Motion Verbs in Adventure Tourism: A Lexico-Semantic Approach to Fictive Meaning

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ABSTRACT

This paper investigates the terminological value of motion verbs in the specialized discourse of adventure tourism, being the primary focus placed on fictive meaning. Thus, we will delve into the participants surrounding motion verbs in context, given that the former activate the latter's specialized meaning and are key to discover the type of motion represented. With this objective in mind, we will adopt a corpus-driven methodology and a lexico-semantic approach, following these steps: (1) the compilation of a specialized English corpus, (2) the automatic extraction of a list of candidate verbs and their manual verification, and (3) their categorization according to the type of motion depicted, that is, real, fictive or both. The main findings show that, despite having found a greater representation of real motion in this discourse, verbs denoting fictive motion were worth examining, as 50% of the results inferred at least one example of this type.

1. INTRODUCTION: VERBS IN SPECIALIZED LANGUAGES

When considering parts of speech in terminology, we find a widespread agreement with the assumption that the units conveying terminological value are prototypically nouns (Cabré Castellví, 1999; Rey, 1993 [1976]; Sager, 1990). One of the main reasons for this is based on the knowledge-driven approaches that are implemented in terminology (L'Homme, 2003,

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2012; Lorente Casafont, 2002), which consider linguistic units (i.e., nouns) as both labels for concepts and the starting point of any terminological analysis. However, as Fellbaum (1990: 278) stands out, verbs provide the relational and semantic framework for the sentences they appear in; that is, they inform about the participants that are involved in an action in such a way that a different number and order of the actants (or arguments) of the verb can prompt different meanings (L'Homme, 1998). Based on this premise and considering that verbs are recognized as specialized units of language by a large group of experts (cf. Buendía Castro, 2012; Casademont, 2014; L'Homme, 1998; López Rodríguez, 2007; Lorente Casafont, 2007), we state that the linguistic characterization of any specialized domain will remain unaccomplished if verbal units are not taken into account.

The present work also regards verbs as specialized units of language, in other words, as conveyances of knowledge in specialized domains, and, as such, it attempts to contribute to previous studies that share this idea. To do so, it focuses on a specific specialized field, tourism, particularly on a segment which is currently gaining a pre-eminent position worldwide: adventure tourism. This type of tourism involves the tourist's active participation to create a real adventure experience in nature and, therefore, the role played by verbs describing actions performed in adventure activities, like *climb*, *trek* or *paddle*, is of utmost importance.

Among the different types of verbs occurring in this specialized discourse, we focus on motion verbs, which are the most common in this field as proved by Durán-Muñoz and L'Homme (2020), whose corpus-driven study revealed that 47% of the extracted verbs were motion verbs, that is, verbs describing a displacement of an entity, either a person or a thing, in space (p. 43). The type of displacement described by motion verbs in this discourse can be either real (e.g., *The diver entered the cave*) or fictive (e.g., *The path descended abruptly*), depending on the participants in their surrounding environment. These participants can be essential to the meaning of the verbs (i.e., arguments) or more peripheral (i.e., circumstantials) and both work as collocates of the verbs when their combination is highly frequent.

To emphasize the terminological value of motion verbs as well as to contribute to the characterization of the linguistic features of the discourse of adventure tourism, the present corpus-driven study revolves around the different types of motion verbs which can be found in this discourse, paying particular attention to the fictive meaning of these verbs[1]. The main purpose is to provide some insights into the interaction of these verbs with their surrounding text and the participants that activate their specialized meaning and help to disambiguate their real meaning from the fictive one. Hence, its goal is twofold: first, it provides an overview of motion representation in verbs in general and, particularly, in the discourse of adventure tourism, and second, it explores the meaning of motion verbs by analyzing their participants to identify and to better understand fictive motion in this specialized discourse. The methodo-

logy adopts a lexico-semantic approach and is based on the one proposed by L'Homme (2018, 2020), who implements principles taken from Frame Semantics (Fillmore, 1976, 1982; Fillmore & Baker, 2010) and its application, *FrameNet* (Ruppenhofer et al., 2016), to develop specialized resources such as *Frame DiCoEnviro*, an e-resource about the environment available at http://olst.ling.umontreal.ca/dicoenviro/framed/index.php. To the best of our knowledge, there are very few studies that have examined the frequencies and patterns of fictive motion in real language, that is, using corpora[2] (cf. Cappelli, 2012; Egorova et al., 2016; Egorova, Tenbrink, et al., 2018), therefore, this study also contributes to the analysis of fictive motion in this regard.

The organization of this paper is as follows. First, Section 2 provides an overview of spatial motion regarding verbs and their participants, both arguments and circumstantials, particularly focusing on fictive motion. Then, Section 3 describes the methodology employed to attain our goals, more specifically, it presents the specialized corpus used, the extraction of motion verb candidates and selection protocol, as well as the classification of motion verbs into three categories: real motion, fictive motion and both types of motion. After that, Section 4 shows the main findings of the study regarding fictive meaning of motion verbs. Finally, Section 5 gathers the conclusions drawn from this investigation and offers future lines of research.

2. MOTION REPRESENTATION IN VERBS

Spatial motion in language can be expressed in two main ways: on the one hand, actual or literal motion, which describes "real movement through physical space" (Matlock, 2004: 14) (e.g., *The hiker crossed the river*), and, on the other, fictive motion[3] (Talmy, 1983, 1996, 2000), which involves the perception of a stationary entity as if it were moving, but which is completely static in the real world (e.g., *The bridge crossed the river*). While the sentence with the actual motion meaning (*The hiker crossed the river*) depicts a Figure (*The hiker*) that moves with respect to a Ground[4] (*the river*) in space, the sentence inferring fictive motion (*The bridge crossed the river*) illustrates an abstraction of motion in which an inanimate subject (*The bridge*) does not actually move. Nevertheless, the fictive motion meaning of the verb *cross* still represents a spatial scene (cf. Matlock, 2004; Matlock & Bergmann, 2015; Talmy, 1996, 2000) and it is described "with dynamic language that normally pertains to actual motion" (Langacker, 2005: 175).

Many have been the authors who have examined the elements that can participate in a motion event, being Talmy (1985, 2000) one of the most inspiring. In addition to the Figure and Ground elements previously mentioned, he also identifies the Path, which is the path followed or occupied by the Figure, and the Motion itself, which refers to the very motion or locatedness present in the event. Other authors (e.g., Levin & Rappaport Hovav, 1992; Mani

& Pustejovsky, 2012) have identified some other elements in a motion event. For instance, the location or place where the motion begins is the Source, and the location or place where the motion terminates or is directed to is the Goal. Additionally, the Manner in which the movement is carried out and the Direction followed can be provided.

As to the participants involved in a motion event in adventure tourism, Durán-Muñoz and L'Homme (2020) suggest a complete list after a comprehensive analysis of the argument structures of motion verbs in this specialized language. Their proposal is based on a refinement of the categorization framework developed by Durán-Muñoz (2016) and includes two categories of participants. On the one hand, we find *arguments*, which are a series of elements more central to adventure activities, that is, they are core components of the meanings of motion verbs in this domain; these participants are TOURIST, PLACE, DIRECTION, SOURCE, DESTINATION and PATH. On the other, *circumstantials*, which provide more peripheral information about the situations, are optional in the contexts and unnecessary to characterize the meanings of the verbs; some examples of these participants are MANNER, DISTANCE, DURATION or FREQUENCY, although there is a richer variety of them[5]. Both arguments and circumstantials activate the specialized knowledge of motion verbs, such as the verb *climb*, in the language of adventure tourism, as they pertain to the argument structure of a verb. For example, in (1) the verb *climb* does not convey any specialized meaning, in other words, the participants in the sentence (i.e., *the boy and the chair*) are irrelevant to the domain under study. However, in (2) the verb *climb* is accompanied by the arguments TOURIST and DIRECTION and the circumstantial SAFETY_INSTRUMENT, all of which belong to the language of adventure tourism and, therefore, activate the verb's specialized meaning:

(1) *The boy **climbed** the chair*.

(2) *You* [TOURIST] *will get to hike and **climb** upriver* [DIRECTION] *using secured* ropes [SAFETY_INSTRUMENT][6].

2.1. Motion Verbs with Fictive Meaning

Fictive motion, as mentioned above, is "an example of *figurative* use of language, where the concepts encoded in an utterance cannot be interpreted literally" (Egorova, Moncla, et al., 2018: 2248). Several typologies of motion verbs with fictive meaning have been proposed so far, being the ones suggested by Talmy (2000), Matlock (2004) and Langacker (2005) those which have gained more recognition[7]. In this research, we follow that proposed by Langacker (2005), as it is the one which adjusts better to the kind of motion verbs that we find in the specialized discourse of adventure tourism.

This author distinguishes two uses of fictive motion based on the presence of motion of the conceptualizer and the cognitive processes involved, and classifies these two types of fictive motion under perfective (3) and imperfective (4) (p. 175):

(3) *The path **is rising** quickly as we climb.*

(4) *The path **rises** quickly near the top.*

Used perfectively, the verb *rise* in (3) indicates a change through time and the explicit participation of some people moving along a path. On the other hand, sentence (4) evokes a different image, as "they [motionless entities, e.g., *The path*] do not in any salient way evoke a viewer moving along the path or depend on such a viewer to generate the change suggested by the motion verb" (Langacker, 2005: 176). The key to fictive motion is then to describe the spatial scene either with a local view, generated by the mover moving along an extended and static object (example (3)), or with a global view, observed by a static viewer from a specific point in space and, thus, there is a global scope of the object in question (example (4)). In the language of adventure tourism, these two types of fictive motion are also present and will be analyzed in Section 4.2.

Regarding participants, fictive motion is also represented in the same way as mentioned in Section 2 for real motion (i.e., a Figure –the most salient participant, the one performing the motion– moves with respect to a Ground –the backgrounded element– in space), although some participants are different, particularly the Figures, as it can be observed in (5) and (6):

(5) *During the first 4 miles* [DURATION] *the trail* [PATH] ***climbs** about 2000 feet* [DISTANCE] *past the beautiful Vernal Falls and Nevada Falls* [PLACE].

(6) *The water stream has hollowed out a deep ravine, which* [PATH –referring to *deep ravine*–] ***is descending** steeply* [MANNER] *toward the Storo plain* [DESTINATION].

The argument PATH in each example, realized as *the trail* in (5) and *a deep ravine* in (6), represents the Figures in each of the contexts, that is, the participants that perform the motion implied in the verbs *climb* in (5) and *descend* in (6). Nevertheless, these entities are static and motionless, therefore, the motion represented is figurative, to explain, it is not real. These participants disambiguate the meaning of these verbs and distinguish it from their meaning when expressing real motion, and they are those analyzed in this research.

3. METHODOLOGY

The methodology employed in this work is divided into three steps: (1) the compilation of a specialized corpus, (2) the extraction and selection of motion verbs, and (3) the categorization of the verbs in three different groups: real motion, fictive motion and both types of motion. They are explained in the following subsections.

3.1. Corpus Compilation

The specialized corpus used in this study was the ADVENCOR corpus, a 1,005,480-word monolingual corpus composed of English promotional texts about adventure tourism. This corpus has been employed in previous research by the same authors (cf. Durán-Muñoz, 2019; Durán-Muñoz, 2022; Durán-Muñoz & Jiménez-Navarro, 2021; Durán-Muñoz & L'Homme, 2020; Jiménez-Navarro, 2020; Jiménez-Navarro & Durán-Muñoz, in press) with terminological and phraseological purposes, and it was automatically compiled with the Sketch Engine software (available at https://www.sketchengine.eu/).

Despite its automatic compilation, the corpus was carefully revised during and after the process so that all the texts would fulfil the following criteria: (1) originally written in English, (2) published by English-speaking public or private institutions (e.g., travel agencies, official websites, etc.), (3) complete (i.e., no fragments of texts were included), (4) of promotional genre and addressed at (potential) tourists interested in adventure tourism (in general) and adventure activities (in particular), (5) semi-specialized level (i.e., written by specialized authors targeting laypeople), and (6) recently published.

During the final revision before the compilation of the corpus, several webpages provided by the system were discarded because of several reasons: (1) they had been taken from inadequate sources of information, such as *Wikipedia*, *Amazon*, social networks, *YouTube*, *Scribd* and *eBay*; (2) they had not been originally written in English (e.g., they were registered with domains indicating other origins, such as .es, .mx, .cl); (3) they had not been published by public or private institutions, such as blogs or articles; and (4) they were duplicates. In total, 30% of the URLs suggested by the tool were discarded.

The final result was a monolingual specialized corpus containing 1,005,480 words, as mentioned before, available either to be downloaded or used in the software for its further exploration.

3.2. Extraction and Selection of Motion Verbs

The automatic extraction of the verbal units from the corpus was carried out with the Keywords function of Sketch Engine, which uses *simple math* (Kilgarriff, 2009) as keyness score. The purpose was to compare the frequency and relative frequency of the same words in the specialized corpus and the reference corpus selected (in this case, we chose the one set by default, i.e., 'enTenTen20,' given that it was the densest corpus available in English language) in order to obtain the candidate terms which were specific to the former, demonstrating their significance in the domain under study. Additionally, it employs a hybrid method whereby statistical plus linguistic information is considered, which is the ideal situation for extraction (Vargas Sierra, 2010: 33). At this point, a minimum frequency of the

candidate verbs was set in three (i.e., the verb should occur at least three times in ADVENCOR) to avoid a haphazard use.

After adjusting the extraction settings, a list of 1,813 candidate verbs was produced automatically. However, manual work was needed to evaluate the results for two reasons: first, because automatic extraction can be imperfect due to taggers that are not 100% correct, and second, because we were interested in verbs representing motion in space (at this point, it must be remembered that we were interested in extracting examples of motion carried out by either a person or an inanimate entity, but should always entail some displacement in space and, definitely, be relevant to the context of adventure tourism). Consequently, 1,661 candidates were discarded given that:

1) They were not regarded as motion verbs (e.g., *enjoy, offer, book, rain*).
2) They implied motion, but the core semantic meaning of the verb did not refer to displacement (e.g., *accelerate* or *speed*, which highlight the speed of motion, or crash, which focuses on the impact of the action).
3) Their meaning was general, that is, their participants (arguments and circumstantials) did not show direct links to the discourse of adventure tourism despite expressing motion (e.g., *go*, *leave*, *come*).
4) They belonged to other parts of speech, that is, they had been wrongly lemmatized (e.g., *roof*, *them*, *hill*).
5) They displayed distinct lemmas of the same motion verb (e.g., *snorkelling* and *snorkel*).
6) They were lemmatized as verbs, but their use in the corpus was only as nouns (e.g., *motoris[z]e*, *trail*), as adjectives (e.g., *motorcycle*, *pad*) or as nominalized verbs (e.g., *boating*, *canyoning*, *mushing*, *sledging*).

As a result, the final list of motion verbs selected for the analysis amounted to 152 items. Table 1 includes the top-10 motion verbs, ordered according to their keyness score, alongside the frequency provided by Sketch Engine, as a way to illustrate the verbs selected:

Table 1. Top-10 motion verbs extracted from the ADVENCOR corpus with Sketch Engine.

Motion verbs	**Frequency**	**Keyness**
skydive-v	735	436.054
raft-v	1,086	314.327
trek-v	1,254	244.583
rappel-v	328	213.115
abseil-v	216	142.390
canoe-v	332	109.166
glide-v	471	89.336
hike-v	1,446	81.650

parachute-v	152	79.965
mountaineer-v	131	73.993

As it can be observed in Table 1, frequency and simple math scores are not correlated. For instance, *raft*-v and *trek*-v obtain a high value in the two variables, which indicates that both verbs are highly frequent in the specialized corpus and particularly significant in the domain of adventure tourism. Nevertheless, *hike*-v is the most frequent verb in the list extracted from ADVENCOR, but its significance as a key term is not that special (its keyness score, 81.650, is much lower than others) because this verb is more common than the other two (i.e., *raft*-v and *trek*-v) in the reference corpus. On the other hand, *skydive*-v is not excessively frequent (735 tokens); however, its simple math score (436.054) is the highest of all the verbal terms selected from the specialized corpus, signaling its relevance in the domain under study.

Once the motion verbs were selected, the next step was their categorization in three groups according to their meaning, which is explained in the following subsection.

3.3. Classification of Motion Verbs

The selected motion verbs extracted from the corpus were classified under three different categories according to their meaning, which are:

1) Verbs expressing an activity that requires real motion, which can be performed by animate entities, such as *skydive*-v or *trek*-v, or inanimate entities, like *depart*-v.
2) Verbs representing non-real motion (i.e., fictive motion) carried out by an inanimate entity (e.g., *trail*), such as *curve*-v.
3) Verbs conveying meanings of the two types described above, that is, real and fictive motion, such as *climb*-v or *traverse*-v.

To do so, the participants of the verbs, particularly the Figures (i.e., the entities performing the movement), were examined using the Concordance function of Sketch Engine (Figure 1), which provided much information about these verbal units and assisted us with the characterization of their main features. To clarify, all the contexts extracted for the 152 verbs previously selected were checked so as to identify the entities that acted as the subjects of the movements, which allowed us to propose the tripartite categorization above-mentioned.

In this analysis, some false positives were detected, for the units were functioning either as adjectives (e.g., *With its mild and sunny climate, **curving** beaches of golden sands*, […]) or as prepositions (e.g., ***Round** the year, round the world*). This situation made the number of valid contexts be reduced drastically in those verbs which only denoted fictive motion (cf. Section 4.1.). Nevertheless, we also encountered this problem in those verbs which displayed examples of real and fictive motion (cf. Section 4.2.), and some contexts had

to be discarded for the following reasons: (1) nouns wrongly tagged as verbs by the term extractor (e.g., *Take extra environmental care when riding in wet areas, on steep **climbs** and descents and setting up for recoveries*); (2) wrongly lemmatizations of participles of some verbs as occurrences of others, as in the case of *flown* (e.g., *As the largest hot air balloon flight operator in the West Country, we have over 25 years' experience and have **flown** more than [...]*); (3) nominalized forms of verbs ending in *-ing* considered as verbs (e.g., ***Skydiving** is great for teenagers, grey haired adventurers, or any other brave soul who is willing to skydive out of a perfectly good aeroplane for a 60 second thrill*); (4) adjectives lemmatized as verbs (e.g., *Many are the stories that our guests come back with after their **paddling** tours*); and (5) metaphorical meanings of selected verbs with no motion representation or relation to adventure tourism (e.g., *Say your notion of Oahu adventure **flows** with the tide*).

After having successfully detected and discarded those cases of false positives that would hamper the analysis of the results in this study, a lexico-semantic approach was adopted to examine the participants occurring in the valid contexts of the selected verbs, as shown in the following examples:

(7) [TOURIST] ***Skydive** above one of the most beautiful scenes in the world* [PLACE].

(8) *The Reka River* [PATH_1], ***flowing** the length of the cave* [PATH_2],[8] *created underground wetlands.*

(9a) *Though the techniques used in ice climbing is the same as in rock climbing, the difference is that you need few more tools which will help you* [TOURIST] ***climb** on vertical ice sheets* [PATH].

(9b) *The trail* [PATH_1] ***climbs** steeply* [MANNER] *requiring participants to be hands free.*

As we can see, example (7) describes real motion, since the instigator of the action is a person (*skydive*-v), while the subject of example (8) is an inanimate entity (a river), which conveys the fictive meaning of the verb. Regarding the last examples, the verb *climb*-v expresses real motion in (9a), where *you* (the tourist, an animate entity) is identified as the subject of the verb, and fictive one in (9b), where the motion is carried out by a trail in a metaphorical way.
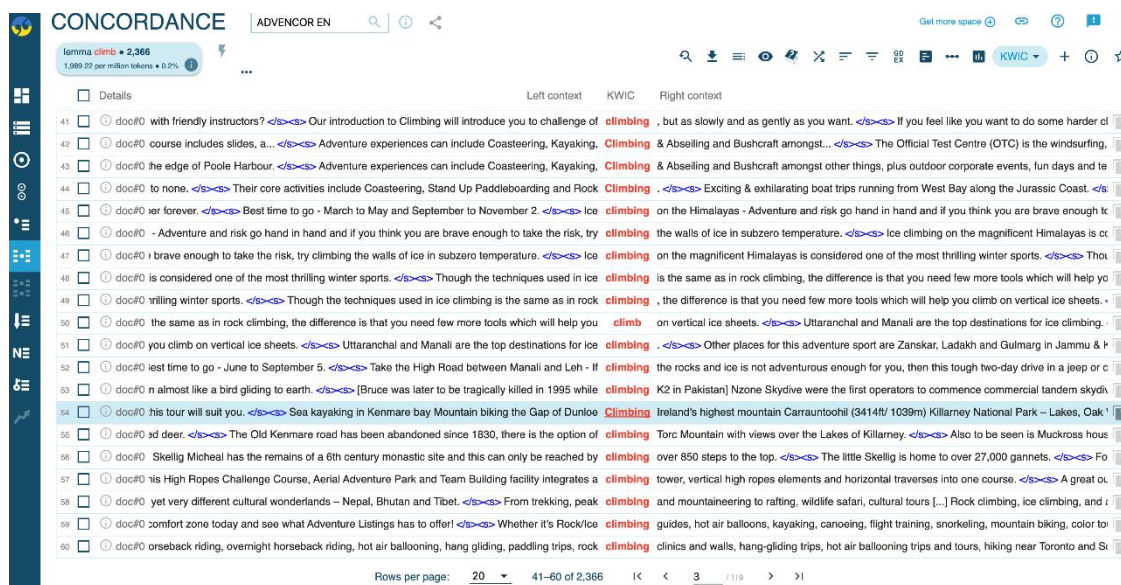
Figure 1. A sample of contexts containing *climb*-v in Sketch Engine.

As aforementioned, this methodology was implemented in the analysis of all the selected verbs, and a deeper study was carried out of the verbs implying fictive motion, which are the verbs under study in this research. The most relevant results are described in the following section.

4. ANALYSIS AND RESULTS

Following the methodology described in Section 3.3., we discovered 51 verbs denoting fictive motion in our corpus, out of which 47 represented both fictive and real motion. Table 2 displays (in alphabetical order) the classification of the verbs in terms of the type of motion expressed in ADVENCOR:

Table 2. Motion verbs extracted from the corpus classified according to their meaning.

Real motion	Fictive motion	Real and fictive motion
abseil-v, *bicycle*-v, *bike*-v, *blow*-v, *board*-v, *boat*-v, *bungee*-v, *canoe*-v, *capsize*-v, *cascade*-v, *cave*-v, *clamber*-v, *crawl*-v, *creep*-v, *cruise*-v, *cycle*-v, *depart*-v, *disembark*-v, *dogsled*-v, *drift*-v, *drive*-v, *elevate*-v, *embark*-v, *explore*-v, *float*-v, *fly*-v, *ford*-v, *freefall*-v, *glide*-v, *haul*-v, *hike*-v, *hop*-v, *hurl*-v, *immerse*-v, *jump*-v, *kite*-v, *land*-v, *launch*-v, *leap*-v, *lift*-v, *lower*-v, *mount*-v,	*bend*-v, *bypass*-v, *curve*-v, *round*-v	*approach*-v, *arrive*-v, *ascend*-v, *bounce*-v, *chase*-v, *circle*-v, *circumnavigate*-v, *climb*-v, *collide*-v, *criss-cross*-v, *cross*-v, *descend*-v, *dive*-v, *drop*-v, *enter*-v, *exit*-v, *fall*-v, *flow*-v, *guide*-v, *head*-v, *hover*-v, *journey*-v, *lead*-v, *meander*-v, *move*-v, *pass*-v, *plunge*-v, *push*-v, *reach*-v, *rise*-v, *run*-v, *rush*-v, *sink*-v, *soar*-v, *spiral*-v, *step*-v, *sway*-v, *throw*-v, *transfer*-v, *transport*-v, *travel*-v, *traverse*-v, *turn*-v, *twist*-v, *veer*-v,

mountaineer-v, *navigate*-v, *paddle*-v, *parachute*-v, *paraglide*-v, *parasail*-v, *pedal*-v, *pilot*-v, *plummet*-v, *propel*-v, *pump*-v, *race*-v, *raft*-v, *raise*-v, *ramble*-v, *rappel*-v, *rebound*-v, *retrace*-v, *return*-v, *ride*-v, *roam*-v, *roll*-v, *row*-v, *sail*-v, *scale*-v, *schuss*-v, *scramble*-v, *scurry*-v, *shift*-v, *shuffle*-v, *shuttle*-v, *skate*-v, *ski*-v, *skydive*-v, *sled*-v, *slide*-v, *sneak*-v, *snorkel*-v, *snowshoe*-v, *spelunk*-v, *spin*-v, *splash*-v, *steer*-v, *stroll*-v, *surf*-v, *swim*-v, *swirl*-v, *toss*-v, *tour*-v, *tow*-v, *trek*-v, *tube*-v, *tumble*-v, *venture*-v, *wade*-v, *walk*-v, *wander*-v, *zip*-v, *zipline*-v		*weave*-v, *wind*-v

One relevant finding that stands out after classifying the verbs according to the three abovementioned categories is the fact that real motion is almost double as frequent as fictive motion in the discourse of adventure tourism[9], and that the verbs representing only fictive motion display a minimum representation among all the verbs selected for the study (4%) (see Figure 2). This fact certainly identifies features of this discourse, since the actions depicted by verbs are highly related to real motion and to the practice of adventure activities, like *skydive*-v, *raft*-v, *trek*-v or *rappel*-v. Nevertheless, the percentage of fictive motion meaning in the corpus –including both only fictive motion and real and fictive motion verbs– is high enough (50% in total) to encourage this study and analyze their peculiarities.
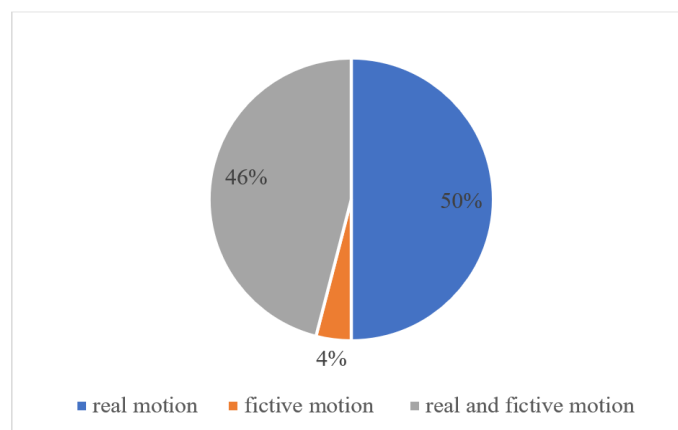

Figure 2. Representation of motion in the selected verbs.

In the following subsections, we deeply analyze the different verbs with fictive meaning, their contexts as well as their participants to understand their relevance in the discourse of adventure tourism. First, we cover those verbs in whose contexts fictive motion was the only type of motion identified (Section 4.1.), and second, we explore those verbs which displayed examples of both real and fictive motion (Section 4.2.).

4.1. Verbs with Only Fictive Meaning

As it has been shown in Table 2, there are four verbs which describe only fictive motion in the corpus: *bend*-v, *bypass*-v, *curve*-v and *round*-v. Despite the fact that some of the contexts including false positives were not valid (see Section 3.3.), different meanings of the same verb were identified in the concordance lines selected, like in the cases of *bend*-v or *round*-v.

For instance, the case of *bend*-v is worth mentioning because of two main reasons. On the one hand, the verb showed both real and fictive motion, but it was considered in the study as denoting only fictive motion because the examples of real motion referred to a change in posture (e.g., […] ***bend*** *your knees and prepare to land*). In other words, there is some kind of motion but not displacement from one place to another, hence this meaning was discarded, as explained in Section 3.2. On the other hand, the number of contexts inferring fictive motion was higher than that describing real motion, which also means that this type of fictive motion implied by *bend*-v is more frequent in this specialized discourse than real motion. Examples of these contexts are shown below[10]:

>(10a) *From there, take the trail to the Averau Via Ferrata* <u>*route*</u> *that* ***bends*** *around Averau peak,* […].

>(10b) <u>*Valley*</u> *here* ***bends*** *to the east, you will have to cross several smaller streams on your way.*

>(10c) *Main* <u>*road*</u> *here* ***bends*** *to the east – follow it, pass few more houses and leave the village.*

The Figures which characterize the fictive motion of this verb were all represented by different kinds of path (*route, Valley, road*, etc.), which was also the type of entity apparently instigating the action in the other verbs of this category and evoking the argument PATH, for instance:

>(11) *This* <u>*loop*</u> *utilizes Illinois Creek, Aspen Alley, lower Baker's Tank Trail, Trail of Tears, Weber Gulch Road, Wirepatch, Governor King Trail, and upper Side to* ***bypass*** *most of the road,* […].

>(12) *Following the river, the* <u>*road*</u> *undulates and* ***curves***.

>(13) *After briefly* ***rounding*** *the lake,* <u>*it*</u> *[trail] turns south and climbs steeply into the highlands.*

Among these verbs, we also encountered other semantic meanings different from motion. For example, in the concordance lines of *round*-v, some contexts displaying the use of the phrasal verb *round out* (e.g., ***Rounding out*** *your day of adrenaline*) were found, so they were discarded in the current study.

4.2. Verbs with both Real and Fictive Meaning

The verbs implying both types of meaning were greater in number than the verbs depicting only fictive motion (see Table 2 above). However, despite representing both meanings, real motion abounded among them.

After having discarded some cases of false positives (as explained in Section 3.3.), the remaining concordance lines were examined and more than two meanings of some verbs were identified. For example, the analysis of the contexts of the verb *climb*-v revealed three different meanings: one referring to fictive motion (e.g., *The* <u>trail</u> ***climbs*** *steeply requiring participants to be hands free as they pull on trees and rocks to make their way up to the rock scramble*) and two implying real motion, specifically, one of them referring to motion carried out by animate entities (e.g., <u>Skellig Michael</u> *has the remains of a 6th century monastic site and this can only be reached by* ***climbing*** *over 850 steps to the top*) and the other one by inanimate entities (e.g., *As the* <u>aircraft</u> ***climbs*** *to altitude you will experience a beautiful scenic flight with views of* […]). This was detected also in other verbs from the list, like *rush*-v, *run*-v, *pass*-v, among others, which is another reason why real motion prevails over fictive motion in the corpus. Other verbs also displayed different meanings apart from motion, such as *turn*-v, whose contexts revealed a wide range of distinct meanings and uses, most of them being phrasal verbs, like *turn into, turn out* or *turn to*.

Again, as it was mentioned in Section 4.1. with the verbs describing only fictive motion, the most frequent participants which performed the fictive motion denoted by the verbs (Figures) were different kinds of path (realizing the argument PATH). This is illustrated by the following examples:

(14) *This page describes the tourist* <u>trail</u> *that* ***spirals*** *around the back of Half Dome up to the summit.*

(15) *The River trail follows the same trail as on the Kranz trail, but after one kilometre* <u>it</u> *[River trail]* ***veers*** *away to ascend the koppie from where magnificent views of the fruit and vegetable lands in the valley will be enjoyed.*

(16) *At 32 km long, and* ***passing*** *through the Mount Aspiring & Fiordland National Park, this varied* <u>hike</u> *includes steep climbs, swing bridges and river crossings.*

(17) *An 18-mile Advanced loop* <u>trail</u> *that includes a steady climb for 8 miles (1,100 feet) along the cascades and* ***falls*** *of Wildcat Creek.*

(18) *The <u>trail</u> **drops** to the grassy pass overlooking a huge landslip with a view of Mt Jannu (7,711m).*

The Appendix includes all the 33 realizations of PATH alongside the verbs they co-occur with in the corpus. As it can be observed, the most common type of path is *trail*, which combines with more than half of the verbs analyzed (28 in total, i.e., 55% of the verbs denoting fictive motion); then, it is followed by *path* (10) and *road, route* and *trek* (9 each). The rest of the paths found show few combinatorial properties, mainly one (17 items) or two (8 items), which highlights the most common type of path used in this specialized discourse, that is, *trail* and its several combinations (e.g., *hiking trail, biking trail, foot-trail, trekking trail, paved trail, cycling trail*, etc.).

Other kinds of participants acting as Figures of the verb were also detected during the analysis. For example, *approach*-v, *fall*-v and *rush*-v share the argument PLACE represented by the noun *ground* (e.g., *During 60 seconds of freefall from 4,000 meters you will see the <u>ground</u> **rushing** towards you and feel the air blowing past you*). Aside from PATH and PLACE, the other participants (acting as Figures) found were of different nature and did not follow a clear pattern, that is, they combined with just one verb or showed very few occurrences. Some examples are given below:

(19) *Nature's <u>peace</u> will **flow** into you as sunshine flows into trees.*

(20) *And it's getting youth into the outdoors, we're getting kids out rafting and kayaking and it's teaching <u>them</u> to **step** away from the play stations and computers.*

(21) *You then swim down the river and straight through all the rapids the <u>river</u> has to **throw** at you.*

Among other results that drew our attention during the study, we can highlight the verbs *climb*-v and *scale*-v, which work differently in context despite conveying the same meaning. On the one hand, *climb*-v represents both fictive and real motion and, therefore, can be accompanied by both animate and inanimate entities working as its subjects. On the other hand, *scale*-v is only used to depict real motion in a context where nouns denoting people appear (e.g., *A handful of local operators run classes to teach <u>first-timers</u> how to **scale** these icy cliffs with little more than spiked boots, ice axes, and climbing ropes*).

Another relevant finding of this research is the fact that the global view of the object, that is, the absence of actual motion of an observer (cf. Section 2.1.), is the most common type of fictive motion detected in this specialized discourse. The examples below illustrate this fact:

(22) *At this spot the <u>trail</u> **climbs** a small hillside that has fairly unobstructed views of the river.*

(23) *The <u>route</u> now **crosses** through the focella to the other side of the ridge, and **traverses** along towards the Forcella Lavaredo.*

(24) *Then the <u>route</u> **ascends** several pitches of vertical ice up a narrow curtain.*

Hence, the number of contexts with a local view, to explain, with the presence of a real mover which observes the fictive motion, is limited to very few cases, for instance:

(25) *Leaving this vantage point the <u>trail</u> **descends** to the water edge where, for the first time, <u>you</u>'ll actually be hiking right next to the water edge.*

(26) *We walk on a <u>trail</u> that gradually **descends** to Cheplung village from where <u>we</u> get a glimpse of Mt. Khumbila* […].

Finally, the verbs combining with terms like *tour*, *trip*, and so on, were classified as verbs describing real motion (e.g., *The 650-foot-long midmountain <u>tour</u>, which also **traverses** rope bridges and a rappel, is a tamer option for beginners, and you can also tackle it at night*), since these concepts represent displacement from one place to another despite being inanimate entities in themselves and, therefore, were not considered participants of verbs implying fictive motion. It also happened with different types of watercourses, like *river*, *waterfall*, and so forth. They were considered entities in motion and, thus, the verbs that co-occurred with them were regarded to depict real motion (e.g., *It's an extreme <u>river</u> that **travels** over 5 miles of gorgeous mountainous wilderness and has continuous Class III, IV, and V rapids the entire way*).

5. CONCLUSIONS

This paper aimed to emphasize the terminological value of motion verbs as well as to contribute to the characterization of the linguistic features of the discourse of adventure tourism by means of a corpus-driven study. By following a systematic methodology, it focused on the fictive meaning of a set of motion verbs extracted from the ADVENCOR corpus, an English monolingual corpus of adventure tourism, as there are very few studies that have examined the frequencies and patterns of fictive motion in real language, both in and out of the discourse of adventure tourism.

The objectives set in this paper were two: first, to provide an overview of motion representation in verbs in general and, particularly, in the domain under study, and second, to explore the meaning of motion verbs by analyzing their participants so as to identify and to better understand fictive motion in this specialized discourse. As for the first objective, a revision of the most relevant literature about it was undertaken with the aim of depicting the different kinds of motion, real and fictive, and understanding their main features, paying particular attention to the latter. Regarding the second objective, a final list of 152 verbs, all of them implying motion and related to the discourse under study, was selected after the automatic extraction of 1,813 candidates and manual work to discard items which did not meet the requirements set.

The contexts of the selected verbs and their participants were examined, which made possible their classification into three different groups according to the type of motion

represented, that is, real motion, fictive motion and both of them. Among all, the most frequent type of motion detected was real (50%), followed by both types of motion (46%) and, finally, only fictive motion (4%). This data revealed that, by far, the most common type of motion in this discourse was real (96% in total), but half of the verbs under analysis (50% in total) also represented fictive motion, which proves that this is also a remarkably common type of motion in this specialized discourse and deserves to be studied.

Regarding the arguments of the verbs, special attention was paid to those participants performing the action of the verb (i.e., the Figures), most of them occupying the subject position. The analysis of these arguments helped us disambiguate the meaning of these verbs and distinguish it from their meaning when expressing real motion. A specific type of argument in this position stood out among all of them: the concepts related to the semantic role PATH, for instance, *trail, path, track* or *road* (see the Appendix), being *trail* the most frequent type of path. Other kinds of participants were also detected during the analysis, like *ground* [PLACE], but the co-occurrences of arguments different from PATH were very limited.

Finally, some other relevant findings were discovered throughout the study: (1) we detected different uses in contexts of synonyms, like *climb*-v and *scale*-v, being the latter used only to describe real motion and with people, while the former can infer both real and fictive motion; (2) the global view of fictive motion verbs abounded compared to the local view, that is, a frequent lack of a real mover prevailed in the analyzed contexts; and (3) some verbs with fictive and real motion conveyed more than one meaning related to real motion, like *climb*-v, *pass*-v, *run*-v and *rush*-v. Furthermore, it must be remembered that we considered motion to involve displacement, for this reason, meanings of verbs denoting a change in posture were disregarded (e.g., *bend*-v). On the other hand, despite knowing that fictive motion was expressed through inanimate entities, in some cases verbs that were accompanied by these (e.g., *tour, trip*) were classified as real motion verbs, given that there was indeed displacement.

At this point, we can readily state that our objectives were achieved. Moreover, the lexico-semantic analysis of the selected motion verbs helped to better understand the linguistic features of the specialized language of adventure tourism and, hopefully, it will encourage further research on motion verbs as specialized units, both denoting real and fictive meaning, in the future. For instance, a contrastive analysis might be conducted by exploring fictive motion in other languages, such as Spanish; in the same vein, equivalents in both languages may be examined. Also, comparative studies with other specialized discourses or the general language may be performed to investigate whether particular uses of (fictive) motion are shared or not.

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NOTES

[1] Real meaning of motion verbs has been analyzed in Durán-Muñoz (2021).

[2] Fictive motion has been thoroughly studied in linguistics, particularly in cognitive linguistics, but research is largely based on introspection (cf. Talmy, 2000) or general corpora, such as the BNC or novels (cf. Stošić & Sarda, 2009).

[3] Fictive motion has received different names so far, such as "abstract motion" (Langacker, 1986), "virtual motion" (Langacker, 2005) or "subjective motion" (Matsumoto, 1996). We prefer to use "fictive" since it is currently the most acceptable term in the field.

[4] Figure and Ground are cognitive linguistics concepts that refer to the moving entity (Figure) and the spatial entity with respect to which the motion occurs (Ground) (Talmy, 2000).

[5] The resource *DicoAdventure* (http://olst.ling.umontreal.ca/dicoadventure/) contains a comprehensive set of circumstantials throughout its entries.

[6] All the examples regarding adventure tourism and with no other indications were extracted from the ADVENCOR corpus described in Section 3.1.

[7] These typologies are fully described in Jiménez Martínez-Losa (2006), among others.

[8] PATH_1 and PATH_2 are identified in the fictive meanings of motion verbs to distinguish those paths that serve as Figure (PATH_1) from those that do not (PATH_2).

[9] Based on the data, there is a total of 96% of verbs denoting real motion against 50% of verbs expressing fictive motion, including in both percentages the category of verbs with real and fictive motion.

[10] The participants carrying out the action of the verb appear underlined in the examples.

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APPENDIX.

Realizations of PATH and the co-occurring verbs.

Realization	Verb
abyss	*plunge*-v
approach	*climb*-v
bridge	*cross*-v
bypass	*drop*-v
catwalk	*lead*-v
channel	*lead*-v
climb	*ascend*-v, *lead*-v
circuit	*circle*-v
footpath	*arrive*-v, *lead*-v, *meander*-v
hike	*cross*-v, *descend*-v, *lead*-v, *pass*-v, *reach*-v
itinerary	*cross*-v, *pass*-v
line	*move*-v
loop	*bypass*-v
passageway	*lead*-v
path	*arrive*-v, *ascend*-v, *climb*-v, *cross*-v, *descend*-v, *head*-v, *lead*-v, *reach*-v, *turn*-v, *weave*-v
pitch	*ascend*-v, *climb*-v
ride	*pass*-v, *travel*-v
ridge	*bend*-v, *lead*-v
road	*bend*-v, *cross*-v, *curve*-v, *enter*-v, *head*-v, *lead*-v, *pass*-v, *turn*-v, *wind*-v
route	*ascend*-v, *bend*-v, *climb*-v, *cross*-v, *head*-v, *lead*-v, *pass*-v, *travel*-v, *traverse*-v
shortcut	*climb*-v
section	*climb*-v, *traverse*-v
slope	*lead*-v
sled run	*drop*-v
(glacier) tongue	*lead*-v
track	*circle*-v, *climb*-v, *head*-v, *lead*-v, *veer*-v
trail	*arrive*-v, *ascend*-v, *bypass*-v, *circle*-v, *circumnavigate*-v, *climb*-v, *criss-cross*-v, *cross*-v, *curve*-v, *descend*-v, *drop*-v, *enter*-v, *exit*-v, *fall*-v, *head*-v, *hover*-v, *journey*-v, *lead*-v, *meander*-v, *pass*-v, *reach*-v, *round*-v, *spiral*-v, *travel*-v, *traverse*-v, *turn*-v, *twist*-v, *veer*-v
trek	*ascend*-v, *climb*-v, *cross*-v, *descend*-v, *lead*-v, *meander*-v, *move*-v, *pass*-v, *reach*-v
via ferrata	*traverse*-v
walk	*lead*-v, *pass*-v

valley	*bend*-v
way	*lead*-v, *pass*-v
zip line	*criss-cross*-v