

UNRAVELING THE COGNITIVE MECHANISMS BEHIND COPYING: JOHANSON'S CODE COPYING AND COGNITIVE LINGUISTICS

Mehmet AKKUŞ*

Abstract: This paper explores the intersection between Johanson's Code Copying framework and key principles of Cognitive Linguistics, with a focus on language contact in multilingual contexts. Johanson's theory of code copying provides a comprehensive model for understanding how languages influence one another, emphasizing the selective and global copies of linguistic elements between a model and basic language. Cognitive Linguistics, which posits that language is deeply rooted in general cognitive abilities, offers insights into the mental processes guiding these transfers. This study highlights how both frameworks view language as a dynamic system shaped by cognitive factors like perception, memory, and usage. Johanson's concept of selective copying aligns with Cognitive Linguistics' emphasis on meaning and conceptual structures, where speakers consciously or subconsciously adopt features that are cognitively compatible with their own language. The paper also explores the role of frequency, demonstrating how frequent exposure to linguistic elements in contact situations increases their likelihood of adoption, a principle central to both Johanson's frequential copying and the usage-based approach in Cognitive Linguistics. By examining these intersections, the paper offers a deeper understanding of how cognitive processes underlie language change and adaptation in multilingual settings. Johanson's work, particularly in relation to Turkic languages, serves as a foundational resource for analyzing linguistic convergence, while Cognitive Linguistics provides a broader cognitive perspective, bridging the gap between language contact phenomena and cognitive science.

Keywords: Johanson's code copying, cognitive linguistics, frequential copying

Johanson'un Kod Kopyalama Teorisi ve Bilişsel Dilbilim: Dil İletişimi ve Etkileşimindeki Bilişsel Mekanizmaların Çözümlemesi

Öz: Bu makale, Johanson'un Kod Kopyalama kuramı ile Bilişsel Dilbilim'in temel ilkeleri arasındaki kesişimi, çok dilli bağlamlarda dil teması üzerine odaklanarak incelemektedir. Johanson'un kod kopyalama teorisi, dillerin birbirini nasıl

* Doç. Dr., Artvin Çoruh Üniversitesi, Fen-Edebiyat Fakültesi, İngiliz Dil ve Edebiyatı Bölümü, Artvin/TÜRKİYE, e-posta: mehmetakkus@artvin.edu.tr, ORCID: 0000-0002-9604-1418

etkilediğini anlamaya yönelik kapsamlı bir model sunmakta ve bir model dil ile temel dil arasındaki dilsel unsurların seçici ve küresel aktarımını vurgulamaktadır. Dilin genel bilişsel yeteneklere dayandığını öne süren Bilişsel Dilbilim ise, bu aktarımları yönlendiren zihinsel süreçlere dair içgörüler sağlar. Bu çalışma, her iki çerçevenin de dili, algı, hafıza ve kullanım gibi bilişsel faktörler tarafından şekillendirilen dinamik bir sistem olarak nasıl gördüğünü vurgulamaktadır. Johanson'un seçici kopyalama kavramı, Bilişsel Dilbilim'in anlam ve kavramsal yapılara verdiği öncelikle uyum içindedir; bu bağlamda, konuşucuların kendi dillerine bilişsel olarak uyumlu özellikleri bilinçli veya bilinçsiz bir şekilde benimsedikleri görülür. Makale ayrıca frekansın rolünü de inceleyerek, dil teması durumlarında dilsel unsurlara sıkça maruz kalmanın bu unsurların benimsenme olasılığını artırdığını, bunun hem Johanson'un sıklık kopyalaması kavramı hem de Bilişsel Dilbilim'in kullanım temelli yaklaşımı için merkezi bir ilke olduğunu gösterir.

Bu kesişimlerin incelenmesiyle, çalışma, bilişsel süreçlerin çok dilli ortamlardaki dil değişimi ve uyumu nasıl etkilediğine dair daha derin bir anlayış sunmaktadır. Özellikle Türk dilleri bağlamındaki çalışmalarıyla Johanson, dilsel yakınsamanın analizinde temel bir kaynak olarak öne çıkarken, Bilişsel Dilbilim, dil teması olguları ile bilişsel bilim arasında daha geniş bir bilişsel perspektif sunmaktadır. **Anahtar Sözcükler:** Johanson'un kod kopyalama kuramı, bilişsel dilbilim, sıklık kopyalama

Introduction

Weinreich's groundbreaking work, *Languages in Contact* (1964), sparked a notable increase in the study of language contact. Since its publication, a wide range of theories have been proposed and applied to analyze language contact from different angles. Researchers have focused on broad topics such as bilingual *mixed languages* (Matras & Bakker, 2003), *code-switching* (Myers-Scotton, 2002; Backus, 1996), *code-mixing* (Muysken, 2000), and the formation of *creoles and pidgins* (Winford, 2003). Despite substantial progress in this field, key questions remain unanswered: what drives language change, how extensive is the impact of language contact, and what factors trigger such shifts within a language system? (Croft, 2000; Johanson, 2002, as cited in Author, 2019).

Historically, structuralist approaches in linguistics have framed languages as distinct systems, leading to the conceptualization of language contact as an interaction between these systems. However, this metaphorical view, while legitimate, falls short of addressing the core issues in contact linguistics. Languages, after all, do not physically interact; rather, it is the speakers, or more precisely, communities of speakers, who come into contact, often on an individual level. This realization shifts the focus of language contact studies from the abstract metaphor of system interaction to the concrete reality of human communication.

Language contact, in essence, revolves around bilingual or multilingual individuals who engage in communication across linguistic boundaries. Although entire communities can be classified as bilingual, the essence of language contact lies in individuals' ability to build and navigate a linguistic repertoire that enables them to

communicate efficiently across various and distinct social settings. The more they use these linguistic resources, the more proficient and creative they become. This development, however, is not instantaneous. It requires time, practice, and what Matras (2010) calls “linguistic socialization”—a process that strengthens communicative abilities through immersion in the community's linguistic environment.

During this process, lapses—instances of unconventional language use—can occur, which are intriguing phenomena in the study of language contact. Such lapses often happen when a speaker, consciously or subconsciously, crosses the mental boundary that separates the languages in their repertoire. Contrary to the traditional notion that bilingual speakers maintain entirely separate language systems, Matras (2010) suggests that their linguistic repertoire is always active. This constant activation allows for a dynamic negotiation of linguistic choices, where speakers navigate their multilingual repertoire, sometimes maintaining clear distinctions between languages, and at other times “crossing the line” between them. This raises questions about the intentionality behind such crossings and their impact on language outcomes (Author, 2019).

To further understand the intricate dynamics of language contact, scholars like Winford (2003) and Matras (2010) have proposed theoretical frameworks. Matras, for example, highlights three essential dimensions that influence a speaker's ability to manage their linguistic repertoire. These dimensions frequently conflict, and language contact arises from their ongoing negotiation. The first dimension concerns context-dependent language selection, where speakers select the appropriate language forms according to the specific communicative context.

In language contact settings, speakers may also adopt new expressions or structures from one language that offer more precise or nuanced ways of communicating certain ideas—what is often referred to as “cultural loans.” For instance, a speaker might transfer a lexical item like “boomerang” if their native language lacks a label for that concept. Similarly, the potential for grammatical borrowing exists, not because one language's grammar is deficient, but because alternative ways of expressing subtle distinctions may be more suited to the speaker's needs. However, this adoption of new linguistic features must be balanced against the speaker's desire to be understood and accepted within their community. Lastly, there is a strong drive to streamline communication by reducing barriers, which fosters efficiency in exchanges. The speaker's challenge, then, is to balance these three forces—the need for contextual appropriateness, the desire for expressive richness, and the goal of communicative efficiency. Together, these dimensions shape the linguistic outcomes of language contact, making it a complex and continually evolving phenomenon.

Language contact, in its various forms, is a driving force behind linguistic change and diversity. The outcomes of language contact are influenced by several factors, including the intensity and duration of contact, the sociopolitical relationship between the languages, and the number of speakers involved (Weinreich, 1964). These factors contribute to the range of linguistic phenomena that emerge from contact situations, from minor lexical borrowing to the formation of entirely new linguistic systems. Over the years, linguists have developed different theoretical frameworks to better understand and categorize these outcomes, each offering insights into how languages adapt and change in contact situations.

One of the earliest and most widely studied outcomes of language contact is *borrowing* (Weinreich, 1964). Borrowing refers to the adoption of words, phrases, or even grammatical structures from one language (the source language) into another (the recipient language). Borrowing can occur at various levels, including lexical (e.g., individual words), phonological (e.g., sounds), and syntactic (e.g., sentence structures). While lexical borrowing is the most common form, especially when speakers encounter new objects, ideas, or cultural concepts, structural borrowing can occur in more intense and prolonged contact scenarios. For example, languages in the Balkans, such as Albanian, Greek, and Macedonian, have borrowed grammatical features from one another due to centuries of close contact, resulting in what is known as the Sprachbund (Friedman, 2011) or linguistic area.

Code-switching is another common phenomenon in multilingual societies. This refers to the practice of alternating between two or more languages or dialects within a conversation, sentence, or phrase. Code-switching is governed by social and linguistic rules and is often used as a communicative strategy to express identity, accommodate different speakers, or switch between formal and informal registers (Myers-Scotton, 2002). For example, in many Spanish-English bilingual communities in the United States, speakers might fluidly switch between the two languages, as in the sentence, “I’m going to the store **para comprar leche**” (I’m going to the store **to buy milk**). Code-switching has been extensively studied in sociolinguistics, with models like Myers-Scotton’s *Markedness Model* explaining it as a tool for negotiating social relationships and roles. Other models of code-switching, such as Gumperz’s *Contextualization Cues* and Auer’s *Conversational Approach*, further emphasize how speakers use code-switching to manage conversation flow, convey subtle social meanings, and express speaker identity (Gumperz, 1982; Auer, 1998). These frameworks contribute to a more nuanced understanding of code-switching as not just a linguistic phenomenon but a strategic communicative tool deeply embedded in social interaction.

Code-mixing is closely related to code-switching but often refers to a more seamless blending of languages at the level of phrases or individual words, resulting in a more integrated or mixed speech form (Muysken, 2000). Code-mixing can be seen in informal settings where speakers shift between languages or incorporate foreign elements without strictly following the grammatical rules of either language. This often occurs in situations where speakers are fluent in more than one language and move between them naturally.

Creolization is another major outcome of language contact, typically occurring in situations of intense social and linguistic interaction, often due to colonization, slavery, or trade. When speakers of different languages come into contact and need to communicate without a shared language, a pidgin—a simplified, non-native language—can emerge. Pidgins are often used for basic communication in specific domains, such as trade, and are not typically spoken as a first language. However, if a pidgin becomes stable and is passed down to a new generation of speakers, it can evolve into a creole, a fully developed natural language with a rich grammar and lexicon (Holm, 2000). An example of this process is Haitian Creole, which evolved from a French-based pidgin spoken by African slaves in Haiti during the French colonial period (DeGraff, 2005).

No single model in the current literature can fully account for all language contact situations (Siemund, 2008). However, several efforts have been made to develop comprehensive frameworks. One of the most notable is Johanson’s Code Copying framework (2002, 2023), which provides a detailed descriptive model for specific

language contact scenarios, aiming to explain the mechanisms behind contact-induced language change.

1. Johanson’s Code Copying

Johanson’s seminal work, *Code Copying*, focuses on linguistic phenomena induced by language contact, building upon a comprehensive body of research and an integrated theoretical model. It explores a wide array of linguistic influences that arise from language contact, which have traditionally been referred to using terms like borrowing, replication, transfer, interference, and convergence. The Code Copying model (hereafter; CC) offers a cohesive framework to explain these contact-induced changes, asserting that they represent fundamentally similar processes that should be analyzed within a unified paradigm.

Johanson’s framework shares many theoretical foundations with earlier models. Like in other approaches to language change, this framework identifies two central elements: the source language, referred to as the model code, and the recipient language, termed the basic code. At the core of the CC model is the transfer of linguistic elements from a “Model Code” (or Donor Language) into a “Basic Code” (or Recipient Language), affecting various linguistic subsystems such as the lexicon, morphology, phonology, and syntax. Johanson introduces two distinct forms of copying: *take-over copying*, where speakers incorporate elements from a secondary language into their primary language, and *carry-over copying*, where speakers transfer elements from their primary language into their use of a secondary language.

The variation in terminology points to a broader issue of inconsistency in the field, with different scholars using different terms to describe the same basic phenomenon. Johanson (2002, 2023) argues that terms like borrowing and interference are misleading. For instance, borrowing implies that the borrowed element may be returned, which is not the case when linguistic elements are permanently adopted into a language. Johanson’s preference for copying highlights the lasting nature of the linguistic element transferred from one language to another, making this concept more suitable for describing language contact phenomena. What sets Johanson’s framework apart from earlier models is his categorization of copying into three distinct types: *global copying*, *selective copying*, and *mixed copying*.

Global copying refers to the process of transferring entire linguistic units, or elements, wholesale from the model code to the basic code. This includes structural, semantic, combinational, and frequential properties of the linguistic item, which are copied as a “global block” and adapted to fit the recipient language’s system (Johanson, 2002).

1.1. Data-driven sample

Table 1 provides examples of this phonological adaptation, illustrating how various linguistic properties—such as semantic, combinational, and categorical features—are transferred into Khalaj from Persian.

Persian /IPA/	Khalaj /IPA/	English	Source
/riːʃɛ/	/riːʃɛ/	‘root’	(Akkuş, 2022)

/pær/	/pær/	‘wing’	(Akkuş, 2022)
/mægæs/	/mægæs/	‘fly’	(Akkuş, 2022)
/sa:jæ/	/sa:jæ/	‘shadow’	(Akkuş, 2022)
/pærændæ/	/pærændæ/	‘bird’	(Akkuş, 2022)

Table 1. *Global Copying in the Khalaj language* (Akkuş, 2022, pp. 45-6)

The data in Table 1 illustrates the process of phonological adaptation in language contact between Persian and Khalaj. In these examples, phonological forms from Persian are transferred into Khalaj with minimal changes, indicating a high level of phonological preservation. Both the Persian and Khalaj forms of the words show identical or nearly identical pronunciation, as represented by their International Phonetic Alphabet (IPA) transcriptions. This suggests that when Persian words are borrowed into Khalaj, key phonetic and phonological features—such as vowel and consonant sounds, as well as syllable structures—are maintained.

The examples also demonstrate that other linguistic properties, such as semantic (meaning), combinational (word formation and structure), and categorical features (part of speech), are fully adopted in the transfer. For instance, the word for ‘root’ (/ri:fɛ/), ‘wing’ (/pær/), and ‘shadow’ (/sajæ/) retain their semantic and phonological features across both languages.

Selective copying, by contrast, involves the partial transfer of linguistic elements, where only some of the properties—such as semantic or structural features—are copied into the recipient language, while others are left behind. This process can be divided into two main categories: material copying and grammatical copying. Material copying specifically involves the adoption of phonological traits from elements in the model code, which are then applied to their equivalents in the basic code (Johanson, 2002, 2023).

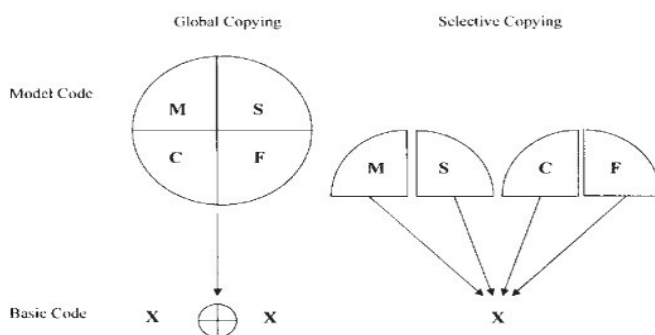
Selective copying also encompasses the transfer of grammatical structures. An illustrative example is found in the Turkic language Karaim, where the word order of possessive constructions has shifted under the influence of Slavic languages. Instead of the typical Turkic possessor-possessed structure, Karaim has adopted the Slavic possessed-possessor order (e.g., **ot’ets Kariny** for “Karina’s father”), leading to syntactic restructuring influenced by the Slavic Model Code (see Johanson, 2023).

Further instances of selective copying include semantic copying, where meanings are borrowed. For example, the Swedish word **padda** (‘toad’) has acquired an additional meaning, “iPad,” due to its phonetic resemblance to the English word iPad (see Johanson, 2023).

Selective copying also extends to combinational properties, such as word order, phrase structure, and syntax. One example is the English verb phrase to up-date, which has been selectively copied into Swedish as **att upp-datera** (‘to update’). Frequential copying involves changes in the frequency of specific linguistic elements due to contact. For instance, Turkish speakers of English frequently use the word obviously to express evidentiality, reflecting a direct transfer of Turkish evidential patterns.

Johanson (2002, 2023) emphasizes that linguistic copying is never an exact duplication; it is always adapted and modified to fit the structural constraints and patterns of the Basic Code. This adaptive process is inherently creative, leading to convergence between languages in contact without resulting in complete linguistic identity. Even in cases of extensive influence, the copied elements are reshaped and integrated into the linguistic system of the Basic Code, demonstrating the dynamic and evolving nature of language contact. This continuous adaptation fosters subtle but significant changes in the linguistic makeup of the Basic Code, often leading to gradual but noticeable shifts over time.

Grammatical copying, by contrast, encompasses three interrelated properties: combinational, semantic, and frequential copying. Frequential copying refers to the replication of usage patterns from the model code onto elements in the basic code, potentially leading to either an increase or decrease in the frequency of use of these elements (Johanson, 2002, p. 74). To illustrate these distinctions, an illustrative representation of global and selective copying is provided below.



M = Material properties (substance); S = Semantic properties (also including pragmatic meanings); C = Combinational properties (in syntax and word structure); F = Frequential properties; X = elements of a Basic Code.

Figure 1. *Global and Selective Copying*

What influences the likelihood that certain linguistic units or elements are copied, either globally or selectively, while others resist such transfer? Furthermore, why do some units—along with their form, meaning, combination, and frequency—seem impervious to copying or substitution (cf. Author, 2019)? The explanation may reside in the notions of linguistic attractiveness and vulnerability.

In cases of external causation, where unconventional features are copied from an external language, it remains unclear why some structural features are inherently more attractive and thus more likely to be copied, while others are not. Johanson (2002, p. 2) acknowledges this gap, noting that it is not fully understood why “certain structural features are attractive in the absolute sense, lending themselves to copying.” This notion is echoed by Keller (1994), who suggests that an “invisible hand” seems to guide language change.

Johanson introduced the concept of *attractiveness* within his code-copying framework, which refers to the idea that certain linguistic elements are more prone to being copied due to their inherent appeal, making them more “attractive” in the context

of language contact. Conversely, some elements are more resistant to copying and less likely to be replaced by elements from another language.

In expanding his framework, Johanson (2002) explores the factors that affect the selective copying of certain linguistic features. He proposes that, first, structural features can be inherently attractive, meaning they possess qualities that draw speakers to them. Second, this attractiveness is influenced by the typological relationships between the languages in contact, which can enhance or diminish the appeal of specific features. Third, social factors play a crucial role in determining how much influence this attractiveness has on language change. Supporting Johanson's insights, Thomason (2001) adds another dimension by highlighting the degree of integration of features within the linguistic system, suggesting that the more deeply embedded a feature is, the less likely it is to be copied. This multifaceted perspective underscores the complex interplay between linguistic characteristics and social dynamics in the process of language contact.

In more recent research, particularly within the field of contact-induced language change, Johanson's concept of attractiveness has been reframed as vulnerability. This term suggests that certain foreign linguistic elements are more likely to be copied and replaced in language contact scenarios, as they are less resistant to such changes.

This raises an important question: what mechanisms make certain linguistic structures more susceptible to copying and replacement during specific instances of language contact? The answer is not straightforward, as differing perspectives exist regarding the onset of contact-induced language change. Stolz and Stolz (1996), Ross (2001), and Matras (2009) suggest that these changes often start with intricate structures, such as adverbial clauses, in bilingual contexts. Over time, this process extends to simpler forms, encompassing phrases and individual words (Matras, 2009, p. 244).

In addition to linguistic factors, social and cultural elements play a significant role in determining which features are copied. Highly prestigious languages or those with socio-political influence often serve as Model Codes, with speakers of the Basic Code emulating elements perceived as prestigious or filling lexical or grammatical gaps in their language. The degree of "copiability" is determined by a combination of social influence and structural properties, where some linguistic features are more naturally prone to being copied due to their transparency or straightforwardness.

Ultimately, the CC model highlights the complex interplay between languages in contact, offering a robust framework to analyze the subtle processes through which languages influence one another. Through a combination of social factors, structural compatibility, and the creative adjustments of speakers, the process of linguistic copying shapes the evolution of languages in dynamic contact settings.

Johanson's model is groundbreaking in its approach to understanding language contact; however, its lack of explicit reference to cognitive linguistic principles leaves certain aspects of linguistic copying underexplored. This paper thus aims at bridging the tenets of Cognitive Linguistics and the Code Copying framework. By integrating cognitive linguistics, particularly usage-based approaches, this paper seeks to illuminate how cognitive processes influence the mechanisms of the CC. This integration can provide a more nuanced understanding of the dynamic interplay between linguistic structures and cognitive frameworks, revealing how speakers adapt and reshape borrowed elements in response to their linguistic environment.

2. Cognitive Linguistics, with a focus on Usage-Based Approach

Cognitive linguistics is a branch of linguistics that focuses on the relationship between language and cognition, emphasizing that language is deeply rooted in our mental processes and experiences. Unlike generative approaches, which often treat language as an abstract system of rules, cognitive linguistics views language as a product of general cognitive abilities, such as perception, categorization, and memory.

One of the core principles of cognitive linguistics is that meaning is central to understanding linguistic structure. According to Langacker (1987), linguistic knowledge is best understood in terms of “conceptual structures” rather than purely formal rules. This view aligns with the idea that grammar and vocabulary are not separate but are interlinked with our cognitive abilities to conceptualize the world around us.

Additionally, cognitive linguistics posits that linguistic categories are not fixed but are flexible and shaped by usage. Bybee (2010) argues that language structure emerges from repeated use, with frequency effects playing a significant role in shaping grammar. This usage-based perspective contrasts with the idea of innate, fixed linguistic rules, proposing instead that language is dynamic and evolves through interaction. In summary, cognitive linguistics emphasizes the interconnection between language and cognitive processes, viewing language as a reflection of our mental experiences and shaped by usage (Langacker, 1987; Bybee, 2010).

The usage-based approach in cognitive linguistics posits that language is fundamentally shaped by the patterns and frequencies of its actual use in communication. This perspective suggests that linguistic structures and meanings emerge from repeated exposure to language in context, emphasizing the importance of real-world interactions in shaping linguistic knowledge (Bybee, 2010).

According to Langacker (1987), the usage-based approach argues that linguistic competence is built on cognitive processes that arise from linguistic experiences. This model asserts that speakers create and store mental representations of linguistic forms based on their usage, leading to the entrenchment of certain structures over time. Thus, frequently used forms become more accessible and stable within a speaker's cognitive system, influencing their future language production (Bybee, 2010).

Furthermore, the approach emphasizes that language learning is inherently tied to social interaction and communicative needs. As speakers encounter specific constructions repeatedly in their communicative contexts, these forms are reinforced and solidified in their linguistic repertoire (Tomasello, 2003). This view contrasts with more traditional theories that treat grammar as an abstract system independent of usage, highlighting the dynamic and context-dependent nature of language. The usage-based approach offers a cognitive and interactional perspective on language, illustrating how language evolves and develops through the patterns of use encountered in everyday communication (Bybee, 2010; Langacker, 1987; Tomasello, 2003).

The relationship between Johanson's concept of *Code Copying* and *Cognitive Linguistics* lies in their shared emphasis on the cognitive processes underlying language use, particularly in multilingual contexts.

2.1. Frequency of use

Frequency of use is a central concept in Cognitive Linguistics, especially within the usage-based approach. Scholars like Bybee (2010) argue that linguistic structures emerge from patterns of use, where the frequency of certain forms or constructions influences

their entrenchment in a language. Frequent exposure to specific linguistic elements strengthens cognitive associations, making these elements more likely to be used and, consequently, more resistant to change. This perspective suggests that the more often a linguistic item is used, the more cognitively entrenched it becomes, ultimately influencing how language evolves over time.

Johanson's concept of frequential copying aligns closely with this cognitive perspective. In the context of language contact, frequential copying refers to the tendency for elements from a model language (the language being copied) to be adopted into a basic language (the language of the speaker) based on the frequency with which those elements are encountered. When speakers of one language are repeatedly exposed to specific words, phrases, or structures in another language, they are more likely to incorporate these elements into their own language. This process is particularly pronounced in environments where bilingualism or multilingualism is common, and speakers frequently switch between languages, reinforcing the connection between frequency of use and the likelihood of copying.

In studies of contact-induced language change, the term frequency of use has been proposed as a more objective and "transparent" alternative to *markedness*, which has been criticized for its vagueness, encompassing meanings like difficulty, complexity, or abnormality (Haspelmath, 2006). By focusing on the measurable frequency of linguistic elements in the usage-based framework, researchers aim at gaining clearer insights into how and why certain features are copied in language contact scenarios, ultimately providing a more nuanced understanding of the dynamics of language change.

Extending this framework, it is essential to consider how social and contextual factors interact with frequency of use to influence linguistic change. For instance, the social networks within which speakers operate can significantly affect exposure to specific linguistic forms. In tightly-knit communities where certain languages or dialects are predominant, the frequency of specific linguistic elements can be high, leading to more substantial copying. Conversely, in more diverse or fragmented linguistic environments, exposure may be less consistent, potentially diminishing the likelihood of copying.

Additionally, the nature of the contact situation—whether it involves intensive bilingualism, code-switching, or other forms of interaction—can further mediate how frequently certain features are encountered. In situations where speakers frequently alternate between languages, the likelihood of incorporating elements from one language into another increases, reinforcing the importance of usage patterns in this process. Moreover, the cognitive processes involved in language acquisition and use also warrant further exploration. As speakers engage with multiple languages, their cognitive frameworks adapt to accommodate the linguistic elements they encounter most frequently. This adaptability may facilitate the incorporation of new structures and forms, ultimately contributing to the ongoing evolution of their linguistic repertoire.

This framework highlights how the patterns of language use play a crucial role in shaping linguistic structures (Langacker, 1991). In this context, the frequency with which specific linguistic units are employed in speech is considered crucial for understanding "how easily they are activated in the minds of speakers" (Demirçay, 2017, p. 53). Rather than involving the complete loss of forms or the wholesale adoption of new ones, language change often manifests as a shift in the frequency with which certain forms are used (Demirçay, 2017, p. 53). Within Johanson's (2023) code-copying framework,

frequency of use is also pivotal in both the model and replica languages during the copying process, reinforcing its importance as a key factor in language change.

Johanson (2023) further theorizes the significance of frequency in his code-copying framework through the concept of frequential copying, which refers to the transfer of usage patterns from the model language to the recipient language, leading to either increased or decreased frequency of specific elements in the latter. This phenomenon can be observed, for instance, in the South Azerbaijani dialect spoken in Iran (Kiral, 2001), where non-finite subordinate clauses, common in Turkic languages, coexist with finite constructions heavily influenced by Persian, such as those involving *ki* and *tâ* (borrowed from Persian *ke* and *tâ*, respectively). Despite the resilience of non-finite constructions to external influence, this interplay between finite and non-finite forms demonstrates a linguistic symbiosis between typologically distinct languages, continually reinforced and conventionalized through everyday usage in the speech community.

It is important to note, however, that this linguistic balance is always subject to change. Social pressures and intense contact may, over time, lead to the weakening or even eventual loss of one of these structures, underscoring the dynamic nature of language in contact situations.

2.1.1. Data-driven sample

In a study conducted by Akkuş (2019), in order to explore whether there was a difference between the frequency of use of converbial constructions by the 2nd and 1st generation Dutch-Turkish bilingual speakers, and Turkish monolinguals, first of all, the overall data obtained from all converbial categories were analyzed, and the frequencies of temporal converbial categories produced by the groups were quantified and tabulated according to their semantic categories. Then, percentages of these frequencies were calculated on the basis of the overall utterance numbers for each participant group.

In order to examine whether there was a statistically significant difference among the frequencies of use of three speaker groups, One-way ANOVA tests were run. Finally, the frequencies of use of converbial endings identified for each temporal converbial marker were counted and compared among three speaker groups.

Converbial form	Token Frequency				Frequency per hundred utterance		
	2 nd gen. Tk	1 st gen. Tk	mono Tk	Σ	2 nd gen. %	1 st gen. %	Mono %
-IncA	69	125	263	457	0,3113	0,5728	1,1372
-Ip	50	93	195	338	0,2256	0,4261	0,8432
-ken	79	117	229	425	0,3564	0,5361	0,9902

Table 2. *Distribution of frequency of use of converbial constructions in the data*
(Akkuş, 2019)

Analysis of the distribution of frequency of use of temporal converbial endings presented in Table 2 revealed that simplex converbial constructions formed with only one converbial ending such as *-IncA* and *-Ip* occurred more than complex converbial ending-ken in all participant groups' data. Temporal converbial constructions formed with simplex temporal converbial endings *-IncA* and *-Ip* encompassed 0,5369% (*f*=119) in the 2nd generation sub corpus, 0,9989% (*F*=218) in the 1st generation sub corpus, and 1,9804% (*f*=458) in the monolingual data. On the other hand, the distribution of complex

converbial ending was as follows: 0,3564% (F=79) in the 2nd generation data, 0,5361% (f=117) in the 1st generation data, and 0,9902% (F=229) in the monolingual data. It was found out that while a complex converbial ending –ken was the most frequently-used construction 0,3564% (f=79) in the 2nd generation bilingual data, a simplex converbial ending –*IncA* was used by far the most frequently by both the monolinguals 1,1372% (f=263) and the 1st generation bilingual speakers (f=125). It was also evident that monolinguals made more use of constructions formed with –*Ip* (f=195) with a ratio of 0,8432% while only 50 –*Ip* occurrences were identified in the 2nd generation bilingual speakers' data, corresponding to 0,2256% within the distribution. The frequency of use of the 1st generation bilingual speaker use appeared to remain in medio, 0,4261% which corresponded to 93 occurrences of –*Ip* constructions.

Concerning the converb –*IncA*, the findings illustrated that Turkish monolinguals were the ones who made the most use of constructions formed with –*IncA*, 263 tokens with a ratio of 1,1372% while only 69 occurrences of –*IncA* constructions were identified in the 2nd generation data, corresponding to 0,3113% in the distribution. The frequency of –*IncA* constructions in the data of the 1st generation bilingual speakers was in medio, 0,5728% (F=125). The results also showed that there was an intergenerational difference in the frequency of use between the 2nd and 1st generation bilingual groups, seriatim 0,3113%, and 0,5728. When the difference in the frequency between the monolinguals and bilinguals was concerned, it was clear that there was a difference. While the distribution was much higher in the monolingual data (1,1372%), this ratio occurred 0,5728 in the 1st generation data.

With regard to –*ken*, the results indicated that the frequency of use was not equally distributed among the 1st and 2nd generation bilingual, and Turkish monolingual speakers' data. It was the monolingual speaker data which consisted of the most frequent use of –*ken* constructions: 229 tokens corresponding to 0,9902%. In the 2nd generation bilingual data, 79 occurrences were identified, corresponding to the ratio of 0,3564% regarding the distribution. The frequency of use of the 1st generation bilingual speakers remained in medio, 0,5361% which was equal to 117 occurrences. The comparison between the 2nd generation bilingual speakers' frequency of use of –*ken* converbial construction (0,3564%) and that of the monolingual speakers' (0,9902%) showed a difference. However, the difference between the 1st generation bilingual speaker data (0,5361%) and the 2nd generation bilingual speaker data (0,3564%) seemed to be low. It was evident that Dutch-Turkish bilinguals made more use of complex converbial construction –*ken* compared to the simplex converbial constructions identified in the overall distribution of temporal data.

Additionally, the social context in which language contact occurs can significantly impact the frequency of copying. In socially prestigious environments, where certain languages or dialects are valued, elements from those languages may be more frequently adopted, further contributing to their entrenchment. Conversely, in situations where a language is stigmatized or marginalized, the frequency of copying may decrease, leading to a slower evolution of linguistic structures. Several other key concepts from Cognitive Linguistics can be associated with the CC framework, deepening our understanding of how cognitive processes influence language contact such as schema theory.

2.2. Schema Theory

Cognitive Linguistics offers a robust framework for understanding how language functions in the mind, with schema theory being a central tenet. Schema theory posits

that our understanding of linguistic structures is based on mental templates or schemas—generalized patterns that arise from repeated exposure to specific linguistic forms (Langacker, 1987). These schemas serve as cognitive frameworks that enable individuals to efficiently recognize, produce, and interpret language by organizing linguistic information into familiar patterns. For instance, the schema for a “wedding” might include elements like vows, rings, and a ceremony, allowing speakers to communicate about matrimonial events without needing to detail every aspect of the situation.

In relation to Johanson's framework of Code Copying, this cognitive perspective provides valuable insights into how linguistic elements from a model language are integrated into a basic language. When speakers encounter elements from a model language, they are more inclined to copy those that resonate with their pre-existing cognitive schemas. This alignment facilitates the adaptation of the borrowed elements, allowing for smoother integration into the linguistic framework of the basic language.

For example, consider the borrowing of English lexical items into Turkish, such as “Apple” and “iPhone” (from English). These words are not merely imported but are adapted to fit Turkish phonological and morphological schemas. Speakers are familiar with the structure of Turkish nouns, which may lead them to pronounce and inflect these loanwords in ways that align with their linguistic habits.

Another example can be seen in the influence of English on Russian. With the rise of technology, Russian speakers have adopted phrases like “запустить программу” (*zapus'ti programmu*, meaning “to launch a program”) directly from the English “to launch a program.” This adaptation demonstrates how speakers align new linguistic elements with their existing schemas, enabling them to express contemporary concepts while remaining within familiar syntactic and morphological frameworks.

Additionally, in environments of bilingualism, such as among speakers of Spanish and English in the United States, the integration of elements can lead to hybrid expressions. For instance, a bilingual speaker might say “*Voy a parkear el coche*,” blending Spanish with the English verb “to park.” This mixture illustrates how speakers utilize their cognitive schemas from both languages to create new, understandable expressions that feel natural in their communicative context.

2.2.1. Data-driven sample

Akkuş (2019) also investigated the schematic representations of temporal converbs in the bilingual and monolingual speakers' data. For this purpose, occurrences of temporal converbial constructions were thoroughly explored to analyze if there were structural and semantic deviations. In case of deviations, such instances were exemplified. In this phase, conventional and unconventional use of converbial endings were also identified by two coders who were native speakers of Turkish. Unconventional usages of converbs were later examined to see whether they could be counted as traces of contact-induced language change. Since it was found that the 2nd generation Dutch-Turkish bilinguals made significantly less use of the temporal converbs than the control groups, the judges were also asked to identify whether there was divergence in the use of the temporal converbs. Excerpt 1 below displays an unconventional use of the temporal converb *-IncA* produced by a 2nd generation Dutch-Turkish bilingual speaker.

Excerpt 1(Akkuş, 2019)

(1)

THS-8	Annemiz bizi neyten ehm neyten döverdi?
THS-8[TL]	mum.POSS. us what.INST. what.INST. hit.AOR.PPST.3PSg
THS-8[Eng]	<i>With what did our mum hit us?</i>
THS-9	<i>Pantoffel mı?</i>
THS-9[TL]	slipper Int.Part.
THS-9[Eng]	<i>Is that slipper?</i>

(2)

THS-8	<i>Ja, je wist het. [Mehmet abi bunu öğrenince] ehm en gülecek?</i>
THS-8[TL]	yes you know.PST.2PSg. Mehmet abi this-ACC. learn-CONV. and laugh.Fut.3PSg.
THS-8[Eng]	<i>Yes, you knew it. When Mehmet abi hears about it, he will enjoy it.</i>
THS-9	<i>Ja, ja ((laughs))</i>
THS-9[TL]	yes yes
THS-9[Eng]	<i>Yes! Yes!</i>

(3)

THS-9	<i>Kijk, kijk! bu kaart bitirince ehm en bunları alalım, OK?</i>
THS-9[TL]	look.IMP. look.IMP. this card.ACC. finish-CONV. and these take.OPT.3PPI. OK
THS-9[Eng]	<i>Yes, you knew it. When Mehmet abi hears about it, he will enjoy it.</i>

In this excerpt, score area 1 illustrated the converbial ending *-Inca* in the 2nd generation speaker data. Both the converbial construction, formed with temporal converbial ending *-Inca*, *Mehmet abi bunu öğrenince*, (When Mehmet abi hears about it) and the finite predicate *gülecek* (he will burst into laugh) indicated a number of deviations in terms of the syntagmatic relation between the converbial construction and finite predicate. It is evident that the topic of the utterance *Mehmet abi bunu öğrenince* (When Mehmet abi hears about it) opened a route for the linguistic act of laughing *gülecek* (he will burst into laugh). However, unlike the control data, in the 2nd generation bilingual data a deviation occurred in that the interlocutors made use of the Dutch conjunction *en* ‘and’ between the converbial construction and the superordinate clause, and thereby constructed and functioned like a pseudo-finite structure by inserting a conjunction which interlocked two finite constructions. By pseudo-finiteness we mean the non-finite characteristic of the converbial marker is weakened and functioned like an element used to form a finite structure. Conventional Turkish monolingual structures could be formed with a non-finite converbial clause *-Inca*, and finite superordinate clause as in 1(a) or it is also possible to connect two finite clauses with coordinating conjunctions as in 1(b):

1(a)	Mehmet abi	bu-nu	öğren- <i>ince</i>	gül-ecek.
	Mehmet brother	this-ACC.	learn-CONV.	laugh.FUT.3Sg.

‘Mehmet abi will burst into laughter when he learns about it’.

or

1(b)	Mehmet abi	bu-nu	öğren-ecek	ve (sonra)	gül-ecek.
	Mehmet brother	this-ACC.	learn-FUT.3Sg	and (then)	laugh.FUT.3Sg.

‘Mehmet abi will learn it and burst into laugh’.

In Dutch, however, the two finite clauses are connected with a conjunction as exemplified in (2):

- (2) Mehmet abi zal het leren en dan lachen.
 Mehmet brother will it learn and then laugh
 ‘Mehmet abi will learn it and then burst into laugh.’

Schema theory explains how linguistic structures are processed and produced based on cognitive templates formed through repeated exposure. In the provided examples, Turkish speakers use the converbial marker *-Ince* to create non-finite temporal clauses, as in “*Mehmet abi bunu öğrenince gülecek*” (‘When Mehmet abi learns this, he will laugh’), reflecting a well-established Turkish schema. Monolingual Turkish speakers also use conjunctions like *ve* (‘and’) to link finite clauses, as seen in “*Mehmet abi bunu öğrenecek ve gülecek*” (‘Mehmet abi will learn this and laugh’). However, bilingual Dutch-Turkish speakers blend schemas from both languages, producing hybrid structures like “*Mehmet abi bunu öğrenince ehm en gülecek*”, where the Dutch conjunction *en* (‘and’) is inserted into a Turkish converbial construction. This adaptation demonstrates how bilinguals integrate elements from a model language (Dutch) into a basic language (Turkish), reorganizing schemas to accommodate influences from both linguistic systems. These hybrid schemas highlight cognitive flexibility and serve as evidence of contact-induced language change. Overall, schema theory enhances our understanding of the CC by elucidating how and why certain linguistic elements are more readily integrated into another language. By considering the cognitive frameworks that guide speakers, we can better appreciate the dynamics of language contact and the factors that facilitate linguistic change.

2.3. Entrenchment and Conventionalization

Cognitive Linguistics emphasizes the concept of entrenchment, which refers to the process by which certain linguistic forms become deeply ingrained in a speaker's cognitive system through repeated usage. According to Bybee (2010), linguistic forms that are highly entrenched are accessed and processed more quickly, making them more stable and resistant to change. This phenomenon underscores the dynamic relationship between language use and cognitive processing, as frequently encountered forms gain a stronger foothold in an individual's linguistic repertoire.

In the context of language contact and Johanson's framework of CC, entrenchment significantly influences the interaction between a basic language (the recipient language) and a model language (the donor language). When speakers are exposed to elements from a model language, the degree of entrenchment of corresponding forms in their basic language can determine their susceptibility to copying. Highly entrenched forms in the basic language are less likely to be influenced by the model language, as speakers tend to default to familiar linguistic structures that are more easily accessed and processed. For instance, in a bilingual setting where English and Spanish coexist, a Spanish speaker might find it challenging to adopt new English constructions if they have deeply entrenched Spanish grammatical patterns.

Conversely, less entrenched forms in the basic language may be more susceptible to influence from the model language. If speakers encounter certain linguistic elements frequently in the model language, those elements can become integrated into their cognitive frameworks. This frequent exposure can lead to their entrenchment in the basic language, particularly if these forms fill a lexical or grammatical gap that was previously

less established. For example, the English word “selfie” has been rapidly adopted into various languages, including Spanish and Turkish. Initially, speakers might have been hesitant to use it due to entrenched terms for photographs; however, frequent exposure and use have led to “selfie” becoming a stable part of their lexicons.

Moreover, the process of copying elements from the model language can also contribute to the entrenchment of new linguistic structures within the basic language. As speakers incorporate these copied elements into their everyday communication, they reinforce their usage, making them more familiar and, therefore, more likely to become entrenched over time. For instance, the adoption of the phrase “to google” into languages around the world reflects how a once-external concept has become entrenched within various linguistic contexts as speakers regularly employ it in conversations about searching for information online.

In summary, entrenchment plays a crucial role in the dynamics of the CC by influencing which linguistic elements are adopted and integrated into a basic language. The interplay between entrenched forms and new influences from a model language shapes the evolution of linguistic features, leading to a richer understanding of how languages adapt and change in contact situations.

Conventionalization refers to the process by which linguistic forms and constructions become widely accepted and established within a language community. This phenomenon occurs as speakers repeatedly use specific expressions in particular contexts, leading to their normalization and integration into everyday language. Over time, these forms gain a sense of familiarity and stability, becoming conventionalized within the linguistic community. This process is often facilitated by social interaction, shared contexts, and the collective agreement of speakers on the meanings and usages of certain expressions.

In the context of the CC framework, conventionalization plays a significant role in how elements from a model language are integrated into a basic language. When linguistic features are copied from a model language, their acceptance and eventual conventionalization within the basic language depend on several factors, including the frequency of use, the context in which they are introduced, and their alignment with existing linguistic structures.

In the examples provided in the 2.2.1 section, the concepts of entrenchment and conventionalization shed light on the linguistic behaviors observed among monolingual and bilingual speakers. Entrenchment refers to how deeply ingrained certain linguistic forms are in a speaker’s cognitive system through repeated use, making them more stable and resistant to change. For instance, monolingual Turkish speakers consistently use the temporal converb *-Inca* in constructions like “*Mehmet abi bunu öğrenince gülecek*” (‘When Mehmet abi learns this, he will laugh’), reflecting a highly entrenched and conventionalized linguistic structure within Turkish. This stability prevents deviations, ensuring that the converb retains its non-finite role. In contrast, the bilingual Dutch-Turkish speakers show less entrenchment of *-Inca*, leading to unconventional constructions such as “*Mehmet abi bunu öğrenince ehm en gülecek*”. Here, the insertion of the Dutch conjunction *en* (‘and’) disrupts the conventional Turkish schema, creating a pseudo-finite structure. This deviation reflects weaker entrenchment of the Turkish converb and increased susceptibility to influence from Dutch, where finite clauses are typically linked by conjunctions. Repeated exposure to Dutch patterns facilitates their integration into the bilingual speakers’ repertoire, a process that may eventually lead to

the entrenchment of hybrid structures. This phenomenon also illustrates the role of conventionalization, as frequently used forms in bilingual speech communities can become normalized over time. If such hybrid constructions are repeatedly employed within the bilingual community, they may gain conventional status, reshaping the linguistic norms of the group. Thus, these examples highlight the dynamic interplay between entrenchment and conventionalization in shaping linguistic behavior, especially in contexts of language contact.

Furthermore, the degree to which copied elements align with existing cognitive schemas within the basic language can also influence their conventionalization. If the model language's features resonate well with the cognitive structures already present in the basic language, they are more likely to be adopted and become conventionalized. For example, the borrowing of specific vocabulary related to technology from English into many languages illustrates this concept. Lexical items like “internet” and “email” have become conventionalized across various languages, as they fit neatly into existing semantic and syntactic frameworks, making them easier for speakers to incorporate into their everyday language.

In summary, conventionalization is a critical process in understanding how copied linguistic elements are integrated into a basic language within Johanson’s framework. The interaction between copying, frequency of use, cognitive schemas, and social contexts plays a vital role in determining which elements become conventionalized.

Figure 2 illustrates a mind map highlighting the theoretical intersections between Johanson’s Code Copying framework and the core principles of Cognitive Linguistics, emphasizing their shared insights into language contact and cognitive processes.



Figure 2. A mind map displaying the theoretical intersections of Johanson’s Code Copying and the tenets of the Cognitive Linguistics

This mind map provides a detailed visualization of the theoretical intersections between Johanson’s Code Copying framework and Cognitive Linguistics, shedding light on how these frameworks complement one another in exploring language dynamics, particularly in multilingual contexts. The central theme focuses on how language contact and cognitive mechanisms interact, offering insights into how linguistic structures and elements are adapted and integrated through borrowing processes.

On the left side, the Cognitive Linguistics branch emphasizes the foundational ideas of the discipline. The theoretical basis underlines the deep connection between language and cognition, asserting that linguistic structures are grounded in general cognitive abilities such as perception, categorization, and memory. Key core principles explored include metaphor, image schemas, and conceptual blending, which highlight how meaning is central to language and shaped by mental processes. This branch also

discusses the influence of language on cognition, emphasizing how language reflects and shapes thought processes. For example, the usage-based model of Cognitive Linguistics posits that frequency of exposure to linguistic forms strengthens their entrenchment in cognitive systems, a principle that aligns closely with Johanson's frequential copying.

On the right side, Johanson's Code Copying framework offers a complementary perspective, rooted in sociolinguistics and focused on the mechanisms of language contact. The framework divides code copying into selective copying (borrowing specific linguistic features, such as phonological or morphological elements) and global copying (the wholesale adoption of broader linguistic patterns). These mechanisms operate within the broader sociolinguistic and cognitive landscape, emphasizing how speakers evaluate and integrate borrowed features. The key concepts of this framework include syntax, semantics, and their role in communication. The applications of Johanson's theory are far-reaching, influencing language teaching and learning strategies, especially in multilingual environments. However, the framework is not without its criticisms, as debates persist regarding its applicability in diverse linguistic contexts and its ability to account for the complexities of language contact phenomena.

At the bottom right, the intersections between the two frameworks highlight their shared insights. Both frameworks recognize the importance of frequency in language use: Johanson's concept of frequential copying parallels the usage-based approach in Cognitive Linguistics, emphasizing that repeated exposure to linguistic elements increases their likelihood of adoption. Furthermore, both frameworks address the role of cognitive compatibility, where borrowed elements must align with the cognitive schemas of speakers to be successfully integrated. The concept of entrenchment, central to Cognitive Linguistics, finds resonance in Johanson's work, as deeply entrenched patterns in the basic language can either resist or facilitate the adoption of copied features. The methodological approaches of both frameworks also converge, emphasizing the interplay between cognitive, social, and linguistic factors in shaping language contact outcomes.

This mind map underscores how Johanson's framework and Cognitive Linguistics together provide a holistic perspective on language contact. By incorporating concepts such as selective and global copying, frequential copying, and cognitive compatibility, the frameworks illuminate the intricate processes underlying language borrowing and adaptation. These processes are shaped not only by external linguistic factors but also by internal cognitive mechanisms and social dynamics. Together, they contribute to a nuanced understanding of how languages influence one another and evolve within multilingual settings. Through this integration, the frameworks offer valuable insights into the cognitive and social dimensions of language use, bridging the gap between linguistic theory and cognitive science. Figure 3 further illustrates the cognitive mechanisms underlying language copying by integrating Johanson's CC framework and Cognitive Linguistics, highlighting processes such as selective and global copying, frequency of use, and the entrenchment and conventionalization of linguistic elements.

UNRAVELING THE COGNITIVE MECHANISMS BEHIND COPYING: JOHANSON'S CODE COPYING AND COGNITIVE LINGUISTICS

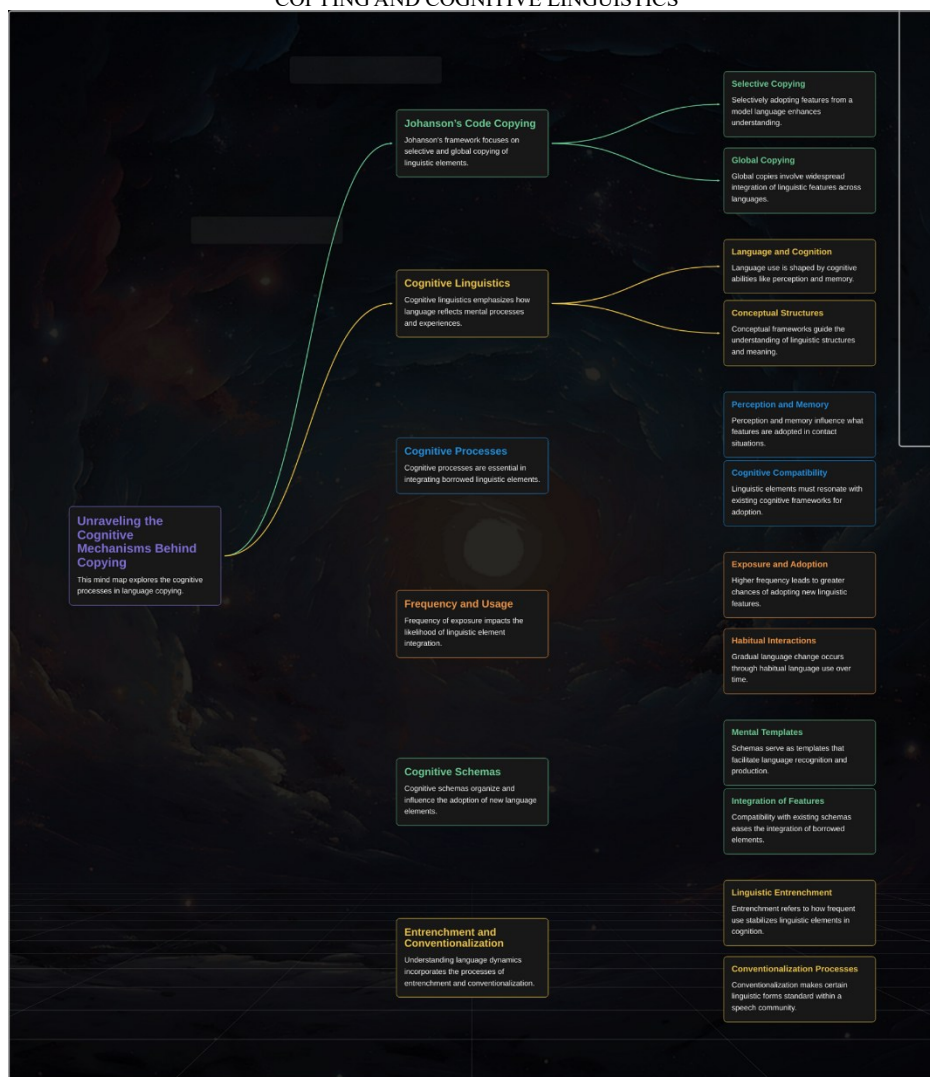


Figure 3. A mind map illustrating the cognitive mechanisms underlying language copying by integrating Johanson's Code Copying framework and Cognitive Linguistics

This mind map illustrates the cognitive mechanisms behind copying as framed by Johanson's Code Copying theory and Cognitive Linguistics, highlighting their interplay in multilingual contexts. At the core is the theme of language borrowing, driven by both linguistic and cognitive processes. On one branch, Johanson's Code Copying emphasizes selective and global copying. Selective copying involves adopting specific linguistic features, while global copying reflects a more comprehensive integration of linguistic systems across languages. These mechanisms showcase how languages influence one another during contact situations. The other primary branch delves into Cognitive Linguistics, which stresses the role of cognitive processes, such as perception, memory, and conceptual frameworks, in shaping language. It highlights the significance of

cognitive compatibility, where borrowed linguistic features must resonate with a language user's existing mental structures to be adopted effectively. Additionally, the frequency of exposure to linguistic elements, habitual interactions, and conventionalization processes contribute to the entrenchment and standardization of borrowed forms within a speech community.

Interlinked concepts include cognitive schemas, which guide how linguistic features are recognized, processed, and integrated. The mind map also emphasizes the importance of entrenchment, where frequently used linguistic forms become deeply embedded in cognition, and conventionalization, which standardizes these forms within the linguistic community. By combining Johanson's focus on language contact dynamics with Cognitive Linguistics' emphasis on cognitive processes, the map provides a comprehensive framework for understanding how language evolves and adapts in multilingual settings.

Conclusion and Discussion

The Code Copying framework and cognitive linguistics represent two significant paradigms in understanding language dynamics, particularly in multilingual contexts. While they stem from different disciplinary backgrounds—sociolinguistics for Johanson and cognitive science for cognitive linguistics—these frameworks converge on critical aspects that enhance our comprehension of how languages evolve, adapt, and influence one another through contact.

At the heart of both frameworks is the recognition of the cognitive processes that underlie language use. Cognitive linguistics emphasizes that language is not merely a set of abstract rules but is intrinsically linked to our mental processes and experiences. It posits that meaning is central to understanding linguistic structures, as linguistic knowledge is shaped by our cognitive abilities, such as perception, categorization, and memory (Langacker, 1987). This approach aligns well with the CC framework, which highlights the cognitive aspects of language contact, particularly in environments where speakers navigate multiple languages. Both frameworks underscore that linguistic elements are not simply adopted; they are integrated into existing cognitive schemas, making the borrowing process contingent upon the cognitive profiles of the speakers involved.

A key concept shared by both frameworks is the significance of frequency in language use. In cognitive linguistics, frequency of use plays a vital role in determining which linguistic forms become entrenched in a speaker's cognitive system (Bybee, 2010). The more frequently a linguistic item is encountered, the more likely it is to be integrated into the speaker's language repertoire. Johanson's concept of frequential copying mirrors this idea, emphasizing that the likelihood of adopting elements from a model language is directly related to the frequency of their exposure. This cognitive perspective highlights that language change is often a gradual process influenced by habitual interactions rather than abrupt shifts dictated by external rules.

Moreover, the role of cognitive schemas is pivotal in both frameworks. Cognitive linguistics posits that schemas serve as mental templates that organize linguistic information, allowing speakers to efficiently recognize, produce, and interpret language (Langacker, 1987). When elements from a model language are introduced, speakers are more inclined to adopt those that resonate with their pre-existing cognitive schemas. This alignment facilitates smoother integration into the basic language, as seen in examples

of lexical borrowing where borrowed terms are adapted to fit existing phonological and morphological structures. Johanson's framework benefits from this insight, as it elucidates how the cognitive readiness of speakers affects the integration of borrowed elements, further emphasizing the role of cognitive processing in language contact scenarios.

The concepts of entrenchment and conventionalization are also critical to understanding the dynamics of both frameworks. In cognitive linguistics, entrenchment refers to the process by which certain linguistic forms become deeply ingrained in a speaker's cognitive system through repeated use (Bybee, 2010). Highly entrenched forms are accessed more readily and are more stable against external influences. This notion is mirrored in Johanson's framework, where the degree of entrenchment of corresponding forms in a basic language determines their susceptibility to copying. For instance, in a bilingual context, speakers may be less likely to adopt new constructions from a model language if they have deeply entrenched patterns in their basic language. Conversely, less entrenched forms may be more susceptible to influence, allowing new elements to gain a foothold through frequent exposure.

Conventionalization, the process by which linguistic forms become widely accepted within a language community, further enriches our understanding of language contact. Cognitive linguistics suggests that repeated usage in specific contexts leads to the normalization of linguistic features, facilitating their acceptance and integration into everyday language. Johanson's framework incorporates this concept, highlighting how elements copied from a model language must undergo a similar process to become conventionalized within the basic language. Factors such as frequency of use and contextual alignment with existing linguistic structures play crucial roles in this process. For instance, the widespread adoption of technological vocabulary from English into other languages exemplifies how borrowed terms can become conventionalized through frequent exposure in contemporary contexts.

In addition to these cognitive and linguistic mechanisms, social factors significantly influence the interaction between the CC framework and cognitive linguistics. The social context in which language contact occurs can affect exposure to specific linguistic elements, shaping the frequency with which they are encountered. In tightly-knit communities where particular languages or dialects dominate, the likelihood of copying increases as speakers frequently interact within shared linguistic environments. Conversely, in more fragmented linguistic landscapes, the inconsistent exposure may diminish the chances of incorporating elements from one language into another. This sociolinguistic perspective complements the cognitive insights provided by both frameworks, illustrating that language change is not only a cognitive process but also a social one.

Furthermore, the conventionalization of borrowed elements can serve as a mechanism for identity negotiation among bilingual or multilingual speakers. As individuals navigate between languages, the integration and conventionalization of specific borrowed features may reflect their social positioning and cultural identity. This interplay underscores the significance of cognitive processes in shaping not only linguistic structures but also the sociocultural dynamics within multilingual communities.

Together, the CC framework and cognitive linguistics provide a comprehensive lens through which to examine the complexities of language contact and change. Their

intersection illuminates the dynamic interplay between cognitive processes and linguistic evolution, emphasizing the role of usage patterns, cognitive schemas, entrenchment, and social contexts in shaping the evolution of languages. As our world becomes increasingly interconnected, understanding these dynamics becomes essential for appreciating the nuances of linguistic diversity and the mechanisms that drive language change.

In conclusion, the synthesis of Johanson's framework with the principles of cognitive linguistics not only enhances our understanding of how languages influence one another but also offers a robust model for exploring the cognitive and social dimensions of language use. Integrating these perspectives can illuminate the ways in which speakers creatively adapt borrowed elements, reflecting the dynamic interplay between cognitive frameworks and linguistic structures. Ultimately, this endeavor not only enhances our grasp of the CC framework but also contributes to a broader understanding of language evolution in the context of social interaction and cognitive processing. Through this integrated approach, we can better appreciate the complexity of language contact phenomena and the ongoing evolution of linguistic systems in a multilingual world.

Kısaltmalar

CC: Code Copying
IPA: International Phonetic Alphabet

References

- Akkuş, M. (2019). A usage-based investigation of converbial constructions in heritage speakers' Turkish living in the Netherlands. *Unpublished PhD dissertation*. Middle East Technical University.
- Akkuş, M. (2022). Lexical copies in Khalaj: A contribution to the World Loanword Database (WOLD). *Turkic Languages*, 26, 31-52.
- Auer, P. (Ed.) (1998). *Code-Switching in conversation: language, interaction and identity*. London, New York: Routledge.
- Backus, A. (1996). *Two in one: bilingual speech of Turkish immigrants in the Netherlands*. Tilburg: Tilburg University Press.
- Bybee, J. (2010). *Language, usage and cognition*. Cambridge: Cambridge University Press.
- Croft, W. (2000). *Explaining language change: an evolutionary approach*. Harlow: Pearson Education.
- DeGraff, M. (2005). *Linguistics: language creation and language change*. Cambridge: Cambridge University Press.
- Demirçay, D. (2017). *Connected languages: effects of intensifying contact between Turkish and Dutch*. Utrecht: LOT.
- Friedman, V. A. (2011). The Balkan languages and Balkan linguistics. *Annual Review of Anthropology*, 40(1), 275-291.
- Gumperz, J. J. (1982). *Discourse strategies*. Cambridge: Cambridge University Press.
- Haspelmath, M. (2006). Against markedness (and what to replace it with). *Journal of Linguistics*, 42, 25-70.
- Holm, J. (2000). *An introduction to pidgins and creoles*. Cambridge: Cambridge University Press.

- Johanson, L. (2002). *Structural factors in Turkic language contacts*. London: Curzon.
- Johanson, L. (2023). *Code copying: the strength of languages in take-over and carry-over roles*. Brill.
- Keller, R. (1994). *On language change: The invisible hand in language*. London: Routledge.
- Kiral, F. (2001). *Das gesprochene Aserbaidshanisch von Iran: Eine Studie zu den syntaktischen Einflüssen des Persischen* (Turcologica 43). Wiesbaden: Otto Harrassowitz Verlag.
- Langacker, R.W. (1987). *Foundations of cognitive grammar: theoretical prerequisites volume I*. Stanford: Stanford University Press.
- Langacker, R.W. (1991). *Concept, image and symbol: the cognitive basis of grammar*. Berlin: Mouton de Gruyter.
- Matras, Y. (2009). *Language contact*. Cambridge: Cambridge University Press.
- Matras, Y. (2010). Contact, convergence, and typology. In R. Hickey (Ed.), *The handbook of language contact*, (pp. 66-85). Malden, MA: Blackwell Publishing.
- Matras, Y. & Bakker, P. (Eds.) (2003). *The mixed language debate: theoretical and empirical advances*. The Hague: De Gruyter Mouton.
- Muysken, P. (2000). *Bilingual speech: a typology of code-mixing* (Vol. 11). Cambridge: Cambridge University Press.
- Myers-Scotton, C. (2002). *Contact linguistics: bilingual encounters and grammatical outcomes*. New York: Oxford University Press.
- Ross, M. (2001). Contact-induced change in Oceanic languages in north-west Melanesia. In A. Y. Aikhenvald & R. M. W. Dixon (eds.), *Areal diffusion and genetic inheritance: problems in comparative linguistics*, (pp. 134-166). Oxford: Oxford University Press.
- Siemund, P. (2008). Language contact: constraints and common paths of contact-induced language change. In P. Siemund & N. Kintana (Eds.), *Language contact and contact languages* (pp. 3-11). Amsterdam: John Benjamins Publishing Company.
- Stolz, C., & Stolz, T. (1996). Funktionswortentlehnung in Mesoamerika Spanisch-amerindischer Sprachkontakt (Hispanoindiana II). *STUF-Language typology and universals*, 49(1), 86-123.
- Thomason, S.G. (2001). *Language contact*. Edinburgh: Edinburgh University Press.
- Tomasello, M. (2003). *Constructing a language: A usage-based theory of language acquisition*. Cambridge: Harvard University Press.
- Weinreich, U. (1964). *Languages in contact: findings and problems*. The Hague: Mouton [1953].
- Winford, D. (2003). *An introduction to contact linguistics*. Oxford: Blackwell Publishing.