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## MINOR SYNTAX AND CORPUS DATABASE IN ENGLISH AND UZBEK LANGUAGES: A COMPARATIVE AND COMPUTATIONAL ANALYSIS

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### Abstract

This scientific article presents an exhaustive comparative analysis of minor syntax—encompassing elliptical constructions, fragments, word-sentences (so'z-gap), parentheticals (kiritmalar), and formulaic expressions—within the English and Uzbek languages. While the history of linguistics has been dominated by "major syntax," the study of complete sentences governed by the subject-predicate dichotomy, this report argues that minor syntactic units constitute a foundational element of human communication, particularly in spoken and digital discourse. Integrating theoretical frameworks from generative grammar, functional linguistics, and the specific Uzbek theoretical school of Kichik sintaksis (Small Syntax), the research interrogates the structural and semantic divergences between the analytic nature of English and the agglutinative morphology of Uzbek. Furthermore, the study provides a detailed technical evaluation of corpus database development for both languages. It scrutinizes the architecture of the British National Corpus (BNC) as a benchmark and rigorously analyzes the ongoing construction of the Uzbek National Corpus (UNC), addressing specific challenges in metadata standardization (TEI), syntactic annotation (CoNLL-U/Universal Dependencies), and the development of specialized tagsets for non-sentential units. The findings demonstrate that while English minor syntax is primarily driven by syntactic deletion and pragmatic economy, Uzbek minor syntax is deeply rooted in morphological derivation, where the internal structure of the word functions as a syntactic engine. The article concludes by outlining the implications of these findings for computational linguistics, specifically the necessity for adaptive algorithms in Natural Language Processing (NLP) to accurately parse the "periphery" of language.

### Introduction

#### The Linguistic Problem of the Sentence

The architecture of human language has traditionally been mapped through the cartography of the sentence. From the logic-based grammars of Aristotle and the structuralism of Ferdinand de Saussure to the transformational rules of Noam Chomsky, the sentence (gap) has been posited as the primary unit of syntactic analysis. In this "Major Syntax," the sentence is defined as a complete thought, structurally anchored by a finite verb (the predicate) and a subject, operating within a system of recursive rules that allow for the generation of infinite novel utterances (Chomsky, 1957; Turobov, 2022). However, this sentence-centric view creates a theoretical blind spot. A vast proportion of actual human communication—ranging from the monosyllabic interjections of daily dialogue to the fragmented headers of news media and the formulaic proverbs of cultural transmission—does not adhere to the subject-predicate requirement. These phenomena occupy the domain of "Minor Syntax."

Minor syntax refers to linguistic constructions that function as independent communicative units but lack the full clausal structure of a major sentence. They are not merely "broken" or "incomplete" sentences; rather, they operate on distinct grammatical and pragmatic principles (Bekmurzayeva, 2024). In the context of English and Uzbek, two languages from vastly different typological families, the study of minor syntax offers a unique window into the cognitive and structural diversity of human language. English, an analytic Indo-

European language, relies heavily on word order and auxiliary verbs to maintain syntactic cohesion. Consequently, its minor syntax is often characterized by the deletion of these explicit markers (ellipsis). Uzbek, an agglutinative Turkic language, encodes complex syntactic relationships within the word structure itself through a rich system of affixes. This fundamental difference suggests that what is considered "minor" or "peripheral" in one language may be central to the grammatical system of the other.

### **The Rise of Corpus Linguistics**

The study of minor syntax has moved from the margins to the center of linguistic inquiry largely due to the advent of corpus linguistics. The ability to analyze millions of words of authentic text has revealed that non-sentential utterances are not anomalies but statistical norms in specific registers, such as spoken conversation and computer-mediated communication (CMC). For English, the British National Corpus (BNC) has provided a robust dataset for analyzing these patterns (Oxford University Computing Services, 2007). However, for the Uzbek language, the development of a national corpus is a burgeoning field fraught with technical and theoretical challenges.

The construction of the Uzbek National Corpus (UNC) requires not only the digitization of texts but the creation of sophisticated annotation schemes capable of handling the language's morphological density. The integration of international standards such as the Text Encoding Initiative (TEI) and Universal Dependencies (UD) is critical for making Uzbek data comparable on a global scale (Elov, 2025). This article aims to synthesize the theoretical study of minor syntax with the practical exigencies of corpus construction, exploring how linguistic theory informs the design of digital databases and, conversely, how corpus data reshapes our understanding of syntactic theory.

### **Theoretical Foundations: From Sentence to Word**

#### **Major vs. Minor Syntax: A Conceptual Dichotomy**

To understand minor syntax, one must first delineate the boundaries of major syntax. Major syntax is concerned with the arrangement of words into phrases and sentences that express complete propositions. It is governed by the rules of predication, where a subject (topic) is linked to a predicate (comment) to form a truth-conditional statement (Umirov, 2025). In contrast, minor syntax encompasses a heterogeneous collection of forms—interjections, vocatives, elliptical fragments, and formulaic expressions—that convey meaning without full predication.

Western linguistic tradition, heavily influenced by the written standard, has often treated minor syntax as "defective." Leonard Bloomfield, and later Charles Fries, categorized these as "non-communicative utterances" or "sentence substitutes," implying they were secondary to the "real" sentences of major syntax (Fries, 1952; Turobov, 2023). However, modern functional linguistics argues that minor syntax is primary in ontogeny (language acquisition) and phylogeny (language evolution). Children speak in holophrases (single-word sentences) long before they construct complex clauses, suggesting that the cognitive roots of minor syntax are deep and robust.

### **The Theory of Kichik Sintaksis (Small Syntax) in Uzbek**

A pivotal theoretical contribution to this field comes from Uzbek linguistics, specifically the theory of Kichik sintaksis (Small Syntax) developed by Abdurayim Turobov and others. While Western syntax often begins analysis at the level of the phrase (so'z birikmasi), Turobov argues that in agglutinative languages like Uzbek,

the "primary object of syntactic research" must be found within the word itself (Turobov, 2023).

In this framework, the word is not a static lexical item but a dynamic syntactic structure. The root (*asos*) serves as the base, while derivational formants (*yasovchi* formant) act as "operators" that determine the word's syntactic valency. Turobov posits that the derivational formant is the "absolute sovereign element" (*mutlaq hokim unsur*) of the word, functionally more significant than the root because it dictates how the word can interact with others (Turobov, 2023). Thus, *Kichik sintaksis* is the study of the internal morphology that enables external syntax. This blurs the traditional boundary between morphology and syntax, suggesting that "Large Syntax" (the sentence) is merely the projection of the relationships established within "Small Syntax" (the word).

### The Periphery and the Center

The concept of "periphery" is essential to understanding minor syntax. In generative grammar, the "Left Periphery" of the sentence (the CP domain) is the locus of discourse-related features such as Topic and Focus. Minor syntactic units like vocatives and interjections often inhabit this space. However, they are not merely "attached" to the sentence; they are integrated into the discourse structure (Gisconf, 2024).

In Uzbek, the periphery is highly structured. The use of parentheticals (*kiritmalar*) and forms of address (*murojaat shakllari*) is governed by strict sociolinguistic rules of *hurmat* (respect) and *andisha* (thoughtfulness). A failure to use the correct minor syntactic marker can render a grammatically correct sentence pragmatically unacceptable (Sayfullayeva et al., 2009). This highlights that minor syntax is the interface between the grammatical system and the social world.

### Typology of Minor Syntactic Units: A Comparative Analysis

#### Ellipsis: Structural Deletion vs. Morphological Sufficiency

Ellipsis, the omission of sentence elements recoverable from context, is the most studied form of minor syntax. However, the mechanisms of ellipsis reveal a profound typological divide between English and Uzbek.

English Ellipsis:

In English, ellipsis is primarily a syntactic operation involving the deletion of specific constituents. Common forms include:

- **Sluicing:** The omission of a clause following a *wh*-word (e.g., "Someone called, but I don't know who [called]").
- **VP-Ellipsis:** The omission of the verb phrase, leaving an auxiliary (e.g., "John might come, but Mary won't [come]").
- **Gapping:** The omission of the verb in conjoined clauses (e.g., "I ate fish, and Bill [ate] steak").

These operations rely heavily on the presence of auxiliary verbs (*do*, *be*, *have*, modals) to stand in for the missing content (Nasretdinova et al., 2024).

Uzbek Ellipsis (*To'liqsiz Gap*):

In Uzbek, the phenomenon is classified as *To'liqsiz gap* (incomplete sentence). Because Uzbek is a pro-drop language with rich verbal inflection, omitting the subject is not considered ellipsis in the same way. "*Maktabga bordim*" (Went-I to school) is a grammatically complete major sentence, not a minor one, because the suffix *-dim* encodes the subject "I" (Sayfullayeva et al., 2009).

True minor syntax in Uzbek ellipsis involves the omission of the predicate or obligatory complements, often in dialogic speech. For example:

- **Speaker A:** "*Qayerga?*" (To where?)

- **Speaker B:** "Uyga." (To home.)

Here, the predicate "ketyapsiz" (are you going) is omitted. Uzbek ellipsis is often driven by "veiling" (pardalash). Speakers may cut a sentence short to avoid expressing strong emotion or direct refusal, relying on the listener's cultural competence to fill in the silence. A phrase like "Men sizni..." (I... you...) can imply "I love you" or "I respect you," depending entirely on the non-verbal context (Gisconf, 2024).

**Table 1: Comparative Typology of Ellipsis**

Feature	English (Ellipsis)	Uzbek (To'liqsiz Gap)
<b>Primary Mechanism</b>	Syntactic Deletion (Auxiliary Retention)	Morphological Encoding & Predicate Omission
<b>Subject Omission</b>	Restricted (informal registers only)	Standard (Pro-drop via verb suffixes)
<b>Cultural Function</b>	Efficiency, Informality, Speed	Politeness, Emotional Restraint, Modesty
<b>Structural Constraint</b>	Requires antecedent auxiliary	Requires shared context/situation

### The Word-Sentence (So'z-gap)

The So'z-gap (Word-Sentence) is a unique category in Uzbek linguistics that challenges the Western definition of a "word." These are lexical units that function as complete sentences without entering into syntactic relationships with other words. They are immutable and syntactically independent (Sulaymonova, 2024).

In English, these are often categorized as interjections or particles (e.g., "Yes," "No," "Wow"). In Uzbek, they are treated as a distinct part of speech with sub-classifications:

1. **Modal Word-Sentences:** Expressing certainty or doubt (e.g., Ehtimol - Perhaps, Shubhasiz - Undoubtedly).
2. **Emotional Word-Sentences:** Expressing feelings (e.g., Ofarin - Bravo, Attang - What a pity).
3. **Imperative Word-Sentences:** Expressing commands (e.g., Jim - Silence, To'xta - Stop).
4. **Vocative Word-Sentences:** Forms of address that function as utterances (e.g., Oyi! - Mother!).

The theoretical significance of So'z-gap lies in its efficiency. It represents the ultimate condensation of syntax, where a single lexeme carries the illocutionary force of a complex proposition. In Uzbek dialogue, So'z-gap constitutes a significant portion of turn-taking moves, often used to signal agreement (Tasdiq) or denial (Inkor) without redundancy (Sulaymonova, 2024; Sayfullayeva et al., 2009).

### Parentheticals (Kiritmalar) and Discourse Markers

Parentheticals are minor syntactic units inserted into a host sentence to provide meta-commentary. In English, these include clauses like "I think," "as it were," or "frankly." Syntactically, they are often analyzed as "Comment Clauses" that are adjoined to the main tree (Quirk et al., 1985; Akhmanova, 2023).

In Uzbek, Kiritmalar (Introductory words/constructions) serve similar functions but are morphologically distinct. They are often case-marked nouns or fixed verb forms that have become grammaticalized. For example:

- Darvoqe (By the way)
- Afsuski (Unfortunately)

- Xullas (In short/Conclusion)

A key difference is the "Modalation" of finite verbs in Uzbek. A verb like *bilamiz* (we know) can function as a parenthetical *bilamizki* (as we know), losing its status as the main predicate and becoming a discourse marker. This process of *modallashuv* (modalization) is a form of minor syntax formation where a major syntactic unit (a verb) degrades into a minor one (a particle) (Nasretdinova et al., 2024).

### Formulaic Language and Paremiology

Proverbs (*Maqollar*) and idioms represent the "fossilized" strata of minor syntax. These are multi-word units that are stored and retrieved as single lexical items. In paremiology (the study of proverbs), minor syntax plays a crucial role in preserving archaic grammatical forms.

Uzbek Proverbs:

Uzbek proverbs often utilize parallel elliptical structures that are rarely found in standard speech.

- Example: "Ona yurtning – oltin beshiging" (Your motherland [is] your golden cradle).
- Analysis: The copula is omitted (Zero Copula), creating a nominal sentence structure typical of *Kichik sintaksis*. The parallelism aids memorization (Abdullaeva, 2020).

English Proverbs:

English proverbs also employ minor syntax, particularly the "The X, the Y" construction.

- Example: "The more, the merrier."
- Analysis: This is a fragment that functions as a complete sentence. It defies standard X-bar syntax, as it lacks a verb entirely, yet it is perfectly grammatical within the minor syntax system (Umirov, 2025). Comparative analysis reveals that while English formulaic language is often opaque (idioms like "kick the bucket"), Uzbek formulaic language is deeply embedded in the morphological system, with proverbs often functioning as complex *So'z-gap* in argumentation.

### Corpus Database: Architecture and Annotation

#### The Necessity of Corpora for Minor Syntax

Theoretical descriptions of minor syntax are often based on introspection or literary examples. To understand how these units function in reality, linguists rely on corpora. A corpus allows for the quantitative analysis of frequency, distribution, and collocation. For minor syntax, this is crucial because these forms are often context-dependent and register-specific (Abdusalomov, 2025).

#### The British National Corpus (BNC): A Benchmark

The British National Corpus (BNC) serves as a primary model for corpus construction. Comprising 100 million words of written and spoken English, it uses the TEI (Text Encoding Initiative) standard for metadata and the CLAWS4 tagger for part-of-speech annotation (Oxford University Computing Services, 2007).

Crucially, the BNC tagset (C5 and C7) includes specific tags for "interjections" (ITJ) and "unclassified items" (UNC), which capture much of minor syntax. The differentiation between "spoken" (demographic and context-governed) and "written" sections allows researchers to prove that minor syntax is overwhelmingly a feature of the spoken mode (Research in Corpus Linguistics, 2025).

#### The Uzbek National Corpus (UNC): Construction and Challenges

The development of the Uzbek National Corpus (UNC) represents a significant leap for Turkic computational linguistics. Led by researchers such as Elov, Mengliev, and Karimov, the UNC aims to create a 100+ million

word database that reflects the full stylistic range of the Uzbek language (Elov, 2025; Mengliev & Karimov, 2020).

Architecture:

The UNC adopts a modular microservices architecture, utilizing SQL Server for data storage and a web-based interface for user interaction. It includes modules for:

1. **Tokenization:** Breaking text into words.
2. **Lemmatization:** Reducing words to their root asos.
3. **POS Tagging:** Assigning grammatical categories.
4. **Syntactic Parsing:** Analyzing dependency relations (Elov, 2025).

Standards (TEI and CoNLL-U):

To ensure compatibility with global tools (like Sketch Engine), the UNC utilizes the TEI standard for document structure (marking paragraphs, sentences, headers) and the CoNLL-U format for syntactic annotation. CoNLL-U is particularly important for dependency parsing, as it allows for the representation of the non-projective dependency trees often found in Uzbek's free word order (TechScience, 2025; IEEE, 2023).

### Annotation of Minor Syntax in Uzbek

Annotating minor syntax in an agglutinative language is notoriously difficult. A standard “space-delimited” tokenizer fails to capture the internal syntax of the Uzbek word. For example, the word Kelolmaganliklaridan (“Because of the fact that they could not come”) contains modality, negation, tense, number, and case.

The Sharipov Tagset:

Recent research by Sharipov et al. (2022) has proposed a specialized tagset for Uzbek that bridges morphology and syntax. This tagset includes 14 syntactic tags designed to capture the relationships within and between words.

**Table 2: Proposed Syntactic Tagset for Uzbek Corpus (Sharipov et al., 2022)**

Tag Code	Syntactic Category	Description	Example
<b>EG</b>	Subject (Ega)	The agent or topic	Anvar (keldi)
<b>FK</b>	Verb Predicate (Fe'l Kesim)	The verbal action	(Anvar) keldi
<b>OK</b>	Noun Predicate (Ot Kesim)	Non-verbal predication	(Bu) shahar
<b>KR</b>	Entry Word (Kirish so'z)	Parentheticals	Afsuski (Unfortunately)
<b>UN</b>	Exclamation (Undalma)	Vocatives/Interjections	Anvar, (qaragin)
<b>VH</b>	Condition Modifier	Adverbial of condition	Shoshilib (keldi)
<b>PH</b>	Time Modifier (Payt holi)	Adverbial of time	Bugun (ketdi)

This tagset is revolutionary because it explicitly recognizes KR (Entry Words) and UN (Exclamations) as distinct syntactic categories, allowing for the automatic extraction of minor syntactic units from the corpus.

Previously, these might have been misclassified as adverbs or nouns, obscuring their discourse function (Sharipov et al., 2022; Arxiv, 2022).

### Parallel Corpus Issues

Constructing an Uzbek-English parallel corpus involves aligning sentences between the two languages. This process highlights the "mismatch" of minor syntax.

- **The Zero Copula Problem:** In Uzbek, "U talaba" (He [is] a student) is a complete sentence with a zero copula. In English, "He is a student" requires the verb "is." Automated aligners often fail to match these because the word counts differ significantly (TechScience, 2025).
- **Fragment Mismatch:** A So'z-gap in Uzbek (e.g., "Xo'sh?") might be translated as a full sentence in English ("What is happening?"), causing alignment algorithms to drift.

Research suggests that using "Search-based oracles" and transition systems for dependency parsing can improve the accuracy of these alignments by focusing on the deep syntactic structure rather than surface word counts (Elov, 2025).

### Computational Implications and NLP

The study of minor syntax has profound implications for Natural Language Processing (NLP). Most NLP models are trained on "Major Syntax" (news articles, encyclopedias). When faced with the minor syntax of social media or dialogue, these models often fail.

### Handling "Noise" vs. "Feature"

In traditional NLP, fragments and elliptical sentences are often treated as "noise" to be cleaned. However, for sentiment analysis or chatbot development, these minor units are the most information-rich features. An Uzbek sentiment analysis algorithm must recognize that the single word *Dahshat!* (Horror/Awesome!) functions as a high-intensity positive or negative polarity marker depending on context, effectively a So'z-gap (Suyunova et al., 2025).

### Morphological Disambiguation

For Uzbek, the challenge is morphological disambiguation. The suffix *-ma* can be a negation marker (verb) or a noun-forming suffix. A corpus-based morphological analyzer must use the surrounding syntax to determine the tag. If the word is a So'z-gap (e.g., a standalone command), the parser must recognize it as a root predicate, not a fragment of a larger missing sentence (Sharipov et al., 2022).

### Conclusion

This comprehensive analysis demonstrates that Minor Syntax is not merely a collection of peripheral anomalies but a fundamental component of the linguistic systems of both English and Uzbek. While Major Syntax provides the scaffold for logical propositions, Minor Syntax provides the connective tissue of social interaction, pragmatic efficiency, and cultural identity.

The comparative typology reveals a distinct dichotomy:

1. **English Minor Syntax is Subtractive:** It operates primarily through the deletion of elements (ellipsis, fragments) from a major sentence structure, relying on auxiliary verbs and word order to retain meaning.
2. **Uzbek Minor Syntax is Derivational and Morphological:** It operates through the internal structure of the word (*Kichik sintaksis*) and the use of specialized lexical categories (So'z-gap), where a single word

can carry the full weight of a sentence without the need for syntactic deletion.

The construction of the Uzbek National Corpus (UNC) is a critical step in formalizing the study of these units. By adopting global standards like TEI and CoNLL-U, and by developing indigenous tagsets (like the Sharipov 14-tag system) that respect the agglutinative nature of the language, Uzbek linguistics is bridging the gap between theoretical description and computational reality.

Future research must focus on the refinement of these computational tools. The "Zero Copula" problem and the automated recognition of So'z-gap remain significant hurdles for Machine Translation and AI. As the digital sphere becomes increasingly conversational, the mastery of minor syntax—the language of the "periphery"—will become the central challenge for the next generation of linguistic technology.

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