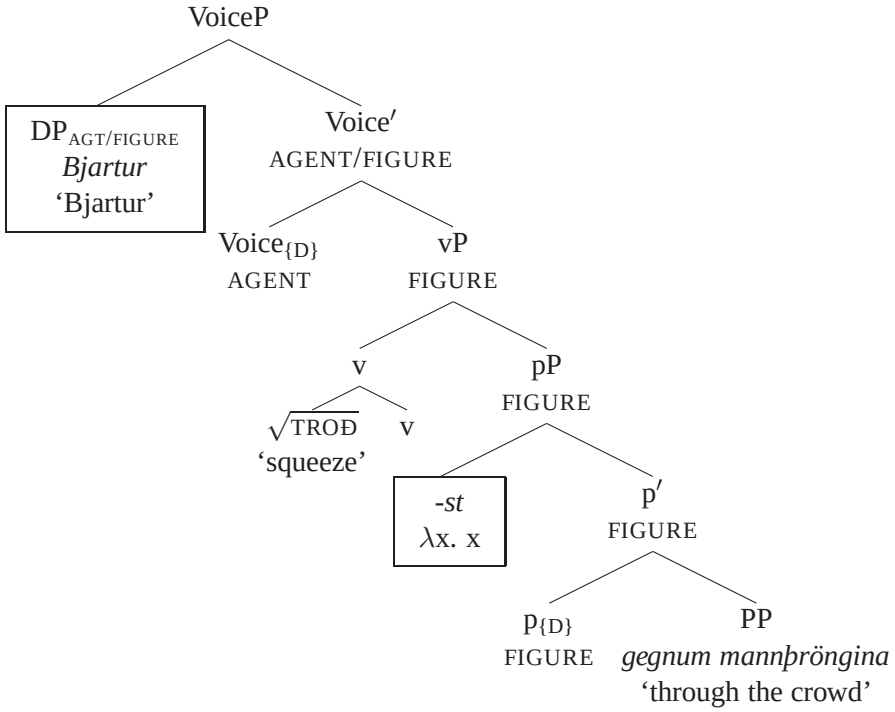
'Bjartur squeezed through the crowd.'

(231a) has the structure in (232); the reflexive pronoun has bears the figure relation, and Bjartur absorbs the agent relation. Bjartur is both the agent and the figure by virtue of binding the reflexive pronoun. In (231b), on the other hand, -*st* merges in SpecpP and, as mentioned above, it is effectively invisible at semantics. Therefore, the figure role introduced by p is not saturated at the pP level. Instead, it remains unsaturated until vP combines with Voice, forming a complex predicate. Bjartur is both the agent and the figure by virtue of saturating the agent and figure roles of this complex predicate simultaneously.

(232) a.



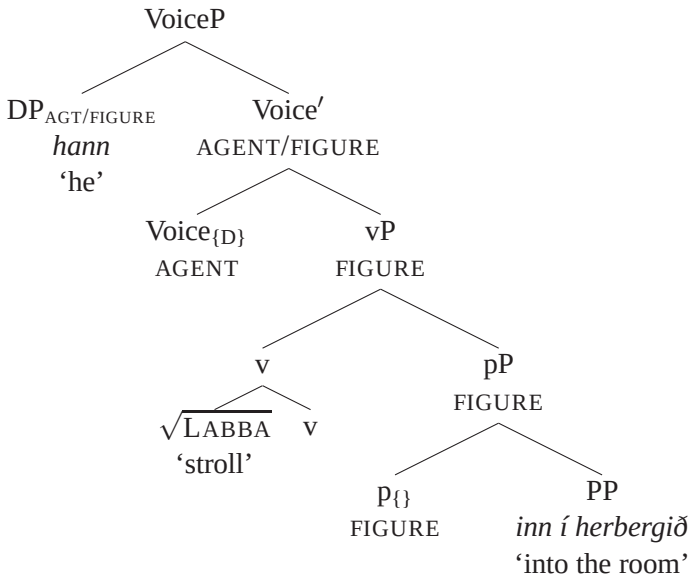
b.



Semantically, the interpretation is the same as when, instead of $p_{\{D\}}$ and *-st* being merged, $p_{\{\}}$ is merged; $p_{\{\}}$, I will propose, underlies sentences such as the following.

(233) Hann labbaði inn í herbergið.
he.NOM strolled in to room.the.ACC
'He strolled into the room.'

(234)



Syntactically, the options in the pP are exactly parallel to the VoiceP domain. The difference is that when p does not have a specifier capable of bearing a thematic role, it does not stop p from introducing one semantically anyway. I will refer informally to the kind of complex predicate formation that results as 'passing a θ-role up the tree', though strictly speaking, this is not what is going on formally. Rather, each terminal node is provided a denotation and combined with its sister by a restricted set of combinatory rules. None of these rules were designed specifically to account for the constructions analyzed here. Nothing special has to happen to 'pass a θ-role up the tree' or form a complex predicate.

4.2.1 *-st*-Marked Figure Reflexives

In chapter 3, I discussed one role of the valency reducing *-st* clitic, namely, that of deriving an anticausative. This works by assuming that *-st* may be a syntactic argument without

having any thematic reference. It merges in the external argument position, SpecVoiceP. Since it bears no reference, but occupies the SpecVoiceP position, it prevents Voice from introducing a θ-role.

However, typical of valency-reducing morphology cross-linguistically, -*st* has a number of apparent 'functions' other than deriving anticausatives, as discussed in §2.1. As far as I know, Sigurðsson (1989:261-2) was the first to observe that with many -*st* verbs, the addition of -*st* forces the presence of a preposition (which in turn may take a clausal or DP complement). One subclass of -*st* alternations involving argumental pPs is what I have been calling the 'figure reflexive'. Consider the examples in (235b-c), which resemble their English translations in involving the same root used to describe literal breaking events ($\sqrt{\text{BREAK}}$/$\sqrt{\text{BROT}}$), as illustrated in (235a). However, in Icelandic, the -*st* clitic appears when the pP is introduced.

(235) a. Þau vilja brjóta rúðuna.
they want break window.the
'They want to break the window.'

b. Þeir vilja brjótast inn í húsið.
they want break-ST in to house.the
'They want to break into the house.'

c. Þeir vilja brjótast út úr fangelsi.
they want break-ST out of prison
'They want to break out of prison.'

In (235b-c), the subject is not only understood as the agent of the event, but also as the figure. In (235b), the subject ends up inside the house; the event denoted involves a path from an area outside the house leading to an area inside the house, such that the subject/agent crosses that path. The event also involves some kind of breaking in the course of traversing that path. The most likely reading, it seems to me, is that some property of the path is expected to prevent its traversal by the subject, but this property

is ‘broken’ by the subject/agent as it successfully crosses the path. This property can be thought of as the law, societal rules, security systems etc. The subject is thus not just the agent who brings the event about, but is also the figure of the spatial relation defined by the ground endpoint/starting point (i.e. the house or the prison).

Unlike anticausative -*st* verbs, figure reflexive -*st* verbs pass agentivity tests. I will show this by comparing a figure reflexive use to an anticausative use of the same root $\sqrt{\text{TROÐ}}$ in *troðast undir* ‘get trampled underfoot’.[2] The transitive use of *troða undir* ‘trample’ is illustrated below.

(236) a. Var hann að taka myndir úti í runnum þegar fíllinn tróð hann undir.
was he to take pictures out in bushes.the when elephant.the squeezed him under

‘He was taking pictures out in the bushes when the elephant trampled him.’[3]

b. Hesturinn ætlaði að troða hann undir hófunum.
horse.the intended to squeeze him under hooves.the
‘The horse intended to trample him.’[4]

c. The Roskilde Festival organizers have confirmed that 4-5 people have died in a stampede during a Pearl Jam show at the festival. Several ambulances were called, and according to reports, many of those who were rushed away had cardiac arrest. According to the newspaper Berlingske Tidende, several concert attendees in the front fell…[5]

[2]This contrast was pointed out to me by Jóhannes Gísli Jónsson (p.c.).

[3]http://www.mbl.is/frettir/erlent/2011/11/07/fill_tredur_veidivord_undir/

[4]http://timarit.is/view_page_init.jsp?pageId=4988444

[5]Original: “Aðstandendur Hróarskelduhátíðarinnar hafa staðfest að 4-5 hafi látist í troðningi á tónleikum hljómsveitarinnar Pearl Jam á hátíðinni. Fjöldi sjúkrabíla var kallaður á staðinn, og samkvæmt fregnum voru margir þeirra sem fluttir voru á brott með hjartastopp. Samkvæmt fréttum dagblaðsins Berlingske Tidende duttu nokkrir tónleikagesta sem fremstir stóðu…” http://www.mbl.is/frettir/erlent/2000/07/01/4_5_latnir_og_margir_slasadir_eftir_trodning_a_hroa/

og mannfjöldinn tróð þá undir
and crowd.the trampled them under
'and the crowd trampled them.'

The two basic sentences I will compare along with their structures are shown in (237-238).

(237) **Figure Reflexive**

Bjartur tróðst gegnum mannþröngina.
Bjartur.NOM squeezed-ST through crowd.the
'Bjartur squeezed through the crowd.'

[$_{\text{VoiceP}}$ *Bjartur* [Voice [$_{\text{vP}}$ *troða* [$_{\text{pP}}$ *-st* *gegnum mannþröngina*]]]]
Bjartur squeeze *-st* through the crowd

(238) **Anticausative**

Bjartur tróðst undir.
Bjartur.NOM squeezed-ST under
'Bjartur got trampled.'

[$_{\text{VoiceP}}$ *-st* [Voice [$_{\text{vP}}$ *troða* [$_{\text{pP}}$ Bjartur *undir*]]]]
-st squeeze Bjartur under

The difference between *troðast* 'squeeze' and *troðast undir* 'get trampled' should be understood in the manner discussed earlier in §3.4.4-§3.4.5 and discussed further in §4.2.3-§4.2.4.

By comparing figure reflexive uses of *troðast* 'squeeze' with anticausative uses, we ensure that we are not simply testing for the animacy of the surface subject, for example, and the agentive nature of figure reflexives is much more apparent. First, that the subject of the figure reflexive is acting agentively is suggested by the fact that it can occur as the complement of verbs like 'persuade' (Torfadóttir 2008:8; Jóhannsdóttir 2011:49-50). [6]

[6]The citations in this section should be understood as referencing the tests in question, as applied to Icelandic, many of which were developed based on Ross (1972) and Dowty (1979), among others; the interpretation of these tests will be discussed further briefly below.

(239) a. Bjartur taldi Jón á að troðast gegnum mannþröngina.
Bjartur.NOM persuaded John on to squeeze-ST through crowd.the.ACC
'Bjartur persuaded John to squeeze through the crowd.'

b. * Bjartur taldi Jón á að troðast undir.
Bjartur.NOM persuaded John on to squeeze-ST undir
INTENDED: 'Bjartur persuaded John to get trampled.'

Second, modification of figure reflexives by agent-oriented adverbs such as *viljandi* 'intentionally' and *varlega* 'cautiously' is natural (Sigurðsson 1989:268; Torfadóttir 2008:7; Jóhannsdóttir 2011:51).

(240) a. Bjartur tróðst varlega gegnum mannþröngina.
Bjartur.NOM squeezed-ST cautiously through crowd.the.ACC
'Bjartur cautiously squeezed through the crowd.'

b. * Bjartur tróðst varlega undir.
Bjartur.NOM squeezed-ST cautiously under
INTENDED: 'Bjartur cautiously got trampled.'

Third, figure reflexives can form impersonal passives, which have been shown to be restricted in Icelandic to events where the understood agent(s) act volitionally, even more robustly than personal passives (Zaenen and Maling 1984:327; Sigurðsson 1989:63-64, 310-322; Thráinsson 2007:266-273).

(241) a. Þá var troðist gegnum mannþröngina.
then was squeezed-ST through crowd.the.ACC
'Then there was squeezing through the crowd.'

b. eftir vinnu á Föstudaginn var troðist inní bíl hjá Kollu
after work on Friday was squeezed-ST into car at/by Kolla
'After work on Friday, there was squeezing into Kolla's car.'[7]

c. * Þá var troðist undir.
then was squeezed-ST under
INTENDED: 'Then people got trampled.'

[7] http://agade784.blogspot.com/2006/08/das-verzlunnarmannahelginzky.html

Fourth, figure reflexives can occur in constructions that refer to an agent's doing something agentively, such as in the sentences in (242-243) (Jóhannsdóttir 2011:47-48, 52-53)

(242) a. Bjartur tróðst gegnum mannþröngina, þótt Baldur hefði sagt
Bjartur squeezed through crowd.the though Baldur had told
honum að gera það ekki.
him to do that not
'Bjartur squeezed through the crowd, though Baldur told him not to do so.'

b. * Bjartur tróðst undir, þótt Baldur hefði sagt honum að gera það
Bjartur squeezed under though Baldur had told him to do that
ekki.
not
INTENDED: 'I got trampled, though Baldur told me not to do so.'

(243) a. Bjartur tróðst gegnum mannþröngina í stað þess að bíða.
Bjartur squeezed through crowd.the in stead it to wait
'Bjartur squeezed through the crowd instead of waiting.'

b. * Bjartur tróðst undir í stað þess að bíða.
Bjartur squeezed under in stead it to wait
INTENDED: 'Bjartur got trampled instead of waiting.'

Fifth, Eiríkur Rögnvaldsson (p.c.) points out that the agentivity differences between the two uses of *troðast* can also be seen in "what happened to X" clefts, as in the following.

(244) a. * Það sem Jón lenti í var að troðast gegnum mannþröngina.
that which John landed in was to squeeze-ST through crowd.the
INTENDED: 'What happened to John was he squeezed through the crowd.'

b. Það sem Jón lenti í var að troðast undir.
that which John landed in was to squeeze-ST under
'What happened to John was he got trampled.'

The agentive use of *troðast* is unacceptable in the "what happened to X" clefts, while the anticausative use is acceptable. This is reversed if a *þurfa* 'need' infinitive is used. The agentive becomes acceptable and the anticausative unacceptable.

(245) a. Það sem Jón lenti í var að þurfa að troðast gegnum
that which John landed in was to need to squeeze-ST through
mannþröngina.
crowd.the
'What John landed in was to have to squeeze through the crowd.'

b. * Það sem Jón lenti í var að þurfa að troðast undir.
that which John landed in was to have to squeeze under
INTENDED: 'What happened to John was he needed to get trampled.'

These tests might not all be completely reliable tests for 'agentivity' per se. For example, in Icelandic as well as English, it is possible to say things like *I persuaded him not to sleep past 10 o'clock*, though *sleep* is not obviously agentive.[8] In many cases, some kind of 'event' control, rather than agentivity, seems to be what these tests diagnose.

(246) Ég taldi hann á að deyja ekki aleinn.
I persuaded him on to die not alone
'I persuaded him not to die alone.' (Halldór Sigurðsson p.c.)

Note that the event described in (246) seems to refer not to (the moment of) dying itself, but the controllable circumstances surrounding dying. This applies to English *persuade* as well. Still, speakers find a strong difference between (241b) and (247):

(247) ?* Jón taldi einræðisherrann á að drepast (við höggið).
John.NOM persuaded dictator.the.ACC on to kill-ST (at blow.the.ACC)

To the extent that (247) is possible, it has a reading where there is some conspiracy where the dictator pretends to be dead, but it is not possible if he dies, since a dictator cannot decide that a blow will kill him/her.[9] This (as well as the other agentivity tests) suggests a strong difference between non-reflexive *drepast* 'kill-ST' and figure-reflexive *troðast*

[8]Thanks to Halldór Sigurðsson for discussion of these points.

[9]Thanks to Björg Jóhannsdóttir for pointing out this reading. Many speakers, even on this reading, find (247) quite bad.

‘squeeze-ST’; the latter requires no special reading or coercion to be understood as agentive.

That figure reflexive *-st* verbs are indeed reflexive in a meaningful way is shown by the fact that for verbs that alternate between *-st* and non-*st* forms, the non-*st* form can take a reflexive pronoun and in many cases receive the same interpretation.[10]

(248) a. Hann tróð sér gegnum mannþröngina.
he.NOM squeezed REFL.DAT through crowd.the.ACC
‘He squeezed through the crowd.’

b. Hann tróðst gegnum mannþröngina.
he.NOM squeezed-ST through crowd.the.ACC
‘He squeezed through the crowd.’

The sentences in (248) are mutually entailing. Thus, if one is negated and the other asserted, the result is a contradiction (indicated with the notation “#” below).

(249) a. # Ekki tróðst hann gegnum mannþröngina, en hann tróð
not squeezed-ST he through crowd.the, but he squeezed
sér gegnum mannþröngina.
REFL.DAT through crowd.the

b. # Ekki tróð hann sér gegnum mannþröngina, en hann
not squeezed he REFL.DAT through crowd.the, but he
tróðst gegnum mannþröngina.
squeezed-ST through crowd.the

However, this is not to say that *troða sér* (248a) and *troðast* (248b) are identical at LF, even if their LFs lead to indistinguishable truth conditions in many cases. Thus, as noted by Andrews (1990:199) (see also Jónsson 2005:397), *-st* reflexives cannot be interpreted long-distance, unlike verbs with simplex reflexive pronouns. (See §1.3.4 for references on long-distance reflexives.)

[10]The point here is to show that the *-st* form is reflexive. An anonymous reviewer of a journal submission points out that *troða sér* can have meanings that *troðast* does not have, which is related to the encyclopedic contribution of the root; see §3.4.4 for discussion of this.

(250) a. Ásta taldi að Bjartur mundi troða sér inn í herbergið.
Ásta$_i$ thought that Bjartur$_j$ would squeeze REFL.DAT$_{i/j}$ in to room.the
'Ásta$_i$ thought that Bjartur$_j$ would squeeze her$_i$/himself$_j$ into the room.'

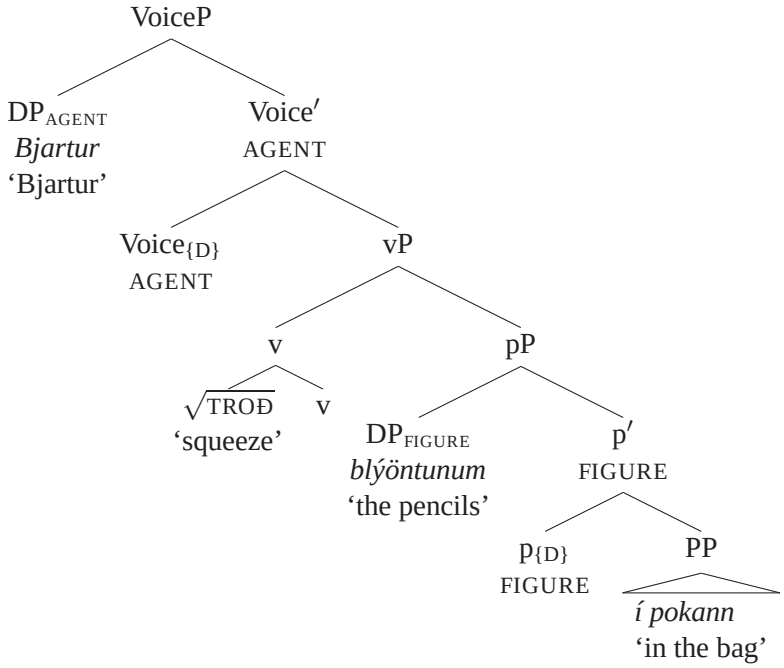
b. Ásta taldi að Bjartur mundi troðast inn í herbergið.
Ásta$_i$ thought that Bjartur$_j$ would squeeze-ST in to room.the
'Ásta$_i$ thought that Bjartur$_j$ would squeeze *her$_i$/himself$_j$ into the room.'

The analysis presented below correctly predicts the impossibility of a long-distance reflexive interpretation of *-st*, but an analysis of long-distance reflexives in general is beyond the scope of the present study (see §1.3.4 for references).

Turning to the analysis, non-reflexive figure constructions such as (251) have the structure in (252).

(251) Bjartur tróð blýöntunum í pokann.
Bjartur.NOM squeezed pencils.the.DAT in bag.the
'Bjartur squeezed the pencils into the bag.'

(252)



There are several aspects of the derivation which I do not indicate in this tree or in the semantic derivations below. As mentioned above, I assume that the argument in SpecpP

will generally move to a higher position such as SpecvP for licensing (cf. Svenonius 2007:91; in the licensing typology of Sigurðsson 2012b, this would be φ-licensing). For present purposes, I assume a fairly simplistic denotation of the PP, where it denotes a stative relation named by the head preposition.[11] Following Svenonius, p introduces the figure argument in Neo-Davidsonian fashion. I assume that they combine by Event Identification.

(253) a. $[\![\text{PP}]\!] = \lambda s_s.\ \text{in(the bag,s)}$

b. $[\![\text{p}]\!] \leftrightarrow \lambda x_e.\lambda e_s.\ \textsc{figure}(x,e)$

c. $[\![\text{p}']\!] = \lambda x_e.\lambda s_s.\ \textsc{figure}(x,s) \wedge \text{in(the bag,s)}$

(c) comes from (a) and (b) by Event Identification

The pP in this case is thus a stative small clause; x bears the figure relation with respect to the "in the bag" state. However, I will in what follows generally only refer to the figure relation itself, leaving out the semantics of the PP.

At an intuitive level, the semantics can be read off of the tree above. The pP is a state, and the vP denotes the squeezing events that cause that state. Voice, like p, has a D feature requiring a DP in its specifier. Semantically, it introduces the agent of the causing event; p semantically introduces the figure of the state. More precisely, the semantics of this construction are presented in (254) below.

(254) Non-reflexive Figure Derivation

a. $[\![\text{pP}]\!] = \lambda e_s.\ \textsc{figure}(\text{the pencils,e})$

b. $[\![\text{v}]\!] \leftrightarrow \lambda P_{\langle s,t\rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \text{squeeze}(e) \wedge \textsc{cause}(e',e)$

[11] See Svenonius (2008) for a finer-grained pP-internal semantics. See also Svenonius (2010:147ff) on the syntax and semantics of certain pPs headed by prepositions like *through*.

c. $[\![\text{vP}]\!] = \lambda e_s.\exists e'_s.$ FIGURE(the pencils,e′) ∧ squeeze(e) ∧ CAUSE(e′,e)

≈ 'The set of squeezing events which caused the pencils to be in the bag.'

(c) comes from (a) and (b) via Functional Application

d. $[\![\text{Voice}]\!] \leftrightarrow \lambda x_e.\lambda e_s.$ AGENT(x,e)

e. $[\![\text{Voice}']\!] = \lambda x_e.\lambda e_s.\exists e'_s.$ AGENT(x,e) ∧ FIGURE(the pencils,e′) ∧ squeeze(e) ∧ CAUSE(e′,e)

(e) comes from (c) and (d) via Event Identification

f. $[\![\text{VoiceP}]\!] = \lambda e_s.\exists e'_s.$ AGENT(Bjartur,e) ∧ FIGURE(the pencils,e′) ∧ squeeze(e) ∧ CAUSE(e′,e)

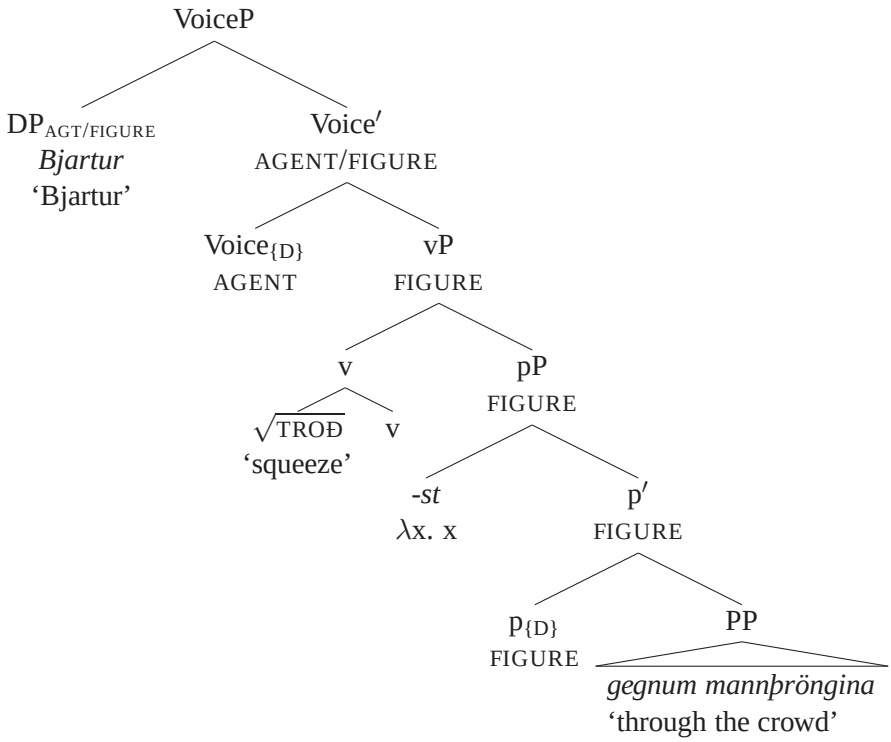
≈ 'The set of squeezing events, for which Bjartur is the agent, and which caused the pencils to be in the bag.'

The external argument of the pP, *blýöntunum* 'the pencils', bears the figure role within that pP. (As mentioned, I abstract away from the meaning of the rest of the pP here.) Since v in this case is causative, it takes the set of stative eventualities denoted by the pP as its argument, resulting in the set of events which caused the state of affairs that the pP denotes, as in (c). Voice introduces the agent, and combines with vP by Event Identification, so that the specifier of Voice can become the agent of the causing event.

Now consider the figure reflexive construction with -*st*. I suggested above that since Voice is agentive, -*st* would not be able to successfully merge in SpecVoiceP. Here, instead, -*st* is merged in SpecpP, and passes the denotation of its sister to its mother. Thus, while SpecpP is occupied syntactically, semantically it is as though nothing is there. This is not to say that -*st* has no semantic effect; the fact that it is an argument expletive in this case just means that the semantic argument is not saturated, even if the syntactic position is. This alters the way that semantic composition will take place, as will be shown below.

(255) Bjartur tróðst gegnum mannþröngina.
Bjartur.NOM squeezed-ST through crowd.the.ACC
'Bjartur squeezed through the crowd.'

(256)



When p introduces a figure role but takes -*st* in its specifier, the denotation of the pP is an open predicate looking for an entity argument. This means that is looking for an event or state—something of type $\langle s, t\rangle$—and pP is one entity argument away from being one; it is $\langle e, \langle s, t\rangle\rangle$. This fits the structural description for combining by Function Composition (see (40) in §1.1.4), which essentially passes the entity argument up the tree in the semantics. Voice will then combine by Predicate Conjunction, and *Bjartur* will simultaneously saturate both the agent and figure roles.

(257) -*st* Figure Reflexive Derivation

a. $[\![\text{pP}]\!] = \lambda x_e.\lambda e_s.\ \textsc{figure}(x,e)$

b. $[\![\text{v}]\!] \leftrightarrow \lambda P_{\langle s,t\rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \text{squeeze}(e) \wedge \textsc{cause}(e',e)$

c. $[\![\text{vP}]\!] = \lambda x_e.\lambda e_s.\exists e'_s.\ \textsc{figure}(x,e') \wedge \text{squeeze}(e) \wedge \textsc{cause}(e,e')$

$\approx$ 'The set of entities x and squeezing events e such that e causes x to go through the crowd.'

(c) comes from (a) and (b) via Function Composition

d. $[\![$ Voice $]\!] \leftrightarrow \lambda x_e.\lambda e_s.$ AGENT(x,e)

e. $[\![$ Voice$'$ $]\!]$ = $\lambda x_e.\lambda e_s.\exists e'_s.$ AGENT(x,e) $\wedge$ FIGURE(x,e$'$) $\wedge$ squeeze(e) $\wedge$ CAUSE(e,e$'$)

(e) comes from (c) and (d) via Predicate Conjunction

f. $[\![$ VoiceP $]\!]$ = $\lambda e_s.\exists e'_s.$ AGENT(Bjartur,e) $\wedge$ FIGURE(Bjartur,e$'$) $\wedge$ squeeze(e) $\wedge$ CAUSE(e,e$'$)

$\approx$ 'The set of squeezing events, for which Bjartur is the agent, and which cause Bjartur to move through the crowd.'

The derivation provides a kind of "reflexive" denotation without syntactic binding. In the syntax, v selects a p with a D-feature, -*st* checks the D-feature of $p_{\{D\}}$. The D-feature of $Voice_{\{D\}}$ is checked by the DP in SpecVoiceP. At semantics, p introduces a θ-role which does not get semantically saturated, and so that θ-role gets passed up the tree to the next highest argument position, in this case Voice$'$. Voice itself introduces a θ-role, and so the effect is that the DP in SpecVoiceP semantically saturates both roles. Syntactically, merging -*st* in SpecVoiceP or SpecpP is parallel—it checks the D-feature of those argument-introducing heads. Semantically, it is the fact that p is c-commanded by another argument-introducing head, Voice, that allows 'reflexive' semantics when -*st* is in SpecpP; the figure role can be passed up to Voice. When -*st* is in SpecVoiceP, on the other hand, this would be possible in principle, except that Voice is the highest argument-introducing head, so there is nowhere to pass the the agent role to; this is why merging -*st* in SpecVoiceP generally requires Voice to be interpretable as null.

4.2.2 Unmarked Figure Reflexives

As mentioned earlier, *-st* is not in principle semantically necessary to derive figure reflexive semantics, since merging specifierless $p_{\{\}}$ would have the same thematic effect. This analysis is the proposal for sentences such as (258).

(258) Hann labbaði inn í herbergið.
he.NOM strolled in to room.the.ACC
'He strolled into the room.'

Halldór Sigurðsson (p.c.) points out to me that colloquially, an overt reflexive in the accusative or dative reflexive pronoun is also possible for expressing the figure for some non-*st* figure reflexive verbs, including *labba* 'stroll'. (Many speakers seem to have a preference for one or the other, and it is not obvious to me which is the more frequent 'favorite'.)

(259) Ég er að hugsa um að labba {**mig**/**mér**} niður í bæ.
I.NOM am to think about to stroll {me.ACC/DAT} down to town
'I'm thinking about taking a stroll into town.'

However, he also points out that other non-*st* motion verbs, like *hlaupa* 'run', *ganga* 'walk', *synda* 'swim', or *fljúga* 'fly', do not have this option, and are nevertheless capable of figure reflexive semantics. These subjects still pass agentivity tests, as shown in the following sentences, so we need a way for them to be both agents and figures, just like with the *-st* figure reflexives above.

(260) a. Bjartur taldi Jón á að hlaupa upp Bankastræti.
Bjartur persuaded John on to run up bank.street
'Bjartur persuaded John to run up Bank Street.'

b. Bjartur taldi Jón á að labba heim til kennarans.
Bjartur persuaded John on to stroll home to teacher.the.GEN
'Bjartur persuaded John to stroll over to the teacher's place.'

(261) a. Bjartur hljóp viljandi upp Bankastræti.
Bjartur ran intentionally up bank.street
'Bjartur intentionally ran up Bank Street.'

b. Bjartur labbaði viljandi heim til kennarans.
Bjartur strolled intentionally home to teacher.the.GEN
'Bjartur intentionally strolled over to the teacher's house.'

(262) a. Þá var hlaupið upp Bankastræti.
then was run up bank.street
'Then people ran up Bank Street.'[12]

b. Þá var labbað heim til kennarans.
then was strolled home to teacher.the.GEN
'Then people strolled over to the teacher's house.'

(263) a. Bjartur hljóp upp Bankastræti, þótt Baldur hefði sagt honum að gera
Bjartur ran up bank.street though Baldur had told him to do
það ekki.
that not
'Bjartur ran up Bank Street, though Baldur told him not to do so.'

b. Bjartur labbaði heim til kennarans, þótt Baldur hefði sagt honum
Bjartur strolled home to teacher.the.GEN though Baldur had told him
að gera það ekki.
to do that not
'Bjartur strolled over to the teacher's house, though Baldur told him not to do so.'

(264) a. Bjartur hljóp upp Bankastræti í stað þess að bíða.
Bjartur ran up bank.street in stead it to wait
'Bjartur ran up Bank Street instead of waiting.'

b. Bjartur labbaði heim til kennarans í stað þess að bíða.
Bjartur strolled home to teacher.the.GEN in stead it to wait
'Bjartur strolled over to the teacher's house instead of waiting.'

(265) a. * Það sem Jón lenti í var að hlaupa upp Bankastræti.
that which John landed in was to run up bank.street

[12] Ásgrímur Angantýsson finds this sentence is acceptable in a context where we are talking about a marathon, where the marathon used to go up Bankastræti but doesn't anymore.

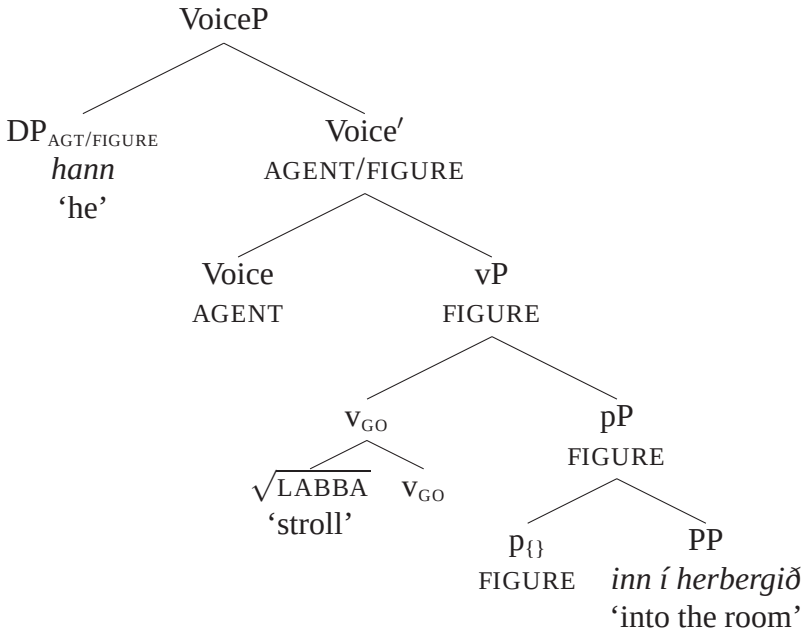
b. * Það sem Jón lenti í var að labba heim til kennarans.
that which John landed in was to stroll home to teacher.the.GEN

(266) a. Það sem Jón lenti í var að þurfa að hlaupa upp Bankastræti.
that which John landed in was to need to run up bank.street
'What happened to John was he had to run up Bank Street.'

b. Það sem Jón lenti í var að þurfa að labba heim til kennarans.
that which John landed in was to need to stroll home to teacher.the.GEN
'What happened to John was he had to stroll to the teacher's house.'

The DP subject of unmarked figure reflexives, then, is an agent as well as a figure. Unmarked figure reflexives have the structure in (267). The thematic semantics of this construction are identical to what was seen with marked figure reflexives in the previous subsection. The only difference is that there is no *-st* here. All *-st* did, however, was pass the denotation of its sister (labelled p′ in (256)) to its mother (labelled pP). This is effectively the same as just not having a specifier of pP at all, as in (267).

(267)



The availability of *-st*, then, must reduce to a syntactic property of argument-introducing functional heads. $\text{Voice}_{\{D\}}$ and $p_{\{D\}}$ require a syntactic element of category 'D' in their

specifiers, and -*st* can satisfy this syntactic requirement without introducing a semantic argument. As will be shown in the next section, however, the choice between structures with or without -*st*, while thematically inert, can affect the interpretation of verbal roots, and roots can be compatible with one structure or the other, just like with the anticausatives discussed in chapter 3.

4.2.3 Figure Reflexives vis-à-vis Reflexive Pronouns

In this section, I briefly discuss the lexical relationship between -*st*-marked and unmarked figure reflexives, on the one hand, and similar structures with reflexive pronouns, on the other. I will show that there is no direct relationship between the two, and that we should not expect there to be one on the present analysis. First, some roots appear in -*st* marked figure reflexives and with reflexive pronouns, as illustrated with $\sqrt{\text{TROÐ}}$ 'squeeze' in (268) (repeated from (248)), while others appear in only the -*st* structure, as illustrated with $\sqrt{\text{SKREIÐ}}$ 'crawl' in (269).

(268) a. Hann tróð sér gegnum mannþröngina.
he.NOM squeezed REFL.DAT through crowd.the.ACC
'He squeezed through the crowd.'

b. Hann tróðst gegnum mannþröngina.
he.NOM squeezed-ST through crowd.the.ACC
'He squeezed through the crowd.'

(269) a. * Hann skreiddi sér fram úr rúminu.
he.NOM crawled REFL.DAT out of bed

b. Hann skreiddist fram úr rúminu.
he.NOM crawled-ST out of bed
'He crawled out of bed.'

Similarly, some roots that appear in the unmarked figure reflexive construction may also take a reflexive pronoun, as seen with $\sqrt{\text{LABBA}}$ 'stroll' in (258-259) above, repeated here

in (270), while others appear cannot appear with a reflexive pronoun, as illustrated with $\sqrt{\text{HLAUP}}$ 'run' in (271).

(270) a. Ég er að hugsa um að labba {**mig**/**mér**} niður í bæ.
I.NOM am to think about to stroll {me.ACC/DAT} down to town
'I'm thinking about taking a stroll into town.'

b. Hann labbaði inn í herbergið.
he.NOM strolled in to room.the.ACC
'He strolled into the room.'

(271) a. * Gvendur hljóp sér á brott frá Bjarti.
Gvendur ran REFL.DAT a way from Bjartur

b. Gvendur hljóp á brott frá Bjarti.
Gvendur ran a way from Bjartur
'Gvendur ran away from Bjartur.'

Finally, some roots may only appear with a reflexive pronoun, and otherwise may not appear in either figure reflexive construction, with or without *-st*, as illustrated with $\sqrt{\text{KASTA}}$ 'throw' in (272).[13]

(272) a. Markmaðurinn kastaði sér á boltann.
goal.keeper.the threw REFL.DAT on ball.the
'The goalkeeper threw himself onto the ball.'

b. * Markmaðurinn kastaði(st) á boltann.
goal.keeper.the threw(-ST) on ball.the

Thus, knowing that a root can appear with a reflexive pronoun does not tell you anything about whether it will occur in a(n unmarked or *-st* marked) figure reflexive construction, and vice-versa. This might seem to be a problem at first glance, and warrants some discussion: if, for example, *skreiðast* 'crawl' is derived from a structure with $p_{\{D\}}$ and yields reflexive semantics, shouldn't a reflexive pronoun in SpecpP also be possible? On

[13](272b) has a somewhat unlikely, but grammatical, anticausative reading, for example if the goal keeper was thrown from a moving train and fell on the ball. The point here is that it has no figure reflexive reading.

closer examination of the syntax and semantics proposed here, however, it becomes clear that the present analysis does not lead us to expect any direct relation between -*st*-marked and unmarked figure reflexives, on the one hand, and transitive verbs with reflexive pronouns on the other. Consider again example (248/268), repeated here in (273).

(273) a. Hann tróð sér gegnum mannþröngina.
he.NOM squeezed REFL.DAT through crowd.the.ACC
'He squeezed through the crowd.'

b. Hann tróðst gegnum mannþröngina.
he.NOM squeezed-ST through crowd.the.ACC
'He squeezed through the crowd.'

Recall that the semantic representations generated by the structures of these sentences are different, even if they converge truth-conditionally in some cases. An -*st*-marked or unmarked figure reflexive forms a complex predicate, so that the semantics of Voice′ in (273b), is (simplifying greatly) as in (274b). (273a), on the other hand, has a semantics more like (274a).

(274) a. e is an event of x causing y to get through the crowd $\wedge$ $\sqrt{\text{TROÐ}}(e) \wedge y = x$

b. e is an event of x causing x to get through the crowd $\wedge$ $\sqrt{\text{TROÐ}}(e)$

The insertion of the denotations into terminal nodes and subsequent composition of them yields these kinds of representations. A reflexive pronoun, as argued above, yields the semantics of a distinct figure argument, except that binding identifies the two arguments as the same entity. A figure reflexive with $p_{\{D\}}$+-*st* or $p_{\{\}}$, however, identifies the two roles with the same variable, so those roles are automatically going to be saturated by the same entity. This is why figure reflexives and constructions with reflexive pronouns are both, in some sense, "reflexive", even though they are not identical syntactically or semantically.

The next matter for (274) involves the root, $\sqrt{\text{TROÐ}}$. As argued in this thesis, the interpretation of the root is determined post-syntactically on the basis of surrounding

syntactic and semantic material, combined with the encyclopedic knowledge (i.e. world knowledge) that is associated with the root. The encyclopedic semantics of the root will be sensitive to whether the event it names is an event involving x and y or an event involving x and x. In the case of *troða(st)* 'squeeze', the semantics of the root is such that it is easy to find cases where *troða sér* and *troðast* are equally appropriate, and mutually entailing, as argued above in §4.2.1.

However, as pointed out by an anonymous reviewer of a journal submission, there are contexts where *troða sér* and *troðast* differ with respect to the lexical contribution of the root $\sqrt{\text{TROÐ}}$, as shown in (275).

(275) a. Hann tróð sér inn í holuna.
he squeezed REFL.DAT in to hole.the
'He squeezed (himself) into the hole.'

b. Hann tróðst inn í holuna.
he squeezed-ST in to hole.the
'He pushed his way around to squeeze into the hole.'

This difference is obscured in (273), where both events would naturally involve pushing one's way around. What this tells us is that the encyclopedic semantics of the root $\sqrt{\text{TROÐ}}$ in (274b) involves some element (e.g. 'pushing') whereas in (274a) involves that element only if other aspects of the event force it.

It should now be clear that contrasts such as (276-277) are entirely expected.

(276) a. * Hann skreiddi sér fram úr rúminu.
he.NOM crawled REFL.DAT out of bed

b. Hann skreiddist fram úr rúminu.
he.NOM crawled-ST out of bed
'He crawled out of bed.'

(277) a. Markmaðurinn kastaði sér á boltann.
goal.keeper.the threw REFL.DAT on ball.the
'The goalkeeper threw himself onto the ball.'

b. * Markmaðurinn kastaðist á boltann.
goal.keeper.the threw-ST at ball.the

The root $\sqrt{\text{SKREIÐ}}$ 'crawl' is not compatible with the event structure involving x and y, and $\sqrt{\text{KASTA}}$ 'throw' is not compatible with the event structure involving x and x. There may be interesting semantic properties of these roots which can predict this a priori; but they may also only be tendencies which are listed with the roots.[14]

In this domain, as with anticausatives and (most, maybe all) other aspects of argument structure, there is speaker variation for particular verb roots in these structures. For example, some, but not all speakers accept the root $\sqrt{\text{POTA}}$ 'poke' in -*st*-marked figure reflexive structures, such as in sentences like (278b).

(278) a. Bjartur potaði blýantinum í augað á Hlyni.
Bjartur.NOM poked pencil.the.DAT in Hlynur's eye
'Bjartur poked the pencil into Hlynur's eye.'

b. % Bjartur potaðist undir sófann.
Bjartur.NOM poked-ST under sofa.the.ACC
'Bjartur wormed his way under the sofa.'

Similarly, Einar Freyr Sigurðsson (p.c.) points out to me that some speakers have started to use the inherent reflexive verb *drífa sig* 'hurry oneself' as a figure reflexive -*st* verb. Árnadóttir et al. (2011) provide the following example of this, taken from the web.

(279) *% svo drifumst við heim til hans og fengum vöflur!!
then hurried-ST we home to his and got waffles
'then we hurried to his house and got waffles!!'[15] (Árnadóttir et al. 2011:83)

[14]That is, similar to readjustment rules on roots, which seem to involve analogous issues. For example, some roots ending in -*ive* in the present tense end in -*ove* in the past tense, such as *drive*/*drove*; in many varieties of English (including mine) this extends to *dive*/*dove*. There is more dialectal variation, such that in some dialects of English (not mine), the past tense of *climb* is *clumb*.

[15]http://nattfatagellur.blogcentral.is/blog/2006/12/5/er-kominn-timi-a-mig-i-blogg/

They write that the use of *-st* with the root $\sqrt{\text{DRIF}}$ "is neither known to us nor most people we have asked" (83, fn.41). They continue: "There are only a few examples of this use found on the Internet. Most of those are from bloggers in the East of Iceland. An informant, b. 1986, who was raised in this area says this use is common there." Similarly, while most speakers I have talked to reject an *-st* figure reflexive structure with the root $\sqrt{\text{LABBA}}$ 'stroll' (see 283b below for discussion), one finds examples of this use on the web as well.

(280) *% Labbaðist svo heim á leið með Kristrúnu, Heiði og Karenu.
strolled-ST then home on way with Kristrún, Heiður and Karen
'(I) then strolled home on the way with Kristrún, Heiður and Karen.'[16]

These points raise interesting questions, as discussed further in the following subsection, but they are not directly relevant to the proposal here, which is concerned the syntax and semantics of $p_{\{D\}}$ and $p_{\{\}}$, independently of the roots that can occur in structures with these elements. Certainly, all Icelandic speakers have figure reflexive structures involving $p_{\{D\}}$+*-st* and figure reflexive structures involving $p_{\{\}}$. This is the important point of the present chapter. Variation among speakers regarding the distribution of roots raises interesting questions about diachrony, lexical semantics, etc., but does not directly bear on the present proposal, because we already know that every speaker has some roots that occur in each structure and some roots that do not. That there is a choice between $p_{\{D\}}$+*-st* and $p_{\{\}}$ in general does raise some further interesting questions, however, and these are discussed in the following subsection.

[16] http://sinnep.blogcentral.is/blog/2004/4/22/kofa-hiti/

4.2.4 Root Distribution in Figure Reflexives

Thematically, in terms of arguments and roles, marked and unmarked figure reflexives are exactly the same. However, there is a sense in which the two structures are not identical, specifically with respect to the distribution of verbal roots, which can be compatible with one structure or the other, or both.[17] This is illustrated in (281-283).

(281) a. * Hann skreiddi fram úr rúminu.
he.NOM crawled out of bed

b. Hann skreiddist fram úr rúminu.
he.NOM crawled-ST out of bed
'He crawled out of bed.'

(282) a. Gvendur hljóp á brott frá Bjarti.
Gvendur ran a way from Bjartur
'Gvendur ran away from Bjartur.'

b. Gvendur hljópst á brott frá Bjarti.
Gvendur ran-ST a way from Bjartur
'Gvendur ran away from Bjartur.'

(283) a. Hann labbaði heim til kennarans.
he strolled home to teacher.the.GEN
'He strolled over to the teacher's house.'

b. * Hann labbaðist heim til kennarans.
he strolled-ST home to teacher.the.GEN

Here, we encounter the same issue we encountered in chapter 3 with anticausatives: given a choice in the syntactic system, roots seem to care how their anticausatives and figure reflexives are formed. In chapter 3, we found that some roots, such as $\sqrt{\text{BROT}}$ 'break', prefer to form anticausatives with Voice$_{\{\}}$; for roots that are incompatible with Voice$_{\{\}}$, such as $\sqrt{\text{SPLUNDRA}}$ 'shatter', anticausatives are formed with Voice$_{\{D\}}$+-*st*. The same

[17] When a root is compatible with both, there is usually with a semantic effect on the interpertation of the root, as discussed further below.

situation applies here: if a root is not compatible with $p_{\{\}}$, it will form figure reflexives with $p_{\{D\}}$+-*st*.

On the basis of the parallel between Voice and p, we might expect some roots to be compatible with both both $p_{\{\}}$ and $p_{\{D\}}$+-*st*, with a semantic difference between the two. Recall that roots like $\sqrt{\text{GLAÐ}}$ 'glad' can are compatible with $\text{Voice}_{\{D\}}$ and $\text{Voice}_{\{\}}$, with a metaphorical interpretation in the latter case. As seen in (282), this expectation is borne out for figure reflexives as well, in this case with the root $\sqrt{\text{HLAUP}}$ 'run'. When -*st* is used, literal, physical running is no longer entailed. Thus, the continuation 'in order to marry him' is odd in (284a) (conjuring up an image of Sigga and Jón running away holding hands), but natural in (284b).

(284) a. Sigga **hljóp** á brott með Jóni (# til að giftast honum).
Sigga ran away with John (# for to marry him)
'Sigga ran away with John (in order to marry him).' (physically running)

b. Sigga **hljópst** á brott með Jóni (til að giftast honum).
Sigga ran-ST away with John (for to marry him)
'Sigga ran away with John (in order to marry him).'

(not necessarily physically running)

While the thematic propeties of these two sentences are the same, the interpretation of the root seems to change when -*st* appears. $\sqrt{\text{HLAUP}}$ 'run' is basically a $p_{\{\}}$-compatible root, but it is only in this special, non-literal sense that $p_{\{D\}}$ is allowed.

We want to ask, however, what it means to be a $p_{\{D\}}$-/$p_{\{\}}$-compatible root. At a first approximation, the difference conditioning this metonymic shift involves a a $p_{\{D\}}$-selecting v versus a $p_{\{\}}$-selecting v. Note that when -*st* is not present, this usually amounts to the difference between transitive (direct-object-taking) and intransitive (not direct-object-taking) verbs. A great many -*st*-marked figure reflexives correspond to non-*st* figure constructions with a direct object figure, as illustrated in (285-288)

(285) a. Ég komst á sjúkrahús.
I.NOM came-ST to hospital
'I got to the hospital.'

b. Ég kom honum á sjúkrahús.
I.NOM came him.DAT to hospital
'I got him to the hospital.'

(286) a. Ég laumaðist úr fötunni.
I.NOM snuck-ST out.of waste.bin.the
'I snuck out of the waste bin.'

b. Ég laumaði miðanum úr fötunni.
I.NOM snuck note.the.DAT out.of waste.bin.the
'I snuck the note out of the waste bin.'

(287) a. Hann ruddist úr röðinni.
he.NOM cleared-ST out.of line.the
'He elbowed his way out of the line.'

b. Hann ruddi henni úr röðinni.
he.NOM cleared her.DAT out.of line.the
'He knocked her out of the line.'

(288) a. Ég böðlaðist yfir snjóskaflinn.
I.NOM struggled-ST over snow.bank.the.ACC
'I struggled over the snowbank.'

b. Jón Daði böðlaði boltanum yfir línuna.
Jón Daði struggled ball.the.DAT over line.the.ACC
'Jón Daði bumbled the ball over the line.'[18]

It seems that what is important to the root is whether or not there is a syntactic direct object, which can be modeled by saying that the root attaches to a 'transitive' or 'intransitive' v. When a transitive v takes a pP complement, that pP will be headed by the specifier-taking $p_{\{D\}}$. When an intransitive v takes a pP complement, that pP will be headed by the specifierless $p_{\{\}}$. Thus, a root can have its interpretation conditioned in part

[18]This sentence is slightly adapted from a sentence found in an online newspaper article (http://www.sunnlenska.is/ithrottir/7103.html).

by whether it is attached to a transitive or intransitive v, and then further constrained by the event structure surrounding it (as also discussed in §4.2.3). Consider, for example, the following alternation.

(289) a. Ég ætla að skjóta henni í búðina.
I.NOM intend to shoot her.DAT to shop.the.ACC
'I'm going to pop her over to the shop.' (usually driving)

b. Ég ætla að skjótast í búðina.
I.NOM intend to shoot-ST to shop.the.ACC
'I'm going to pop over to the shop.' (not necessarily driving)

When $\sqrt{\text{SKOT}}$ 'shoot' is attached transitive v with a locative pP complement, the interpretation is that the agent caused the locative relation in a "$\sqrt{\text{SKOT}}$" manner. Given what is known about getting people to shops and about $\sqrt{\text{SKOT}}$, the latter is understood as contributing "quickness" or "immediacy", which in turn is usually driving. However, if someone's motion is self-directed, it need not refer to driving, but may instead just contribute "quickness" or "immediacy". This use of $\sqrt{\text{SKOT}}$ exists elsewhere in the language, such as in the expression *eins og skot* 'quickly/immediately/this second':

(290) Opnaðu skottið! **Eins og skot**!
open.you trunk.the like shot
'Open the trunk! This second!'[19]

Thus, the transitive v head picks out certain aspects of the meaning of the root, and the overall event structure can impose further encyclopedic constraints on the web of meanings associated with that root.

The difference between -*st*-marked figure reflexives and unmarked ones in many cases seems to amount to roots that describe inherently directed motion versus those that are

[19]This example comes from the television series *Næturvaktinn* 'The Night Shift', episode 6, 12 minutes, 17 seconds.

more naturally causative. In general, verbs like ‘walk’, ‘run’, ‘swim’, ‘stroll’, etc., are manner-of-motion verbs, but the manner described is ‘inherently directed’: that is, they describe activities which require motion (excepting the activities described by as ‘walking in place’, ‘running in place’, etc.). For -*st*-marked figure reflexives, the verbal roots seem to describe properties which do not necessarily involve self-directed motion, such as ‘break (into the house)’, ‘squeeze (through the crowd)’, ‘shoot (over to the shop)’, etc. Then, it seems that the structure imposes something on the root to make it intuitively “less literal”; it forces it to be interpreted as an inherently directed manner-of-motion verb, picking out some aspect of the root meaning to describe the manner-of-motion. This seems to extend even to roots that only occur in the figure reflexive. For example, $\sqrt{\text{SKREIÐ}}$ in *skreiðast* ‘crawl’ does not necessarily refer to literal crawling, as a child would do, but rather contributes slowness, or reluctance; (281) is appropriate to describe someone who is hungover or reluctant to get out of bed (this is just like one use of English *crawl*). In some cases, the root of -*st* marked figure reflexives describes a seemingly non-voluntary aspect of the motion. For example, in English, if John *staggers into the kitchen to get a beer*, his actions are agentive, but the fact that he is staggering is not necessarily voluntary. Eiríkur Rögnvaldsson (p.c.) points out to me that for him, the verb *troðast* ‘squeeze’ has this effect; the whole event is agentive, but the fact that the agent has to squeeze is not necessarily voluntary.

I leave it as an open question whether there is some more precise relation between structure and meaning here; for now, it suffices to note which elements in the structure condition these root-meanings: the properties of v, plus further constraints imposed by the event structure built in the vP and the encyclopedic meaning of the other elements in that structure. All of this, however, involves picking out the appropriate aspects of the semantics of the root, and is independent of thematic interpretation, the latter being

a root-independent representation of event structure along with relations like AGENT and FIGURE.

4.3 Expletive p

4.3.1 Internal Argument 'Demotion'

Recall that the causative interpretation of v is a contextually conditioned interpretation; if the complement of v denotes an open predicate of states or events, then v will be interpreted as causative. In some cases, this will have an effect on the interpretation of the root, as we saw in the previous section. For example, in English, *John ran to the store* may denote literal, physical running, but *John ran me to the store* typically does not; in the latter case, the root $\sqrt{\text{RUN}}$ seems to contributes "speed", and further ususally refers to driving. Icelandic $\sqrt{\text{SKOT}}$ 'shoot' allows this shift.

For the causative reading to arise, the complement must be a predicate, and I have argued that this extends to figure reflexives, which are open predicates of entities. This predication is mediated by a particular denotation of p—one which converts a set of locations to predicates of entities bearing the FIGURE relation to the ground of those locations. So when p introduces this relation, it has an effect on the interpretation of v. Suppose, however, that p has the same option as Voice, namely, that it can have a null or expletive interpretation. In this case, the locations will not be converted to an open predicate, and v would not be interpreted as causative; instead, it would be interpreted as a state or activity. This, I propose, is at work in sentences like (291a-b), which are activities, and (291c), which is a state.

(291) a. Hann er alltaf að hlæja að mér.
he is always to laugh at me
'He is always laughing at me.'

b. Hann er alltaf að hæðast að mér.
he is always to mock-ST at me
'He is always mocking me.'

c. Kennarinn hatast við mig.
teacher.the.NOM hates-ST at me
'The teacher has it in for me.'

The activity sentences pass agentivity tests, such as being able to form impersonal passives.

(292) a. Það var hlegið að honum.
EXPL was laughed at him
'People laughed at him.' (Sigurðsson 1989:237)

b. oft var hæðst að mér fyrir sérviskuna
often was mocked-ST at me for peculiarity.the
'I was often mocked for my peculiarity.'[20]

These kinds of sentences do not seem to be figure reflexives. If there is any figure at all, it is the activity or state itself that is the figure: his laughing or mocking is directed at me, the teacher's hateful state revolves around me, etc. What I propose for these verbs is that they involve a semantically expletive p head, parallel to the expletive Voice head in anticausatives. The idea is that the same structure that derives figure reflexives can have the function of, in effect, demoting the internal argument.

Again, -*st* is not necessary to do this. It is only necessary when structure contains external-argument projecting $p_{\{D\}}$. For other verbs, which are compatible with $p_{\{\}}$, the preposition can be used but -*st* is not necessary. As with figure reflexives, whether -*st* is used or not seems by and large to correspond to whether a verb root attaches to transitive or intransitive v. Transitives require -*st* in these constructions while intransitives do not.

[20] http://www.malefnin.com/ib/index.php?showtopic=103381

For example, $\sqrt{\text{HÆÐ}}$ 'mock' and $\sqrt{\text{HATA}}$ 'hate' may occur in a transitive sentence with a direct object and no *-st*, as shown in (293-294).

(293) a. Hann er alltaf að hæðast að mér.
he is always to mock-ST at me
'He is always mocking me.'

b. Blaðamenn hæddu þennan nýja flokk.
journalists.NOM mocked this new political.party.ACC
'Journalists ridiculed this new political party.'[21]

c. * Blaðamenn hæddu.
journalists.NOM mocked

(294) a. Kennarinn hatast við mig.
teacher.the.NOM hates-ST at me
'The teacher has it in for me.'

b. Hann hataði mig.
he hated me
'He hated me.'

c. * Hann hataði.
he hated

The roots $\sqrt{\text{HÆÐ}}$ 'mock' and $\sqrt{\text{HATA}}$ 'hate' attach to transitive v, which I will notate as v_{TR}; v_{TR} may have a DP or a pP complement, but the latter is only possible if the pP takes a specifier.[22]

(295) a. $[_{VoiceP}$ DP $[$ Voice$_{\{D\}}$ $[_{vP}$ $[_{v}$ $\sqrt{\text{HÆÐ}}$ v_{TR} $]$ $[_{pP}$ *-st* $[$ $p_{\{D\}}$ PP $]]]]]$ = (293a)

b. $[_{VoiceP}$ DP $[$ Voice$_{\{D\}}$ $[_{vP}$ $[_{v}$ $\sqrt{\text{HÆÐ}}$ v_{TR} $]$ DP $]]]$ = (293b)

$\sqrt{\text{HLEG}}$ 'laugh', on the other hand, may not take a direct object, as shown in (293b).

[21] http://oernolafs.blogspot.com/2011/10/ingkosningar-i-danmorku.html

[22] When the pP is the complement, only *-st* may be the external argument. A DP would be possible in principle, but then it would have to be interpreted, which means that p would introduce a role and v would be causative, as in English sentences like *They laughed him off the stage*.

(296) a. Hann er alltaf að hlæja að mér.
he is always to laugh at me
'He is always laughing at me.'

b. * Hann hló mig.
hann laughed me.ACC

c. Hann hló.
he laughed
'He laughed.'

The impossibility of a direct object of this sort indicates that $\sqrt{\text{HLEG}}$ 'laugh' may attach to intransitive v, and this in turn means that a pP will be headed by $p_{\{\}}$.[23]

Just as there are two ways of forming anticausatives (projecting $\text{Voice}_{\{D\}}$+-*st* and $\text{Voice}_{\{\}}$) and two ways of forming figure reflexives (projecting $p_{\{D\}}$+-*st* and $p_{\{\}}$), there are two ways of 'demoting' internal arguments. Syntactically, this is identical in the relevant ways to figure reflexives. It is the thematic interpretation of these structures that changes.

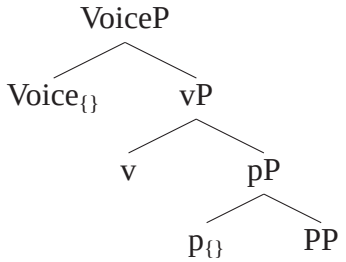
This provides a novel explanation for why cross-linguistically, "antipassive" morphology frequently has reflexive uses. The antipassive, for many languages, involves demoting an internal argument to an oblique DP or a pP. The present analysis shows how the same morphology can derive a reflexive and demote a DP to a pP. Specifically, it is a matter of how $p_{\{D\}}$ is interpreted. If $p_{\{D\}}$ is thematically expletive, a demoted DP will result. If $p_{\{D\}}$ is interpreted as thematic, and an -*st*-like morpheme is merged in its specifier it will derive a reflexive. In languages where the -*st*-like morpheme has a wider syntactic distribution than Icelandic, the reflexive uses will be more robust in the language. See §6.5 for some further discussion of reflexive -*st* verbs.

[23]This is not to say that cognate objects are impossible; the important point is that -*st* shows up in the pP when the intransitive is impossible, as in (293c) and (294c).

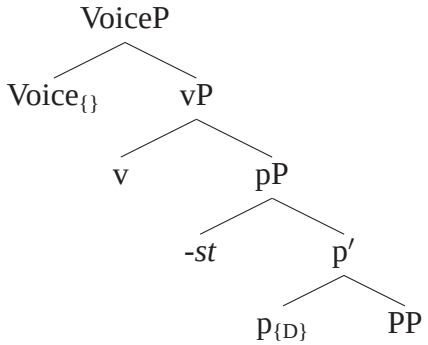
4.3.2 Expletive Voice and Expletive p Together

When $p_{\{D\}}$+-*st* or $p_{\{\}}$ introduces a FIGURE role, Voice must introduce a DP argument capable of bearing that role, or else it will be left unsaturated. This is essentially the same situation as when Voice is forced to introduce an AGENT role by the semantics of the vP: something must be present at semantics to saturate that role. However, if p may be semantically null, and Voice may be semantically null, then the possibility exists in principle that they may both be null at the same time. Any of the structures in (297) could generate such a reading. Here I assume that -*st* may only be merged once per VoiceP, possibly because there is only one clitic position to license it.

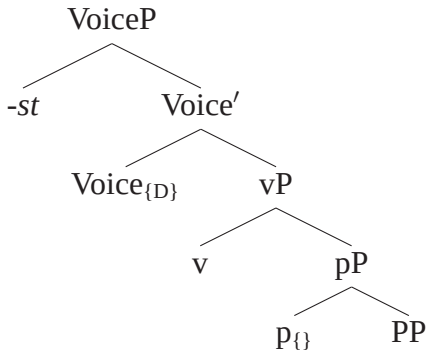
(297) a.



b.



c.



The structure in (297a) presumably underlies the "impersonal active constructions" in sentences like (298), discussed in some detail in Sigurðsson (1989).

(298) a. Nú slokknar á báðum kertunum.
now goes-out on both candles.the
'Now, both the candles go out.' (Sigurðsson 2011:26)

b. Það logaði á kertinu.
EXPL flamed on candle.the
'The candle flamed.' (Sigurðsson 1989:285)

c. Það klingir í henni.
EXPL rings in it
'It rings.' (i.e. the bell). (Sigurðsson 1989:290)

The pP in these cases is an argument, not an adjunct. It cannot be omitted, as shown in (299a), and cannot be questioned with *hvar* 'where', as shown in (299b).[24]

(299) a. * Nú slokknar.
now goes-out

b. * Hvar slokknaði?
where went-out

Again, there is no figure argument for the pP in the sentences in (298) (other than perhaps the event itself). They express an event which takes place with respect to the locative relation introduced in the pP. No DP arguments are licensed in the verbal domain. Sentences like these are thus good candidates for instantiating the structure in (297a), with $\text{Voice}_{\{\}}$ and $\text{p}_{\{\}}$ together.

Similarly, the sentences in (300) involve one of (297b) and/or (297c). (300a) says that there was a spilling event, and (300b) says that there was an event of scrunching on the collar.

(300) a. Það helltist niður.
EXPL spilled-ST down
'There was a spill.' (Ottósson 1986:108)

b. Það brettist upp á kragann.
EXPL scrunched-ST up on collar.the.ACC
'My collar scrunched up.' (Ottósson 1986:108)

[24] According to Ásgrímur Angantýsson, the examples in (299) might be possible if the argument is contextually salient enough; this seems to involve an implicit DP argument, and does not reflect the normal optionality of locative pP modifiers.

It is not straightforwardly obvious where -*st* comes from, since both Voice and p are thematically expletive. In (300a), it is probably in SpecVoiceP, since the root $\sqrt{\text{HELL}}$ 'pour/spill' may also appear in a thematic anticausative with the same basic root meaning, where it is clear that -*st* is in SpecVoiceP, as shown in (301a-b). Similarly, if (300b) reflected the structure in (297b), we might expect -*st* to be retained in the active sentence (making it like *hæðast* 'mock' in (291b) above). However, it is not, as shown in (301c). Both sentences in (300a-b) thus probably reflect the structure in (297c).

(301) a. Þeir helltu mjólkinni niður.
they.NOM spilled milk.the.DAT down
'They spilled the milk.'

b. Mjólkin helltist niður.
milk.the.NOM spilled-ST down
'The milk spilled.' (Thráinsson 2007:289)

c. Jón bretti(*st) upp á kragann.
John scrunched up on collar.the.ACC
'John scrunched up his collar.'

I do not know of any clear instances of (297b). For now, I can only say what sort of pattern we might expect if there were genuine instances of (297b). We might expect a root to appear in two distinct -*st* structures, one with a thematic subject, and one with no thematic subject. That is, we might expect (302), only with a grammatical (302b).

(302) a. Nú hæðist hann að mér.
now mocks-ST he at me
'Now he mocks me.'

b. * Nú hæðist að mér.
now mocks-ST at me
INTENDED: 'Now there's mocking of me.'

The closest I have come to finding this pattern involves a weather-use of the verb *snúast* 'turn', shown in (303).

(303) a. Þá snérist hann til norðanáttar.
then turned-ST he to north.winds
'Then the winds turned northward.' (Halldór Sigurðsson p.c.)

b. Þá snérist til norðanáttar með snjókomu.
then turned-ST to north.winds with snowfall
'Then the winds turned northward with the snowfall.'[25]

The *hann* 'he' in (303a) is a kind of weather pronoun which some speakers can use, and which differs from ordinary weather expletive constructions semantically, according to Thráinsson (1979:252), "and is perhaps to be understood as referential (referring to the weather god or whoever it is that governs the weather)." The analysis of this pronoun and weather constructions in general would need to be worked out to determine the relevance of the sentences in (303) to the present discussion, but if the "weather *hann* 'he'" is an external argument, and if (303b) has no null weather pronoun for an external argument, then (303b) might be an instance of (297b). Other than this possibility, I leave it as an open question whether the structure in (297b) is attested, and if not, why not.

4.4 Summary

In this chapter, I have argued that the pP domain is syntactically parallel to the VoiceP domain. It involves an argument-introducing head p, which, like Voice, may be specifier-less. If p does take a specifier, the *-st* morpheme can still be used to prevent a referential DP from merging in SpecpP, exactly as in VoiceP. The pP domain differs, however, in that p is not the highest argument-introducing head. Therefore, p is able to introduce the figure role even when there is no DP in SpecpP capable of bearing that role. In this situation, the role remains unsaturated all the way up to Voice′. Since Voice itself introduces an agent role, Voice combines with the vP in such a way that the entity in SpecVoiceP saturates

[25] http://www.vedur.is/media/vedurstofan/utgafa/greinargerdir/2002/02034.pdf

both the agent and the figure role simultaneously. This thus forms a complex predicate that has a reflexive-like semantics.

This reflexive-like semantics is, however, distinct from the semantics derived by using a reflexive pronoun. This is therefore an interesting area to investigate how the semantic properties of roots interact with the event structure they are embedded in. I have proposed that the interpretation of roots is affected by the syntactic properties of the v they attach to (e.g. transitive or intransitive) along with the semantics of the event structure built by the interpretation of the functional elements. When this conditioning of root meaning is separated from the semantics of the structure, it becomes clear that we cannot diagnose the "systematicity" (or regularity, productivity, etc.) of some structure on the basis of whether the root is interpreted identically in some other structure. The general difference between -*st* in VoiceP and -*st* in pP is expected: in the former case, the semantics of the vP are the same regardless of whether -*st* is merged, whereas merging -*st* in SpecpP has an effect on the event structure which is reflected in root interpretation. The structures themselves, however, are completely systematic.

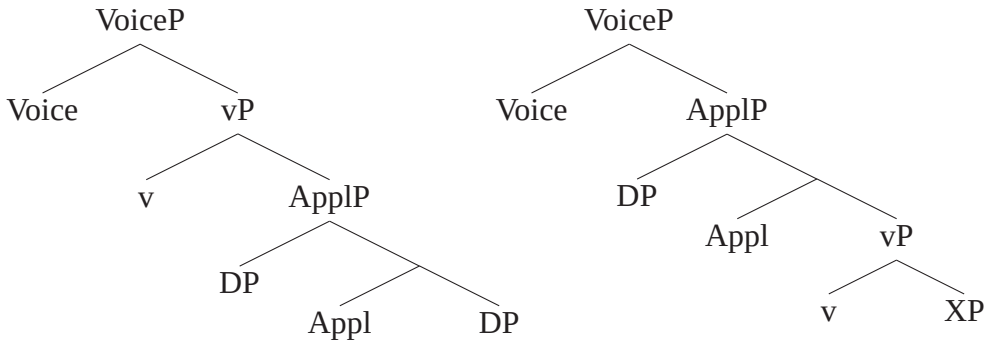
Finally, I have proposed that like Voice, p can be interpreted as semantically null. When this happens, the overall interpretive effect is even more dramatic; pP is no longer an open predicate, so v is no longer interpreted as causative, and the roots that appear with v will be activities or states. This account correctly predicts that VoiceP and pP can both be semantically null at the same time, though it is an open question whether there exist structures with $\text{Voice}_{\{\}}$ along with $p_{\{D\}}$+-*st* simultaneously.

Chapter 5

Applicatives and Applied Datives

In this chapter, I discuss a variety of structures which involve an Appl(icative) head, which introduces various kinds of arguments cross-linguistically. In Pylkkänen (2002, 2008), Appl is argued to come in at least two places in the clause. A "low" Appl relates two DP arguments, often in a possessive relation, while a "high" Appl relates a DP in its specifier to a vP in its complement. This is schematized below.

(304)



In case-marking languages, applied arguments very often show up in dative, genitive, or some possessive case. In Icelandic, many or most show up as dative. Applied arguments can bear a variety of thematic roles, including experiencer and recipient roles, as well as various so-called "affected" roles, such as benenficiary, maleficiary, etc.

In studying applicative structures in Icelandic, we gain further insight into two major themes of this thesis. The first is in terms of "valency reduction"; I will show that the case-marking properties of dative-nominative constructions are connected to a major gap in the class of *-st* verbs. Nevertheless, I will also argue that like Voice and p, Appl can be merged without a specifier and have an effect on the thematic interpretation of the DP argument in SpecVoiceP. The second major theme of this thesis for which applicative structures are relevant involves the interpretation of DP arguments. I will argue that well-known but hitherto ill-understood thematic constraints on the nominative object of dative-nominative constructions can be derived by assuming that, as discussed in chapter 3, DPs can be—and in some environments, must be—interpreted as stative eventualities. This interpretive restriction on themes in applicative structures, in turn, can be connected to systematic differences between the applicative systems of Icelandic and German, where only German has so-called "high applicatives", but where Icelandic nevertheless possesses the semantics of high applicatives.

In §5.1, I situate Icelandic within the basic typology of applicative constructions. I show that Icelandic does not have high applicatives, but show that when DPs are interpreted as states, a syntactically low applicative can be interpreted as a high applicative; I refer to these constructions as "high-low" applicatives. In §5.2, I show that *-st* cannot merge in SpecApplP, and connect that to the case-marking properties of Appl. I then argue that specifierless Appl is attested in Icelandic, and can be detected on the basis of transitivity alternations as well as thematic properties of the external argument of verbs like *læra* 'learn'. Finally, in §5.3, I revisit the high-low applicative analysis and show how it can derive restrictions on the nominative object of dative-nominative psych-verbs.

5.1 A Typology of Icelandic Applicatives

In Pylkkänen (2002, 2008), there are semantically two basic types of Appl head. A high applicative relates an entity to an event by some relation, and has the basic form:

(305) $[\![\text{Appl}_{\text{RELATION}}]\!] = \lambda x_e.\lambda e_s.\ \textsc{relation}(e,x)$

In a sense, then, Voice is an Appl head as well, in that it is semantically the same sort of element. Compare, for example, a benefactive Appl with agentive Voice.

(306) a. $[\![\text{Appl}_{\text{BEN}}]\!] = \lambda x_e.\lambda e_s.\ \textsc{beneficiary}(e,x)$

b. $[\![\text{Voice}_{\text{AGT}}]\!] = \lambda x_e.\lambda e_s.\ \textsc{agent}(e,x)$

One difference between Appl and Voice is that Appl frequently assigns a specific case to its specifier, dative in Icelandic.[1] Semantically, however, Voice and a high Appl are very similar.

I should note here that another approach to the semantics of Voice, in Bruening (2010a), for example, avoids Event Identification, but rather defines the denotation of Voice in such a way that the exact same effect of Event Identification is achieved with Functional Application. The same could be done with Appl, as shown in (307).

(307) a. $[\![\text{Voice}]\!] = \lambda P_{\langle s,t\rangle}.\lambda x.\lambda e.\ P(e) \wedge \textsc{agent}(x,e)$

b. $[\![\text{Appl}]\!] = \lambda P_{\langle s,t\rangle}.\lambda x.\lambda e.\ P(e) \wedge \textsc{beneficiary}(x,e)$

This distinction makes no difference here, where one relation is added to one event. However, in the denotation of experiencers, we have reason to exploit a denotation more like (307), as discussed in §5.3. Where possible, I will stick to the simpler denotations for

[1] However, if ergative case is, in some languages, a case assigned by Voice to its specifier (cf. Legate 2008), then this might not be a qualitative difference between the two heads. Still, individual languages exploit case to distinguish between arguments introduced by Appl and Voice.

Voice and Appl and combine them with their complements by Event Identification (or Predicate Conjunction).

Unlike high Appl and Voice, a low Appl relates two entities, in a possessive relation. The semantics for this head may vary from analysis to analysis, but it is always quite different from that of the high Appl. In Pylkkänen (2002, 2008), the low recipient Appl has the following denotation.

(308) Pylkkänen (2002, 2008)

$[\![\text{Appl}_{\text{TO}}]\!] = \lambda x_e.\lambda y_e.\lambda f_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.$ f(e,x) $\wedge$ theme(e,x) $\wedge$ to-the-possession(x,y)

This takes two entity argumets, x and y in the formula above, and returns something like a quantifier, in that it takes an open predicate of entities (and events) as its argument. I will return to the semantics of low Appl below.

In this thesis, I adopt the tradition that the indirect object is externally merged in SpecApplP (see Marantz 1989, 1993, 2009a,b; Pylkkänen 2002; Cuervo 2003; Anagnostopoulou 2003; Schäfer 2008; McGinnis 2008; Bosse et al. 2010; among many others). This might be contrasted with the tradition in which the indirect object object moves into SpecApplP, or that it originates lower than the theme (cf. Den Dikken 1995; Kayne 2004b; Michelioudakis 2011). There are a number of subquestions here; one is whether the position an indirect object surfaces in is the same as the position it is generated it (cf. Michelioudakis 2011:2, citing Kayne 2010a). This is more or less orthogonal to my concerns, but I assume that it generally does move in the way that external arguments also move. A second question is how local the relation is between the dative and theme; for low applicatives, the base-generated relation is a very local relation; whether this is very different from the view that it originates inside the theme DP might involve the question of whether or not the low Appl is or is like a “D”-type head categorially (cf.

Kayne 2010a; see the discussion in §1.1.2). A third question is whether the dative is base generated higher or lower than the theme; here, I think the empirical evidence points very strongly to the conclusion that the dative is base-generated higher, though I will not go into the matter further here, and it may be orthogonal to the points about interpretation anyway (see Collins and Thráinsson 1996; Bruening 2010b; and Wood and Sigurðsson 2012 for some discussion).

5.1.1 High Applicatives

In this section, I argue that there is no evidence that Icelandic has a high applicative structure. This conclusion will form the basis of the analyses that follow. That is, lacking a high applicative structure, Icelandic is forced to use the low applicative structure for applicative constructions, even when the semantics of a high applicative are needed. This in turn correctly predicts certain thematic restrictions on the theme of such constructions.

Languages like German have high applicatives, as shown by examples such as (309). In this example, a verb taking a pP complement with a direct object figure (*sein Auto* 'his car') takes an additional argument which takes on a beneficiary role.

(309) Otto schob [**Anna**] [sein Auto] [in ihre Garage]
Otto pushed Anna.DAT his car in her garage
'Otto pushed his car into Anna's garage for her.' (Brandt 2003:164)

Applied datives of this sort have sometimes been referred to as 'free datives' in the Germanic literature. Icelandic, however, does not seem have 'free datives' of the German sort, and its benefactives are far more restricted than German or even English, as has been noted in the literature (see Holmberg and Platzack 1995:201-204; Jónsson 2000a:78-80; Maling 2002b:20-23; Tungseth 2007; Thráinsson 2007:219). Thus, sentences of the sort in (309) are not possible in Icelandic, as shown in (310).

(310) Bjartur ýtti (***Önnu**) bílnum inn í skúrinn.
Bjartur pushed (***Anna.DAT**) car.the.DAT into garage.the

Some further examples showing a contrast between German and Icelandic are presented in (311-313), with German in the (a) examples and Icelandic in the (b) examples.

(311) a. Der David hat [**mir**] [der Claudia] schon [zu viele Komplimente]
The David has me.DAT the.DAT Claudia already too many compliments
gemacht
made
'In my view, David has already paid Claudia too many compliments.'

(Steinbach 2002:253)

b. Davíð hefur nú þegar slegið (***mér**) Maríu
David has already paid (***me.DAT**) Mary.DAT
of marga gullhamra.
too many complements

(312) a. Hans hat [**seinem Bruder**] [das Buch] [auf den Tisch] gelegt
Hans has his.DAT brother the.ACC book on the table put
'Hans put the book on someone's table for his brother.'
'Hans put the book on his brother's table.'
'Hans put the book for his brother on someone's table.' (Steinbach 2002:253)

b. Jón hefur látið **(*bróður sínum)** bókina á borðið.
John has put (***his brother.DAT**) book.the.ACC on table.the

(313) a. Hilf [**mir**] bitte mal [deinem Vater] in der Küche
Help me.DAT please particle your.DAT father in the kitchen
'I want you to help your father in the kitchen, please.'

b. Hjálpaðu (***mér**) föður þínum í eldhúsinu.
help.IMP.2SG (***me.DAT**) father your.DAT in kitchen.the.DAT

The presentation of these facts is not intended to imply that German 'free' datives are really 'free', or that there are no restrictions on them. The point is that the German facts present a case of what we expect from a language with dative-marked high applicatives. Icelandic does have some benefactive and malefactive datives, but evidently not of the German sort; I will return to them below.

Another difference between Icelandic and German follows from the absence of high applicatives in Icelandic and the presence of high applicatives in German. This involves so-called 'unintentional causer' constructions, briefly introduced earlier in §3.4.1. In such constructions, an additional dative argument is added to a change-of-state unaccusative, resulting in a meaning where the argument was affected by or unintentionally involved in causing the change-of-state event. This is shown for German in the example in (314).

(314) **dem** **Hans** zerbrach die Vase
the.DAT Hans broke the vase
'The vase broke and Hans unintentionally caused this.' (Schäfer 2008:107)

Again, Icelandic cannot use dative DPs in this way. This semantic relation can still be expressed, but a preposition *hjá* 'by/at' is necessary, as shown by the contrast in (315).

(315) a. * Jóni splundraðist rúðan.
John.DAT shattered window.the.NOM
INTENDED: 'John accidentally caused the window to shatter.'

b. Rúðan splundraðist hjá Jóni.
window.the.NOM shattered by/at John.DAT
'John accidentally caused the window to shatter.'

Focusing on Spanish, Cuervo (2003) argued that unintentional causers are high applicative constructions, where the complement of Appl is a change-of-state vP, and where no external argument is introduced. Schäfer (2008) proposes a similar analysis, although he puts the Appl head even higher, arguing that it takes a VoiceP complement.[2] Either way, these facts and the benefactive/malefactive facts above are accounted for if Icelandic does not have the high applicative structure. I will not propose an analysis for the lack of high applicatives in this thesis (see Wood 2010b for a proposal). What is important here is

[2]This decision is based in part on his analysis of a restriction on unintentional causers in German, where the unintentional causer reading disappears if an anticausative is marked with a reflexive, and in part on the assumption that Appl might disrupt the the relation between Voice and v.

establishing the premise that for some reason, Icelandic does lack high applicatives of the German sort.

5.1.2 Low Applicatives

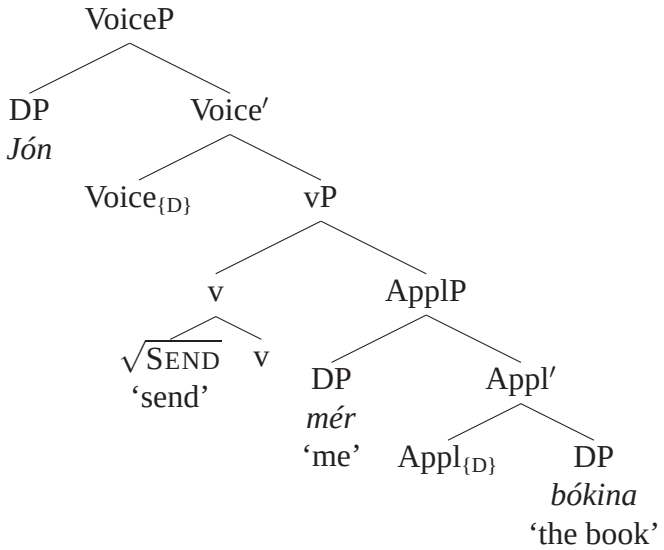
Icelandic does have standard low applicatives, in sentences like the following.

(316) a. Jón gaf mér bókina.
John.NOM gave me.DAT book.the.ACC
'John gave me the book.'

b. Jón sendi mér bókina.
John.NOM sent me.DAT book.the.ACC
'John sent me the book.'

These have the structure in (317).[3]

(317)



[3]Researchers differ in what they take the categorial nature of Appl to be. Harley (1995) proposes that low Appl is a kind of preposition (similar to Pesetsky 1995); Legate (2002) proposes that a low Appl is prepositional while a high Appl is verbal; Johnson (1991) proposes that low Appl (or rather abstract HAVEP) is a kind of DP. In the present thesis, these issues do not make a major difference, but there are reasons to assume that at least argument introducers like high Appl and Voice have important properties in common with certain prepositions, as proposed in Wood (2010b).

Here, Appl takes a DP complement and a DP specifier, and semantically, introduces a relation between them, in this case a possessive relation. The semantics of the low applicative proposed in Pylkkänen (2002, 2008) are repeated in (318).

(318) Pylkkänen (2002, 2008)

$$[\![\text{Appl}_{\text{TO}}]\!] = \lambda x_e.\lambda y_e.\lambda f_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.\ f(e,x) \wedge \text{theme}(e,x) \wedge \text{to-the-possession}(x,y)$$

What is important here is that the first two arguments are both of type e; Appl relates two entites in some possessive relation. However, the exact denotation proposed by Pylkkänen (2002, 2008) does not lend itself to a bi-eventive semantics, which was shown by Beck and Johnson (2004) to be necessary on the basis of the ambiguous scope of modifiers like 'again' (cf. von Stechow (1996); see also §3.4.1). What is needed is a stative relation between the two entities such that v can introduce a causing event that causes that relation. One possibility is to posit an abstract 'have' relation (Harley 1995):

(319) Bruening (2010b:550)

$$[\![\text{Appl}]\!] = \lambda x_e.\lambda y_e.\lambda s_s.\ \textsc{have}(s) \wedge \textsc{theme}(x,s) \wedge \textsc{possessor}(y,s)$$

It may be that 'have' is not quite the right notion for the relation, either, since ditransitives do not entail successful possession. For example, it is not a contradition to say, "John threw me the ball but I didn't catch it." However, despite not entailing that I actually come to have the ball, there is a sense in which it is "my ball" as soon as it is thrown to me. It is the ball that has been allocated to me, which I am now responsible for. In baseball, for example, when a ball is in the air and someone should catch it, one player typically shouts, "I got it" or, "It's mine!" to claim responsibility over (catching) the ball. This is the intuition behind the denotation in Pylkkänen (2002, 2008) which has the predicate "to-the-possession" rather than 'have'. Since expressions like *That was my ball* do not entail that I could ever truthfully say, "I have the ball", it seems that the possessive

relation introduced by low Appl is on par with the relations introduced by DP-internal possessive morphology in English. For these reasons, I will use the relation "POSS" to denote this kind of possessive relation. I will present this as a single predicate, since there is nothing at stake here requiring seperate predicates for each argument. This thus says that s is a state of x possessing y.

(320) $[\![\text{Appl}]\!] = \lambda x_e.\lambda y_e.\lambda s_s.\ \textsc{poss}(x,y,s)$

What is ultimately important for the present analysis is that low Appl, semantically, involves two entity arguments in a relation to one another. The interpretation of (317), then, will be as in (321).

(321) a. $[\![\text{Appl}]\!] \leftrightarrow \lambda x_e.\lambda y_e.\lambda s_s.\ \textsc{poss}(x,y,s)$

b. $[\![\text{Appl}']\!] = \lambda y_e.\lambda s_s.\ \textsc{poss}(\text{the book},y,s)$

c. $[\![\text{ApplP}]\!] = \lambda s_s.\ \textsc{poss}(\text{the book},\text{Hlynur},s)$

d. $[\![\text{v}]\!] \leftrightarrow \lambda P_{\langle s,t\rangle}.\lambda e_s.\exists e'_s.\ P(e') \wedge \sqrt{\textsc{send}}(e) \wedge \textsc{cause}(e',e)$

e. $[\![\text{vP}]\!] = \lambda e_s.\exists e'_s.\ \textsc{poss}(\text{the book},\text{Hlynur},e') \wedge \sqrt{\textsc{send}}(e) \wedge \textsc{cause}(e',e)$

$\approx$ 'The set of 'sending' events which caused the book to be Hlynur's book.'

(e) comes from (c) and (d) by Functional Application

f. $[\![\text{Voice}]\!] \leftrightarrow \lambda x_e.\lambda e_s.\ \textsc{agent}(x,e)$

g. $[\![\text{Voice}']\!] = \lambda x_e.\lambda e_s.\exists e'_s.\ \textsc{agent}(x,e) \wedge \textsc{poss}(\text{the book},\text{Hlynur},e') \wedge \sqrt{\textsc{send}}(e) \wedge \textsc{cause}(e',e)$

(g) comes from (e) and (f) via Event Identification

h. $[\![\text{VoiceP}]\!] = \lambda e_s.\exists e'_s.\ \textsc{agent}(\text{Jón},e) \wedge \textsc{poss}(\text{the book},\text{Hlynur},e') \wedge \sqrt{\textsc{send}}(e) \wedge \textsc{cause}(e',e)$

$\approx$ 'The set of 'sending' events for which Jón is the agent and which caused the book to be Hlynur's book.'

The possessor alloseme of Appl is selected, so it combines with its entity-denoting DP arguments by Functional Application. Since ApplP then denotes a state, the cause alloseme of v is selected, such that the vP denotes the set of events which caused the state of Hlynur possessing the book. Voice introduces the agent relation, and adds the information that Jón was the agent of the causing event.

5.1.3 High-Low Applicatives

Despite not having high applicatives, Icelandic does have some benefactive and malefactive datives. It is generally thought that Icelandic is more restricted than even English, let alone German, in that even with creation verbs like *baka* 'bake', an indirect object beneficiary must be coreferential with the subject.

(322) a. Ég bakaði **mér** köku.
I.NOM baked me.DAT cake.ACC
'I baked myself a cake.'

b. ?? Ég bakaði **mömmu minni** köku.
I.NOM baked my mom.DAT cake.ACC
'I baked my mom a cake.' (Holmberg and Platzack 1995:202)

I will not tackle the issue of deriving this coreferential restriction on certain indirect objects in this thesis, interesting though it is.

Some caution is in order, however, in evaluating just how distinct Icelandic really is with respect to restrictions on benefactive indirect objects. First, there is some speaker variation as to which verbs this restriction applies to. Second, while there is no doubt that Icelandic has the interesting property in (322) for a sizeable class of verbs, Maling (2002a,b) points out that it is difficult to assess just how much "more restricted" Icelandic is than English, since the class of verbs allowing benefactives and malefactives in Icelandic is not simply a subset of the class of verbs allowing them in English. Rather,

they are disjoint, so Icelandic has benefactive ditransitives that do not correspond to a ditransitive construction in English, such as with *auðvelda* ‘facilitate’.

(323) Þetta tæki auðveldar okkur störfin.
this tool facilitates us.DAT jobs.the.ACC
‘This tool makes the jobs easier for us.’ (Jónsson 2000a:79)

Since Icelandic is not simply a “thematic subset” of English in this domain, it is not clear how to assess the productivity of this construction; counting the number of relevant verbs hardly seems like a syntactically insightful route.

Moreover, there are a number of creation-like verbs which, unlike *baka* ‘bake’, do allow a non-coreferent indirect object dative. Examples of this include *blanda* ‘mix’ and *skenkja* ‘pour’, as shown in (324).

(324) a. Jón blandaði Maríu drykk.
John mixed Mary.DAT drink.ACC
‘John mixed Mary a drink.’

b. Jón skenkti mér drykk.
John poured me.DAT drink.ACC
‘John poured me a drink.’

Many (but not all) benefactive and malefactive datives that do allow non-reflexive beneficiaries involve eventive or event-like themes, or are idiomatic (Maling 2002a:51-2).

(325) a. Myrkrið torveldaði þeim **leitina**.
darkness.the.NOM made-difficult them.DAT search.the.ACC
‘The darkness made the search more difficult for them.’

b. Við gerðum henni **grikk**.
we.NOM did her.DAT trick.ACC
‘We played a trick on her.’ (Thráinsson 2007:219)

See Maling (2002a:51-2) and Jónsson (2000a:93-4) for more examples of benefactive indirect objects.

What is especially interesting about benefactive indirect objects in languages like Icelandic and English is that they have many of the properties of high applicatives. First, their thematic interpretation is like that of high applicatives. Second, they are very often non-obligatory with a given verb, unlike many low applicatives but like high applicatives. Third, they are in an intuitive sense not part of the 'core' meaning of the verb. For a verb like 'give', a recipient is part of what we think of as a giving event, whereas with a verb like 'bake', there may or may not be a beneficiary.

For these and other reasons, Marantz (2009a,b) has argued that benefactives of the English (and, by extension, Icelandic) sort involve a kind of "high-low" applicative. The idea is based on the claim that in certain configurations, such as with change-of-state and creation verbs, direct object DPs can be coerced to be interpreted as eventualites (states or events). The applicative then takes this eventive DP as a complement and relates its second argument to that event. It is semantically like a high applicative in that it applies an argument to an event, and it is syntactically like a low applicative in that it takes a DP complement.

(326)

	Type	Complement Category	Syntactically	Semantically
a.	High	vP	High	High
b.	High-Low	DP	Low	High
c.	Low	DP	Low	Low

Two types of eventive DPs have been proposed in the literature. First, there are various kinds of event nominals, where the noun itself denotes an event. Some are morphologically simple, such as *trip* or *party*, and others are more complex and arguably derived from verbs, such as *attainment* and *removal* (see Alexiadou and Grimshaw 2008, Kayne 2008a and references therein). A sentence such as *The trip only took 10 minutes* shows the eventive meaning of *trip*; by contrast, a sentence such as *The shirt only took 10 minutes* is

odd unless we coerce *shirt* to refer to 'an event having to do with the shirt' (e.g. making it, repairing it, folding it, etc.). This kind of coercion leads to the second kind of eventive DP. Marantz (2009a,b) proposes that in creation and change-of-state verb phrases with a single direct object, the object is interpreted as an event. For example, the object DP in (327a) is interpreted as a stative subevent of a house existing; the object DP in (327b) is interpreted as a stative subevent of the wall being clean.

(327) a. John built a house.

→ *build* ***a house*** = 'engage in a building activity, causing a house to exist'

b. John cleaned the wall.

→ *clean* ***the wall*** = 'engage in some activity, causing the state of the wall be a clean state'

The claim is that this is similar to coercions with verbs such as *begin*, where *begin the book* means to begin an event having to do with the book (e.g. writing it, reading it, etc.).

There are a number of ways to operationalize this kind of analysis. One would be to assume that some element in a DP may or may not be involved in taking an entity and converting it into an event. Then, this element will be present or absent depending on the properties of the verb around it. A second, related idea, in the spirit of Cuervo (2003), would be to posit a null stative v (e.g. v_{BE}), and give it the ability to take a DP and return a state. A 'high-low' applicative would then be an Appl that takes this stative vP complement. A third way would be to assume that DPs generally have the option of being interpreted as states (or perhaps dynamic events, in some cases), and that whether or not this applies depends on the semantic properties of the elements around them. As in chapter 3, it is this third option that I will pursue here.

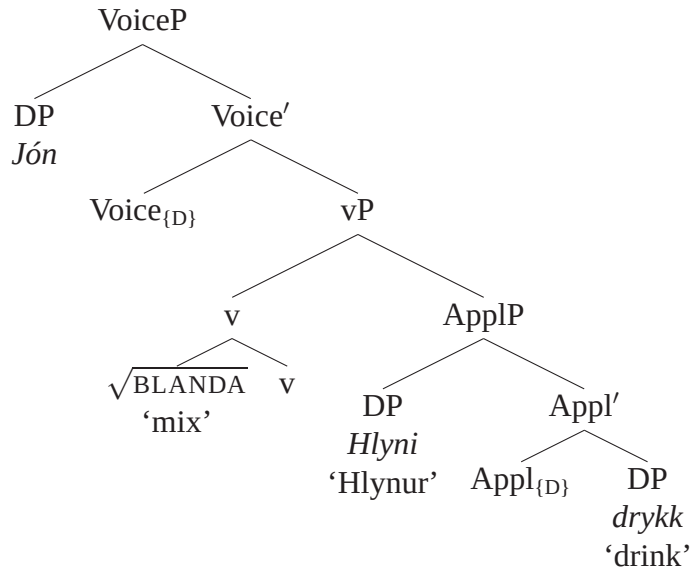
Thus, we have a kind of type-shifting rule applied to a DP with the following result.

(328) $[\![\text{DP}]\!] \rightarrow \textsc{state}([\![\text{DP}]\!]) = \lambda s_s.\ \text{state(s,DP)}$

$\approx$ 'the set of states s such that the state of DP is s'

Given this, a DP can be embedded in a syntactically low applicative structure, while allowing Appl to have the same semantics as a syntactically high applicative.

(329)



Focusing on the semantics of ApplP, this provides the following result.

(330) a. $[\![\text{Appl}]\!] \leftrightarrow \lambda x_e.\lambda s_s.\ \textsc{beneficiary}(x,e)$

b. $[\![\text{'drink'}]\!] = \lambda s_s.\ \text{state(s,drink)}$

c. $[\![\text{Appl}']\!] = \lambda x_e.\lambda s_s.\ \textsc{beneficiary}(x,e) \wedge \text{state(s,drink)}$

(c) comes from (a) and (b) via Event Identification

d. $[\![\text{ApplP}]\!] = \lambda s_s.\ \textsc{beneficiary}(\text{Hlynur},s) \wedge \text{state(s,drink)}$

$\approx$ 'Hlynur is the beneficiary of the state of the drink'

The semantics here could be refined by probing what it means to be a beneficiary or what restrictions there are on being the 'state of the drink'. For present purposes, however, this much will suffice. The state of the drink can be thought of as being in a drinkable state or perhaps simply the state of existing. That is, we might think of this as meaning,

‘John mixed and made a drink exist, to Hlynur’s benefit’ or ‘John mixed and changed the drink to a drinkable state, to Hlynur’s benefit’. To some extent, this will depend on how formally specific we want coercion rules to be. For present purposes, it suffices to show that coercing a DP to be interpreted as a state derives a semantically ‘high’ applicative from a syntactically ‘low’ applicative. This may then form the semantic argument for the causative v.

(331) a. $[\![\text{v}]\!] \leftrightarrow \lambda \text{P}_{\langle s,t \rangle}.\lambda \text{e}_s.\exists \text{e}'_s.\ \text{P}(\text{e}') \wedge \sqrt{\textsc{Blanda}}(\text{e}) \wedge \textsc{cause}(\text{e}',\text{e})$

b. $[\![\text{vP}]\!] = \lambda \text{e}_s.\exists \text{e}'_s.\ \textsc{beneficiary}(\text{Hlynur},\text{e}') \wedge \text{state}(\text{e}',\text{drink}) \wedge \sqrt{\textsc{Blanda}}(\text{e}) \wedge \textsc{cause}(\text{e},\text{e}')$

$\approx$ ‘The set of (‘mixing’) events e that caused the state of the drink to be e′ and Hlynur is the beneficiary of e′

The issues that arise in the analysis of ditransitive high-low applicatives are quite similar for English and Icelandic. However, we will see below that the same sort of issues seem to arise for a number of dative-nominative constructions, which are derived with either $\text{Voice}_{\{\}}$ or with $\text{Voice}_{\{\text{D}\}}$ plus -*st*. There are interesting thematic restrictions on many nominative arguments which support an analysis which takes Icelandic dative-nominative constructions to involve syntactically low applicatives, which can or must sometimes be interpreted as semantically high applicatives. Before turning to these cases, however, I turn first to recipient ditransitives and their ability to form a sort of anticausative, deriving a dative-nominative construction.

5.2 “Valency Reduction” of ApplP

5.2.1 Anticausatives of Ditransitives

In light of the previous analysis of anticausatives, consider the following alternations (Sigurðsson 1989:270, 2012b:31; Jónsson 2000a:89; Thráinsson 2007:290-292).

(332) a. Fólk **leyfði** **þeim** alla hluti.
people.NOM allowed.3SG them.DAT all things.ACC
‘People allowed them all things.’

b. **Þeim** voru leyfðir allir hlutir.
them.DAT were.3PL allowed all things.NOM
‘They were allowed all things.’

c. **Þeim** **leyfðust** allir hlutir.
them.DAT allowed.3PL-ST all things.NOM
‘They got allowed all things.’ (Thráinsson 2007:291)

(333) a. Þeir **fyrirgáfu** **honum** alla glæpina.
they.NOM forgave.3PL him.DAT all crimes.the.ACC
‘They forgave him all his crimes.’

b. **Honum** voru fyrirgefnir allir glæpirnir.
him.DAT were.3PL forgiven all crimes.the.NOM
‘He was forgiven all his crimes.’

c. **Honum** **fyrirgáfust** allir glæpirnir.
him.DAT forgave.3PL-ST all crimes.the.NOM
‘He got forgiven all his crimes.’ (Thráinsson 2007:290)

(332) and (333) show that a passive or the *-st* morpheme can derive a dative-nominative construction related to the active ditransitive. Sigurðsson (1989:270) shows that the *-st* variant differs from the passive variant in disallowing agentive modifiers. Note that the agentive modifier in (334b) modifies the implicit agent.

(334) a. Jón gaf mér þetta tækifæri.
John.NOM gave me.DAT this opportunity.ACC
‘John gave me this opportunity.’

b. Mér var gefið þetta tækifæri (viljandi).
me.DAT was given this opportunity.NOM (intentionally)
'I was given this opportunity willingly.'

c. Mér gafst þetta tækifæri (*viljandi).
me.DAT gave-ST this opportunity.NOM (*intentionally)
'I got this opportunity.' (Sigurðsson 1989:270)

It is worth noting that the ditransitive verbs that alternate with an *-st* variant also allow eventive external arguments, and that the causing event can be named in the *-st* variant with a PP.

(335) a. Stofnun fyrirtækisins gaf mér ný tækifæri.
founding.NOM company.GEN gave me new opportunities
'The founding of the company gave me new opportunities.'

b. Mér gáfust ný tækifæri við stofnun fyrirtækisins.
me.DAT gave-ST new opportunities at founding.ACC company.GEN
'I got new opportunities upon the founding of the company.'

Jónsson (2000a:89) provides a list of ditransitives which correspond to a dative-subject *-st* verb in this way, repeated in Table 5.1.

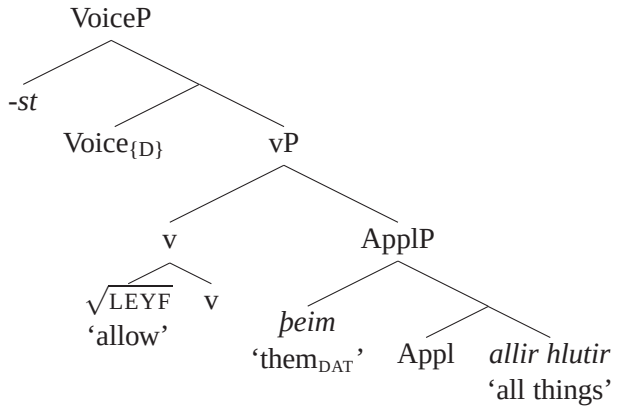
The analysis of these alternations in the present system is straightforward. The interaction of *-st* and Voice^0 is exactly as in anticausatives. The only difference is that the dative indirect object, merged in the specifier of a low Appl^0 in both the active and the anticausative cases, moves to the subject position when *-st* is merged in SpecVoiceP, since it is the closest DP to higher, c-commanding positions.

Table 5.1: Ditransitives and *-st* marked DAT-NOM verbs

Ditransitive		Dative Subject	
bera	‘carry’	berast	‘receive’
bjóða	‘invite’	bjóðast	‘be offered’
fyrirgefa	‘forgive’	fyrirgefast	‘be forgiven’
fæða	‘give birth’	fæðast	‘be born to’
gefa	‘give’	gefast	‘be given’
leggja til	‘provide’	leggjast til	‘get’
leyfa	‘permit’	leyfast	‘be permitted’
líða	‘tolerate’	líðast	‘be tolerated’
opna	‘open’	opnast	‘be opened’
veita	‘give’	veitast	‘be given’

(Jónsson 2000a:89)

(336)



This structure plausibly underlies verbs such as those in (337). As pointed out in Jónsson (2000a:89), these differ from the verbs above in that there is no active, ditransitive counterpart. In some cases, these are somewhat idiomatic, such as the example in (337b).

(337) a. Mér áskotnuðust fjórir gullpeningar
me.DAT acquired-ST four gold.medals.NOM
‘I got four gold medals (by some luck/coincidence).’ (Sigurðsson 2009b:264)

b. Henni tæmdust margir arfar.
her.DAT emptied-ST many inheritances.NOM
‘She got many inheritances.’ (Sigurðsson 1996:27)

Here, however, we have the same issue that we saw in §3.4.5 with respect to anticausative 'inherent' -*st* anticausatives. That is, there is nothing particularly special to say about them that we do not already have to say about anticausatives.

5.2.2 *-*st* in SpecApplP

In the present approach, whenever -*st* is merged lower than Voice, it should be possible (in principle) to form a reflexive -*st* verb. The restricted nature of reflexive uses of -*st* discussed in §2.1.1, then, should be relatable to properties of argument positions lower than Voice. So far, we have seen that -*st* may merge in SpecVoiceP and SpecpP. On the basis of examples such as (338), it is fair to say that -*st* generally may not merge in the direct object position.

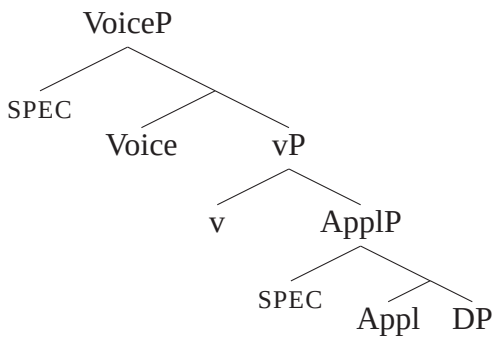
(338) a. Jón { ***barðist** / barði sjálfan sig }
John { *beat-ST / beat self REFL }
'John beat himself.'

b. Jón { ***rakaðist** / rakaði sig. }
John { *shaved-ST / shaved REFL }
'John shaved himself.'

c. Jón { ***hegðast** / hegða sér } vel.
John { *behaves-ST / behave REFL } well
'John behaves well.'

Given the structure of indirect objects adopted above, we might expect -*st* to be able to merge in the specifier of Appl^0, a head which shares with Voice^0 and p^0 that it introduces an extra argument into the structure via its specifier.

(339)



If a sentence were derived with *-st* in SpecApplP, we would expect it to have the following properties. It would have a nominative subject with an accusative object (or dative/genitive direct object); the subject could be agentive and also bear a recipient or "affected" role in addition (e.g. beneficiary or maleficiary); for some roots, a ditransitive structure might also be possible. The overwhelming generalization in Icelandic, however, is that *-st* in fact cannot merge in SpecApplP. This is illustrated in the following examples.

(340) a. Bjartur gaf sjálfum sér bókina í jólagjöf.
Bjartur.NOM gave self REFL.DAT book.the.ACC in christmas.gift
'Bjartur gave himself the book as a Christmas present.'

b. * Bjartur gafst bókina í jólagjöf.
Bjartur.NOM gave-ST book.theACC in christmas.gift
INTENDED: 'Bjartur gave himself the book as a Christmas present.'

(341) a. Bjartur lagaði sér mat.
Bjartur.NOM fixed REFL.DAT food.ACC
'Bjartur fixed himself some food.'

b. * Bjartur lagaðist mat.
Bjartur.NOM fixed-ST food.ACC
INTENDED: 'Bjartur fixed himself some food.'

(342) a. Bjartur útvegaði sér leyfi.
Bjartur.NOM obtain REFL.DAT permission.ACC
'Bjartur obtained permission.'

b. * Bjartur útvegaðist leyfi.
Bjartur.NOM obtain-ST permission.ACC
INTENDED: 'Bjartur obtained permission.'

(343) a. Bjartur aflaði sér fjár.
Bjartur.NOM procured REFL.DAT funds.GEN
'Bjartur procured funds.'

b. * Bjartur aflaðist fjár.
Bjartur.NOM procured-ST funds.GEN
INTENDED: 'Bjartur procured funds.'

(344) a. Bjartur tók sér vald.
Bjartur.NOM took REFL.DAT control.ACC
'Bjartur took over.'

b. * Bjartur tókst vald.
Bjartur.NOM took-ST control.ACC
INTENDED: 'Bjartur took over.'

I propose that the reason for this differenece between Appl^0, on the one hand, and Voice^0 and p^0 on the other, is that Appl^0 demands a specific case on its specifier: dative. As we saw above, the Appl^0 dative differs from direct object datives; specifically, Appl^0 datives are retained in syntactic contexts that direct object datives are not.

(345) Appl dative is retained

a. Fólk leyfði **þeim** alla hluti.
people.NOM allowed them.DAT all things.ACC
'People allowed them all things.'

b. **Þeim** **leyfðust** allir hlutir.
them.DAT allowed-ST all things.NOM
'They were allowed all things.' (Thráinsson 2007:291)

(346) Direct object dative is lost

a. Ásta splundraði **rúðunni**.
Ásta.NOM shattered window.the.DAT
'Ásta shattered the window.'

b. **Rúðan** splundraðist.
window.the.NOM shattered-ST
'The window shattered.'

Direct object datives are dependent on the verb's interaction with Voice^0, while Appl^0 datives are dependent directly on Appl^0. That Voice^0 in Icelandic does not impose special case requirements on its specifier is well-known; for example, agents never receive a special oblique case in Icelandic (Jónsson 2003). p^0 can also be shown not to make specific case requirements on its specifier, as argued at length by Svenonius (2003, 2007); this was in fact one of the arguments lead Svenonius to propose the parallelism bewteen Voice^0 and p^0. Data from Jónsson (2010) provides further evidence that p^0 does not determine the case of its specifier. He points out that a number of verbs used by sports announcers to describe soccer games may take either accusative or dative objects.

(347) a. Messi skallaði { **boltann** / **boltanum** } í netið.
Messi headed { ball.the.ACC / ball.the.DAT } in net.the
'Messi headed the ball into the net.'

b. Markmaðurinn sló { **boltann** / **boltanum** } yfir markið.
goal.keeper.the punched { ball.the.ACC / ball.the.DAT } over goal.the
'The goal keeper punched the ball over the goal.' (Jónsson 2010)

Appl^0 differs from this. While there is a lot of speaker variation in case-marking patterns in modern Icelandic (cf. Árnadóttir and Sigurðsson 2012), indirect objects of the sort in (348) seem to be basically uniformly dative across speakers.

(348) a. Fólk leyfði { ***þá** / **þeim** } alla hluti.
people.NOM allowed { *them.ACC / them.DAT } all things.ACC
'People allowed them all things.'

b. Jón gaf { ***hana** / **henni** } þetta tækifæri.
John.NOM gave { *her.ACC / her.DAT } this opportunity.ACC
'John gave her this opportunity.'

The generalization so far points to this: *-st* may merge in an argument postion if (a) that position is a specifier position, and (b) that position has no special case requirements.

5.2.3 Ingestives and Specifierless Appl

Although *-st* cannot generally appear in SpecApplP in Icelandic, there is some evidence that Appl^0 may choose the other method of forming complex predicates: by not introducing a specifier. I propose this analysis for "ingestive" verbs like 'learn', specifically that they have a semantic 'goal' role which is coreferent with the agent.

Consider the following alternation. (349a) shows *læra* 'learn' taking a nominative subject and an accusative object. (349b) shows that when *-st* is used, *lærast* takes a dative subject.

(349) a. **Hann lærði** leikreglur lífsins.
he.NOM learned rules.ACC life.GEN
'He learned the rules of life.'

b. **Honum lærðust** leikreglur lífsins.
him.DAT learned.PL-ST rules.NOM life.GEN
'He came to learn the rules of life.'

The dative-subject-taking variant is non-agentive, in contrast to the nominative-subject-taking variant.[4]

(350) a. ? Bjartur lærði allar reglurnar viljandi.
Bjartur learned all rules.the intentionally
'Bjartur intentionally learned all the rules.'

b. ? Það var lært að synda í sjónum.
EXPL was learned to swim in sea.the
'People learned to swim in the sea.'

c. Það sem Bjartur gerði var að læra allar reglurnar.
it which Bjartur did was to learn all rules.the
'What Bjartur did was learn all the rules.'

[4] According to Halldór Sigurðsson (p.c.), (350a) is a bit odd because it sounds tautological. I have no explanation for the oddness of (350b), but for present purposes the contrast between (350a-b) on the one hand and (351a-b) on the other will suffice.

d. Jón taldi Bjart á að læra allar reglurnar.
John persuaded Bjartur on to learn all rules.the
'John persuaded Bjartur to learn all the rules.'

(351) a. * Bjarti lærðust allar reglurnar viljandi.
him.DAT learned-ST all rules.the.NOM intentionally

b. * Það var lærst að synda í sjónum.
EXPL was learned-ST to swim in sea.the

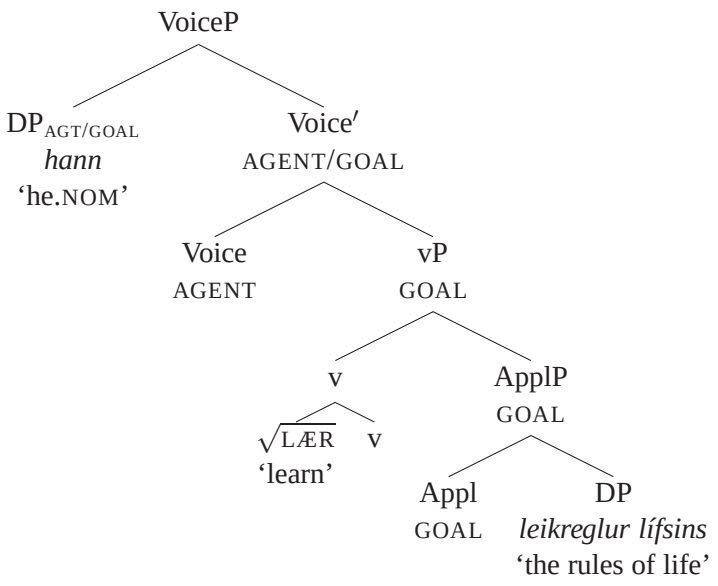
c. * Það sem Bjartur gerði var að lærast allar reglurnar.
it which Bjartur did was to learn-ST all rules.the.NOM

d. * Jón taldi Bjart á að lærast allar reglurnar.
John persuaded Bjartur on to learn-ST all rules.the

This is thus reminiscent of alternations with ditransitives seen in section 5.2.1. In that section, I proposed that the dative subject is generated in the same position as the indirect object, which was proposed to be the specifier of a low applicative phase. In this section, I would like to make a similar claim for verbs such as (349b). However, I will further claim that the same Appl^0 that introduces the dative subject in (349b) is present in (349a), except that it does not introduce a specifier.

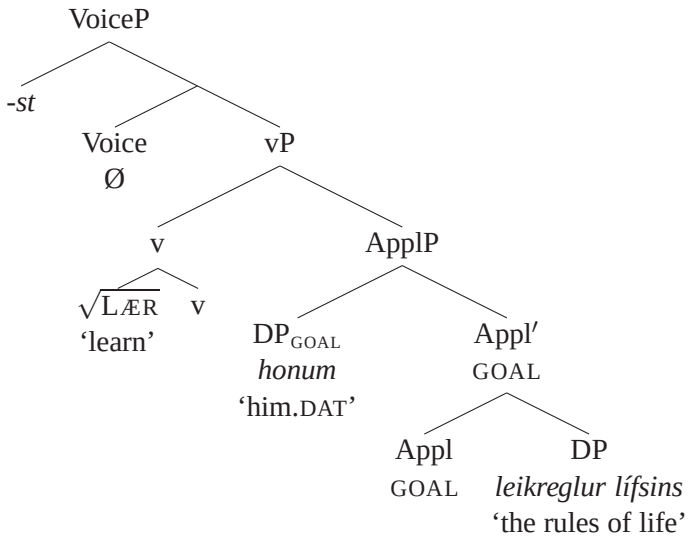
Basically, I would like to claim that 'learning' events have, semantically, up to two thematic components: (i) a goal/experiencer component involving the sensations out of the learner's control, and (ii) a more "agentive" component involving the conscious or agentive processing of those sensations, or the agentive activities that go along with them. In (349a), Appl^0 introduces a theta-role but no specifier. The subject merges in SpecVoiceP and saturates both the 'agent' and the 'experierncer' roles.

(352)



In (349b), the subject merges in SpecApplP, saturating the experiencer role only, and *-st* fills SpecVoiceP in the syntax.

(353)



This analysis of (349b) is a variant of the proposal in Sigurðsson (2012b), and allows us to collapse the 'learn'-type of *-st* verb with a larger class of dative-subject *-st* verbs. However, I am arguing that this analysis should be extended such that Appl is present in both (349a) and (349b). Moreover, this is not an isolated oddity of *læra(st)* 'learn', but applies to a class of predicates known as 'ingestives'.

(354) **Ingestives**: the class of ingestives is subject to considerable lexical variation, cross-linguistically, and includes verbs like English *drink*, *smoke*, *read*, *learn*, *suck*, *taste*, *swallow*, *see*, *hear*, etc.

I will focus primarily on 'learn' in this section, and then show that the analysis extends to other ingestive verbs. I would like to note immediately that the kind of analysis advocated here is not unprecedented, in that it has been proposed within a lexicalist framework by Amberber (1996, 2002). Amberber argued that ingestives have the lexical-conceptual structure (LCS) in (355). (See also the analysis presented in Campanini and Schäfer 2011, discussed further with respect to (361c) below.)

(355) [x_i CAUS y INCH z_i PATH]

agent	theme	Ø

Here, the path argument, which corresponds to the 'goal' of a ditransitive, can be null because it is coindexed with the agent in LCS. Thus, they are "transitive in the syntax, [but] ditransitive in the LCS" (Amberber 2002:13). This is conceptually quite close to the analysis I argue for, except that I do not have a level of lexical-conceptual structure. Rather, my analysis relies only on merging independently-needed elements and interpreting them. So while the LCS analysis says that ingestives have a conceptual goal argument that is not 'linked' to a syntactic argument, the present analysis simply doesn't merge a syntactic argument in the first place, but leaves in place the Appl head responsible for the thematic semantics. While the LCS analysis stipulates both the co-indexing and non-linking, in the present analysis, "co-indexation" follows automatically from not merging any DP in SpecApplP.

The first reason to suppose there is an Appl head in the structure of (349a) comes from restrictions on the external argument. First, note that the external argument of *læra* 'learn' is always sentient. It is never a non-agentive cause.

(356) * Tölvuleikurinn lærði orðin.
computer.game.the.NOM learned words.the.ACC
INTENDED: 'The computer game caused the learning of the words.'

(357) * Reynslan lærði nýja aðferð.
experience.the.NOM learned new methods.ACC
INTENDED: 'The experience caused the learning of new methods.'

It is not totally obvious why this restriction should hold. One might try to say that *læra* 'learn' is like *myrða* 'murder' in that it relates to a mental activity, or perhaps agency. Then maybe the restriction is that the 'learner' must be expressed in one way or another, so in the dative subject variant in (349b) allows *-st* by expressing the learner as an argument of Appl. However, these solutions run into immediate problems. The learner does not always have to be named, as shown in (358) (though it is likely present implicitly).

(358) Þetta lærðist fljótt.
this.NOM learned-ST quickly
'This got learned quickly.'

Second, the semantic requirement of *læra* 'learn' is different from that of *myrða* 'murder'. In particular, while *læra* 'learn' can be agentive, it need not be. So even in the nominative-accusative form in (349a), the subject can learn non-agentively, in a way that is much more robust than with *myrða* 'murder'.

(359) a. (?) Jón lærði þetta án þess að gera nokkuð til þess.
John learned this without it to do anything for it
'John learned this without doing anything.'

b. (?) Jón lærði þetta án þess að ætla sér það.
John learned this without it to intend REFL.DAT it
'John learned this without meaning to.'

(360) a. * Jón myrti hana án þess að gera nokkuð til þess.
John murdered her without it to do anything for it
'John learned this without doing anything.'

b. * Jón myrti hana án þess að ætla sér það.
John murdered her without it to intend REFL.DAT it
'John murdered her without meaning to.'

The problem, then, is that the external argument of *læra* 'learn' must be sentient, but need not be agentive. We might consider the possibility that the root is contributing something to this restriction directly, without any additional structure. That is, just as something about the semantics of vPs containing *myrða* 'murder' forces Voice to be interpreted as an agentive, perhaps something about vPs denoting learning events force the external argument to be sentient.

This, however, is not an innocent or straightforward way to derive the properties of verbs like 'learn', as attractive as it may seem. First, we would have to say that Voice must be a sentient experiencer or goal and may in addition be agentive. This would be a strange requirement for the Voice head, allowing it to assign two theta-roles at once, but forcing it to assign one theta-role. It would lead to a significant weakening of the overall system to assign such properties to Voice. Second, by forcing a semantic requirement on Voice, we would actually expect that *-st* should not be possible in sentences like (358). Recall that the conclusion from the discussion of *myrða* 'murder' was that if a vP makes a semantic requirement on Voice, the *-st* anticausative isn't possible because there is no argument to bear the interpretive relation Voice introduces. If the semantic restrictions on the external argument of 'learn'-verbs were implemented by forcing a particular interpretation of Voice, we incorrectly predict (358) to be completely impossible (or we lose the explanation for why *-st* anticausatives cannot be formed with *myrða* 'murder').

There are independent reasons to implicate Appl in the restrictions on the external argument. First, the restriction is that the external argument must be a sentient experiencer (or sentient goal), and this restriction is independently attested for applicative constructions. So if Appl is involved, nothing new need be said beyond what already needs to be

said about Appl. Second, some languages allow or even require an overt goal argument to express 'learning' events. Consider the following examples.

(361) a. Jag **lärde mig** isländska.
I learned myself Icelandic
'I learned Icelandic.' (Swedish)

(Halldór Sigurðsson p.c.)

b. Jan **uczył się** reguł życia.
John learned REFL rules.GEN life.GEN
'John learned the rules of life.' (Polish)

(Dominika Skrzypek p.c.)

c. Juan **se aprendió** un poema.
John REFL learned a poem
'John learned a poem.' (Spanish)

(Campanini and Schäfer 2011)

In Swedish and Spanish, the reflexive goal argument is optional. In Polish, however, leaving out the reflexive pronoun results in the meaning 'teach', again suggesting that the conceptual structure of 'learn' involves a goal argument. I am arguing that the goal argument need not be expressed with a separate DP if Appl^0 introduces no specifier in the syntax.

Campanini and Schäfer (2011) analyze sentences like (361c) as involving a low applicative head with the semantics as in (362).

(362) $[\![\text{Appl}_{\text{INTO}}]\!] = \lambda x_e.\lambda y_e.\lambda f_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.\ f(e,x) \wedge \text{theme}(x,e) \wedge \text{INTO}(y,x)$

This is basically the same as the 'goal' Appl_{TO} in Pylkkänen (2002, 2008) (discussed in §5.1), except it involves the relation "INTO", meaning that the theme goes into the goal. Whatever its semantics, the important point here is that an Appl should be exploited even for cases where there is no overt DP argument, as in English and Icelandic.

A third reason to implicate Appl comes from the behavior of related verbs like *kenna* 'teach'. Consider the following paradigm.

(363) a. Jón hefur kennt mér nýja aðferð.
John.NOM has taught me.DAT new method.ACC
'John has taught me new methods.'

b. Þessi reynsla hefur kennt mér nýja aðferð.
this experience has taught me.DAT new method.ACC
'This experience has taught me new methods.'

c. * Mér kenndist ný aðferð.
me.DAT taught-ST new method.NOM

With *kenna* 'teach', the anticausative is not possible, though it should be, since the external argument may be an eventive cause, as shown in (363b). Here, we have the exact opposite problem as with *læra* 'learn'. With 'learn', we seem to make demands on the external argument, and surprisingly allow an anticausative, whereas with 'teach', we make no demands on the external argument, but surprisingly disallow an anticausative. Now consider the fact that Faroese, a language which is very closely related to Icelandic, allows 'learn' to be used in a ditransitive to mean 'teach', as does Polish and some varieties of English (not mine).

(364) a. Hvør hevur **lært** tygum at tosa føroyskt?
who has learned you to speak Faroese
'Who taught you to speak Faroese?' Faroese (Lockwood 1955:131)

b. Jan **uczył mnie** reguł życia.
John learned me.ACC rules.GEN life.GEN
'John taught me the rules of life.' Polish (Dominika Skrzypek p.c.)

c. % I'll learn you a lesson.

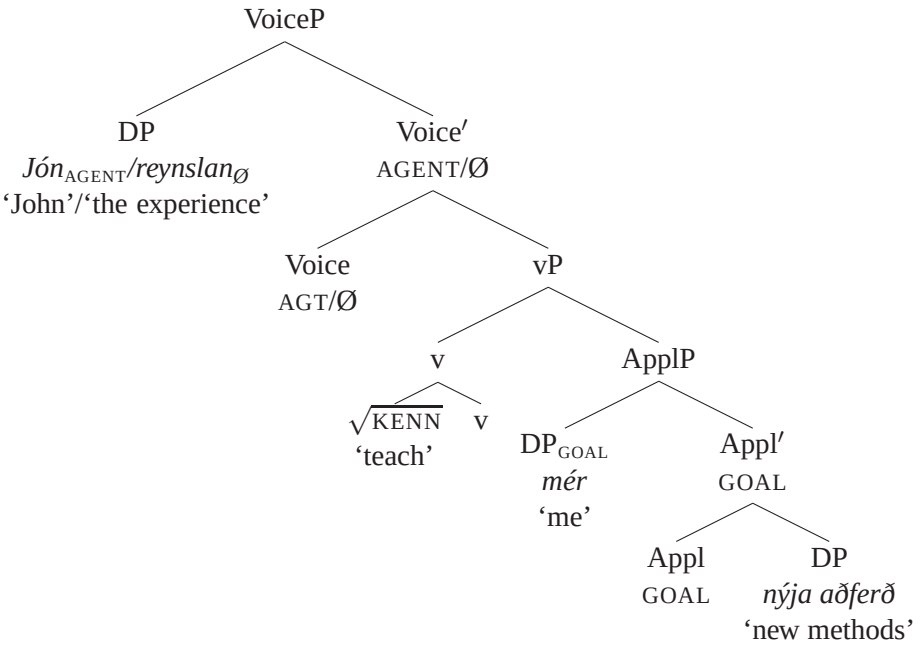
Icelandic does not use the root $\sqrt{\text{LÆR}}$ 'learn' in such structures.

(365) a. * { Þetta/hann } lærði mér orðin.
{ this/he.NOM } learned me.DAT words.the.NOM

b. * Hann lærði { sér / sjálfum sér } orðin.
he.NOM learned { REFL / self REFL } words.the

Now, ignoring for the moment the identity of the roots involved in ‘learn/teach’ alternations in Icelandic, observe that what we have seen so far is exactly what we would expect if Appl were the source of the restrictions on the external argument of ‘learn’. In the ‘teach’ constructions, a DP argument is present in SpecApplP and saturates the semantic role introduced by Appl.

(366)



Thus, any restrictions that Appl enforces on the argument in SpecVoiceP should disappear, and the external argument should be free to be a non-agentive, non-sentient, eventive cause. This is exactly what we see with ‘teach’. Given that non-agentive, non-sentient eventive causes are possible, we should expect the possibility of an anticausative; this is exactly what we see with ‘learn’.

We must ask, then, whether there is any deep difference between Icelandic-type languages and Faroese-type languages, such that ‘learning’ is conceptually different for speakers of the two languages. I do not know of any reason to think so. Rather, it seems that Icelandic has a restriction on the sorts of structures the root $\sqrt{\text{LÆR}}$ ‘learn’ versus

$\sqrt{\text{KENN}}$ 'teach' may appear in. Specifically, $\sqrt{\text{KENN}}$ 'teach' is appropriate whenever there are distinct learner and teacher arguments in the event structure; $\sqrt{\text{LÆR}}$ 'learn' is used when there is only a learner. This accounts for the contrast in (367).

(367) a. **Honum lærðust** leikreglur lífsins.
him.DAT learned.PL-ST rules.NOM life.GEN
'He came to learn the rules of life.'

b. * **Honum kenndust** leikreglur lífsins.
him.DAT taught.PL-ST rules.NOM life.GEN

That is, there is nothing wrong with the structure intended to underlie (367b), except that it does not express a teaching event, so $\sqrt{\text{KENN}}$ is an inappropriate root. That is, the overall system is exactly as expected, but the distribution of roots is affected by the encyclopedic semantics in a way that obscures the systematicity of these alternations.

The restrictions in (356-357) are thus explained: when Appl^0 passes its role up the tree with *læra* 'learn', it passes with it the thematic restrictions it introduces (sentience). Thus, nothing about learning events, unlike murdering events, requires an agentive or sentient external argument. It is only the properties of the lower, experiencer/goal role (introduced by Appl^0), that introduce these restrictions. This analysis of nominative-subject explains the *-st* alternations with the appearance of the dative and allows us to collapse these verbs with the other external *-st* verbs in maintaining the generalization that external *-st*, when it appears to eliminate the external argument semantically, correlates with the independent availability of semantically Ø Voice^0.

5.2.4 Root Distribution in Ingestives

The kind of alternation described in the previous section—between a NOM-ACC ingestive and a non-agentive dative-subject construction—extends to many other ingestives. But it is important to note at this point that, as mentioned above, there is considerable lexical

idiosyncrasy in the expression of ingestives, even independently of the domain of direct interest here. Thus, some languages only have one 'word' to express 'eat', 'drink' and 'smoke'. In English, we have *eat/feed* but only *drink*; that is, we have no single word in a ditransitive construction to refer to making someone drink or pouring liquid in someone's mouth. In Icelandic, there is no exact ditransitive equivalent to English *feed*, but rather a number of other constructions, such as the following.

(368) a. Ég gaf honum.
I.NOM gave him.DAT
'I fed him.'

b. Ég gaf honum að borða.
I.NOM gave him.DAT to eat
'I fed him.'

These are acceptable if the dative refers to an animal or a baby, according to Halldór Sigurðsson (p.c.). But there is no real equivalent to English sentences like *I fed my son rice this morning*.

The idiosyncrasy directly relevant here comes in several forms: in the different roots that may appear in both structures, in the semantic contribution of the root in both structures, and in the fact that the dative variant sometimes requires other elements or involves changes in thematic restrictions on internal arguments. First, basic words like 'eat' and 'drink' do not, for most speakers, have a straightforward dative-subject alternant with a nominative object (though see below).

(369) a. * Mér borðaðist maturinn.
me.DAT ate-ST food.the.NOM

b. * Mér drakkst brennivínið.
me.DAT drank-ST brennivín.the.NOM

It could be that these are out for the same reason that **myrðast* 'murder-ST' is out, namely, that they are necessarily agentive roots. However, the explanation of *læra(st)* and consid-

eration of *kenna* ‘teach’ presented above, suggests that we should avoid rushing to explanations for facts of this sort. For example, there are dative subject *-st* verbs having to do with non-agentive, experiencer aspects of eating and drinking. These alternations again implicate the presence of Appl^0 in the (a) examples.

(370) a. ?% Hann svelgdi vatnið.
he.NOM gulped.down water.the.ACC
‘He gulped the water down.’

b. Honum svelgdist á vatninu.
him.DAT gulped-ST on water.the.DAT
‘He choked on the water.’

(371) a. Ég smakkaði hvalinn.
I.NOM tasted whale.the.ACC
‘I tasted the whale.’

b. Mér smakkaðist hvalurinn vel.
me.DAT tasted-ST whale.the.NOM well
‘The whale tasted good to me.’

(372) a. Ég bragðaði fiskinn.
I.NOM tasted fish.the.ACC
‘I tasted the fish.’

b. Mér bragðaðist fiskurinn vel.
me.DAT tasted-ST fish.the.NOM well
‘The fish tasted good to me.’

These examples make two points. First, it is not obvious why the roots for ‘eat’ and ‘drink’ could not express the readings associated with the (b) examples in (370–372). In fact, related examples can be found on occasion, such as the following, found on Google.

(373) % Strákarnir byrjuðu svo að drekka fljótt eftir að matnum var lokið
boys.the began then to drink quickly after that dinner was finished

en mér drakkst letilega.
but me.DAT drank-ST lazily

'The boys began to drink quickly after dinner was finished but the drinking went slowly for me.'[5]

Einar Freyr Sigurðsson (p.c.) and Jóhannes Gísli Jónsson (p.c.) find this example strange, but not clearly ungrammatical; it emphasizes the non-agentive aspects of drinking that are outside of the drinker's control. Second, the (b) examples do not come for free; *svelgjast* 'gulp/choke' takes a PP instead of a DP, and *bragðast* and *smakkast* 'taste' generally require an adverbial like *vel* 'well'. That is, getting rid of the agent of agentive experiencers sometimes requires a bit of thematic structural work; other elements sometimes have to come into play, and the thematic properties of the internal argument matter.[6] This is so even for *læra* 'learn'. As pointed out by Jónsson (2003:131), while there are minimal pairs with *læra* and *lærast*, not all internal arguments are allowed with both, as illustrated below.

(374) a. Hann lærði leikreglur lífsins.
he.NOM learned rules.ACC life.GEN
'He learned the rules of life.'

b. Honum lærðust leikreglur lífsins.
him.DAT learned-ST rules.NOM life.GEN
'He came to learn the rules of life.'

(375) a. Ég lærði íslensku.
I.NOM learned Icelandic.ACC
'I learned Icelandic.'

[5] http://prymplar.blogcentral.is/blog/2006/5/21/utilega-og-sumarbustadarferd-gone-wrong-savage-her/

[6] According to Jóhannes Gísli Jónsson (p.c.), the *drekkjast* in (373) would not be possible with a DP object.

b. ?* Mér lærðist íslenska.
me.DAT learned-ST Icelandic.NOM

A plain DP like *íslenska* ‘Icelandic’ is not acceptable in the dative construction, but an abstract (or perhaps stative-eventive) DP like *leikreglur lífsins* ‘the rules of life’ is acceptable. This kind of contrast shows up again and again. We find it with *heyra(st)* ‘hear’:

(376) a. Ég heyrði hana syngja.
I.NOM heard her.ACC sing
‘I heard her sing.’

b. Mér heyrðist hún syngja.
me.DAT heard-ST she.NOM sing
‘I thought I heard her sing.’

(377) a. Ég heyrði hljóðið.
I.NOM heard sound.the.ACC
‘I heard the sound.’

b. * Mér heyrðist hljóðið.
me.DAT heard-ST sound.the.NOM
INTENDED: ‘I thought I heard the sound.’

Skilja(st) ‘understand’ allows the alternation with a clausal complement, or pronoun referring to a clause, but not a DP like ‘the instructions’. In this case, speakers report a reported evidentiality reading for the dative variant (i.e. you ‘gather’ in (378b) because someone else has told you).

(378) a. Ég skil að Jón vilji koma á morgun.
I.NOM understand that John wants come tomorrow
‘I can understand that John wants to come tomorrow.’

b. Mér skilst að Jón komi á morgun.
me.DAT understands-ST that John comes tomorrow
‘I gather that John’s coming tomorrow.’

(379) a. Kemur Jón á morgun?
comes John tomorrow
‘Is John coming tomorrow?’

b. Já, mér skilst það.
yes, me.DAT understands-ST that
'Yes, I gather as much.'

(380) a. Ég skildi leiðbeiningarnar.
I.NOM understood instructions.the.ACC
'I understood the instructions.'

b. * Mér skildust leiðbeiningarnar.
me.DAT understood-ST instructions.the.NOM

Like *svelgja* 'gulp/choke', *sjá* 'see' and *reikna* 'calculate' require a preposition in their dative *-st* forms.

(381) a. Ég sá þetta.
I.NOM saw this.ACC
'I saw this.'

b. Mér sást yfir þetta.
me.DAT saw-ST over this
'I overlooked this.'

(382) a. Ég reiknaði að þetta gætu verið 100.000 hundar.
I.NOM calculated that this could be 100,000 dogs.
'I calculated that this could be 100,000 dogs.'

b. Mér reiknaðist til að þetta væru 100.000 hundar.
me.DAT calculated-ST up that this was 100,000 dogs
'I guesstimated that that was 100,000 dogs.'

These alternations, especially with *heyra* 'hear', *skilja* 'understand', bring up another point of interest. So far, I have been mainly concerned with cases where the external argument is potentially agentive. For most of the ingestive discussed here, this is appropriate (e.g. *svelgja* 'gulp', *borða* 'eat', *drekka* 'drink', *smakka* 'taste', *bragða* 'taste', *gleypa/kynngja* 'swallow', *reikna* 'calculate'). However, *heyra* 'hear' and *skilja* 'understand' are not agentive.[7] The main claim is that ingestives involve a goal/experiencer plus

[7]In Icelandic, *sjá* 'see' can be agentive with a meaning similar to English *look*.

‘something more’. But with at least *heyra* ‘hear’ and *skilja* ‘understand’, it is as if the ‘something more’ has to do with a perceptual representation that the external argument has full command of. With *mér heyrðist* ‘I thought I heard’, the subject has a hearing experience that s/he has not fully cognized, understood, or controlled. With *ég heyrði* ‘I heard’, s/he has a hearing experience that (whether accurate or inaccurate) crystalizes into a solid cognitive representation.

Though this pattern is in a slightly different domain, it is similar to what Jónsson (2003) was getting at with generalizations over nominative subject experiencers of verbs like *elska* ‘love’, *dá* ‘admire’ and *þrá* ‘desire’, where he suggests that the experiences expressed with nominative subjects “generally more controllable” (Jónsson 2003:136) than those expressed with non-nominative subjects. Here, I mean ‘control’ in the sense of controlling a cognitive representation after a perception experience. But we might also obverve that one has some control over hearing if one ‘listens closely’, seeing if one ‘looks carefully’, etc. Whatever the right thematic characterization is, the claim is that the nominative subject is generated in SpecVoiceP and saturates the lower, goal/experiencer role introduced by Appl^0, along with whatever role is introduced by Voice^0, if any.

I assume that the idiosyncratically varying semantic contributions of the roots and the restrictions preventing certain roots from appearing in one of the two structures both amount to the same issue: the distribution and interpretation of roots. As I mentioned above, I do not know whether there is anything deep to say specifically with respect to ingestives, above and beyond the general issue of root distribution/interpretation. As for the thematic restrictions on the internal argument, there seems to be a strong tendency for the complement of Appl, when the dative is realized, to be eventive, propositional, stative, or predicative. That is, it seems that when a DP is merged in SpecApplP of an ingestive DAT-NOM construction, Appl is interpreted as a high applicative. Thus, these

seem to be high-low applicative constructions, like the experiencer DAT-NOM constructions discussed further in §5.3.

5.3 Psych-Verbs with Dative Subjects

In the previous sections, we saw that anticausatives of ditransitives can be formed with *-st*, resulting in a dative-nominative construction, and that this can have thematic effects on the internal argument complement of Appl. We are now in a position to examine the most widely-discussed class of dative subject constructions, namely psych-verbs with dative subjects. It has been noted in the literature than a large number of them have the *-st* morpheme; some examples are given below.

(383) a. Henni leiddist Ólafur.
her.DAT bored-ST Ólafur.NOM
'She was bored by Ólafur.' (Sigurðsson 1989:201)

b. Mér grömdust þessi ummæli.
me.DAT angered-ST these remarks.NOM
'I was angry at these remarks.' (Maling and Jónsson 1995:77)

However, there are also DAT-NOM psych-verbs that have the *-na* suffix, which was analyzed in chapter 3 as an exponent of the specifierless $\text{Voice}_{\{\}}$.[8]

(384) a. Mér bat-na-ði veikin.
me.DAT improve-NA-PAST disease.the.NOM
'I recovered from the disease.' (Sigurðsson 1989:201)

[8]The decomposition of *sárna* 'hurt' and *batna* 'improve' into $\sqrt{}$+*-na* is morphologically clear, since $\sqrt{\text{SÁR}}$ independently occurs (in words like 'wound'), and $\sqrt{\text{BAT}}$ alternates in a related construction with *bæta*/*batna* 'improve' (see example (160) in §3.2.2). There may be some reluctance in accepting that this is the same *-na*, since the intuition is that the semantics are different when a dative is present. Nevertheless, the analysis of *-na* presented in this thesis is that it is the realization of $\text{Voice}_{\{\}}$ in an inchoative structure, but it, by itself, is not contributing any lexical semantics.

b. Honum sár-nu-ðu þessi ummæli.
him.DAT hurt-NA-PAST these remarks.NOM
'He was hurt by these remarks.' (Jónsson 2003:140)

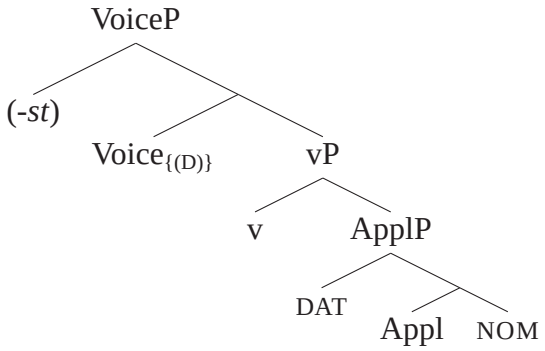
There are also DAT-NOM psych-verbs that have 'active' morphology, that is, no special Voice marker at all.

(385) a. Mér líkar nýi vinnumaðurinn vel.
me.DAT likes new workman.the.NOM well
'I like the new workman.' (Maling and Jónsson 1995:73)

b. Mér blöskraði þessi framkoma.
me.DAT outraged this behavior.NOM
'I was outraged by this behavior.' (Maling and Jónsson 1995:76)

Given that many experiencers are analyzed as applicative arguments, these patterns suggest a structure along the lines given above for dative-nominative recipient verbs.[9]

(386)



Here, Voice may either require an external argument (Voice$_{\{D\}}$), or not (Voice$_{\{\}}$); in the latter case, it may be realized as *-na* or not. Again, this is parallel to anticausatives. That

[9]This analysis extends directly to the presence of experiencer datives in raising constructions.

(i) a. Hafði þér virst [hún vera hæf]?
had you.DAT seemed-ST [she.NOM be.INF competent]
'Had she seemed competent to you?'

b. Hafði hún$_i$ virst [t$_i$ vera hæf]?
had she.NOM seemed-ST [be competent]
'Had she seemed competent?' (Sigurðsson 2012b:213)

Here, *-st* is in SpecVoiceP, and the dative is introduced in SpecApplP (cf. Sigurðsson 2012b).

Voice cannot project a thematic external argument is somewhat of a mystery, but it is a well-understood mystery. It relates to the 'Target/Subject Matter' (T/SM) restriction of psych-verbs discussed in Pesetsky (1995). The T/SM restriction is the observation that if an external argument causer is projected, the internal argument—the T/SM—cannot be expressed; for example, it is ungrammatical to say **He frightened me of dogs* to mean 'He made me frightened of dogs'. Conversely, if the T/SM is expressed, an external argument cannot be projected. This constraint is at work with respect to why DAT-NOM psych-verbs cannot project an argument in SpecVoiceP.[10]

There are interesting thematic restrictions on the nominative object of these DAT-NOM constructions. These restrictions support the idea that like their ditransitive counterparts, DAT-NOM constructions may be both high-low and low applicatives. Maling and Jónsson (1995) note that the presence or absence of *-st* does not correlate in any direct way with the thematic restrictions discussed below. According to them, "*-st* verbs may exhibit exactly the same selectional restrictions on their objects as non-*st* verbs" (Maling and Jónsson 1995:77).

First, Maling and Jónsson (1995:74-5) observe that verbs like *sárna* 'hurt' require an internal argument which "denote[s] manner, behavior, or human relations," never concrete entities.

(387) a. Mér sárnaði þessi framkoma hans.
me.DAT hurt this behavior.NOM he.GEN
'I was hurt by this behavior of his.'

[10]For some verbs, the nominative of the structure in (386) can raise to become the subject (see Barðal 1999, 2001; Platzack 1999; Wood and Sigurðsson 2012). Many object experiencers are NOM-ACC, though some are NOM-DAT (see Maling 2002a,b; Jónsson 2003 for discussion). I assume that these have different underlying structures from (386), but I must set their analysis aside for now.

b. Mér sárnaði að hann skyldi ekki hringja í mig.
me.DAT hurt that he should not call in me
'I was hurt that he didn't call me.'

c. Mér sárnaði hvernig hann talaði um móður sína.
me.DAT hurt how he talked about mother REFL
'I was hurt by the way he talked about his mother.'

d. (*) Mér sárnaði bókin.
me.DAT hurt book.the.NOM
INTENDED: 'I was hurt by the book.'

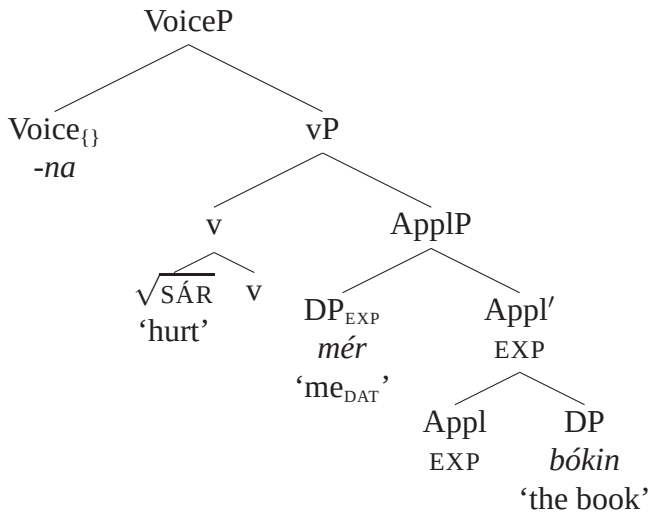
Maling and Jónsson (1995:75) further observe that sentences like (387d) are only acceptable when the nominative object is "interpreted as an event," specifically that "the object *bókin* ['the book'] must be understood as referring to the fact that the book was published." They provide the following example of this, which they attribute to Helgi Skúli Kjartansson.

(388) Ég gat fyrirgefið honum þó að hann skrifaði um þetta nokkrar
I could forgive him though that he wrote about this several
blaðagreinar og færi líka með það í útvarpið,
newspaper.articles and moving also with it in radio.the
en **mér sárnaði bókin**.
but me.DAT hurt book.the.NOM
'I could forgive him for writing several newspaper articles about this, and even for talking about it on the radio, but I was hurt by the book.'

This is the high-low applicative situation described above. Thus, the Appl of *sárna* 'hurt' introduces the experiencer of some event. This results in a semantics where the argument in SpecApplP experiences hurt with respect to the event denoted by the complement of Appl. If we take (388) to have the structure in (389a), and the semantics of experiencer Appl shown in (389), adapted from Bosse and Bruening (2011:75), then the DP will have

to be interpreted as a state or event in order to combine with Appl:[11]

(389) a.



b. $[\![$ Appl $]\!] \leftrightarrow \lambda P_{\langle s,t\rangle}.\lambda x_e.\lambda e_s.\exists e'_s.$ P(e) $\wedge$ experience(e′) $\wedge$ EXPERIENCER(x,e′) $\wedge$ source(e′,e)

c. $[\![$ 'the book' $]\!] \rightarrow \lambda s_s.$ state(s,$[\![$ 'the book' $]\!]$)

= $\lambda s_s.$ state(s,the book)

d. $[\![$ Appl′ $]\!]$ = $\lambda x_e.\lambda e_s.\exists e'_s.$ state(e,the book) $\wedge$ experience(e′) $\wedge$ EXPERIENCER(x,e′) $\wedge$ source(e,e′)

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[11]This denotation has been simplified for presentational purposes. The full denotation from Bosse and Bruening (2011:75) would be as in (i):

(i) $\lambda e_s.$ state(e,the book) $\wedge$ $\exists e'$ (experience(e′) $\wedge$ EXPERIENCER(me,e′): $\forall e''$ state(e″,the book) $\rightarrow$ Source(e″,e′))

This difference involves an additional universal quantification over the source event, and the colon represents semantic meaning projected on a different 'tier' from the assertion 'tier'. These issues are not directly relevant here, since the point is to show how the experiencer denotation of Appl can force the general type-shifting of the DP to be interpreted as an event or state. The denotation in (i) would work equally well for present purposes, but involves details not necessary here, so I stick to the simplified version in the text.

e. $[\![$ ApplP $]\!]$ = $\lambda e_s.\exists e'_s.$ state(e,the book) $\wedge$ experience(e′) $\wedge$ EXPERIENCER(me,e′) $\wedge$ source(e,e′)

$\approx$ 'the state of the book is the source of my experience'

As shown in, (389b), experiencer Appl is looking for something of type $\langle s, t\rangle$; therefore, 'the book' is understood as denoting 'the state of the book' (which could be the book existing, some property of the book, etc.), as shown in (389c). This allows Appl to combine with it and assert that the state of the book is the source of the experiencer relation, as shown in (389d-e). The root $\sqrt{\text{SÁR}}$ contributes the 'hurting' aspect of the experience. Thematic restrictions of the kind discussed by Maling and Jónsson (1995) support the high-low applicative analysis, because interpretive restrictions on the object can be enforced by the semantics of a local Appl. According to Maling and Jónsson (1995), other verbs like *sárna* 'hurt' in this respect are *gremjast* 'anger', *blöskra* 'outrage' and *ofbjóða* 'shock'.[12]

A second, similar kind of thematic restriction on the nominative objects of DAT-NOM verbs is exhibited by verbs like *líka* 'like'. Taraldsen (1994) built an analysis of nominative objects on the observation that the nominative object of *líka* 'like' can be judged, out of context, as unacceptable with a human-denoting object, which he took to be related to the lack of -*st* morphology and a restriction on [+HUMAN] objects. However, Maling and Jónsson (1995) point out that [+HUMAN] is not the correct way of characterizing the restriction, and that (lack of) -*st* morphology cannot be to blame for it. Focusing on the thematic restriction, they discuss the following contrast, being uttered by a farmer (again attributed to Helgi Skúli Kjartansson).

[12]However, *blöskra* 'outrage' and *ofbjóða* 'shock' differ from *sárna* 'hurt' and *gremjast* 'anger' in that the latter verbs allow a human argument to be expressed in a PP headed by *við* 'with/at' (much like *líka* 'like' below), whereas *blöskra* 'outrage' and *ofbjóða* 'shock' do not allow this.

(390) a. Mér líkar nýi vinnumaðurinn vel.
me.DAT likes new workman.the.NOM well
'I like the new worker (as a worker).'

b. Mér líkar vel við nýja vinnumanninn.
me.DAT likes well with new workman.the.ACC
'I like the new worker (as a person).'

When the person who is 'liked' is liked as a person, a nominative object is not acceptable and a PP headed by *við* 'with/at' must be used, as in (390b). However, the person is 'liked' with respect to some property of that person, such as in their role as a worker, a nominative object is acceptable, as in (390a). They further bring out this meaning difference with the following sentence.

(391) Mér líkar vel við Bryndísi, en mér líkar hún ekki sem kennari.
me.DAT likes well with Bryndís but me.DAT likes her.NOM not as teacher
'I like Bryndís personally, but I don't like her as a teacher.'

This kind of restriction, again, seems to implicate a high-low applicative. One way of characterizing the interpretation of the nominative object might be to take it to be interpreted as a state. That is, the new worker or teacher above is interpreted as the state of the worker with respect to certain properties (e.g. competence). The experiencer, then, is an experiencer with respect to the state of those properties.

5.4 Summary

In this chapter, I have shown how two aspects of the analyses presented in chapters 3 and 4 can be exploited to clarify our understanding of applicative constructions in Icelandic. First, by allowing DPs to be interpreted as states, we can reconcile the fact that Icelandic has the semantics of high applicatives with the fact that it does not have structurally

high applicatives. This in turn explains thematic restrictions on nominative objects in experiencer dative-nominative constructions. Second, the fact that Appl may require its specifier to be dative can account for why *-st* is overwhelmingly impossible in SpecApplP. However, ingestives like 'learn' show that the other option for 'valency reduction' is available, namely, merging Appl with no specifier.

On a deterministic approach to the syntax-semantics interface, there would be something strange about the high-low Appl analysis. It sets up the syntax and semantics in such a way that allows Appl to take a syntactic argument that it cannot combine with semantically. Why would the grammar be set up in this way? If Appl is specified in the syntax to be "eventive", and a DP is specified in the syntax to denote an entity, then why would "eventive" Appl take an entity-denoting DP as a complement in the first place?

In the present approach, however, this makes complete sense: the syntax of Appl allows it to combine with a DP, and there exist denotations of Appl which require it to take eventive/stative arguments; nothing is able, in principle, to prevent Appl from taking on one of these eventive denotations, even when its complement is a DP. The decision to interpret Appl in this way is based on the semantics of the elements around it. For example, the root $\sqrt{\text{SÁR}}$ 'hurt' is appropriate for experiencer type Appl, so this is how Appl is going to be interpreted in events with the root $\sqrt{\text{SÁR}}$ 'hurt' (or else that root will not be appropriate). As always, the question, then, is which syntactic structures lead to a coherent interpretation: *sárna* 'hurt' may take a DP object in the syntax (where the interpretation of the DP is underdetermined), but if that DP normally denotes an entity, then that entity must be interpretated as the "state" of that entity.

The processes of determining the interpretation of DPs (as entities, states, etc.) is available independently of the analysis of DAT-NOM constructions such as with *sárna* 'hurt', and the denotations of Appl are available independently as well. With certain

combinations of elements, however, restrictions will arise through the compatibility of roots with a particular event structure, as well as the selection of denotations of terminal nodes that build that event structure. The restrictions on nominative objects are derived from the denotation of experiencer Appl and the general possibility of interpreting DPs as states.

Chapter 6

More on the Syntax of *-st* Verbs

In the previous chapters, I have focused on the syntactic, morphological and semantic properties of functional heads like Voice, v, Appl, and p, and how they interact with the lexical semantic contribution of verbal roots. Many of the argument structure alternations discussed in connection with the functional heads involved verbs marked with *-st*, which I have analyzed as an expletive clitic; that is, it works in the syntax to effect valency reduction, with different effects on the semantics depending on where it merges and what the properties are of the elements around it.

Even an encyclopedic work purely on *-st* verbs could probably not cover the vast array of interesting morphosyntactic properties which seem to be associated with this morphological marking. In this chapter, I would like to look briefly at other 'kinds' of *-st* verbs and discuss how they might fit in with the view of argument structure developed in this thesis. While the analytical questions that arise in this chapter will be far from settled, I hope to show that the present view allows us to ask these questions in a new and interesting light.

Moreover, I will argue that the properties of several kinds of *-st* verbs support various analytical choices made in this thesis. The denominal *-st* verbs discussed in §6.1 sup-

port the assumption that -*st* serves an expletive function in argument structure, especially when compared to English denominal constructions involving expletives (of a type Postal 1992 called "digits"). Generic middle -*st* verbs and so-called "modal passive" -*st* verbs discussed in §6.2 provide further evidence in favor of the explanation in chapter 3 as to why *myrða* 'murder' cannot form an -*st* anticausative. In §6.3, I discuss a special kind of anticausative-like or passive-like construction which is formed with a light verb *láta* 'let' along with a restricted set of -*st* verbs, where the latter apparently have systematic lexical semantic properties. In §6.4 and §6.5, I discuss how reciprocal -*st* verbs and other reflexive -*st* verbs, respectively, fit into the picture.

A brief note before continuing. I have argued earlier that -*st* is no different from other clitics across languages, or indeed even from verb particles, reflexive pronouns, and idioms in general, insofar as "lexically idiosyncratic" meaning is concerned. There are a number of -*st* verbs or alternations that might be seen as unpredictable and/or lexically idiosyncratic. I am not convinced all of them are, but that is an open question. Even if they are all irreducible idioms, they should not undermine the analysis of the obviously systematic functions -*st* serves elsewhere in the language, as argued in particular in §2.2.5.

6.1 Denominal -*st* Verbs

Ottósson (1986:91-92) and Sigurðsson (1989:262) discuss a set of -*st* verbs with roots that are normally nominal. Some examples of this are relatively stable and 'lexicalized', in the sense that they are considered to be ordinary verbs, listed in dictionaries, etc. The examples in (392) are like this, with *ferðast* 'travel' coming from the nominal stem *ferð* 'trip', and *djöflast* 'work/behave like the devil' coming from the nominal stem *djöful-/djöfl-* 'devil'.[1]

[1] I use the term 'stem' instead of root in this section, because many denominal -*st* verbs have complex

(392) a. Þeir ferðast um alla Evrópu.
they travel-ST around all Europe
'They travel around all of Europe.'

b. Þeir djöflast allan daginn.
they devil-ST all day
'They work/behave like the devil all day.' (Sigurðsson 1989:262)

However, as noted by Ottósson (1986:91-92) and Sigurðsson (1989:262), it is a very productive phenomenon, especially in colloquial speech, where novel formations are often felt to be quite slangy. I will for this reason illustrate this phenomenon in this section with examples from Google (where each of the examples provided have been discussed with at least two native speakers).

Probably the type of denominal *-st* verb most salient to speakers involves a nominal naming a kind of human, or some role of a human, where the meaning of the resulting verb is that of an activity characteristically performed by that kind of human (that is, in that role).

(393) a. Mig langar svoooo að sjá þig **kennarast**.
me.ACC longs so to see you teacher-ST
'I want so much to see you teachering.'[2]

b. Mest lítið að frétta af mér, nema það að maður er bara á fullu að
most little to hear from me except it that man er just on full to
pabbast þessa dagana, kominn í fæðingarorlof og svona
daddy-ST these days come in paternity.leave and such
'Not much new with me, except that I'm just busy Daddying these days, on paternity leave and such.'[3]

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nominal morphology, and are thus likely not derived from roots, but from 'nouns', i.e. a [$_n$ $\sqrt{}$ n] structure. Thus, *kennarast* in (393a) 'teacher-ST' has the agentive *-ar(i)* '-er' suffix (from the verb *kenna* 'teach'), and *fjarstýringast* 'remote control-ST' in (395) has the nominalizing *-ing* suffix attaching to the verb *fjarstýra* 'operate remotely/by remote control' (which is itself a morphologically complex compound).

[2]http://drifalind.blogcentral.is/blog/2006/3/31/langthrad-helgi/

[3]http://nz.myspace.com/62454103/classic

This use is indeed very productive; proper names can form verbs of this kind as well, meaning ‘engage in an activity characteristic of the person denoted by that name’.

(394) a. (Brynhildur segir Ingu:) Mig langar að hafa þig hjá mér að **ingast**
Brynhildur tells Inga me.ACC wants to have you with me to Inga-ST
og **brynhildast**.
and Brynhildur-ST
‘Brynhildur tells Inga: I want to have you with me to Inga and Brynhildur.’[4]

b. en allt í einu kom nonni og byrjaði að **nonnast**
but all at once came Nonni and began to Nonni-ST
‘But all of a sudden, Nonni showed up and starting acting like Nonni.’[5]

However, this use of *-st* is by no means restricted to ‘person’-type nouns. The noun stem can name objects that are used as instruments, as in the example in (395).

(395) kannski að maður verði heima í kvöld að **fjarstýringast** og
maybe that man be.SBJV home to night to remote.control-ST and
símast
phone-ST
‘Maybe I’ll just stay home tonight remote-controlling and phoning.’[6]

The verbs in this sentence, *fjarstýringast* and *símast*, are constructed using the nominal stems *fjarstýring* ‘remote control’ and *síma* ‘telephone’, respectively. The meaning of the verbs is roughly ‘to engage in an activity characteristic of the noun’. The example above describes activities characteristically involving remote controls and telephones—namely, using them as instruments. Musical instruments (which are not obviously “thematic instruments”) can also form denominal *-st* verbs.

[4]This example was found on the internet in August 2009, but was no longer there at the time of writing this thesis.

[5]http://gummig.blogcentral.is/?page=9

[6]http://addster.blogspot.com/2004/12/tknibull-og-hamskipti.html

(396) a. ég er núna í boston og er að **trompetast**
I am now in Boston and am to trumpet-ST
'Now I'm in Boston trumpeting.'[7]

b. Ég væri til í að **gítarast** með ykkur.
I would.be up in to guitar-ST with you.PL
'I would be up for guitaring with y'all.'[8]

If the nominal root denotes a substance which is consumed, the activity sometimes seems to be that of consuming that substance. Thus, in (397), *hassast* seems to mean to 'smoke hash'; however, *kaffast* in (397b) seems less to mean 'to drink coffee', and more to mean 'hang out with coffee'. That is, the focus in (397b) is not on the consumption, but on the social activity.

(397) a. Er að gera ritgerð um Jamaica og þarf að vita er löglegt að **hassast**
am to do essay about Jamaica and need to know is legal to hash-ST
þar???
there
'I'm writing an essay about Jamaica and need to know if it is legal to hash there.'[9]

b. Við erum buin [*sic*] að eiga yndislegann [*sic*] dag, búinn [*sic*] að
we are finished to have wonderful day finished to
spóka okkur um í bænum, versla, **kaffast** á
stroll ourselves about in town.the shop coffee-ST in
útikaffihúsum og bara njóta þess að vera til.
outdoor.coffee.shops and just enjoy it to be alive
'We've been having a wonderful day, been strolling around town, shopping, coffeeing in outdoor coffee-shops, and just enjoying being alive.'[10]

When the root denotes a location, the resulting meaning is an 'activity characteristic of that location'. To *facebookast* is to engage in the kinds of activities characteristically performed when one is on facebook, to *sundlaugast* is to engage in the kinds of activities

[7] http://gummiogolof.vitum.net/comments/recent?page=10

[8] http://www.hugi.is/metall/threads.php?page=view&contentId=4648643

[9] http://www.hugi.is/tilveran/threads.php?page=view&contentId=3116309

[10] http://katrinabjorg.blogcentral.is/blog/2006/5/6/gledinlegann-solrikann-laugardag/

characteristically performed at the *sundlaug* ‘swimming pool’, and to *strandast* ‘beach-ST’ is to engage in the kinds of activities characteristically performed at the beach.

(398) a. Þá erum við systurnar komnar upp í rúm, hún að **facebookast** og ég
then are we sisters.the arrived up in bed she to facebook-ST and I
nýbúin að þjala og lakka klærnar.
just.finished to file and paint claws.the
‘Then my sister and I have climbed up into bed, her facebooking and me having just finished my nails.’[11]

b. Við ætlum aftur að **sundlaugast** á eftir
we intend again to swimming.pool-ST afterwards
‘We’re going swimming-pooling afterwards.’[12]

c. En vorið er nú bara rétt að byrja og ég vona að ég nái að
but spring is now just right to begin and I hope that I get to
strandast og **sólast** eitthvað áður en ég fer til Baunó aftur.
beach-ST and sun-ST a.bit before I go to Baunó again
‘But spring is just beginning and I hope that I get to beach and sun a bit before I go back to Baunó.’[13]

The kinds of activites are contextually determined. For a person to *sólast* ‘sun-ST’ as in (398c) thus seems to mean to sunbathe or lie in the sun. But in (399) below, *sólast* has a different meaning.

(399) Jörðin heldur áfram að snúast, sólin heldur áfram að **sólast** og senda
earth.the holds on to turn sun.the holds on to sun-ST and send
okkur hita og ljós og svona.
us heat and light and such
‘The earth keeps turning, the sun keeps sunning and sending us heat and light and so forth.’[14]

Here, when it is the sun itself which is ‘sunning-ST’, the meaning is to send out heat and

[11] http://rakelprinsessa.blog.is/blog/rakelprinsessa/category/1/?offset=140

[12] http://oskimon.com/2004/07/gsmbloggi-og-vodafone_25.html

[13] http://sjuklingur.blogspot.com/2004/09/tveggja-mnaa-bull.html

[14] This example was found on the internet in August 2009, but was no longer there at the time of writing this thesis.

do the kinds of things that we think of the sun as doing. Thus it has a meaning similar to the 'type of person' examples above.

The meanings of the sentences above probably make this clear, but these verbs are agentive, and they thus form impersonal passives.

(400) a. Það var djöflast allan daginn.
EXPL was deviled-ST all day
'(People) behaved/worked like the devil all day.' (Sigurðsson 1989:318)

b. Svo var bara gítarast svoldið.
then was just guitared-ST a.bit
'Then (people) just guitared for a bit.'[15]

This is thus clearly not an instance of *-st* in SpecVoiceP; these *-st* verbs have agentive, external arguments.

Why should the *-st* clitic have anything to do with forming intransitive, denominal activity verbs? I would like to suggest that the function of *-st* is, nevertheless, to "de-transitivize" denominal verbs, in a sense, despite the fact that alleged transitive uses are usually not well formed. In a recent study of denominal verbs in English, Rimell (2011) notes that there is a tendency for denominal verbs to be transitive. Overall, nominal roots occurred in the same verbal argument structure frames as verbal roots. There was, however, a strong tendency that went in basically one direction: denominal roots were less likely to be intransitive, and more likely to be transitive, than verbal roots. In her statistical corpus study, she specifically makes the following observations, comparing nominal roots to verbal roots in corpora:

[15] http://alexandra89.blogcentral.is/?page=2

(401) a. Denominal roots were overall significantly more likely to be transitive than verbal roots. (Rimell 2011:113)

b. Among roots which only occurred in one argument structure frame, denominal verbs were significantly less likely to be unergative activity verbs. (Rimell 2011:118)

c. Among roots which only occurred in one argument structure frame, denominal verbs were more frequently transitive than verbs with verbal roots. (Rimell 2011:118)

d. Adding the total number of roots, denominal roots were significantly more likely to be a transitive activity (*drive, push*) or transitive achievement (*throw, defuse*) than verbal roots. (Rimell 2011:114, 117)

e. Denominal roots are much more likely to occur in the *V's it (up)* construction. (Rimell 2011:121).

f. Among intransitive verbs, significantly more denominal verbs occurred with a particle (or adjective) than verbs with verbal roots. (Rimell 2011:121)

The observations in (401a-d) refer to the statistical frequency in her corpus, and are basically specific instances of the same tendency: for denominal verbs to be transitive. The observation in (401e) is especially relevant here. The *V's it (up)* construction in English refers to sentences such as the following.[16]

(402) a. i fucking hate the begining of this song when they are **guitaring it up**, and then when the intro is finished, it picks up, and i looove rockin out to it.

b. You still **guitaring it up** in the charm city?

c. One of my dogs always comes to sit under the piano when I'm playing, and will also want to be the room if I'm singing/**guitaring it up**.

[16](402a-c) were taken from the web.

d. Picked this bad boy up while I was **beering it up** in St. Louis. (Rimell 2011:84)

When there is a particle, it is almost always *up*. The object *it* is expletive, in that it does not refer to any discourse entity. Postal (1992) argues that this type of *it* is a special class which he calls "digits", and analyzes them as a type of inherent reflexive pronoun.[17] Further examples of this kind of *it* discussed by Postal (1992) are provided in (403) (note that only (403a-b) involve nominal roots).

(403) a. Selma was pigging it up in the den.

b. Mark is always hamming it up.

c. The minister decided to tough it out.

d. Mervyn never made it to London.

e. Make it snappy with that drink.

This observation that denominal verbs with an intransitive meaning strongly prefer to be syntactically transitive (with this expletive *it*), according to Rimell (2011), goes back to Jespersen (1942:108-109): "When from a sb [substantive] is formed a vb which from its signification must be intransitive, there is a strong tendency to add *it* as a kind of 'empty' object." Jespersen's examples are given in (404).

(404) a. cat it (up a water-pipe)

b. she could not heroine it into so violent and hazardous an extreme

c. Well, I must man it out

[17] He explicitly argues that they are not expletives, in that they have a host of properties that differentiate them from extraposition expletives, weather expletives, existential expletives, etc. What is important for the point in this section is that this *it* is not a thematic argument, and this is consistent with Postal (1992).

d. we would sleep out on fine nights; and hotel it, and inn it, and pub it when it was wet

e. shall we cab it or bus it?

Rimell (2011) in her corpus study, verifies this intuition of Jespersen's quantitatively, as cited in (401e).

Where does this leave us with respect to denominal *-st* verbs in Icelandic? I think that they support the view that *-st* is serving an expletive, detransitivizing function. For some reason, denominal verbs do not like to be intransitive. Grammars apparently have ways around this. English makes use of an expletive *it* to form thematically intransitive activity verbs from nouns. In Icelandic, there is no expletive *it* that serves this function; the examples in (405) are completely impossible.

(405) a. * Þeir eru að gítara það (upp).
they are to guitar it up

b. * Ég var að bjóra það (upp).
I was to beer it up

Nor do I know of any pronoun other than *það* 'it' or particle other than *upp* 'up' that would make constructions analogous to English (403).[18] However, we already saw examples of *gítarast* 'guitar-ST' with the activity reading, and *bjórast* 'beer-ST' is possible as well:

[18]There is another denominal construction which involves a reflexive pronoun and a particle but has a different meaning, as pointed out to me by Einar Freyr Sigurðsson and Eiríkur Rögnvaldsson.

(1) a. Appa-ðu þig upp.
app-2SG.NOM yourself upp
'App up.'

b. ?* Gítara-ðu þig upp.
guitar-2SG.NOM yourself upp

This construction, however, does not seem to have the activity meaning of (403), but rather means something like 'load up on (noun)' or '(noun) up' in English. Further research might show that it also reflects the transitivity tendency with denominals.

(406) strákarnir verða að bjórast og ég og Sigrún vorum að íhuga að
boys.the become to beer-ST and I and Sigrún were to consider to
túristast eitthvað á meðan.
tourist-ST a.bit meanwhile
'The boys will be beering (it (up)?) and Sigrún and I were considering touristing (it (up)?) a bit at the same time.'[19]

The range of uses of English denominal verbs with expletive *it* is very similar to the range of uses of denominal -*st* verbs. Possibly, Icelandic involves a null particle in the Icelandic -*st* denominals as well, the presence of which is identified by -*st*.[20] Whatever the right analysis, I think it very likely that -*st* is doing for Icelandic what the expletive *it* is doing for English: allowing a the formation of a denominal activity verb by filling the syntactic object 'slot' with an element that won't be interpreted as a thematic object. If so, then denominal -*st* verbs further support the view that -*st* is a valency-reducing, argument expletive, fulfilling a syntactic need without being interpreted as a thematic argument. I leave a more explicit analysis for future work.

6.2 Modal Passive -*st* Verbs and Generic Middles

In chapter 5, I argued that the reason that -*st* anticausatives could not be formed with obligatorily agentive vPs was that if Voice introduces a θ-role, and -*st* is in its specifier, then there will be no DP to saturate that role. In this section, I support this explanation further by looking at "modal passive" -*st* verbs.

As discussed in §2.1.2, -*st* does not usually mark the 'passive' in Icelandic. The difference between "passive" and "anticausative" is usually taken to be that the passive has

[19] http://auspaus4.blogspot.com/2002_07_21_archive.html

[20] Matthew Whelpton (p.c.) points out to me that some denominal -*st* verbs occur with overt *um* 'about/around', such as *fíflast um* 'fool around'. See Barðdal (2001:271) for a list of similar examples.

an implicit agent. This agent can be recovered with *by*-phrases, or identified with purpose clauses or agentive adverbials. While *-st* anticausatives and passives have in common that they both project no overt, external argument subject, they differ in that anticausatives do not have an implicit agent. However, there is a restricted set of cases which seem much more passive-like, with certain kinds of deontic modals (Ottósson 1986:111-2, 1989:62-4; Sigurðsson 1989:260-1). According to Ottósson (1989:62-3), this use "has a bureaucratic or businesslike flavour" and is "frowned upon by the puristic norm."

(407) a. Fundurinn **verður** að auglýsast vel.
meeting.the.NOM must to advertise-ST well
'The meeting needs to be well advertised.' (Ottósson 1989:63)

b. Fundurinn **á** að auglýsast vel.
meeting.the.NOM ought to advertise-ST well
'The meeting ought to be well advertised.' (Ottósson 1986:111)

c. Fundurinn **þarf** að auglýsast vel.
meeting.the.NOM needs to advertise-ST well
'The meeting needs to be well advertised.' (Ottósson 1986:111)

d. Fundurinn **átti** að haldast daginn eftir.
meeting.the.NOM ought.IND.PAST to hold-ST day.the after
'The meeting was to be held the next day.' (Ottósson 1989:63)

An agentive *by*-phase is occasionally used in this construction, such as in the example in (408a), found on the web.[21] However, it is less acceptable if the *by*-phrase introduces a specific individual.

[21]These judgments are due to Jóhannes Gísli Jónsson and Ásgrímur Angantýsson.

(408) a. ? Biblían á að lesast og rannsakast af öllum mönnum
bible.the ought to read-ST and investigate-ST by all men
alls staðar.
everywhere
'The Bible ought to be read and studied by all men everywhere.'[22]

b. ?? Biblían á að lesast og rannsakast af Jóni.
bible.the ought to read-ST and investigate-ST by John

As also noted by Ottósson (1986, 1989) and Sigurðsson (1989), this construction may be licensed by subjunctive morphology on the verb as well, with an 'instructional' effect.

(409) a. Bókin á að lesast í heild
book.the ought to read-ST in full
'The book ought to be read in full.'

b. Bókin lesist í heild.
book.the reads.SBJV-ST in full
'This book is (to be) read in full.'

c. * Bókin last í heild.
book.the read.PST-ST in full
INTENDED: 'The book was read in full.'

d. * Bókin lest einfaldlega.
book.the read.PRS-ST easily
INTENDED: 'The book reads easily.' (Halldór Sigurðsson p.c.)

(410) a. Kakan bakist við vægan hita.
cake.the.NOM bakes.SBJV-ST at moderate heat
'The cake is to be baked at moderate heat.' (Ottósson 1989:63)

b. ?? Kakan bakaðist við vægan hita.
cake.the.NOM baked-ST at moderate heat
INTENDED: 'The cake was baked at moderate heat.' (Halldór Sigurðsson p.c.)

It is a bit difficult to evaluate the synchronic status of the construction. Ottósson (1986:119) says, "This marginal phenomenon is essentially alien to colloquial speech

[22] http://blogg.visir.is/addirock/

and found in bureaucratic and business styles." The fact that it is prescriptively dispreferred and used anyway suggests a productive synchronic construction; the fact that it is "alien to colloquial speech" might suggest otherwise. However, Einar Freyr Sigurðsson (p.c.) provided the following example, which is acceptable to him, and was uttered by his aunt in a conversation referring to a certain kind of melon. She said that this melon should not be ground up in a blender and consumed, and used a modal *-st* passive construction:

(411) Hún má ekki borðast.
it.FEM may not eat-ST
'It may not be eaten.' (Attested in speech; Einar Freyr Sigurðsson p.c.)

In fact, one finds cases of the strongly agentive *myrða* 'murder' in this construction.

(412) a. Misak var kallaður sem atvinnuhermaður og átti að myrðast.
Misak was called as mercenary and ought.IND.PAST to murder-ST
'Misk was known as a mercenary and was to be murdered.'[23]

b. Þér álítið þá að þessi maður hafi átt að myrðast í hefndarskyni?
you consider then that this man have ought to murder-ST in revenge
'Then you think that this man was to be murdered for revenge?'[24]

Clearly, it is not *-st* itself that is introducing the passive reading; rather, the reading is somehow connected to the modal or subjective elements which are introduced above the VoiceP level. The nature of the connection between modals and "passiveness" needs to be better understood, but this connection is attested independently of Icelandic *-st*. Oltra-Massuet (2010), for example, examined complex adjectives such as *readable* or *deniable* in English and Romance, and argued that a modal (as well as aspectual) head is

[23] http://www.gamlinoi.is/page/11459/

[24] http://timarit.is/view_page_init.jsp?pageId=2216223&issId=161126&lang=en

present in their structure. These heads interact with a Voice head to determine a kind of passive semantics. (Examples in (413) taken from Kayne 1981; see also Roeper 1987.)[25]

(413) a. This book is readable by a 10-year old.

b. That is deniable by any intelligent person.

The type of modality seems to be different in the two cases: *-ble* adjectives involve ability or possibility, whereas *-st* modal passives involve instruction or deontic modality. Nevertheless, they also share the property that their *by*-phrases, when possible, are much more easily acceptable if they are generic.

(414) a. That book is readable by anyone.

b. ?? That book is readable by John.

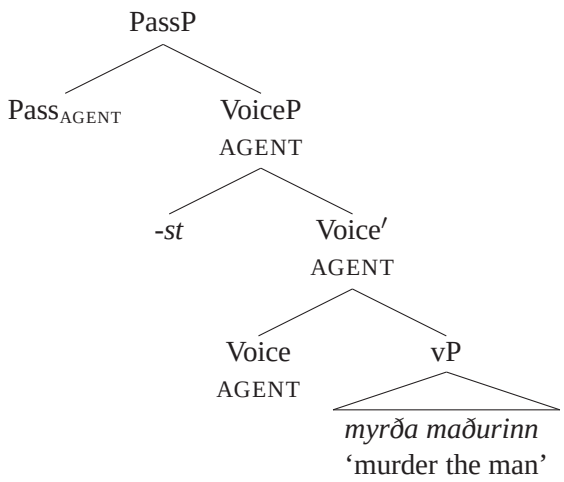
Suppose, then, that some head above VoiceP, perhaps interacting with a Mod(al) head, licenses passive semantics. Assume that passive semantics involves existential closer over an open entity predicate, as as in Bruening (2010a), shown in (415):

(415) $[\![\text{Pass}]\!] = \lambda f_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.\exists x_e.\ f(x)(e)$

If this head takes VoiceP as a complement, Voice may introduce an AGENT θ-role, even with *-st* in its specifer; the role will simply be saturated by the existentially closed variable.

[25] See Oltra-Massuet (2010) for an account of *-ble* adjectives which do not allow *by*-phrases.

(416) a.



b. $[\![\text{VoiceP}]\!] = \lambda x_e.\lambda e_s.\exists s_s.$ AGENT(x,e) $\wedge$ CAUSE(e,s) $\wedge$ murder(e) $\wedge$ state(s,the man)

c. $[\![\text{PassP}]\!] = \lambda e_s.\exists x_e.\exists s_s.$ AGENT(x,e) $\wedge$ CAUSE(e,s) $\wedge$ murder(e) $\wedge$ state(s,the man)

The denotation in (416c) is that of an ordinary passive, and is therefore incomplete; it denotes the set of events of murdering the man for which there exists an agent. To make this denotation complete, it would have to relativized to the modal base, specifically to the set of (ideal) possible worlds, where it would say, basically, "in the ideal world, there exists an agent of an event of murdering the man." The important point for present purposes is that it is the modal, above VoiceP, that is licensing the passive semantics, not -*st* itself; -*st* just absorbs the SpecVoiceP position syntactically, so introducing an AGENT role will be impossible, unless there is a way to saturate that role. Saturating the agent role with passive semantics is made possible by some ill-understood interaction between modality and passive syntax/semantics.

A related point can be made for generic middles, which imply an agent, but in a less robust way. Schäfer (2008) argues that the generic middle is a special interpretation of the anticausative. That is, the syntax is the same as the anticausative, but a generic operator is able to allow an agent to be introduced implicitly. Icelandic behaves just as one would

expect on this view: it is *-st* that marks the anticausative, and Schäfer (2008) correctly predicts that *-st* marks generic middles as well (Maling 2001:440–442).

(417) Rafmagnsbílar seljast (vel) hér.
electric.cars.NOM sell-ST (well) here
'Electric cars sell well here.'

Again, the claim here would be that Voice is able to introduce an agent role as long as the semantics of elements higher than VoiceP is able to saturate such a role. Clearly, more needs to be said here. Schäfer (2008) employs a modal analysis of genericity and proposes that a null generic operator is involved in licensing agentive semantics. This is completely compatible with the present approach as long as the generic operator is related to material outside of VoiceP. However, German does not seem to have anything like the modal passive construction, and one would like to know more explicitly what the role of modals is in general. Generic middles also do not license *by*-phrases, and seem in some intuitive sense to be "less passive" than *-st* modal passives. This echos the observation in Oltra-Massuet (2010:70), who notes that "although the implicit agentive external argument in *-ble* adjectives appears to be more constrained than in the corresponding passive constructions, it seems syntactically more active than in [generic] middles."

Ultimately, I think that the modal passive and generic middle facts point in the same direction: it is not *-st* that is specifically responsible for either. Rather, *-st* fills the external argument position, and how this affects the interpretation of Voice will depend on the elements around it: the semantics of vP, which may or may not demand a particular interpretation of Voice, and the elements above Voice (such as modal elements) which may play a role in saturating a role introduced by Voice.

6.3 Causative *Láta* 'Let' and *-st* Verbs

One class of verbs can occur with an apparently anticausative *-st* reading, but preferably or only with the verb *láta* 'let'.

(418) a. * Ég gabbaðist.
I.NOM fooled-ST

b. Ég lét gabba mig.
I.NOM let fool me.ACC

c. Ég lét gabbast.
I.NOM let fool-ST
'I let myself be fooled.'

Verbs of this type tend to be of the sort which describe a kind of external psychological control, such as *blekkja* 'deceive', *gabba* 'fool', *ginna* 'dupe', *glepja* 'fool', *hugga* 'console', *letja* 'dissuade', *plata* 'trick', *sefa* 'soothe', *stjórna* 'control', and *tilleiðast* 'persuade'. Not all of these verbs necessarily completely disallow an anticausative-like reading of *-st* without *láta* 'let', but they all allow the alternation with reflexive sentences as in (418b-c).[26]

(419) a. þjóðin lét ekki blekkjast af þessum Bretaþægu stjórnvöldum okkar
nation.the let not deceive-ST by this Britain.friendly government our
'The nation didn't let itself be deceived by this Britain-friendly government of ours.'[27]

[26]For one of my informants, *hugga* 'comfort', *sefa* 'soothe', and *róa* 'calm' are more natural than the others in the (418a) construction, with an anticausative reading. See Labelle (2008:850, ex. 47) for a similar kind of example from French.

[27]http://thjodarheidur.blog.is/blog/thjodarheidur/month/2011/12/

b. Tortrygginn nútímalesanda furðar að Gyrgir láti ginnast.
distrustful modern.reader surprises that Gyrgir let dupe-ST
'The distrustful modern reader is surprised that Gyrgir would let himself be duped.' (mim.hi.is)

c. Í OKTÓBER 2004 lét ég glepjast af gylliboði ykkar.
in October 2004 let I fool-ST by gold.offer your
'In October 2004, I let myself be fooled by your gleaming offer.'[28]

d. Hún lét strax huggast af orðum hans.
she let immediately console-ST by words his
'She immediately let herself be consoled by his words.'[29]

e. Því er mikilvægt að við rísum upp og náum markmiðum okkar
thus is important that we rise up and reach goals our

án þess að leyfa okkur að láta letjast eða truflast
without allowing ourselves to let dissuade-ST or disturb-ST

af tímabundnum erfiðleikum.
by temporary setbacks

'Thus it is important that we rise up and reach our goals without allowing ourselves to be dissuaded or disturbed by temporary setbacks.'[30]

f. Ég lét platast í gær og sagði já eftir smá umhugsunarfrest.
I let trick-ST yesterday and said yes after short reflection
'I let myself be tricked yesterday and said yes after brief reflection.'[31]

g. Gunni reyndi að hugga bróður sinn sem lét sefast eftir langa
Gunni tried to console brother his who let soothe-ST after long
mæðu.
struggle
'Gunni tried to console his brother who let himself be soothed after a long struggle.' (mim.hi.is)

[28] http://www.mbl.is/greinasafn/grein/1023306/

[29] http://timarit.is/view_page_init.jsp?pageId=2167253

[30] http://disadora.blog.is/blog/disadora/entry/664086/

[31] http://evahardar.blogdrive.com/comments?id=527

h. ...að ég hafi látið stjórnast af sjálfshatri og örvæntingu.
...that I have let control-ST by self-hate and despair
'...that I have let myself be controlled by self-hate and despair.' (mim.hi.is)

i. Komdu, það er allt í lagi.
Come it is okay
'Come on, it's okay.'

Ég læt tilleiðast og fer inn í herbergið.
I let persuade-ST and go in to room.the
'I let myself be persuaded and go into the room.' (mim.hi.is)

The analytical problem raised by these verbs is that on the one hand, they seem to be anticausative-like, in that the internal argument of the lexical verb becomes the surface subject. On the other hand, if *láta* 'let' takes an external argument with an agent role, it would seem that the surface subject is also absorbing that role. Thus, the construction looks like it involves movement into a θ-position; this is not incompatible with the proposal in this thesis in principle, but it would lead to a significant weakening of the overall system. Moreover, it is unclear why this should kind of construction be limited only to *láta* 'let'. In addition, an analysis of this construction in terms of movement into θ-positions would still overgenerate drammatically. It is only internal arguments of a certain thematic type that can instantiate this kind of relation.

(420) a. * Hann lét myrðast.
he let murder-ST

b. * Hann lét drepast.
he let kill-ST

c. * Hann lét elskast.
he let love-ST

d. * Hann lét gagnrýnast.
he let criticize-ST

While it is a restricted set of verbs that occur in this construction, they seem to be systematic in their semantic properties. That is, they all involve something that might not happen if the patient focuses his/her mental attention in a certain way. Someone may intentionally fool, trick, dupe, confuse, or deceive me, but in order for him/her to be successful, the manner in which I direct my psychological state must be such that the things they do will work. Similarly with comfort, soothe, calm, dissuade, persuade, etc. In contrast, the agent of criticize, love, kill or murder may be successful independently of the state of mind of the patient/theme. Richard Kayne points out to me that one can criticize, love, kill, or murder someone while s/he is sleeping, but it would not be possible to dupe, confuse, trick or comfort someone while s/he is sleeping.

There is thus a "let-like" meaning inherent in the verbs that may occur in this construction. It is this that seems to be behind why *láta* 'let' appears; an anticausative is canonically an event that happens on its own. With these verbs, the event happens on its own only if the patient or patient's state of mind lets it happen. That the semantics of 'let' and the verb interact in this way, I believe, justifies a systematic syntactic and semantic analysis, rather than treating them as lexical curiosities or jumping to movement into theta-positions. *Láta* 'let', *-st* and the verb combine to build an "anticausative state of mind". The result is somewhere in between a canonical anticausative and a passive (which is somewhat reminiscent of the modal passives discussed in the previous section).

Notice that several of the examples above name causes in *af* PPs; however, a canoncial passive by-phrase with an agent is judged as strange, though not completely unacceptable. It seems to have a reading that refers not the the actions of the person, but some property of him or her, as illustrated with the attested example in (421b). For Einar Freyr Sigurðsson (p.c.), the by-phrase improves if it is generic or involves a quantifier as in (421c), though speakers seem to differ on this.

(421) a. ?? Ég lét blekkjast af Jóni.
I let deceive-ST by John

b. Hún lét líka blekkjast af manninum í upphafi,
she let also deceive-ST by man.the in beginning

af grímunni hans, varnarskelinni hans.
by mask.the has defense.shell.the his

'She let herself be deceived by the man in the beginning, by his mask, his defense mechanisms.'[32]

c. (?) Hann lét blekkjast af öllum nema Jóni.
he let deceive-ST by everyone but John
'He let himself he deceived by everyone but John.'

I would propose that there is no external argument of *láta* 'let' in these constructions (or at least that the surface subject is not the external argument). Rather, the internal argument is the sole argument of the complex predicate built with *-st* and *láta* 'let' together.

(422) [*hann* 'he' [*láta* 'let' [*-st* [*blekkja* 'deceive' ⟨*hann* 'he'⟩]]]]

The properties of these contructions need further research in order to flesh out the details of such an analysis, but I must leave this for future work.

6.4 Reciprocal *-st* Verbs

Like many multi-functional 'reflexive/anticausative' morphemes cross-linguistically, *-st* has a reciprocal use.

(423) a. Jóna og Siggi kysstu hvort annað eftir ballið.
Jóna.NOM and Siggi.NOM kissed each other.ACC after dance.the
'Jóna and Siggi kissed each other after the dance.'

[32] http://this.is/harpa/sidblinda/den_paene_psykopat.html

b. Jóna og Siggi kysstust eftir ballið.
Jóna.NOM and Siggi.NOM kissed-ST after dance.the.
'Jóna and Siggi kissed after the dance.' (Jónsson 2005:399)

As we might expect, the periphrastic reciprocal and the *-st* reciprocal exhibit some differences, including differences in the contribution of the verbal root. For example, *tala* 'talk' generally refers to having a conversation, while reciprocal *talast* tends to refer more closely to the relation between individuals involved, as illustrated in the translation for the following examples.

(424) a. Ásta og Erla töluðu ekki hvor við aðra.
Ásta and Erla.NOM talked not each.NOM with other.ACC
'Ásta and Erla weren't talking to each other (at the moment).'

b. Ásta og Erla töluðust ekki við.
Ásta and Erla.NOM talked-ST not with
'Ásta and Erla weren't on speaking terms.'

A similar meaning shift comes about in the reciprocal use of *talk* in English, so *They're not talking anymore* can mean that they are no longer on speaking terms. In some cases, the difference is quite drastic; for example, in non-reciprocal uses, the root $\sqrt{\text{RÍF}}$ can mean 'tear/rip' whereas in reciprocal uses, *rífast* means 'quarrel'.

Some reciprocal *-st* verbs allow a singular subject as long as it occurs with a *við* 'with' PP. Others do not. I will refer to the former as 'Type 1' reciprocals and the latter as 'Type 2' reciprocals.[33]

(425) a. Anna og Jón börðust.
Anna and John.NOM fought-ST
'Anna and John fought.'

[33] Irie (1996) has a finer-grained division than this, but his other subclasses are distinguished on such subtle grounds that it is not clear to me that they should be treated as separate classes altogether.

b. Anna barðist við Jón.
Anna.NOM fought-ST with Jón.ACC
'Anna fought with Jón.'

(426) a. Jóna og Siggi kysstust.
Jóna and Siggi kissed-ST
'Jóna and Siggi kissed.'

b. * Jóna kysstist við Sigga.
Jóna kissed-ST with Siggi

Note that the *við* 'with' of these reciprocals is distinct from the comitative preposition *með* 'with'. Further, unlike English *with*, *við* does not occur with reciprocal adjectives like *friends*, as far as I know.

(427) a. Jóni finnst gaman að fara á ströndina með kærustunni sinni.
John finds fun to go to beach.the with girlfriend.the his
'John enjoys going to the beach with his girlfriend.'

b. * Jóni finnst gaman að fara á ströndina við kærustuna sína.
John finds fun to go to beach.the with girlfriend.the his

(428) a. * Jón er vinir.
John is friends.PL

b. * Jón er vinir við Bjart.
John is friends.PL with Bjartur

c. Jón og Bjartur eru vinir.
John and Bjartur are friends
'John and Bjartur are friends.'

Interestingly, many reciprocal *-st* verbs require the addition of a preposition which takes no overt complement. As far as I know, all of the Type 1 reciprocals take *á* 'on/to' for this preposition.[34]

[34]The lists in this section are based on the study in Irie (1996).

(429) Type 1 Reciprocals (sg.+*við* is okay)

a. Without P: *berjast* ‘fight’, *bítast* ‘bite, compete’, *horfast í augu* ‘look straight in the eye’, *(vera að) metast* ‘be disputing over some attribute’, *skylmast* ‘fight using swords, fence’, *sættast* ‘be reconciled’, *vingast* ‘make friends’

b. With P: *fljúgast* ***á*** ‘spring on each other’, *hringjast* ***á*** ‘telephone’, *hvíslast* ***á*** ‘whisper’, *kallast* ***á*** ‘call (from a distance)’, *skrifast* ***á*** ‘correspond’, *skiptast* ***á*** ‘exchange something’, *stangast* ***á*** ‘contradict’, *takast* ***á*** ‘wrestle’, *togast* ***á*** ‘pull/tug’,

(430) a. Anna hefur lengi **skrifast á** við Jón.
she.NOM has long written-ST on with John
‘Anna has long corresponded with John.’

b. Anna og Jón hafa lengi skrifast á.
Anna and Jón have long written-ST on
‘Anna and Jón have long corresponded.’

With Type 2 reciprocals other prepostions may occur, including *að* ‘at/to’ and *við* ‘at/with’.

(431) Type 2 reciprocals (sg.+*við* is unacceptable)

a. **Without P**: *eigast* ‘marry’, *faðmast* ‘embrace’, *hatast* ‘hate’, *heilsast* ‘greet’, *heyrast* ‘hear’, *hittast* ‘meet’, *kveðjast* ‘say good-bye’, *kyssast* ‘kiss’, *leiðast* ‘walk hand in hand’, *mætast* ‘meet/pass’, *njótast* ‘live together’, *sjást* ‘see’, *skerast* ‘cross’, *snertast* ‘touch’, *unnast* ‘love’, *þekkjast* ‘know’

b. **With P**: *fylgjast* ***að*** ‘go together’, *hjálpast* ***að*** ‘help’, *ræðast* ***við*** ‘converse’, *skiljast* ***að*** ‘separate accidentally’, *spjallast* ***við*** ‘chat’, *talast* ***við*** ‘talk’,

(432) a. * Ásta talaðist ekki við við Erlu.
Ásta talked-ST not with with Erla

b. * Ásta talaðist ekki við.
Ásta talked-ST not with

c. Ásta og Erla töluðust ekki við.
Ásta and Erla.NOM talked-ST not with
'Ásta and Erla weren't on speaking terms.'

(433) a. * Pabbi hjálpaðist að við húsverkin við mömmu.
Daddy helped-ST to with house.work.the with Mommy

b. * Pabbi hjálpaðist að við húsverkin.
Daddy helped-ST to with house.work.the

c. Pabbi og mamma hjálpuðust að við húsverkin.
Daddy and Mommy helped-ST to with house.work.the
'Daddy and Mommy helped (each other) out with the housework.'

Some reciprocals are non-agentive, and are able to carry an implication that the event happened accidentally.

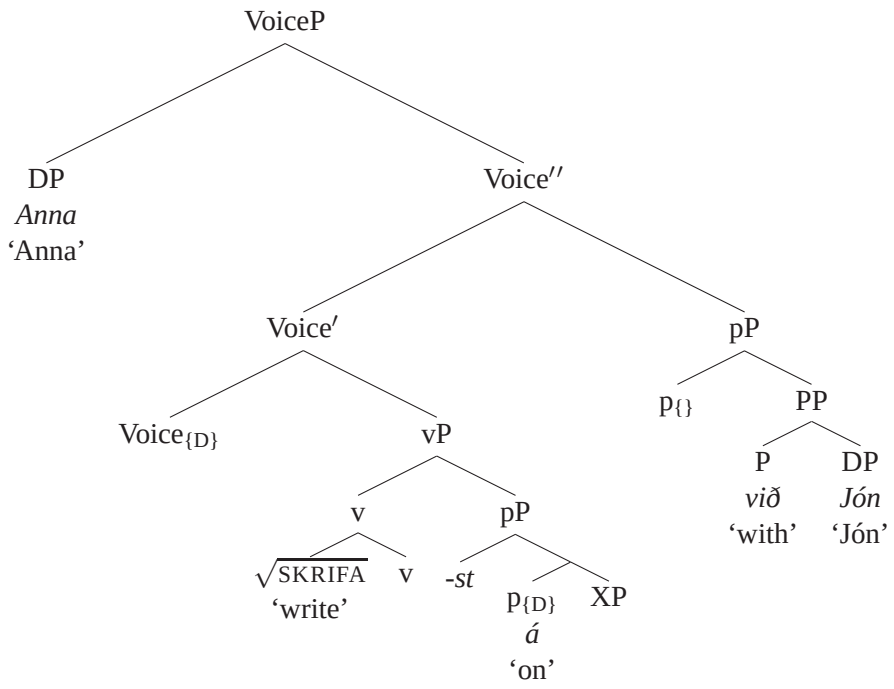
(434) Hendur okkar snertust þegar við gengum hvor framhjá öðrum.
hands our touched-ST when we walked each past other
'Our hands touched as we walked by each other.'

According to Irie (1996), only Type 2 reciprocals are like this; Type 1 reciprocals must be agentive.

Thus, we seem to have an intriguing collection of properties: Type 1 recriprocals are agentive, allow a singular subject with a *við* 'with' phrase, and if they require a preposition, it is always *á*; while Type 2 reciprocals are not necessarily agentive, do not allow a singular subject with a *við* 'with' phrase and take prepositions other than *á*. If these correlations survive closer scrutiny, it should be possible to locate *-st* with respect to the other elements involved in building reciprocals, shedding light on the syntax of the functional elements involved. The details of the syntax and semantics are extremely intricate, however, and I will not be able to develop a full analysis here. What follows should be considered a sketch of how the properties associated with the different types might be derived in a system such as the one proposed here.

I can think of one natural way to derive the agentivity requirement for Type 1 reciprocals, and correlate that with the availability of *við* phrases. Kayne (1994:63-66) proposes that *with*-phrases form an underlying coordination, but that unlike *and*-phrases, only the complement of *with* is Case licensed.[35] If the *við*-phrase coordinates two arguments semantically, and if the obligatory agentivity suggests an externally merged DP in SpecVoiceP, then the syntax of Type 1 reciprocals could be derived as in (435).

(435)



Here, I assume that the complement of *á* will be an implicit XP, but nothing hinges on that. The *við* pP will be an open predicate of coordination, as suggested by Kayne (1994:64).[36]

[35]Replacing this with the notion of φ-licensing assumed here, adopted from Sigurðsson (2012b), would not change the content of Kayne's proposal, since it was licensing and not morphological case that was important to the analysis.

[36]Kayne (1994) actually proposes movement out of the *with* phrase, as noted above, and of course did not advocate for the sort of right-adjoined phrase structure in (435). An LCA-compatible analysis would be compatible with the present suggestion if the *við* phrase could be merged in SpecVoiceP, with one argument moving out of the *við* phrase. This would also require further movements to get the word order (some of

In working out a semantics for the structure in (435), a question that arises is whether the semantics of reciprocality is related to Voice or v. There has been a recent trend in various analyses to relate reciprocality to Voice (Bruening 2006; Labelle 2008). The reason seems to stem from the intuition that *se*-like morphemes which can be anticausative, reflexive, or reciprocal, should be related to the semantics of the external argument. For reciprocals, while I cannot defend my position fully, I believe this to be mistaken. First, as noted above, reciprocals are not always agentive. Sometimes, the sole argument of a reciprocal seems to be a plain internal argument, which is at odds with the semantics developed for reciprocals in the Voice analysis. Second, such analyses usually involve an unsaturated VP—a VP which is normally transitive, but anomalously does not take an internal argument just in case Voice will be reflexive/reciprocal. This seems to be an unfortunate look-ahead, where the syntax is setting things up in an anomalous manner just in case a particular semantics is chosen.[37]

I propose instead that the reciprocal semantics and requirement for a plural argument is located in v. This allows for a local relation with lexical roots, accounting for the sometimes idiosyncratic semantic effects noted above. Further, it allows us to retain the view that v is responsible for eventive semantics, while Voice is present to relate an argument to an independently-introduced event. Finally, and most importantly, it allows the plural requirement to be effected on internal or external arguments, as I will illustrate

which may be necessary anyway (cf. footnote 37 in chapter 2)). Since this is orthogonal to the issues here, I set it aside for now.

[37]While the present system should have no trouble allowing an intransitive v to take a transitive denotation, the difficulty is that we have seen all along that roots decide whether they combine with transitive or intransitive v prior to the semantics; this is why -*st* is needed in some cases (see §4.2.4). Therefore, if this sort of mismatch were possible, the logic of the system developed here would lead us incorrectly to expect that intransitive verbs/roots would be reciprocal, while transitive verbs/roots would not.

below.

The semantic composition I tentatively propose for (435) is shown in (436).

(436) Semantic Composition of (435)

a. $[\![\text{vP}]\!] = \lambda z_e.\lambda P_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.|z| \geq 2.\forall x,y{\in}z.$ write-to(x,y,e) $\wedge$ write-to(y,x,e) $\wedge$ P(x,e) $\wedge$ P(y,e)

b. $[\![\text{Voice}]\!] = \lambda x_e.\lambda e_s.$ AGENT(x,e)

c. $[\![\text{Voice}']\!] = \lambda z_e.\lambda e_s.|z| \geq 2.\forall x,y{\in}z.$ write-to(x,y,e) $\wedge$ write-to(y,x,e) $\wedge$ AGENT(x,e) $\wedge$ AGENT(y,e)

(c) comes from (a) and (b) via Function Composition

d. $[\![\text{við pP}]\!] = \lambda q_e.$ q $\wedge$ Jón

e. $[\![\text{Voice}'']\!] = \lambda z_e.\lambda e_s.|z \wedge \text{Jón}| \geq 2.\forall x,y{\in}\{z \wedge \text{Jón}\}.$ write-to(x,y,e) $\wedge$ write-to(y,x,e) $\wedge$ AGENT(x,e) $\wedge$ AGENT(y,e)

(e) comes from (c) and (d) via Function Composition

f. $[\![\text{VoiceP}]\!] = \lambda e_s.|\text{Anna} \wedge \text{Jón}| \geq 2.\forall x,y{\in}\{\text{Anna} \wedge \text{Jón}\}.$ write-to(x,y,e) $\wedge$ write-to(y,x,e) $\wedge$ AGENT(x,e) $\wedge$ AGENT(y,e)

(f) is derived via Functional Application

$\approx$ 'The set of events e such that Anna and Jón, whose cardinality is greater than or equal to 2, are each writers and writees.'

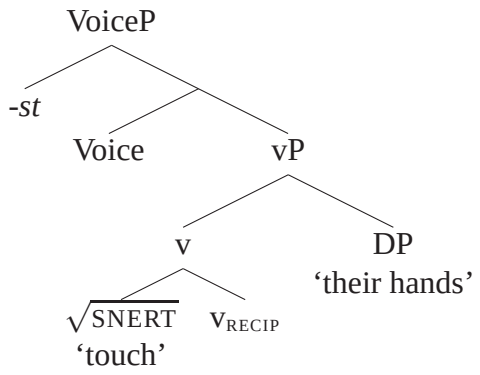
The reciprocal v is looking for a plural entity, i.e. one whose cardinality is greater than or equal to two. Whatever the semantic contribution of the pP complement in (435), it is not a plural entity, so I assume this argument to be unsaturated at the vP level.[38] When

[38]This is one of the aforementioned over-simplifications; I would suspect that the v+pP combination would compositionally build up the (at present unsatisfyingly complex) "write-to" predicate, but I have to gloss over this for now.

this combines with Voice, which introduces the agent relation, it combines by Function Composition, allowing the agent relation to be distributed among the elements of the plurality. The *við* pP is an open coordination, and combines with Voice′, again by Function Composition, passing its open entity argument up the tree; this eventually satisfies the semantic requirement for a plural argument, once the DP in SpecVoiceP saturates the open position in the coordination.

As mentioned above, locating the reciprocal semantics in v allows the plural requirement to be effected on internal or external arguments. The syntax of at least the non-agentive Type 2 reciprocals, then, would involve external *-st*, as shown in (439).

(437)



This accounts for the impossibility of *við* pPs, as long as the latter are restricted to the VoiceP level in their coordination use. This analysis allows the sole argument to be non-agentive, since Voice may be semantically expletive. Semantically, such non-agentive reciprocals would minimally involve the denotation in (438a).[39]

(438) a. $[\![\text{v}_{\text{RECIP}}]\!] \leftrightarrow \lambda z_e.\lambda e_s.\ |z| \geq 2.\ \forall x,y \in z.\ \text{touch}(x,y,e) \wedge \text{touch}(y,x,e)$

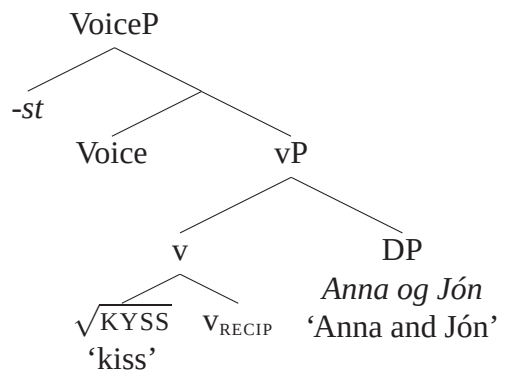
b. $[\![\text{vP}]\!] = \lambda e_s.\ |\{\text{their hands}\}| \geq 2.\ \forall x,y \in \{\text{their hands}\}.\ \text{touch}(x,y,e) \wedge \text{touch}(y,x,e)$

[39] Again, I simplify quite a bit here for presentational purposes, putting in only the salient essentials of reciprocal semantics; the basic idea works for more complex denotations. See Bruening (2006) and references there for some relevant semantic issues.

The difference in the denotation here is that there is no "λP" looking for a relation over which to symmetrically distribute the participants of the plurality. That is, for the non-agentive reciprocals, v_{RECIP} simply introduces symmetry between the sub-elements of the plural DP.

However, there would also be a way to optionally combine with an external role, even with the syntax in (439), by using the denotation for v used above for agentive reciprocals. Since (439) involves a DP object, however, the semantic composition will proceed differently.

(439)



(440) a. $[\![v_{\text{RECIP}}]\!] = \lambda z_e.\lambda P_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.|z| \geq 2.\forall x,y{\in}z.\ \text{kiss}(x,y,e) \wedge \text{kiss}(y,x,e) \wedge P(x,e) \wedge P(y,e)$

b. $[\![vP]\!] = \lambda P_{\langle e,\langle s,t\rangle\rangle}.\lambda e_s.|\{\text{John} \wedge \text{Anna}\}| \geq 2.\forall x,y{\in}\{\text{John} \wedge \text{Anna}\}.\ \text{kiss}(x,y,e) \wedge \text{kiss}(y,x,e) \wedge P(x,e) \wedge P(y,e)$

(b) is derived via Functional Application

c. $[\![\text{Voice}]\!] = \lambda x.\lambda e.\ \textsc{agent}(x,e)$

d. $[\![\text{Voice}']\!] = \lambda e_s.|\{\text{John} \wedge \text{Anna}\}| \geq 2.\forall x,y{\in}\{\text{John} \wedge \text{Anna}\}.\ \text{kiss}(x,y,e) \wedge \text{kiss}(y,x,e) \wedge \textsc{agent}(x,e) \wedge \textsc{agent}(y,e)$

(d) is derived from (b) and (c) via Functional Application

First, v_{RECIP} makes sure that the internal argument is a plurality and introduces the symmetry among the elements in that plurality. Second, vP combines with agentive Voice

and takes all members of the plurality to be agents of the event. Here again, a *við* phrase would not be possible if it were attached at the VoiceP level, since all the thematic composition has been completed once Voice combines with vP, *-st* simply serving a syntactic, expletive function.

As emphasized above, much more remains to be said about the semantics and syntax of reciprocals. What I hope to have shown here is that the differing properties of Type 1 and Type 2 reciprocals—specifically the correlation of obligatory agentivity with the (un)availability of singular subjects and *við* phrases—can be derived by assuming the latter involve a kind coordination along the lines of Kayne (1994) (at least semantically), and taking the frequent appearance of *á* as indicative of a vP-internal merger of *-st*. The non-agentive reciprocals are compatible with an anticausative-like derivation, with *-st* serving an expletive function in SpecVoiceP, whether Voice introduces an agent role or not.[40] This has the potential, I think, to unify the reciprocal use of anticausative markers with their other uses cross-linguistically, but further work is needed to evaluate fully the validity of this proposal.

6.5 Other Reflexive *-st* Verbs

Certain reflexive uses of *-st* have played a particularly privileged role in the literature, so it is worth discussing some of them briefly here. I will discuss reflexive *-st* verbs such as the following.

[40]It is only exceptionally possible for Voice to introduce an agent role in this case if the reciprocal semantics of v is set up to provide a way to saturate that role, as shown above.

(441) a. Jón dulbjóst sem prestur.
John.NOM disguised-ST as priest
'John disguised himself as a priest.' (Jónsson 2005:400)

b. Keisarinn klæddist nýjum fötum.
emporer.the.NOM dressed-ST new clothes.DAT
'The emperor dressed himself in new clothes.'
'The emperor wore new clothes.' (Valfells 1970:558)

c. Jón aðlagaðist breytingunum.
John adapted-ST changes.the.DAT
'John adapted (himself) to the changes.'

d. Sigga segist elska Svein.
Sigga.NOM says-ST love.INF Sveinn.ACC
'Sigga says she loves Sveinn.' (Andrews 1990:199)

As mentioned in §2.1.1, *-st* cannot normally be added to any given transitive verb to make it reflexive. This fact should rule out several possible analyses of the reflexive *-st* verbs. One analysis of reflexive *-st* verbs that has been proposed for various languages, and proposed for Icelandic by Marantz (1984) and McGinnis (2000), is that the reflexive originates in the external argument position and A-movement of a DP argument around that position allows it to bind the reflexive. In McGinnis (2000), *-st* is the overt realization of Voice whenever no DP with a full set of φ-features is base generated in its specifier.[41] She proposes that a null reflexive lacks such features and occupies SpecVoiceP. The internal argument moves around it to the outer specifier of VoiceP and binds the null reflexive. I will refer to this as the 'movement-binding' account.

(442) $[\ \mathrm{DP}_i\ [_{\mathrm{VoiceP}}\ \mathrm{REFL}_i\ \mathrm{Voice}\ [_{\mathrm{vP}}\ \mathrm{v}\ \mathrm{t}_i\ ]\ ]\ ]$

The movement-binding account cannot in generally be correct for Icelandic, because it predicts that any DP which can A-move from an internal argument position, for any verb,

[41] In McGinnis (2000), v does the work of Voice here.

should be able to form a reflexive. As we have seen, however, reflexive -*st* verbs are very limited in Icelandic. Even more strikingly, it predicts that there should be reflexive -*st* verbs with oblique subjects. As discussed in §1.3.1, according to a well-supported line of analysis going back at least to Sigurðsson (1989) (see also Marantz 1984:79-83 and Platzack 1987:392-4), and adopted by many since (cf. Marantz 1991/2000; Holmberg and Platzack 1995; Jónsson 1996; McFadden 2004), dative subjects (and other oblique subjects) in Icelandic are always derived by promotion of an internal argument to subject position. Such promotion allows the dative to bind reflexives in the ways that nominative subjects do (Thráinsson 1979; Zaenen et al. 1985). If reflexive -*st* verbs were derived by movement of an internal argument to a position c-commanding -*st*, in order to bind it, we would expect there to be reflexive -*st* verbs with dative subjects. However, according to Jónsson (2005:401), while there are various kinds of -*st* verbs which have dative subjects, no reflexive -*st* verb has a dative subject.

According to the analysis of figure reflexive -*st* verbs presented in chapter 4, and the analysis of -*st* in general in the thesis, any time -*st* merges in an interpreted argument position lower than Voice, it should be able to form a reflexive. Thus, another possible analysis of reflexive -*st* verbs would be to say that -*st* merges in the direct object position. While this is not completely out of the question, there are numerous reasons to avoid it. For one thing, it would seem to incorrectly predict that any transitive verb could allow a reflexive -*st* verb, in principle. This prediction may not be as strong as it seems. As discussed in detail in §4.2.3, various syntactic and semantic properties conspire to ensure that a particular lexical root is acceptable in the kind of event-structural representation generated by -*st* reflexives. We might exclude any 'naturally disjoint' roots (cf. §1.3.4) from forming -*st* reflexives in this way. However, it is not at all clear why inherent reflexives like *hegða* 'behave' could not form -*st* reflexives, and the same goes for naturally

reflexive verbs like *raka* ‘shave’. The only way to save the analysis of reflexive *-st* verbs where *-st* merges in direct object position, it seems to me, is to say that *-st* generally cannot merge in the direct object position, and that the verbs for which it does are unproductive idioms. Given the unconstrained and unfalsifiable nature of that analysis, it should also be avoided.

The much more desirable alternative is to assume that *-st* has formal property restricting it to specifier positions with certain properties (such as no special case requirements; cf. §5.2.2), and consider a more complex syntax for the reflexive *-st* verbs that do exist. In many cases, there seem to be straightforwardly plausible possibilities. For example, in a sentence like (443), *-st* plausibly occupies the subject position of the *sem* ‘as’ phrase, which introduces a predication of its own (a ‘relator’ in Den Dikken 2006).

(443) Jón dulbjóst sem prestur.
John.NOM disguised-ST as priest
‘John disguised himself as a priest.’ (Jónsson 2005:400)

For a verb like *klæðast* ‘dress oneself’, there are a couple possibilities.

(444) Keisarinn klæddist nýjum fötum.
emporer.the.NOM dressed-ST new clothes.DAT
‘The emperor dressed himself in new clothes.’
‘The emperor wore new clothes.’ (Valfells 1970:558)

The first possibility is that *-st* is filling an indirect object position here, with the dative serving as the direct object. A second, related possibility is that *klæðast* in Icelandic is always a kind of covert figure reflexive. The thematic possibility of this is supported by sentences such as (445).

(445) a. Hann fór úr gamla bolnum.
he.NOM went out.of old t-shirt.the.DAT
‘He took off the old t-shirt.’

b. Hann fór í nýjan bol.
he.NOM went in new t-shirt.ACC
'He put on a new t-shirt.'

Thus, one possibility is that -*st* merges in the specifier of a pP in sentences like with *klæðast* 'dress oneself'. The different interpretations of (444) would have to do with the different possible interpretations of v.

A preposition does seem to be involved in building certain reflexive -*st* verbs.

(446) a. Þeir **laga** meðferðina **að** sjúklingunum.
they adapt treatment.the.ACC to patients.the.DAT
'They adapt the treatment to the patients.'

b. Þeir **aðlaga** meðferðina sjúklingunum.
they adapt treatment.the.ACC patients.the.DAT
'They adapt the treatment to the patients.'

c. Þeir **aðlaga** meðferðina **að** sjúklingunum.
they adapt treatment.the.ACC to patients.the.DAT
'They adapt the treatment to the patients.'

Sentences like (447) are seem to be derived by merging -*st* in the position of the accusative in (446).

(447) Jón **aðlagaðist breytingunum**.
John adapted-ST changes.the.DAT
'John adapted (himself) to the changes.'

The preposition *að*, which is prefixed to the verb in (446b-c) and (447), is plausibly reflecting the introduction of a SpecpP position, in which -*st* merges in (447). Further evidence supporting this is that the dative object of *aðlaga(st)* 'adapt' does not seem to be a thematic argument of the verb. Thus, it cannot form a post-nominal genitive in a nominalization, as shown in (448b). This is not due to the dative case, as argued convincingly by Maling (2001), since nominalizations of verbs like *bjarga* 'rescue', which

assign dative case, do allow nominalizations with that argument in the genitive, as shown in (449b).

(448) a. Jón aðlagaðist **breytingunum**.
John adapted-ST changes.the.DAT
'John adapted to the changes.'

b. * aðlögun **breytinganna**
adaptation changes.the.GEN
INTENDED: 'adaptation to the changes.'

(449) a. Sjómennirnir björguðu **flóttamanninum**.
sailors.the.NOM rescued refugee.the.DAT
'The sailors rescued the refugee.'

b. björgun **flóttamannsins**
rescue.NOM refugee.the.GEN
'rescue of the refugee'

Instead, the preposition of a nominalization has to be overtly realized, and doubled, to express the arguments of (447) in a nominalization. (This resembles the doubling in (446c).)

(450) **að**lög-un (Jóns) **að** breytingunum
adapt-NMLZ (John.GEN) to changes.the.DAT
'(John's) adaptation to the changes'

There is good reason, then, to assume that a preposition is involved providing a position for -*st* to merge in (447), and probably other reflexive -*st* verbs as well.

Finally, I should briefly say something about verbs like *segjast* 'say of oneself', since this particular verb has been discussed in the linguistic literature possibly more than any other -*st* verb.

(451) a. Sigga segir sig elska Svein.
Sigga.NOM says REFL.ACC love Sveinn.ACC

b. Sigga segist elska Svein.
Sigga.NOM says-ST love Sveinn.ACC
BOTH: 'Sigga says she loves Sveinn.' (Andrews 1990:199)

One long-standing and interesting issue is whether it can embed a verb taking a dative-subject. Speakers very often, maybe almost always, find the result quite odd, though speakers differ as to which case they find better for the matrix subject, dative or nominative; many speakers do not like either.

(452) a. Honum er kalt.
him.DAT is cold
'He feels cold.'

b. (??)% Honum sagðist vera kalt.
him.DAT said-ST be cold
'He said he felt cold.'

c. (??)% Hann sagðist vera kalt.
he.NOM said-ST be cold
'He said he felt cold.'

Roehrs (2005) proposed that verbs like *segjast* 'say of oneself' involve movement into θ-positions, which he argues (following Bošković 1994) is only possible when no intervening non-θ-positions are skipped. I think that this analysis cannot be maintained, first for the reasons above: why should it apply only to such a restricted set of verbs? It is simply too powerful of a mechanism unless there is some other way to constrain it.

Second, there does, in fact, seem to be a non-θ-position in the infinitival complement of *segjast*. It can take rather high modal verbs like *munu* 'will' and *skulu* 'shall', and moreover (as originally pointed out to me by Einar Freyr Sigurðsson p.c.), the infinitives vary morphologically depending on the tense of the matrix verb.

(453) a. Hún segist munu koma.
she says.PRS-ST will.INF.PRS come
'She says that she will come.'

b. Hún sagðist mundu koma.
she said.PAST-ST will.INF.PAST come
'She said that she would come.' (Sigurðsson 2010a)

This description might seem strange—to talk about tense marking on an infinitive, for example—and indeed, *munu* 'will' and *skulu* 'shall' are unique in many ways in Icelandic. However, the data in (453) strongly suggest that the infinitival complement of *segjast* is at least as large as TP, and would therefore not meet the criteria for movement into θ-positions proposed by Roehrs (2005).

Third, as Thórhallur Eythórsson reminds me, it has been noted in the literature, that while dative subjects of *segjast* 'say of oneself' are accepted by some, genitive subjects are quite impossible.

(454) a. Hans sér ekki stað.
him.GEN sees not place
'He is nowhere to be seen.'

b. * Hans sagðist ekki sjá stað.
him.GEN said-ST not see place

Thus, it is insufficient or incomplete to say that *segjast* 'say of oneself' has become a simple raising verb for some speakers. Dative seems to be special in this regard. It might be relevant, then, that *segja* and *segjast* may take dative arguments in a number of other uses, including a dative-subject use of *segjast* that is used in the standard language—that is, even for speakers who do not accept sentences like (452b).[42]

[42] I thank Jóhannes Gísli Jónsson (p.c.) for pointing this out to me.

(455) Gunnari segist svo frá: „Á þessum árum var Miklabrautin ekki
Gunnar.DAT says-ST so from in those years was Miklabraut.the not
malbikuð.“
paved
‘Gunnar says/recounts: “In those years, Miklabraut was not paved.”’[43]

I am not sure, in the end, how to analyze *segjast* ‘say of oneself’. However, I think it is a mistake to focus our attention on this one verb and draw general conclusions about -*st* morphology. It is certainly worth studying further, since it might tell us something at a finer-grained level about how Icelandic argument structure works. Verbs of speech, especially self-reported speech, are often interesting in their own right, cross-linguistically (cf. Schlenker (2003)). But there is no evidence here for movement into θ-positions, nor is it clear that *segjast* has simply joined the class of raising verbs for some speakers.

In general, the approach I would advocate for other classes of reflexive -*st* verbs is to look carefully at their morphosyntactic properties and the structures of the thematic relations they express. It is better methodology to rule out a whole infinitude of possible but unattested reflexive -*st* verbs while trying to make sense of the exceptions, than to let the exceptions force us into an unrestricted theory that wildly overgenerates. We can, I think, conclude the following: (i) reflexive -*st* verbs are not derived by the ‘movement binding’ approach; (ii) -*st* cannot merge in the direct object position; (iii) reflexive -*st* verbs provide no evidence for movement into θ-positions. There are interesting classes of -*st* verbs—and non-*st* verbs—that I have not analyzed in depth in this thesis. But the general picture that emerges is that -*st* occupies a restricted set of argument positions, with the interpretive results of this resulting from the interaction of the other elements in the structure.

[43] http://dalur.is/index.php?option=content&task=view&id=52&Itemid=62

Chapter 7

Conclusion

Through the lens of an in-depth study of Icelandic morphosyntax, I have argued in this thesis for a grammatical architecture in which syntax provides the input to thematic interpretation, but operates autonomously from it. Lexical and thematic interpretation, as commonly understood, are post-syntactic; the syntax underdetermines semantic interpretation in a way similar to how it underdetermines morphophonology in late-insertion theories like Distributed Morphology. I have exploited three ways that the semantics can interpret a syntactic structure.

First, a process analogous to morphological 'Vocabularly Insertion' chooses the 'alloseme', or denotation, of the syntactic terminal nodes. This process captures the insight behind the 'flavors of v' approach to the lexicon without recourse to morphologically indistinguishable subcategories of light verb. Thus, the same syntactic terminal can be interpreted in different ways depending on its environment; v, for example, may denote a 'cause' or an 'activity', depending on the semantics of its sister. Second, an entity-denoting DP can be interpreted as a state, depending on its denotation and the denotation of its sister. This possibility allows us to explain the properties of causers, the themes of causative constructions (see chapter 3), and hitherto unexplained thematic restrictions on

Table 7.1: Syntactic Properties of Argument/Event Introducers

	Argument Introducers			Event Introducer
	Voice	Appl	p	v
Specifier	$\text{Voice}_{\{D\}}$	$\text{Appl}_{\{D\}}$	$p_{\{D\}}$	
	$\text{Voice}_{\{\}}$	$\text{Appl}_{\{\}}$	$p_{\{\}}$	$v_{\{\}}$
Case	No	Appl_{DAT} (specifier)	No	v_{DAT} (complement)
				v_{GEN} (complement)
C-selection	__ v	__ D	__ P	__ { D / Appl / p }

certain nominative objects (see chapter 5). Third, the semantic contribution of a lexical root—its metonymic 'sense', for example—is selected on the basis of the event structure it is embedded in (see especially §4.2.3–4.2.4; see also §3.4.4–3.4.5, §5.2.4). This explains certain semi-idiosyncratic meaning alternations of lexical roots in otherwise completely regular and productive syntactic structures.

The other theoretical contribution of this thesis has been a study of how to effect what is intuitively understood as "valency reduction" in a system that just builds structure—that is, ub a system that cannot really, in practice, "reduce" anything. The distribution of morphological affixes in Icelandic provides evidence for two ways of effecting "valency reduction": by merging an argument-introducer without a specifier, or by merging an expletive-like element in that specifier. I showed how this road to valency reduction can be productively exploited in the VoiceP, pP, and ApplP domains.

As summarized in Table 7.1 (repeated from Table 1.1), I proposed that syntactically, argument-introducing heads in these domains vary primarily in terms of whether they take a specifier or not (encoded as the presence/absence of a 'D' feature), and may also

Table 7.2: The Voice System

Head	Role	SpecVoiceP?	"Construction"	Example
Voice$_{\{D\}}$	Ø	*-st*	anticausative	*splundrast* 'shatter'
Voice$_{\{D\}}$		eventive DP	causative	*splundra* 'shatter'
Voice$_{\{\}}$		No	anticausative	*brotna* 'break'
Voice$_{\{D\}}$	AGENT	agentive DP	causative	*myrða* 'murder'
Voice$_{\{\}}$		—	—	—

specify a special case and c-select the category of their complement.[1]

In chapter 3, as summarized in Table 7.2, I studied the Voice system through the causative alternation and proposed that either specifier-taking Voice$_{\{D\}}$ or specifierless Voice$_{\{\}}$ can be interpreted as semantically null. If Voice$_{\{\}}$ is chosen, then the semantically null alloseme in fact must be chosen because there would not be any argument to bear any role it might introduce. The null alloseme can be chosen for Voice$_{\{D\}}$ as well, but then its specifier must be such that the result will be interpretable. For causative constructions, the specifier may be filled by a semantically expletive element, such as the *-st* clitic, resulting in an anticausative. Alternatively, the DP in SpecVoiceP may be a semantically contentful DP which is interpreted semantically as a modifier of the causing event. In that case, the DP has to have the right kind of semantics, such that it can be interpreted as a causing event. If Voice$_{\{D\}}$ is interpreted as introducing a role, such as AGENT in a causative construction, then the DP in SpecVoiceP has to be semantically capable of bearing that role. While many vPs may be construed as eventive or not, some vPs (such as those built

[1] I left open the question whether further reduction in syntactic features is possible, so that Voice and p might be featurally identical, differing only in the category of their complement.

Table 7.3: The p System

Head	Role	-*st* spec?	VoiceP?	"Construction"	Example
$p_{\{D\}}$	FIGURE	Yes	AGENT	fig. reflexive	*troðast* 'squeeze'
$p_{\{\}}$		No	AGENT	fig. reflexive	*labba* 'stroll'
$p_{\{D\}}$	Ø	Yes	AGENT	obj. demotion	*hæðast* 'mock'
$p_{\{\}}$		No	AGENT	obj. demotion	*hlæja* 'laugh'
$p_{\{D\}}$	Ø	Yes	No spec		(*snúast* '(weather) turn'?)
$p_{\{\}}$		No	No spec	imp. active	*loga* 'flame'
$p_{\{\}}$		No	-*st* spec	imp. active	*brettast* 'scrunch'

with *myrða* 'murder') have meanings which are inherently agentive, forcing the insertion of the AGENT alloseme. In such cases, anticausatives are impossible, since forcing Voice to introduce an agent relation will require that some DP be available to bear it.

In chapter 4, as summarized in in Table 7.3, I studied the p system, and proposed it to be parallel to the Voice system in a number of important respects, differing primarily in the relations it contributes semantically and in its position in the clause. Thus, there are two syntactic 'flavors' of p, a specifier-taking $p_{\{D\}}$ and a specifierless $p_{\{\}}$. In addition, p can either introduce a FIGURE relation or not. However, since p is structurally lower than Voice, p may introduce a role even when it is specifierless or takes the expletive -*st* clitic in its specifier. In such cases, the FIGURE role remains unsaturated throughout semantic composition, until a higher DP in SpecVoiceP saturates it. Since Voice itself can introduce an AGENT role, this often involves complex predicate formation which I have called the 'figure reflexive' construction. However, again like Voice, p may also be

semantically null, in which case its net effect is the ‘demotion’ of an internal argument. Both $p_{\{D\}}$+-*st* and $p_{\{\}}$ have this interpretive option, which I have proposed to be instantiated with verbs like *hæðast* ‘mock’ and *hlæja* ‘laugh’. Finally, I turned to constructions where both Voice and p were semantically null, and found plausible cases involving $p_{\{\}}$ and both $\text{Voice}_{\{\}}$ (*loga* ‘flame’) and $\text{Voice}_{\{D\}}$+-*st* (*brettast* ‘scrunch’). Whether $p_{\{D\}}$+-*st* is attested with expletive Voice is an open question, though the weather use of *snúast* ‘turn’ is one possibility.

In chapter 5, I turned to the Appl system, where Appl differs from Voice and p in at least two respects. First, (at least a subcategory of) Appl demands a particular case on its specifier, dative in Icelandic. Second, -*st* is apparently not possible in SpecApplP, as far as can be tested. We know what -*st* in SpecApplP would look like: it would involve an agentive, transitive -*st* verb where the agent subject is also interpreted as a goal (or perhaps a beneficiary or affected argument of some sort). Such verbs seem to be systematically missing. I proposed that these two properties are linked, and suggested that they are linked to the fact that -*st* appears not to have any case. That is, -*st* cannot merge in any position where a particular case is demanded. However, I also proposed that like Voice and p, Appl may also be specifierless, and that ‘ingestive’ verbs like *læra* ‘learn’ instantiate this structure. While the analysis of ingestives as involving semantically a goal that is coreferential with the agent is not new, it is an option that follows automatically in the present system: allowing specifierless $\text{Appl}_{\{\}}$ to introduce a ‘goal’ role will entail that the external argument is the element receives this role. This analysis explains a number of otherwise puzzling facts about ingestive verbs and the alternations they undergo. The Appl system is summarized in Table 7.4 for the properties which interact with valency reduction. Other Appl constructions discussed in chapter 5 include ditransitives where the indirect object is a goal (such as *gefa* ‘give’ and *senda* ‘send’) or a beneficiary/maleficiary

Table 7.4: The Appl System

Head	Role	SpecApplP	SpecVoiceP	"Construction"	Example
$\text{Appl}_{\{D\}}$	GOAL	*-*st*	—	—	—
$\text{Appl}_{\{\}}$		none	sentient DP	agt. ingestive	*læra* 'learn'
$\text{Appl}_{\{D\}}$	GOAL	sentient DP	-*st*	non-agt. ingestive	*lærast* 'learn'
$\text{Appl}_{\{D\}}$		sentient DP	agent/causer DP	caus. ingestive	*kenna* 'teach'
$\text{Appl}_{\{D\}}$	EXP	sentient DP	-*st*	experiencer	*gremjast* 'anger'
$\text{Appl}_{\{D\}}$		sentient DP	none	experiencer	*blöskra* 'outrage'

(such as *skenkja* 'pour' and *torvelda* 'make difficult').

Finally, the primary empirical contribution of this thesis has been a novel, in-depth empirical study of Icelandic argument structure alternations, including a novel analysis of -*st* verbs. This study has brought new data to bear on this empirical domain, data which would need to be addressed in any analysis of Icelandic argument structure. For example, an analysis of Icelandic argument structure from any theoretical perspective needs to address the near absence of -*st* alternations which would result from merging -*st* in SpecApplP; that is, the near absence of verbs like **lagast* 'fix for oneself'. Given figure reflexive alternations, it is hard to imagine how this can be a historical accident without any synchronic import. Moreover, this thesis invites a closer look at the other classes of -*st* verbs, such as those discussed in chapter 6, as they might shed further light on the syntax-semantics interface. The broader range of -*st* constructions can be explored most productively, I believe, if we properly separate syntax from semantics, and let the former feed the latter in a way that is analogous to the way syntactic structure feeds

morphophonology.

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