

Analysis of State Changes in English Causative Constructions: Insights from Construction Grammar


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ABSTRACT

This research aims to explore how English causative constructions convey changes in state, using the frameworks of Construction Grammar and Radical Construction Grammar. The 310 English language samples were selected based on their relevance to illustrating transitions caused by internal or external factors, sourced from reliable texts, diverse contexts, varied grammatical constructions, and common usage patterns. Through a thorough examination of syntax and semantics, the study aims to illustrate how causative constructions effectively capture dynamic processes and cognitive perceptions. Emphasis is placed on the roles of the agent and patient, with the analysis seeking to uncover how these structures deal with causality and, crucially, changes in state. The findings show that causative structures in English mainly depict physical changes, although there is still a significant representation of emotional and mental changes. This analysis reveals the universal and language-specific aspects of causative constructions and provides insights into how they are used in everyday conversations and cognitive activities.

Keywords: Causative Constructions, Change-of-State, Construction Grammar, Cognitive Processes

Introduction

In the field of linguistics, the analysis of causative constructions is crucial due to their capacity to depict scenarios where the state of an entity is modified (Croft & Vigus, 2020). Building on the theoretical foundations of Cognitive Construction Grammar (Goldberg, 1995) and Radical Construction Grammar (Croft, 2001), this paper examines the similarities and differences in English causative constructions, contributing to understanding how language represents connections between actions and state changes. Beyond these foundational works, other scholars have made significant contributions to this area: Talmy (2000) explored cognitive semantics and force dynamics; Shibatani (1976, 2002) provided insights into direct and indirect causation across languages; Comrie (1974) offered a typological perspective on causative patterns; Hopper and Thompson (1980) analyzed the relationship between transitivity and causativity; Song (1996) conducted a cross-linguistic survey of causative expressions; Levin

and Rappaport Hovav (1995, 2005) studied argument structure and verb classification; and Givón (2001) examined causation's role in discourse. Building on the principles of Construction Grammar, the study of spatial prepositions like "towards" illustrates how constructions maintain their inherent meanings while also developing a diverse set of interpretations, both spatial and non-spatial, through polysemy; this reflects the complex cognitive processes by which individuals construct and re-evaluate conceptual frameworks within linguistic expressions, highlighting the dynamic interplay between form, meaning, and context in language use, which is essential for applications in translation, artificial intelligence, and specialized language contexts (Le, 2024).

Together, these studies underscore the complexity and diversity of causative constructions, enhancing our understanding of their grammatical and semantic properties in English and across languages. The study examined three main aspects: the structural and conceptual basis of causative constructions related to change of state, their use in everyday communication, and their cognitive impact. The results will improve our understanding of English constructions and shed light on how causative relationships can be expressed globally through a broader approach than Construction Grammar.

Literature Review

Causative constructions in the English language have received considerable attention in the field of linguistics, particularly when viewed through the lenses of Construction Grammar (Mbae, 2020), which brings together significant strides made toward understanding these constructions. Several primary theories underlie the study of causatives and help shape such investigations, including Cognitive Construction Grammar (Goldberg, 1995), which focuses on the relationship between form and meaning in language, and Radical Construction Grammar (Croft, 2001), which examines different models of causation across languages. These theories provide a framework for analyzing how English employs causative constructions to convey changes of state and the specific grammatical and semantic properties associated with them.

Foundational Theories in Construction Grammar

Fillmore (1968) introduced Case Grammar Theory, a groundbreaking concept in linguistics that went beyond surface structure to explore "meaningful relationships" within sentences. His recognition that different linguistic expressions can convey the same meaning opened new horizons for the study of language. While Case Grammar has faced criticisms for its lack of specificity and difficulty in distinguishing deep cases, it has remained influential in contemporary linguistic theories and computational linguistics by providing a framework for understanding semantic roles, which has informed recent research in natural language processing (NLP), argument structure, and syntactic parsing. These areas utilize Case Grammar's principles to develop more sophisticated models for understanding and generating human language, demonstrating its continued relevance and impact on linguistic research and technology.

The book by Langacker, *Foundations of Cognitive Grammar* (1987), was seen as revolutionary. According to the framework he conceived, all perspectives are symptomatic of the importance of schemas and categories in creating meaning. This increases the difficulty of typicalizing the fixed order within linguistic distinctions because his priority is the association between syntax, semantics, and pragmatics based on real-world usage. As a result, Cognitive Grammar advocates that language is a dynamic system that affects the user's mental representation of the world. This groundbreaking approach altered our understanding of language and had significant

consequences in other disciplines.

The prominent article by Adele Goldberg titled “Constructions: A Construction Grammar Approach to the Analysis of Argument Structures” (1995, 2003) presents strong arguments for why the study of constructions is crucial for decoding the intricacies of language and extracting meaning. She argues that grammatical meaning is intertwined with lexical meaning, leading to what she terms semantic indeterminacy in constructing sentences. According to her perspective, this indeterminacy allows for the creative use of metaphors in language, where speakers rely on context and shared knowledge to interpret the intended meaning behind an utterance rather than parsing sentences word by word. This view suggests that language users' understanding of action is fundamentally based on how language operates within the context of a previous utterance.

William Croft's *Radical Construction Grammar* (2001) further explains how English employs syntax to communicate cause and effect, facilitating progressive communication activities.

In other words, the theory assumes that language structure is a cognitive product that is flexible and adaptive. Understanding some of the fundamental principles English uses to depict causation requires this approach. Due to historical development, speakers find themselves with cascading sequences whereby syntactic patterns heavily imitate cognitive processes through their semantic and pragmatic elements. In fact, Croft's work presents causative expressions as a construction interwoven with many other elements to paint a vivid picture of the complex relationship between language and cognition. At the same time, the role of grammar cannot be ignored. This work clarifies many theoretical issues in linguistics and promises to bring applications to the pedagogical scope of language.

Goldberg's (1995) and Croft's (2001) theories form the foundation of this study, which seeks to explore the complexities of causative constructions. For example, Jayeola (2020) and Middeke (2021) noted that single-agent causative constructions could lead to multiple state changes, both physical and emotional, demonstrating the role of language in conveying nuanced transitions. Rappaport (2020) and Flach (2021) further highlight how multi-agent constructions depict the complexity of interactions among multiple participants, aligning with the observations made by Nash (2020) and Mangialavori Rasia and Ausensi (2020) regarding internal causative constructions that depict changes occurring independently within agents.

Building on these foundational insights, this study incorporates the work of Alexiadou and Anagnostopoulou (2020), who emphasized that causative constructions often denote change, combining syntactic and semantic analysis to deepen our understanding of how language expresses dynamic relationships. By adopting a holistic perspective that integrates these theories, the current research aims to address gaps identified in previous studies, providing a more comprehensive description of how causative constructions function within the English language system. Consistent with the literature on Construction Grammar (Goldberg, 1995; Croft, 2001), which highlights the fluid relationship between form and meaning, the English preposition "into," much like "towards," demonstrates flexibility by expressing both spatial and non-spatial meanings depending on contextual cues. This adaptability underscores how language users leverage constructions to navigate and interpret diverse communicative contexts, illustrating the dynamic nature of meaning-making processes in line with cognitive-linguistic principles (Le, 2024).

A thorough grasp of English causative constructions is obtained through a blend of Goldberg and Croft's theories, revealing their involvement in action and change at a cognitive level. This theoretical base sets the stage for delving into causal structures within English settings as it

seeks to unearth the role played by such structures in mediating intricate relational dynamics. Building on these foundational insights, the subsequent sections will explore specific examples of causative constructions in English, highlighting their syntactic patterns, semantic roles, and the cognitive mechanisms that underlie their use in various contexts.

Definition and Types of Causative Constructions

Single causative constructions can be categorized into different groups. Mono-transitive constructions involve only one agent and one patient, such as in the sentence, “She made him laugh.” Indirect-object constructions indicate the presence of an indirect object; for example, “She gave him a book to read.” Dative constructions show the beneficiary by using a dative case, like in “She taught him French.” Adpositional constructions involve prepositions that imply causation, demonstrated by examples like “She urged him into action” (Flach, 2021).

Ditransitive patterns are commonly involved in double causative constructions. The primary patterns observed include mono-transitive double causative patterns where one agent causes another agent to act, as depicted in “John made Mary sing.” Moreover, complex double causative patterns exist and are typically more intricate, with several causative verbs or clauses within the structure (Jayeola, 2020; Rappaport, 2020). The types of construction are also likely a function of verb semantics because different verbs have various argument structure options.

Syntactic Structures of Causative Constructions

Transitive causative constructions exhibit an agent, a causative verb, and a direct object. For instance, in “John made Mary cry”, the agent is “John”, the causative verb is “made”, and the direct object is “Mary”. Such constructions come with specific word order and selectional limitations where the causative verb is succeeded by a patient argument related to the caused event. The agent, a causative verb, and a small clause make up small clause constructions, as illustrated in “John made Mary angry”. The small clause usually consists of a predicative adjective or noun plus an object, led by a non-finite marked-object complement. Small clause constructions deviate from transitive constructions because of their syntactic structure as well as the restrictions that apply to them (Nash, 2020; Rasia & Ausensi, 2020).

The causative verb found in single-verb causatives establishes a clear cause-and-effect connection between the subject and the action or state it produces, like when saying “You make me angry” or “That movie made me cry.” Such constructions are typically coercive in nature, as they depict the subject imposing a specific emotional state (often against the addressee's will) on the other.

A construction used to describe a double-verb causative is when one party causes another party to change their state or activity by carrying out an action, as in “John made Mary sing” or “The concert got the audience clapping”. In such cases, the former verb is typically lightweight in its semantic content delivery; the latter verb bears the full weight of information (Ledgeway, 2021; Mitrović, 2022; Guerra, 2020).

Semantics and Pragmatics of Causative Constructions

The implication of causing someone to do something is that the causer/agent would not typically want to do it or may be prevented from doing it. A causative form of an intransitive verb that expresses a change in state includes a do/make causative construction, as the semantic range of such verbs implies control by an agent over the change. There are significant constraints on using this form further: for an intransitive verb to function as a causative verb, it must be able to introduce an additional element of meaning that clearly expresses the cause of the change. Furthermore, the semantics of the causative typically suggest that the situation described by the

intransitive occurs at the instigation of an agent affected by what caused it (Nadathur & Lauer, 2020).

The involvement of an additional element of control in some causative constructions can be seen as the causer's unwillingness. It can be implied that such pragmatic implications are an integral part of the meaning of a particular causative construction because not all causative constructions have this meaning. This shows that the distinction between semantics and pragmatics cannot always be clearly established, even though the semantic/pragmatic distinction often mirrors the difference between substantive and formal causatives. This control is explicit in make + do causatives, which are probably the most common in English. The make + do causative has several allowable interpretations, including one where the causer feels compelled to do something and yet is also reluctant (Sigurðsson & Wood, 2021).

Making distinctions among the three types of English causatives - the make/do, have/get, and simple causatives - apart from just their verb meaning involves more detailed scrutiny of what these structures imply. Typically, in causative constructions, the action caused is under more control by the causee/patient than in an ordinary construction where the causer can play a passive role or even be omitted. Hence, any verb expressing a change-of-state or achievement in its basic form must give way to a causative resultative when used in a causative construction; "causative resultative" implies that a resultative must be added to the verb for it to form such a construction. Moreover, any agentive verb adds more control than the basic verb (Alexiadou & Anagnostopoulou, 2020).

Research Gaps

Causative constructions play a role in the description of change-of-state events, which involve an agent making a patient transition into or through some transformational or transitional state. The earlier studies usually described these events by identifying syntactic roles, semantic features, including agent and patient, and structural causative verb patterns. However, construction grammar may provide another perspective on how these events are represented: not just as separate entities but as unified constructions embodying their form and meaning. Recent studies have indeed addressed this gap by applying construction grammar to the analysis of change-of-state events. For instance, Boas (2013) explores how constructional meaning extends beyond individual syntactic roles to encompass the entire event structure, emphasizing the holistic representation of form and meaning in causative constructions. Similarly, Levin and Rappaport Hovav (2021) have focused on the interplay between verb meaning and constructional meaning, arguing that construction grammar can better account for variations in how change-of-state events are expressed across different contexts. Additionally, Iwata (2020) discusses the integration of causation and event structure in language, showing that constructional approaches allow for a more nuanced understanding of how different languages encode similar change-of-state meanings. These studies highlight the value of construction grammar in offering a more comprehensive view of how causative constructions represent complex events.

The application of construction grammar to causative constructions that involve changes in the state might shed light on the overall patterns - revealing the typical form-meaning pairs, which are usually causative and portraying a more unified perspective on how these constructions express their meaning with change-of-state events. This particular methodology could help us unearth cognitive schemas: how people see causatives and what makes them understand that one event leads to another, thus giving us some valuable clues about mental images related to different types of causatives. Moreover, by considering language use as creative variability, construction grammar allows us to see how speakers come up with new ways of saying things

or adjust what they say based on the context in which it is said. Instead of viewing syntax separately from meaning in causatives, this approach reveals how structural components are coupled with their intended meaning, showing the interconnectedness between form and function.

To sum up, the failure to apply construction grammar in investigating causatives - especially in reference to those changes - represents a considerable research gap. Finding one's way across this void may open wider horizons in our perception of what causatives are and how they work; such an understanding can only lead us further toward theoretical and practical progress in linguistics.

Research Questions

To fulfill the purpose of the study, the survey sought to answer the following research questions:

How do native English speakers perceive and interpret the nuances of causative constructions in depicting changes of state in various contexts?

Methods

In the context of qualitative research, this paper applies the Construction Grammar framework proposed by Adele Goldberg (1995) and William Croft (2001) to analyze causative constructions and their relationship with state changes in English. Specifically, Goldberg's theory, which emphasizes the connection between form and meaning in linguistic constructions, was operationalized by identifying instances where causative constructions convey changes in state, examining how each construction's syntactic structure aligns with its semantic function. Croft's Radical Construction Grammar was utilized to explore the diversity and adaptability of these constructions, analyzing how different syntactic patterns reflect cognitive processes and pragmatic elements. By employing these frameworks, the study aims to understand how causative constructions represent linguistic actions and events, emphasizing their role in expressing state changes. This approach provides a detailed examination of both the structural makeup and the semantic significance of these constructions, offering insights that can enhance their use in day-to-day communication.

Data Collection

A collection of 310 English samples was obtained to support this study, sourced from various outlets, predominantly reputable British and American online newspapers. The sample collection process followed a rigorous procedure: first, relevant texts were selected based on their use of causative constructions, specifically focusing on examples that illustrate a clear cause-and-effect relationship. These texts were then screened for authenticity and credibility, ensuring they came from recognized and authoritative sources published between 2010 and 2024. All samples were taken from online outlets to provide a contemporary and accessible dataset. The selected samples were categorized according to different types of causative constructions to cover a wide range of grammatical patterns. Additionally, a balanced representation of various contexts, such as news articles, editorials, and opinion pieces, was maintained, ensuring that the samples were drawn from various publication periods to capture diverse language uses across different time frames, facilitating the effective exploration of causal structures in the English language.

Methodological Approach

The approach is based on two key areas:

- **Identifying Constructions:** This involves locating linguistic patterns in which causative constructions are typically found, including those that currently exist and those that may arise in the future. Utilizing Goldberg's theory helps to uncover the underlying meaning of these structures.
- **Analyzing Form and Meaning:** This step focuses on examining the structure and meaning of the identified constructions. The theoretical framework proposed by Croft is used to study the relationship between syntactic roles and semantic functions. We do not just concentrate on these specific constructions but also consider how they operate within Construction Grammar overall.

Analytical Framework

The study consists of closely scrutinizing English language data in search of causative constructions and state change phenomena. These observations focus on particular grammatical structures that signal relationships between cause and transition. When carrying out the analysis, these structures are broken down into individual components - including the causative verb, subject, and object - to see how they are organized in order to grasp their function within the framework of Construction Grammar. Data is seen as specific linguistic acts or events, which are further considered in terms of how they are expressed through general and particular pragmatic actions within the language.

Goals

The main purpose of the investigation is to reveal the formation and function essence of English as a means for expressing causative actions and changes. The scrutiny delves into these levels of cognitive synthesis, which, although obscured from consciousness, underlie our use of language: these insights are not only pabulum for theoretic linguistics but also have implications for applied studies in linguistic analysis.

Results/Findings

Distribution of Causative Construction Types in English:

The distribution of causative construction types in English provides insight into how different structures represent causation in language. Table 1 categorizes 310 examples into three main types: Single-Agent Causative Constructions, making up 48%; multi-agent Causative Constructions, representing 29%; and Internal Causative Constructions, accounting for 23%. A deeper analysis in Table 2 reveals the nuances within these categories, highlighting the balanced representation of physical and emotional/mental changes in single-agent constructions and the preference for physical changes over biological ones in internal causatives. This analysis showcases how English captures diverse causation scenarios across contexts, emphasizing agency, interaction, and internal processes.

Table 1.*Overall Categorization of 310 Examples*

Category	Percentage (%)
Single-Agent Causative Constructions (Total)	48%
Multi-Agent Causative Constructions	29%
Internal Causative Constructions (Total)	23%

The distribution presented in Table 1 provides an overview of the three main types of causative constructions found in the dataset: Single-agent causative Constructions make up 48% of the examples, indicating their prevalence in representing situations where one entity causes a change. Multi-Agent Causative Constructions account for 29%, reflecting the complexity and diversity of scenarios where multiple entities interact to effect change. Meanwhile, Internal Causative Constructions represent the smallest proportion, at 23%, highlighting situations where events occur without external influence.

Table 2. *Subcategorization within Main Categories*

Subcategory	Percentage of Total (%)	Percentage within Category (%)
Physical Changes in Single-Agent	22%	48%
Emotional/Mental Changes in Single-Agent	26%	48%
Biological Change in Internal	10%	23%
Physical Change in Internal	13%	23%

A closer look at the subcategories in Table 2 offers a more nuanced understanding of these constructions. Within the single-agent category, there is an even split between Physical Changes (22%) and Emotional/Mental Changes (26%), each making up 48% of that category, underscoring the balanced representation of both behavioral and psychological transformations. For Internal Causative Constructions, the distribution is slightly uneven, with Physical Changes (13%) occurring more frequently than Biological Changes (10%), suggesting a preference for representing changes in inanimate objects. This breakdown illustrates the diverse ways English represents causation depending on context and participants and provides deeper insights into how the language conveys agency, authority, and causation.

Single-Agent Causative Constructions

English single-agent causative constructions, when viewed in light of the approaches suggested by Goldberg (1995) and Croft (2001), point to an interesting finding: syntax and semantics do not just work hand in hand to present simple cause-and-effect situations. They also delve into the control of agency plus interactive dynamics, which can be instrumental in bringing about drastic changes in a patient's state, achieved through action pattern and entity interaction illustrated via language construction.

The analysis considered different situations in which single actors bring about notable physical changes and emphasized the importance of causal verbs in such instances.

Table 3.*Examples of Table of Physical Changes in Single-Agent Causative Constructions*

Example	Agent	Causative Verb	Patient	Resultant State
1	<i>He</i> (a person initiating and executing the construction)	<i>built</i> (constructing)	<i>the stadium</i> (a large architectural structure)	built (completed, reflecting a transformation from vacant land to a completed stadium)
2	<i>He</i> (the individual performing the cooking action)	<i>cooked</i> (preparing food)	<i>the meals</i> (food items being prepared)	cooked (food transformed from raw to cooked, enhancing its safety and flavor)
3	<i>My teenage son</i> (actively engaging in homework)	<i>does</i> (performing a task)	<i>homework</i> (tasks assigned)	done (completed, indicating a change from unfinished to finished state)

Significance of the Causative Verb

The significance of the causative verbs, such as “built,” “cooked,” and “does,” lies in their ability to connect the agent's actions with the changes brought about in the patient's physical condition. These verbs are not merely action words; they are indicators of the transformation achieved by the action. For instance, in the examples provided in **Table 3**, the verbs vividly portray the transition from one state to another, whether it be constructing a building, preparing food, or completing a task.

This study demonstrates that, through causative verbs, language effectively describes tangible cause-and-effect situations in both everyday and specific contexts, such as academic or legal settings. These verbs not only convey physical changes but also hint at cognitive and emotional transformations occurring at an intrinsic level, reflecting the transformative role of the agent in altering the mental states or behaviors of the subjects. Thus, the analysis of single-agent causative constructions provides valuable insights into how such changes are represented in different grammatical frameworks and contexts.

The examples presented in Table 4 illustrate how single-agent causative constructions can bring about emotional or mental changes across various contexts. In a legal context (Example 4), the verb “force” is used by the court, a powerful legal entity, to compel the defendant to comply or make restitution, reflecting a strong mental and behavioral change. This demonstrates the verb's capacity to induce significant psychological and social transformation by restoring legal balance. In the context of educational influence (Example 5), a mathematics teacher employs the verb “persuaded” to shift a student's academic focus, which impacts the student's current educational path and potentially alters their future trajectory, showcasing the far-reaching effects of educational guidance. Meanwhile, the emotional and cognitive impact (Example 6) is evident in everyday communication, where the agent (‘he’) uses the verb ‘made’ to move the patient from a state of misunderstanding to comprehension. This represents a significant mental shift, highlighting how causative structures can drive changes in cognitive and emotional states and foster understanding and empathy between individuals. These examples underscore that causative constructions in English are not merely descriptive tools for actions but are also potent mechanisms for conveying profound psychological and emotional changes across different

settings.

Table 4.

Examples of Table of Emotional/Mental Changes in Single-Agent Causative Constructions

Example	Agent	Causative Verb	Patient	Resultant State
4	<i>The court</i> (a powerful legal entity initiating a forceful action)	<i>force</i> (applying legal pressure)	<i>the defendant</i> (required to comply with a ruling)	disgorging the value (legal restitution, restoring fairness)
5	<i>A mathematics teacher</i> (influencing decision-making)	<i>persuaded</i> (influencing academic choice)	<i>him</i> (the student being persuaded)	studying science instead of history (a shift in academic focus)
6	<i>He</i> (initiator of a causative process)	<i>made</i> (imparting understanding)	<i>me</i> (the person gaining new insight)	understanding the urgency that artists feel (shift from unawareness to awareness)

These examples highlight the adaptability of individual causative constructions to represent physical, mental, and emotional changes. In these constructions, agents play an active role in coercing or persuading patients to change their attitudes or behavior, which vividly represents real-life situations in which people play a role. Having an impact on the lives of others. Understanding such linguistic structures helps us appreciate how they reflect the complex social and psychological dynamics that can occur in human society.

From examples 1 to 6, the single-agent causative construction can be represented by the following formula:

[Agent] + [Causative Verb] + [Patient] + [Resulting State]

The single-agent causative construction in English includes three main components: the agent, the patient, and the new state (resulting state). These elements interact closely to convey the complete meaning of the sentence.

- **Agent:** This is the entity that performs the action causing the change.
- **Patient:** This is the entity that undergoes a change of state due to the action's impact.
- **Resulting State:** This is the state achieved by the patient after undergoing the change. The causative verb in the single-agent causative construction plays a crucial role in expressing the action that causes the change and the patient's new state.

These are typically transitive verbs that can depict changes in the patient's position, shape, quality, or state (physical or mental). The single-agent causative construction is the most basic form of causative construction, involving only one agent and one patient. Based on the nature of the action causing the change, the single-agent causative construction can be classified into two main types:

- **Physical-impact causative constructions:** These constructions usually involve a direct process in which the agent uses physical strength or skills to change the patient's state.

- **Mental-impact causative constructions:** These constructions typically involve a process in which the agent influences through speech, thought, or emotions, adjusting the patient's thoughts or psyche through persuasion, encouragement, or demands, leading to a new state without direct physical intervention.

Multi-Agent Causative Constructions

The analysis of Examples 9 and 10 clearly shows that multi-agent causal structures represent scenarios where multiple agents interact to change patients. These interactions can appear competitive or cooperative, depending largely on the context of the actions and the language design.

Table 3.

Examples of Multi-Agent Causative Constructions

Example	Agents	Causative Verb	Patient	Resulting State	Description
9	Heavy rain and strong winds	<i>caused</i>	<i>havoc</i>	Widespread disruption	Heavy rain and strong winds compete to dominate, resulting in significant environmental upheaval.
10	<i>Dr. Pyykko and his colleagues</i>	<i>made</i>	<i>two versions of a computer model of lead-acid batteries</i>	Two versions created	A group of scientists collaborates to create two versions of a model, showcasing a cooperative effort in scientific research.

In multi-agent causal structures, the perception of agent interactions (whether competitive or cooperative) significantly affects our understanding of causal behavior. This perception depends not only on the behavior of the agents but also on the way the behavior is represented linguistically:

- **Competitive Dynamics:** In Example 9, the construction “heavy rain and strong winds caused havoc” uses the verb “caused” to emphasize a confrontational interaction between the agents. This portrayal suggests a struggle for dominance in which the natural forces of rain and wind are personified as competitors vying to dramatically impact the environment.
- **Cooperative Dynamics:** Conversely, Example 10 highlights a cooperative relationship among the agents with the verb “made”. This collaborative effort by Dr. Pyykko and his colleagues to develop models illustrates a positive, goal-oriented interaction. Here, the agents combine their expertise to achieve a common objective, reflecting a synergy that enhances their creative output.

The theory of Construction Grammar, proposed by Goldberg (1995) and Croft (2001), centers on the idea that how people perceive the change of state is primarily influenced by the situation plus the specific linguistic cues that are employed in it. This theoretical perspective focuses on the significance of considering the individual's goals and narrative during the determination of the type of interaction, whether it is cooperative or conflictive.

The shift from a single-agent causative structure to a multi-agent causative structure involves modifying the structure to accommodate more than one interacting agent. This modification enables a detailed representation of how various agents' actions result in an outcome:

[Agent 1] + [Agent 2] (+ [Agent 3], ..., [Agent n]) + [Causative Verb] + [Patient] + [Resulting State]

Every participant contributes to the change process through competition or cooperation. Causative verbs emphasize their interactive nature, as these verbs govern the patient's progression of change. This model highlights the complex nature of these causal processes in language, demonstrating that both cooperative and competitive behaviors involving multiple participants can significantly affect outcomes, using metaphors of clarity and tact to describe cause and effect.

A study of the causes of events involving more than one participant not only describes the complex network of interactions between these participants but can also provide insight into how language as a system affects these events. As a result, the investigation of these structures facilitates an increased understanding of the mechanisms by which languages express the effects of multiple sources (which then also define our understanding of causes, whether they occur in real life or in planned settings).

Internal Causative Constructions

In natural processes, causative constructions often reveal the unique phenomena where the agent and patient are the same entity, demonstrating autonomous changes without external intervention. These changes are typically described using intransitive verbs that denote a change of state, emphasizing the self-contained nature of these transformations.

Table 4.

Examples of Internal Causative Constructions

Example	Agent and Patient	Intransitive Verb	Resulting State	Description
11	<i>Apples on apple trees</i>	ripened	Apples ripened	The apples mature naturally on the trees, turning ripe without direct human intervention, indicating a biological process of maturation.
12	<i>The flowers</i>	bloom	Flowers bloomed	Flowers bloom naturally at the end of summer, marking a change from buds to fully opened flowers, a seasonal biological rhythm.
13	<i>The building</i>	collapsed	Building collapsed	The building collapses due to structural failures or external factors like natural disasters, with the structure itself undergoing change.
14	<i>The water</i>	boiled off	Water evaporated	Water undergoes a phase change from liquid to gas as it boils off, driven by high temperatures in a natural physical process.

Key Characteristics of Internal Causative Constructions

- ***Agent and Patient as One***: In these constructions, the agent is also the patient, simultaneously undergoing and effecting the change. This highlights the subject's autonomy in triggering its transformation, typical in both biological and physical contexts.
- ***Intransitive Causative Verbs***: These verbs illustrate the natural progression or change in state without external influences. Examples include:
 - Biological: ripen, bloom, wilt, decay.
 - Physical: collapse, boil (off), melt, freeze.
- ***Resulting State***: The outcome of the process is often described using the same verb as the action, emphasizing the completion of the natural or autonomous process. For example, "ripened" describes the action and confirms the apples' readiness for consumption.
- ***Absence of External Agents***: A distinctive feature of these constructions is the lack of external intervention, making the process dependent solely on internal or natural factors associated with the agent/patient.

Biological vs. Physical Internal Causative Constructions

- ***Biological Processes***: Changes like ripening and flowering are controlled by internal biological processes. These processes occur throughout an organism's lifetime, such as the mature plant, and are affected by seasonal changes.
- ***Physical Processes***: Changes like building collapses or water boiling are influenced by physical forces or conditions, such as structural stability, temperature, and pressure, that are not affected by human activity.

These examples reflect the subjects' independence in their transformation and showcase the diversity and richness of expressing natural processes in language. Understanding these internal causative constructions enriches our grasp of how language can encapsulate complex natural phenomena, where the subject itself is both the initiator and recipient of change. This model underscores the tightly knit relationship between form and meaning in language, illustrating how subjects autonomously alter their states in accordance with internal or natural dynamics.

Internal causative constructions offer a robust and versatile framework for depicting entities' self-driven processes and transformations. These constructions are reflected across various contexts and semantic nuances in language, as demonstrated by the following examples:

Table 5.*Examples of Internal Causative Constructions in Various Contexts*

Example	Agent and Patient	Intransitive Verb	Resulting State	Description
15	<i>Her baby</i>	grows up (to be a doctor)	Became a doctor	The baby's development into a doctor reflects a natural personal growth and learning progression, leading to a significant career without direct external influence.
16	<i>The weather</i>	changes (hourly)	Hourly changes of weather	This describes the rapid and continuous transformation of weather conditions, a natural phenomenon reflecting unpredictable environmental fluctuations.
17	<i>The economy</i>	rebounded	Economic recovery	The economy's recovery after a downturn highlights an intrinsic economic process influenced by business cycles and responses to economic policies or improvements in the global business environment.

These examples extend internal causative constructions beyond mere biological or physical changes, incorporating intrinsic changes within social, psychological, and economic dimensions. For instance:

- *“The economy rebounded after a few years”* reflects the natural recuperation of the economy after a downturn, indicating economic changes through cycles and responses to economic interventions or improvements in the business environment.
- *“The weather changes hourly”* illustrates intrinsic shifts in climatic conditions without external intervention, showing how natural elements alone can lead to significant changes.

Such transformations, whether biological, physical, psychological, or economic, demonstrate transitions from one state to another, often without direct external influence. This emphasizes change's spontaneous and intrinsic aspect, showcasing the profound and diverse ways natural processes are represented in language. Through these examples, internal causative constructions highlight the close relationship between language form and meaning and how subjects independently change their states in response to internal or natural dynamics.

Discussion

As detailed in the analysis above, the distribution of Causal Constructions in English reveals insights into the language that help capture the nature of change-of-state events. These events are complex, especially due to subtle changes in state in different contexts. This discussion explores the results in more depth, focusing on examples of classifications and subclassifications within each major category and contrasting and comparing these results with previous studies.

Single-Agent Causative Constructions

The utilization of Single-Agent Cause indicates that a single agent undertakes alterations to state occurrences. Previous investigations only considered physical alterations, but this study considers the entire spectrum of emotions and thoughts that result from a particular construction. This initiated process reflects the complex nature of the changes. This outcome aligns with previous research by Jayeola (2020) and Middeke (2021), who noted that a single action can lead to multiple state changes. The alterations are subtle and have a significant purpose. As a result, language is used as a complex transition that conveys important changes in the state of the language.

Multi-Agent Causative Constructions

Multiple-agent constructions that are oriented towards collaboration or competition have multiple agents involved. Through these processes, state changes are induced. This demonstrates the degree to which language is capable of capturing the complexity of cause-and-effect relationships. This outcome is in line with what Rappaport (2020) and Flach (2021) reported. These authors suggest that causal event descriptions are primarily derived from the interactions between multiple participants. Despite the conflicting opinions of language experts, the general consensus is to acknowledge the significant impact of the alteration on overall results. Through different linguistic expressions, the English language vividly depicts the complex nature of the state changes in interactions between multiple parties.

Internal Causative Constructions

From the findings of the research, it can be seen that Internal causal constructions represent changes of states that occur internally of the agents themselves without any impact or influence from any external factors. Whether it is the biological transformation of living organisms or unexpected changes in natural phenomena, they all demonstrate the ability of language to depict the inherent nature of the transition between states. This aligns with the work done by Nash (2020) and Mangialavori Rasia plus Ausensi (2020), who explored how internal causes reflect such natural and spontaneous changes. Accordingly, instead of mutations themselves, these works focus entirely on studying changes in internal state events. Rather than being influenced by external sources, all changes are born within themselves, and this new understanding can only help enrich further research into delicate issues such as causation or transitions.

Incorporating Goldberg's and Croft's Frameworks

As mentioned in the Literature Review Section, this study uses the Goldberg (1995) and Croft (2001) model. Accordingly, Goldberg's Construction Grammar emphasizes that constructions always include a parallel form and meaning. In particular, each construction serves a specific function that cannot be completely separated from its components. This gives a comprehensive view of Causative Constructions, both their syntactic structure and semantic function. From there, the implications of different causal construction models are revealed.

Applying Croft's (2001) work on radical construction grammar in this study contributes to clarifying Goldberg's point. Through Croft's lens, the study has shown the diversity and adaptability of Causative Constructions in English without losing the context in which these constructions are used and the specific communicative purposes they are intended for. The discussion of Causative Constructions in English reveals their meaning and highlights the ability of language to describe transformative complexities. Unlike previous studies, this study goes deeper into the problem by interweaving syntactic and semantic analysis, which emphasizes causal construction that often denotes change, supported by observations by Alexiadou and Anagnostopoulou (2020). Therefore, in its detailed description, English presents

a richness that reveals cause-and-effect relationships. From here, we better grasp these interwoven elements that make up the fabric of existence. By adopting such a holistic perspective, this study addresses the limitations noted in previous studies and paves the way for a full description of how such structures operate in the system. Incorporating Goldberg and Croft's frameworks into the research gap is of great benefit because it offers a more detailed and complex examination of the underlying causes of constructs, especially those related to event dynamics that change the state of affairs. This, in turn, drives significant advances in both theory-based and real-world applications in the field of linguistics.

Conclusion

In conclusion, the results of a detailed analysis of causative constructions and their different subtypes clearly demonstrate how language intricately encodes changes in state events. This ranges from vivid descriptions of single actions by a single agent to complex, multi-agent constructions that involve detailed interactions and even internal transformations that occur independently but remain connected to other events.

This may indicate a powerful means by which humans can realize dynamic cause-and-effect relationships in developing states. Accordingly, the findings on human cognitive evolution through language and every alteration in state have significant importance. Whether they are events of change of state that are observed in the physical world, significant changes in emotional and mental conditions, or the inherent nature of the progression of natural phenomena, language is always a powerful means to transmit complex constructions of the real world.

This research highlights the unique capacity of language to capture information about causes and changes in state. As this data is collected, it helps us understand how people perceive and interpret causative structures. By understanding the complexity of causative constructions, we recognize the importance of state changes in representing the world through language, which, in turn, influences how these structures are formed.

Overall, the study of Causative Constructions on change of state events in English increases our understanding of the diversity and complexity of language and clarifies the dynamic connection between human relations consequences and status changes in our daily conversations. Moving forward, continuing to investigate the complexities of language and cognition, these analyses will guide further explore the complex connections between language, thought, and the ever-present natural changes in human experience.

The study provides valuable insights into causative constructions in English, though there are opportunities for further exploration. Expanding beyond British and American written sources could enhance our understanding of how these constructions function across different dialects, registers, and spoken contexts. Additionally, incorporating a wider range of contexts, such as everyday conversation or digital communication, could offer a more comprehensive view. Future research might also benefit from cross-linguistic analysis and the application of alternative theoretical frameworks to capture the full complexity of causative constructions in language use.

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Biodata

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