A Contrastive Study on Motion Events:
Encoding Manner and Path Information in English and Turkish

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Abstract: Leonard Talmy's typology divides languages into two categories; satellite-framed and verb-framed languages. This paper, by focusing on the typological tendencies of the languages, examines English (s-framed language) and Turkish (v-framed language) motion verbs. The analysis is divided into four main questions which focus on the typology, manner encoding, and function of adverbs. Data, comprised of 360 motion verbs from ten novels in total, is analysed quantitatively to find an answer to the research questions. The results show that English and Turkish behave accordingly within the typology. However, the most significant finding is that Turkish can encode Manner information as much as English despite previous claims through alternative mediums, subordinated motion verbs, and adverbial expressions while employing the former more frequently.

Keywords: *Typology, Motion Events, Manner, Path, S-framed, V-framed*

Introduction

Cognitive Linguistics encompasses areas like the domain of space and expression of motion events by focusing on cognitive abilities and conceptualisation. According to Leonard Talmy's typology, which divides languages into two categories depending on their lexicalization patterns, satellite-framed languages encode manner inside the verb whereas path is conveyed through "satellites" (*Toward a Cognitive Semantics*; "Lexicalization Patterns" 57-149; Ibarretxe-Antuñano 325-47). In verb-framed languages, on the other hand, the path is usually integrated into the verb, and consequently, many verbs include direction within. Manner, however, is either omitted altogether or included in the sentences through verbals or adverbs. This lack of manner information in verb-framed languages has prompted researchers to question cognitive differences among speakers in terms of conceptualising motion events and led to the possibility of "cognitive deficiency" for speakers of verb-framed languages. Most of the studies have heavily relied on the comparison between languages of different categories including Finnish, Spanish, Chinese, and many more (Choi and Bowerman 83-121; Naigles, et al. 521-49; Slobin 219-57; Pasanen and Pakkala-Weckström 311-31; Chen and Guo 1749-66; Lester 617-40). As in other languages, there has been plenty of research done on Turkish regarding the typology on the topics ranging from language acquisition to the relationship between speech and gesture (Kita and Özyürek 16-32; Slobin and Özçalışkan 259-70; Babanoğlu 221-8). This paper, by focusing on the typological tendencies of the languages, examines English (satellite-framed language) and Turkish (verb-framed language) motion verbs. The analysis is divided into four main questions depending on the previous research on the topic: "Depending on the typology, is there a tendency in English to encode manner in the verb whereas Turkish encodes path?"; "Does English has more manner verbs compared to Turkish?"; "Can Turkish compete with English in terms of manner encoding?"; and "Do adverbs have different functions in two languages?". Data, comprised of 360 motion verbs which are taken from ten novels in total, is analysed quantitatively to find an answer to these questions. The results show that English and Turkish behave accordingly within the typology. However, the most significant finding is that, depending on the percentages, Turkish can encode Manner information as much as English despite previous claims through alternative mediums, subordinated motion verbs, and adverbial expressions while employing the former more frequently (Özçalışkan and Slobin 259-70). It

suggests that Turkish speakers may not necessarily fall behind speakers of English in terms of conceptualising motion events.

Data and Method

Five novels for each language are chosen for the analysis[1] and along with the respective translations, twenty novels are used in total. Since the number of Turkish novels that are translated into English is fairly limited, only the novels of well-known Turkish writers are selected[2]. In addition, English novels are not selected based on a certain variety of English as they include works from American and English writers. The previous research on the subject has not made such a distinction, consequently, this study also utilises any English novel regardless of its dialect. Nevertheless, they do not impose a problem for the research as it focuses on the inherent qualities of these languages. Therefore, even though some authors might include fewer motion verbs compared to others[3], they cannot alter the internal structure of the language[4]. 36 motion verbs are obtained from each novel and listed in an Excel sheet along with their translations. For a comprehensive representation of the novels, those 36 examples are chosen in a specific order. The page numbers of the novels are expectedly not equal; therefore, those of each novel are divided by 36 which allows calculating how many pages should be skipped. In the final results, for English, 326 motion verbs out of 360, and 350 examples for Turkish are taken for evaluation. The discrepancy results from the differences in the translation. In some cases, the sentence is either omitted altogether from the translation, or it is formed with a non-motion verb. As a result, it has created a gap between the numbers of motion verbs obtained for each language. Nonetheless, this gap does not cause a problem for overall results and comparison since they are evaluated on a percentage scale.

The span of motion verbs is understandably vast as there are many different kinds of motion verbs. As a result, a certain elimination process is necessary to narrow down the spectrum of motion verbs for the research. Only the motion verbs which are regarded as "pure motion" events are selected. The term "pure motion" specifies motion solely as a "change of location" between two points. As a result, some motion verbs are excluded from this research. They are outlined in six categories; caused-motion, transformation, phrasal and partial movement verbs, idioms, and any motion verb used figuratively in the broader sense (Caused-motion: *push, pull*; verbs denoting transformation: *shrink, stretch;* partial movement verbs: *jerk*; Phrasal verbs: *get back;* Idioms: *hit the road, run around in circles;* Any motion verb used figuratively: *run into trouble*).

Turkish has posed various difficulties for the research. One of the most challenging problems has occurred around the multiple meanings surrounding the same verb. In Turkish, some verbs might carry multiple meanings, like *dönmek* which can mean "come back", "circle", "turn around" and "roll over". In this situation,

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[1] English novels: J.K. Rowling, *Harry Potter and the Chamber of Secrets/Harry Potter ve Sırlar Odası* (1998); William Golding, *Lord of the Flies/Sineklerin Tanrısı* (1954); J. D. Salinger, *The Catcher in the Rye/Çavdar Tarlasında Çocuklar* (1951); George Orwell, *Animal Farm/Hayvan Çiftliği* (1945); Ernest Hemingway, *For Whom the Bell Tolls/Çanlar Kimin için Çalıyor* (1941).
Turkish novels: Sabahattin Ali, *Kürk Mantolu Madonna/Madonna in a Fur Coat* (1943); Orhan Kemal, *Cemile/Cemile* (1952); Orhan Pamuk, *Kara Kitap/The Black Book* (1990), *Masumiyet Müzesi/The Museum of Innocence* (2008); Ahmet Ümit, *Bab-ı Esrar/The Dervish Gate* (2008).
[2] The availability of good translations of these novels was an important factor in the selection process.
[3] This is mostly caused by the plot of the novel. Novels like *Harry Potter* would obviously contain more motion events compared to *Kürk Mantolu Madonna* (*Madonna in a Fur Coat*) as the latter is centred on the emotions of the protagonist while the former is full of action.
[4] The word *girmek* "to go in" will inherently assume Path information just like *zıplamak* "to jump" will convey Manner information. The only way a writer can alter this situation is if they coin a term or a new word themselves. But this is not observed in these novels.

they are analysed depending on the meaning that is used in the sentence. As a result, their categories might change in the Excel sheets. For example, when the verb is used in the meaning of "come back", it is listed under the category of path verbs whereas, in the case of "roll over" or "circle", it is regarded as a manner verb. There are a couple of instances where such differentiation occurs for the same verb. As a result, they are categorised based on the meaning and included accordingly in the overall results. Another problematic issue concerns a particular verb structure in the language. There are some verbs in Turkish which have the structure of "noun+verb" and they are regarded as individual verbs. For example, *adım atmak* "step" constitutes two parts a*dım* and *atmak*. The former one is a noun meaning "step" and when combined with the latter one, the noun is transformed into a verb meaning "take a step" or "step" in short. There are other examples in the data like *gezinti yapmak* "stroll", and *takip etmek* "follow" as this structure has been quite frequently used in the novels. It is similar to the problem encountered in the case of the constructions "whistle into the room" in English since the main verbs in this construction are not motion verbs as well. Notwithstanding, in this case, this structure is included in the data as they are regarded as individual verbs that can be found in dictionaries. Although verbs in these structures might not be motion verbs themselves as in the case of *yapmak* "do" and *etmek* "make", they have transformed into motion verbs when combined with those nouns. Furthermore, they are crucial to the language unlike those constructions in English.

Adverbs and adverbial expressions play a crucial role in this research, and they will be immensely used to find an answer to one of the research questions. Therefore, they have also been subject to a degree of elimination to reach precise results. They are frequently incorporated in both Turkish and English novels, and they mostly accompany manner verbs or themselves add Manner information into sentences. However, it is crucial to determine whether they directly affect the main verb, in other words, whether they encode Manner information as a complementary to manner verbs or compensate for Manner information in sentences with non-manner verbs. There are quite a few examples in the data where a specific adverb is employed in the sentence; however, it does not convey Manner information which mostly occurs in the sentences with path and neutral verbs. To clarify which adverbs and adverbial expressions are included or excluded, two examples obtained from *Bab-ı Esrar* (*the Dervish Gate*) by Ahmet Ümit are given below:

(1) Bir süre sokaklar-da   amaçsız-ca   dolaş-tım. (332)
    One time streets-LOC   aimless- ADV   wander-PAST.1SG
              PATH
    'I walked around the streets aimlessly for a while.'
(2) Korkuyla   geri   çekil-dim. (115)
    Fear-WITH back retreat-PAST.1SG
    MANNER PATH
    'I stepped back, startled.'

Both adverbs accompany non-manner verbs in the examples above; however, they differ in their effect on the main verb. In (1), the adverb *amaçsızca*[5] "aimlessly" does not encode Manner information as it only reflects that there is no specific direction for the motion of "walking". On the other hand, the adverb *korkuyla* "startled" in (2), affects the main verb and incorporates Manner information in the sentence. As a result, adverbs or adverbial expressions like in the example of (2) are included in the data whereas those of (1), which do not convey Manner information, are omitted since the focus is not on adverbs in general, but rather on their effect, Manner information, on the main verbs.

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[5] This word can also be translated as "without purpose". However, it does not suggest an inherent "manner" information inside the adverb as when picturing a person walking without purpose, it is assumed that the person does not have a specific "direction". This is, of course, open to discussion. More feedback on this word from Turkish native speakers would aid in revealing the underlying meaning.

After excluding the aforementioned verbs and adverbs, all the remaining examples are lined in an Excel sheet along with their translations. The exact numbers of path, manner, neutral verbs, as well as path and manner information in the sentences, are calculated to convert the numbers into percentages for the analysis.

Findings

Path and Manner Encoding in Turkish and English

The first research question focuses on the basic features of the typology which are previously outlined. This part examines other researchers' common claims on the typology summarised as; verb-framed languages reserve the main verb to encode Path information whereas satellite-framed languages convey this information outside the main verb through other mediums like satellites. In contrast, satellite-framed languages convey Manner information in the main verb. Talmy has two perspectives for analysing data (Ibarretxe-Antuñano 325–47), however, since the claims are centred on the main verb to reveal which particular semantic component is encoded in the verb, the data for this research will also be analysed in this light. Motion verbs in both languages are examined to show which semantic component occurs in the main verb as to find an answer to the research question and reveal any tendency if there is one. The number of manner, path, and neutral verbs used as the main verb in English and Turkish is outlined in Table 1 below.

	ENGLISH	TURKISH
Total number of MVs	326	350
Manner verbs	157 (48.1%)	110 (31.4%)
Path verbs	26 (7.9%)	141 (40.2%)
Neutral verbs	143 (43.8%)	99 (28.2%)

Table 1: The total number of motion verbs and their distribution

The table only shows the path, manner, and neutral verbs in all of the examples. Looking at the distribution of motion verbs in English, it is shown in the table that manner verbs have the highest percentage, 48.1%, which is almost half of the overall result. It is followed by neutral verbs, 43.8%, and lastly path verbs which only make up 7.9% of all motion verbs. The most significant and revealing result in Table 1 is the percentage of path verbs in English. It can be seen that only 26 verbs out of 326 are path verbs and the number is fairly low considering the total number of motion verbs selected. It has been argued in the previous sections that in English, or satellite-framed languages in general, Manner information is encoded in the main verb whereas Path information is conveyed through other mediums which entail that the percentage of path verb will be fairly low while manner verbs constitute the majority of motion verbs. The findings seem to support the claims by showing the great discrepancy, 40%, between the percentages of path and manner verbs. Hence, the English data obtained for this research are in accordance with the general claims in terms of path and manner verbs.

On the other hand, the most unexpected result in the English data is the percentage of neutral verbs which is fairly close to that of manner verbs. Neutral verbs convey neither Path nor Manner information and

considering the tendency of incorporating manner verbs in the English language in case of a motion event and lack of path verbs in the lexicon, the numbers show that Manner information might also be conveyed outside the main verb as well as Path information depending on the high percentage of neutral verbs that are employed in the English data. It can be derived from the results that neutral verbs create an irrefutable alternative to manner verbs. Motion verbs are more evenly distributed among categories in the Turkish data as the percentages are relatively closer to one another compared to English.

Verb-framed languages, as opposed to s-framed languages, are claimed to encode Path information in the main verb by using other mediums for Manner information. As a result, the percentage of path verbs is expected to be higher than that of manner verbs. The table shows that results seem to support the claims since the main slot/verb is mostly reserved for path verbs in Turkish. The highest percentage, 40.2%, belongs to path verbs and compared to that of English, 7.9%, it can be seen that the usage of path verbs dramatically increases in Turkish. The percentage of manner verbs, 31.4%, is expectedly lower than that of path verbs. It shows that Turkish prefers path verbs; however, the percentage of manner verbs is also quite high and the difference between the categories is only 9% which is more distinctive in English with 40%. Neutral verbs are also frequently employed in Turkish as in English. However, more neutral verbs are incorporated in the English data by creating a 15% discrepancy between languages. This might result from the fact that Turkish employs more path verbs compared to English; therefore, the frequency of occurrence of neutral verbs decreases. Preference of path verbs in Turkish entails that Manner information is conveyed through other mediums like adverbial expressions and subordinated motion verbs and as a result, they are expected to accompany path and neutral verbs in most cases since manner verbs are not preferred. As a result, percentages of the path and neutral verbs are expected to be higher than that of manner verbs. Although percentages of manner and neutral verbs are fairly close to each other, manner verbs are employed more often which is not expected according to the general claims on v-framed languages. To summarize the results in Table 1, it can be inferred from the English data that it certainly employs a limited number of path verbs and there might be alternative ways to encode Manner information other than manner verbs considering the percentage of neutral verbs. On the other hand, the distribution of the motion verbs suggests that Turkish uses a more varied and complex system for encoding information in the main slot which prevents from making clear assumptions about the preference of the information encoded in the main verb. Although the results show a higher percentage for path verbs, Turkish data do not give distinctive results as in English.

Since English has a limited repertoire for path verbs, it is crucial to unravel through which mediums Path information is conveyed. Table 1 is not suitable for such research as it is devoid of essential numbers reflecting Path information in English and Turkish. Table 2, presented below, is created to provide an answer to the question; "Where does English encode Path information?" Table 2 only includes percentages for English excluding Turkish as alternative means for encoding Path information are more frequently used in satellite-framed languages due to the limited number of path verbs in the lexicon.

	Path information in English
Satellites[6]	275 (90.1%)
Other	30 (9.8%)
Total number	305

Table 2: Means for encoding Path information in English

The left of the table shows the categories through which English encodes Path information, Satellites, and Other respectively. The "Other" category contains noun phrases and path verbs, basically components that are excluded from the "Satellites" category. The last part in the left column presents the total number of times in which Path information is conveyed in the sentence. The percentages shown in the table are calculated according to the total number. The right column shows the figures for "Satellites", "Other" and the total number. Percentages and the exact numbers are combined. It can be inferred from the table that English heavily relies on satellites to encode Path information as it comprises 90% of the overall results whereas Path verbs combined with noun phrases only make up 9-10%. These results along with Table 1 support the idea that Path verbs are not favoured in the main slot in satellite-framed languages and Path information is mainly conveyed through satellites in English.

Diversity of Manner Lexicon

Preference of manner verbs in satellite-framed languages might result in a wider lexicon of manner verbs which is also claimed by other researchers. For that reason, manner verbs are listed, which is presented below, and counted to examine whether satellite-framed languages have a more diverse lexicon of manner verbs compared to verb-framed languages.

English: lurch, file, spring, skip, gambol, tiptoe, climb, troop, march, rush, stroll, dash, race, bound, hurl, limp, prance, creep, jump, run, barge, fly, skate, roll, plunge, crawl, swing, circle, slip, waddle, stumble, fling, dart, strut, zigzag, scurry, speed, stream, traipse, scramble, bustle, glide, sprint, hurry, leap, wade, stride, sweep, dive, slouch, cramble, hasten, trot, tumble, slide, float, drive, back, sneak, slither, stomp, pace, pounce, buzz, scatter, mingle, sidle, drift, saunter, disperse, hop, ride, scamper, besiege (74 types).

Turkish[7]: *fırlamak* "leap", *sıçramak* "spring", *hoplamak* "prance", *zıplamak* "jump", *tırmanmak* "climb", *doluşmak* "swarm", *koşuşturmak* "running in a haphazard manner", *dalmak* "dive" and "barge", *atılmak* "dart", *dönenmek* "circling in a continuous manner", *dönmek* "circle", *koşmak* "run", *paten kaymak* "skate", *atmak (bir yerden atmak)* "throw oneself", *yan dönmek* "roll over to one"s side", *yuvarlanmak* "roll", *havalanmak* "fly", *atlamak(bir şeyin üzerine)* "hop", *kaçmak* "flee", *kaymak* "slide", *sendelemek* "lurch", *fırlatmak(kendini)* "throw oneself", *sürünmek* "crawl", *uçmak* "fly", *dalışa geçmek* "dive", *takla atmak* "tumble", *süzülmek* "glide" and

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[6] Satellite refers to those constituents accompanying the verb root and it creates a category encompassing all the different particles and prefixes existing in other languages (except for nouns).
[7] Some Turkish verbs have multiple meanings; therefore, only the meanings encoding manner information are outlined in this list to avoid confusion.

"creep", *sokulmak* "sidle", *sıyrılmak* "elude", *savuşmak* "slip", *devrilmek(yatağa)* "tumble down", *dağılmak* "scatter", *adım açmak* "speed", *karışmak* "blend" and "slip in", *kıvrılmak* "curve", *sıvışmak* "slip", *üşüşmek* "swarm" (37 types).

Two lists indicate the total number of manner verbs used in both languages, and it is reflected in the lists that English uses 74 manner verbs whereas Turkish data precisely incorporates half of the number of manner verbs in English which counts up to 37 verbs in total. Results are striking as there is a significant discrepancy between the numbers which reflect the diversity of manner lexicon in English compared to Turkish data. In Turkish, variations of the same verb can be easily created by adding suffixes to the verb root since it is an agglutinative language. There are a couple of examples for those variations in the data like *dönmek-dönenmek* and *koşmak-koşuşturmak.* In the first example, the suffix "-en" is incorporated in between the root and "-mek" (infinitive) and it adds extra Manner information to the verb. This variation of *dönmek* exists in some regional dialects, and it is not widely used as the original verb. The latter example includes two separate suffixes, "-uş" and "-tur", after the verb root. They are combined in this case; however, they can also be used separately as *koşturmak* and *koşuşmak* which shows that three different variations in total can be created from the verb *koşmak.* Those suffixes carry similar meanings, and like in the first example, they contribute to the verb with extra Manner information. These examples reflect how different the nature of English and Turkish. The latter uses basic manner verbs which are less in number and less varied compared to those in English; however, the number can be expanded with suffixes by creating variations like in the examples. On the other hand, English uses a different approach by employing separate and various verbs for the same motion event to convey Manner information which is encoded through multiple means in Turkish. Those variations in Turkish might raise some questions regarding their contribution to the manner lexicon. It is debatable how much they contribute to the manner lexicon as they are simply variations of the same verb which are created by incorporating suffixes into the verb. Suffixation, in this case, does not create new verbs but rather adds extra Manner information. They can be seen as "elaboration" employed on Manner verbs which is the process in which any component carrying Manner information is added to the sentence to elaborate on manner verbs. The elaboration issue will be outlined in more detail in the following section. Answer to the issue of contribution changes depending on the point of view, however, in this research, they are regarded as separate manner verbs rather than a source for elaboration and presented under manner lexicon, which can be seen in the list, since those suffixes, like other ones in Turkish, carry different meanings although serving the same function in this case and they should not be omitted from the data. Nevertheless, it can be inferred from the overall results that English has a wider lexicon of manner verbs compared to Turkish despite the possible variations through suffixation.

Manner Information

Considering the fact that Turkish employs fewer manner verbs and has a comparably less diverse lexicon of manner verbs as opposed to English, it is plausible to argue that Turkish might omit Manner information and, though having alternative means, it cannot compete with English in terms of encoding Manner information which is also suggested by Özçalışkan and Slobin in their study (266). The data is analysed in-depth to examine the usage and frequency of Manner information in Turkish and its comparison to that of English. Table 3, presented below, shows the exact numbers for each novel and the overall results:

MANNER INFORMATION	ENGLISH (326 MVs)	TURKISH (350 MVs)
ANIMAL FARM	28	22
CATCHER IN THE RYE	11	12
FOR WHOM THE BELL TOLLS	15	15
HARRY POTTER	27	23
LORD OF THE FLIES	23	24
BAB-I ESRAR (The Dervish Gate)	16	16
CEMİLE (Cemile)	21	28
KURK MANTOLU MADONNA (Madonna in a Fur Coat)	18	23
KARA KİTAP (The Black Book)	9	5
MASUMİYET MÜZESİ (Museum of Innocence)	13	15
TOTAL	181 (55.5%)	183 (52.2%)

Table 3: Frequency of Manner information in Turkish and English

Table 3, as opposed to the previous ones, includes the numbers of all the novels. Names of all the novels are listed on the left side of the column and they are divided into two categories, Turkish and English. The exact number of times when there is Manner information in the novels are counted and distributed under each novel and their translations. For the last step, numbers in both English and Turkish are calculated to present the final numbers, 181 for English and 183 for Turkish, and percentages of the final numbers are determined depending on the total number of examples taken from each language, which is different for both of them, to compare them in terms of usage of Manner information. Original texts refer to Turkish and English novels, ten novels in total, and data taken from each novel depending on the language, for example, Turkish examples obtained from *Masumiyet Müzesi* (*The Museum of Innocence*). For original English novels, results in "English" column (see Table 4) are used by disregarding the Turkish column, and the same procedure is repeated for Turkish with the opposite column (see Table 5).

MANNER INFORMATION	TURKISH
BAB-I ESRAR (The Dervish Gate)	16
CEMİLE (Cemile)	28
KÜRK MANTOLU MADONNA (Madonna in a Fur Coat)	23
KARA KİTAP (The Black Book)	5
MASUMİYET MÜZESİ (The Museum of Innocence)	15
TOTAL	87 (48.3%)

Table 4: Manner information in original English texts

It is presented in Table 4 that *The Catcher in the Rye* has the lowest number in terms of encoding Manner information while *Animal Farm* conveys Manner information in 28 examples out of 36. Numbers in other novels range from 15 to 27. In total, the number of times when Manner information is conveyed in English data obtained from English novels amounts to 104, which equals 57.7% of overall data. It is inferred from the percentage that in more than half of the instances, Manner information is encoded in English.

MANNER: YES OR NO?	ENGLISH
ANIMAL FARM	28
THE CATCHER IN THE RYE	11
FOR WHOM THE BELL TOLLS	15
HARRY POTTER	27
LORD OF THE FLIES	23
TOTAL	104 (57.7%)[7]

Table 5: Manner information in original Turkish texts

The total number for Manner information decreases to 87, amounting to 48.3%, in the Turkish data. Turkish novels show a relatively high level of Manner encoding except for *Kara Kitap* (*Black Book*) in which only five instances of Manner encoding are documented. The highest number of Manner encoding equals to that of *Animal Farm* which is also the highest for English data. The difference between the numbers in English and Turkish amounts to 17 sentences/examples. Although English has undoubtedly a higher number in terms of Manner information, results do not indicate a drastic difference, only 9.4%, between the languages depending on the original texts. Going back to Table 3, results of the translations along with the original texts are juxtaposed in order to compare the numbers of two languages for each novel while presenting final numbers for the overall results. Comparing the columns, it is inferred that numbers for each novel are generally close to each other, and in some cases, Turkish employs even more Manner encoding in the sentences compared to English. As a result, it seems that Turkish does not tend to omit Manner information as suggested by Özçalışkan and Slobin (259–70), on the contrary, it employs manner abundantly, almost half of the overall data, in original texts as well. In addition, as can be seen in the example of *Cemile* that the highest number of times, 7, in which Manner information is omitted, belongs to English data among all results. Total numbers and percentages are indicated in the last line which bears striking results. The initial gap between the languages, 9.4%, decreases to 3.3% combined with the results of the translations. The percentage is significant in terms of the comparison between languages, and it shows Turkish can compensate for Manner information despite the claims.

In the previous part, two languages are compared in terms of encoding Manner information. Although there has been a 17% difference between the percentages of manner verbs in both languages, it is discussed that percentages of Manner information are considerably close to each other since the gap decreases to 3.3%. As it has been confirmed by the data that Turkish uses fewer manner verbs and less varied manner lexicon, it is inferred that Turkish is more likely to use other mediums to compensate for Manner information. Turkish and English novels are analysed separately as in the previous section to reveal the alternative mediums. Table 6, presented below, is created to examine the pattern. It is solely designed for Turkish data since the focus is on the question of how/through which mediums Turkish compensate for the Manner information.

(Turkish Data)	V+V (Subordinated motion verbs)	Adverbial expressions
Turkish Novels	14	25
English Novels	25	9
Total	39 (53.4%)	34 (46.5%)

Table 6: Mediums for encoding Manner information in Turkish

It can be seen in the table that there are two basic categories to convey Manner information in Turkish: "V+V (Subordinated motion verbs)" and "Adverbial expressions". Before discussing the results in the table, it is necessary to exemplify what is considered under these categories. Two examples, (3) and (4), are chosen from *Cemile* (Kemal 58-86). The former exemplifies the category of "V+V (Subordinated motion verbs)" whereas the latter presents an example for "Adverbial expressions".

(3) Cemile koşarak   merdiven-i   çık-tı. (58)
    Cemile   run   stairs- ACC   ascend-PAST.3SG
             MANNER   *PATH*
    'Cemile ran up the stairs'
(4) Güllü   yavaş-ça   gir-di. (86)
    Güllü   slow- ADV   enter-PAST.3SG
             MANNER   *PATH*
    'Güllü came in quietly.'

In (3), it can be seen that Manner information is conveyed through the structure "ascend running" or "go up running". The verb *koşmak* "run" is transformed into a verbal with the suffix "-arak" and combined with the main verb *çıkmak* "ascend" to encode Manner in the sentence. It is a prevalent structure in verb-framed languages which is commonly used as an alternative to manner verbs in satellite-framed languages. Sentences in a similar structure to English might also be formed in Turkish which is presented below in (5):

(5) *Merdiven-den yukarı koş-tum.*
    Stairs- ABL   up   run-PAST.1SG
                  PATH MANNER
    'I ran up the stairs'

This form is also used in the language; however, it is less common compared to the structure of V+V in terms of motion. On the other hand, example (4) shows cases in which Manner information is conveyed through adverbial expressions. The word *yavaşça* "slowly", "quietly" indicates how the person entered the room, in other words, in which manner. In Turkish, there are some cases in which verbals can be used as adverbial expressions. They have caused some problems during categorization since they belong to both of the categories. Therefore, all verbals are included under the category of "V+V (Subordinated motion verbs)" to avoid confusion. Table 6 presents the number of these categories depending on the source, Turkish and English novels, as well as the overall results which reveal the most preferred category for encoding Manner information. Percentages of the total numbers are also shown in the last line, and they have been calculated according to the total number, 73,

which is found by subtracting the total number of manner verbs in Turkish, 110, from the total number of times in which Manner information is encoded in the sentence, 183. It is reflected in the table that Turkish employs the structure of V+V, amounting to 53.4%, more often than adverbial expressions. This result has been anticipated since, as stated by other researchers, this structure is frequently used in verb-framed languages as an alternative to manner verbs in satellite-framed languages. In this data, the structure is preferred more often than adverbial expressions with a 6.9% difference. There is a striking difference between the results of Turkish and English novels. Adverbial expressions are more frequently used in Turkish data obtained from Turkish novels, whereas the preference is reversed in that of English novels. In other words, the preference of alternative means for Manner encoding changes depending on the source, the original texts, and translations. One plausible explanation for the preference of V+V structure in English novels is that it is the closest alternative to convey the meaning of manner verbs in English. Meanings of some verbs cannot be conveyed with an adverbial expression in which case a verbal becomes a necessity. Therefore, when translating from an English source to Turkish, this structure might be preferred over adverbial expressions. As a result, Turkish data obtained from the English novels might show this pattern as well compared to Turkish data taken from Turkish novels. This tendency only explains the pattern in English novels. Turkish novels in this research, as stated before, prefer adverbial expressions over the other structure. However, further research is required to examine whether this pattern in Turkish novels can be extended to the Turkish language in general and, to prove that Turkish indeed prefers adverbial expressions to encode Manner information except for translations. This issue will be excluded from the research as it does not serve as the main question. In summary, Table 6 is significant in terms of reflecting the distribution of alternative mediums for encoding Manner information in Turkish. It shows that subordinated motion verbs and adverbial expressions are employed while the former is used more often.

Elaboration on Manner verbs

In the previous section, it has been established with the results of the data that only 3% difference exists between the languages in terms of encoding Manner information which shows that Turkish can compete with English in terms of Manner encoding through mediums like subordinated motion verbs and adverbial expressions, in addition to manner verbs. The following research question derives from the latter category, adverbial expressions. Özçalışkan and Slobin claim that these adverbial expressions are employed by both languages; however, there is a fundamental difference in terms of the function of these expressions. In Turkish, they are mostly paired with non-manner verbs, whereas they accompany manner verbs in English. As a result, they seem to have two different functions in Turkish and English, elaboration, and compensation. It is stated that since, in English, these expressions are paired with manner verbs, they incorporate additional Manner information, causing the statement to be more elaborate. On the other hand, they are claimed to serve as a medium to convey Manner information in Turkish since it is believed to lack manner verbs compared to English. Therefore, they are employed for compensation rather than elaboration (Özçalışkan and Slobin 267). This part is dedicated to the examination of the claims asserted by Özçalışkan and Slobin to find out whether or not there is a distinction between languages in terms of the function of adverbial expressions. The procedure begins with finding the total number of adverbial expressions in the data so that the percentages of the categories, adverbial expressions accompanying manner verbs and non-manner verbs, can be calculated for further discussion. Percentages are used in this procedure as well since the numbers for English and Turkish are not equal. After the initial process, total numbers in both languages are divided into two categories depending on the main verb, manner, or non-manner verb, which shows the kind of verb they are paired with. Upon distinguishing between the categories, their percentages are calculated depending on the total number. The results are presented in Table 7 below:

	ENGLISH	TURKISH
Adverbial expressions paired with **non-manner verbs**	12 (30%)	50 (55.5%)
Adverbial expressions paired with **manner verbs**	28 (70%)	40 (44.4%)
Total number of adverbial expressions in the data	40	90

Table 7: Distribution of adverbial expressions

There are three lines showing adverbial expressions paired with manner and non-manner verbs, and total numbers in the data which are divided into two columns, Turkish and English. Numbers in the first two lines will reveal the function of adverbial expressions, elaboration, or compensation, in each language. The columns refer to Turkish and English data obtained from ten novels. It can be seen in the table that Turkish (90) uses more adverbial expressions compared to English (40) in total. 70% of all adverbial expressions accompany manner verbs in English which shows that they are employed to elaborate on Manner information encoded in manner verbs in the sentences. The remaining 30 percent reflects that English uses adverbial expressions to encode Manner information to a smaller extent. The discrepancy between the percentages clearly distinguishes between two categories and ensures that English undoubtedly uses adverbial expressions for elaboration supporting Özçalışkan and Slobin's claims. The situation in Turkish data becomes more complicated as the percentages, 44.4%, and 55.5%, are closer to each other. As opposed to English, Turkish incorporates more adverbial expressions in the sentences with non-manner verbs. However, there is only an 11% difference between the two categories which amounts to 10 examples, the total number of differences. Depending on these results, it can be inferred that Turkish uses adverbial expressions to compensate for Manner information since they are preferred in sentences with non-manner verbs. Nevertheless, the other function, elaboration, should not be disregarded as its percentage is relatively high, although, compared to English, the percentage decreases. It also should not be overlooked that English has a wider manner lexicon and employs more manner verbs; as a result, there is a higher possibility of a pairing between manner verbs and adverbial expressions. Despite these shortcomings, Turkish shows a high level of pairing between manner verbs and adverbial expressions. Results of Turkish data do not present a clear picture for a certain assertion as in the case of English; as a result, further research including more examples is needed to clarify for which function adverbial expressions are employed. Overall, Table 7 seems to be in accordance with Özçalışkan and Slobin's claims on the distinction in the function of adverbial expressions, especially for English.

Conclusion

In this particular paper, Turkish, a verb-framed language, and English, a satellite-framed language, are examined to answer four research questions which are outlined in the introduction. In order to compile data for both languages, five Turkish and English novels are selected along with their own translations amounting to twenty novels in total. Oral narratives are excluded from the research for time and logistic constraints. 36 instances of motion events are obtained from each novel, and the final data consists of 360 motion verbs. They are lined in separate Excel sheets, and special categories are formed to analyse the data. The overall data is analysed quantitatively to reveal any pattern or frequency which is essential to answer the research questions. Data has offered both expected and unexpected results regarding the typology. It shows that English employs only a few path verbs, 7.9% of all motion verbs, and tends to convey Path information through satellites as the

high percentage, 90%, reflects. These results support the previous claims on satellite-framed languages. The number of neutral verbs employed in English is higher than expected since they encode neither Manner nor Path information. They are employed almost as frequently as manner verbs which suggest that Manner information might not be habitually carried in the main verb as claimed by other researchers. Turkish, on the other hand, uses a more complex system in encoding motion events. It shows a higher frequency of path verbs; however, the distribution of motion verbs among categories is relatively closer to one another which hinders from making clear assertions as in the case of English. The second research question and its results support the claims that English as being a satellite-framed language has a more diverse lexicon of manner verbs compared to Turkish as the number of motion verbs in Turkish is precisely half of that in English. The most significant finding in this research is that, depending on the percentages, Turkish can encode Manner information as much as English despite Özçalışkan and Slobin's claims through alternative mediums, subordinated motion verbs, and adverbial expressions while employing the former more frequently (259-70). For the last research question, adverbial expressions are examined to reveal their functions in each language, and it has been found that English prefers to use them to elaborate on manner verbs. Although Turkish seems to employ them to compensate for Manner information, due to the fact that percentages of adverbial expressions paired with manner and non-manner verbs are reasonably close to each other, further research becomes a necessity to clarify the function in Turkish. In conclusion, despite the fact that this paper does not reflect how motion events are conceptualized in the brain, it presents the way they are expressed in Turkish and English illustrating the essential differences between the languages. In addition, it contributes to the existing research on translations as well as other ones in their attempt to unravel patterns in the languages in terms of Path and Manner encoding.

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