English labile verbs and their equivalents in Swedish

A contrastive, corpus-based study

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Preface

This dissertation is submitted to achieve a Master’s degree in Literature and Linguistics: English and Scandinavian Studies. I have chosen a contrastive subject because the subtle differences between languages and the unique features of translation have always interested me, and this interest has grown steadily during the course of my education.

Throughout the thinking and writing process of this dissertation, I could count on the support of several people. First and foremost, I would like to thank my supervisor Prof. Dr. Miriam Taverniers. Her suggestions and helpful feedback have made the writing process so much more enlightening. Furthermore, I would like to thank my friends and family who have encouraged me from start to finish. I would like to thank my boyfriend Bert Biesbrouck in particular for proof-reading my work so thoroughly and for always giving me the moral support I needed.

This paper is dedicated to my father, Johan Huybrechts.
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Introduction

The frequent use of labile verbs is a unique feature of the English language. The phenomenon has been studied extensively from various linguistic perspectives such as Systemic Functional Grammar, and Government and Binding. As a result, the labile phenomenon has been studied from both a semantic and a syntactic point of view. The use of labile verbs can be illustrated by clauses such as (1) and (2).

(1) a. John opened the door.
   b. The door opened.

(2) a. The sun melted the ice.
   b. The ice melted.

As demonstrated by these examples, labile verbs have two syntactic patterns: a transitive and an intransitive pattern. In the transitive pattern (examples 1a and 2a), the verb is followed by a noun phrase (the door, the ice). In the intransitive pattern (examples 1b and 2b), this noun phrase is the subject instead of the object (Francis, Hunston & Manning, 1996). Apart from the syntactic difference, there is a crucial semantic difference between these two patterns. This crucial feature is that the labile verb pairs express the same situation but differ in terms of causation. As Haspelmath (1993) and others have pointed out, these verbs have a causative meaning when used transitively, and they are inchoative, or non-causative, when they are used intransitively. The causative pattern includes an Agent that causes the action, whereas the inchoative pattern excludes this Agent and in this way “it leaves open whether or not the process is self-instigated or instigated by an external agent” (Davidse, 1992: 109).

Cross-linguistically, the use of alternating labile verb pairs is just one of the possible strategies to express this semantic causative-inchoative alternation. This fact has been observed by previous research (e.g. Haspelmath, 1993; Kulikov, 2001) and lies at the basis of this dissertation. According to Haspelmath (1993), English is unusual among the world’s languages due to its preference of labile verbs, while other languages use other strategies. In Swedish, for instance, the alternation is often expressed by the morphological deponency marker –s (e.g. öppna – öppnas ‘open’) or the reflexive pronoun sig (e.g. öppna – öppna sig ‘open’) (Kemmer, 1993; Nordrum, 2015). Regardless of the many studies that cover the subject in English, the phenomenon still remains largely unexplored in Swedish. Some verbs occur for instance with one of these markers, while other verbs can appear with both. In contrast, other verbs appear with neither. Therefore, one of the main objectives of this paper is to examine the distribution of these different strategies to express the
causative/inchoative alternation in Swedish, particularly as translation equivalents for the English labile verbs.

Furthermore, this paper studies the labile verb phenomenon from a functional perspective. Labile verbs can be seen as a device to construct reality in a different way. In this reality mode (which will be dealt with elaborately in section 2.1), the Medium, i.e. “the entity through the medium of which of which the process comes into existence” (Halliday & Matthiessen, 2004: 288) is centralized, instead of the Agent which causes the process. As it has been pointed out by Halliday and Matthiessen (2004) and others, the ergative alternation is gaining ground in English, especially in scientific discourse. Moreover, it is possible that the use of English as the lingua franca of scientific discourse has an influence on the specialized discourse of other languages. This process, called ‘ergativization’, is a relatively new linguistic topic, and therefore it is a subject with still a great deal of research opportunities, especially if we take into account other languages besides English.

The main purpose of this paper is to investigate the occurrences of English labile verbs and their Swedish translation equivalents in a popular scientific text, especially in regard to the semantics. For this purpose, this paper combines a functional approach with a contrastive one. The paper is structured as follows. The first part of this dissertation provides an overview of several perspectives from which labile verbs and their contexts have been studied. The first chapter contains a brief discussion of the terminology used in previous research and I will motivate the use of terminology in the present paper. In Chapter 2, I will elaborate on the position of labile verbs in different frameworks, especially Halliday’s Systemic Functional Grammar and Davidse’s “Janus-Headed” grammar. Thereafter, I will also briefly sketch the position of labile verbs in Perlmutter’s Unaccusativity hypothesis, which is necessary for a broader understanding of the labile phenomenon. In Chapter 3, I will situate labile verbs in their more extensive linguistic context across the world’s languages. In the final theoretical section, I will then elaborate on the research that has been done for Swedish on this topic.

The main body of this paper consists of a synchronic investigation of the use of labile verbs in English and their Swedish translation equivalents on the basis of contemporary language data. In Chapter 4, I will outline the methodology used in this paper. Then, in Chapter 5, I will analyse an English popular scientific text in relation to its Swedish translation. This will allow me to examine the use of ergative verbs as part of the popular scientific discourse, and to compare the results from both languages to each other.
Part 1: Theoretical framework

Chapter 1 – Terminological overview

In this study, the term *labile* will be used to describe verbs that can be used both in a transitive and an intransitive pattern while alternating in causativity. However, due in part to a “lack of dialogue between [...] schools” (Davidse, 1998: 95), many other terms have been used to describe this phenomenon. In order to be able to fully apprehend the views of these schools, which will be discussed in the following chapters, these terms should be clarified. A comprehensive guide to the terminology of previous research is therefore included. Additionally, the reasoning behind the usage of terminology in this paper will be explained.

1.1 Definition of a labile verb

As a start, the meaning of the term *labile* as used in this paper should be explained. In order to be considered a labile verb, a verb must fill the requirements which are set out in *Collins COBUILD Grammar Patterns* (Francis et al., 1996; henceforth CCGP):

1. It has two [syntactic] patterns;
2. Only one of these patterns has a noun group following the verb;
3. The person or thing indicated by that noun group may also be indicated by the Subject of the other pattern. (Francis et al., 1996: 474)

The CCGP calls the verbs that fill these requirements *ergative*, whereas the present paper will refer to them as *labile*. The requirements entail that the object of a one-participant construction is the subject in a two-participant construction with the same verb. This type of lability is called *P-lability*, or *patient-preserving* lability (see e.g. Kulikov, 2014), because the Patient is kept in both constructions. In contrast to this type, there is also *A-lability*, or *agent-preserving* lability, where the Agent is present in both alternations (e.g. *John eats ice cream – John eats*). In this paper, only the phenomenon of *P-lability* is discussed. Hence, the term *labile* as used in this paper will only refer to this type of lability.

The syntactic transitivity alternation that requirements 1–3 entail is a salient characteristic of the group of labile verbs. However, as McMillion (2006) emphasizes, there are many verbs that display this alternation that are not necessarily labile. The most significant feature of prototypical labile verbs is “a difference in causativity: the transitive patterns are invariably causative while the intransitive patterns are not” (McMillion, 2006: 15). The following features should thus be added:

4. The event represented in the two-participant construction is *causative*, i.e. externally caused;
The event represented in the one-participant construction is **inchoative**, i.e. semi-autonomous, internally caused, or the external causer is not apparent.

The term **causative** can be defined as referring to a situation where there is a causal relation between two events, one of which is believed to be caused by the other (Kulikov, 2001). This definition involves that the two-participant construction of a labile verb can be paraphrased as 'cause to V' (where the V refers to the embedded base verb), which is not possible for verbs that can only occur in a transitive pattern. A non-labile verb can only occur with the indirect causative marker *cause* when it is “cast into a passive construction, which denotes a result, or replaced with another verb which denotes a result” (McMillion: 35):

3. John broke the glass.                   (labile)
   John caused the glass to break.

4. John killed Jane.                     (non-labile)
   *John caused Jane to kill.
   John caused Jane to be killed.
   John caused Jane to die.

In its one-participant construction, a labile verb has an inchoative sense, also called **anticausitive** (e.g. Haspelmath, 1993). In this case, **inchoative** signifies that there is no apparent external cause, and it does not specifically refer to inceptive verbs, which indicate a process of becoming or beginning (e.g. Swedish *blekna* 'become pale'). To check whether a one-participant construction has an inchoative sense, McMillion puts forward a rewording with the phrase *by itself*. In its sense of inchoative highlighter this phrase emphasizes the autonomy and the lack of external cause as in example (5). When used with a non-labile verb, as in example (6), the phrase either has the meaning ‘alone’ or ‘without anyone’s help’.

5. The glass broke by itself.             (labile)
6. Jane died by herself (i.e. alone).     (non-labile)

The use of the term **labile** is more or less applied in in the same sense in the works of Haspelmath (1993) and Kulikov (2001). Haspelmath (1993) defines the causative/inchoative alternation as follows:

An inchoative/causative verb pair is defined semantically: it is a pair of verbs which express the same basic situation (generally a change of state, more rarely a going-on) and differ only in that the causative verb meaning includes an agent
participant who causes the situation, whereas the inchoative verb meaning excludes a causing agent and presents the situation as occurring spontaneously. (90)

It is important to keep in mind that Haspelmath’s definition does not only refer to labile verbs, but also to other alternations that can express this semantic difference (see section 3.1.1). To give some other examples of terms which are used by various authors to describe labile verbs, one can find causative alternation verbs (Levin & Rappaport Hovav, 1994), move and change verbs (Jespersen, 1954), ambitransitive (Dixon, 1994) and optionally transitive (Miller, 1993). While the first two of these terms refer to the semantic aspects of the verbs, the terms by Dixon and Miller emphasize the syntactic alternation but do not capture the difference of causativity in the alternation. Following McMillion, this paper uses the term labile to refer to the verbs that show the causative/inchoative alternation, in contrast to the CCGP, where the term ergative is used to describe this set of verbs. Due to a lack of consensus about the meaning of the term ergative, which will be clarified in the following section, labile was preferred as the more neutral term.

1.2 Morphological ergativity

The traditional usage of the term ergative was first applied in typological morphology. The term was introduced by Dixon (1979) to describe languages (such as some Australian Aboriginal languages) that contrast to accusative languages (e.g. English, Latin). Languages are said to have an absolutive/ergative system “if intransitive subject is treated in the same manner as transitive object [i.e. absolutive], and differently from transitive subject [i.e. ergative]. There are many ways in which this treatment can be realized: perhaps the clearest is in terms of case inflections” (Dixon, 1979: 60-61). On the other hand, in languages with a nominative/accusative system the subjects of transitives and intransitives are identically case-marked (i.e. nominative), while the transitive object is marked differently (i.e. accusative). Figure 1 shows how Dixon represents the grammatical system of a nominative/accusative language and an absolutive/ergative language.

![Diagram of Dixon's representation of nominative and ergative systems](adapted from Dixon, 1979: 61)
The sense of ergativity which refers to a type of language is not the focus of the present paper and therefore I will not go into detail about Dixon’s description of the ergative system. However, I will briefly discuss Dixon’s view on English labile verbs such as break and open. Regarding such verbs, he acknowledges that there is a “correspondence between the NP’s that fill O and S slots” (68), and consequently there can be said to be ‘lexical ergativity’ in English. However, Dixon does not find this significant because this correspondence is not established on a syntactic level, i.e. it is not formed with an overt grammatical marker. Others, such as Halliday (2004) and Davidse (1992), have argued against this stance, as they think it is counterproductive to separate grammar and lexis. According to Halliday, all languages are a mixture of ergativity and transitivity, which is established in various alternation patterns.

1.3 Transitive and Ergative paradigms
This section discusses the terms ‘transitivity’ and ‘ergativity’ within the framework of Halliday’s Systemic Functional Grammar (see also 2.2.1). Here, the term ergative is not used to designate a verb pair as in the CCGP, but refers to the ergative construction paradigm which complements the transitive paradigm. Halliday and Matthiessen (2004) describe the transitive and ergative models as “two different modes of modelling transitivity” (281). In more concrete terms, this means that they distinguish two ways of analyzing a clause. The transitive model focuses on extension, i.e. it revolves around the number of participants in a clause. The question of the transitive model is whether the process extends beyond one participant, to some other entity, or not. The central question of the ergative model, on the other hand, deals with causation: is the process externally caused or not (Halliday & Matthiessen, 2004)?

<table>
<thead>
<tr>
<th>Transitive construction paradigm</th>
<th>Extension +</th>
<th>She threw the ball.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extension -</td>
<td>He ran.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ergative construction paradigm</th>
<th>External cause +</th>
<th>She opened the door.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>External cause -</td>
<td>The door opened.</td>
</tr>
</tbody>
</table>

Table 1 - Transitive and ergative construction paradigms

Davidse (1992, 1998) expanded upon Halliday’s ideas of transitivity and ergativity (see also 2.2.2). While in some studies (e.g. Keyser & Roeper, 1984) the term ergative verb refers to the

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1 I use the terms transitive and intransitive to discuss the two-participant constructions and one-participant constructions of labile verbs throughout this paper. These terms are well-established and generally accepted as structural terminology, meaning: does the verb have a complement or not? In contrast, when discussing the transitive and ergative systems, the terms are indicated in small capitals.
intransitive member of the pair, Davidse uses the term to refer to the transitive member of the ergative construction paradigm. This is unlike the CCGP which uses the term to refer to the pair as a whole. As shown in Table 2, in the formal traditions of Relation Grammar (e.g. Perlmutter, 1978) and Government and Binding (e.g. Levin & Rappaport Hovav, 1994) (see section 2.3.1), the term unergative is used to refer to the transitive one-participant construction, and unaccusative refers to the ergative one-participant construction. These unergative and unaccusative verbs are seen as subclasses of intransitive verbs.

<table>
<thead>
<tr>
<th>Davidse (1998)</th>
<th>RG &amp; GB</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSITIVE construction paradigm</td>
<td>two-part.</td>
<td>effective (transitive)</td>
</tr>
<tr>
<td></td>
<td>one-part.</td>
<td>middle (intransitive)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pseudo-effective (ranged intransitive)</td>
</tr>
<tr>
<td>ERGATIVE construction paradigm</td>
<td>two-part.</td>
<td>effective (ergative)</td>
</tr>
<tr>
<td></td>
<td>one-part.</td>
<td>middle (inergative)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pseudo-effective (setting-construction)</td>
</tr>
</tbody>
</table>

Table 2 - Terminological overview (adapted from Lemmens, 1998: 46)

Table 2 shows that Davidse uses the terms effective, middle and pseudo-effective to indicate whether an event affects a second participant or not. Pseudo-effectives are thus called because the second participant is not a true participant; rather, it specifies the scope or relevance of the process.

1.4 Middle constructions and voice

The term middle might lead to confusion, because this term is often used to refer to what is sometimes called the ‘medio-passive’, ‘facility-oriented passive’ (e.g. Davidse, 1992) or ‘pseudo-transitive’ (e.g. Smith, 1970). To avoid confusion with meio-passive constructions, Lemmens proposes the term non-effective, instead of Davidse’s middle, to describe the one-participant constructions of the TRANSITIVE and ERGATIVE paradigm. Keyser and Roeper (1984) refer to examples such as (7) as middle pairs, where the one-participant construction is the middle verb:
This alternation pattern occurs with verbs that are usually transitive and the one-participant alternant is only possible with an adverbial that expresses a level of difficulty. It is syntactically similar to the labile alternation in that the subject of the one-participant construction occurs as the object in the two-participant construction. However, medio-passives are not always considered labile. According to Keyser and Roeper (1984), the middle verbs retain an ‘implicit agent’, whereas labile verbs (or ergative verbs as they call them) do not. In example (7b), one presupposes someone who performs the action (i.e. the bribing). In the medio-passive construction, a state is described, rather than an event that is going on. Following McMillion (2006), the present paper therefore does not include medio-passives as core labile verbs.

Middle is also used in the field of typology to describe voice, particularly “structures that are intermediate in voice and transitivity” (Nordrum, 2015: 231). Middle voice includes several middle event types such as ‘grooming or body care’ (e.g. wash) and ‘change in posture’ (e.g. sit down). It also includes the ‘spontaneous event’ type, i.e. an event that entails a change-of-state (e.g. grow, evaporate). This last type includes a great amount of labile verbs. The concepts of ergativity and middle voice are actually closely intertwined. Middle voice is usually situated between active and passive voice. It is different from active and passive voice in that the subject cannot be categorized as Agent or Affected, but has elements of both. This is important for Swedish which is said to have a middle voice marker (i.e. the suffix –s). In Swedish, middle voice can be expressed morphologically, whereas in English it is usually expressed by labile verbs. The concept of middle voice and the differences in its representation in English and Swedish will be discussed more elaborately in Chapter 3.

1.5 Summary of terminological overview
In the previous sections, several terms and their different usages have been discussed. The following terms will be central in this paper: (1) the term labile will be used to indicate verbs that allow two patterns while alternating in causativity (i.e. where the Subject of the one-participant alternant is the same as the Object of the two-participant alternant); (2)
transitive will be used to indicate two-participant patterns, and intransitive to indicate one-participant patterns; (3) ergativity will be used to refer to the presence of an ergative paradigm (displayed in patterns with the P-labile alternation) in language, as opposed to the transitive paradigm.
Chapter 2 – Approaches towards ergativity

In this section, I will explore some of the basic principles of Halliday's framework of Systemic Functional Grammar (henceforth SFG), which is essential for an understanding of lexical ergativity. The fundamental idea behind SFG is that syntax is motivated by meaning, which means that there is a strong, non-arbitrary relationship between semantics and lexicogrammar. Halliday sees language as a system. The purpose of a grammar theory in Halliday’s framework is therefore to organize language into systemic paradigms or systems of options. Consequently, meaning is modelled as a complex network of choices. Apart from that, language is seen as a process, which is constantly instantiated in actual occurrences of language use (called ‘text’ by Halliday). SFG therefore proposes a grammar theory based on text analysis, which means that it has a strong empirical basis.

2.1 Systemic Functional Grammar

Halliday (2004) argues that language has three major purposes or metafunctions as he calls them: the textual, the interpersonal and the ideational metafunction. The textual metafunction involves the organization of meanings (according to Theme and Rheme) into a coherent whole. The interpersonal metafunction is concerned with interaction and utilizes language to set up relationships and roles, and to express the personal attitudes of the speaker and the listener. Lastly, the ideational metafunction uses language to construe experience. The latter metafunction has two components: the experiential and the logical. The first one encodes experiences, whereas the second one presents the relationships between these experiences (Butt, Fahey & Feez, 2000).

2.1.1 The grammar of experience

This paper will focus on the experiential component. Therefore, the next section will elaborate on Halliday’s interpretation of this component. According to Halliday and Matthiessen (2004), the experiential structure of the clause can be divided into three main constituents: processes, participants, and circumstances. Processes, which typically are realized by verbs, are at the centre of this structure. Participants (typically realized by nominal groups) are “directly involved in this process, bringing about its occurrence or being affected by it in some way” (Halliday & Matthiessen, 2004: 176). Finally, circumstances, typically realized by adverbial groups or prepositional phrases, supplement the process in some way, but are not directly affected by it.
As highlighted in the previous section, experience is construed in language through (constellations of) processes, participants and circumstances. According to Halliday and Matthiessen (2004) this is achieved within the grammatical system of transitivity, which contains options for encoding experiences into different process types. As shown in Figure 2 (from Halliday & Matthiessen, 2004: 172), the process types can be represented as a circular continuum. First, Halliday distinguishes between three major process types: material, mental and relational processes. Typical examples of these process types are given in (8).

(8) a. I’m having a shower. (material)
    b. I don’t want a shower. (mental)
    c. The man you saw was my father. (relational)

Material processes represent the processes of the outer experience, which means they describe the things that happen, and the things that people or other actors do or make happen. Mental processes, on the other hand, construe inner experiences, i.e. “what we experience as going on inside ourselves, in the world of consciousness (including perception, emotion, and imagination)” (Halliday & Matthiessen, 2004: 170). Relational processes represent the world of abstract relations, which means they serve to identify and classify. As shown in the visual representation (Figure 2), the other process types, behavioural, verbal and existential, are located each time in between two main process types, sharing some features of both of their adjacent process types.
2.1.2 The transitive and ergative model

As Halliday and Matthiessen (2004) emphasize, all process type have their own grammar because they are accompanied by different participants and circumstances, but “looked at from another point of view they are all alike” (281). In other words, Halliday perceives there to be two different ways or modes of looking at reality, and, for him, each clause can be interpreted according to both modes. He calls these two modes the transitive model and the ergative model of transitivity. Halliday proposes that in English, “it is the transitive model that differentiates the different process types and it is the ergative model that generalizes across these different process types” (282). Table 3 shows that the transitive model distinguishes the different process types and assigns different participants to each process type (according to the grammar of that process type), whereas the ergative model can be generalized across all process types with the same participants.

<table>
<thead>
<tr>
<th>transitive model</th>
<th>ergative model</th>
</tr>
</thead>
<tbody>
<tr>
<td>generalized</td>
<td>Medium (+ Agent)</td>
</tr>
<tr>
<td>particularized</td>
<td>material: Actor + Goal</td>
</tr>
<tr>
<td></td>
<td>behavioural: Behaver</td>
</tr>
<tr>
<td></td>
<td>mental: Senser + Phenomenon</td>
</tr>
<tr>
<td></td>
<td>verbal: Sayer (+ Verbiage + Receiver)</td>
</tr>
<tr>
<td></td>
<td>relational: Carrier + Attribute</td>
</tr>
<tr>
<td></td>
<td>existential: Existent</td>
</tr>
<tr>
<td></td>
<td>Token + Value</td>
</tr>
</tbody>
</table>

Table 3 - The transitive and ergative model and their participants (adapted from Halliday & Matthiessen, 2004: 282)

As mentioned in section 1.3, the central variable of the transitive model is ‘extension’. If a material process is extended to a Goal the clause is transitive, whereas if the process is not extended the clause is intransitive. Accordingly, the transitive model entails a linear interpretation. The ergative interpretation on the other hand is nuclear rather than linear. The variable of the ergative model relates to the source of the process: is the process caused externally or internally? As shown in Table 3, this question can be generalized for every process type. Halliday points out that the ergative doing-and-happening is different from the transitive, as the ‘happening’ means that the process is represented as being self-engendered, whereas the ‘doing’ implies that “the actualization of the process is represented as being caused by a participant that is external to the combination of Process + Medium” (285).
The Medium, “the entity through the medium of which the process comes into existence” (Halliday & Matthiessen, 2004: 288), is the obligatory and nuclear participant in the ergative model. The Agent does not have to be included. If it is not included, then the process is represented as self-engendering, as in example (10). However, it is important to remember that “[i]n the real world, there may have been some external agency involved of the breaking of the glass; but in the semantics of English it is represented as having been self-caused” (Halliday & Matthiessen, 2004: 290).

(9) I broke the glass

\[
\begin{array}{lll}
\text{transitive} & \text{Actor} & \text{Process} & \text{Goal} \\
\text{ergative} & \text{Agent} & \text{Process} & \text{Medium}
\end{array}
\]

(10) The glass broke

\[
\begin{array}{lll}
\text{transitive} & \text{Actor} & \text{Process} \\
\text{ergative} & \text{Medium} & \text{Process}
\end{array}
\]

The framework of SFG has gained popularity in Scandinavia in the last decade. The leading works in Swedish within the framework of SFG are by Holmberg and Karlsson (2006), and Holmberg, Karlsson and Nord (2011). In these works, Halliday’s framework is discussed and then applied to Swedish texts. Ergativity is a prominent topic for discussion in these works. Following Halliday, Holmberg et al. (2011) interpret the ergative paradigm as based on the variable of external causation. As an example, they provide the intransitive (‘non-ergative’) clause (11), where leksaksbilen is the Medium, and the transitive (‘ergative’) clause (12), where barnet is the Agent, and leksaksbilen the Medium.\(^4\)

(11) Leksaksbilen rullar.

\[
\begin{array}{lll}
\text{toy car.the} & \text{roll-PRES} \\
\end{array}
\]

‘The toy car rolls’

(12) Barnet rullar leksaksbilen.

\[
\begin{array}{lll}
\text{child.the} & \text{roll-PRES} & \text{toy car.the} \\
\end{array}
\]

‘The child rolled the toy car’

2.2 Davidse’s Janus-Headed Grammar of actions and events

Davidse elaborates on Halliday’s description of the transitive and ergative paradigm. She labels the grammar of material processes as “Janus-headed”, which means that there are two distinct systems to represent actions and events. In contrast to Halliday, Davidse does

\(^4\) All translations of Swedish original material are the author’s own translations.
not consider the TRANSITIVE and ERGATIVE paradigms as two separate ways to represent reality, but argues rather that both construals have their own reality. In Davidse’s framework a process is thus either TRANSITIVE or ERGATIVE, which entails that labile verbs should be interpreted according to the ERGATIVE model.

Following Halliday, Davidse (1992) perceives the TRANSITIVE system as a PROCESS AND EXTENSION model. She notes that in contemporary English, the effective and non-effective variants of the transitive construal tend to be realized by different lexemes, as in the examples (13a) and (13b). Clauses such as (14) are called ‘inherently Goal-directed’ by Davidse, because, although the Goal is not explicitly expressed, the clause obviously indicates that the process is directed at a Goal, and therefore, the clause is TRANSITIVE.

(13) a. The lion was running.
   b. The lion was chasing the tourist.

(14) She was eating. (Davidse, 1992: 108)

The ERGATIVE system on the other hand realizes as an INSTIGATION OF PROCESS model. About the one-participant construction of this model (which she calls inergative) Davidse says the following:

The inergative evokes a scene in which only one participant is explicitly profiled, viz. the Medium, but, at the same time, it conveys that the Medium is probably not the sole energy source and that some second, instigative energy source may be involved. We can say that it depicts a ‘quasi-autonomous’ event (2002: 144).

According to Davidse (1992), the TRANSITIVE and ERGATIVE models have different grammatical centres and different ‘directionalities’. The most central participant of the transitive system is the Actor. The basic ACTOR-PROCESS nucleus can be extended to include a Goal. In contrast, the most central participant of the ergative system is the Medium. This participant is affected by the process, but it also participates in the process. The MEDIUM-PROCESS nucleus can only be extended to include an Instigator (i.e. Halliday’s Agent). Davidse represents this schematically as in Figure 3. This grammar is “Janus-headed” in the way that the transitive system expands to the right to include a Goal, whereas the ergative system expands to the left to include an Instigator.
Davidse (2002) also highlights that the Instigator-Medium roles are less ‘asymmetrical’ than Actor-Goal roles, which are conceptually further apart from each other. Therefore, the Medium always has an active-passive relation to the process. However, if the ‘active’ component in the Medium is so strong that it becomes ‘potent’ and clearly instigates the process by itself, ergatives allow a construction with a reflexive pronoun (e.g. the machine will switch (itself) off). In Davidse’s own words, “inergatives with reflexive counterparts form the ‘most active’ subtype within the whole class of inergatives” (153).

In the previous section, I discussed Halliday’s six process types that can be used to encode experience: material, mental, relational, behavioural and existential. However, for the purpose of the present paper, the material processes, i.e. the processes of doing-and-happening, are the most significant ones, because the transitive/intransitive distinction is mainly relevant for this type of process (Davidse, 1992). Things that are ‘happening’ are represented by an intransitive clause (e.g. The cat ran), whereas the things someone or something is ‘doing’ are represented by a transitive material clause (e.g. The cat chased the mouse). As Davidse indicated, this transitive/intransitive distinction is also relevant for relational processes, although to a lesser extent than for material processes.

2.3 The formal tradition

2.3.1 The unaccusativity hypothesis

It is also worth considering an alternative, syntax-oriented approach to labile verbs that contrasts to but also complements the lexical approach advocated by Halliday and Davidse. Within the framework of Relation Grammar, Perlmutter developed the unaccusativity hypothesis. This hypothesis entails that intransitive verbs do not form a homogenous class
but can be divided into two subclasses: unaccusative and unergative verbs, which are exemplified in (15) and (16).

(15) He drowned. (unaccusative)  
(16) She smiled. (unergative)

The difference between (15) and (16) is that the unaccusative verb in (15) takes a subject that actually is an underlying direct object (e.g. Jane drowned him), whereas the unergative verb in (16) takes a subject that originally also was a subject (Alexiadou, Anagnostopoulou & Everaert, 2004: 2).

In addition to these syntactic features, Perlmutter (1978) argues that “initial unergativity vs. unaccusativity is predictable from the semantics of the clause” (161). Hence, there are a number of semantic principles that are significant for the unaccusative-unergative distinction. The notion of agentivity, for instance, is seen as vital to underlying accusativity: unaccusatives tend to have Patient-like subjects, whereas unergatives usually have Agent-like subjects (Alexiadou et al.: 12). Perlmutter provides a list of verb meanings which would behave in the same way cross-linguistically. The unergatives can be divided into two subcategories:

- Predicates describing willed or volitional acts (e.g. work, whisper)  
- Certain involuntary bodily processes (e.g. cough, sleep) (Perlmutter, 1978: 162)

According to Perlmutter, the class of predicates with underlying unaccusativity consists of six subclasses:

- Predicates expressed by adjectives in English (e.g. dim, narrow)  
- Predicates whose initial nuclear term is semantically a Patient (e.g. burn, fall)  
- Predicates of existing and happening (e.g. exist, disappear)  
- Non-voluntary emission of stimuli that impinge on the senses (e.g. shine, pop)  
- Aspectual predicates (e.g. begin, stop)  
- Duratives (e.g. last, remain) (Perlmutter, 1978: 162-163)

Perlmutter stresses that this classification is tentative and that other classifications are possible. It has to be stressed that Perlmutter’s classification is based on an “active/inactive”, rather than an “accusative/ergative” contrast (Verhaar, 1990: 127; cited in Davidse, 1998: 98-99). Levin and Rappaport Hovav (1994) for instance claim on the basis of Perlmutter’s classification that the verbs which are categorized as unergative are internally caused, while unaccusative verbs are externally caused. However, as Davidse
(1998) indicates, this claim does not hold true for some verbs which are classified as unaccusative (e.g. fall, stumble). Some verbs, which are classified as unaccusative, are thus not labile. Considering this inconsistency, the present paper will follow Davidse’s classification. It will discuss the causative alternation in terms of the ergative paradigm, not in terms of Perlmutter’s unaccusativity hypothesis. However, this paper will take into account some of the formal features of unaccusatives, which will be discussed in the next section.

2.3.2 The formal features of unaccusatives

In the wake of Perlmutter, other studies primarily focused on syntactic differences between unergativity and unaccusativity. These studies focus on features such as auxiliary selection, prenominal perfect/passive participles and partitive cliticization. Significantly, unaccusative verbs are often associated with a possible resultative meaning. For instance, it has been argued that in most Germanic and Romance languages (e.g. French, German, Dutch) unaccusative verbs select perfective auxiliaries, such as zijn (‘to be’) in Dutch. Unergative verbs on the other hand select auxiliaries such as Dutch hebben (‘to have’). These be-perfect constructions originally began as resultative constructions (Bybee, Perkins & Pagliuca, 1994).

(17) a. Hij is verdrongen. ‘He drowned’
    b. Zij heeft gelachen. ‘She smiled’

The selection of auxiliaries is related to the second diagnostic in that unaccusative verbs can appear in a construction with a resultative phrase, whereas unergative verbs cannot. A resultative phrase indicates that a change has been affected as the result of the action of the verb. Among others, Levin and Rappaport Hovav (1994) argue that, although both unaccusatives and unergatives can be used in a resultative construction, in a resultative construction with an unaccusative “the resultative phrase is predicated directly of its surface subject” (59), as in example (18). The examples in (19) show that this is not the case for a resultative phrase of an unergative verb, unless through the mediation of a ‘fake’ reflexive object (Simpson, 1983; cited in Levin & Rappaport Hovav, 1994), as in example (19b).

(18) The door slammed shut. (unaccusative)
(19) a. *She screamed hoarse. (unergative)
    b. She screamed herself hoarse.
However, these formal features that distinguish unaccusative verbs from unergative verbs are not universal. This phenomenon has been termed *unaccusativity mismatches*. For instance, the selection of the *be*-auxiliary for unaccusatives, as exemplified in Dutch example (17) above, is not an option in English and Swedish. The *have*-constructions in English and Swedish have an anterior meaning, i.e. they indicate a past action that has relevance in the present (Bybee et al. 1994).

(20)  
   a. *He is drowned.
   b. He has drowned.

(21)  
   a. *Han är drunknat.
   b. Han har drunknat.

Both across and within certain languages, several verb classes fit some of the unaccusativity diagnostics, but not others. These unaccusativity mismatches show that the unaccusativity hypothesis is problematic in some ways and its diagnostics cannot be generalized.
Chapter 3 – Situating labile verbs

3.1 Strategies to express the inchoative/causative alternation

To conduct a contrastive analysis, it is important to understand that a labile verb is just one of the several ways in which the causative alternation can be expressed. Therefore, this section will discuss the work of Haspelmath (1993), who has analysed the causative alternation cross-linguistically. He examines this alternation from a formal perspective in which there are basic and derived forms. From this perspective, for example, plurals forms are derived from the basic singular form, diminutives are derived from non-diminutives, and comparative forms of adjectives are derived from positive forms. These are all examples in which the direction of the basic-derived relationship is universal. However, there are various areas where the direction of derivation differs within a language or across languages.

In his article, Haspelmath (1993) highlights one of these areas, namely the area of inchoative/causative verb alternations. In some languages (e.g. Russian), the inchoative member of the verb pair is derived from the causative verb, whereas in other languages (e.g. Mongolian), the causative is derived from the inchoative. Nevertheless, the situation is different on the semantic level, which Haspelmath explains as follows:

There are independent semantic reasons to think that the causative member of an inchoative/causative alternation is semantically derived, while the inchoative member is semantically basic. Intuitively, it seems clear the A melts (tr.) B means ‘A causes B to melt’, but that B melts (intr.) does not mean ‘B undergoes the action of X melting (tr.) B’, because there is no external agent implied in inchoative verbs like melt (intr.). (1993: 89)

Haspelmath (1993) attributes the variation in the direction of formal derivation to semantic indeterminacy. In contrast, Levin and Rappaport Hovav (1994) claim that causative forms are usually the basic form in English, whereas the inchoatives are derived. According to them, internally caused verbs are inherently one-participant constructions, and externally caused verbs are inherently two-participant constructions. Because the majority of causative alternation verbs are externally caused, Levin and Rappaport Hovav assert that the process of what can be called ‘detransitivization’ is the most persistent in English.

Furthermore, Haspelmath (1993) argues that there are three general strategies to express the causative/inchoative alternation across languages: causative, anticausative, and non-directed alternations. Furthermore, he divides the non-directed alternations into suppletive, equipollent and labile alternations.
3.1.1 The causative and anticausative alternations

Causative and anticausative alternations are derived by means of affixation, stem modification, or the use of an auxiliary. This process can go into two directions, the first one being the causative alternation, which means that the inchoative form is basic and the causative is derived such as in example (22). The other direction is the anticausative alternation, which means that the causative form is basic and the inchoative is derived, as in example (23).

(22) French fondre ‘melt (intransitive)’
faire fondre ‘melt (transitive)’
(23) Russian katat’-sjap ‘roll (intransitive)’
katat’ ‘roll (transitive)’ (Haspelmath, 1993: 91)

In both English and Swedish, it is possible to derive the causative from an inchoative by means of an analytical causative construction. In English, a causative construction can be formed with a variety of verbs, of which the most typical examples are constructions with get, cause, and make (Altenberg, 2002; Kulikov, 2001). In Swedish, these constructions are mainly formed with the verbs få ‘get’, komma ‘come’, ha ‘have’, förmå ‘induce’ and låta ‘let’ (Rawoens, 2008).

Some English suffixes such as -ify, -ize, -en and the zero morpheme -ø, are seen as causative morphemes by some linguists (e.g. Baron, 1974; Mithun, 2002). In fact, the suffix -ify came from the Latin verb facere ‘make’ (Mithun, 2002). Baron (1974) says that these suffixes can be used to derive causative verbs from verbs and nouns, as shown in examples (24) – (27).

(24) -ify justify, falsify, beautify, mystify
(25) -ize modernize, legalize, Americanize, capitalize
(26) -en brighten, whiten, lengthen, strengthen
(27) -ø yellow, cool, empty, clear

For Swedish, Rawoens (2008) adds the suffixes -era and -iser (e.g. justera, simplifiera, modernisera, legalisera) to this list. However, the claim that the English suffixes put forward by Baron still function as causatives morphemes should perhaps be adjusted. Levin and Rappaport Hovav (1994) highlight that suffixes -ify, -ize and -en are not just typical of causative verbs, but also of inchoative verbs. Examples (28) – (29) (from Levin & Rappaport Hovav: 44) show that verbs with these suffixes can occur as labile verbs in some situations.

(28) I solidified the mixture. – The mixture solidified.
(29) The cook caramelized the sugar. – The sugar caramelized.
I loosened the rope.

The list of labile verbs featured by McMillion (2006) includes many verbs with the suffixes proposed by Baron. As there is no list available for labile verbs in Swedish, it remains for this present paper to examine whether the suffixes -era and -isera in Swedish can occur with an inchoative meaning as well as a causative meaning.

3.1.2 Non-directed alternations

Apart from causative and anticausative alternations, there are also non-directed alternations. These alternations are called non-directed because “neither the inchoative nor the causative is derived from the other” (Haspelmath, 1993: 91). In equipollent alternations, also called ‘correlative oppositions’ (García García, 2012) for instance, both are derived from the same stem by means of different affixes, auxiliary verbs or stem modifications. García García (2012) argues that English verb pairs such as sit/set, fall/fell belong in this category, since “the direction of the ancient derivational relationship between the causative and non-causative verb is synchronically irrecoverable” (126). This means that the verbs show traces of morphological processes, but these are no longer productive. In Germanic languages, there used to be a formation with the suffix *-(i)ja-, usually called the jan-formation (García García, 2012). Although this formation is now no longer productive some relics of verb pairs can be seen in the modern Germanic languages. According to García García (2012: 131), there are seven of these fossilized pairs in Present-Day English: fall-fell, rise-rear; drink-drench, lie-lay; sit-set; bite-bait and sing-singe.

In Swedish these forms are somewhat more frequent, as can be seen in the examples from Table 4.\(^5\)

<table>
<thead>
<tr>
<th>Inchoative form</th>
<th>Causative form</th>
</tr>
</thead>
<tbody>
<tr>
<td>brinna ‘burn’</td>
<td>bränna ‘burn’</td>
</tr>
<tr>
<td>drunkna ‘drown’</td>
<td>dränka ‘drown’</td>
</tr>
<tr>
<td>falla ‘fall’</td>
<td>fälla ‘fell’</td>
</tr>
<tr>
<td>ligga ‘lie’</td>
<td>lägga ‘lay’</td>
</tr>
<tr>
<td>sjunka ‘sink’</td>
<td>sänka ‘sink’</td>
</tr>
</tbody>
</table>

\(^5\) The list in this table is not an exhaustive list, but it is mainly based on information found in Svenska Akademiens grammatik (Teleman et al., 1999) and Svensk etymologisk ordbok (Hellquist, 1922).
Some of these pairs have lost their ‘pure’ alternating meaning, however. As Rawoens (2008) points out, in the pair *falla-fälla* ‘fall-fell’, *fälla* does not longer have the general meaning ‘cause to fall’, but it has received the more restricted meaning ‘cause a tree to fall’, from which then other meanings have developed.

In the suppletive alternation, different verb morpheme roots are used to express the causative and inchoative sense. Sometimes, these kinds of alternations are also called lexical causatives (e.g. Kulikov, 2001). Kulikov (2001) notes that the verbs in this alternation “may go back to morphological causatives with a marker which was regular and productive in the older language, cf. Old English *cwellan* (> English *kill*) – *cwel*an ‘die’” (887). Although scholars do not always agree on which verb pairs belong to this alternation, Baron (1974) lists some of the typical examples of this alternation: *believe-persuade, buy-sell, eat-feed, see-show, die-kill*. In Swedish, similar pairs exist. For instance, Viberg (1980; cited in Rawoens, 2008) names the verb pair *se-visa* ‘see-show’.

Finally, in the labile alternation, the same verb is used for both the causative and the inchoative meaning, which is, as we have seen, a common process in English. Haspelmath (1993) claims that the English causative-inchoative alternation is predominately labile with only a handful of verbs which are equipollent or suppletive. He points out that “[t]he overwhelming preference for labile verbs in English is quite unique” (102), even when compared to other Germanic languages. To my knowledge, an investigation of the distribution of the different strategies in Swedish has not been conducted yet.

### 3.2 The causative/inchoative alternation in Swedish

A great deal has been written about the causative/inchoative alternation in English, but other languages, such as Swedish, have been somewhat neglected in this regard. However, there have been some studies that have ventured into this area, which will be discussed in this section. Most notably, this section will focus on the works of Kemmer (1993) and Nordrum (2015).
As demonstrated in section 3.1.1, other languages have other strategies to represent the causative/inchoative alternation, in contrast to the English preference for labile verbs. According to Kemmer (1993), a number of languages use a morphosyntactic strategy to express this alternation. This strategy involves what Kemmer calls middle markers (e.g. French se). Kemmer defines the middle as “a semantic area comprising events in which (a) the Initiator is also an Endpoint, or affected entity and (b) the event is characterized by a low degree of elaboration” (243). The first property is clearly close to Davidse’s description of the ergative paradigm, which is defined as “Affected-centred” (1992: 113). When discussing middle voice, Kemmer does not only refer to intransitive labile verbs, but also to other situation types. She distinguishes 13 subtypes of middle events cross-linguistically, as illustrated in Table 5.

<table>
<thead>
<tr>
<th>Middle situation type</th>
<th>English example</th>
<th>Swedish example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 grooming or body care</td>
<td>shave</td>
<td>raka sig</td>
</tr>
<tr>
<td>2 non-translational motion</td>
<td>turn</td>
<td>vända sig</td>
</tr>
<tr>
<td>3 change in posture</td>
<td>lie down</td>
<td>lägga sig</td>
</tr>
<tr>
<td>4 indirect middle (self-benefactive middle)</td>
<td>acquire</td>
<td>skaffa sig</td>
</tr>
<tr>
<td>5 naturally reciprocal events</td>
<td>meet</td>
<td>träffas</td>
</tr>
<tr>
<td>6 translational motion</td>
<td>walk</td>
<td>gå</td>
</tr>
<tr>
<td>7 emotion middle</td>
<td>be frightened</td>
<td>vara rädd</td>
</tr>
<tr>
<td>8 emotive speech actions</td>
<td>complain</td>
<td>beklaga sig</td>
</tr>
<tr>
<td>9 other speech actions</td>
<td>confess</td>
<td>bekänna</td>
</tr>
<tr>
<td>10 cognition middle</td>
<td>think</td>
<td>tänka sig</td>
</tr>
<tr>
<td>11 spontaneous events</td>
<td>develop</td>
<td>utvecklas</td>
</tr>
<tr>
<td>12 logophoric middle</td>
<td>(only in Old Norse and Modern Icelandic)</td>
<td></td>
</tr>
<tr>
<td>13 facilitative middle (medio-passive)</td>
<td>the book is selling well</td>
<td>boken säljer bra</td>
</tr>
</tbody>
</table>

Table 5 - Middle situation types (Kemmer, 1993: 16-20; McMillion, 2006: 63)

As McMillion (2006) points out, most labile verbs in English occur in the group of spontaneous events. In addition, some labile verbs arise in the non-translational motion group.

Kemmer (1993) also elaborates the development of the middle systems in the

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* The non-translational motion group includes verbs of moving without change in the overall position of the body. This group includes actions like turning, bowing and nodding (Kemmer, 1993). This class of verbs differs from the translational motion group, because this group contains verbs of “self-induced-motion of an animate entity along a path in space” (Kemmer, 1993: 18) and thus includes actions like going, coming and walking.
Scandinavian languages. According to her, there are two middle markers in the
Scandinavian languages: the reflexive pronoun (seg/sig) and a morphological marker –s, as is
the case for some of the middle situation types in Table 5. These markers also apply to the
middle type of spontaneous events, which indicates that the causative/inchoative
alternation in Swedish can be expressed by an anticausative pair, i.e. a pair in which the
causative form is basic and the inchoative (anticausative) form is derived (Haspelmath,
1993). Both middle markers have developed from the same source: the Proto-Scandinavian
reflexive pronoun *sik. The –s marker also has a homogenous use in all three languages as a
morphological passive marker, although Kemmer (1993) remarks that it is avoided in the
spoken varieties of Norwegian and Danish. In her investigation, Kemmer focuses on
Norwegian, but claims that similar developments have also occurred in Swedish and Danish.

In Norwegian, the morphological marker –s “is essentially fossilized on a small, and
decreasing, number of middle verbs” (190-191), such as ferdes ‘travel’, mines ‘remember, enes
‘agree’, eldes ‘grow old’ and trives ‘thrive’. As shown in example (31), there also are some
verbs that can alternate between the –s form and the reflexive pronoun.

\[(31) \text{glædes} \leftrightarrow \text{glæde seg} \quad \text{‘be, become glad’} \]
\[(31) \text{skjemmes} \leftrightarrow \text{skamme seg} \quad \text{‘be ashamed’ (Kemmer, 1993: 190)} \]

The examples in (32), on the other hand, show that there are a number of verbs in the
middle semantic area that occur with an obligatory reflexive pronoun. These verbs cannot
occur with an –s marker, except in a passive use.

\[(32) \text{sitte seg} \quad \text{‘sit’} \]
\[(32) \text{åpne seg} \quad \text{‘open’} \]
\[(32) \text{forandre seg} \quad \text{‘change’ (Kemmer, 1993: 191)} \]

This demonstrates that, in Norwegian, the reflexive marker has undergone semantic
extension to the middle domain. Since examples such as (31) are much more frequent in
Norwegian than examples such as (32), Kemmer claims that Norwegian has developed from
a two-form system (i.e. morphological marker and reflexive pronoun) into a one-form
system (i.e. reflexive pronoun), where the –s forms have become relics of the old system.

3.2.2 Deponency and reflexives in Swedish

Although Kemmer (1993) only discusses the middle voice in Norwegian, she assumes that
the other Scandinavian languages have undergone the same development. Nordrum (2015)
convincingly argues that Kemmer’s generalization is not entirely accurate, because the
situation in Swedish is significantly different from the situation in Norwegian.
First of all, the –s form is less restricted in Swedish than in Norwegian. As mentioned in section 3.2.1, the –s form is ambiguous with a morphological passive reading in Swedish (as in Norwegian). In addition to the passive, there are some other uses which are fairly frequent and might even be ‘semi-productive’ (Lyngfelt, 2007). Svenska Akademiens grammatik (Teleman, Hellberg, Andersson & Christensen, 1999; henceforth SAG) uses the term deponency to describe the –s forms in Swedish that do not have a passive meaning. SAG distinguishes two types of deponency in Swedish:

A) The Subject designates agency or cause.
   a. absolute meaning: often an iterative or generic event in which the object is not specified (e.g. bitas ‘bite’, brännas ‘burn’)
   b. reciprocate meaning (e.g. träffas ‘meet’, försonas ‘reconcile’)
   c. absolute or reciprocate meaning (e.g. kittlas ‘tickle’, retas ‘tease’)

B) The Subject lacks agency or cause.
   a. middle meaning (e.g. utvecklas ‘develop’, fördubblas ‘double’) (Teleman et al., 1999: 555)

SAG also highlights that the verbs with middle meaning can be paraphrased with a reflexive pronoun. These deponent verbs cannot, in contrast to passive verbs in the –s form, take an agent adverbial. Consequently, the following three varieties are possible (examples from Nordrum, 2015: 236):

\[(33)\]
\[
\begin{align*}
\text{a. } & \text{Dörren öppnade sig.} & \text{door.the open-PAST REFL} \\
& \text{‘The door opened itself.’} \\
\text{b. } & \text{Dörren öppnades.} & \text{door.the open-PAST-S} \\
& \text{‘The door opened.’} \\
\text{c. } & \text{Dörren öppnades (av en person som steg in).} & \text{door.the open-PAST-S (by a person who climb-PAST in).} \\
& \text{‘The door was opened (by a person who climbed in).’} \\
\end{align*}
\]

To return to Kemmer’s (1993) assumption that the Scandinavian languages are developing to a one-form middle system, Nordrum’s (2015) investigation indicates that this is not the case for Swedish: “evidence for –S as a spontaneous-event marker in Swedish is that –S is possible also when a human Agent is ruled out” (236).

Another important issue is the difference in use or meaning between the reflexive pronoun and the deponency marker. Lyngfeldt (2007) argues that the reflexive middle occurs most
often with an experiencing Subject (e.g. gräma sig ‘fret’, oroa sig ‘worry’). Nordrum (2015) adds to this hypothesis by proposing that for some verbs (e.g. öppna ‘open’), the reflexive pronoun indicates that the Subject is potent, whereas the –s marker signifies a spontaneous event. To support her argument, Nordrum refers to Davidse (2002), who showed that “the ergative is the prototypical marker of spontaneous-event meaning, but occurs with the reflexive in constructions with Subjects that can be interpreted as ‘active enough’ to allow overtly specified self-instigation (i.e. ‘animate entities’, ‘organizations’ and ‘Subject potents’)” (Nordrum, 2015: 241). In the present paper, Nordrum’s hypothesis will be assessed by relating it to the corpus material.

3.3 Ergativity in scientific discourse
To conclude the theoretical framework, this section will turn to another aspect of labile verbs or ergativity that has not yet been discussed in this paper, namely the link between ergativity and scientific discourse. As Halliday and Matthiessen (2004) point out, the ergative paradigm is more foregrounded in some registers than in others. These registers include scientific discourse.

3.3.1 Features of scientific discourse
The scientific discourse as we know it today has developed in the seventeenth century and has undergone several developments throughout the centuries. Halliday and Martin (1993) call attention to what they call the ‘objectification’ of scientific discourse:

From Newton to the present day there has steadily evolved a form of clause construction characterized, not by objectivity as in the popular idea of scientific discourse (which was a late nineteenth-century refinement), but by objectification — that is, representing actions and events, and also qualities, as if they were objects. As a corollary to this, the relations between events came to be construed as if they were the events themselves: thus instead of ‘we did this, then that happened’ the scientist writes ‘this action of ours was followed by that event’.

In their work, Halliday and Martin (1993) focus on the role of the lexicogrammar in the construction of knowledge. Additionally, they have perceived the development of what they call a “technical grammar” that involves the necessary structures for the representation of scientific experience (cited in Martínez, 2001). What is crucial for this objectification is the removal of explicit agency, which can be affected through several grammatical features, including ergativity.
Veel (1998) observes that “[t]he cumulative effect of scientific writing is to make the logical links we draw between physical phenomena appear as ‘natural’, and therefore immutable, as possible” (115-116). He then identifies some of the grammatical features that play an important part in this process: the use of grammatical metaphor; the use of middle and passive voice, and taxonomic reports. The last feature of scientific texts is that they construe taxonomic knowledge, which means that experience is categorized on the basis of observable key attributes. These texts usually use Theme, nominal group and Relational Processes to organize this taxonomical knowledge.

Grammatical metaphor has been discussed elaborately by Halliday (1998, 2004). This paragraph will briefly sketch its meaning and its link to ergativity. The process of grammatical metaphor complements the more traditional concept of lexical metaphor, in which a word is used with a different (i.e. figurative) meaning. Taverniers (2006) for instance, gives the example of the metaphor tableleg, where the congruent (i.e. literal) meaning ‘a body part of a living being (human or animal)’ is used in a transferred sense to refer to part of a piece of furniture. The process of grammatical metaphor, on the other hand, involves the substitution of one grammatical structure for another, causing the structure to be less congruent (i.e. less ‘typical’). The most common type of grammatical metaphor is nominalization, in which a process is construed as a nominal group, rather than as a verb. For example, the nominalization or ‘metaphorical construal’ brake failure is a less congruent construction than the ‘congruent construal’ the brakes failed (Halliday, 1998: 191). Nominalizations can occur in texts “to create natural-like cause-and-effect links between events” (Veel, 1998: 115). Nominalizations are similar to labile (ergative) verbs, in that they “can exclude any reference to an agent or external cause, so that the same effect of suggesting a self-generated process can be achieved” (Goatly, 1998: 554). Goatly then provides an example from Eggins, Wignell and Martin (1993), in which the congruent water condenses is replaced by the nominalized wording condensation. This nominalization is later in the text re-coded as a process with a dummy process verb: condensation occurs. Goatly gives this example to demonstrate how a nominalization can absorb the Medium into the Process.

According to Veel (1998), grammatical metaphor allows us to construe events as causing other events. When we use middle and passive voice clauses, on the other hand, we can represent events as happening without a human agent causing the action.

3.3.2 Ergativization

According to Halliday and Matthiessen (2004) the ergative model has been “gaining ground over the last half a millennium” (283), which leads us to another aspect of labile verbs in
regard to scientific discourse: ergativization. Keyser and Roeper (1984) emphasize that new forms constantly arise, particularly in bureaucratic and scientific English. This process entails that a transitive or intransitive verb comes to be used in ergative constructions. If a transitive verb is “ergativized”, the Affected is seen as being able to self-instigate the process, whereas if an intransitive verb is “ergativized” it is perceived that the Process is instigatable (Lemmens, 1998).

The ergativization of transitives is quite a common process in English. This is for instance reflected in the ergativization of verbs with the suffix -ize (e.g. magnetize, materialize, federalize). New verbs with this suffix constantly arise, and most of them can occur both in transitive and intransitive constructions.

(34) a. We centralized the department.
   b. The department centralized. (Keyser & Roeper, 1984: 390)

However, Keyser and Roeper (1984) also note that not all verbs with the -ize suffix undergo ergative formation, which leads them to propose that it is not the suffix -ize alone that allows ergativization, but a combination of the suffix and the properties of the noun from which the verb was derived.

(35) a. We terrorized the community.

The process of ergativization is only possible in certain semantic contexts, where the process can be seen as self-instigatable. This is why it is more prominent in scientific discourse than in other registers. Goatly (1996) describes the use of ergativity in scientific discourse as follows:

The use of the ergative effective clause type can construe a reality in which energy is not simply imposed on an inert nature from the outside to produce change, as in the transitive Newtonian model, but in which nature provides its own energy, and its own propensity for spontaneous change. (552)

In other words, according to Goatly (1996), the ergativization of scientific discourse is connected to a changing scientific world view. Scientific discourse in the seventeenth century was based on a world view which presupposed that nature was influenced by externally-caused processes. Present-day scientific discourse, on the other hand, perceives processes (such as chemical reactions) to be self-instigated.
Ergativization in scientific discourse has mainly been examined as a phenomenon in English, but research by Andersen (1978; cited in Nordrum, 2015) and Nordrum (2013; 2015) suggests that this process is also common in Scandinavian languages, mainly through influence of English as the lingua franca of science. The present paper will therefore examine whether this hypothesis can be attested in the Swedish corpus material.

3.4 Conclusion theoretical framework
In the first section, I discussed the terminology that is used in different frameworks and motivated the use of the terms in the present paper. Firstly I presented the definition for a labile verb as used in this paper, which is outlined as a verb that alternates both in transitivity patterns, and causativity. Next, I discussed the various possible interpretations of the term ergative. In some approaches (e.g. Dixon), the term is used to designate ergative case alignment. In the functional tradition (Halliday, Davidse), it is however generally agreed upon that every language has a mixture of transitivity and ergativity on a lexical level. Furthermore, it was remarked that languages realize this mixture differently, as comes forward in the work of Haspelmath (1993) on the causative/inchoative alternation and Kemmer’s work (1993) on middle voice.

The second section considered both the functional approach of Halliday and Davidse, and the formal approach of the unaccusativity hypothesis. Davidse’s work is of particular interest to this paper as it allows us to apply Halliday’s ERGATIVE model to labile verbs. Unlike the TRANSITIVE model, which is based on the possibility of extension, the ERGATIVE model is based on the variable of causation and revolves around a Medium-Process nucleus with the possible addition of an Instigator.

We then turned to the unaccusativity hypothesis, which proposes a division of intransitive verbs into unaccusative and unergative verbs. In this theory, unaccusatives are intransitive verbs whose grammatical subject is actually an underlying object. Although this theory may have its fallacies, it identifies some features that can be interesting to take into account when discussing labile verbs.

The third section further discussed some remarks that surfaced in the first section, especially that the causative/inchoative alternation is realized differently across languages. Haspelmath (1993) has pointed out that the preference of English for labile verbs is quite unique cross-linguistically. Particularly interesting was Nordrum’s (2015) discussion of intransitive ergatives in Swedish. In Swedish, intransitive ergative processes are usually realized by deponency marker –s or a reflexive pronoun sig. Swedish thus expresses the causative/inchoative alternation mainly through what Haspelmath (1993) calls the
anticausative alternation, i.e. the causative form is basic and the inchoative form is derived. The distribution of these morphological markers remains a subject for further investigation. Nordrum (2015) connects the distribution of these middle markers to Davidse (2002) by suggesting that those markers may be more common when the subject can be interpreted as ‘active’ or ‘potent’.

Finally, I considered the position of labile verbs in scientific discourse. Halliday and Martin (1993), and Goatly (1998) have argued that ergativity is foregrounded in scientific discourse because it has developed since the seventeenth century to represent processes without agency, or without an Instigator. This hypothesis is supported by verbs with suffix -ize, which increasingly appear as labile verbs. The question remains whether this development also occurs in other languages.
Part 2: Corpus investigation

Chapter 4 – Methodology

This study analyses English labile verbs and their translation equivalents in Swedish. To ensure an extensive investigation, 799 labile verbs, based on McMillion’s (2006) inventory of labile verbs in English, were studied in a parallel corpus of an English original text and its Swedish translation. After the identification of the relevant tokens, the data were analysed and compared in terms of frequency and collocates.

4.1 Text selection

The study presented in this paper is based on a parallel translation corpus that consists of one non-fiction book. This text is the popular scientific book *A Short History of Nearly Everything* by Bill Bryson (ePub version, 2010; henceforth SHNE) and its translation in Swedish (ePub version, 2015). The English original includes approximately 165,800 words whereas the Swedish translation contains circa 161,000 words. The method of parallel corpora is an obvious choice as a basis for textual contrastive analyses (James, 1981; Johansson, 2007) because it provides a rich picture of correspondences and contrasts across languages, more so than an examination of bilingual dictionaries would do.

The text itself was also chosen deliberately. As it is a popular science work, it includes descriptions of scientific processes as well as numerous narrative sequences, such as anecdotes about scientists and their discoveries. Myers (1994) emphasizes that popular science discourse tends to foreground the role of the scientist and the event of their discovery, whereas academic scientific writing focusses on abstract processes and concepts (cited in Liao, 2011). Therefore, with this corpus, we will for instance be able to investigate whether the features of scientific discourse which conceal the presence of the Agent, as described in the SFL tradition (e.g. Halliday & Martin, 1993; Goatly, 1993) (cf. section 3.3) are also present in popular science discourse, or whether the nature of popular science discourse is different and therefore does not display these features. More specifically, I will examine whether the specific nature of popular science discourse is reflected in the use of labile verbs. Furthermore, due to its popular scientific nature, I expect that the text displays a high variety of process types and participants. This variety will allow us to examine whether different participants require different constructions.

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7 This approximation is based on the total word count of the book minus the author’s acknowledgements, references, notes, bibliography and register. The smaller word count of the Swedish translation is probably due to this language’s tendency to use a great deal of word compounds.
4.2 Verb selection

This section elaborates on the verbs used in the corpus investigation. This study utilizes a list of Present-day English labile verbs that was composed by McMillion (2006). McMillion has listed 812 verbs which show labile features. That is, they alternate in both transitivity and causativity. McMillion’s list is based on a list of ‘ergative verbs’ by the CCGP and to a lesser extent on lists by Levin (1993) and Levin and Rappaport Hovav (1994). Firstly, this section discusses the CCGP’s list and its limitations, and then it turns to McMillion’s list.

4.2.1 The verbs of Collins Cobuild Grammar Patterns

The CCGP provides a definition of labile (or ‘ergative’) verbs (cf. section 1.1) which is primarily based on syntactic grounds. According to the definition of the CCGP, the subject of the one-participant pattern of the labile verb pair should be the object of the two-participant pattern. In addition, the CCGP gives some semantic considerations concerning this definition:

> When you use an ergative verb, you have a choice between two (or more) patterns. These patterns allow you to talk about the world in very different ways. For example, you can choose to indicate that something just happens, perhaps as a natural occurrence, without indicating that someone or something is responsible for it. Or you can indicate that someone or something is the cause of what happens and so is responsible for it. (CCGP, 1996: 475)

The CCGP thus acknowledges that there is a semantic difference between the intransitive use of a labile verb, and the transitive use. However, for its corpus investigation, the CCGP mainly relied on the syntactic aspects. For that reason, McMillion (2006) argues that the CCGP list is too inclusive, in that verbs that lack the causative/inchoative alternation are uncritically categorized as ‘ergative’. This paper follows McMillion’s reasoning in regard to the criteria for labile verbs. Therefore, I will briefly discuss the CCGP list and McMillion’s criticism of it.

The CCGP list is based on The Bank of English corpus, which contains approximately 200 million words. The corpus investigation done by the CCGP yielded roughly 800 verb pairs in different patterns. Basic sentences such as John broke the glass and The glass broke exemplify the most fundamental pattern of labile verbs, where the verb is followed by a Noun Phrase, or not. However, several other patterns are also possible. The CCGP listed the patterns that they identified, which can be seen in Table 6.
<table>
<thead>
<tr>
<th>Pattern</th>
<th>Inchoative form</th>
<th>Causative form</th>
<th># verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>V</td>
<td>V + N</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td><em>The glass broke.</em></td>
<td><em>John broke the glass.</em></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>V + Adv/Prep</td>
<td>V + N + Adv/Prep</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td><em>The boat sailed up the river.</em></td>
<td><em>We sailed the boat up the river.</em></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>V + Adj</td>
<td>V + N + Adj</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td><em>The door slammed shut.</em></td>
<td><em>She slammed the door shut.</em></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>V + <em>as</em> + Adj</td>
<td>V + N + <em>as</em> + Adj</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><em>That score counts as successful.</em></td>
<td><em>We count that score as successful.</em></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>V + <em>to-inf</em></td>
<td>V + n + <em>to-inf</em></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><em>She trained to compete.</em></td>
<td><em>They trained her to compete.</em></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>V + Ord + Prep</td>
<td>V + N + Ord + Prep</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><em>They rank sixth in the world.</em></td>
<td><em>Most people rank them sixth in the world.</em></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>V + Prep/Adv</td>
<td>V + N (+ Prep/Adv)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td><em>Light reflects on the water.</em></td>
<td><em>The glass reflected light (onto the wall).</em></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>V + Prep/Adv</td>
<td>V + N</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td><em>Smoke puffed out of the chimney.</em></td>
<td><em>The chimney puffed smoke.</em></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>V + Adv</td>
<td>V + N</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td><em>This carpet cleans easily.</em></td>
<td><em>We cleaned the carpet.</em></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>V + Adj</td>
<td>V + N</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><em>The chair folds flat.</em></td>
<td><em>He folded the chair.</em></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 - Labile pattern combinations according to the CCGP (1996: 478)

The CCGP describes the first six patterns as symmetrical, because the “only difference between the two patterns is that one has a noun group following the verb and the other does not” (CCGP, 1996: 474), whereas the other four combinations are asymmetrical. The groups that have a sufficient number of verbs are then further subdivided into semantic categories (e.g. the ‘change’ group, the ‘break’ group), which form groups of verbs with similar meanings.

McMillion (2006) convincingly argues that not all of the patterns represented in the CCGP can be seen as core labile verbs, because they only alter in transitivity, and not in causativity. He tested each pattern individually and came to the conclusion that various
verbs should be omitted from the list, and that some patterns cannot be considered core labile. For instance, the meanings of the intransitives in groups 4, 5 and 6 is stative rather than eventive, which means that they describe a state of being rather than a happening that begins and ends at a definite time. A verb needs to be eventive to be able to alternate in causativity, because the variable in this alternation is whether the event is externally-caused or not. A stative verb, such as like, cannot appear in a causative construction such as *Jill caused the beer to be liked (example from McMillion, 2006: 36). Examples (36) and (37) show that the verb count from the fourth labile pattern combination does not fulfill the conditions of the causative/inchoative alternation, due to the stative sense of the verb. Paraphrases with ‘cause to V’ and the inchoative marker ‘by itself’ are therefore not wholly acceptable.

(36)  
a. She counts those people as poor.  
b. *She causes those people to count as poor.

(37)  
a. Those people count as poor.  
b. *Those people count as poor by themselves. (McMillion, 2006: 40-41)

The intransitive clauses of pattern groups 7, 9 and 10 can be categorized as medio-passives, which means that “no event is predicated of the intransitive subject but rather an attribute is predicated of the subject as being easy, or as having a particular manner” (McMillion, 2006: 33). Group 8 is also problematic because there the location of the intransitive pattern is the subject of the transitive pattern. As shown in examples (38) and (39), these verbs do not pass the causative/inchoative alternation test, mainly because the location is not a sufficient Actor in the causative process.

(38)  
a. The wound spurted blood.  
b. *The wound caused the blood to spurt.  
c. *The wound caused the blood to be spurted.

(39)  
a. Blood spurted out of the wound.  
b. *Blood spurted out of the wound by itself. (McMillion, 2006: 44)

Thus, the CCGP patterns 1 and 2 are those with the most core labile verbs, and incidentally also the patterns with the most verbs in the CCGP.

4.2.2 McMillion's list of labile verbs

McMillion (2006) argues that of the approximately 800 verbs listed by the CCGP, 500 are of the core labile verb type. On the basis of the CCGP list and lists by Levin (1993) and Levin and Rappaport Hovav (1994), McMillion (2006) created a list of 812 labile verbs. About 125 of
these labile verbs are phrasal verbs and roughly 100 of these verbs were assigned one or more collocates to indicate that they can only be labile in certain contexts.

To confine the scope of this study somewhat, I omitted some of the verbs from McMillion’s list. I decided to exclude these verbs in this particular study because McMillion classified them as peripheral labile verbs. The verbs that were omitted are: add up, balance out, canter, crowd, count, gallop, lack, qualify, march, splinter, train, trot, and walk. These verbs are considered peripherally labile because they do not entirely pass the causativity and inchoativity tests (see examples (36) – (39) above).

It is also important to bear in mind that the list provided by McMillion is not exhaustive, because in the English language, new labile verbs can arise (see section 3.3.2 on ergativization). During my investigation I found a few verbs that might be considered labile but were not on the list. My suggestions for the expansion of McMillion’s list can be found in section 5.1.3.

4.3 Procedure

After a total of 799 verbs were selected, I searched the English verbs in the SHNE corpus. It should be noted that all verb forms were included, except participles when they occurred in an adjectival position (e.g. the verb fossilize in the fossilized sea monster). Next, I retrieved the Swedish translation of the English clauses that emerged.

4.3.1 Difficulties

The main source of difficulty when using a translated text as a basis for contrastive analysis is its “potential for translation-distortion, that is, the target-language text can show signs of interference from the source language” (James, 1981: 117). In some ways, this distortion can be interesting, because it reflects the influence of one language on the other. On the other hand, in order to be able to conduct a contrastive analysis, there must be translation equivalence. James (1981) proposes that, for two sentences to be translationally equivalent, “they must convey the same ideational and interpersonal and textual meanings” (178; see also Halliday & Matthiessen, 2004). Of the Swedish translation tokens in this investigation, 120 tokens were therefore considered unsuitable for contrastive analysis. Most of the time, this choice was evident, as some English clauses were left out in the translation. At other times, the choice was not as straightforward. However, I decided to leave out a token for this analysis when the translation used a different construction that conveyed a significantly different meaning than the original. Sometimes the verbal process was expressed by a nominalization in Swedish, generating grammatical metaphor across
languages, but as this subject lies beyond the scope of this study, these tokens were not considered suitable for analysis.

Secondly, determining whether a verb is used in its labile sense or not sometimes represented some difficulty. Most verbs on McMillion’s list have multiple meanings, some of which do not show the transitive or causative alternation, i.e. they are not labile. In case of doubt, the Collins COBUILD English Dictionary (Sinclair, 1994; henceforth CCED) was consulted to retrieve the meanings of the verb which are labile. The CCED provides a pattern for each separate verb meaning; e.g. “V + O” indicates a transitive pattern, “V” an intransitive patterns, and “V-ERG” signifies a labile verb. For some verbs, the labile meaning was quite marginal. Take for instance the polysemous verb hold, which contains 34 different (but interrelated) meanings in the CCED, of which only one was indicated as V-ERG. Additionally, the CCED lists 40 possible phrasal verbs for the verb hold, two of which are categorized as labile. In the first stage of the corpus investigation, not every non-labile sense of the verbs was excluded, but in a later stage of the investigation, the data were severely reduced. To illustrate this process, I will continue with the verb hold. This verb appears more than 50 times in the corpus, but only one instance of an intransitive pattern was found, which is unbalanced to say the least. However, while examining these tokens more closely, it appeared that only six of the more than 50 tokens could be considered to fit the labile sense that the CCED provided: “When one thing holds another or when it holds, the first thing keeps the other fixed in position. [E.g.] There was just a rail or something holding it... the glue held” (1994: 693). Examples (40) and (41) from the corpus respectively mean ‘have’ and ‘store’ and these meanings have a non-labile (transitive) pattern according to the CCED. Example (42) is more difficult to determine but it more or less corresponds to the labile verb sense that the CCED provided and thus was included in the data.

(40) Thomas Midgley, decided to hold a demonstration for reporters to allay their concerns... (SHNE)
(41) Water is marvelous at holding and transporting heat. (SHNE)
(42) ... that distant tiny twinkle has enough gravity to hold all these comets in orbit. (SHNE)

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A polysemous verb has more than one meaning, and its meanings are systematically related. Note that polysemy is not the same as homonymy, where there is no systematic relationship (Lakoff, 1987). According to Fillmore and Atkins (2000), the various meanings of a polysemous verb have a central source and the links between them form a network. When I refer to a marginal meaning of a verb, I consequently refer to a (non-central) meaning that is situated in the margins of this network.
Other frequent verbs that only have a marginal labile meaning are for instance show, pass, run and fill. However, the CCED could not always provide a clear answer as to which of the verb meanings should be considered labile. For example, no labile verb sense was listed in the CCED for the verb keep, even though it was included on the CCGP list. Therefore, I sometimes had to rely on other resources that do not take into account the possible lability of verbs to identify the labile verb sense, such as *Merriam-Webster’s online dictionary*. Consequently, this method does not guarantee the exclusion of every non-labile verb sense. The quantitative analysis of the labile verbs in the corpus should therefore be comprehended with some room for inaccuracies.

4.3.2 Data analysis

In the following chapter, I will analyse the data in two stages. To start with, I will examine the total number of data in regard to a couple of variables: the frequency of the verbs, transitive and intransitive patterns, and active and passive voice. First, I will consider the English text and its labile verbs separately. After that, I will turn to the Swedish translation counterparts of the English tokens. For these Swedish tokens, I will consider the same variables plus the frequency of morphological markers.

In the next stage, I will examine some of the features of labile verbs more closely. To ensure an in-depth discussion of these features, I will focus on ten of the 291 labile verbs that emerged in the SHNE corpus. I selected these verbs mainly on the basis of frequency, but I only included verbs that occurred repeatedly in both transitive and intransitive patterns (i.e. at least five times for each pattern). Table 7 shows the absolute and relative frequencies of the English labile verbs that occurred 20 times or more in the corpus. It also shows the number of transitives and intransitives for these verbs. The verbs that have fewer than five tokens in one of these patterns (*keep*, *develop*) will not be included in the close reading. The verbs indicated in blue are those that will be included in the close reading. These ten verbs will be examined in terms of the type of Medium that they occur with. First I will divide the Mediums of all these verbs in nine general categories (*Humans*, *Animals*, *Plants*, *Body parts*, *Natural Phenomena*, *Celestial bodies/Universe*, *Geographical features*, *Physical matter/objects*, *Events/Abstractions*). Then, I will examine whether these generalizations can be further specified for each group of semantically related verbs, similar to what Davidse (2002) did for the verb *spread*. 
<table>
<thead>
<tr>
<th>verb</th>
<th>number of tokens</th>
<th>relative frequency (per 10,000 words)</th>
<th>number of transitives</th>
<th>number of intransitives</th>
</tr>
</thead>
<tbody>
<tr>
<td>form</td>
<td>59</td>
<td>3.55</td>
<td>47</td>
<td>12</td>
</tr>
<tr>
<td>begin</td>
<td>55</td>
<td>3.31</td>
<td>17</td>
<td>41</td>
</tr>
<tr>
<td>move</td>
<td>54</td>
<td>3.25</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>turn</td>
<td>49</td>
<td>2.95</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>grow</td>
<td>37</td>
<td>2.23</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td>keep</td>
<td>37</td>
<td>2.23</td>
<td>35</td>
<td>2</td>
</tr>
<tr>
<td>evolve</td>
<td>35</td>
<td>2.11</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>change</td>
<td>30</td>
<td>1.8</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>blow</td>
<td>26</td>
<td>1.56</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>develop</td>
<td>25</td>
<td>1.5</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>start</td>
<td>25</td>
<td>1.5</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>divide</td>
<td>24</td>
<td>1.44</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>run</td>
<td>24</td>
<td>1.44</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>spread</td>
<td>20</td>
<td>1.2</td>
<td>5</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 7 - Frequencies of the labile verbs that occurred more than 20 times in the SHNE corpus

Additionally, I will examine a number of Swedish verbs that occur with the morphological marker –s and the reflexive pronoun sig, in order to determine whether their usage can be linked to the Medium. The first choice went out to the verbs that occurred with both middle markers. Five Swedish verbs in the corpus filled this requirement, as can be seen in Table 8.

<table>
<thead>
<tr>
<th>verb</th>
<th>middle marker –s</th>
<th>middle marker sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>flytta (transfer/move)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>länka (assemble)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>sprida (spread/disperse)</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>öppna</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 8 - Swedish verbs that occurred with both middle markers in the SHNE corpus
Chapter 5 – Results and discussion

5.1 Empirical data

5.1.1 The English data

From the 799 verbs that were taken into account for this analysis, 291 were present in the English SHNE corpus (approximately 36% of the listed labile verbs). In total, 1484 instances were found of these labile verbs. This total amounts to approximately 0.9% of the total amount of words in the English text. As shown in Table 9, the total amount of English tokens found in the text includes 718 labile verbs used in a transitive pattern and 756 labile verbs in an intransitive pattern. In the first stage of the investigation, when not all non-labile verb senses were excluded (e.g. for the verbs hold and fill; cf. section 4.3.1), the transitive number surpassed the number of intransitives with a hundred or so tokens. However, when these non-labile senses were excluded, the number of labile intransitives exceeded the number of labile transitives with 38 instances.

<table>
<thead>
<tr>
<th></th>
<th>transitive</th>
<th>718 (48%)</th>
<th>active</th>
<th>572 (38.5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>passive</td>
<td>128 (8.5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>reflexive</td>
<td>18 (1%)</td>
</tr>
<tr>
<td>intransitive</td>
<td>756 (52%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 - Number of transitive and intransitive English labile verbs in SHNE

Although the amount of transitives and the amount of intransitives differ only slightly, the number of transitives includes a relatively high amount of passive constructions. The tokens of the labile verbs thus include a high number of constructions that allow concealment of the Agent (although the Agent might still be present in a passive construction). This is underscored by the relatively small number of agent adverbials (prepositional phrases with by) that are part of the passive constructions. Of the 128 passive English constructions of labile verbs, 23 have an agent adverbial. This means that about 82 percent of the passive constructions occur without an Agent. This means that approximately 57 percent of the total amount of investigated data did not have an explicit Agent (or an Instigator, to use Davidse’s terminology). It is important to bear in mind that in the passive constructions, there is always an implicit Agent, which is not necessarily the case in the intransitive (middle) constructions.

---

9 In comparison, according to corpus-evidence (Biber, Johansson, Leech & Quirk, 2007), the total frequency of verbs in academic prose is approximately around 10%.
### 5.1.2 The Swedish data

For each of the English tokens, the Swedish translation equivalent was retrieved. After the exclusion of 130 unsuitable Swedish translations (see section 4.3.1), 1354 tokens remained to be analysed. The 291 English labile verbs that occurred in the SHNE corpus were realized in 482 different Swedish lexemes.

If the Swedish tokens are grouped according to the same parameters as the English ones, it becomes apparent that the proportion of transitives and intransitives does not differ significantly from the English rate. However, unlike for the English labile verbs, the Swedish translation equivalents are slightly more frequent in a transitive pattern. This is due to the most striking feature of the translation: the percentage of verbs in a reflexive pattern is considerably higher than the percentage of English labile verbs in a reflexive pattern. Only 19 tokens of those Swedish reflexives correspond to an English labile verb in a transitive pattern.

<table>
<thead>
<tr>
<th></th>
<th>Transitive</th>
<th>Active</th>
<th>Passive</th>
<th>Reflexive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Token</td>
<td>698 (51.5%)</td>
<td>445 (33%)</td>
<td>109 (8%)</td>
<td>144 (10.5%)</td>
</tr>
<tr>
<td>Intransitive</td>
<td>656 (48.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10 - Number of transitive and intransitive Swedish translation tokens in SHNE

The number of passives in the Swedish text is more difficult to determine, because next to an analytical passive with the verb bli ‘become’, the more common synthetic passive is formed with a morphological marker –s. As mentioned earlier, this passive marker –s is homonymous with the middle marker –s. The only difference between the passive and the middle use is whether the verb can take an agent adverbial or not (Teleman et al., 1999). This disparity constitutes a large grey area, where it is often difficult to determine whether the addition of an agent is possible or not. The number of passives presented in Table 10 are the passives that appeared as the translation of an English passive, and the analytical constructions, which were unambiguously passive. In 19 instances of the Swedish verbs with an –s marker, an explicit agent adverbial (i.e. a prepositional phrase with av) was present. This means that approximately 55 percent of the investigated Swedish verbs occurred without an Agent (or Instigator). The ambiguity between the passive marker and the deponenty marker will be discussed more elaborately in section 5.2.3.

In total, 205 instances retrieved from the Swedish corpus had an –s marker, either as translation for a passive or an intransitive labile verb. In only 10 instances an analytical passive construction with bli was used to construct the passive. The number of Swedish passives differs only slightly from the number of English passives. In 15 instances, the
English passive was translated as an active transitive construction, in the four other cases it was translated as an intransitive.

5.1.3 Possible additions to McMillion’s list of labile verbs

As discussed in section 3.3.2, Halliday and Matthiessen (2004) argue that ergativity has gained ground in English over the last few centuries, and probably continues to do so. Therefore, a list of labile verbs cannot be stable, i.e. verbs can constantly be added to (or removed from) such a list. A small number of verbs occurred in the SHNE corpus that perhaps should be added to McMillion’s list. These verbs are slight variations on the verbs that are already on the list, with the addition of an affix or particle: blow out, disassemble, uncurl and switch on/off. The examples in (43) – (46) are from the SHNE corpus, supplemented with data from the British National Corpus (BNC) when no example was present in the former. The example sentences below show that these verbs occur in both transitive and intransitive patterns, while alternating in causativity (the a. examples show the inchoative pattern, whereas the b. sentences exemplify the causative pattern).

(43) a. When we die our atoms will disassemble and move off to find new uses elsewhere. (SHNE)
   b. Disassemble the cells of a sponge (by passing them through a sieve, for instance) … (SHNE)

(44) a. … they will uncurl and move on as if nothing has happened. (SHNE)
   b. … we beg one week’s indulgence as we uncurl our lips … (BNC)

(45) a. … they switch off spontaneously even in the presence of the stimulus. (BNC)
   b. When conditions are tough, they curl up into a compact shape, switch off their metabolism … (SHNE)

(46) a. We even have the same genes for making a tail, if only they would switch on. (SHNE)
   b. Breaking up atoms, as James Trefil has noted, is easy; you do it each time you switch on a fluorescent light. (SHNE)

Additionally, the phrasal verb blow out is categorized as “V-ERG” in the CCED, but not included on the CCGP’s list or McMillion’s list. Especially the examples with the phrasal verbs switch on and off seem noteworthy. Neither of these phrasal verbs is indicated as “V-ERG” in the CCED, which is, as mentioned previously, corpus-based. The presence of these verbs in both causative and inchoative alternants might indicate that these verbs are undergoing a process of ergativization. On the other hand, it might also indicate an
inaccuracy in the CCGP list. In Davidse’s (2002) work, for instance, the clause *The machine switched off* was already given as an intransitive labile example.

5.2 Swedish strategies to express the causative/inchoative alternation

In section 3.1, I discussed the different strategies that languages use to express the causative/inchoative relation according to Haspelmath (1993). As we have seen, the English language has a unique preference for labile verbs, even in comparison to other Germanic languages. In this section, I will turn to Swedish because the distribution of these strategies has not yet been fully explored. I will discuss the different strategies that came forward as a translation for the English labile verbs in the SHNE corpus.

![Distribution of strategies to express the causative/inchoative alternation in the Swedish SHNE corpus](image)

Figure 4 - Distribution of strategies to express the causative/inchoative alternation in the Swedish SHNE corpus

Figure 4 shows the distribution of the strategies that are used to express the causative/inchoative alternation in the Swedish SHNE corpus, according to the number of lexemes that were found for each strategy. The data in this Figure only include the Swedish lexemes that occurred more than once, because it was deemed unattainable to categorize the verbs that occurred less. It should also be kept in mind that these percentages only apply to the translations of the English labile verbs, not to the entire text. Almost half of the investigated Swedish lexemes occurred only in one pattern in the SHNE corpus. The majority occurred only in a transitive pattern. Roughly a third of the lexemes occurred with a middle marker (or both middle markers) in the intransitive pattern, and without a marker in the transitive pattern. Additionally, Figure 4 shows that 14 percent of the Swedish lexemes occurred in both patterns and thus can be qualified as labile. A relatively small number of equipollent verb pairs were also present in the data.
The following sections parallel the structure of the theoretical discussion in 3.1. First, they focus on the strategy of causative and anticausative alternations, and then they turn to the non-directed strategies of the labile, equipollent and suppletive alternation.

5.2.3 The causative and anticausative alternations

The addition of the –s deponency suffix or the reflexive pronoun sig to derive an inchoative verb from a causative (transitive) verb can be categorized as what Haspelmath (1993) called the anticausative alternation. As can be seen in Figure 4, approximately 33% of the Swedish lexemes (that occurred more than once) in the SHNE corpus occurred in the intransitive pattern with either the deponency marker –s or the reflexive pronoun sig. This figure agrees with Nordrum’s (2015) suggestion that these middle markers are very common strategies to express middle voice in Swedish (especially the ‘spontaneous event’ meaning).

In the SHNE data, 115 of the 756 instances of English labile intransitives were translated with the marker –s and another 115 were translated with the reflexive pronoun sig. While the absolute number of verbs with these markers is the same, the deponency marker appears with a higher variety of lexemes (see Figure 4).

Deponency markers vs passive markers

As discussed earlier, the difference between the deponency –s marker and the passive –s marker is the possibility of an Agent. The explicit Agent in a passive construction in Swedish is the agent adverbial with preposition av. Of the 90 instances that were Swedish constructions with an –s marker as translation for an English passive, 19 occurred with an explicit Agent. A lot of the tokens that did not have an explicit Agent could be interpreted in several ways. Take for instance, the example in (47). The English original had a passive construction, but the Swedish translation could be both. Both interpretations are possible: that someone changes the values, or that the values change by themselves. In some cases, the context can direct to a certain interpretation, but in (47) and many other instances this seems not to be the case.

\[
\text{(47) \quad \ldots om något av dessa värdet förändras om än så lite skulle inte kunna vara tinget som de är.\
\quad \text{if any of these values change-S if but so little will-PAST not can be things.the as they be-PRES\
\quad \text{‘[...] if any of these values were changed even very slightly things could not be as they are.’}}
\]

There were two instances where it seemed that a prepositional phrase with av was added in Swedish where the English original had an intransitive process:
In example (48), it is likely that the change from intransitive to passive is due to a translational deviation, because the meanings of *crumple* and *trycka ihop* (which approximates the meaning ‘to compress something’) are not quite the same. However, the situation in example (49) is less transparent. Perhaps in this case, the prepositional phrase with *av* is not an agent adverbial, but an adverbial expressing the cause, while the –*s* marker then indicates the ‘spontaneous event’ meaning. However, it is then remarkable that the verb *spränga* is used here instead of the verb *explodera*. The latter verb is used in the SHNE corpus as a translation for verbs in intransitive (inchoative) patterns, whereas the former only occurs in transitive patterns (see also section 5.2.4).

**Causative constructions**

Examples of the causative alternation in Swedish are also present in the SHNE in the form of causative constructions. The exact number of verbs that occur in this alternation was nearly impossible to determine from the SHNE data. For practical reasons these verbs were therefore included in the number of verbs that occurred in only one pattern. Take for instance the verb *svalna* ‘cool’ in examples (50) and (51).

(50) ... *att största delen av magmakammaren nu svalnar och att största delen av magmakammaren nu svalnar och* that largest part. the of magna chamber. the now cool-PRES and

* kristalliseras crystallize-PRES-S

‘[...] that the most of the magna chamber now cools and crystallizes.’

(51) 240 kubikkilometer rökt aska, damm och grus hade spridit 240 cubickkilometers smoky ash dust and grit have-PAST spread-PP

* sig i atmosfären, dolt solstrålarna och fått jorden*

* sig i atmosfären, dolt solstrålarna och fått jorden*
REFL in atmosphere.the obscure-PAST sunrays.the and CAUS Earth.the

att svalna.
to cool

‘Thirty-six cubic miles of smoky ash, dust, and grit had diffused through the atmosphere, obscuring the Sun’s rays and causing the Earth to cool.’

It is also interesting that causative constructions are sometimes combined with an –s marker, as in example (52). Since these verbs can occur in causative constructions without a marker, it would seem redundant to use a construction with a causative verb. However, if we examine example (52) more closely, we can see that the causative element is emphasized in this sentence. This could explain the usage of the causative construction instead of the unmarked transitive verb.

(52) Ingen kan förklara vad det är som fär världshavens kemi att förändras så dramatiskt från tid till annan.

Nobody can explain what it be-PRES that CAUS ocean.the-GEN chemistry to change-S so dramatically from time to other

‘No one can say what causes the oceans’ chemistry to change so dramatically from time to time.’

Other causative morphological markers

One of the questions that were raised in the theoretical discussion was the possible lability of a number of morphological markers (see section 3.1.1). Some researchers (e.g. Baron, 1974) claim that the English affixes –en, -ize, and –ify are causative markers, whereas others (e.g. Levin & Rappaport Hovav, 1994) have established that verbs with these markers can occur in inchoative patterns as well. The McMillion list includes 56 verbs with an –en form, 16 –ize forms and 8 –ify forms. The instances of verbs with these suffixes, although not very frequent in the corpus, occurred in both transitive and intransitive patterns, as can be seen in example (53). We can thus safely assume that these suffixes no longer have a pure causative meaning (although they might have had this originally).

(53) a. Specifically, the length would shorten as you moved away from the poles.

b. Woese called these organisms archaeabacteria, later shortened to archaea.

It remains unclear whether the same can be said about the Swedish morphological markers –isera and –era, which also are often seen as causative markers (e.g. Rawoens, 2008). In the
following paragraphs, I will address this issue by examining the verbs with these markers in the SHNE corpus. In total, 28 of the verbs found as translation for an English labile verb were formed with an -era suffix, 3 verbs with an -isera suffix, containing a total of 114 tokens. Most of these verbs have a Latin origin (e.g. explodera < Lat. explōdere; Hellquist, 1922).

![Figure 5 - The transitivity patterns of the Swedish verbs with -era/-isera in the SHNE corpus](image)

As Figure 5 shows, the large majority of the verbs with an –era/-isera suffix occurred only in a transitive pattern in the SHNE corpus. When they occurred in an intransitive pattern, the deponency marker –s was often added to them, as can be seen for the verb ackumulera ‘accumulate’ in examples (54) and (55).

(54) De tyngre partiklarna håller sig kvar i botten och the heavier particles the remain REFL behind at base the and ackumulerar negativ laddning. accumulate negative charge

‘The heavier particles linger at the base, accumulating negative charges.’

(55) Det ackumuleras i stället i benstommen och blodet. it accumulate-S instead in bone the and blood the

‘Rather, it accumulates in the bones and blood.’

The majority of the verbs in a transitive pattern seem to indicate that there is some truth in the categorization of the suffix –era as a causative marker. However, the number of verbs that appeared in an intransitive pattern (e.g. expander ‘expand’, fungera ‘work’) suggests that this statement should not be generalized. Moreover, the occurrence of a small number
of -era forms as labile verbs (mutera, passera, rotera) indicates that the addition of this suffix is not limited to one alternation. However, the data of this investigation suggest that the Swedish verbs with the -era suffix are not as “ergativitized” as the English verbs with the -en, -ize, and -ify suffixes. The number of verbs with the -isera suffix was too small to make a definitive statement on its nature, but it appears to behave itself in the same way as the -era suffix.

5.2.4 Non-directed alternations

Labile alternation

From the 291 English labile verbs that were investigated in the SHNE corpus, 21 were translated with a verb that appeared to be labile verbs in Swedish as well:


This sample is probably only a part of the total amount of labile verbs in Swedish. Nevertheless, it shows that lability is more limited in Swedish than in English. At the same time, the presence of labile verbs in Swedish is still a subject worth exploring. Examples (56) and (57) show that these verbs occur in the same causative/inchoative alternation as the English labile verbs. The transitive form of driva in (56) has a causative meaning, whereas the intransitive in example (57) has an inchoative meaning.

(56) Samma process som flyttar luften i atmosfären driver
    'The same process that moves air in the atmosphere drives the internal engine of the planet.'

(57) Man tror nu att larver från vissa organismer driver genom vattnet.
    'It is now thought that larvae of certain organisms drift through the water.'
One noticeable feature of this group of verbs is that it includes a fair amount of “phase” verbs (*börja, fortsätta, starta, sätta igång*), that is, verbs that are concerned with the starting or stopping of an action. Letuchij (2004) has already argued that if a language has labile verbs, verbs of the “phase” group (though not necessarily all of them) will likely be labile. However, there are some verbs of starting and stopping in Swedish that are not labile. For instance the verb *sluta* ‘stop’ is only used intransitively, and only appears in the SHNE corpus transitively in causative constructions (*i.e.* *få att sluta* ‘cause to stop’).

Another semantic category of verbs that can be distinguished in this sample of labile verbs, is a group concerned with something changing in a physical way (*frysa, krympa, mutera, smälta*). The number of English labile verbs with this meaning (77 verbs according to the CCGP) is significantly larger. Other such “change-of-physical-state” verbs seem to occur mostly with an –s marker (*e.g.* *kristalisera, oxidera, förbättra*). Related to this semantic group of verbs, there are a couple of labile verbs in the SHNE corpus which are concerned with something changing in size or degree (*minska, öka*). The occurrence of these verbs in both patterns is quite remarkable, because these verbs are listed in SAG as appearing with an –s marker in middle constructions. Neither of these verbs occurred with a deponent –s marker in the SHNE corpus. Although for the verb *öka* the labile option was also included, the possibility of the labile alternation was not given for the verb *minska*. Examples (58) and (59) show that the verb occurs in both patterns, both inchoative and causative:

(58)  
... jordens förmåga att upprätthålla liv skulle minska 
Earth.the-GEN ability to support life will-PAST diminish

överallt everywhere

‘[...] Earth’s ability to support life would be universally diminished.’

(59)  
Om man minskar det värde en aning ...
If one lower-PRES that value.the a bit

‘Lower that value very slightly [...]’

There also are a significant number of verbs that are concerned with movement (*driva, flytta, lyfta, rotera, rulla, skaka, vända*). Other verbs with a meaning concerned with movement often have the reflexive pronoun *sig* in the intransitive pattern (*e.g.* *röra*). Some of these labile verbs of movement even occur with a reflexive pronoun in some cases (*flytta, vända*). The sentences (60) – (62) from the SHNE corpus exemplify the different uses of the
verb vända (transitive, intransitive, and with reflexive pronoun sig), and the possible difference in meaning between these uses.

(60) Vi ser överraskande lite av universum när vi vända
We see-PRES surprisingly little of universe when we turn-PRES
ansiktena mot skyn.
faces.the towards sky.the

'We see surprisingly little of the universe when we incline our heads to the sky.'

(61) Vi vet också att den i genomsnitt vänder vart 500 000:e
We know also that it on average turn-PRES every 500,000th
år eller så.
year or so

'We also know that it reverses itself every 500,000 years or so on average.'

(62) Enligt hans egen redogörelse vände sig Huxley till sin
According to his own account turn-PAST REFL Huxley to his
granne...
neighbour

‘According to his own account, Huxley turned to his neighbor [...]’

In the transitive example of vända in (60), it is the instigating ‘we’ that causes something to turn, in this case ‘the faces’. However the Medium of vända is not restricted to body parts as the other transitive tokens of this verb appear with a human and a physical object as Medium. What is striking in example (61) is that the original English text used a reflexive ‘reverse itself’, whereas the Swedish translation does not include a reflexive. In example (62) it is the other way around, because the Swedish translation uses a reflexive while the English original does not. Examples of vända with a reflexive such as (62) only occur with a human Medium in the SHNE corpus. The labile counterpart in (61) has a Medium that refers to jordens magnetfält ‘Earth’s magnetic field’, a physical phenomenon. For this verb, it might be the case that it is the Medium that determines the choice of construction.
Equipollent alternation

Next to the labile verbs, there also were a small percentage of equipollent verbs, i.e. verbs that are etymologically related, but of which neither the causative nor the inchoative form is derived from the other. All the equipollent verb pairs named in section 3.1.2 were present in the corpus, and they occurred as translation for labile verbs as well. For instance the labile verb burn is translated by the intransitive brinna and the transitive bränna. From this result we can conclude that the equipollent strategy is slightly more prevalent in Swedish than in English.

Suppletive alternation

Almost half (47.5\%) of the investigated data only occurred in one pattern (either transitive or intransitive) in the SHNE corpus. This investigation does not guarantee that these verbs cannot occur in other patterns in Swedish, because the corpus is relatively small and most verbs did not appear very frequently. As mentioned earlier, a number of the verbs included in this number occur in one pattern in its underived form, and in a causative construction in its derived form (i.e. the causative alternation, not the suppletive alternation). Nevertheless, this number might be a rough indication of the distribution of strategies to express the causative/inchoative alternation in Swedish. The use of different lexemes for the different alternants is what Haspelmath (1993) called the suppletive alternation. In English, the sample of 31 causative/inchoative verb pairs that Haspelmath provided rendered only 3 suppletive verb pairs. The rate of these verbs in Swedish is significantly higher than the rate in English, even if we take into account that some verbs may occur in other patterns. Examples of Swedish suppletive verb pairs in the SHNE corpus are spränga-explodera 'explode', odla-växa 'grow'.

5.2.3 Intermediate discussion of the results

In the previous sections I have discussed the distribution of strategies that are used to express the causative/inchoative alternation in the Swedish SHNE corpus. It appeared that about half of the investigated Swedish lexemes only occurred in either transitive or intransitive patterns; one third of the lexemes was an inchoative form derived from a causative by either an –s marker or the reflexive pronoun sig. Approximately 15\% of the Swedish lexemes appeared to be labile and the remaining lexemes (6\%) were part of equipollent verb pairs.

The results suggest that the distribution of causative/inchoative strategies differs significantly from the English distribution. Labile verbs, which have a primary position in English to express the causative alternation, are only a secondary phenomenon in Swedish. Nonetheless, labile verbs present a significant amount of the Swedish lexemes. 1
distinguished three semantic categories that could be used to represent a majority of the Swedish labile verbs: verbs of starting something, verbs of changing something in a physical way, and verbs of moving. These groups are not surprising as the English labile verbs appear in the same categories, but it does confirm that the labile alternation is connected to certain semantic groups of verbs cross-linguistically.\footnote{In a list of verbs that occur with a deponent marker –s provided by SAG (556-557), a number of verbs are listed that seem to be part of different semantic categories than the English labile verbs. As this list includes all types of deponent verbs, more extensive research in Swedish corpora would be needed to examine whether some of these verbs can be used to express the causative/inchoative alternation.}

Furthermore, the results indicate that the process of ‘ergativization’ in Swedish does not usually appear in the form of labile verbs. It seems to be that the most common form of ergativization (i.e. processes that are usually transitive occurring in an intransitive pattern) is the deponent –s marker. This marker occurs with the most different lexemes, and therefore seems to be the most productive process in Swedish. However, the presence of the verbs minska and öka (that were listed as having an –s marker in middle constructions in SAG) as labile verbs might indicate that some verbs are (capable of) turning into labile verbs.

In the discussion of labile verbs (in particular the verb vända), I already touched upon the possible importance of the Medium in the usage of different Swedish constructions. The next section will consider this issue more in depth by looking at the different Mediums of labile verbs in English and Swedish, as well as the Mediums of the Swedish constructions with middle markers.

5.3 Types of Medium (in transitive and intransitive constructions)

The third step of this analysis is a closer investigation of the types of Medium that are involved in labile constructions. The centrality of the Medium in this study is based on the approach advocated by Davidse, who argues that “the ergative Medium clearly requires a specific class of nouns” (2002: 147). To ensure an in-depth analysis, this section focuses on a selection of ten English labile verbs. The Mediums of these labile verbs will be inspected in order to uncover the noun classes that are specific for the ergative phenomenon. These results will then perform as a point of reference when I turn to the Swedish data to investigate whether there is a difference in Medium for processes with a deponency marker and processes with a reflexive pronoun.
5.3.1 Types of Medium of the English labile verbs

One of the primary features of the labile verbs under investigation that should be explored is the degree of animacy of their collocates. The importance of animacy has been highlighted in morphological studies. For instance, researchers such as Dahl and Fraurud (1996) say that in languages that have overt grammatical markers for accusative and ergative markings, “[a]nimacy favors overt accusative markings and disfavors overt ergative marking” (48). Since (lexical) ergativity is an important feature of English (cf. section 1.1), the degree of animacy may be significant for the use of labile verbs as well.

The concept of animacy is best represented by a scale or hierarchy (Comrie, 1989), rather than a binary opposition. For instance, it is clear that humans and animals are animate, whereas the rest is usually categorized as inanimate. However, it is also probable to label plants as more animate than objects such as rocks. It should be noted that in this paper, the animal category also includes viruses and bacteria (i.e. animate), whereas cells, atoms, molecules and such are categorized as physical matter (i.e. inanimate). It is a cross-linguistic phenomenon that Noun Phrases that have a higher degree of animacy are more likely to be Agents (Comrie, 1989). Therefore, it is not surprising that the Medium of the investigated verbs is more often inanimate, as can be seen in Table 11.

<table>
<thead>
<tr>
<th></th>
<th>form</th>
<th>begin</th>
<th>move</th>
<th>turn</th>
<th>grow</th>
<th>evolve</th>
<th>change</th>
<th>blow</th>
<th>start</th>
<th>divide</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans</td>
<td>9</td>
<td>11</td>
<td>18</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>61</td>
</tr>
<tr>
<td>Animals</td>
<td>1</td>
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<td>13</td>
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<td>3</td>
<td>12</td>
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<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>46</td>
</tr>
<tr>
<td>Events/Abstractions</td>
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<td>35</td>
<td>3</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>13</td>
<td>8</td>
<td>12</td>
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</tr>
</tbody>
</table>

Table 11 - Categorization of the Medium of ten English labile verbs in the SHNE corpus

However, as Davidse (1992) emphasized, the Medium in an ergative pattern is not entirely devoid of agentive characteristics, as the process can be self-instigated. Table 11 shows that the Medium of these ten labile verbs is most often inanimate, but some verbs, especially evolve, turn and move, have more animate Mediums than other verbs. The differences between these verbs indicate that the choice of Medium is influenced by the semantics of
the verbs. In the following paragraphs, I will therefore examine each semantic group of verbs separately (although some semantic groups may only include one verb of the sample).

English labile verbs can be divided into two semantic groups. On the one hand, labile verbs are often concerned with changing the state of something. On the other hand, there are labile verbs that are concerned with movement and action (CCGP: 479-480). These semantic groups correspond to the middle situation types that Kemmer (1993) described; they correspond to the spontaneous-event middle type and the situation type of non-translational motion respectively (cf. section 3.2.1). These two groups can then be further subdivided into more specific semantic groups. In the sample of the ten verbs analysed in this section, these different semantic groups are present. Some verbs might occur in more than one semantic group, depending on the context in which they were found. I will turn to each semantic group of verbs separately and go into more detail about the type of Medium that accompanies these verbs. The semantic categorization of the verbs in this section is based on the semantic groups given in the CCGP.

Verbs of change
The first group of verbs is concerned with something changing or with someone or something bringing about a change. Apart from the verb change, it includes verbs such as alter, vary and verbs that occur in patterns with a preposition: evolve (into), turn (into), form (into), convert (into) and so on. Animate Mediums occur more frequently as the only participant in an intransitive construction than as the second participant of a transitive construction. Animate Mediums are especially frequent for the verb evolve (into). This is not really surprising, since from a scientific perspective, human beings and animals are seen to evolve into something else without an Agent directing this process. For inanimate Mediums the occurrences in these patterns are more evenly divided. This semantic group has a broad range of Mediums in the SHNE corpus which can be roughly divided in the following groups (in order of frequency):

1. Natural and celestial phenomena (e.g. the universe, temperature)
2. Chemical substances (e.g. molecules, carbon)
3. Human or animal species (e.g. homo ergaster, members of the raccoon family)
4. Generalizations (including scientific fields) (e.g. all this, the world of science)

Also included in this semantic group of verbs are labile verbs that the CCGP calls ergative link verbs. This term is used to discuss the verbs turn, form, keep, rank and rate. The verbs in these processes need to be followed by a complement (e.g. noun phrase, adjectival phrase) that describes the Medium. In the examples of (63), the Medium is complemented by an
adjectival phrase of colour. The labile link verbs in the SHNE corpus all had Mediums that were either a chemical substance (as in 63a), or a geographical feature (as in 63b).

(63)  a. ... the water in the flasks had turned green and yellow ...
     b. ... shoals large enough to turn vast areas of the ocean black.

Verbs of development

Related to this semantic group of change verbs is the group of verbs that concerns development. This group includes verbs such as develop, form and evolve. The difference between this group and the previous one is that in the development group something new is brought into existence; whereas the change group is concerned with changing something that already exists (CCGP). The two verbs in our sample from the semantic group of development, however, have very different types of Mediums. The verb form, for instance has no animate Mediums in the SHNE corpus. The only Mediums that had some human involvement were the ones that concerned organisations or relationships between humans.

The Mediums of the verb form could be categorized as follows:

1. Natural and celestial phenomena (e.g. the Earth, atolls)
2. Chemical substances (e.g. proteins, diamonds)
3. Shapes (e.g. bulb, lines)
4. Abstractions (e.g. life, conclusions)
5. Human organisations (e.g. dining club, enterprise).

Only 9 of the 57 instances of the verb form (without into) occurred in an intransitive pattern. The Mediums of these intransitive processes all fit into the first two categories.

In contrast, the verb evolve has an animate Medium in most cases, especially in the intransitive patterns. Hence, for this verb, there is a clear distinction between the Mediums for each alternation: animate Mediums (i.e. the first category) occur in an intransitive pattern; inanimate Mediums (i.e. the second, third and fourth category) appear in a transitive pattern.

1. Human and animal species (e.g. humans, diapsids)
2. Qualities (e.g. tolerance, wariness)
3. Abstractions (e.g. a theory)
4. Body parts (e.g. our noses)

Examples (64) and (65) illustrate this division. In example (64), the process is explicitly self-instigating without an external agent (i.e. ‘a divine creator’). The other example shows that
the inanimate noun phrase functions as Medium whereas the animate participant functions as an Instigator.

(64) ... humans might have evolved from lesser primates without the assistance of a divine creator.

(65) ... the animals had had longer to evolve a useful wariness of humans

Verbs of expanding and compressing

Another subgroup within the change verbs is the group of verb that is “concerned with the size, degree, shape, or configuration of something changing” (CCGP: 482-483). This group includes verbs such as grow, increase and diminish. The Mediums of verbs in an intransitive pattern only occur with nouns from the first three of the following categories:

1. Plants (e.g. potatoes, mosses)
2. Animals and humans (e.g. lobsters, I)
3. Body parts (e.g. fingernails, the brain)
4. Natural and celestial phenomena (e.g. wind speeds, the universe)
5. Quantities (e.g. the number, the amount)
6. Abstractions (e.g. fame, enmity)

Verbs of dividing

The next semantic subgroup comprises the verbs that are concerned with something dividing into two or more parts. Next to the verb divide, this group includes verbs such as fracture and split. The verb divide occurs with Mediums of the following categories.

1. Quantities (e.g. the number, the total amount of salt)
2. Natural phenomena (e.g. clouds, the atmosphere)
3. Physical matter (e.g. rocks, clay)
4. Animals and humans (e.g. bacteria, geologists)
5. Cells
6. Other (e.g. cake)

The division of animate/inanimate is reflected in the transitivity patterns for this verb as well. Cells were put into a separate category since both instances of cells as Mediums occurred in an intransitive process, unlike the other Mediums in the category to which these Mediums were previously attributed (Physical matter). In example (66), we can see that the cells are portrayed as ‘potent’, as beings that have a life of their own.

(66) When, as occasionally happens, a cell fails to expire in the prescribed manner, but rather begins to divide and proliferate wildly, we call the result cancer.
Another exceptional instance of an inanimate Medium as the subject of an intransitive process is shown in example (67). This exception can be explained by the implied unlikeliness of the statement.

(67) It is rather as if all the ingredients in your kitchen somehow got together and baked themselves into a cake – but a cake that could moreover divide when necessary to produce more cakes.

There is, however, one example that shows that the presence of an animate Medium is not impossible, even though it is uncommon:

(68) How and when the Earth got its crust are questions that divide geologists into two broad camps ...

Verbs of starting and stopping
Another prominent category of labile verbs is the group of the verbs that are concerned with the starting or stopping of an activity. This group includes verbs such as begin, start and continue. These verbs differ from the other labile verbs, as it seems that they are often followed by another process. Examples like (69) were not included in the data as the infinitive verb following the verb of starting or stopping was the conclusive verb in the pattern choice.

(69) ... your body begins to protest.

However, when we examine other instances of the verb begin, it becomes clear that a process if most often implied. A great deal of the Mediums of the verbs of starting and stopping fit therefore into the category of processes:

1. Processes (the ekpyrotic process, recovery)
2. Humans (e.g. we, you)
3. Natural and celestial phenomena (e.g. the Oort cloud, the Australian bush)
4. Abstractions (e.g. life)

The Mediums of the second category all appeared as the subject of intransitive constructions. Again, these constructions often imply another verb, as in example (70).

(70) ... you would come back to where you began.

It is again remarkable that all animate Mediums occur as the subject of intransitive constructions, whereas the inanimate Mediums occur in both transitive and intransitive constructions.
Verbs of moving

Next to the groups that are concerned with change, there is the semantic group of verbs that is concerned with movement. In the sample of the present section, there are two verbs that fit into this group: *move* and *turn*. These verbs are concerned with someone or something moving, but without self-control. This is the semantic group in which the animate Mediums are the most prevalent. Most of the Mediums of the verbs *move* and *turn* can be categorized into the following classes:

1. Humans and animals (e.g. *we, scientists*)
2. Parts of humans (mental or physical) (e.g. *his mind, his head*)
3. Natural and celestial phenomena (e.g. *continents, the Earth*)
4. Abstractions (e.g. *conversation, momentum*)

Especially the Mediums of the verb *turn* are predominantly nouns from the first two categories.

Verbs of making noise

Lastly, there is another verb in this sample that does not fit into one of the other semantic groups presented here, namely the verb *blow*. This is a verb that is concerned with something making a noise. Other verbs in this category are *hoot, bang* and *slam*. Almost all of the Mediums for the verb *blow* were inanimate, as can be illustrated with the following categories:

1. Geographical features (e.g. *volcano, geyser*)
2. Chemical substances (e.g. *oxygen, protons*)
3. Plants (e.g. *tree, spores*)
4. Other (e.g. *the chemist, skin*)

Especially the verbs of moving and the verbs of starting and stopping had a majority of Mediums that fit into the animate category of humans and animals.

5.3.3 Deponency and reflexive constructions

In this section, we will analyse the type of Medium by considering Nordrum’s (2015) hypothesis that the construction in Swedish with the reflexive pronoun occurs more often with a *potent* Medium, whereas the –s marker indicates a spontaneous event. She argues that this particularly might be the case for verbs such as *öppna* ‘open’ that occur with both middle markers. According to Davidse’s (2002) description of *potent* Mediums (to which Nordrum refers), the class “is certainly not restricted to machines […] but also includes other entities with some form of internal activation mechanism” (154). The question
remains whether the Medium can be linked to the difference between the use of the deponency marker –s and the reflexive pronoun sig. To explore this issue, I will first discuss the five Swedish verbs that occurred in the SHNE corpus with both middle markers in terms of their Medium, and then I will turn to six verbs that only occur with one of these markers.

Firstly, it is striking is that the number of verbs occurring with both the reflexive pronoun and the deponency marker is relatively small. There were only four verbs in the data that qualified and only one of those had a relatively high frequency (sprida ‘spread’). This small number might indicate that the use of one of these middle markers is mostly verb-specific. Because the sample here is much smaller than in the previous sections, the Mediums were only generally categorized into two groups: animate or inanimate, which is shown in Table 12. It shows that animate subjects are used more frequently with a reflexive pronoun, but that there is no visible distinction between the use of sig and –s for the inanimate subjects. Therefore, the following paragraphs will look at each verb separately, especially in terms of ‘potency’ of the Medium. A Medium is potent when it possesses physical or inner strength and can therefore influence (the initiation of) an event.

<table>
<thead>
<tr>
<th>reflexive pronoun sig</th>
<th>ANIMATE</th>
<th>INANIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>deponency marker –s</td>
<td>2</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 12 - Animate and inanimate Mediums for the Swedish data with both middle markers

The verb flytta ‘move/transfer’ is particularly interesting for this study as it appears in various constructions in the SHNE corpus. First of all, the verb flytta occurs in both transitive and intransitive patterns (without the addition of middle markers), which makes it qualified for labile verb status. Additionally, in some constructions, the verb does appear with middle markers, both the reflexive pronoun and the suffix –s. Clauses (71) – (73) exemplify the three strategies that emerged as translation for an English intransitive labile.

(71) Antingen slår de till snabbt och flyttar vidare till en ny värd ...

‘Either they strike too quickly and move on to a new host’

(72) De arbetade ett år på Sumatra och flyttades sedan till Java.

‘They worked on Sumatra for a year, and then moved to Java.’

(73) ... musiken kommer att verka mindre högljudd om du flyttar dig
music.the comes to seem less loud if you move-REFL
längre bort.

further away

'The music will seem less loud if you move further away.'

The *de* ‘they’ in example (71) refers to white cells, which have been given animate characteristics in this context. Next to this use, *flytta* is very common as an intransitive with a human subject with the meaning ‘move house’. The use of *flytta* without a middle marker is not restricted to animate Mediums, however. Its Mediums also include *kontinenter* ‘continents’, *ljus* ‘light’ and *inlandsisar* ‘ice sheets’.

There was only one example with an –s marker that did not qualify as a passive construction (that is, the process did not have an Agent or the possibility of an Agent). It is of course arguable that the people who function as the subject were transferred by some higher authority than themselves, but from the context of this sample one can infer that this is very unlikely. This example is exceptional as it does not fit the ‘spontaneous-event’ categorization either.

As can be seen in example (73) with the reflexive pronoun, the subject (i.e. the Medium) that moves is a person. This is the case for three of the four tokens found with a reflexive middle marker, so these sentences correspond to Nordrum’s (2015) hypothesis that reflexive middle markers occur with ‘potent’ (i.e. possessing inner strength) subjects. Example (74) is an exceptional case, as the subject (i.e. *landmassorna* ‘the continents’) is an inanimate geographical feature. From the context, it might be inferred that, seen as “he could offer no convincing explanation” for the cause of this process, the landmasses could be perceived as ‘potent’ precisely because the cause of their movement is not known, which implies that they instigated the process somehow.

(74) *Men framför allt kunde han inte presentera någon övertygande förklaring*  
But above all can.PAST he not present any convincing explanation  
på hur landmassorna flyttade sig.  
for how landmasses.the move-PAST REFL  
‘Above all, he could offer no convincing explanation for how the landmasses moved.’

The verb *sprida* ‘spread/disperse’ was the most frequently occurring verb that had both Swedish middle markers. For this verb, 13 tokens occurred with the reflexive pronoun,
whereas 6 tokens had a deponency marker. Unlike the verb flytta, it does not occur without a middle marker in an intransitive pattern. It is remarkably difficult to perceive a pattern in the usage of the middle markers. Examples (75) and (76) for instance show that both middle markers can be used for the same type of Medium (i.e. a disease or epidemic).

(75) *Inom några månader hade den spridit sig till sex andra japanska sjukhus.*

‘Within months it had spread to six other Japanese hospitals.’

(76) *... epidemin spreder snabbt till alla delar av landet.*

‘[...] the epidemic quickly spread to all parts of the country.’

Other inanimate Mediums that appear with a reflexive pronoun are for instance varm luft ‘warm air’, förändring ‘change’, universum ‘universe’, chokvågen ‘the shockwave’. If we examine these Mediums, it becomes clear that the subjects of these intransitive constructions do not fit into one single category, but instead represent several ones such as chemical substances, events and natural phenomena.

The verb öppna, which is one of the verbs that Nordrum (2015) also discussed, also occurs a few times with both middle markers. However, there does not seem to be a clearly distinguishable pattern for these instances. Examples (77) and (78) for instance could be interpreted as a clear examples of a spontaneous event, which is even made explicit in the first example by the adverb plötsligt ‘suddenly’. The spontaneous-event meaning could endorse the use of the –s marker. Yet in the next example, a similar event is being portrayed, but with a reflexive pronoun. Again, it would be possible to interpret the Medium in (79) as potent, but the similarity in meaning between (77) and (79) makes such an interpretation disputable. Almost all the Mediums, except the ‘lift door’ in (78), fit into the category of geographical features, as they are all naturally occurring openings.

(77) *Nya öppningar öppnas inte helt plötsligt.*

‘New vents don’t suddenly open up.’

(78) *Hissdörren öppnas bara för att visa en igenmurad öppning.*

‘The lift door opened to reveal a bricked-over opening.’
5.3.4 Intermediate discussion of the results

As we have seen in previous parts, one of the features of labile verbs is that they should have similar meanings in both patterns (Haspelmath, 1993). If both patterns have a similar meaning, we might assume that they have similar collocates, and thus similar Mediums. However, for the results that this corpus investigation yielded, this is not always the case. For some verbs, there is an imbalance between the Mediums of processes in an intransitive pattern, which are more often animate, and the Mediums of processes in a transitive pattern, which are more often inanimate. The Instigators in the transitive patterns are more often animate and they often overlap in meaning with the Mediums in intransitive patterns (see for instance the verb evolve). By itself, this is not surprising, because, as Comrie (1989) argues, Noun Phrases that have a higher degree of animacy are more likely to be Agents.

What characterizes the SHNE text is that some of the physical matter, and especially the building blocks that form all living and non-living things (e.g. cells, atoms) are represented as animate beings, which have the strength to self-instigate processes. These results support the functional perspective that the process of ‘ergativization’ is prominent in popular scientific text such as SHNE. Davidse (2002) articulated this as follows: “It is from various popularized scientific perspectives that certain entities can be construed as capable of self-instigation” (154). A text such as SHNE, which has a broader audience than academic scientific texts, might therefore be crucial in the ‘ergativization’ of languages.

The distinction between animate and inanimate was also important for the Swedish results, although in a different way. It is interesting that Swedish aligns the labile verbs with passive constructions, as well as some reciprocal events and generic events, but in other cases aligns the labile verbs with reflexive constructions. However, the results of the SHNE corpus did not yield an undisputable explanation for this linguistic issue. For some verbs, the animacy factor seemed to be decisive for the use of either an -s marker or a reflexive pronoun. For instance the verb flytta showed that the reflexive pronoun mostly occurred with animate Mediums. This result (and the comparison of the verb vända in section 5.2.3) suggests that the connection between animate Mediums and the reflexive pronouns is most prominent with verbs of movement. However, for other verbs (especially sprida and öppna), this distinction did not seem to uphold and in some cases the selection of the middle marker seemed arbitrary. The results from this study can therefore not entirely confirm
Nordrum’s (2015) hypothesis that the -s marker suggest a spontaneous-event meaning whereas the reflexive pronoun stresses the ‘potency’ of the Medium. There were some cases that seemed to follow this credo while others did not.
Conclusion

This paper has contributed to the study of the phenomenon of labile verbs and its theoretical and practical characteristics. Its main objective was to examine how English labile verbs were represented in their Swedish translations, with particular regard to popular scientific texts. In order to conduct this investigation, a functional approach was combined with a contrastive approach. By means of an extensive list of 800 English labile verbs, I selected my data from a popular scientific text (*A Short History of Nearly Everything* by Bill Bryson) and their Swedish translations. First, I compared these data in terms of pattern frequency (transitive vs intransitive; passive vs active). In the second stage of the investigation, I contrasted the English labile verbs with the variety of strategies that were used in Swedish as a translation. Thirdly, I examined the Mediums of both the most frequent English labile verbs and the Mediums of Swedish verbs occurring with different alternation strategies.

The results concerning the frequency of transitive and intransitive patterns in the English SHNE corpus showed that an explicit Agent was absent in the majority of processes of the labile verbs. This majority included passive constructions without an explicit Agent, as well as intransitive labile constructions. In these intransitive cases the option is kept open whether the process occurs spontaneously or whether it is externally caused. However, the number of processes with an instigating participant (i.e. the transitive processes) were still relatively numerous. This might have been due to the anecdotal nature of the popular scientific text. In the Swedish SHNE corpus, the transitive constructions were more numerous, mainly because reflexive constructions, where the subject and object are identical, were a great deal more prevalent than in English.

The results concerning the different strategies to express the causative/inchoative alternation support the thesis (Haspelmath, 1993; Kemmer, 1993; Nordrum: 2015) that the distribution of these strategies in Swedish differs significantly from the distribution in English. First of all, the labile alternation was a great deal less prominent in Swedish than in English. However, at the same time it is worth noting that the Swedish verbs that were found had verbs from all three general semantic categories (changing, starting and stopping, and moving) that were devised for the English labile verbs. This shows that the labile phenomenon has some cross-linguistic characteristics and that the labile phenomenon is strongly connected to semantics. The two middle markers –s and sig were present in the corpus equally often, although the deponent –s marker appeared with a higher variety of lexemes. The –s marker therefore seems to be the most productive process
in Swedish that allows transitive verbs to ‘ergativize’. However, I also found some indications that a couple of verbs (*minska* and *ök*/*öka*) might have become labile. Yet, more extensive corpus research would be necessary to confirm the latter. Furthermore, the majority of the English labile verbs were translated by a verb that only occurred in one pattern (either transitive or intransitive) in the corpus. This result shows that the suppletive alternation is also a prominent strategy in Swedish, even if we take into account that some of the investigated verbs may occur in other patterns when examined in other corpora.

The final part of my analysis found that animate Mediums were more frequent as the subject of intransitive patterns in general, but also that the situation in English was different for each verb or semantic type of verb. In the Swedish results, it seemed that the animacy feature was only a determining factor for verbs of movement. For these verbs, animate Mediums (when they occurred as Subject of a middle construction) seemed to favor the reflexive pronoun instead of the –s marker. For other verbs, this distinction was not as transparent. It might be an interesting starting point for future research to examine the Swedish verbs that occur with both middle markers, as well as verbs that occur with only one of them in an extensive monolingual corpus such as *Språkbanken*.

Naturally, the results from this paper cannot be generalized as the corpus used in this study was relatively small. The SHNE corpus can perhaps only represent one particular author and translator. A different text, or a larger selection of texts, might have yielded very different results. To make more definitive statements about the causative/inchoative alternation in English and Swedish, more extensive corpus research, with texts from several authors, would be needed. It might also be useful to compare a popular science text with an academic science text on the same subject matter in terms of labile verbs in order to examine the difference in concealment of the Agent. The ergativization of scientific discourse, in English as well as in other languages, is still a fruitful area for further research.
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Secondary sources


