

# Cognitive Lexicography: Reimagining English Manner of Motion Verbs

Bilişsel Sözlük Bilim: İngilizce Devinim Fiillerinin Yeniden Düşünülmesi

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## Abstract

The present paper draws on cognitive lexicography, a relatively new amalgamation of lexicography and cognitive linguistics, to approach the curation of manner of motion verb entries in online bilingual Turkish-English dictionaries. Following Dalpanagiotti's methodology and analysis (651), the study adopts the following steps in creating an online dictionary entry, as used by Dalpanagiotti (651): (a) compile a pre-lexicographic database (Atkins and Rundell 100-101), (b) employ Corpus Pattern Analysis (Hanks 404), and (c) utilize Frame Semantics (Fillmore 373-400), the Conceptual Metaphor and Metonymy Theory (Lakoff and Johnson 12) and the Principled Polysemy approach (Evans and Green 342-352) to interpret the data for *glide*, a manner of motion verb. To this end, this paper is an attempt to improve bilingual dictionary entries for manner of motion verbs using cognitive lexicography and suggesting the use of GIFs to accommodate individual differences in language learning, to contribute to the Turkish lexicography literature by addressing the research gap, and lastly to contribute to the field of cognitive lexicography.

**Keywords:** Cognitive lexicography, motion verbs, online dictionary, cognitive linguistics

## Öz

Bu makale, çevrimiçi iki dilli Türkçe-İngilizce sözlüklerdeki devinim fiili girişlerinin biçiminin iyileştirilmesine yaklaşmak için, sözlükbilim ve bilişsel dilbilimin nispeten yeni bir karışımı olan bilişsel sözlükbilimden yararlanmaktadır. Dalpanagiotti'nin metodolojisi ve analizini (651) takiben, çalışma, Dalpanagiotti (651) tarafından kullanılan çevrimiçi bir sözlük girişi oluşturmada aşağıdaki adımları benimser: (a) sözlük öncesi bir veritabanı derlemeyi (Atkins ve Rundell 100-101), (b) Derlem Örüntü Analizini (Hanks 404) kullanır ve (c) Çerçeve Semantiğini (Fillmore 373-400), Kavramsal Metafor ve Metonim Teorisini (Lakoff ve Johnson 12) ve İlkeli Çokanlamlılık yaklaşımını (Evans ve Green 342-352) kullanarak İngilizce bir devinim fiili olan *glide* için verileri yorumlar. Bu amaçla, bilişsel sözlükbilimini kullanarak hareket fiillerinin tarzları için iki dilli sözlük girişlerini iyileştirme ve dil öğrenmedeki bireysel farklılıkları barındırmak için GIF'lerin kullanımını önerme girişimi olan bu çalışma, aynı zamanda Türk sözlükbilim literatürüne ve bilişsel sözlükbilim alanına katkı sağlamayı hedefler.

**Anahtar Kelimeler:** Devinim fiilleri, sözlükbilim, çevrimiçi sözlük, bilişsel sözlükbilim

## What is Cognitive Lexicography?

It is hard to imagine lexicography without the influence of linguistics. Nevertheless, why should we include yet another branch of linguistics in

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lexicography? The main reason is that a cognitive linguistics approach can improve certain processes of lexicography, especially with regard to typological differences across languages, one of which being addressed in this paper (i.e., how languages encode manner and path of motion). As Ostermann points out, cognitive lexicography can assist speakers and learners of a language with “the understanding of dictionary entries or definitions due to a faster activation of the underlying concepts” (67). Furthermore, cognitive linguistics assumes a rather individualistic understanding of semantic concepts in the human mind and that our linguistic-meaning-making processes cannot be separated from other parts of our cognitive processes (e.g., past experiences and previous exposure to a certain concept). In this vein, one may mention how language is an embodied experience, which is one of the central tenets in cognitive linguistics (Divjak 2019). To this, another important tenet of cognitive linguistics can be added. Namely, the salience of frequency (Divjak 130-131) and how it aids language learning. Frequency can aid lexicographers as to which sense of the word is used more frequently. This can help learners learn the language in a more authentic way. In other words, it makes more sense to include *to dust* in the sense of cleaning in an entry first and in the sense of covering a baked good with powdered sugar second if the cleaning sense is more frequently used. Clearly, use of frequency and corpora in lexicography is not something new or noteworthy. However, using corpora provides insight into the real-life usage data of a word. This paper follows Dalpanagioti’s methodology and analysis to propose a cognitively-oriented dictionary entry for *to glide* for Turkish speakers of English (651). In doing so, this approach will mitigate the adverse effects of the typological difference, which is discussed further below.

### ***Frame Semantics***

In addition to employing Pattern Dictionary of English<sup>1</sup> (PDEV) in the study, Frame Semantics, being a product of Frame Net (Fillmore 373-400), also provides lexicographers with tools to disambiguate the use of words from one another. The difference between the two is the fact that FrameNet focuses on the context in which the word is used and PDEV identifies the phraseological environment of the word (Hanks 729). Frame Semantics basically assumes that every word is connected to a semantic frame within which the word can be explained. These semantic frames consist of what is called frame elements (FEs). FEs include information on the detailed aspects of meaning and the syntactic behavior of words and hence Frame Semantics has been considered to be a vital tool by many corpus lexicographers (Atkins et al. 251–280). Furthermore, context-dependent semantic roles in FEs are connected to their syntactic roles which helps lexicographers identify valence patterns. Nevertheless, one criticism FrameNet has received over the years is the project’s methodology of randomized selection of FEs and lexical units (LU), following a top-down

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<sup>1</sup> This dictionary will help lexicographers identify and compare the usage patterns of a verb. In other words, it helps the lexicographer to start off of a base.

approach rather than a bottom up one (Johnson and Lenci 42). Therefore, as Dalpanagioti argues, combining the Corpus Pattern Analysis (CPA) approach with FrameNet is an important step in order to overcome this criticism and embody a bottom-up approach to profiling and analyzing the words (651).

### ***Metaphors and Metonymies***

It is important to outline where and how metaphor and metonymy join this approach. First proposed by Lakoff and Johnson (1980) in their book *Metaphors We Live By*, conceptual metaphor theory provided much of the evidence available in cognitive linguistics nowadays and proposes that metaphor itself “is not a stylistic nature of language” (Evans and Green 286). What metaphors do, however, is that they show how they can shed light into our “deep correspondences in the way our conceptual system is organized” (Evans and Green 303). To give an example with an implicit target domain, one can think of “I don’t see the main point of this paper” which assumes the fact that if one sees, they know (Gibbs 531).

Like metaphors, according to Croft (161-205) metonymy has been regarded as conceptual in its nature. Barcelona demonstrates and argues the plausibility of metonymy laying the foundation for metaphors and suggests “metonymy and metaphor should be regarded as two poles in a continuum, rather than as separate categories” (53). Evans and Green explain the two terms as follows: “While metaphor maps structure from one domain onto another, metonymy is a mapping operation that highlights one entity by referring to another entity within the same domain (or domain matrix)” (321).

In other words, the two terms can help lexicographers discover and pinpoint the real-life uses of a word more specifically “as they can show the relationship between multiple synchronic uses of a given form” (Dalpanagioti 651). With this in mind, it is safe to assume that the organization of central and peripheral meanings of a word is far from a randomized event, but rather aligned with systematic cognitive processes. As foreign language educators and lexicographers, it is salient to show learners the relationship between the uses of a word, specifically if that word is a conceptually perplexing one, like a manner of motion verb in English for Turkish learners of English.

### ***Principled Polysemy***

As all speakers are aware, polysemy in words is something speakers experience every day. To define and analyze the polysemy of a word in an “objective and verifiable” (Evans and Green 342) manner, Principled Polysemy is an approach proposed by Evans (33-75). The approach suggests that in order to identify the distinctive meanings, one needs to place the prototypical sense in the center and according to relatedness levels, place the distinctive meanings in the periphery (Evans and Green 342). A summary of how Principled Polysemy approach can be applied is summarized by Hanazaki (415-416). It is important to briefly mention that although this approach calls for both a synchronic and a diachronic analysis of the selected words, this study opts for a synchronic analysis due to word limitations. Nevertheless, the amalgamation of both analyses would

certainly provide more in-depth information for lexicographers and advanced learners of English.

### ***Manner of Motion Verbs and Cognitive Lexicography: The Convergence***

The connection between the previously mentioned approaches and the typological difference between Turkish and English lies within how the dictionary entries can be improved using cognitive lexicography to mitigate the adverse effects of the typological difference on the vocabulary size of L2 learners of English. If applied linguists in Turkey are trained within a cognitive lexicography frame, they can better account for the discrepancies that Turkish speakers of English encounter in their language learning journey.

The typological difference between Turkish and English has been pointed out repeatedly (Talmy 311-345; Özçalışkan and Slobin 259-270). Namely, English belongs to a group of languages called satellite languages and these languages are more prone to encode the manner of a verb into the verb itself and encode path (direction) information in particles/satellites (Talmy 2000). Turkish, on the other hand, has been identified as a verb-framed language, a group of languages that prefer the encoding of path information in the verb itself and provide the manner of the verb by means of further syntactic clauses (e.g., adverbials, converbials to name a few) (Özçalışkan and Slobin 269-270). This variation between the two has been shown to affect the mental lexicon of motion verbs in Turkish learners of English (Özçalışkan and Slobin 270). In other words, the typological difference between the two languages has been identified to influence mental conceptualizations of manner of motion verbs of English learners with a Turkish L1. The following sentences exemplify this difference:

(1) The rat ***scurried away*** when it saw the cat.

(2) Fare kediye görünce *hızlı ve küçük adımlarla* **oradan uzaklaştı**.

As seen in sentence (1), scurry away bears both the manner information (short and fast steps) and also the path information (away). In the Turkish translation of that sentence (2), the italicized section provides the manner, and the bold section provides the path information. To restate it, what one can encode in two words in English is encoded in almost five words in Turkish. What is of importance for applied linguists is how Turkish speakers of English might be at a disadvantage when it comes to English manner of motion verbs. Özçalışkan and Slobin (269) report that Turkish speakers of English are more likely to suffer from a restricted manner of motion lexicon compared to native speakers. If a student never came across the usage of scurry away in their learning material, it is likely that the student will use previous linguistic knowledge, that is how this sentence can be uttered in Turkish, to communicate their message. This, however, might result in cognitive overload and other discrepancies (Gedik 2020). Thus, this study seeks to offer a new way forward for Turkish-English bilingual dictionary compilers and teachers in regard to mitigating the detrimental effects of the typological difference explained by Özçalışkan and Slobin (2003).

## Procedure

The study analyzes the verb *glide* by utilizing the ukWaC corpus and following Dalpanagioti's methodology to compile an entry (650-653). The verb was selected via randomization from a curated list of English manner of motion verbs based on Levin's (111-137) and Talmy's study (311-345). The ukWaC corpus was chosen for this study as it is mostly based on the present-day use whereas the BNC was overlooked as it consists mostly of narrative fictions (Dalpanagioti 657; Ferraresi et al. 47-54). There were 4,640 occurrences of the verb. Throughout this section, the approaches explained in the above sections are applied to the corpus data, following Dalpanagioti's steps (650). In the following section, the study curates a pre-lexicographic database for the verb and then combines CPA and FrameNet to disambiguate the different senses of the verb. Then, the study reconfigures new definitions for the verb using the Conceptual Metaphor and Metonymy Theory and the Principled Polysemy and contrasts the use of the verb in the big four<sup>2</sup> dictionaries and a Turkish-English bilingual dictionary (namely the online versions of OALD, LDOCE, COBUILD, CALD, and Zargan Turkish-English Online Dictionary). As a final step, the curated definitions are translated into Turkish by keeping the same FEs to complete the online bilingual dictionary entry.

To this end, the same methodology can be applied to a Turkish corpus to exhaustively compile an online bilingual dictionary entry for the verb. Nevertheless, as of now, there are two reasons why the study opts out for translating the entries: (i) as Turkish and English differ from one another regarding the use of manner of motion verbs, it is difficult to capture all the verbs (and converbial/adverbial combinations) that Turkish employs across different semantic frames in a single study and (ii) Turkish learners of English already cognitively face issues with the manner of motion verbs in English. Therefore, explaining those verbs exhaustively should be prioritized if applied linguists wish to reduce the workload on the side of the English language teachers and ease the lives of the students.

## Getting Started with Creating an Entry

### *Dictionary Format: A Suggestion*

Kövecses (179) argues that “universal embodiment” of the metaphors and concepts are (re)configured by “the culture-specificity of local culture in the course of metaphorical conceptualization”. In other words, one should not overlook the contextual forces of speakers (e.g., culture, physical and social aspects) which may or may not reshape the universally acknowledged metaphors. In order to mitigate the contextual forces and to create a common ground for the users of the dictionary entries used here, this paper suggests using other semiotic sources (specifically GIFs) to help users embody the experience of a manner of motion verb which may not readily exist in their native language, Turkish. Furthermore, if one follows cognitive linguistics and

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<sup>2</sup> Due to space issues, only the big four MLDs were taken into account. However, a detailed analysis of other MLDs can also be considered in further research studies.

assumes that language learning is an individualistic process (Dąbrowska 2012), changing from one person to the other, lexicographers should be able to provide a common ground for learners. While Lew (290-306) discusses different ways of creating a multimodal dictionary definition using semiotic sources (e.g., animations, sounds and so on), no study to the researcher's knowledge has proposed using semiotic resources for manner of motion verbs in the literature. Therefore, the study, based on the assumption that an animation (a GIF) might help learners embody the core meaning of a manner of motion verb, suggests using GIFs and embodies the use of GIFs for the core meaning in English and Turkish entries. However, the effectiveness of GIFs should be further studied in future studies. To accommodate the use of GIFs, the dictionary entry needs to be online.

### ***Corpus Data and Word Sense Disambiguation***

Employing the Word Sketch feature of SketchEngine, it is possible to deduce preliminary assumptions about the pattern usage of *glide*. Word Sketches demonstrate that the verb is mostly succeeded by a prepositional phrase (e.g., *glide+through/over/into+NP*) or a particle (e.g., *glide+along/around/down*). Another contextual cue that helps lexicographers comprehend the basic senses of the verb is the information on adverbs. Word Sketches display that *glide* is usually surrounded by adverbs such as 'effortlessly, silently, smoothly' to name a few. One important thing to note is *glide* is also employed in non-motion based word senses (e.g., *you glide to a successful conclusion in a project*). Using these preliminary assumptions and remarks about the verb, the study uses a randomized sample of the corpus data (i.e., 80% of the corpus examples were analyzed).

As Atkins and Rundell (256) demonstrates in their analysis, each sense assigns a different FE to LUs. Therefore, table 1 demonstrates the assigning of semantic frames to corpus examples. According to FrameNet, *glide* only consists of the [Motion] semantic frame, however, in order to capture all the semantic frames the verb bears, the study applies a frame-semantic analysis of LUs to identify semantic frames that might be missing from FrameNet. While FrameNet only provides the user with [Motion], there are 4 other semantic frames captured in the study in the sample material. Using the Principled Polysemy approach, it is also possible to separate the figurative uses of the verb from the literal (see section 3 in table 1 for instance). Table 2, employing the Metaphor and Metonymy Theory, shows how the arbitrary arrangement of LUs and semantic frames correspond to one another. In other words, by identifying the relationship between the semantic frames and the motivation, the lexicographer can find out more in-depth information on the conceptual metaphors and metonymies of *glide*.

FrameNet, as mentioned before, only provides the [Motion] semantic frame which assumes the theme to be a "some entity" (FrameNet) or a theme. However, as seen in corpus attested examples down below, FrameNet's semantic framing of the verb falls short in capturing the use of *glide* in the [Self\_Motion] frame. According to this frame, "a living being" (FrameNet) is the

doer of the action. Despite this difference in framing, in table 2, both the [Motion] and [Self\_Motion] semantic frames are categorized within the same column as their core meaning is the same.

**Table 1**

<p><b>1. Semantic Frame: Motion</b>            Definition: "Some entity (Theme) starts out in one place (Source) and ends up in some other place (Goal), having covered some space between the two (Path). Alternatively, the Area or Direction in which the Theme moves or the Distance of the movement may be mentioned" (FrameNet, 2020).</p>
<p>(1) And the blue flood<sup>THEME</sup> is <b>gliding</b> by<sup>PATH</sup>, as bright as Hope's first smile.            (2) Instantly thereafter the mouth of the cave darkened and the fog<sup>THEME</sup> <b>glided</b> silently<sup>MANNER</sup> toward<sup>PATH</sup> them.            (3) Green fields of ripe mealies<sup>THEME</sup> <b>glided</b> by<sup>PATH</sup>.            (4) The curtains<sup>THEME</sup> would <b>glide</b> back<sup>GOAL</sup> to the whine of an electric motor.            (5) The camera<sup>THEME</sup> <b>glides</b> through<sup>PATH</sup> check-in and the departures lounge, lingering<sup>briefly</sup><sup>MANNER</sup> on stewardesses as they board the craft.            (6) Within minutes the convey<sup>THEME</sup> is on the move again <b>gliding</b> to a halt a hundred yards<sup>away</sup><sup>DISTANCE</sup> from the target location.            (7) The wolf confidently <b>glided</b> toward<sup>PATH</sup> him, his fangs bared, a low snarl in his throat.            (8) A dhow<sup>THEME</sup> <b>glided</b> silently<sup>MANNER</sup> past<sup>PATH</sup>, the beautiful asymmetry of her sail cutting through the sunset.</p>
<p><b>2. Semantic Frame: Self Motion</b>            Definition: "The Self_mover, a living being, moves under its own direction along a Path. Alternatively, or in addition to Path, an Area, Direction, Source, or Goal for the movement may be mentioned" (FrameNet, 2020).</p>
<p>(9) On the last day of sledging, we<sup>SELFMOVER</sup> <b>glided</b> as one.            (10) I finned as hard as I<sup>SELFMOVER</sup> could and <b>glided</b> closer<sup>DISTANCE</sup> to the ray<sup>GOAL</sup>.            (11) They were <b>gliding</b> slowly<sup>MANNER</sup> down<sup>PATH</sup> in a very uniform cluster.            (12) Stay low and <b>glide</b> gracefully<sup>MANNER</sup> through<sup>PATH</sup> the turns because you're in a race against the clock.</p>
<p><b>3. Semantic Frame: Self Motion (Figurative)</b></p>
<p>(13) It could be that you<sup>SELFMOVER</sup> <b>glide</b> to<sup>GOAL</sup> a successful conclusion in a project.            (14) The rumours<sup>THEME</sup> were ceaselessly<sup>MANNER</sup> <b>gliding</b> in<sup>GOAL</sup> and out<sup>SOURCE</sup> of the crowd, and mingling together in order to seduce you into bewilderment.            (15) I<sup>SELFMOVER</sup> <b>glide</b> through<sup>PATH</sup> my thoughts over<sup>AREA</sup> the pages without pausing to double-check or criticise overuse of similes.            (16) On stage the impact was perhaps even greater as the band<sup>SELFMOVER</sup> seemed to <b>glide</b> effortlessly<sup>MANNER</sup> through<sup>PATH</sup> the performance.            (17) It<sup>AGENT</sup> ultimately will let you<sup>THEME</sup> virtually <b>glide</b> through<sup>PATH</sup> a triathlon swim of any distance<sup>DISTANCE</sup>.            (18) Again the narrator is positive: "She was a worthy woman all her life" and he<sup>AGENT</sup> <b>glides</b> quickly<sup>MANNER</sup> over<sup>AREA</sup> the five husbands that later outlines in such detail in her prologue.</p>

<p>(19) Mike touched so many with his warm gentlemanly good humour and easy going manner, he<sup>AGENT</sup> effortlessly<sup>MANNER</sup> <b>glided</b> through<sup>PATH</sup> his many routines, as if he could do them for a hundred years.</p>
<p><b>4. Semantic Frame: Motion Directional</b>  Definition: "In this frame a Theme moves in a certain Direction which is often determined by gravity or other natural, physical forces. The Theme is not necessarily a self-mover" (FrameNet, 2020).</p>
<p>(20) This sack<sup>AGENT</sup> would let your hands<sup>THEME</sup> <b>glide</b> freely<sup>MANNER</sup> against<sup>DIRECTION</sup> each other without a great deal of friction.</p> <p>(21) Wind surfing is a thrilling blend of surfing and sailing as you<sup>THEME</sup> learn to <b>glide</b> across<sup>DIRECTION</sup> the water on a specially designed surfboard.</p> <p>(22) Its calm peaceful demeanour<sup>THEME</sup> invites you to just lazily <b>glide</b> around<sup>AREA</sup> in its soothing blackwaters and after.</p> <p>(23) I<sup>AGENT</sup> could balance on the board, pull up the sail and even <b>glide</b> a little<sup>DISTANCE</sup> out into the bay<sup>GOAL</sup>.</p> <p>(24) Not only does it mean you<sup>AGENT</sup> can <b>glide</b> around<sup>AREA</sup> the rink hand-in-hand, but skating along to some of the hottest tracks of the moment lightens the mood and ensures a buzzing atmosphere.</p>
<p><b>5. Semantic Frame: Motion Directional Figurative</b></p>
<p>(25) Time<sup>AGENT</sup> had <b>glided</b> on very happily<sup>MANNER</sup> till I was sixteen.</p> <p>(26) She<sup>AGENT</sup> <b>glides</b> through<sup>DIRECTION</sup> the day which begins at 8.30am in the gym.</p> <p>(27) But as we<sup>AGENT</sup> <b>glide</b> through<sup>DIRECTION</sup> to<sup>GOAL</sup> the 21st century, fully 'enlightened', such sentiments are shouted down as almost fascist.</p> <p>(28) The armorial sculptures over the portals of Ragdale Hall<sup>AGENT</sup> can with ease, in reverie, <b>glide</b> back to the days<sup>GOAL</sup> when Charles the First still spent his happy leisure at Hampton Court.</p> <p>(29) She<sup>AGENT</sup> might appear to be <b>gliding</b> through<sup>DIRECTION</sup> lives like a Society dame; but inside she was fiercely, creatively acting.</p>
<p><b>6. Semantic Frame: Speak on Topic</b>  Definition: "A Speaker addresses an Audience on a particular Topic. The Audience is generally passive, although for many types of address (including academic talks and press conferences), a discussion or question-answer period is virtually always required" (FrameNet, 2020).</p>
<p>(30) The talk fell, as it did often, on the exiles in France; so it<sup>AGENT</sup> <b>glided</b> to<sup>GOAL</sup> the matter of their songs.</p> <p>(31) They<sup>SPEAKER</sup> <b>glide</b> effortlessly<sup>MANNER</sup> onwards and upwards through<sup>PATH</sup> all the politics, the backstabbing, the system, the nonsense that goes on</p> <p>(32) Having said all that, if we<sup>SPEAKER</sup> <b>glide</b> over<sup>GOAL</sup> the last chapter of this book and the occasional infelicity of language, we can capture much more than what we know right now.</p> <p>(33) She<sup>SPEAKER</sup> then <b>glides</b> effortlessly<sup>MANNER</sup> into<sup>GOAL</sup> the real issues that affect elderly people and describes therapies such as touch, massage, aromatherapy and reflexology which may aid their treatment, self-esteem and well being</p>



Table 2

Semantic Frame	Corpus Examples	Metaphor <sup>3</sup> & Metonymy
<b>Motion</b>  <b>Self Motion</b>	A dhow <b>glided</b> silently past, the beautiful asymmetry of her sail cutting through the sunset. I finned as hard as I could and <b>glided</b> closeto the ray.	Meaning: to move with a smooth, quiet continuous motion.
<b>Self Motion (Figurative)</b>	It could be that you <b>glide</b> to a successful conclusion in a project.	Metaphor: Manner of action is manner of movement. Metonymy: Reach a desirable goal.
<b>Motion Directional</b>	This sack would let your hands <b>glide</b> freely against each other without a great deal of friction.	Metaphor: Action is motion.
<b>Motion Directional (Figurative)</b>	Time had <b>glided</b> on very happily till I was sixteen.	Metaphor: Time is a moving object.
<b>Speak on Topic</b>	They <b>glide</b> effortlessly onwards and upwards through all the politics, the back stabbing, the system, the nonsense that goes on.	Metaphor: Improving a state is a change of location. Metonymy: Discussion without aggression.

### *The Usage Pattern of Glide*

Table 3 is a collection of the usage patterns based on the corpus data. Although the syntactic pattern for each frame remains the same, the use of surrounding words renders each frame different from the other. To exemplify, as agents and themes change in different frames, the level of figurativeness of the prepositional phrase also changes (e.g., *she glides through the day which begins at 8.30am in the gym* or *it could be that you glide to a successful conclusion in a project*). Comparing table 3 and the pattern entries in the PDEV for *glide*, there seems to be an overlap between the two (visit <https://pdev.org.uk> for the pattern entries in the PDEV). While the PDEV distinguishes between inanimate objects (e.g., birds and planes), the analysis here combines all inanimate objects under one frame [Motion]. Another point is how the PDEV specifies a usage pattern for sounds. It can be combined within the frame [Motion] in table 3, even though the usage did not appear in the analyzed material in this study.

One thing that arises is how the semantic prosody of [Motion] and [Motion\_Directional] are the same. Semantically, FrameNet identifies [Motion\_Directional] as a movement “often determined by a natural force” (FrameNet). Therefore, based on this distinction, table 3 also distinguishes

<sup>3</sup> Metaphors were retrieved at <https://metaphor.icsi.berkeley.edu/pub/en/index.php/>  
Category:Metaphor

between the two frames, even if the usage pattern and the semantic prosody remain the same.

**Table 3**

LUs	Semantic Frame	Usage Pattern
A	<b>Motion</b>	<b>Mover:</b> inanimate entity <i>glide</i> +(Adverbial Phrase)+Prepositional Phrase <b>Semantic prosody implication:</b> the entity is capable of moving effortlessly without abruptness
B	<b>Self Motion</b>	<b>Self Mover:</b> human, a living being (less frequent) <i>glide</i> +(Adverbial Phrase)+Prepositional Phrase <b>Semantic prosody implication:</b> the human/living being is capable of moving effortlessly without abruptness.
C	<b>Self Motion Figurative</b>	<b>Self Mover:</b> human, inanimate entities (e.g., rumors) → not actual movement <i>glide</i> +(Adverbial Phrase)+Prepositional Phrase <b>Semantic prosody implication:</b> reaching a desired outcome/thing without much effort.
D	<b>Motion Directional</b>	<b>Mover:</b> human, inanimate entities <i>glide</i> +(Adverbial Phrase)+Prepositional Phrase <b>Semantic prosody implication:</b> the human/living being is capable of moving effortlessly without abruptness.
E	<b>Motion Directional Figurative</b>	<b>Mover:</b> human, inanimate entities → not actual movement <i>glide</i> +(Adverbial Phrase)+Prepositional Phrase <b>Phrasal verbs:</b> <i>glide</i> +on → continue <i>glide</i> +through → move in/through <b>Semantic prosody implication:</b> time passes by without much problem/effort/difficulty.
f	<b>Speak on Topic</b>	<b>Agent:</b> human <i>glide</i> +(Adverbial Phrase)+Prepositional Phrase <b>Semantic prosody implication:</b> move across ideas or concepts without effort/problem/difficulty.

### **Curating Definitions**

In this section, table 4 demonstrates the curated definitions. Then, these definitions are translated into Turkish with respect to senses and different semantic prosody implications available in table 3. What is of importance in creating these definitions is using words and structures that are easily understandable by low-proficiency learners. The same considerations apply to the translations as these definitions should be as accessible by a wide range of audience as possible. Therefore, the definition style of COBUILD, namely full-sentence definitions, is selected for both English and Turkish as it seems to be the most user-friendly out of the major monolingual learner's dictionaries (Andersen 565). Rundell (323-337) also claims that full-sentence definitions can

provide a better picture of the item(s) by using them in real-life contexts. Table 5 is a collective translation of these definitions.

**Table 4**

LUs	Definitions
In English <i>to glide</i> means:	
A	Something moves quietly without difficulty
B	Someone/something moves quietly without difficulty
C	Someone reaches their goal without difficulty
D	Something is moved by natural forces continuously
E	Someone moves through time without difficulty
F	Someone moves through ideas in their speech/thoughts without any problems

**Table 5**

LUs	Definitions
İngilizcede <i>süzülmek</i> şu anlamlara gelir:	
A	Herhangi bir şey sorun yaşamadan sessizce hareket eder
B	Herhangi biri/bir şey sorun yaşamadan sessizce hareket eder
C	Herhangi biri sorun yaşamadan ulaşmak istediğine ulaşır
D	Herhangi bir şey doğal güçler tarafından hareket ettirilir
E	Herhangi biri sorun yaşamadan zaman harcar
F	Herhangi biri konuşması sırasında veya düşüncelerini akıcı bir şekilde tecrübe eder

### ***Glide in Other Dictionaries***

In this section, dictionary entries curated here are cross checked with the previously mentioned dictionaries. Namely, these are the online versions of OALD, LDOCE, COBUILD, CALD, and Zargan Turkish-English Online Dictionary. Table 6 is a collection of the LUs and the usage pattern across the dictionaries.

All the dictionaries, except for Zargan, display the basic usage pattern for glide which overlaps with the information sketched in this study. However, most dictionaries ignore the following semantic frames: [Motion\_Directional], [Motion\_Directional\_Figurative], and [Speak\_on\_Topic]. What is important to note is that all dictionaries provide the definition for glide as a means of using an equipment *to fly effortlessly* in the air. While this was available in the corpus data in this study, it could be combined under the [Motion] and [Self\_Motion] frames. Therefore, the curated definitions already appeared to be inclusive of this. While all English dictionaries point out to the action being done effortlessly and quietly, Zargan also adds qualities such as “unnoticed” in LU (e).

As seen here, although it is easy to capture the most frequently used senses of a verb, most manner of motion verbs can be assumed to contain multiple semantic frames. Moreover, in order to identify and represent these usages, it seems as if using a more comprehensive approach (i.e. cognitive lexicography), like in this or previous studies, appears to yield more lexicographic information for both lexicographers to work with and students to acquire. This was also the case in Dalpanagioti's study (658) where the study uncovered that the usage information for the selected item was mostly missing.

**Table 6**

LUs	COBUILD	OALD	CALD	LDOCE	Zargan
<b>A</b>	+ intransitive (verb+prep/ adverb)	+ intransitive (+adv/prep)	+ intransitive (usually+adv/ prep)	-	+ No usage information
<b>B</b>	+ intransitive (verb+prep/ adverb)	+ intransitive (+adv/prep)	+ intransitive (usually+adv/ prep)	+ intransitive (always+adv/ prep)	+ No usage information
<b>C</b>	-	-	+ intransitive (usually+adv/ prep)	+ intransitive (always+adv/ prep)	-
<b>D</b>	-	-	-	-	-
<b>E</b>	-	-	-	-	+ No usage information
<b>F</b>	-	-	-	-	-

### ***Reimagining an Online Bilingual Dictionary Entry for glide***

Based on the analyses above, a cognitively oriented dictionary entry, and Dalpanagioti's proposed entry (659), the study proposes the following features for the entry:

- (i) the core semantic feature (*effortlessly/quietly/continuously/without difficulty*) is given in each subsection
- (ii) similar senses are grouped together
- (iii) no particular usage pattern is given as there is practically no difference in the way the verb collocates with prepositional phrases
- (iv) examples are taken from the corpus
- (v) Turkish equivalents are given in the right column
- (vi) to accommodate for individual cognitive instantiations, a GIF for the core meaning is provided.

While features (i), (ii), and (iv) overlap with Dalpanagioti's (659), (iii), (v), and (vi) diverge from theirs. These features and the design of the entry, however, is only preliminary. Their user-friendliness and actual aid in language learning

should be ideally tested in an English as a foreign language classroom to validate the robustness of the entry. Table 7 puts the entry for *glide* together.

**Table 7**

To glide	Süzülmek (her zaman süzülmek olarak çevrilmez) <sup>4</sup>
<b>English</b>	<b>Türkçe</b>
<p><b>a) Movement</b> If someone or something glides, they move effortlessly and quietly in space.</p> <p><u>Example:</u> The fog <b>glided</b> silently toward them. GIF: <a href="https://images.app.goo.gl/f5dFZLHfTofHp148A">https://images.app.goo.gl/f5dFZLHfTofHp148A</a></p> <p><b>b) reaching a desirable goal</b> If someone or something glides, they work toward a goal they want to achieve without difficulty.</p> <p><u>Example:</u> It could be that you <b>glide</b> to a successful conclusion in a project.</p> <p><b>c) movement by natural forces</b> If someone or something glides, they move continuously by a natural force (e.g., gravity or water).</p> <p><u>Example:</u> You learn to <b>glide</b> across the water on a specially designed surfboard.</p> <p><b>d) movement through time</b> If someone or something glides, they move through a period of time without difficulty.</p> <p><u>Example:</u> Time had <b>glided</b> on very happily till I was sixteen</p> <p><b>e) movement through concepts/ideas</b> If someone or something glides, they move through concepts and/or ideas without difficulty and smoothly in their speech or mind.</p> <p><u>Example:</u> They <b>glide</b> effortlessly onwards and upwards through all the politics</p>	<p><b>a) hareket</b> Eğer biri ya da bir şey süzülüyorsa, o boşlukta sessizce ve efor sarfetmeden hareket eder.</p> <p><u>Örnek:</u> Sis onlara doğru sessizce ve akarcasına hareket etti. GIF: <a href="https://images.app.goo.gl/f5dFZLHfTofHp148A">https://images.app.goo.gl/f5dFZLHfTofHp148A</a></p> <p><b>b) istenen bir amaca ulaşmak</b> Eğer biri ya da bir şey süzülüyorsa, o kişi/şey ulaşmak istediği amaca doğru sorun yaşamadan yaklaşır.</p> <p><u>Örnek:</u> Belki de projede artık güzel bir sona yaklaşıyorsunuzdur.</p> <p><b>c) doğal güçler tarafından hareket ettirilmek</b> Eğer biri ya da bir şey süzülüyorsa, o kişi/şey devamlı olarak doğal bir güç tarafından (mesela yerçekimi ya da su) hareket ettirilir.</p> <p><u>Örnek:</u> Suyun üzerinde kaymayı özel olarak dizaynedilmiş bir sörf tahtasında öğrenebilirsin.</p> <p><b>d) zaman içinde hareket etmek</b> Eğer biri ya da bir şey süzülüyorsa, o kişi/şey belirli bir zaman süresi içinde hareket eder.</p> <p><u>Örnek:</u> Ben onaltı yaşıma gelene dek zaman akıp geçmişti.</p> <p><b>e) fikirler/konseptler arasında geçiş yapmak</b> Eğer biri ya da bir şey süzülüyorsa, o kişi/şey konuşması sırasında ya da aklında takılmadan ve zorluk çekmeden fikirler/konseptler arasında geçiş yapar.</p> <p><u>Örnek:</u> Onlar siyasetin her alanı hakkında hiç sorun yaşamadan konuşurlar.</p>

<sup>4</sup> English translation: to glide is not always translated into Turkish as *süzülmek*.

## Conclusion

The study demonstrated, following Dalpanagioti's (650) methodology and analysis, how using a cognitive lexicographic to define an online Turkish-English bilingual dictionary entry for an English manner of motion verb can be carried out. By using this approach, a new set of semantic frames of the verbs can be captured where most monolingual dictionaries ignore them. Furthermore, by translating these previously unavailable new sets of semantic frames into Turkish, users can comprehend the manner of motion verbs in more detail and face less difficulty in meaning learning (see for instance the example sentence in the Turkish entry (d) and (e)). Furthermore, by using semiotic resources such as GIFs, lexicographers might help learners to ease their cognitive instantiations of the selected item. Such a proposal, if done for a multitude of English manner of motion verbs, can mitigate the adverse effects of the typological difference. Ideally, this might help both teachers and learners with word sense learning, which in turn might help learners to increase their motion lexicon. As mentioned before, the proposed online dictionary entry here is preliminary in terms of its design and should be tested for its validity and user-friendliness. However, the main promise of the entry is its cognitively oriented definition curation.

The study here has several limitations. Namely, these are: (i) the corpus used is limited, (ii) the Turkish entries are translated and not based on a corpus, and (iii) the use of GIFs (or other semiotic sources) and their efficiency in online dictionary entries is yet to be discovered. Future studies should take these into consideration and test the validity of such proposed dictionary entries in classrooms and test them for their meaning retention/acquisition efficiency levels.

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