Constructions 17 (2025)
doi 10.24338/cons-706

Information packaging and constructional complexity: Challenges in motion event encoding in L2 German and L2 French

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Abstract

Cross-linguistic variation in the spatial language domain is highly systematic, for instance, with respect to language-specific patterns of *information packaging*: Which aspects of events are habitually selected for verbalization and which linguistic means are available for encoding these aspects? Preferred configurations in terms of information packaging result in language-specific *lexicalization patterns*, for instance verb-framed (e.g., French) or satellite-framed (e.g., German). These differences may also result in diverging preferences regarding constructional complexity and *information density*, that is, the number of different components of motion events typically encoded in one utterance.

The corresponding routines of encoding in one´s first language (L1) are acquired early in childhood and strongly entrenched. In second language (L2) acquisition and use, these strongly entrenched L1 routines may lead to effects of so-called *learned attention* (Ellis 2006) with respect to information packaging and/or information density: If constructional repertoires, constructional preferences, and/or constructional complexity diverge between L1 and L2, restructuring may be challenging even for advanced L2 users.

This paper examines motion event encoding in retelling tasks by intermediate/advanced L2 users of German (L1 French; n = 6) as compared to L1 users of German (n = 6), L1 users of French (n = 6), and intermediate/advanced L2 users of French (L1 German; n = 6). It investigates L2 users´ constructional repertoires as well as potential learned attention effects with respect to information packaging and information density. It shows that intermediate/advanced L2 users of both German and French (1) display good restructuring, overall, in terms of constructional repertoires and *information packaging* (increasing/reducing manner salience), but (2) still struggle, to some extent, with specific aspects of *information density* (i.e., constructional complexity and the combinatorial potential of the linguistic means available in the target languages).

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0 Introduction[1]

Learning an additional language later in life is a challenging endeavor. Second language users need to learn new words for (familiar or new) concepts; they need to learn how words typically go together with other words to form recurrent, functional linguistic routines such as *How are you* (Wray 2002); they need to learn how to express a large array of speech functions, including speech acts such as thanking (Siebold 2011) or requesting (Ogiermann 2009) in culturally acceptable ways; and to master specific genres such as argumentative writing (Van Aertselaer & Dafouz-Milne 2008). In other words, they need to develop linguistic competences integrating lexical, collocational, grammatical, pragmatic, sociolinguistic, and discourse knowledge and the ability to use this knowledge for meaning making.

From a usage-based perspective, the relevant language knowledge is knowledge of a structured network of constructions, or form-meaning mappings (Diessel 2019), arising from language usage. Grammar is thus viewed as "the cognitive organization of one's experience with language" (Bybee 2008: 216). In this view, language knowledge is based on gradual generalizations across specific instances of language experience. Therefore, language knowledge comprises „knowledge of actual usage events" as well as "generalizations made over usage events" (Ibbotson 2013: 1).

A central assumption of usage-based theories of language is that the construction of language knowledge must be input driven, where "input refers to the linguistic data that come about through participation in meaningful language usage events" (Ortega 2015: 355). Language learning is therefore based on three central types of learning processes (cf. Madlener-Charpentier & Behrens 2022): First, *entrenchment*, the strengthening of representations through repeated experience, such that recurrent form-meaning mappings are gradually entrenched in the learners' minds; entrenchment relies on repeated exposure to the same or similar form-meaning mappings. Second, *pattern detection*, that is, categorization based on implicit distributional learning, where mapping processes match strings for similarities and differences in forms and functions (Bybee 2008: 217f); pattern detection relies on the experience of systematic repetition and variation in form-function mappings. And third, *schematization*, that is, pattern generalization at increasing levels of abstraction, allowing for productive and novel uses of constructions; productivity is assumed to rely on high levels of variation in language exposure (Suttle & Goldberg 2011). Note that abstract constructions (generalizations) are still strongly tied to language experience by memory traces of the concrete exemplars (usage events) underlying the abstraction (Bybee 2006: 711).

The process of interlanguage development is thus assumed to start with input processing: When learners receive and process input, ideally, "they are feeding their developing linguistic system the data it needs to start the process of acquisition" (Wong 2005: 27). This is why, in about every model of (second) language acquisition, input is key (Gass 1997: 1). But obviously, not all of the input will feed into interlanguage development, because language acquisition not only depends upon learners' experience of language usage, but also "upon what they can make of it" (Ellis & Cadierno 2009: 117). Particularly, the learnability of

[1] Thanks a lot to the editors of *Constructions* as well as to two anonymous reviewers for their helpful comments and suggestions. All remaining shortcomings are mine.

specific constructions does not only depend on their actual frequency in the input learners are exposed to, but also on their contingency, that is, on the reliability/transparency of form-meaning mappings, and, importantly, on their salience, such that constructions that are larger, task-essential, stressed, or communicatively relevant are learned earlier (Ellis 2015).

In second language acquisition, constructional salience – and, accordingly, learners' attention to specific constructions in the input – may be reduced when first language (L1) processing routines overshadow second language (L2) cues and constructions, even though these may be frequent (Ellis 2006), for instance, articles in noun phrases. L1-shaped attentional routines may act as a kind of filter for L2 input processing, intake, and learning (so-called *learned attention*, ibd.); therefore, "*[r]econstructing* a language is more complex than its initial induction because, during development, L2 constructions are in direct competition with those of the learners' L1" (Ellis and Cadierno 2009: 112).

Constructional competition and L1-biased processing have been investigated from the perspectives of *cross-linguistic influences* (CLI; Jarvis & Pavlenko 2008), *Linguistic Relativity* (Athanasopoulos, Bylund & Casasanto 2016), and the *Thinking for speaking* hypothesis (Slobin 1996), with a strong research focus on the domain of spatial language, particularly motion event encoding. Wang and Wei (2022: 56) assume that research in these domains will contribute to our further understanding of the "complexity of cognitive effects in the multilingual mind and the diverse mechanisms underlying the effects of multiple language learning".

The following data analyses compare ranges of and preferences in the use of motion event constructions and potential CLI/effects of learned attention in oral retellings produced by first language (L1) users of German and French as well as advanced second language (L2) users of German and French. In line with prior research in the domain of spatial language, we will refer to language-specific, preferred constructions as *lexicalization patterns* (Talmy 2000). The analyses will show that L2 users' challenges have to be described at the constructional level rather in terms of individual linguistic resources (e.g., manner verbs). We will also show that L2 users´challenges are partly due to entrenched L1 patterns, entrenched L1 attentional and processing routines at a rather abstract level, regarding primarily information density and the combinatorial potential of linguistic means, rather than manner salience *per se*. The findings are relevant for second language teaching, testing, materials development, and teacher professionalization.

1 Motion event encoding in French and German

In a motion event, a *figure* (e.g., a boy) moves along a *path* (e.g., across) relative to some *ground* element (e.g., the lawn) in a certain manner (e.g., running; Talmy 2000). In spontaneous motion events, motion is self-propelled (e.g., the boy is running across the lawn), whereas in caused motion events, motion is caused by an external agent (e.g., the boy is kicking the ball across the lawn). Translational bounded motion events will result in a change of location (possibly including the crossing of a real or imaginary boundary), as in *run into the house*, whereas in non-translational motion events, there is no change of location, as in *run around in the house*; finally, motion events may be translational unbounded, such that the change of location is incremental, as in *run up the stairs* (where the runner

will not necessarily reach the top of the stairs).

Research shows that cross-linguistic variation in the spatial language domain is highly systematic across languages, as "[d]ifferent languages map semantic elements of spatial relations onto different lexical and syntactic units" (Allen, Özyürek, Kita et al. 2007: 16; cf. Slobin 2003). Importantly, languages vary systematically both with respect to "what aspects of the experience to encode" and to "the linguistic means with which to encode each of the aspects" (Özçalışkan 2015: 485). For static spatial relations, languages differ with respect to basic frames of reference (Shusterman & Li 2016); for dynamic spatial relations, languages systematically differ with respect to core aspects of perspectivation and information packaging (Filipovic & Ibarretxe-Antuñano 2019). Languages tend to display a certain range of options for encoding motion events; however, preferred configurations result in language-specific (or rather, language-type-specific) lexicalization patterns (Slobin 1996; see below).

Typological differences have mostly been investigated with respect to *information packaging* in translational bounded motion (e.g., Harr 2012) and caused motion (e.g., Gullberg 2009). Following Slobin (1996), languages differ with respect to the habitual *information focus* in motion event encoding on the one hand (i.e., which aspects of a motion event are usually chosen for verbal expression, which aspects of information may/should remain backgrounded/implicit) and/or *information locus* on the other hand (i.e., which linguistic means typically encode specific aspects of motion events; Harr 2012: 156). Typologically speaking, the main points of interest are whether manner of motion is typically encoded or not (*information focus*) and whether manner or path are encoded in the main verb (*information locus*).

Differences in information packaging may also result in differences in *information density*, that is, the number of different components of motion events typically encoded (in language and/or gesture) in one utterance (cf. Madlener, Skoruppa & Behrens 2017) and tightness of packaging. *Tight packaging* (Allen et al. 2007: 29) refers to the encoding of the main components, path and manner of motion, within the same clause, typically involving one finite verb and a closely associated satellite (1); this results in compact, information-dense encoding patterns. *Semi-tight packaging*, in contrast, refers to the encoding of path and manner "in one sentence, with each of these expressed by a separate verbal element, one subordinated to the other" (Allen et al. 2007: 30), that is, distributed encoding of path and manner across clauses, using more than one verb (e.g., 2-3); *loose packaging* involves the distribution of path and manner across different sentences (several finite verbs; Allen et al. 2007: 31) or the habitual expression of one of these aspects only (e.g., 4-5).

(1) He ran across the street.
(2) He crossed the street running.
(3) He was running while crossing the street.
(4) He crossed the street.
(5) He crossed the street and he was running.

The distribution of path and manner at the level of both information packaging and information density has been of central interest not only for linguistics, but also for first and second language research (see below). As for the language pair of interest in the following analyses, French is a so-called *verb-framed language* (V-framed/V-language), that is, "French "frames" path by means of a verb

(*entrer*)" (Slobin 2003: 162). French speakers predominantly encode path only in motion event descriptions (e.g., Hickmann, Hendriks & Gullberg 2011). Path salience also shows in gesture studies, where „French speakers of all ages predominantly produce gestures about P[ath] only" (Hickmann et al. 2011: 12).[2] In the preferred lexicalization pattern of V-languages, the path of motion is expressed in the main verb root, e.g., *sortir* 'exit' or *entrer* 'enter'. Path may additionally be expressed in prepositional phrases (6), or, more colloquially, also in redundant adverbs (7):

(6) sortir de la maison 'exit out of the house'
(7) sortir dehors 'exit outside'

Manner can of course be expressed in motion event descriptions, in manner verbs (8), in gerund constructions (12), or by adverbials (13; De Knop & Dirven 2008: 299), but it tends to only be expressed if unexpected or otherwise salient (foregrounded): "Typically, in V-languages, a neutral verb of motion is used to designate a creature's normal manner of movement: owls 'go', fish 'go', people 'go', cats 'go', and so forth. Manner verbs are used when manner is foregrounded – and then owls can 'soar' or 'flap'" (Slobin 2004: 226). Importantly, manner may be expressed in the finite verb in non-translational motion events (8), but manner verbs may in general not be combined with telic paths in translational motion (9)[3]. This has been called the *boundary crossing constraint* (BCC, e.g., Slobin 2004: 225-226): In the case of translational motion, path is expressed in the main verb root, whether BC (10) or incremental (11). As a consequence, in French, tight packaging may occur in non-translational motion event encoding (8), but semi-tight (12) or loose packaging (10) is expected for translational motion.

(8) il court dans la maison 'he runs around in the house'
(9) #il court dans la maison 'he runs into the house'
(10) il traverse la rue 'he crosses the street'
(11) il descend l'escalier 'he descends the stairs'
(12) il traverse la rue en courant 'he crosses the street running'
(13) il traverse la rue à quatre pattes/rapidement/… 'he crosses the street on all fours/quickly/…

By contrast, German is a so-called *satellite-framed language* (S-framed/S-language) with high levels of information density in motion event encoding (cf. Harr 2012; Madlener et al. 2017; Madlener-Charpentier 2022). Tight packaging is typical for S-framed lexicalization patterns for all types of motion events; paths are thus habitually encoded in different types of satellites such as directional adverbs (e.g., *rein* 'in', *rauf* 'up'), separable verb particles (e.g., *ein-* 'in', *auf-* 'up'), or

[2] English speakers also predominantly gesture about Path, but adults also combine Manner and Path in complex gestures (Hickmann, Hendriks & Gullberg 2011). The fact that Path gestures are more frequent can be explained as manner modulation, that is, the downgrading of manner information – which is already saliently encoded in the main verb in speech (Brown 2015: 68).

[3] According to Slobin (2004: 226), there may be exceptions with respect to the BCC, namely for "verbs that encode particular force dynamics – high-energy motor patterns that are more like punctual acts than activities, such as equivalents of 'throw oneself and 'plunge'." Slobin assumes that the exception is due to the fact that these "punctual acts" are conceptualized as changes of state rather than activities, which licenses the use of such high-energy motion verbs together with telic paths in BC situations: "Thus one can 'throw oneself into a room' but one generally can't 'crawl into a room" in V-languages" (2004: 226), cf. Brugger (2017) and Fábregas (2007) for further discussion.

prepositions[4] (e.g., *in* 'into', *auf* 'on(to)'), whereas manner is habitually and frequently encoded in the main verb root (e.g., *rennen* 'run', *krabbeln* 'crawl', *schleichen* 'sneak'; cf. De Knop 2020: 1362). This habitual information packaging is assumed to result in high degrees of manner salience (see below), whether translational bounded (14), non-translational (15), or incremental (16). As manner is typically encoded in the main verb, the motion verb lexicon is large and makes fine-grained semantic distinctions (e.g., *rennen* 'to run' vs. *rasen* 'to race, to rush vs. *sausen* 'to dash vs. *flitzen* 'to speed, cf. Slobin 2004). Of course, manner verbs will not be used for all motion events in all S-framed languages, many of which also have deictic verbs (e.g., *come*) or path verbs (e.g., *fall, enter*). Yet, lexicalization patterns with finite manner verbs are so frequent in S-framed German and the form-meaning mapping is so strongly entrenched in language users' representations that even non-motion verbs can be used in motion constructions by way of coercion[5] (17-18; cf. Arias-Oliveira 2012: 28).

(14) er rennt in das Haus 'he runs into the house'
(15) er rennt in dem Haus herum 'he runs around in the house
(16) er rennt die Treppe rauf 'he runs up the stairs'
(17) Ich will raus 'I want out'
(18) Er keuchte um die Ecke 'He wheezed around the corner'

Although there is no BCC in German, path encoding still differs between event types to a certain degree: Translational motion calls for accusative marking of nouns in prepositional phrases with so-called two-way prepositions (19), but for dative coding in non-translational motion (20; cf. De Knop & Dirven 2008: 305-206); in incremental motion events, prepositional phrases are not allowed, but directional adverbs must be used (21-22; cf. Madlener-Charpentier & Liste Lamas 2022). In S-framed German, one verb may attract several path satellites (e.g., *er rennt raus aus dem Haus über die Straße in den Park* 'he runs out out-of the house across the street into the park'), resulting in complex path descriptions (Slobin 2004: 239, 244; De Knop & Dirven 2008: 301; Zlatev, Blomberg, Devylder et al. 2021: 58). One particularity of German path expressions are so-called *pleonastic paths* (Diedrichsen 2017); they consist of a prepositional phrase and a directional adverb, where these encode the same semantic relation (24; although not all cases are actually semantically redundant, cf. Arias-Oliveira 2012, Liste Lamas 2024 for discussion), as opposed to complex paths where a prepositional phrase and a directional adverb encode different relations (23):

(19) er rennt in das Haus 'he runs into the house'
(20) er rennt in dem Haus herum 'he runs around in the house'
(21) er rennt die Treppe rauf 'he runs up the stairs'
(22) #er rennt auf die Treppe ‚he runs onto the stairs'
(23) unter der Brücke durch 'under the bridge through'
(24) ins Haus rein 'into the house in'

[4] Prepositional phrases (PPs; e.g., *into the house, over the fence*) are counted as satellites in a broader sense (Beavers, Levin & Tham 2010).

[5] Coercion, or accommodation (Goldberg 1995), is a process where utterance-level constructions overwrite habitual word meanings or uses; as a consequence, an utterance slot can be filled with an unexpected word or phrase, which is "construed to be compatible with the construction's function" (Suttle & Goldberg 2011: 1237); a famous example is the occurrence of intransitive *sneeze* in caused motion constructions such as *she sneezed the foam off the cappuccino* (ibd.).

In sum, French and German typologically differ with respect to their preferred constructions for the encoding of motion events. On the one hand, constructional differences arise with respect to *information packaging* – (1) whether manner is typically encoded or not in the description of motion events (i.e., whether manner is in *focus*) and if yes, whether manner is encoded in the main verb root or not (i.e., which is the *locus* of manner encoding); (2) whether path is encoded in the main verb or in satellites and how complex path descriptions may be; on the other hand, constructional differences regard *information density* – in S-languages, (spontaneous) motion event encoding typically calls for "more compact structures than in V-languages [...]; and more information overall is expressed in S- than in V-languages [...]" (Hendriks, Hickmann & Pastorino Campos 2022: 580), that is, information tends to be expressed in more dense ways in S-languages, as path and manner tend to be expressed within the same clause (tight-fit, Allen et al. 2007; cf. Lewandowski & Özçalışkan 2018 for conflated and separated patterns in speech and gesture).[6]

2 Acquisition of motion event encoding & learned attention

Typological differences may lead to specific challenges in second language acquisition and use, due to effects of so-called *learned attention* (Ellis 2006; see below). Prior research strongly suggests that in cases where constructional repertoires diverge between the first and second language, restructuring of the main lexicalization patterns – that is, *re-thinking for speaking* (Ellis & Cadierno 2009) – may take time (e.g., Stam 2014) and be challenging even for functional bilinguals (Berthele & Stocker 2016).

2.1 Thinking for speaking: L1 tuning

Research in first language acquisition has shown a strong relationship between language-specific constructional resources (i.e., lexicalization patterns) and selective attention effects in the speakers/users of these languages (e.g., Bowerman & Choi 2001; Slobin 2004; Muñoz & Cadierno 2019): When preparing to speak (or write etc.), language users choose from among the available constructional resources to fit their communicative goals; habitual lexicalization patterns represent linguistic resources that are readily available (Slobin 1987: 435). Thus, lexicalization patterns reflect language-specific preferences in event perspectivation (e.g., degree of manner salience). With preferred, frequent lexicalization patterns come habitual attentional routines: The *Thinking for Speaking* hypothesis (Slobin 1996) states that habitual ways of expression guide language users' attention to specific aspects of the events, namely those that are foregrounded – routinely encoded (Slobin 2003) – in the lexicalization patterns. This is the case for *manner* in S-languages such as English or German. With respect to manner in particular, Slobin (2003: 162) argues that

[6] Differences in information density may also arise between languages of the same typological type; for instance, S-framed German is more information-dense than S-framed English (cf. Madlener-Charpentier 2022).

> Manner is highly codable in English, because it is carried by the main verb. Every clause requires a verb, and it is just as easy to say *go in* as *run in.* […] English speakers get manner "for free" and make widespread communicative and cognitive use of this dimension.

As "experiences are filtered – […] through the set of options provided by the particular language – into verbalized events" (Berman & Slobin 1994: 611), language-specific and cross-linguistic effects in event encoding have been shown for monolingual and multilingual speakers (cf. De Knop & Dirven [2008: 298-299] for a discussion of selective attention to manner in S- and V-framed languages). For instance, speakers of (V-framed) Greek and (S-framed) English systematically differ with respect to their relative amounts of attention to path vs. manner, as shown by eye-tracking data (Papafragou, Hulbert & Trueswell 2008). These effects can be interpreted as effects of *learned attention* (Ellis 2006): As frequent constructional choices get gradually entrenched, lexicalization patterns as habitual patterns of organizing events for verbalization guide language users' attention to specific dimensions of events/experience. Slobin's (1996) *Thinking for speaking* hypothesis specifies that these effects arise when speakers prepare to use language. Further-reaching effects in non-verbal cognitive domains, that is, on memory, categorization etc., have been researched in terms of *conceptual transfer* and *Linguistic Relativity* (e.g., Hickmann, Engemann, Soroli et al. 2017; Filipovic 2021; Wang & Wei 2022: 18-23), but this question will not be further pursued here.

Routines of encoding are acquired early in childhood: As frequent lexicalization patterns in the surrounding speech are gradually entrenched, the corresponding preferences in terms of attention, perspective taking and information packaging are implicitly learned: „[I]n acquiring a native language, the child learns particular ways of thinking for speaking" (Slobin 1996: 74), "guided by the set of grammaticized distinctions in the language" (Slobin 1996: 91). This kind of selective attention is thus learned through the entrenchment of (socially) recurring (lexicalization) patterns, which create (individual and social) expectations and processing routines, as well as short-cuts for expected processing packages and corresponding attentional routines (Ellis 2006). Bowerman & Choi (2001) show that language-specific lexicalization patterns of caused motion are in place very early on: For instance, children learning English or Korean understand spatial expressions in language-specific ways (containment vs. support in English; tight fit vs. loose fit in Korean) as early as 18 to 20 months of age (Bowerman & Choi 2001: 398), and they produce the corresponding categories in language-specific ways as soon as they start to speak (Bowerman & Choi 2001: 395-397). Harr and Hickmann (2016) show that young children learning German and French differ significantly with respect to their descriptions of localization and caused motion events regarding *information focus* and *information locus.* As for spontaneous motion, the available empirical evidence (Hendriks et al. 2022: 581; cf. Ochsenbauer and Hickmann 2010) indicates that

> [f]rom very early on (around age three), children's motion descriptions differ across languages and resemble those of adults in their language more than those of same-aged children in other languages. Thus, from early on children's motion descriptions rely on the different structures available in the languages acquired. Children learning S-languages express both Manner (in the verb) and Path (in satellites) in compact one-clause structures (e.g., English *run across*). In contrast, children learning V-languages may use Path verbs

> (e.g., French *monter* 'to ascend', *traverser* 'to cross') whilst expressing Manner less frequently if at all (e.g., *traverser* [*en courant*] 'to cross [by running]'), or use Manner verbs whilst giving less information about Path in the same clause.

Even if utterance complexity increases with age (Madlener et al. 2017; Hendriks et al. 2022) and manner may not entirely come for free, as claimed by Slobin (2003), child and adult speakers of S-languages display high degrees of learned attention to manner of motion (e.g., motor pattern, speed, body posture, force dynamics, attitude, instrument; Slobin 2006; cf. Akita 2017: 41) and use the affordances that these languages offer in terms of the "economical expression of manner of motion in the main verb of a clause" (Slobin 2003: 163), that is, they frequently use manner verbs – in combination with path satellites – in the encoding of motion events in complex utterances. Actually, although young children (3 to 6 years of age) may frequently use the light verb *gehen* 'go' instead of more specific manner verbs (34% in Ochsenbauer & Hickmann 2010: 226), their productions indicate that, by all means, manner of motion is already in their focus of attention, as they produce surprising semantic extensions of manner verbs (e.g., *robben* 'to crawl the way seals do' for the crawling of caterpillars; Ochsenbauer & Hickmann 2010:231), manner-foregrounding neologisms (e.g., *raupen* 'to caterpillar', ibd.), and unprompted self-corrections (e.g., from *gehen* 'to go' to *krabbeln* 'to crawl', Ochsenbauer & Hickmann 2010: 232).

2.2 Re-Thinking for speaking: Learned attention in second language acquisition

Attuning to these language-specific lexicalization patterns is necessary for efficient, fluent, and idiomatic L1 processing, but may negatively impact L2 acquisition. Learned attention effects resulting from years of intensive use of the L1 and its gradually entrenched lexicalization patterns may make the task of L2 learning more difficult if L2 lexicalization patterns – cues, categories, and constructions – diverge from those of the L1 and therefore have to be restructured for efficient L2 processing: „[E]ach native language has trained its speakers to pay different kinds of attention to events and experiences when talking about them. This training is carried out in childhood and is exceptionally resistant to restructuring in adult second language acquisition" (Slobin 1996: 89).

After years of using their L1 and attuning to its preferred constructional options, L2 users bring L1-based attentional biases, tuned by L1 experiences, to the task of L2 acquisition and use. CLI in L2 acquisition and use may arise if L2 users continue to rely on strongly entrenched L1 lexicalization patterns for L2 processing; for instance, L2 learners of a V-language with an S-framed L1 may display too much attention to manner of motion and overuse manner verbs in the L2, particularly in BC contexts (cf. Treffers-Daller & Tidball 2016). CLI may also arise as a filter effect of learned attention, if specialized attentional routines based on L1-specific lexicalization patterns block or slow down the development of new routines more adequate for L2 processing; for instance, L2 learners of an S-language with a V-framed L1 might lack processing routines for typical S-framed lexicalization patterns, not process these entirely, even if manner verbs are highly frequent in motion event constructions in S-languages, and not generate relevant intake because their attentional focus is on the path component, due to their L1 lexicalization patterns; following Ellis (2007: 24), we can assume that

in this case, „features in the L2 input, however available as a result of frequency, recency, or context, fall short of intake because their processing is shaped by the L1“.

There is substantial empirical evidence for transfer of L1 lexicalization patterns into L2 usage, primarily for beginning L2 learners. Treffers-Daller and Tidball (2016) report data from elicited retellings of short cartoons by L2 users of French (L1 English); in this study, L2 users, primarily but not exclusively at lower competence levels, overuse manner verbs in their French retellings (as compared to L1 French baseline data), in line with the attentional routines and preferred lexicalization patterns of their L1 English. They also stick to their strongly entrenched S-framed L1 lexicalization patterns with high manner salience in BC situations, while this is not possible in the target language French, producing event descriptions such as *#il court dans la banque* ‘he runs in the bank’ for the intended meaning *il entre dans la banque en courant* ‘he enters into the bank running’ (Treffers-Daller & Tidball 2016: 174 ff). In these BC situations, L2 users significantly underuse path verbs, while overusing manner verbs and deictic verbs (Treffers-Daller & Tidball 2016: 172).

Hohenstein, Eisenberg, and Naigles (2006) show that transfer of lexicalization patterns also occurs in the reverse direction: Late L2 users of English (L1 Spanish) overuse path/bare verbs and underuse manner verbs and manner modifiers in line with their strongly entrenched Spanish lexicalization patterns (Hohenstein et al 2006: 256-258). Similarly, Reshöft (2010) reports underuse of manner verbs in L2 English by L1 speakers of French, Italian, and Spanish, even if this implies the use of rather complex constructional paraphrases; in addition, she reports L2 English users’ preferences for the use of several path verbs instead of complex paths (i.e., fewer path satellites per verb than in L1 English). Finally, based on combined analyses of verbal encoding and gesture by L2 users of English (L1 Spanish), Negueruela, Lantolf, Jordan, and Gelabert (2004: 113) report differences in the timing of path gestures (aligned with path satellites in L1 English, with path verbs or ground NPs in L2 English; Negueruela et al. 2004: 128) and the frequency of manner expressions in speech and gesture (fewer verbal expressions, but more manner gestures in L2 as compared to L1 Spanish; Negueruela et al. 2004: 133). This indicates persisting reliance on L1-biased attentional routines and lexicalization preferences even in highly proficient L2 users: “L2 speakers, even at advanced levels, have difficulties manifesting L2 [Thinking-for-Speaking] patterns and continue to rely on the patterns internalized in their L1” (Negueruela et al. 2004: 113).

Investigating constructional choices more closely, Berthele & Stocker (2016) had L2 users of German (L1 French) describe short video clips depicting motion events, partially with highly salient manner components, e.g., jumping out of a bus; each participant provides two sets of motion event descriptions, one in monolingual mode (German only), one in bilingual mode (introduction in French, target items in German, filler items in French). Comparative analyses of the two data sets show that in bilingual mode, where both languages (and lexicalization patterns) are co-activated, even advanced L2 users of German (functional bilinguals) may occasionally fall back onto their strongly entrenched semi-tight L1 pattern (e.g., *sie überquert hüpfend den Platz* ‘she crosses the square hopping’, p. 14, or *sie geht springend in die Garage rein* ‘she enters the garage hopping’, p. 20), for translational motion with BC, while the same participants produce adequate S-framed retellings in monolingual mode.

In other studies such as Bauer (2012) and Yilmaz (2018), L2 users of S-languages (German, English) with V-framed L1s (Japanese, Turkish) have also been shown to use, among other strategies, semi-tight V-framed lexicalization patterns (e.g., *he entered the classroom by jumping; he jumped to go out of the room*) as well as salient loose-fit lexicalization patterns in line with those of their L1 for translational motion/BC (e.g., *crawled and entered the classroom, crawled and went into the classroom*; Yilmaz 2018: 226). Yilmaz (2018: 226-227) concludes that her participants, that is, pre-service teachers of English, "were under the conceptual effect of their L1 to some degree for the voluntary motions because a considerable percentage of [pre-service teachers of English] still used v-framed patterns in their L2 descriptions, and partly approved of them in the survey." Bauer (2012) shows that Japanese learners of L2 German use the split pattern (loose-fit) in 20-28% of their elicited productions (across competence levels), resulting in semantic shifts (e.g., *er tanzt und geht ins Zimmer* 'he dances and goes into the room' – two distinct events of dancing and entering – for *er tanzt ins Zimmer* 'he dances into the room – one event; Bauer 2012: 26).

Effects of language dominance on motion event descriptions were investigated by Daller, Treffers-Daller & Furman (2011), comparing two groups of Turkish-German bilingual speakers, one in a German-speaking environment (German-dominant at the time of testing: schooling and studying in Germany), the other in a Turkish-speaking environment (Turkish-dominant at the time of testing: schooling in Germany, but currently studying in Turkey), to monolingual German speakers. The Turkish-dominant bilingual group, the so-called returnees, prefer to use non-specific motion verbs to describe BC situations (28% manner verbs, 72% non-manner verbs), whereas monolingual German speakers prefer manner verbs (54%) and German-dominant bilinguals fall in between the other groups (39% manner verbs in BC contexts; Daller et al. 2011: 112). Importantly, some of the returnees produce clearly V-framed L2 utterances with path verbs and manner co-verbs, such as *Der Mann, der rennend in die Bank eingetreten ist* 'the man who entered the bank running' (ibd.). In other words, they seem to „follow the Turkish blueprints for the conceptualization of motion, in both Turkish and German event construals, whereas the German-resident bilinguals follow the German blueprints, when speaking German as well as Turkish" (Daller et al 2011: 95). The authors interpret this as a "result of transfer of conceptualization patterns from the dominant language" (ibd.).

In addition, studies investigating adult L2 learners as well as early bilingual speakers have found evidence of avoidance and convergence patterns, mainly for S-framed target languages (English, German). In particular, Yilmaz (2018: 226 f) reports pre-service teachers of English (L1 Turkish) to "avoid[…] encoding boundary-crossing in path adverbials in both Turkish and English, as their L1 does not give permission for this while they also reserved main verbs for manner as an S-framed pattern". This shows reliance on those constructional resources that converge for the two languages, possibly an implicit kind of safe bet on the lowest common denominator. In this sense, Filipović (2021) reports a strong reliance, in L2 English productions, on entrenched L1 patterns (L1 Spanish) – basically, path-only constructions with path verbs (e.g., *enter*) or light verbs (e.g., *go*) and possibly manner adjuncts (e.g., *slowly*) – as far as this L1 pattern "also works in [the] L2 English" (p. 12), in addition to a limited repertoire of S-framed constructions with a small range of frequent verbs such as *run*. Similar findings and learner strategies have been reported by Schroeder (2009: 191-194) for written L2 German narrations by early bilingual adolescents (L1 Turkish): Firstly,

these L2 users avoid path satellites (for goal or source) if the main verb is a manner verb, that is, they use path satellites almost exclusively with the light verbs *kommen* 'come' and *gehen* 'go'; in translational motion, they actually avoid all sorts of manner expressions, even for mental states and emotions. Secondly, they use the same semi-tight (e.g., *er kam torkelnt wieder* 'he came back staggering') and loose-fit lexicalization patterns (e.g., *ich ging drauf zu und stolperte dabei* 'I went there and staggered in the process') found for late L2 users (cf. Bauer 2012, Yilmaz 2018). Filipović interprets this preference for convergent patterns (preferred in L1, possible although rather infrequent in L2) as evidence for the principle of *Maximising Common Ground* "when both languages are active and when they share a lexicalization pattern" (2021: 12; cf. also Wang & Wei 2022: 33).

Finally, CLI can display directionality effects. A classical example ist Zobl (1980) who showed that the acquisition of pronoun placement is more difficult for L2 users of French (L1 Englisch) than for L2 users of English (L1 French); for the latter, going from pre-verbal to post-verbal pronoun placement does not seem to lead to CLI, as they "seldom produce a logically possible transfer error like *I them see*" (Ortega 2009: 32). By contrast, going in the reverse direction seems to be more challenging and errors such as **je vois les* 'I see them´ are regularly attested (ibid.). With respect to motion event constructions, there is substantial evidence for similar directionality effects. In general, it is assumed that users of V-framed L2s (e.g., French or Spanish) whose L1 is S-framed display less difficulties and quicker restructuring than users of S-framed L2s (e.g., German or Danish) whose L1 is V-framed (Lewandowski & Özçalışkan 2021: 29). For instance, L2 users of V-framed French (L1 English) have been shown to display relatively good restructuring of *path* even at lower proficiency levels, as they predominantly use the "more typical verb-framed French structure […] expressing boundary crossing in the verb […] for voluntary motion events" (Hendriks & Hickmann 2015: 26); in contrast, many studies investigating L2 users of S-languages have found evidence for longer-term challenges with restructuring in intermediate and sometimes even advanced L2 users of S-language (e.g., Cadierno 2004; Yilmaz 2018). There are basically two arguments for this assumption: Firstly, typological comparisons show that motion event constructions in S-framed languages are generally more complex and more information-dense than motion event constructions in V-framed languages; as a result, acquiring an S-framed L2 involves *increasing* manner salience and overall information density (global utterance complexity) in the domain of (spontaneous) motion events (compared to entrenched V-framed L1 routines), whereas acquiring a V-framed L2 basically requires *reducing* manner salience and information density (compared to entrenched S-framed L1 routines). As in general, learner languages are assumed to tend towards the use of simpler structures (Grießhaber 2018; cf. Lewandowski & Özçalışkan 2021: 41 for L2 users´ omission of manner independently of L1), it can be assumed that reducing utterance complexity with respect to L2 motion event descriptions is less challenging than increasing constructional complexity. Secondly, going from an S-framed L1 to a V-framed L2 arguably only involves managing one type of restructuring, for instance, regarding the preferred encoding site of *path* from satellites (verb-external) to the main verb root (with a limited number of path verbs such as *enter, exit, cross*, some of which might actually be part of S-framed languages´ repertoires), "without creating a new component" (Lewandowski & Özçalışkan 2021: 30). By contrast, the reverse direction – going from a V-framed L1 to an S-framed L2 – requires the

management of (at least) two types of restructuring (ibid.): On the one hand, learners need to restructure the encoding site of path from the main verb root to a satellite (possibly including the recognition and development of a new category *satellite* for, e.g., directional adverbs); additionally, as shown above, paths may be complex in S-framed languages, chaining several path components to one verb. On the other hand, learners need to focus their attention (more) onto the *manner* component, in addition to the central component *path*, to learn a large variety of manner verbs with fine-grained semantic distinctions (e.g., *race, rush, run, sprint, dash*) to encode manner of motion and, in addition, to learn to use these verbs in complex, information-dense utterances in combination with path satellites. In line with these assumptions, Lewandowski & Özçalışkan (2021) show that L2 users of V-framed Spanish whose L1 is S-framed Polish – and who, as a result, transition from a more complex to a less complex system – basically "follow[…] target L2 patterns in Spanish" (Lewandowski & Özçalışkan 2021: 12), as far as verb choices are concerned (Lewandowski & Özçalışkan 2021: 13) as well as preferences for separated (loose-fit or semi-tight fit) over conflated (tight fit) utterances (Lewandowski & Özçalışkan 2021: 11). In contrast, L2 users of S-framed German, which is more information-dense than their L1 Polish, although both are S-languages, seem to be more challenged to acquire a more complex system and align more closely with L1 Polish preferences, thus displaying CLI, for instance, with respect to verb choices and the encoding of manner outside the verb (Lewandowski & Özçalışkan 2021: 39); they actually resort to less information-dense interlanguage solutions (separated utterances) than L1 users of both German and Polish (Lewandowski & Özçalışkan 2021: 27), possibly in order to release the processing burden.

The following section 2.3 specifies L2 challenges and directionality assumptions for the language pair German-French under investigation in this study, and formulates the research questions guiding the following analyses (Ch. 3-4).

2.3 Research questions: Challenges in motion event encoding in an L2

Based on the findings reported above, we assume that the restructuring of L1 information packaging strategies may be challenging for L2 users if lexicalization patterns – and corresponding attentional routines – differ between the L1 and L2 (learning an S-framed L2 if the learner's L1 is V-framed, and vice versa). CLI may arise with respect to *information packaging*, primarily with respect to increasing or reducing degrees of manner salience, resulting in (partial) transfer of lexicalization patterns, in over- or underuse of specific linguistic means in general or in specific situations (e.g., BC). But CLI may also arise with respect to *information density*, regarding learners' preferences for tight-fit, semi-tight, or loose-fit lexicalization patterns, that is, global utterance complexity, and/or complex paths.

L2 users with a typologically different L1 – for instance, L2 users of S-framed German with a V-framed L1 such as French as well as L2 users of V-framed French with an S-framed L1 such as German – face two major, interrelated challenges regarding the restructuring of preferred lexicalization patterns. In the following, we outline these challenges and point to the corresponding research questions that guide the following data analyses.

2.3.1 *Challenge / Research question 1: Information packaging*

The first challenge concerns *information packaging* and dealing with the target language's considerably higher resp. lower degrees of *manner salience*. L2 users need to restructure their attentional routines when preparing to speak/write, adapting to the target language´s main lexicalization pattern.

For instance, L2 users of German with a V-framed L1 need to recognize that German, typically and frequently although not obligatorily, encodes manner of motion in the main verb root (and path in verb-external satellites). L2 users will thus basically have to reconceptualize *exiting*, *entering*, or *crossing* events etc. into *running*, *jumping*, *sauntering* events etc., centering their information focus onto manner of motion (in addition the core component *path*), which is usually not in focus in their L1 French. Manner salience (across a range of constructions) has been shown to be a challenging general trait of German, primarily for L2 users with V-framed L1s (De Knop & Gallez 2013). Overall, L2 users of S-framed languages, whose L1 is V-framed, have been found to encode manner significantly less often than monolingual speakers of S-framed language, but more often than monolingual speakers of V-framed languages (e.g., Brown 2015; Cadierno 2010). Co-speech gesture has also been found to indicate reliance on L1-based encoding patterns even if L2 users's speech is target-like (so-called *manual accent*, Kellerman & van Hoof 2003), with L2 users aligning path gestures with the main verb rather than the satellite (cf. Wang & Wei 2022: 27-32 for an overview).

The challenge faced by L2 users of French with L1 German is largely mirror-inverted: L2 users of V-languages, whose L1 is S-framed, need to reconceptuale *running*, *sauntering*, and *sneaking* events etc. into, e.g., *crossing*, *entering*, or *descending* events. In doing so, they basically need to *reduce* manner salience. In other words, L2 users of V-framed French will thus have to let go of one core aspect of motion event encoding – manner – that is habitually and frequently expressed and thus foregrounded in their strongly entrenched L1 lexicalization patterns; this is most important for translational motion events with BC, where – possibly with the exception of verbs with high levels of force dynamics, such as *dive* or *jump* (Slobin 2004: 226) – V-languages exclude the expression of manner in the main verb (e.g., Cadierno & Ruiz 2006; Treffers-Daller & Tidball 2016). Although manner is expressed to a lesser degree by English native speakers in their L2 Spanish than in their L1 English (Filipović 2021), manner is still more frequently encoded in the main verb by L2 users of Spanish (L1 English) than in L1 Spanish (Hohenstein et al. 2006: 254); this results in over-informativeness due to higher levels of attention to manner than would be typical for speakers of V-languages. Reliance on strongly entrenched S-framed L1 patterns in the acquisition of V-framed L2s is reported, for example, by Filipović (2021: 10) for L2 users of Spanish (L1 English), by Cadierno and Ruiz (2006) for L2 users of Spanish (L1 Danish) and by Treffers-Daller & Tidball (2016) for L2 users of French (L1 English). In particular, L2 users of V-framed languages have been reported to inadequately use S-framed patterns of information packaging (manner verb + path satellite) in BC situations (25-26); on the surface, these learner productions encode non-translational motion (running around in the street, in the garden, cf. (25), in the bank, cf. (26)) instead of the intended translational motion with BC, as depicted in the stimuli (running *across* the street, *into* the garden, cf. (25), *into* the bank, cf. (26)):

(25) *El hombre saltó y corrió a través de la calle y en el jardín.

The man jumpd and ran across the street and in the garden. (Filipovic 2021: 10)

(26) *C'est une homme qui <u>court dans</u> une banque
It was a man who runs in a bank (Treffers-Daller & Tidball 2016: 175)

This is confirmed by L2 users' acceptability judgments; for instance, English-speaking learners of V-framed Japanese have been shown to accept manner verbs with goal PPs such as **John-wa gakkoo-ni aruita* 'John walked to school' even though they are not permitted in Japanese; Inagaki, 2001; example from Song, Pulverman, Pepe, Michnick Golinkoff & Hirsh-Pasek 2016: 45). Yet, crucially, Filipović (2021: 12) reports that for L2 users, "adding information about the manner via gerunds or paraphrases seems to be too cumbersome and is not habitually done", thus they fall short of using the typical semi-tight V-framed pattern (path verb, manner satellite). As for path, L2 users of V-languages have regularly been reported to use path verbs, although possibly to a somewhat lesser extent than in V-languages (Hohenstein et al. 2006: 254 for Spanish), which indicates some degree of restructuring. Interestingly, Song et al. (2016: 53) report that "intermediate and advanced L2 learners [of Spanish, L1 English] were more likely to use a path verb when it was obligatory (in boundary crossing situations) than when it was not obligatory but still preferred by native speakers (in non-boundary crossing situations)" (ibd.). This may be due to the fact that in BC situations, the V-framed pattern is very clear, while in non-BC situations, "variation occurs depending on the salience of both Manner and Path" (Hendriks et al. 2022: 596) and more varied input may delay acquisition (ibd.). L2 users mostly seem to stop short of event conflation (but see Muñoz & Cadierno 2019 and (25) above), but they may display problematic uses of path satellites (Cadierno 2004; Hijazo-Gascón 2018; Muñoz & Cadierno 2019), following L1-biased preferences for path satellites over path verbs. In general, in the process of restructuring, L2 users may – unconsciously or actively – look for linguistic means in the L2 that allow them to maintain entrenched routines of L1 construal (Treffers-Daller & Tidball 2016: 147). For L2 users of V-framed languages such as French, Latinate path verbs such as *enter* or *descend* could facilitate learning L2 encoding of motion events up to a certain point, but they could also be misleading because learners could be led to believe that motion events are based on the same pattern in both languages (i.e., to make overly general assumptions regarding positive transfer potential), and fail to notice the differences (Larrañaga, Treffers-Daller, Tidball & Gil Ortega 2012: 127; cf. Treffers-Daller & Aveledo 2023: 5).

The first set of research questions thus regards patterns and preferences of *information packaging* in L2 German (L1 French) and L2 French (L1 German):

- How do elicited retellings by L2 users compare to those of L1 users with respect to *information focus* and *information locus*?
- More specifically, do (advanced) L2 users attune to the respective target language´s lexicalization patterns and to the corresponding degree of manner salience?
- How often and through which linguistic means is manner of motion thus expressed in L2 as compared to L1 retellings?

We assume that if L2 users of German struggle with reconstructing preferred lexicalization patterns, this will be reflected in their motion event descriptions

in terms of L2 usage (and possibly error) patterns. Evidence for potential L2 challenges at the level of information packaging may include (1) the use, by L2 users of German, of substantial proportions of light/deictic verbs (e.g., *gehen* 'go') instead of precise manner verbs (cf. Schroeder 2009); (2) partial reliance on V-framed patterns with path verbs (and possibly manner adjuncts, cf. Berthele & Stocker 2016). Reversely, if L2 users of V-languages such as French continue to rely on their S-framed L1 lexicalization patterns, CLI/learned attention may be indicated by (1) overuse of manner verbs *per se* across motion event types, but most visibly in cases of translational motion with BC, violating the BCC; (2) partly possible, but unusual ways of expressing path in satellites instead of verbs (e.g., *go into the house* instead of *enter the house*).

2.3.2 *Challenge / Research question 2: Information density*

Difficulties in L2 use may not (only) arise with respect to manner salience and the learning of a broad range of verbs encoding fine-grained semantic differences in manner of motion, but actually with respect to using these verbs together with path satellites in complex utterances (cf. Yilmaz 2018: 213). This is linked to the second challenge, regarding *information density*.

L2 users of German with L1 French need to increase habitual levels of information density (global utterance complexity, Madlener et al. 2017). In German S-framed lexicalization patterns, manner and path/ground information is habitually tightly packaged together within the same clause, e.g., *er rennt* [manner] *aus dem Haus* [path + ground] 'he runs out of the house'. For L2 users of German with a V-framed L1 such as French, this means that they will have to overcome L1-based preferences for loose-fit packaging (path only, manner only, or path and manner in different sentences) or semi-tight fit (path and manner in different clauses, e.g., using gerunds) and converge towards the target language's tight fit options. In addition, L2 users will have to allow for complex paths, which also contribute to high levels of information density in German.

In turn, L2 users of V-framed French with L1 German will need to basically *reduce* overall information density (global utterance complexity), for instance, the use of tight-fit options for syntactically complex utterance templates in motion event descriptions. Again, this is in line with overall trends towards the use of simpler structures in learner languages (Grießhaber 2018) and may be assumed to be less demanding than increasing information density. By contrast, continuing reliance on strongly entrenched complex and information-dense S-framed L1 utterance templates may result, by trend, in unusual, overly complex utterances, where components of motion events are more tightly packaged than would be typical for speakers of V-languages.

The second set of research questions thus regards patterns and preferences of *information density* in L2 German (L1 French) and L2 French (L1 German):

- How do elicited retellings by L2 users compare to those of L1 users with respect to *utterance complexity* and the *combinatorial potential* of available linguistic means of expression?
- More specifically, how often and through which linguistic means do L2 users actually combine the expression of different semantic components – particularly, manner of motion and path?

- As a result, do L2 users differ from L1 users with respect to the use of typical preferences regarding information density, that is, tight-fit utterances (German) or rather semi-tight and loose-fit options (French)?

We assume that evidence for potential challenges for L2 users of German may include (1) the use of substantial proportions of loose-fit and semi-tight-fit options (cf. Bauer 2012), including options of gradually constructing motion event descriptions across several utterances; (2) a preference to use path satellites with light/deictic verbs, while using manner verbs without path (cf. Schroeder 2009); (3) convergence to patterns that are shared between V- and S-languages (cf. Schroeder 2009, Yilmaz 2018). If, in turn, L2 users of V-languages such as French continue to rely on their S-framed L1 lexicalization patterns, CLI/learned attention may be indicated by (1) unusually high levels of *information density*, that is, a preference for complex and compact tight-fit constructions based on habitual L1 patterns instead of path-only constructions (loose-fit), which are frequent in V-languages; (2) the use of complex paths, attaching several path expressions to one verb.

In Chapter 3, usage patterns and challenges in L2 acquisition of S-framed German will be analyzed with respect to these questions, based on elicited cartoon and picture book oral retellings by six learners with L1 French, compared to L1 German baseline data from the same retelling tasks. In Chapter 4, usage patterns and challenges in L2 acquisition of V-framed French will be analyzed, based on oral retellings by six learners with L1 German, compared to L1 French baseline data. Chapter 5 discusses the findings with respect to the restructuring of lexicalization patterns in L2 use, focusing on information packaging and information density as well as implications for L2 pedagogy.

3 Learning and using an S-framed L2: advanced L2 users of German

The first set of analyses is based on oral retellings of cartoon sequences and wordless picture book retellings by six higher intermediate to advanced L2 users of (S-framed) German whose L1 is (V-framed) French (Table 1); L2 productions included 610 motion event clauses. L2 retellings will be compared to L1 German data elicited in the same retelling tasks (789 motion event clauses, six participants).

Table 1. Overview of participants for L1 French/L2 German retellings (n = 6).

self-reported L2 competence level (CEFR)	2x B2 3x C1 1x C1/C2
duration of formal learning of German in school	9-12 years (mean: 10.3 years)
enrolment in a university degree program of German	1x second semester 3x third semester
duration of stay-abroad experience	0-15 months (mean: 3.7 months)
regular contact with/use of German at work/university	5/6
regular contact with/use of German in everyday/private life	4/6

gender	6x female

All participants were received individually for two one-hour sessions, during which their task was to orally retell 20 cartoon sequences (Cavandoli 2003) as well as two wordless picture books (Haughton 2014; Mayer 1969); the stimuli were chosen to represent a large number and variety of motion events (e.g., running, hopping, walking, falling, climbing, diving, flying, driving, sneaking, racing, ambling), intertwined with other relevant actions and emotional states acting as distractors (e.g., fishing, searching, throwing, bringing, watching TV, being surprised/angry/happy etc.). Each stimulus item (cartoon sequence, book page) represented a complex event, that is, a (temporal) sequence or (causal) combination of actions and subevents with a restricted number of participants (one main cartoon character, two/four main picture book characters). Participants were free to choose which aspects and details of the unfolding events they wanted to verbalize; they were free to self-correct, elaborate, go back to prior items. They were thus not asked, as in many more controlled laboratory studies, to encode each item/event in one sentence. The stimuli were presented in a power-point presentation (in four different pseudo-randomized orders) and participants proceeded at their own pace with watching and retelling. Across the two data collection sessions, each participant retold every cartoon sequence/picture book twice, once in German (L1 or L2), once in French (L1 or L2)[7]; this chapter focuses on the L1 and L2 German data; L1 and L2 French data will be reported in Chapter 4.

The retelling sessions were audio-recorded and transcribed. First, retellings were split into clauses (one verb per clause), and coded for meta data (e.g., participant, L1 [French, German], task type [cartoon vs. picture book retelling], item). Each clause was then coded for relevant semantic and grammatical categories and characteristics following a pre-established coding scheme including, amongst other categories, event type [motion, caused motion, localization, other]; translational motion yes/no; BC yes/no; figure type [ellipsis, pronoun, name, noun phrase, complex noun phrase]; verb type [ellipsis, manner, non-manner]; path type [ellipsis, adverb, verb particle, verb prefix, preposition, complex path]; ground type [ellipsis, adverb, pronoun, noun phrase, complex noun phrase]; manner outside verb yes/no; cf. Madlener-Charpentier 2022 for more detail).

The following analyses are based on all clauses verbalizing motion events (L1 German: 789 clauses; L2 German: 610 clauses). Qualitative analyses are reported along with quantitative analyses; as the data set is small (6 L1 participants, 6 L2 participants) and there are substantial amounts of individual variation, inferential statistical analyses (R Core Team 2024) are reported alongside descriptive statistics.

[7] For reasons of time, some participants who produced very rich retellings did not retell each stimulus twice.

3.1 Advanced L2 usage patterns: Expression of manner

As *manner of motion*, that is, manner salience, is at the core of the distinction between V-framed and S-framed lexicalization patterns, we start by analyzing L2 users' range of linguistic resources for the expression of manner and the proportion of motion event descriptions including explicit mention of manner – in main verbs, in co-verbs, and in other adjuncts outside the main verb (e.g., adverbs). We also analyze manner verbs more closely, including multiword units (e.g., *do a somersault*). As manner verbs are particularly uncommon in BC situations in the L2 users' L1 French, we take a closer look at occurrences of manner verbs in BC events in Chapter 3.4 below. We start by looking at L2 users' descriptions of two selected scenes (Tables 3, 5) and their preferences in terms of *information focus* (manner salience) as compared to L1 descriptions (Tables 2, 4).

Scene 1 (Tables 2-3) depicts a cartoon character getting ready for a hurdle race; he kneels down, starts running, jumps over a series of hurdles; after the last hurdle, there is no more ground, so he tries to grip the last hurdle, but it breaks and both fall into the abyss (Cavandoli 2003). Manner of motion is quite salient in this cartoon and all participants, whether L1 or L2 users of German, strongly focus on manner (underlined) in their retellings, explicitly mentioning running, jumping, or both at least once; most of the participants mention running and/or jumping several times, following the unfolding scenario; they use manner verbs such as *springen* 'to jump' and *rennen/laufen* 'to run' (ID 41-45) as well as multiword units (*Hürdenlauf machen* 'to do a hurdle race', ID 41; *Rally machen* 'do a rally', ID 44) and onomatopoetic means indicating jumping (*hop* 'hop', ID 45). What is interesting, however, is that L2 descriptions tend to describe manner only in simple utterances such as *er springt* 'he jumps' and *er rennt* 'he runs' (ID 41, 42, 43, 44), majoritarily leaving the path implicit; ID 45 describes manner (underlined) and path (italics) separately, in alternating clauses, a majority of which refer to manner. There are only two instances of descriptions using the S-framed tight-fit pattern for the BC event in the L2 German data (manner verb + path satellite: *run/jump over the hurdles*, ID 42, 43). In the German data, by contrast, this pattern accounts for the majority of the clauses produced for translational motion and BC (6 for ID 31, 3 for ID 32, 4 for ID 35).

Table 2. Scene 1 *Hurdles*, L1 German: The cartoon character jumps over a series of hurdles and falls into an abyss; manner components are underlined; path/ground components are in italics.

31 (L1 German)	**32 (L1 German)**	**35 (L1 German)**
Das Männchen [...] nimmt an einem Hürdenlauf teil. ´The little man participates in a hurdle race.´	Das Linienmännchen beginnt zu rennen, (2.0) ´The line man starts to run, (2.0)´	Er rennt dann *davon.* ´Then he runs away.´
Es macht sich bereit, ´He gets ready,´	es hat Hürden gezeichnet bekommen ´he got some hurdles drawn´	Genau, er rennt dann *davon* ´Exactly, then he runs away´
kniet *in die Position*, ´kneels down into position´	und hüpft da oder springt (3.0) ja, begeistert *über diese Hürden* ´and hops or jumps (3.0) yes, enthusiastically over these hurdles´	und / und muss / muss *über viele Hindernisse* springen, ´and has to / has to jump over many obstacles´

um *los*zurennen ´in order to race off´	[...] und dann plötzlich (2.0) endet die Linie oder der Untergrund, ´and then suddenly (2.0) the line or the ground ends,´	um / um dem Monster zu *ent*fliehen, ´in order to escape the monster,´
und *über die Hürden* zu springen. ´and jump over the hurdles.´	die letzte Hürde ist auch zugleich sozusagen der Stop, ´the last hurdle is at the same time the end, so to say,´	aber merkt dann, ´but then notices´
Es springt voller Begeisterung und voller Motivation *los*, ´He races off, full of enthusiasm and motivation,´	und das Linienmännchen (0.5) fliegt jedoch *hinüber*, ´and the line man (0.5) however flies there-over,´	dass hinter dem letzten Hindernis, das er / wo er *drüber* springt, dass das plötzlich nichts mehr ist ´that after the last obstacle, that he / which he jumps over, that suddenly, there is nothing more´
springt *über die ersten beiden oder über die ersten drei Hürden* ´jumps over the first two or over the first three hurdles´	kann sich noch festhalten ´manages to hold on still´	und er *fällt in die Tiefe*. ´and he falls into the depth.´
und als er dann *über die vierte Hürde* springen möchte, ´and when he wants to jump over the fourth hurdle,´	und dann aber gibt auch diese Hürde nach ´and then however, this hurdle gives in, too,´	
kommt da nichts mehr ´there is nothing more´	und das N / das Linienmännchen *fällt*. ´and the n / the line man falls.´	
und er *fällt ins Nichts*. ´and he falls into the void.´		

Table 3. Scene 1 *Hurdles*, L2 German: The cartoon character jumps over a series of hurdles and falls into an abyss; manner components are underlined; path/ground components are in italics.

41 (L2 German)	**42 (L2 German)**	**43 (L2 German)**	**44 (L2 German)**	**45 (L2 German)**
Der Mann bereitet sich vor, ´The man prepares´	Da rennt der kleine Mann *über Hindernisse*, ´There, the little man runs over obstacles´	Da springt die Figur *über mehrere Hindernisse*, wie ein Pferd oder so. ´There, the character jumps over several obstacles, like a horse or something.´	Also, der Himmel ist blau ´Well, the sky is blue´	Der kleine Mann springt, hop, einmal, ´The little man jumps, hop, once,´
eine / einen Hürden-lauf zu machen. ´to do a / a hurdle race.´	und er rennt *Richtung links*, ´and he runs direction to the left´	Aber nach einem Hindernis gibt es eigentlich kein Weg mehr	und Mitch macht eine Rally. ´and Mitch does a race.´	hop, ein zweites Mal, ´hop, a second time,´

		´But after one obstacle, there is not really any path any more´		
Er springt, ´He jumps,´	und plötzlich gibt es keinen Boden mehr ´and suddenly, there is no more ground´	und die Figur wird fast *fallen*, ´and the character will almost fall,´	Er läuft, ´He runs,´	immer *auf kleine Hindernisse*. ´each time *on little obstacles.´
er rennt, ´he runs,´	und er *fällt* fast *um*, ´and he almost falls over,´	aber sie bleibt mit den Han / Hände auf / auf dem Hindernis ´but she stays with the han / hands on / on the obstacle´	er läuft ´he runs´	Hop. ´Hop.´
er springt, ´he jumps.´	also er *fällt* fast *unter die Linie*, ´well, he almost falls under the line,´	[...] Aber dieses Hindernis zerbricht einfach ´But this obstacle simply shatters´	und springt ´and jumps´	Und plötzlich gibt es keine Linie mehr, nach einem. ´And suddenly, the is no more line, after one.´
er rennt, ´he runs,´	aber kann sich dann doch noch retten ´but then he manages to rescue himself´	und die Figur *fällt runter*. ´and the character falls down.´	und springt wieder und wieder, ´and jumps again and again,´	Er hebt sich noch an der Linie, ´He still holds on to the line,´
er springt ´he jumps´	und das Hindernis ergreifen mit seinen Händen, ´and grabs the obstacle with his hands,´		aber am Ende gibt es keine Boden mehr. ´but at the end, there is no more ground.´	bis diese kaputt geht ´until it breaks´
und er *fällt*. ´and he falls.´	aber schlussendlich bricht das Hindernis ´but finally the obstacle breaks´		Er ist überrascht ´He is surprised´	und er *in die Leere fällt*. ´and he falls into the void.´
	und er *fällt runter*. ´and he falls down.´		[...] und er *fällt auf*. ´[…] and he falls *up.´	

Scene 2 (Tables 4-5) is complex and needs complex language for retelling: It depicts the cartoon character, with a large captain's hat on his head, on a small island; in order to get back to the shore, the character takes off his hat, turns it over, puts it into the water, climbs in, and paddles across the water to the shore;

there, he climbs out and walks away (Cavandoli 2003). Manner is surprising/salient in the main part of the cartoon sequence (using a hat as a boat in order to paddle across the water, using one's hands as paddles). All participants accordingly focus on manner of motion and all participants, whether L1 or L2 users of German, introduce the *paddling* part by mentioning the instrument of motion (using the hat as a boat) as a salient characteristic. Two of the L1 users follow up with a tight-fit description (paddling to the left, ID 32; paddling to the shore, ID 33), but ID 34 produces a gradual semi-tight-fit description (using the hat as a boat [clause 1: manner] in order to reach the shore [clause 2: path/ground]); all L1 users, however, use at least one tight-fit construction in retelling this sequence (e.g., *läuft weiter* 'walks on', ID 32; *er steigt in seinen Hut hinein* 'he climbs into the hat in', ID 34).

By contrast, the majority of the L2 users' descriptions are based on loose-fit patterns, with alternating manner-only clauses (underlined) and path-only clauses (italics). There are a few exceptions where manner verbs are combined with frequent (directional) adverbs in tight-fit constructions (*weiter spazieren* 'stroll on', ID 42; *weiter schwimmen* 'swim on', ID 43; **drin springen* 'jump *inside', ID 45). Table 5 also reveals that L2 users tend to use light/deictic verbs (*gehen* 'to go'), path verbs (*überqueren* 'cross'), and verbs of arrival (*landen* 'end up', *erreichen* 'reach'); a further tendency indicated here is L2 users' preference to combine path satellites with neutral/deictic verbs (e.g., #*über den Fluss gehen* 'go over the river', #*auf die Wasser gehen* 'go/walk on the water', *drüber gehen* 'go over') or verbs of arrival (e.g., *auf die andere Seite landen* 'reach the other side') rather than combining path satellites and manner verbs. This includes situations where the light/deictic verb *gehen* 'go' cannot be used or results in surprising semantic shifts (because *gehen* 'go' has a strong connotation of walking/going on foot, as opposed to English *go*), e.g., #*auf die Wasser gehen* 'to go/walk onto the water', ID 41; #*drüber gehen* 'to go/walk over the water', ID 43; #*über den Fluss gehen* 'to go/walk over the water', ID 46; see Chapter 3.4 for discussion).

Table 4. Scene 2 *Napoleon*, L1 German: The cartoon character paddles across a lake, from an island to the shore; manner components are underlined; path/ground components are in italics.

32 (L1 German)	**33 (L1 German)**	**34 (L1 German)**
Bei zwei Punkt sieben befindet sich das Linienmännchen auf einem Wassergebiet ´In sequence 2.7, the line man finds himself in a water region´	La Linea merkt, ´La Linea notices´	Das Männchen ist hier als Kapitän gezeichnet. ´The little man is represented here as a captain.´
[...] und es trägt einen Hut, ´and it wears a hat´	dass er auf dem Wasser steht, ´that he is standing on the water,´	Er steht im Wasser ´He´s standing in the water´
der aussieht wie ein Kochhut oder der Hut eines Kapitäns, ´that looks like a chef´s hat or a captain´s hat,´	auf Wasser, das Wellen hat. ´on water that has waves.´	und <u>benutzt dann seinen großen großen Hut als Schiff</u>. ´and then uses his large large hat as a ship.´
und es kapiert dann auch schnell, ´and he quickly understands´	Überlegt sich etwas ´Considers something´	Er <u>steigt</u> dann *in seinen Hut hinein* ´He climbs into his hat´
dass es das umfunktionieren kann	und nimmt dann seinen Hut, ´and then takes his hat,´	und <u>benutzt ihn als Schiff</u>, ´and uses it as a ship´

´than he can re-purpose it´		
und (0.5) benutzt es als Bötchen, ´and (0.5) uses it as a little boat,´	kehrt ihn um, ´turns it upside-down,´	um *an das Ufer zu gelangen.* ´to reach the other shore.´
schwimmt oder paddelt sich *nach links hinüber* ´swims or paddles over tot he left´	legt ihn auf das Wasser ´puts in onto the water´	
und kommt dann wieder *ans Land* ´and then comes back on land´	und benutzt ihn als Boot. ´and uses it as a boat.´	
und verliert schon mal (0.5) einfach (0.5) das Boot ´and looses (0.5) just (0.5) the boat´	Dann paddelt er *ans andere Ufer*, ´Then he paddles to the other shore,´	
und läuft *weiter*. ´and walks on.´	steigt wieder *aus* ´gets off again´	
	und geht *weiter*. ´and walks on.´	

Table 5. Scene 2 *Napoleon*, L2 German: The cartoon character paddles across a lake, from an island to the shore; manner components are underlined; path/ground components are in italics.

41 (L2 German)	**42 (L2 German)**	**43 (L2 German)**	**45 (L2 German)**	**46 (L2 German)**
Der Mann hat einen Hut auf dem Kopf ´The man has a hat on his head´	Also, im 8. Abschnitt trägt das Männchen so n großen Hut, wie Napoleon Bonaparte, ´Well, in the eighth sequence, the little man wears a large hat, like Napoleon Bonaparte,´	Am Anfang der achten Sequenz hat die Figur sozusagen einen Napoleonhut ´At the beginning oft he eighth sequence, the character wears a sort of Napoleon hat´	Naja, der kleine Mann steht vor einer Wasserfläche. ´Well, the little man stands in front of a water surface.´	Wasser ist um mir, ganz herum. ´There is water around me, all around.´
und ist auf eine kleine Insel, ´and he is on a small island,´	und es steht vor einem Teich oder vor einem Fluss. ´and he´s standing in front of a pond or a river.´	und die steht vor dem Wasser ´and it stands in front oft he water´	Es gibt kleine, leichte, sanfte Wellen. ´There are little,light, smooth waves.´	Das ist nicht möglich, ´That´s impossible,´
aber es gibt nur Wasser ´but there is only water´	Deswegen zieht es dann den Hut ab ´Therefore, he takes his hat off´	und die will *drüber* gehen, ´and it wants to go there-over,´	Und fragt sich, ´And asks himself´	was mach ich jetzt? ´what am I going to do?´

und er muss etwas machen, ´and he has to do something´	und benutzt es wie n Boot, ´and uses it as a boat´	so sie benutzt ihr Napoleonhut als ein Boot ´so he uses his Napoleon hat as a boat´	wie er *auf die anderen Seite dieser Wasserfläche landen* kann. ´how he can land on the other side of this water surface.´	Aha, ich kann aber mit diesem Hut einen Schiff machen ´Ah, I can transform my hat into a ship, *though,´
um *auf die Wasser* gehen zu können. ´to be able to *walk *on the water.´	um *den Fluss zu überqueren*. ´in order to cross the river.´	und schwimmt mit den Armen, ´and *swims with the arms´	Dann hat er die gute Idee, ´Then he has the good idea´	und also *über den Fluss* gehen, ´and *go over the river like that,´
Also entscheidet er sich, ´So he decides´	Und dann rudert es mit den Armen und mit den Händen. ´And then he paddles with his arms and his hands.´	damit es *weiter* schwimmt, ´in order to swim onwards´	seinen Hut zu benutzen, ´to use his hat,´	perfekt, ´perfect,´
seine / seinen Hut wegzunehmen ´to take *away his hat´	Schlussendlich kann das Männchen oder kleine Mann *den Fluss überqueren* ´Finally, the manikin or the little man can cross the river´	und dann findet die Figur wieder die Erde. ´and then the character finds the end again.´	aus seinem Hut eine kleinen Schiff zu machen. ´to transform his hat into a small ship.´	jetzt bin ich wieder auf der Erde. ´Now I´m on ground again.´
und auf die Wasser zu stellen. ´and to *stand it onto the water.´	und spaziert dann *weiter*. ´and then strolls along.´		Er kann dann *drin* springen ´Then he can jump *inside´	
[...] Er ist in seinem neuen Boot ´He is in his new boat´			und [...] ungefährdet *auf der anderen Seite landen*. ´and lands on the other side without danger.´	
und kann *die andere Seite der Fluss erreichen*. ´and can reach the other side of the river.´			Dabei *sinkt* aber seine erbärmliche Schiff. ´But in the process, his miserable ship sinks.´	

In sum, L2 users of German with a V-framed L1 do not seem to significantly differ from L1 users of German with respect to their explicit mentioning of manner of motion in cartoon retellings (in which manner is expected [Scene 1] or more

surprising [Scene 2]). That is, they seem to display adequate levels of attention to manner aspects (but see Chapter 3.4 for discussion of *gehen* errors). However, they tend to use different means for less frequent manners of motion, e.g., paddling, for which L2 users probably lack precise vocabulary, resorting to rather complex paraphrases (which are also used by some L1 speakers) and/or light/deictic verbs such as *gehen* 'to go'. However, this first preliminary look at two exemplary retelling series reveals that L2 users of German resort to different strategies than L1 German users in order to describe motion events in their retellings: Whereas L1 speakers majoritarily use the typical S-framed tight-fit pattern (manner verb + path satellite in one clause), L2 users tend to rely on series of semantically and syntactically less complex utterances, such that manner and path descriptions gradually unfold in separate, possibly alternating clauses; these step-by-step loose-fit arrangements might allow them to make use of formal convergences between L1 and L2 patterns; L1 users use this kind of loose-fit pattern much less frequently.[8]

Now, how often do L1 vs. L2 users explicitly describe manner of motion across all scenes? In order to investigate group effects, Kruskal-Wallis tests were run in R (R Core Team 2024), followed by pairwise comparisons using Wilcoxon rank sum tests with continuity correction (p-value adjustment method: BH), see appendix. Overall, there is a small, but significant group effect for manner verb use ($KW = 53.371$, $p < 0.001$, $eta^2 = 0.019$). As expected, L1 German users use manner verbs more often than L2 users of German (52,1% vs. 44,3% of all verbs; $p_w = 0.0069$), but the latter use manner verbs more frequently in their L2 German than in their L1 French (44,3% vs. 37,7% of all verbs; $p_w = 0.0029$; Table 6).

This said, for their 404 tokens of motion event descriptions with a manner verb, the L1 German speakers produce 59 manner verbs types for translational motion, 12 of which occur 6+ times overall (*fliegen* 'to fly', n = 62; *springen* 'to jump', n = 55; *laufen* 'to walk/run', n = 39; *rennen* 'to run', n = 28; *steigen* 'to climb/step', n = 28; *fahren* 'to drive', n = 25; *hüpfen* 'to hop/jump', n = 20; *klettern* 'to climb', n = 19; *schwimmen* 'to swim', n = 10; *schleichen* 'to sneak', n = 8; *spazieren* 'to stroll', n = 6; *stürzen* 'to tumble', n = 6); for comparison, L1 German speakers use the non-manner verbs *kommen* 'to come' and *gehen* 'to go' 97 resp. 63 times.

The L2 German users produce 41 manner verb types (for 253 tokens of motion event descriptions containing a manner verb), 10 of which occur 6+ times overall (*springen* 'to jump', n = 52; *rennen* 'to run', n = 29; *laufen* 'to walk/run', n = 28; *fliegen* 'to fly', n = 26; *fahren* 'to drive', n = 19; *spazieren* 'to stroll', n = 13; *schwimmen* 'to swim', n = 9; *hüpfen* 'to hop/jump', n = 7; *steigen* 'to climb/step', n = 7; *wandern* 'to hike', n = 6) as opposed to a large number of light/deictic *gehen* 'to go' (n = 128, including 48 errors), and some occurrences of *kommen* 'to come' (n = 54). The L2 users thus mainly use the same most frequent manner verbs as the L1 users, except for *klettern* 'to climb' as well as the less common verbs

[8] Allen et al. (2007) find that loose-fit constructions are actually not the predominant way of information packaging in either S- (English) or V-languages (Turkish, Japanese); they assume that this is because loose-fit constructions "fail[…] to accurately convey the simultaneous occurrence of the two components of the motion event" (37); instead, V-language speakers prefer semi-tight packaging "in which Manner and Path are represented as separate verbal elements, usually in a subordinating relationship" (40). This may be an effect of the tasks used: In Allen et al.'s study, child and adult participants described isolated motion events depicted in short video slips; in the present study, L1 and L2 participants retold complex stories with several (motion) events each, which may have presented a more natural occasion for loose-fit encoding and the gradual construction of motion event descriptions over time, while keeping some aspects, even key aspects such as boundary crossing, implicit.

schleichen 'to sneak' and *stürzen* 'to tumble', even if they use manner verbs less frequently overall.

Table 6. Raw and relative frequencies of manner verbs produced for translational motion by the language groups (out of all verbs).

Manner verbs (incl. multiword expressions)	German	French
L1	404 / 775 (52,1%)	255 / 676 (37,7%)
L2	253 / 571 (44,3%)	241 / 613 (39,3%)

Manner can also be expressed outside the verb, in adverbials such as *schnell* 'quickly' (speed), *mit seinem Autochen* 'in his little car' (instrument), or *auf Zehenspitzen* 'on tiptoes' (body posture). Overall, there is a minimal, but significant group effect ($KW = 18.947$, $p < 0.001$, $eta^2 = 0.006$). L2 users of German do not differ from L1 users of German ($p_w = 0.56204$), but they use significantly fewer manner satellites in their L2 German than in their L1 French ($p_w = 0.01823$), indicating good restructuring. Importantly, see below, we do not find typical V-framed manner gerunds in the L2 German productions.

In L1 German (Table 7), the most frequently expressed category of manner is speed/force dynamics (31 types, 34 tokens, including *gemächlich* 'leisurely', *ganz ganz schnell* 'very very quickly', *in einem Affenzahn* 'in a monkey's rush', or *ganz vorsichtig* 'very cautiously), followed by mental states (15 types, 16 tokens, e.g., *beschwingt* 'elated', *ganz lässig cool* 'quite casually cool', or *in seiner ganzen Wut und Aufregung* 'in all his anger and excitement'), instruments (8 types, 16 tokens, including *mit dem Trottinette* 'on his scooter' and *mit ihrem improvisierten Baumstammboot* 'with their improvised tree-trunk boat'), and body posture (9 types, 10 tokens, e.g., *rückwärts* 'backwards', *Kopf voran* 'head first', or *wie beim Hochsprung* 'like high jumping') as well as narrative *plötzlich* 'suddenly' ($n = 18$); L1 users may cumulate up to 3 manner satellites per clause.

L2 users display a similar preference for manner satellites expressing speed/force dynamics (19 types, 24 tokens, e.g., *eilig* 'hurriedly', *ganz ruhig* 'very quietly', and 10 variants of quicky/slowly/very quickly/very very quickly etc.). They also describe some instruments (9 types, 12 tokens, e.g., *mit dem Leiter* 'with the ladder'), but very few mental states ($n = 4$) and body postures ($n = 5$). What is interesting here is the use of quite a range of onomatopoetics (7 types, 10 tokens, including French/French-based *hop, boumbadaboum, plouf*) that are not found for L1 German speakers (but the majority of which is actually produced by just the one L2 user, so this might be an individual coping strategy).

Table 7. Raw and relative frequencies of manner satellites produced by the language groups (out of all clauses).

Manner in satellites (adverbials) including cases with multiple manner adjuncts	German	French
L1	107 / 789 (13,6%)	138 / 772 (17,9%)
L2	76 / 610 (12,5%)	68 / 657 (10,4%)

However, Table 8 shows that L2 users of German tend to produce fewer manner-reinforcing combinations of manner verbs and manner adverbs (e.g., *leise schleichen* 'sneak quietly' or *schnell rennen* 'run quickly') than L1 users (35/46% vs. 61/57%), although there are no significant group differences, probably given overall small numbers of observations (all p-values > 0.23 n.s.). However, as by trend, L2 German users are in between the L1 French preferences (38%) and the German L1 baseline (57%), this might potentially indicating some incipient degree of restructuring.

Table 8. Frequencies of combined expressions of manner in a manner verb plus a manner adverbial.

Combined expressions of manner (manner verb and other)	German	French
L1	61 (61/107: 57%)	52 (52/138: 38%)
L2	35 (35/76: 46%)	35 (35/68: 51%)

Interestingly, none of the advanced German users in this data set uses clearly V-framed patterns such as *exit jumping* or *cross crawling*, as reported by Bauer (2012) or Berthele & Stocker (2016) for advanced L2 German speakers; the fact that our participants do not produce this pattern might indicate that this kind of constructional choice is less probable in retelling tasks (for longer stretches of speech) than, for instance, in translation tasks (Bauer 2012) or naming tasks (Berthele & Stocker 2016, short video clips of isolated motion events to be described in one sentence each; see 5.2).

3.2 Advanced L2 usage patterns: Combining manner and path expressions

As hinted at above and in line with Bauer (2012), Schroeder (2009), or Yilmaz (2018), amongst others, the core challenge for (advanced) L2 users of German (or S-languages more in general) does not seem to reside in re-attuning attention to the manner component (assumed to be less salient in the V-framed L1 lexicalization patterns) or to acquire a substantial range of manner verbs, but rather in learning to *use* these manner verbs together with path satellites in complex, information-dense, compact S-framed utterances. Table 9 displays L1 German speakers' most frequent usage patterns; these will be compared to L2 German speakers' most frequent usage patterns (Table 10); for the sake of clarity, additional manner adjuncts are not taken into account in this analysis.

Overall, L1 users' productions are slightly more skewed toward one preferred pattern than L2 users', with the most frequent pattern – pronoun figure, manner verb, and adverbial path (e.g., *he ran out)* – occurring 61 times. Interestingly, this most frequent pattern is closely followed by two variants (figure as noun phrase, n = 43, rank 2; figure ellipsis, n = 36, rank 4). Patterns with prepositional paths are somewhat less frequent (rank 3/n = 42, rank 5/n = 34, and rank 6/n = 33); two of these combine a prepositional path with a non-manner verb, but the combination of a prepositional path with a manner verb is most frequent

(rank 3). Overall, the four most frequent patterns contain a manner verb in tight-fit packaging with a path satellite (as do patterns in ranks 8 to 10). As *fallen* 'fall' was coded as non-manner verb (opposed to *stürzen* 'topple/tumble' or *purzeln* 'tumble'; following Song et al. 2016: 48), *fallen* items (e.g., *ins Wasser fallen* 'fall into the water', *vom Baum fallen* 'fall from the tree', *hinunter fallen* 'fall down'), which are frequently elicited by both picture book and cartoon stimuli, account for a substantial number of the more frequent patterns with non-manner verbs (ranks 5-7).

Table 9 highlights in light grey those patterns that have two comparatively heavy slot-fillers; in grey the patterns with three comparatively heavy slot-fillers (for more detail see Madlener-Charpentier 2022). Comparison with Table 10 indicates that, with respect to utterance complexity, L2 German users are less inclined to use globally more complex, information-dense patterns: For L1 German, the second and third most frequent patterns have two comparatively heavy slot-fillers, three are present in the 12th pattern.[9] Overall, 8 of the most frequent patterns (in ranks 1 to 12) are tight-fit constructions (manner verb + path satellite: ranks 1 to 4 and 8, 10, 12). In the L2 German data, only 3 of the 12 most frequent patterns are tight-fit constructions (ranks 4-5). Here, the most frequent patterns with two comparatively heavy slot-fillers are found in ranks 4 and 6, but only one of these is a tight-fit construction (rank 4); three comparatively heavy slot-fillers – in tight-fit patterns – appear in ranks 13 and 15 (n = 6-8, as compared to n = 18 in L1 German). This supports the hypothesis that L2 users of German are challenged with learning to combine semantically rich manner verbs with syntactically complex phrases (noun figures, prepositional paths).

As expected, the two most frequent L2 patterns do contain manner verbs, but not much else (Table 10): Path is omitted (e) in both, at the figure slot we find either pronouns (n = 46, e.g., *er rennt* 'he runs') or ellipses (n = 43, e.g., *und springt* 'and jumps'). The two most frequent patterns with an explicit path (ranks 2-3) contain non-manner verbs (n = 43/34) – as do most patterns in ranks 5 to 10. Combinations of manner verbs with path satellites in ranks 4 and 5 feature prepositional phrases (rank 4) or directional adverbs (rank 5), but at the same time no figure (rank 5) or only a light figure (pronoun, rank 4). The first combination of noun-phrase figures, manner verbs, and path satellites appears in the pattern in rank 9, with a comparatively light path (directional adverb, n = 13). As noted above, complex patterns with three comparatively heavy slot-fillers are rare (n = 6-8) among L2 German users (very similar to their L1 French preferences, see Chapter 4).

Overall, our advanced L2 users' preferred patterns (ranks 2 to 7) seem to largely overlap with those of the L1 German users of German; with the exception, however, of the most frequent L2 pattern (pronoun figure – manner verb – path ellipsis; n = 46), which corresponds to the third most frequent pattern in L1 French (n = 54), but to rank 20 in L1 German (n = 8), indicating possible L1 entrenchment effects at the level of motion event descriptions or at the level of narrative constructions more in general. In any case, all frequent L2 patterns are also fairly frequent in our L2 participants' L1 French (see Chapter 4.2 below), which might more generally indicate facilitation by convergent/shared L1-L2 patterns (although ranks diverge to some extent). Importantly, two highly frequent L1 German patterns constituting tight-fit constructions (NP figure –

[9] See Madlener-Charpentier (2022) for a different L1 German participant group where the *noun phrase-manner verb-prepositional path* pattern is even more frequent for both localization and spontaneous motion, and for comparison with L2 German users with L1 English.

manner verb – directional adverb/figure ellipsis – manner verb – prepositional path; ranks 2-3, n = 43/42) are substantially less frequent in L2 German (ranks 9-10, n = 13/11).

Table 9. Motion event description patterns, baseline L1 German (frequency of occurrence 6 +).
(e = ellipsis; pro = pronoun; NP = noun phrase; NP_compl = complex noun phrase; v_man = manner verb; v_lex = lexical verb without manner information; dir_adv = directional adverb; part = separable verb particle; prep = preposition; compl = complex path/event conflation)

L1 German	Figure	Motion (verb)	Path	Number of occurrences (tokens)
1	pro	v_man	dir_adv	61
2	NP	v_man	dir_adv	43
3	e	v_man	prep	42
4	e	v_man	dir_adv	36
5	pro	v_lex	prep	34
6	e	v_lex	prep	33
7	pro	v_lex	dir_adv	28
8	e	v_man	compl	25
	pro	v_man	compl	25
9	e	v_man	e	24
10	pro	v_man	prep	23
11	pro	v_lex	compl	21
12	NP	v_man	prep	18
13	e	v_lex	dir_adv	17
	NP	v_lex	prep	17
14	NP	v_lex	dir_adv	16
	e	v_lex	e	16
15	e	v_lex	compl	15
16	pro	v_lex	e	14
17	e	v_man	part	13
18	NP	v_man	compl	12
	NP	v_lex	e	12
19	pro	v_lex	part	10
	NP_compl	v_lex	prep	10
20	N	v_man	dir_adv	8
	NP	v_lex (MWU)	e	8
	pro	v_man	e	8
21	N	v_lex	prep	7
22	pro	v_mod	dir_adv	6
	e	v_lex (MWU)	e	6
	NP	v_man	e	6
	e	v_lex	NP	6
	pro	v_man	part	6
	e	e	prep	6

Table 10. Motion event description patterns, baseline L2 German (frequency of occurrence 6+).
(e = ellipsis; pro = pronoun; NP = noun phrase; NP_compl = complex noun phrase; v_man = manner verb; v_lex = lexical verb without manner information; dir_adv = directional adverb; part = separable verb particle; prep = preposition; compl = complex path/event conflation)

L2 German (L1 French)	Figure	Motion (verb)	Path	Number of occurrences (tokens)
1	pro	v_man	e	46
2	e	v_man	e	43
	pro	v_lex	prep	43
3	e	v_lex	prep	34
4	pro	v_man	prep	23
5	e	v_man	dir_adv	21
	pro	v_man	dir_adv	21
	NP	v_lex	e	21
6	NP	v_lex	prep	20
7	pro	v_lex	dir_adv	17
	e	v_lex	e	17
8	pro	v_lex	part	14
9	e	v_lex	dir_adv	13
	NP	v_lex	dir_adv	13
	NP	v_man	dir_adv	13
	pro	v_lex	e	13
10	NP_compl	v_lex	e	11
	e	v_man	prep	11
11	e	e	dir_adv	10
12	NP	v_man	e	9
13	e	e	compl	8
	N	v_lex	prep	8
	NP	v_man	prep	8
14	pro	v_man	compl	7
15	NP	v_lex	part	6
	NP_compl	v_man	prep	6

With respect to the expression of path more generally speaking, L1 users less frequently omit path satellites than L2 users of German (n = 115/14,6% vs. n = 188/30,9%; $p_w = 0.001$; Table 11). In addition, at least by trend, L1 users produce more adverbial paths than L2 users of German (n = 238/30,2% vs. n = 141/23,2%; $p_w = 0.096$ n.s.; Table 11); in fact, directional adverbs are L1 German users' preferred means for expressing paths in motion events (n = 238/30,2%), followed by prepositional phrases (n = 214/27,1%). L2 users most frequently do not express path outside verbs (n = 188/30,9%); if they do, they prefer prepositional phrases (n = 165/27,1%) – a kind of shared linguistic means for path encoding in their L2 German and in their L1 French – and

adverbial paths (n = 141/23,2%). Although their L1 French does not distinguish between locative and directional adverbs, advanced L2 users of German thus seem to quite confidently use (directional) adverbs for path encoding (n = 124/20,4%), However, as we have shown elsewhere, frequencies of use may still hide acquisitional challenges, for instance, L2 users' difficulties with formally and functionally differentiating between verb particles (e.g., *ein-* 'in'), directional adverbs (e.g., *rein* 'in(to)'), and locative adverbs (e.g., *drin* 'inside'; see Madlener-Charpentier & Liste Lamas 2022).

Tables 11 (L1 German) and 12 (L2 German) allow for some additional insights into L2 users' preferred linguistic resources and their patterning and co-occurrence for the description of motion events. In order to investigate group effects, Kruskal-Wallis tests were run separately for the relevant path types, followed by pairwise comparisons using Wilcoxon rank sum tests with continuity correction. L2 users of German significantly differ, with respect to combinations of specific path types with manner vs. non-manner verbs, for directional adverbs ($p_w = 0.008$), for prepositional phrases ($p_w = 0.005$), and for path ellipses ($p_w = 0.001$).

More in detail, L1 German users' preferences for tight-fit constructions are most evident for adverbial paths, as combinations with manner verbs (n = 153/19,4%; e.g., *rein springen* 'to jump in') clearly outnumber combinations with non-manner verbs (n = 63/8%; e.g., *runter gehen* 'to go down'; Table 11). In contrast, combinations, for instance, with prepositional paths are about equally frequent with manner and non-manner verbs (n = 104/13% resp. 93/11,8%).

L2 users display reverse trends: Prepositional paths are more frequently combined with non-manner verbs than with manner verbs (n = 112/18,4% vs. n = 48/7,9%; Table 12), reflecting a clear preference for loose-fit options (path only). Directional adverbs and complex paths are about equally frequent with manner and non-manner verbs in L2 German (n = 48/7,9% resp. 60/9,9% for directional adverbs, n = 18/3% resp. 20/3,3% for complex paths), resulting in similar frequencies of tight-fit and loose-fit options with these path types. Importantly, L2 users omit path satellites almost twice as often with manner verbs as compared to non-manner verbs (n = 62/10,2% vs. n = 102/16,9%), while path ellipses with manner verbs are less frequent in L1 German (n = 42/5,3%).

On a side note, L1 and L2 speakers of German use multiword units for the expression of manner with comparable (low) frequencies (n = 11/10). The majority of these are combinations of nouns and the light verb *machen* 'to make, to do' in both groups (e.g., *einen Spaziergang machen* 'to take a walk', *einen Sprung/Kopfsprung machen* 'to take a leap/header'). However, whereas L1 users also produce more specific collocations such as *die Flucht ergreifen* 'to flee, to escape', *einen Spurt hinlegen* 'to put in a sprint', or *Freudensprünge machen* 'to leap for joy', L2 users also seem to resort to multiword units for want of precise manner verbs, as some of these multiword units are based on borrowings (e.g., *eine Balade machen* 'to take a walk', *ein roulé-boulé machen* 'do a somersault', n = 2 each). In L1 German, four of these are combined with path satellites (2 prepositional phrases, 2 complex paths), as compared to only one of the L2 users' multiword manner expressions (Table 11, 12).

To sum up, in line with findings for child L1 German users (Madlener et al. 2017), adult L2 learners of German at intermediate advanced/advanced competence levels thus seem to dispose of a good range of linguistic resources (slot filler options), but their preferences in spontaneous L2 productions (cartoon and picture book retellings with complex episodes of events) reflect their hesitation

to join or merge these resources – particularly, manner verbs and path satellites – within globally complex, information-dense utterances. Our advanced L2 users of German thus seem to have partly overcome L1 biases: Increasing manner salience *per se* does not seem to be a problem for advanced learners; but S-framed encoding still constitutes a challenge with respect to the full use of the combinatorial potential of both manner verbs and path satellites in complex and compact utterances using tight-fit constructions.

Table 11. Co-occurrence frequencies of verb types and path types, L1 German
(e = ellipsis; v_lex = lexical verb without manner information; v_man = manner verb: MWU = multiword unit; v_cop = copula verb; v_mod = modal verb; adv = adverb; dir_adv = directional adverb; loc_adv = locative adverb; compl = complex path/event conflation; deic = deictic adverb; inf = infinitive; NP = noun phrase; part = separable verb particle; prep = preposition; pro = pronoun)

L1 German n=789			**path**											
			adv	dir_ adv	loc_ adv	compl	deic	e	inf	NP	part	prep	pro	prefix
			n=5 (0,6%)	n=231 (29,3%)	n=2 (0,3%)	n=129 (16,3%)	n=4 (0,5%)	n=115 (14,6%)	n=10 (1,3%)	n=20 (2,5%)	n=46 (6%)	n=214 (27,1%)	n=11 (1,4%)	n=2 (0,3%)
verb	e	n=14 (2%)	1 (0,1%)	4 (0,5%)	0	1 (0,1%)	0	1 (0,1%)	0	0	0	7 (0,9%)	0	0
	v_lex (MWU)	n=21 (3%)	0	0	0	0	0	17 (2%)	0	0	0	4 (0,5%)	0	0
	v_man (MWU)	n=11 (1,4%)	0	0	0	2 (0,3%)	0	7 (0,9%)	0	0	0	2 (0,3%)	0	0
	v_cop	n=5 (0,6%)	0	3 (0,4%)	0	0	0	0	0	0	0	2 (0,3%)	0	0
	v_lex	n=331 (42%)	3 (0,4%)	63 (8%)	0	53 (6,7%)	1 (0,1%)	48 (6%)	9 (1,1%)	17 (2%)	20 (2,5%)	104 (13%)	11 (1,4%)	2 (0,3%)
	v_man	n=394 (50%)	1 (0,1%)	153 (19,4%)	2 (0,3%)	71 (9%)	3 (0,4%)	42 (5,3%)	1 (0,1%)	3 (0,4%)	25 (3,2%)	93 (11,8%)	0	0
	v_mod	n=13 (1,6%)	0	8 (1%)	0	2 (0,3%)	0	0	0	0	1 (0,1%)	2 (0,3%)	0	0

Table 12. Co-occurrence frequencies of verb types and path types, L1 German

(e = ellipsis; v_lex = lexical verb without manner information; v_man = manner verb: MWU = multiword unit; v_cop = copula verb; v_mod = modal verb; adv = adverb; dir_adv = directional adverb; loc_adv = locative adverb; compl = complex path/event conflation; deic = deictic adverb; inf = infinitive; NP = noun phrase; part = separable verb particle; prep = preposition; pro = pronoun)

L2 German n=608			path											
			adv	dir_ adv	loc_ adv	compl	deic	e	inf	NP	part	prep	pro	prefix
			n=5 (0,8%)	n=124 (20,4%)	n=12 (2%)	n=47 (7,7%)	n=2 (0,3%)	n=188 (30,9%)	n=6 (1%)	n=19 (3,1%)	n=30 (4,9%)	n=165 (27,1%)	N=8 (1,3%)	n=2 (0,3%)
verb	e	n=39 (6,4%)	0	**10** (1,6%)	0	**9** (1,5%)	0	**13** (2,1%)	0	2 (0,3%)	1 (0,2%)	4	0	0
	v_lex (MWU)	n=1 (0,2%)	0	0	0	0	0	1 (0,2%)	0	0	0	0	0	0
	v_man (MWU)	n=10 (1,6%)	0	0	0	0	0	9 (1,5%)	0	0	0	1 (0,2%)	0	0
	v_cop	n=1 (0,2%)	0	1 (0,2%)	0	0	0	0	0	0	0	0	0	0
	v_lex	n=309 (50,8%)	4 (0,7%)	48 (7,9%)	9 (1,5%)	18 (3%)	2 (0,3%)	62 (10,2%)	6 (1%)	17 (2,8%)	22 (3,6%)	112 (18,4%)	7 (1,2%)	2 (0,3%)
	v_man	n=243 (40%)	1 (0,2%)	60 (9,9%)	3 (0,5%)	20 (3,3%)	0	103 (16,9%)	0	0	7 (1,2%)	48 (7,9%)	1 (0,2%)	0
	v_mod	n=5 (0,8%)	0	5 (0,8%)	0	0	0	0	0	0	0	0	0	0

Let's have a closer look at L2 users' path encoding before we turn to preferred linguistic resources in BC events more specifically (Chapter 3.4). For this purpose, we'll have to differentiate, among paths labelled "complex" above (Tables 9-12), between paths that actually encode event conflation (e.g., *vom Baum runter auf den Boden* 'from the tree down to the ground') and complex path forms where several path elements refer to the same ground element (so-called pleonastic paths, Diedrichsen 2017, e.g., *ins Haus rein* 'into the house in').

Several path/ground expressions are frequently attached to one verb in L1 German (n = 129/16,3%), but more than half of these occurrences are actually pleonastic paths (n = 70/8,9%) and only 59 are semantically complex paths (7,5%; Table 13). In seven of the L1 usage patterns, including the most frequent one (rank 1: pronoun figure-maner verb-pleonastic path), manner verbs are combined with pleonastic paths (n = 49), fewer manner verbs are combined with semantically complex paths (n = 24). For non-manner verbs, the trend is reversed (34 semantically complex paths, but 21 pleonastic paths only), which might indicate a subtle trade-off with respect to information density even for L1 German (semantically richer manner verbs tend to be combined with semantically less complex pleonastic paths, and vice versa).

L2 users produce (non-significantly) fewer complex path types overall (n = 47/7,7%), 25 of which are pleonastic paths (4,1%) and 22 semantically complex paths (3,6%). In L2 German, semantically complex paths with several subtrajectories occur similarly rarely in verbless utterances (n = 9/1,5%), with non-manner verbs (n = 7/1,2%), and manner verbs (n = 6/1%, Table 14). Semantically less complex pleonastic paths also occur with similar frequencies with manner verbs (n = 14/2,3%) and with non-manner verbs (n = 11/1,8%). In contrast to what might have been expected, our advanced L2 users do thus not display any obvious trade-off effects when it comes to complex paths; however, the fact that L2 users produce complex path types rather infrequently overall may indicate that they are not too comfortable with either type of complex path, possibly because both are absent from their L1 French (see above), but maybe also because of a potential, more general L2 trend toward simpler constructional choices (cf. Grießhaber 2018: 7).

Table 13. L1 German co-occurrence frequencies for verb types (v_man = manner, v, v_mod = non-manner) and complex path types (compl: event conflation; compl pleo: pleonastic).

L1 German (rank)	Figure	Motion (verb)	Path	Number of occurrences (tokens)
1	pro	v_man	compl pleo	20
2	e	v	compl	15
3	e	v_man	compl pleo	14
4	e	v_man	compl	11
	pro	v_	compl pleo	11
5	pro	v	compl	10
6	NP	v_man	compl pleo	7
7	e	v	compl pleo	6
8	NP	v_man	compl	5
	pro	v_man	compl	5
9	N	v_man	compl pleo	4
10	NP_compl	v	compl	3
11	N	v	compl	2
	NP	v	compl	2
	pro	v_mod	compl	2
	N	v	compl pleo	2
	NP_compl	v_man	compl pleo	2

12	e	e	compl	1
	e	v_man (MWU)	compl	1
	NP_compl	v_man	compl	1
	NP_extra	v_man	compl	1
	e	v_man (MWU)	compl pleo	1
	NP	v	compl pleo	1
	NPandNP	v	compl pleo	1
	NPandNP	v_man	compl pleo	1

Table 14. L2 German co-occurrence frequencies for verb types (v_man = manner, v = non-manner) and complex path types (compl: event conflation; compl pleo: pleonastic).

L2 German (rank)	Figure	Motion (verb)	Path	Number of occurrences (tokens)
1	e	e	compl	8
2	pro	v_man	compl pleo	6
3	NP	v_man	compl	4
	NP	v	compl pleo	4
4	e	v_	compl	3
	pro	v	compl	3
	pro	v	compl pleo	3
	NP	v_man	compl pleo	3
	NP_compl	v_man	compl pleo	3
5	e	v	compl pleo	2
	N	v	compl pleo	2
	e	v_man	compl pleo	2
6	NP_compl	e	compl	1
	NP_compl	v	compl	1
	e	v_man	compl	1
	pro	v_man	compl	1

3.3 Advanced L2 usage patterns: Unlearning the boundary crossing constraint

Combining manner and path information in compact, information-dense S-framed constructions may be particularly challenging in BC situations (Arias Oliveira 2012; Hendriks, Harr & Bonnet 2018), as BC situations are conceptually complex, including an event of translational motion and a categorical change of location, that is, the transgression of some sort of – real or metaphorical – boundary (Hendriks, Harr & Bonnet 2018). L2 users of German with L1 French need to *unlearn* the BCC, which specifically disallows S-framed tight-fit patterns in BC situations in V-languages (cf. (9) above), but provides frequent loose-fit options (cf. (10) above).

In L1 German, manner of motion is habitually expressed in descriptions of BC motion events, typically in manner verbs (Table 15), that is, manner salience is high in BC situations and tight-fit packaging – manner verb and path satellite – is preferred (n = 85/16,8%, e.g., *ins Wasser springen* 'jump into the water', vs. n = 45/8,9% for path-only constructions, e.g., *in den Abgrund fallen* 'fall into the abyss'). Actually, tight-fit constructions account for about two thirds of the most frequent patterns used for motion event encoding in BC cases (65%) as well as in translational, non-BC motion events (63%; e.g., paddling towards the other shore) and even for 76% in non-translational motion (e.g., jumping around on a bubble).

By trend, preferences are reversed for L2 users of German: L2 German users certainly produce a certain amount of tight-fit constructions in BC situations, too (n = 30/10,2%, Table 16), but strongly prefer path-only constructions (n = 60/20,3%), a type of loose-fit packaging frequent in V-languages. Loose-fit constructions (path only) actually account for around two thirds of the most frequent patterns used for motion event encoding in BC cases (67%) as well as in translational non-BC contexts (63%). As for non-translational motion, where tight-fit options also exist in their L1 French, L2 users of German produce tight-fit constructions in 50% of the cases. Importantly, however, there are no occurrences of the typical V-framed pattern (path verb + manner adjunct) for these advanced L2 users of German.

Table 15. L1 German usage frequencies of tight-fit vs. path-only constructions across motion event types (selection of most frequent patterns, 10+ occurrences).

L1 German n = 506	boundary-crossing	translational motion, non-BC	non-translational motion
tight-fit: manner verb + path satellite	85 (16,8%)	210 (41,5%)	31 (6,1%)
path only: non-manner verb + path satellite	45 (8,9%)	125 (24,7%)	10 (2%)

Table 16. L2 German usage frequencies of tight-fit vs. path-only constructions across motion event types (selection of most frequent patterns, 10+ occurrences).

L2 German n = 295	boundary-crossing	translational motion, non-BC	non-translational motion
tight-fit: manner verb + path satellite	30 (10,2%)	67 (22.7%)	11 (3,7%)
path only: non-manner verb + path satellite	60 (20,3%) incl. 12 tokens of *gehen* errors (20%)	116 (39,3%) incl. 19 tokens of *gehen* errors (16%)	11 (3,7%)

Interestingly, in BC situations, L2 German users seem to produce a substantial amount of what I have called *gehen* errors (Madlener-Charpentier 2022): *Gehen* errors refer to uses of the light verb *gehen* 'to go' in motion event descriptions where this is highly unexpected in L1 German (e.g., for paddling, climbing,

rolling, flying, driving events), as *gehen* 'to go' is strongly connotated with walking on foot in standard German; this is in contrast to English *go* and French *aller* 'to go' that can be used in semantically more neutral ways (including, e.g., for events of driving).

Overall, L2 users produce 12 *gehen* errors for BC descriptions and 31 *gehen* errors for translational, non-BC motion. L2 users do not only resort to *gehen* 'to go' as possibly most neutral verb at hand in cases where we can assume that they lack a precise low-frequency manner verb (e.g., paddling, sneaking, tumbling, gliding); certainly, four of the *gehen* errors in BC situations occur for paddling events, but *gehen* is also occasionally used, e.g., in running, flying, or jumping events. In descriptions of translational, non-BC motion, too, the majority of the *gehen* errors occurs in the description of events for which we can reasonably assume advanced L2 users to have an adequate frequent manner verb at hand, e.g., *fahren* 'to drive' (n = 4), *springen* 'to jump' (n = 8), *rennen* 'to run' (n = 1), *rollen* 'to roll' (n = 4), or *fliegen* 'to fly' (n = 4), which they extensively use for other retellings; only 10 scenes would have needed the use of less common manner verbs such as *climb*, *paddle*, *step*, or *glide* instead of *gehen* 'to go'.

This suggests that in some cases, our advanced L2 users of German display levels of selective attention for *manner* that do not meet the expected levels in S-framed German. This, however, does not seem to indicate particular difficulties with (unlearning) the BCC, but also shows in L2 users' descriptions of translational, non-BC motion events; the challenge for our advanced L2 users of German thus seems to be less related to general L1-based attentional and processing routines regarding manner of motion (even if there is marginal evidence for this), but to the constructional complexity of compact, information-dense S-framed lexicalization patterns – in other words, to the use of manner verbs together with path satellites in semantically and syntactically complex tight-fit utterances (Yilmaz 2018).

3.4 Discussion

We posited two main challenges for L2 users of German, firstly, restructuring of general *information packaging* routines from V-framed to S-framed, including increased manner salience (i.e., increased attention to manner of motion), and secondly, increasing levels of *information density* from loose-fit (or semi-tight fit) constructions to tight-fit constructions combining manner (in the main verb) and path (in a satellite) within complex and compact clauses. While the former may be indicated by an underuse of precise manner verbs such as *crawl, sneak, hobble, march,* or *dash*, the latter may be indicated by reliance on typical V-framed patterns expressing either path only (in verbs such as *überqueren* 'cross', *betreten* 'enter', or neutral *gehen* 'go', possibly with additional path satellites) or path in the main verb and manner in a gerund (e.g., *hüpfend überqueren* 'cross hopping' for 'hop across') or an adverb (e.g., *schnell überqueren* 'cross quickly' for 'run across').

As reported above, there is some evidence that our advanced L2 users of German continue to rely on their strongly entrenched L1 lexicalization patterns (so-called *learned attention*). However, there is only scarce evidence for the assumption that, in a retelling task, advanced users of L2 German significantly struggle with manner *per se* (cf. De Knop & Gallez 2013); this evidence includes (1) a comparatively large proportion of use of the light verb *gehen* 'to go' (cf. also

Goschler 2009: 55; Li 2014 on preferences for light verbs *go* and *come* by L2 users of English, L1 Chinese), which, however, might be explained by a smaller verb lexicon for L2 users of German overall (cf. Goschler 2009: 56; Brown 2015: 77), as well as (2) a small amount of *gehen* errors in motion event descriptions with current manners of motion such as *running* or *flying*, for which advanced learners can reasonably be assumed to know German verbs. By contrast, there is strong evidence that advanced L2 users of German struggle with using these manner verbs together with path satellites in compact, information-dense tight-fit constructions, as posited by Yilmaz (2018).

An additional challenge with respect to the use of the S-framed lexicalization pattern in L2 German is related to the fact that there is a broad range of options for path encoding in German; L2 users of German have been shown to struggle with formally and functionally distinguishing between these options (cf. Madlener-Charpentier & Liste Lamas 2022). Lewandowski (2020: 17) assumes that this diversity of path satellites also impacts L2 users' development of "target-like mastery of the POV (path-outside-verb) pattern in their L2 German", where different path satellites are needed, and may actually lead L2 users to resort to alternative lexicalization strategies, "avoiding the choice of potentially difficult to encode path satellites in the L2" (ibd.). In the present study, too, L2 users of German use fewer path satellites of specific categories – for instance, directional adverbs and verb particles – than the L1 users of German, which indicates some degree of uncertainty.

However, in contrast to prior research on adult L2 learners of S-languages, it is not the case that, in the study reported here, advanced L2 users of German produce typical V-framed constructions where path is encoded in the main verb and manner is encoded in a co-verb (e.g., Bauer 2012; Berthele & Stocker 2016; Yilmaz 2018). Rather, the challenge – possibly, but not necessarily partly based on CLI from the preferred constructional resources of the L1 French – is indicated by our L2 users' strong preference for loose-fit constructions (path-only or manner-only) as compared to L1 German speakers' preference for tight-fit constructions.

With respect to information density, Hendriks et al. (2018) assume that combining multiple information in complex S-framed lexicalization patterns may be more challenging for BC situations as compared to translational non-bounded motion (and possibly non-translational motion). Interestingly, this does not seem to be the case for the advanced L2 users of German investigated here, who display similar constructional preferences across motion event types (BC, non-BC); their preferred use of loose-fit constructions indicates a more general, and possibly long-term challenge with respect to *information density*. This is in line with findings by Goschler (2009), who reports that, in her study, differences between L1 and L2 users of German (L1 Turkish) indicate diverging constructional choices/preferences rather than diverging attention to individual semantic components of motion event processing (i.e., manner of motion). Underuse of tight-fit constructions and preferences for (different patterns of) loose-fit packaging are also reported, e.g., by Brown & Gullberg (2013: 27) for intermediate L2 users of English (L1 Japanese).

In sum, the findings regarding L2 German motion event descriptions indicate that even advanced learners sometimes continue to rely on L1-biased attentional and processing routines, even if this reliance is not obviously indicated by V-framed error patterns as reported elsewhere (e.g., Bauer 2012; Berthele & Stocker 2016; Daller et al. 2011; Alonso 2016; Stam 2017; Yilmaz 2018). Rather, the

data reported here resemble partial avoidance and convergence strategies reported for early bilingual speakers (e.g., Schroeder 2009). Following Filipović (2021: 12), we may interpret this preference for convergent patterns as evidence for the principle of *Maximising Common Ground*, that is, to gravitate towards constructions that are shared/convergent between the L1 (or other previously acquired languages) and the L2 (cf. also Schroeder 2009; Yilmaz 2018).

In many cases, L2 German users' preferences in terms of *information density* reported here – that is, their preference for loose-fit constructions – result in possibly non-salient errors of *omission* (underuse/avoidance, cf. Schachter 1974) rather than more conspicuous errors of *commission* (e.g., #*über das Wasser gehen* 'to go/walk over the water'). As a consequence, L2 users of German may not receive consistent negative feedback regarding their inadequate constructional choices, thus lacking help to focus their attention onto the problematic aspects of their L2 constructions.

4 Learning and using a V-framed L2: advanced L2 users of French

What about the reverse learning challenge, that is, the acquisition of a V-framed L2 by L1 users of an S-language? Is the transition from a more complex system to a less complex one really easier? The following analyses mirror the analyses reported in Chapter 3. They are based on oral retellings of cartoon and picture book retellings by six intermediate to advanced L2 users of French (657 motion event clauses); L2 retellings will be compared to six L1 French participants (772 motion event clauses).

The materials/stimuli and participants are the same as in the data set reported in Chapter 3: L1 users of German also provided L2 French data, L2 users of German also provided L1 French data; this allows for inter- and intraindividual comparisons across languages. In terms of language exposure, the most striking difference between the L2 German users and the L2 French users is that the latter report almost no regular contact with or use of French at work/university or in their private/everyday life.

Table 17. Overview of participants for L1 German/L2 French retellings (n = 6).

self-reported L2 competence level (CEFR)	2x B1 1x B2 2x C1 1x C2
duration of formal learning of French in school	7-10 years (mean: 8.5 years)
enrolment in a university degree program of French	1x fifth semester 1x study program completed
duration of stay-abroad experience	0-12 months (mean: 5.3 months)
regular contact with/use of French at work/university	1/6
regular contact with/use of French in everyday/private life	0/6
Gender	6x female

4.1 Advanced L2 usage patterns: Expression of manner

If we look at the same exemplary scenes as in Chapter 3.2, we find quite a lot of variation in the L1 French data (Table 18), which is in line with prior findings (e.g., Hendriks et al. 2022: 596). Although manner of motion – paddling across water with one's hands in a boat made out of a hat – is rather salient, ID 45 only encodes path (italics): entering the boat, crossing the water, arriving on the other side, leaving the boat, continuing one's way; she uses neutral verbs and verb groups (*s'installer* 'to settle', *continuer sa route* 'to continue one's way') and path verbs (*traverser* 'to cross', *sortir* 'to get out') or verbs of arrival (*arriver* 'to reach'). ID 42 encodes manner (underlined) and path (italics), but in separate, alternating sentences (loose-fit); the manner parts regard the instrument (use the hat as a boat) and the paddling action (*ramer avec ses mains* 'to paddle with his hands') in quite precise descriptions; again, path is encoded in path verbs (*monter* 'to get in', *traverser* 'to cross') or verbs of arrival (*rejoindre* 'to reach'). ID 41 also encodes the getting-in and the crossing actions, but in a remarkably different way, that is, in path satellites (*dans la barque* 'into the boat', *jusqu'à l'autre bout* 'to the other side'); these path satellites are combined with manner verbs (*sauter* 'to jump', *ramer* 'to paddle') in tight-fit constructions, including a BC event (*sauter dans la barque* 'jump into the boat'); this shows that although French can be described as a V-language, there is a broad range of options for L1 users of French to encode motion events.

Three of the exemplary L2 French users (ID 33, 34, 35) use the loose-fit pattern displayed by ID 42, with separate, alternating manner and path utterances (using the hat as a boat – getting in, ID 33; using the hat as a boat – crossing, ID 34; using the hat as a boat – getting in – swimming – reaching the other side, ID 35, Table 19). However, two of them also use one tight-fit construction each; ID 33 produces **nager à l'autre côté* 'to swim to/until the other side', combining a manner verb and a path satellite for translational non-BC motion in a typical S-framed pattern (but see ID 41); by contrast, ID 35 produces a typical V-framed tight-fit construction combining a path verb (*avancer* 'to continue') with a manner adjunct (*avec ce bateau* 'with this boat'), although not a gerund. ID 32 encodes four aspects of manner, but no path at all; this participant chooses precise, over-informative, and partly inadequate manner verbs (*#conduire* 'to drive', *marcher* 'to walk') and visibly searches for the verb *paddle*, which is paraphrased in a rather complex way (*c'est comme nager mais seulement avec les mains* 'it's like swimming but only with the hands'), indicating a strong, possibly L1-induced focus on manner of motion.

Table 18. Scene 1 *Hurdles*, L1 French: The cartoon character jumps over a series of hurdles and falls into an abyss; manner components are underlined; path/ground components are in italics.

41 (L1 French)	**42 (L1 French)**	**45 (L1 French)**
De l'eau se forme autour du bonhomme. ´Water is forming around the guy.´	Le petit bonhomme est confronté à de l'eau, ´The little guy is facing water,´	La ligne *sur laquelle se déplace* La Linea est tout à coup aussi fluide que de l'eau.

		´Suddenly, the line on which La Linea is moving is as fluid as water´.
Heureusement, il a un espèce de chapeau-barque sur la tête. ´Fortunately, he has a kind of boat-hat on his head´	il est même entouré par de l'eau, ´he is even surrounded by water,´	La Linea est un peu sceptique. ´La Linea is a bit skeptical.´
Il le met sur l'eau, ´he puts it on the water,´	et porte un chapeau comme celui de Napoleon Bonaparte. ´and has a hat on, like the one of Napoleon Bonaparte.´	Il s'empare de ce qui lui servait de couvre-chef, ´He grabs the thing that serves as his hat,´
saute *dans la barque*, ´jumps into the boat´	Du coup, le bonhomme décide de se servir de son chapeau comme d'un bateau ´Thus, the guy decides to use his hat like a boat´	le pose sur l'eau; ´puts it on the water;´
rame *jusqu'à l'autre bout* ´paddles until the other side´	et il *monte a l'intérieur* ´and he climbs in´	il *s'y installe*, ´he settles down in it,´
et laisse couler sa petite barque. ´and lets his boat sink.´	et rame avec les mains ´and paddles with his hands´	ce qui lui permet de *traverser cette étendue* ´which allows him to cross this area´
Il s'*en* va. ´He goes away.“	pour *traverser l'eau* ´to cross the water´	et *d'arriver de l'autre côté*, là où la ligne est de nouveau plate. ´and to reach the other side, where the line is flat again.´
	et *rejoindre de nouvelles terres*. ´and reach new lands.´	En *sortant*, Ás he gets out,´
		sa petite embarcation coule. ´his little boat sinks.´
		[...] il *continue sa route*. ´[…] he walks on.´

Table 19. Scene 1 *Napoleon*, L2 French: The cartoon character jumps over a series of hurdles and falls into an abyss; manner components are underlined; path/ground components are in italics.

32 (L2 French)	**33 (L2 French)**	**34 (L2 French)**	**35 (L2 French)**
Le creator, il a dessiné des vagues ´The designer drew waves´	Le dessineur dessine l'eau ou une mer ´The designer draws water or a sea´	Numero huit montre ´Number eight shows´	[…] heureusement, il portait un chapeau ´[…] luckily, he had a hat on,´
et le petit bonhomme, il a aussi un chapeau ´and the little guy, he also has a hat´	et la Linea est là ´and Linea is there´	que le bonhomme, il porte une casquette ´that the guy, he has a cap on´	qu'il peut utiliser en tant que petit bateau en fait. ´which he can actually use as as little boat.´
et le chapeau est super grand	et il pense ´and he thinks´	et il est entouré d'eau.	Il *se met dans son chapeau*

´and the hat is very big´		´and he is surrounded by water.´	´He gets into his hat´
[…] et voila il prend son chapeau ´[…] so he takes his hat´	et après, il prend son chapeau de pirate ´and afterwards, he takes his pirate´s hat´	Alors, il prend cette casquette comme bateau ´Well, he takes this cap as a boat´	et il arrive a nager, ´and he is able to swim,´
et utilise le comme un bateau, voila, ´and uses it like a boat, here you go,´	et prend ce chapeau par un bateau ´and takes this hat as a boat´	pour *traverser* la mer. ´in order to cross the sea.´	il arrive à *avancer* avec ce bateau ´he is able to move forward with his boat´
et dans le bateau, il commence de / c´est comme nager, mais seulement avec les mains, ´and in the boat, he starts to / it´s like swimming, but only with his hands,´	et il uhm *monte dans le bateau* ´and he uhm climbs into the boat´		pour *arriver sur une petite île.* ´in order to reach a small island.´
ils lui aident de conduire avec le petit bateau ´they help him to drive with the little boat´	et nage uhm *à l'autre côté.* ´and swims uhm to the other side.´		
et voila *il retrouve la terre* apres l'eau ´and well, he reaches land after the water			
et voila il continue de marcher. ´and well, he walks on.´			

In the second scene (hurdle jumping, Table 20), the L1 speakers saliently refer to manner of motion through the use of manner verbs *(courir* 'to run', *sauter* 'to jump'); two of them use manner-only utterances here (ID 41, 45), along with a path-only utterance for the final falling event, whereas ID 44 produces three path-only utterances, three manner-only utterances, and two utterances encoding manner and ground in a transitive verb construction (*sauter un obstacle/le troisième* 'to jump an obstacle/the third one').

Two of the L2 French users (ID 32, 33) follow the manner-only pattern with manner verbs (*courir* 'to run', *sauter* 'to jump') and a path-only utterance for the final falling event (cf. ID 41, 45, Table 21). ID 34 patterns with ID 44 in that she produces one manner-only utterance, one path-only utterance, and one transitive utterance (*qu'il saute* 'that he jumps'). Finally, ID 36 produces one manner-only, three path-only utterances, and one tight-fit construction (manner verb + path satellite: *sauter sur des choses* 'jump on(to) things'); the latter has a routine reading of non-translational motion (jumping around on things), but in this context

the intended meaning is translational with BC (jumping over things)[10]; importantly, in contrast to what would be expected in V-framed French, ID 36's path-only utterances encode path in satellites (*sur la première/deuxième chose* 'on/over the first/second thing') in an S-framed pattern, not in path verbs. There is thus quite a broad range of variation in L2 users' event descriptions, too, certainly overlapping with L1 users' variation patterns to a large extent, but with some S-framed features that may indicate partial reliance on L1-based attentional and lexicalization patterns, with respect to both manner and path.

Table 20. Scene 2 *Hurdles*, L1 French: The cartoon character paddles across a lake, from an island to the shore; manner components are underlined; path/ground components are in italics.

41 (L1 French)	**44 (L1 French)**	**45 (L1 French)**
Trois, deux, un, partez. ´Three, two, one, go.´	Notre petit bonhomme au long nez est sur la ligne de départ. ´Our little guy with the long nose is at the starting line.´	On fait du sport. ´It´s sports time.´
Il court, ´He runs,´	On le voit, ´We see him,´	[…] Et là, en l'occurrence, c'est du saut d'obstacles. ´[…] And there, as it happens, it´s the hurdle race.´
saute, ´jumps,´	trois, deux, un, ´three, two, one,´	Il saute à la haie. ´He jumps hurdles.´
court, ´runs,´	le petit bonhomme se relève ´the little guy gets up´	Alors, il prend son élan ´So, he gains momentum´
saute, ´jumps,´	et il *part*, ´and he goes off,´	et il saute ´and he jumps´
court, ´runs,´	il court, ´he runs,´	et il saute ´and he jumps´
saute, ´jumps,´	il court, ´he runs,´	et il saute ´and he jumps´
puis, ah, à la derniere haie, voit ´and then, ah, at the last hurdle, sees´	il saute *un obstacle puis deux*, ´he jumps one obstacle and then two,´	et puis là, tout à coup, de nouveau une mauvaise blague du dessinateur: ´and then, here, suddenly, again a bad joke from the designer:´
que le chemin s'arrête là, ´that the path stops there´	il croit sauter *le troisième*, ´he thinks that he´s jumping over the third,´	Après la haie, plus rien. Áfter the hurdle, nothing more.´
donc s'agrippe à la haie, ´so he grabs the hurdle,´	mais là, il *tombe en bas de la falaise*. ´but there, he falls down the cliff.´	Et le petit bonhomme, il *tombe*. ´And the little guy, he falls.´
[…] la haie craque ´[…] the hurdle breaks´	Il se raccroche à l'obstacle ´He hangs on to the obstacle,´	
et il *tombe*. ´and he falls.´	qui glisse ´which slips´	

[10] In French, the complex preposition *par-dessus* 'over' would be expected in the translational motion reading.

	et qui *tombe* avec lui. ´and which falls with him.´	

Table 21. Scene 2 *Hurdles*, L2 French: The cartoon character paddles across a lake, from an island to the shore; manner components are underlined; path/ground components are in italics.

32 (L2 French)	**33 (L2 French)**	**34 (L2 French)**	**36 (L2 French)**
Le petit bonhomme, il a besoin de faire une sport. ´The little guy, he needs to do a sport.´	La Linea se fait prêt pour le début d'un cour[se] ´La Linea gets ready for the start of a race´	Ici, le bonhomme est en train de courir. ´Here, the guy is running.´	Hugo aime le sport. ´Hugo likes sports.´
Et voila, il fait la chose ´So here you go, he does this thing´	et il court ´and he runs´	Il y a des obstacles aussi ´There are obstacles, too,´	Tous les mercredis, il fait de l'athlétisme. ´Every Wednesday, he does athletics.´
où on court très très vite ´where you run very very fast´	et court ´and runs´	*qu*'il saute, ´which he jumps,´	Il aime sauter *sur des choses*. ´He likes to jump *on things.´
et où on saute aussi. ´and where you jump, too,´	et saute ´and jumps´	mais le dernier, après, la ligne s'arrête ´but the last one, afterwards, the line stops´	[…] il s'est préparé très très bien. ´[…] He´s prepared himself very well.´
C'est une combinaison d'entre courir et sauter en même temps. Ít´s a combination of running and jumping at the same time.´	et saute ´and jumps´	et donc après l'obstacle, il *tombe*. ´and thus, after the obstacle, he falls.´	[…] et il commence à courir. ´[…] and he starts to run.´
[…] il commence à courir. ´[…] he starts to run.´	et à la fin du chemin, le chemin est fini ´and at the end of the path, the path stops´		*Sur la première chose,* ´*On the first thing,´
Et voila tout à coup la ligne est finie ´And well, suddenly, the line stops´	et il *tombe*. ´and he falls.´		*sur la deuxième chose* *´on the second thing´*
[…] et il *tombe*, voilà. ´[…] and he falls, that´s it.´			et oups, il n'y a pas […] un sol. ´and, oops, there is no ground.´
			[...] et en fin, il *tombe*. ´[…| and in the end, he falls.´

The following tables 22 to 24 were already introduced above (Tables 6 to 8). We come back to them here in order to look at L2 French users' expression of manner more closely. As for the use of manner verbs, our advanced users of L2 French seem to have adapted to L1 French levels of manner verb use fairly well (39,3% vs. 37,7%; $p_w = 0.67$ n.s.; Table 22); they certainly use less manner verbs in their L2 French retellings than in their L1 German retellings of the same stimuli (39,3% vs. 52,1%; $p_w < 0.001$). Whether this is due to successful restructuring of event construal (decreased manner salience) or, for instance, to a lack of L2 vocabulary is an open question at this point.

The ten most frequent verbs are actually largely identical in both groups, including four manner verbs (*sauter* 'to jump', *marcher* 'to walk', *courir* 'to run', *voler* 'to fly'), two path verbs (*tomber* 'to fall', *monter* 'to ascend'), a verb of arrival (*arriver* 'to arrive'), and the light verb *aller* 'to go'. The path verb *partir* 'to leave', however, is less frequently used in L2 French than L1 French (n = 37 vs. n = 11). Other path verbs (e.g., *avancer* 'to continue/go on', *passer* 'to pass') as well as *grimper* 'to climb', which encodes manner and path, are underused in L2 French, too (n = 32/37/39 vs. n = 3/1/4). L2 speakers' underuses of *partir* 'to leave' are particularly salient in their retellings of Haughton (2014), the story of four characters chasing a colorful bird; in the three scenes where the bird is about to be caught, but flies away in the last moment, L1 French users prefer *partir (en volant)* 'leave (flying)', whereas the L2 French users prefer *(s'en)voler* 'to fly (away)' (e.g., *et l'oiseau, il vole de nouveau* 'and the bird, he flies again', ID 32). This might indicate that V-framed restructuring is particularly challenging for specific events/construals, in this case, *away* events; this possibly also applies to *exiting* and *passing* events (as opposed to somewhat "easier" *entering* and *ascending* events), but this assumption would need further corroboration in follow-up studies. L2 underuse of *grimper* 'to climb' might indicate L2 vocabulary issues.

As expected, multiword units used by L2 speakers of French are less precise (e.g., *continuer la route* 'continue one's way', *faire une promenade* 'go for a walk', *faire une excursion* 'go for a trip', *faire un saut* 'do a jump') and/or indicate word searches (e.g., *faire un sprung/faire des sprünge* 'do a [jump/jumps$_{German}$]', *prendre le bateau* 'take a boat', *prendre l'escalier* 'take the stairs') when compared to those of the L1 users (e.g., *faire un plongeon* 'to take a dive', *faire de l'équitation* 'to ride (a horse)', *faire des foulées de galop* 'to galop', *faire du saut à la perche* 'to high jump'); the latter possibly indicate task-induced attention to manner in L1 French.

Table 22. Raw and relative frequencies of manner verbs produced for translational motion per group.

Manner verbs (incl. multiword expressions)	German	French
L1	404 / 775 (52,1%)	255 / 676 (37,7%)
L2	253 / 571 (44,3%)	241 / 613 (39,3%)

With respect to manner as expressed outside the verb, L2 French users lag substantially behind the L1 baseline (10,4% vs. 17,9% of the utterances; $p_w < 0.001$; Table 23). This is expected, given that manner satellites are also used to a lesser extent in L1 German (13,6% vs. 17,9%; $p_w = 0.037$), in line with the S-framed lexicalization pattern. Navarro and Nicoladis (2005: 106) also report that "L2 speakers [of Spanish] produced fewer post-verbal manner expressions than the

L1 group"; they assume that the L2 users "compensated for this difference by producing more manner verbs" (ibd.). However, it may also be the case, as observed by Filipović (2021: 12; see above), that L2 users of V-languages find adding information about manner in manner satellites too complex and/or may lack the linguistic resources to do so.

Table 23. Raw and relative frequencies of manner satellites produced by the language groups (out of all clauses).

Manner in satellites (adverbials) including cases with multiple manner satellites	German	French
L1	107 / 789 (13,6%)	138 / 772 (17,9%)
L2	76 / 610 (12,5%)	68 / 657 (10,4%)

L1 German users are actually most likely to add manner information in adjuncts to utterances where manner is already expressed in the main verb (61 occurrences out of 107 manner satellites, 57%; Table 24). By trend, L1 users of French combine manner adjuncts with manner verbs less often (n = 52/37,7%), but the difference is not statistically significant ($p_w = 0.23$ n.s.). Although L2 French users produce fewer manner adjuncts than L1 users of French (see above), they use more than half of them (51%) in combination with manner verbs; although descriptively, this is closer to their L1 German productions (57%) than to the L1 French baseline (38%), statistically, L2 users differ neither from the L1 French baseline ($p_w = 0.23$ n.s.) nor from the L1 German baseline ($p_w = 0.88$ n.s.); this has been described as convergence behavior (Treffers-Daller & Tidball 2016) and might indicate that restructuring in the direction of the target language French is challenging even if in this case restructuring means reducing manner salience resp. complexity.

Table 24. Frequencies of combined expressions of manner in a manner verb plus a manner satellite (adverbial).

Combined expressions of manner (manner verb and other)	German	French
L1	61 (61/107: 57%)	52 (52/138: 38%)
L2	35 (35/76: 46%)	35 (35/68: 51%)

If we compare the most frequent motion event encoding patterns between L1 French (Table 25) and L2 French (Table 26), L2 users display high levels of successful restructuring: The three most frequent patterns are the same in the two groups, with the two most frequent ones containing non-manner verbs (as opposed to L1 German); the L2 French patterns in ranks 4 to 10 correspond to L1 French ranks 4 to 12 (though in diverging orders) and thus come very close.

Overall, 7 out of the 12 most frequent L2 patterns (in ranks 1 to 12) contain manner verbs, as compared to 5 out of 12 in L1 French (and 9 out of 12 in L1 German); L2 French is thus on a middle ground between their L1 German and the L1 French target. Compared to their L1 German, L2 French users' most frequent patterns diverge a lot more (ranks 1-12 in L2 German correspond to ranks 3 to 33 in L1 German; the three most frequent L2 French patterns correspond to L1 German ranks 5, 16, and 20; Table 9), although most of them are compatible with L1 German options (except for 4 L2 French patterns in ranks 11 and 12 that are not part of the L1 German patterns occurring at least 6 times). This indicates good progress in restructuring encoding preferences.

There are only very few instances of L2 French users' overreliance on the S-framed L1 pattern with problematic path satellite uses. One instance is represented by ID 35's production *Mais pourquoi tu marches sur moi, sur mon dos comme ca?* 'But why do you walk on me, on my back like this?' (non-translational motion) with the intended meaning 'why did you jump/step onto my back?' (translational motion); the preposition *sur* 'on' has a habitual locative reading, although it may be used with a translational reading 'onto' in combination with high-energy verbs such as *sauter* 'to jump' (e.g., *sauter sur le podium* 'to jump onto the pedestal') or path-and-manner verbs such as *grimper* 'climb' (e.g., *grimper sur le rocher* 'to climb on top of the rock'; cf. Hendriks & Hickmann 2015 for discussion of ambiguous uses of locative prepositions in BC descriptions in French). Given that this possibility may actually be witnessed by L2 French users, overuse of the pattern in non-licensed contexts may indicate either L1-biased attention or L2 users' intent to understand the L2 patterns and their limits.

L2 French speakers' patterns still display some minor characteristics that distinguish them from the L1 baseline. First, L2 French users produce fewer adverbial paths than the L1 French users (ranks 16 to 17 vs. ranks 9, 11, 14, 16, 18). This might indicate some degree of uncertainty regarding adverbs in motion event descriptions (see below). Second, they use more multiword units instead of manner verbs, which might indicate L2 vocabulary issues (see above). Third, L2 French speakers use more names for the figure and also noun phrases with extraposition (e.g., *et le petit bonhomme, il saute* 'and the little man, he jumps', ID 32; *et le petit bonhomme, il tombe* 'and the little man, he falls', ID 32), both of which might contribute to reducing L2 users' overall burden in the complex retelling tasks, but need not necessarily be related to motion event descriptions.

In sum, our advanced L2 users' preferred patterns do not indicate substantial degrees of L1-based over-reliance on S-framed lexicalization patterns or excessive levels of attention to manner in their retellings, except for a few combined productions of manner verbs with manner satellites (Table 23). L2 users' retellings are actually more skewed towards the two most frequent patterns (shared in both L1 and L2 French) than L1 users' productions, which may be interpreted as evidence for good restructuring of the basic lexicalization pattern encoding path in the main verb.

Table 25. Motion event description patterns, baseline L1 French (frequency of occurrence 6+).
(e = ellipsis; pro = pronoun; NP = noun phrase; NP_compl = complex noun phrase; v_man = manner verb; v = lexical verb without manner information; MWU = multiword unit; dir_adv = directional adverb; part = separable verb particle; prep = preposition; compl = complex path/event conflation)

L1 French (rank)	Figure	Motion (verb)	Path	Number of occurrences (tokens)
1	pro	v	prep	81
2	pro	v	e	66
3	pro	v_man	e	54
4	e	v	prep	51
5	e	v	e	47
6	e	v_man	e	41
7	e	v_man	prep	33
8	pro	v_man	prep	31
9	pro	v	adv	29
10	NP	v_lex	prep	25
11	pro	v_man	adv	24
12	NP	v	e	23
13	NP_compl	v	e	17
14	e	v	adv	14
15	NP_compl	v	prep	13
16	NP	v_man	adv	11
	pro	v	inf	11
17	pro	v	compl	8
18	e	v_man	adv	7
	pro	v_man	compl	7
	NP_compl	v_man	e	7
	NP	v_man	prep	7
19	NP	v	adv	6
	NP	v (MWU)	e	6
	pro	v (MWU)	e	6
	e	v_man (MWU)	e	6
	N	v	e	6

Table 26. Motion event description patterns, baseline L2 French (frequency of occurrence 6+).
(e = ellipsis; pro = pronoun; NP = noun phrase; NP_extra = NP with extraposition/pronoun resumption; NP_compl = complex noun phrase; v_man = manner verb; v = lexical verb without manner information; MWU = multiword unit; dir_adv = directional adverb; part = separable verb particle; prep = preposition; compl = complex path/event conflation)

L2 French (rank)	Figure	Motion (verb)	Path	Number of occurrences (tokens)
1	pro	v	prep	99
2	pro	v	e	71
3	pro	v_man	e	47
4	e	v_man	e	46
5	e	v	prep	30
6	pro	v_man	prep	28
7	e	v	e	26
8	NP	v	prep	24
9	NP	v	e	21
10	e	v_man	prep	15
11	pro	v_man (MWU)	e	14
	NP_extra	v	e	14
	NP	v_man	e	14
	NP_extra	v_man	e	14
12	NP_extra	v	prep	13
13	pro	v (MWU)	e	10
14	N	v	prep	9
15	N	v_man	e	8
	e	v	NP	8
16	pro	v	NP	7
	NP_compl	v	prep	7
	N	v_man	prep	7
	NP	v_man	prep	7
17	pro	v	adv	6
	pro	v_man	adv	6
	N	v	e	6

4.2 Advanced L2 usage patterns: Expression of manner

L1 and L2 users of French do not differ with respect to their use of verb types to encode motion events (light verbs, path verbs, manner verbs; $p_w = 0.731$ n.a.). Importantly, they use similar proportions of path verbs (38,8% vs. 41.3%; Table 27) corresponding to the typical V-framed lexicalization pattern of French, primarily in BC contexts. Ten out of the 12 most frequent path verbs (e.g., *tomber* 'to fall', *monter* 'to ascend', *sortir* 'exit', *traverser* 'to cross') overlap in the two groups (which is not too surprising, as the retelling stimuli strongly impact verb

choice). L2 users actually seem to be actively looking for L2 path verbs, some of which they idiosyncratically and creatively model on lexical resources from other V-languages they know to a certain extent (notably ID 36: *croucer* 'to cross' [span. *cruzar*]; *supérer* 'to overcome, to get over' [span. *superar*]). See below for light verb use.

Table 27. Raw and relative frequencies of verb types produced for translational motion by the language groups.

	Light verbs	Path verbs (incl. multiword expressions)	Path and manner verbs	Manner verbs (incl. multiword expressions)
L1 French	134 / 676 (19,8%)	262 / 676 (38,8%)	25 / 676 (4%)	255 / 676 (37,7%)
L2 French (L1 German)	115 / 613 (18,7%)	253 / 613 (41,3%)	4 / 613 (0,01%)	241 / 613 (39,1%)

By contrast, L1 and L2 French speakers partly differ with respect to the use of path satellites (Tables 28-29): For instance, L2 users produce fewer adverbial paths ($n = 30/4{,}6\%$ vs. $n = 97/12{,}6\%$; $p_w = 0.006$), indicating that they might be challenging for L2 users of French. French does not formally differentiate between locative and directional adverbs, whereas L2 users of French with L1 German are used to this distinction (e.g., *rein* 'in(to)' vs. *drin* 'inside') and might therefore hesitate to use French (locative) adverbs in their motion event descriptions. The latinate adverb *en* 'away' may represent a different challenge, as *en* is ambiguous (usually standing in for a prepositional phrase with *de* 'of/from', but with different functions, e.g., partitive particle, e.g., *j'<u>en</u> prends deux* 'I'll have two of them'; source adverb, e.g., *j'<u>en</u> viens* 'I come from there'; directional adverb, e.g., *je m'en vais* 'I'm going away/I'm leaving'). Overall, L2 users of French encode path less often outside the verb than L1 users of French (53,6% vs. 59,7%; $p_w = 0.02$); as their L2 use of French significantly differs from their L1 use in German, too ($p_w < 0.001$), this hybrid behavior might point to an L2 simplification strategy, resulting in globally less complex L2 utterances.

Table 28. Co-occurrence frequencies of verb types and path types, L1 German
(e = ellipsis; v_lex = lexical verb without manner information; v_man = manner verb: MWU = multiword unit; v_cop = copula verb; v_mod = modal verb; adv = adverb; compl = complex path/event conflation; deic = deictic adverb; inf = infinitive; NP = noun phrase; part = separable verb particle; prep = preposition; pro = pronoun)

L1 French (n=772)		**path**									
		adv	compl	deic	e	inf	NP	Part	prep	pro	prefix
		n=97 (12,6%)	n=44 (5,7%)	n=4 (0,5%)	n=311 (40,3%)	n=16 (2,1%)	n=23 (3%)	n=0	n=266 (34,5%)	n=11 (1,4%)	n=0
verb	e	n=15 (1,9%)	0	2 (0,3%)	0	9 (1,2%)	0	0	0	4 (0,5%)	0	0
	v_lex (MWU)	n=17 (2,2%)	0	0	0	16 (2,1%)	0	0	0	1 (0,1%)	0	0
	v_man (MWU)	n=12 (1,6%)	0	0	0	12 (1,6%)	0	0	0	0	0	0
	v_cop	n=0	0	0	0	0	0	0	0	0	0	0
	v_lex	n=470 (60,9%)	54 (7%)	23 (3%)	4	164 (21,2%)	16 (2,1%)	18 (2,3%)	0	180 (23,3%)	11 (1,4%)	0
	v_man	n=258 (33,4%)	43 (5,6%)	19 (2,5%)	0	110 (14,2%)	0	5 (0,6%)	0	81 (10,5%)	0	0
	v_mod	n=0	0	0	0	0	0	0	0	0	0	0

Table 29. Co-occurrence frequencies of verb types and path types, L1 German
(e = ellipsis; v_lex = lexical verb without manner information; v_man = manner verb: MWU = multiword unit; v_cop = copula verb; v_mod = modal verb; adv = adverb; compl = complex path/event conflation; deic = deictic adverb; inf = infinitive; NP = noun phrase; part = separable verb particle; prep = preposition; pro = pronoun)

L2 French (n=657)			**path**									
			adv	compl	deic	e	inf	NP	Part	prep	pro	prefix
			n=30 (4,6%)	n=7 (1,1%)	n=5 (0,8%)	n=305 (46,4%)	n=9 (1,4%)	n=29 (4,4%)	n=0	n=262 (39,9%)	n=10 (1,5%)	n=0
verb	e	n=7 (1,1%)	0	0	0	2 (0,3%%)	0	0	0	5 (0,8%)	0	0
	v_lex (MWU)	n=17 (2,6%)	1 (0,2%)	0	0	15 (2,3%)	0	0	0	1 (0,2%)	0	0
	v_man (MWU)	n=21 (3,2%)	0	0	0	15 (2,3%)	0	0	0	6 (0,9%)	0	0
	v_cop	n=0	0	0	0	0	0	0	0	0	0	0
	v_lex	n=394 (60%)	14 (2,1%)	4 (0,6%)	2 (0,3%)	143 (21,8%)	9 (1,4%)	26 (4%)	0	187 (28,5%)	9 (1,4%)	0
	v_man	n=218 (33,2%)	15 (2,3%)	3 (0,5%)	3 (0,5%)	130 (19,8%)	0	3 (0,5%)	0	63 (9,6%)	1 (0,2%)	0
	v_mod	n=0	0	0	0	0	0	0	0	0	0	0

Some instances of path satellite uses (instead of path verbs) are interesting with respect to so-called *satellization* effects (cf. Muñoz & Cadierno 2019: 57). Cadierno (2004) coined this term to report L2 combinations of (redundant) directional adverbs with neutral/light verbs such as *move, go* (e.g., *mover abajo* 'move down') in L2 Spanish. Cases of satellization, that is, combinations of path satellites with light verbs (primarily *aller* 'to go'; cf. Hijazo-Gascón 2018: 251) may represent, for L2 French users with an S-framed L1, a kind of middle ground between the typical, manner-salient S-framed pattern on the one hand and the target V-framed pattern. Such combinations do actually occur in French (e.g., *aller à l'école* 'go to school'), their overuse in non-licensed contexts by L2 users may indicate L2 users' intent to understand the L2 patterns and their limits as well as their tendency to stay "close to home": *Aller* 'to go' plus path satellite patterns may actually very nicely correspond to L2 users' search strategies for L2 patterns with reduced manner salience, but still the habitual way of encoding path in a satellite.

(Redundant) Adverbial paths in combination with path verbs may occur in colloquial French, too, e.g., *sortir dehors* 'to exit outside' or *monter dessus* 'ascend up(on)'. There is only one example in the productions of our L2 users of French and it actually corresponds to an L1 option (ID 34, *pour monter dessus* 'in order to ascend up(on)'); the adverb is actually not redundant in this case, as *monter* 'ascend' may refer to an incremental motion event, whereas *monter dessus* refers to translational motion (i.e., the figure actually reaching the top of the ground element).

Overall, there are 26 instances of more problematic, at best marginal uses of path satellites in the L2 data, mostly produced by ID 31, followed by IDs 33 and 34; satellization (27-33) with light verbs may be a temporary, individual L2 strategy to approach the use of genuine path verbs (by starting to reduce manner salience in the verb slot), but it may also indicate vocabulary gaps or even represent an avoidance strategy; the latter is most evident in (33) with two hesitation markers:

(27) *peut-être la grenouille est allée par la fenêtre 'maybe the frog went throuth the window' → intended: *sortir* 'to exit' (ID 31)
(28) *et alors le chat est allé chez l'homme 'and then the cat went to the man' → intended: *approcher* 'to approach' (ID 31)
(29) *et ir / oh, oui / ir dans l'autre part de l'eau 'and to go [Spanish] / oh, yes / to go [Spanish] in the other part of the water' → intended: *traverser* 'to cross' (ID 31)
(30) *et je vais aller sur cette chose 'and I will go on this thing' → intended: *monter* 'to go up' (ID 31)
(31) *et le reste de la famille est venu de l'eau ,and the rest of the family came from the water' → intended: *sortir* 'to exit' (ID 33)
(32) ?il est allé dehors 'he went outside' → intended: *sortir* 'to exit' (ID 34)
(33) *et La Linea uhm prend l'escalier uhm en bas → intended: *descender l'escalier* 'descend the stairs' (ID 33)

However, some instances of self-repair (e.g., 34) indicate L2 users' general awareness of the V-framed target pattern (with path verbs), though, even if the L2 users are not always able to spontaneously produce it in their retellings:

(34) l'homme n'a pas de chance de aller / de monter sur ce don [intended: *dos*] 'the man does not have a chance to go / to mount onto this [horse] back' (ID 31),

4.3 Advanced L2 usage patterns: Boundary-crossing events

Learning to respect the BCC in the process of restructuring one's preferred lexicalization patterns has been reported as a main challenge for L2 users of V-languages (e.g., Treffers-Daller & Tidball 2016). Like their L1 counterparts, the advanced L2 users in our data set do actually not always encode BC, but may encode non-translational motion in BC situations, leaving the BC component implicit (35-36):

(35) et saute 'and jumps' (over the hurdles) (ID 33)
(36) il fait un grand saut 'he does a big jump' (into the water) (ID 35)

If they explicitly encode BC, the L2 users display three main patterns: Firstly, they express path in both the main verb and a path satellite (37-39) or a ground noun phrase (40); this is the most frequent pattern in both L1 and L2 French, accounting for a total of 42 resp. 31 occurrences, mostly *entering* events (n = 15 in L1 French, n = 20 in L2 French) and *exiting* events (n = 12 in L1 French, n = 9 in L2 French):

(37) ils tombent *dans* quelque chose comme un petit lac 'they fall into something like a small lake' (ID 32)
(38) il sort en fait *de* sa petite maison 'he exits actually from his small house' (ID 35)
(39) et alors il pouvait entrer *dans* ce chapeau 'so well he could enter into this hat' (ID 31)
(40) pour traverser *la mer* 'in order to cross the sea' (ID 34)

Second, they express manner and path, primarily encoding manner in the main verb – basically *sauter* 'to jump', as licensed in French – and path in a satellite (41-43), but occasionally also with other (path-and-)manner verbs such as *s'échapper* 'to escape' (44); this is the second most frequent pattern in both L1 and L2 French (n = 19/16; majoritarily *into* events in L1 French, n = 9, followed by *over* events, n = 5; mostly *over* events in L2 French, n = 7), which is why I suggest to interpret these L2 uses as S-like pattern variants licensed by the L1 French. There is no evidence for L2 use of the typical V-framed pattern, encoding path in the verb and manner in a co-verb (which is rarely used in L1 French, too, n = 4), in the L2 data; however, there is one problematic instance of an S-framed path usage (45) as well as one ambiguous occurrence (46), which possibly indicate L1-biased encoding preferences:

(41) pour sauter *au-dessus* de ce trou 'in ordert o jump over the hole' (ID 35)
(42) et il saute *dans* l'eau 'and he jumps into the water' (ID 33)
(43) il veut faire une saute *dans* l'eau directement 'he wants to make a jump into the water directly' (ID 34)
(44) la nuit, Felix s'échappe *de* la verre 'in the night, Felix escapes from the glass' (ID 33)

(45) #et roule *sur* une colline 'he rolls on a hill' (intended target: translational motion *over* with BC: *traverser* 'cross') (ID 33)
(46) ?pour nager dedans 'in order to swim inside' resp. 'in order to swim/jump in' (ID 36)

The third most frequent L2 pattern for the encoding of BC combines deictic/light verbs with a path satellite (10 occurrences); this pattern is rare in L1 French (n = 4). Six of the L2 uses may still be considered as licensed by the target language (cf. 47), as there are similar occurrences in L1 French; the other four are more problematic (cf. 48-49, cf. Hijazo-Gascón 2018; Muñoz & Cadierno 2019):

(47) donc ils vont dans la forêt 'so they go into the woods' (ID 35)
(48) *la grenouille est allée par la fenêtre 'the frog went through the window' (intended: *sortir* 'exit')
(49) *le reste de la famille est venu de l'eau 'the rest of the family came from the water' (intended: *sortir* 'exit') (ID 33)

Uses of bare path verbs for BC descriptions are not particularly rare in the L2 descriptions, but 13 of the 14 occurrences are produced by one L2 user (ID 35), so we may assume that this pattern represents an individual coping strategy rather than being a more general interlanguage pattern for L2 users of French with German as an L1.

In sum, adapting to the BCC does not seem particularly challenging for our advanced L2 users of French with L1 German. If the L2 users explicitly encode BC, they do so quite confidently, using patterns that largely overlap with L1 users' choices. Salient L2-specific encodings diverging from the V-framed pattern and L1 users' choices are far and few between (n = 5) and not specific to BC contexts, as they also occur in non-BC translational motion events. L2 users might benefit from the fact that crucial L2 French patterns overlap with L1 German patterns, e.g., for *falling* events (path verb *tomber/fallen* 'fall' and path satellite).

Overall, L2 users of French seem to stick even more closely to loose-fit constructions than L1 speakers of French in their retellings of motion events (non-translational motion, translational motion, BC events): Whereas L1 French users produce 517 loose-fit constructions and 211 (semi-)tight constructions, L2 French users produce 528 loose-fit constructions and 98 (semi-)tight constructions. This may either indicate that our advanced L2 users still display a general preference for relatively simple L2 patterns, avoiding the combination of manner and path information together in complex, compact clauses (cf. Lewandowski & Özçalışkan 2021 for similar observations for L2 German with L1 Polish); or that, at some points, they overshoot with respect to the target language's loose-fit encoding preferences, once these have been identified by the L2 users.

4.4 Discussion

Prior studies have shown that CLI is more predominant with L2 users of V-languages with intermediate as compared to advanced competence levels, for instance, with respect to path satellite use in L2 Spanish (L1 Danish, L1 English, cf. Cadierno & Ruiz 2006). Advanced L2 users seem to more readily "manage to restructure their L1 thinking for speaking pattern when talking about motion" in

V-framed L2s (Anastasio 2023: 42; cf. Song et al. 2016); however, the restructuring of strongly entrenched L1 lexicalization patterns, for instance in BC contexts, may still represent a challenge even for advanced L2 users of V-languages (e.g., Berthele & Stocker 2016; Cadierno 2004; Larrañaga et al. 2012; Hendriks & Hickmann 2015; cf. Anastasio 2023: 40 for discussion).

In the present study, intermediate/advanced users of L2 French (L1 German) were found to have rather well adapted to the target language's basic V-framed lexicalization pattern, both in terms of information focus (decreased manner salience) and information locus (encoding path in the main verb, including idiosyncratic ad-hoc coinages of path verbs); if their preferences in terms of information density (loose-fit vs. tight-fit) seem to slightly diverge from the target language, this does not indicate CLI, as their L1 German is more information-dense than their L2 French, whereas their L2 preferences are, if anything, less information-dense, in line with potential L2 trends towards simpler constructional choices (Grießhaber 2018). This finding of largely successful L2 restructuring of French V-framed lexicalization patterns is in line with findings, e.g., by Lewandowski (2020) for L2 users of Spanish (L1 Polish), displaying good restructuring in terms of path expressions in verbs as compared to satellites (Lewandowski 2020: 11) as well as path detail/path complexity (number of path expressions per clause, Lewandowski 2020: 14). It is in contrast to Hijazo-Gascón (2018), who reports substantially lower proportions of path verb use in L2 Spanish retellings (L1 German) as compared to L1 Spanish (n = 37 vs. n = 64; Hijazo-Gascón 2018: 248, despite good restructuring with respect to manner verb use, Hijazo-Gascón 2018: 249). Hendriks and Hickmann (2015: 29) report that

> [e]ven advanced learners of French have by no means reached the target: Although they are already quite proficient and show some shifting in the right direction overall, their productions still display an influence of the source language, possibly because of the entrenchment of source language patterns.

They assume that in the particular case of French as an L2 (Hendriks and Hickmann 2015: 14), in addition to challenges due to typological L1-L2 differences,

> an additional difficulty should result from the fact that French is not entirely consistent in its patterning, allowing English-like lexicalization patterns in some cases, but not in others. This requires the learners to discover the nature of the regularities from a target input that presents them with constrained variability.

The participants of Hendriks and Hickmann (2015: 23) do not seem to reach target-like levels of path expression in the main verb in *across* motion events, even at the highest proficiency levels. Hendriks and Hickmann (2015) argue that expressing BC events is specifically challenging (cf. Treffers-Daller & Tidball 2016; Cadierno & Ruiz 2006 and Muñoz & Cadierno 2019 for L2 Spanish), with L2 users of French partly continuing to rely on their L1-based S-framed pattern, supposedly because they are used to "a language in which both manner and path tend to be expressed as frequently and together" (Hendriks and Hickmann 2015: 28); in addition to S-like BC expressions (i.e., manner verb + path satellite), they seem to explore a substantial range of other "ways to express both path and manner" in their L2 French (ibd.), including S-like non-BC expressions (50), S-like semi-tight packagings (51), and – primarily at lower competence levels –

idiosyncratic S-based constructions with L1-based made-up path satellites, given that French lacks such resources (52; cf. Hendriks & Hickmann 2015: 23-24):

(50) Là, un petit garcon qui nage jusqu'à le autre côté de le lac. 'There a little boy who swims all the way to the other side of the lake' (Intermediate High)
(51) Un homme court pendant il traverse la route. 'A man runs while he crosses the road' (Intermediate Low)
(52) Une homme a courir à crossé une le autoroute. 'A man has run 'across' a the highway'. (Low)

In the present study, by contrast, L2 French users' BC descriptions closely match those of the L1 speakers, and typically V-framed semi-tight packaging strategies are not found. This may be an effect of L2 users' competence levels and/or, again (cf. footnote 6), an effect of the stimuli used (see 5.2); in Hendriks & Hickmann (2015), as in Allen et al. (2007), participants were asked to verbalize isolated motion events based on short video clips, whereas in the present study, participants were involved in the retelling of complex stories, each of which contained several (spontaneous and caused motion) events; they may therefore have felt freer to use loose-fit options and to gradually construct their utterances (in discourse) instead of looking for options for semi- and tight-fit constructions (in one sentence).

Creative ad-hoc coinages for path satellites (cf. 52) are not found in the L2 data investigated here either, but rather some idiosyncratic, creative coinages of path verbs are (*croucer* 'to cross', *supérer 'to cross/overcome',* see Chapter 4.3). This, along with other evidence such as self-corrections (replacing light verbs by path verbs), indicates our advanced L2 users' high levels of attention to the relevant V-frame of their target language French, although they still overuse some S-like categories and patterns of motion event descriptions, e.g., light verbs in combination with path satellites, in spontaneous language use for narrative purposes.

Following the argumentation in Anastasio (2023: 55), learning V-framed French as a second language might actually be easier for L1 users of German than for L1 users of English, who typically make up S-language groups in empirical studies on motion event encoding. On the one hand, German is an even more typical S-language than English, in terms of information packaging (manner salience) and information-density (global utterance complexity; cf. Madlener-Charpentier 2022); on the other hand, English has a series of latinate path verbs such as *enter, exit,* or *descend*, whereas such path verb resources are less frequent, basically transitive, and not cognates in German (e.g., *überqueren* 'to cross', *verlassen* 'to leave'). Now, Anastasio (2023: 55) argues that learning an L2 with relevant similarities may be helpful in the beginning, but hamper acquisition at later stages:

> L1 French–L2 Italian and L1 Italian–L2 French learners easily recognize V-patterns, which are the preferred strategies in their [source language] and in their [target language], preferences confirmed by the institutional input. Once the assumed similarities are confirmed, learners make no effort to search for alternative linguistic devices to encode the same motion concepts […]. So, the effect of language proximity can be facilitative in lexical terms at intermediate stages but can also postpone the learning of other target-like devices which are functionally similar […]

If we extend this less-may-be-more argumentation (cf. also Lewandowski 2020: 15), L1 users of English learning a V-framed L2 – who, in earlier studies, have often been reported to display L1-biased encoding preferences – may in a similar way be more successful in finding similarities between their L1 English and a Romance L2 such as French or Spanish, that is, cognate path verbs (e.g., *enter* – *entrer* – *entrar*), early on; they may then "wrongly assume that the expression of motion in L1 can simply be transferred to L2" in general (Larrañaga et al. 2012: 127) or make less efforts to look out for significant differences at other levels of construal and constructional choices (cf. Anastasio 2023) as compared to L2 French users with L1 German, whose L1 is more different from their L2 on typological grounds (manner salience, information density) than English and who cannot rely on shared resources such as path verb cognates for crucial categories of motion event encoding either; L2 users may possibly better resist CLI if they "perceive[…] that the L1 and L2 are not sufficiently related" (Lewandowski 2020: 15 referring to Kellerman 1978); in the end, this may make the task of restructuring harder at the beginning, but lead the L2 users to look out more closely for differences in constructional choices at various levels of granularity and stop them from making overly general assumptions regarding the transferability of constructional options for motion event encoding. This assumption might be worth investigating further in follow-up studies.

5 General discussion

Acquiring a language means learning a network of constructions – that is, form-meaning pairings – at different levels of abstraction and complexity; generalizations emerge from processes of pattern detection based on the experience of systematic repetition and variation across forms and functions in concrete usage events. Following the *Thinking for Speaking* hypothesis, form-meaning mappings, constructional preferences, and corresponding event perspectivations are acquired early and strongly entrenched in L1 acquisition. As Hendriks and Hickmann (2015: 14) state,

> languages present learners with different preferences for such form–function mappings, leading to cross-linguistic variation. For a fluent speaker, these mappings come naturally with little need to make active choices (even though such choices might be available in certain contexts).

Languages differ with respect to *information packaging*, that is, which aspects of events are habitually chosen for verbalization (information focus), as well as which linguistic means are habitually used (information locus), but also with respect to *information density*, that is, how much information is habitually compressed into clauses and utterances. L1 entrenchment may represent a challenge in L2 acquisition, if L1 and L2 constructions, categories, or cues diverge, making at least some restructuring of habitual information packaging, information density, and corresponding strategies – of encoding, construal, attention allocation – necessary.

5.1 Restructuring of L2 constructional choices across typologically different languages

Restructuring from a V-framed L1 to an S-framed L2 is assumed to involve partly different challenges than restructuring from an S-framed L1 to a V-framed L2. As Anastasio (2023: 41) summarizes, "in the case of transition from an S-language L1 to a V-language L2, learners must focus less on Manner. In the opposite transition, learners must pay more attention to Manner and to a detailed Path." The former (S-framed L1 to V-framed L2) thus implies restructuring core lexicalization patterns while *reducing* manner salience as well as information density, whereas the latter (V-framed L1 to S-framed L2) implies restructuring core lexicalization patterns while *increasing* manner salience as well as information density.

Prior research indicates that by trend, it is easier for L2 users, in the process of restructuring processing routines and adapting to L2 lexicalization patterns, to *reduce* manner salience and information density/utterance complexity than to *increase* levels of manner salience and information density (V-framed L1 to S-framed L2; cf. Lewandowski 2020; Madlener-Charpentier 2022). Yet Negueruela et al. (2004: 113) assume that re-thinking for speaking is also challenging for L2 users of V-languages (S-framed L1 to V-framed L2) and "particularly vexing for the L1 English speakers, because their L1 is richly endowed with manner verbs, while Spanish, their L2, is not" (113).

In the present study, we have reported evidence that indicates that, firstly, encoding motion events is not trivial for intermediate/advanced L2 users of either German or French; that secondly, in line with the above assumptions, advanced L2 users of German (L1 French) struggle somewhat more with restructuring (V-framed L1 to S-framed L2) than L2 users of French (L1 German, S-framed L1 to V-framed L2); and that thirdly, in general, L2 users' challenges are not due to learning specific linguistic means *per se* (manner verbs, path verbs, directional adverbs etc.), but to learning the language-specific combinatorial patterns and using constructional patterns in (complex) utterances. This assumption was previously made for L2 users of S-framed languages (e.g., Yilmaz 2018); the present study shows that this assumption applies to our advanced L2 users of S-framed German and that the findings extend to L2 users of V-framed French.

5.1.1. Learning S-framed German

In section 2.3, we outlined L2 users´ challenges and our expectations with respect to L2 restructuring of constructional repertoires with respect to *information packaging* and *information density*. Based on prior research, we assumed that L2 users of German, whose L1 is V-framed French, face challenges regarding *information packaging*, as they need to *increase* manner salience (and utterance complexity, see below) in the process of restructuring. Advanced L2 users of German in the present study use fewer manner verbs than L1 users of German (cf. Aveledo & Athanasopoulos 2023: 23 for L2 English), but they also use more manner verbs in their L2 German retellings than in their L1 French, which indicates at least certain levels of restructuring. However, L2 users of German use comparatively fewer manner-highlighting combinations of manner verbs and manner adjuncts than L1 German speakers (although again more than in the L1 French baseline).

This may indicate somewhat lower, L1-biased levels of attention to manner in L2 German; but the finding may also indicate general L2 coping strategies (preference for simpler structures in complex tasks). The latter interpretation is in line with the finding that the L2 users of German in the sample analyzed here prefer semantically and syntactically less complex loose-fit packaging options, for instance, gradually unfolding descriptions based on alternating manner-only utterances (with implicit paths) and path-only utterances, although they are able to produce more complex, information-dense tight-fit utterances both in translational motion and in BC contexts.

At the level of manner, there is only scarce evidence for the assumption that, in a narrative retelling task, advanced users of L2 German significantly struggle with attention to manner/manner verbs *per se*; it is true that the L2 users of German display a certain amount of *gehen* errors; *gehen* errors may indicate somewhat reduced levels of selective attention for *manner* as compared to L1 users of S-framed German; however, as they only partially occur in motion event descriptions with current manners of motion such as *running* or *flying*, they may as well (partly) be due to vocabulary gaps (e.g., *paddle, step, climb, tumble, slide*). *Gehen* errors are also found for L2 users of German with L1 English (Madlener-Charpentier 2022), who actually produce similar amounts of *gehen* errors (n = 21) in retellings based on the same set of stimuli, which may indicate occurrences of lexical/semantic transfer from English; it may thus also be the case that for L2 users of German with L1 French, *gehen* errors may indicate lexical/semantic transfer from French *aller* 'go' (or from L2 English *go*).

By contrast, there is strong evidence that advanced L2 users of German struggle with the second challenge posited above, that is, *information density*. The crucial point in restructuring – with respect to construal, selective attention, but also vocabulary – does thus not seem to be manner salience *per se*, but getting used to using manner verbs together with path satellites in compact, information-dense tight-fit constructions (cf. Schroeder 2009; Yilmaz 2018). At the level of constructional choices, tight-fit options are less frequent in the L2 German data than the L1 German baseline (3 vs. 8 out of the top 12 pattern ranks). The two most frequent patterns in L2 German certainly contain manner verbs, but not in combination with path satellites; in return, the two most frequent patterns with path satellites contain non-manner verbs. The most frequent combinations of manner verbs and path satellites reduce the processing burden at the figure slot, which is either empty of filled by a pronoun; the first combination of an NP figure, a manner verb, and a path satellite (rank 9) contains "light" path satellites (adverbs). However, the most frequent L2 German constructions (ranks 1-12) largely overlap with L1 German options and with L1 French patterns; this possibly indicates L2 users' preference for convergent constructions, which "work" similarly well in their L1 French and the target language German.

Importantly, we do not find evidence for L2 use of typical V-framed constructions (path verb + manner adjunct/gerund); this is in contrast to findings, e.g., by Berthele & Stocker (2016) for L2 German (L1 French) or Aveledo & Athanasopoulos (2023) for L2 English (L1 Spanish). Aveledo & Athanasopoulos (2023: 25) actually report as a key finding that "in English, bilinguals produced path verbs in combination with manner expressions; these are mainly gerunds attached to romance-origin path verbs (e.g., *enter, exit* […])." . As such cognate path verbs are not available in German, our participants may have been less tempted by lexical overlap to choose this construction.

In sum, as for the participants of the present study, L1 German users display a general trend in favor of compact, information-dense tight-fit constructions, whereas L2 German users display the reverse trend in favor of less information-dense, less compact loose-fit options. If we look at the individual slot-fillers, advanced L2 learners of German seem to dispose of a good range of linguistic resources (slot filler options), but retellings indicate that, to some degree, they still hesitate to join or merge these resources – particularly, manner verbs and path satellites – within globally complex, information-dense utterances in complex narrative tasks. If this hesitation was induced by L1 constructional biases, we would expect it to arise primarily in BC contexts; however, the same pattern is found in L2 users' descriptions of translational, non-BC motion events. Aveledo & Athanasopoulos (2023: 29) report a similar finding, that is, "that English monolinguals produced more manner verbs in combinations with one or more than one path satellite, than bilinguals". Their interpretation of this finding is that intermediate advanced L2 users of English "are still learning the use of path prepositions in English and the ability to stack paths to describe different components of a motion event in a single structure" (Aveledo & Athanasopoulos 2023: 32). In the present study, this finding is not related to the use of prepositions or to event conflation, but to path satellites in general, and prepositional paths are rather confidently produced by our L2 users in other constructional contexts; I therefore suggest that the challenge for our advanced L2 users of German is not specifically related to general L1-based attentional and processing routines regarding manner of motion and the often discussed BCC, that is, information packaging, (even if there is marginal evidence for continuing reliance on L1-biased attentional routines and lexicalization patterns), or to the acquisition of prepositional phrases/event conflation *per se*, but to the constructional complexity of compact, information-dense S-framed constructional choices (cf. Madlener et al. 2017) – in other words, the use of manner verbs together with path satellites in semantically and syntactically complex utterances (Yilmaz 2018).

5.1.2. Learning V-framed French

We assumed that L2 users of French, whose L1 is S-framed German, would also face challenges with respect to both *information packaging* and *information density*. Based on prior research and general assumptions regarding L2 development, we assumed that *reducing* both manner salience and information density (utterance complexity, see below) would be a comparatively smaller challenge, leading to relatively quick and successful restructuring of L2 constructional repertoires. We find that CLI in this group is actually relatively marginal, as there is not much evidence for L1-biased attention or overreliance on L1 French constructional choices for the intermediate to advanced L2 users of French in our sample. Certainly, seven of the most frequent L2 patterns include manner verbs (as compared to five for L1 French) and individual learners also seem to be searching for precise manner verbs in some contexts, but overall, they do not overuse manner verbs, either in BC or non-BC contexts; they rather use manner verbs to similar extents as L1 French speakers and their preferred patterns are closer to L1 French preferences than to L1 German preferences, which indicates good restructuring (although basically all frequent L2 options are compatible with L1 German constructions, indicating convergence). They also use non-

manner verbs to a similar extent as L1 French speakers, although they underuse some specific path verbs (e.g., *passer* 'to pass'). The three most frequent L2 French patterns correspond to the L1 baseline preferences; overall, there is good overlap between the L2 and L1 French patterns used in the retelling tasks. L2 users' retellings are actually more skewed towards the two most frequent patterns (shared in both L1 and L2 French) than L1 users' productions, which may be interpreted as evidence for good restructuring of the basic lexicalization pattern encoding path in the main verb.

Rather than differences in verb use, we find – small – differences in the use of satellites/adjuncts between L1 and L2 users of French. With respect to *manner*, L2 users of French produce fewer manner adjuncts than L1 users of French; this may be due to L1-based constructional biases and/or to the fact that manner satellites are too complex for the L2 users (Filipović 2021) and that they lack the necessary linguistic resources. However, *if* L2 French users produce manner adjuncts, they use them in combination with manner verbs more often than L1 French users and to a similar extent as in their L1 German productions. This finding may be interpreted as (marginal) evidence for L1-induced attentional biases (manner salience); yet it is not the case that our L2 users "compensated for this difference by producing more manner verbs" (Navarro & Nicoladis 2005).

With respect to *path*, evidence for L1-biased constructional choices – primarily, expressing path in satellites – is scarce, as cases of inadequate path satellites uses are far and few between (e.g., *venir de l'eau* 'come out of the water'); problematic uses of path in satellites in BC contexts (e.g., *sauter sur les choses* 'jump on(to) the things'; intended meaning: jump over hurdles) are even less frequent (in contrast to findings, e.g., by Song et al. 2016, Treffers-Daller & Tidball 2016). However, combinations of path satellites with light verbs (primarily *aller* 'to go'; cf. Hijazo-Gascón 2018: 251) may represent, for L2 French users with an S-framed L1, a kind of middle ground between the typical, manner-salient S-framed pattern on the one hand and the target V-framed pattern, allowing them to stay "close to home": *Aller* 'to go' plus path satellite patterns may correspond to L2 users' search strategies for L2 patterns with reduced manner salience, but still the habitual way of encoding path in a satellite. But this does not necessarily indicate overreliance on L1-based attentional routines and encoding options; as such combinations actually occur in French (e.g., *aller à l'école* 'go to school'), their overuse in non-licensed contexts by L2 users may indicate L2 users' active hypothesis testing in order to understand the variable L2 patterns in the input and their limits. In both cases, we can assume that L2 users of V-framed French, just like their peers in the L2 German group, primarily struggle with learning to use combinations of different types of linguistic means in (one or more) utterances describing different types of motion events. Anyway, constructional choices such as combinations of light/neutral verbs with path satellites (that is, path-only constructions) constitute evidence against the assumption that L2 users of French might, by trend, prefer overly complex, information-dense constructions (S-framed tight fit utterances), based on habitual L1 patterns. Our L2 users of French do not display any L1-based tendency to attach several path expressions to one (manner verb) either.

L2 users of French are actually faced with considerable variation in their input (cf. Hendriks et al. 2022), including path verbs (*enter* 'to go in') as well as path satellites (*aller <u>à l'école</u>* 'to go <u>to school</u>'), manner verbs (*courir* 'to run') and manner adjuncts (*en courant* 'running'), loose-fit as well as semi-tight-fit constructions (path only, manner only, path and manner in different clauses), but also evidence

for tight-fit options (path and manner in one clause). Their productions in our study reflect this large range of encoding options for motion events, with the exception of the typical V-framed semi-tight pattern (path verb + manner gerund), which may be too complex for the L2 users (recall that these constructions are not found for L2 users of German with L1 French either in the present study). The fact that L2 French proportions of path verb use are comparable to the L1 French baseline, that learners seem to actively search for path verbs (creatively coining path verbs based on their plurilingual repertoire), and that they sometimes self-correct (replacing a neutral/deictic verb by a path verb) indicates that – despite the input variation – the L2 users in this sample are well aware of the basic V-framed constructional options for path encoding (in the main verb). Overall, the L2 French users display an even greater preference for loose-fit constructions than the L1 French speakers; this possibly indicates that the loose-fit option of information packaging preferred by L1 French users is easily accessible to the L2 users.

The BCC has been claimed to be particularly challenging for L2 users of V-languages. The present data set does not provide substantial evidence for this assumption. The L2 users in our sample routinely use four constructional types to encode spontaneous motion in BC contexts: isolated path verbs, path verbs plus path satellites (this is actually the most frequent pattern in L1 French), deictic/neutral verbs plus path satellites (some of which are potentially problematic), and manner verbs plus path satellites (licensed in L1 French for high-energy verbs). Overall, our L2 users' BC descriptions closely match the L1 preferences. With respect to the BCC, we thus find better L2 performance (better restructuring) than in other studies; this may be due to methodological differences (see 5.2 below).

In sum, for both learning "directions" – S-framed L1 to V-framed L2, V-framed L1 to S-framed L2 – we observe two central trends: First, L2 users primarily struggle with the combinatorial potential – and its limits – of the linguistic means that are available in the target language, that is, with using combinations of different linguistic categories in (complex) utterances in specific contexts (e.g., BC); this had earlier been claimed and shown for L2 usage of S-languages, but seems to extend to L2 usage of V-languages. Second, L2 users seem to implicitly adhere to the principle of *Maximising Common Ground*, that is, to gravitate towards constructions that are shared/convergent between the L1 (or other previously acquired languages) and L2 (Filipović 2021); this had also previously been assumed and shown for L2 usage of S-languages, but seems to extend to L2 usage of V-languages.

5.2 Methodological challenges

Some of the findings reported in the present study diverge from earlier studies. This may partly be due to the specific language pair under investigation here (German-French), but also to the elicitation methods used. In the present study, L1 and L2 users were asked to retell complex stories (or meaningful sections of stories) that happened to contain a substantial number of spontaneous motion events, as many stories happen to do, along with other types of events, for instance, activities (e.g., fishing, searching, chasing, drawing, watching TV), emotions and mental states (e.g., surprise, anger, disappointment, fright, joy), localizations, caused motion events etc., involving a large array of linguistic means

and patterns (instead of filler items to avoid convergence onto one response pattern). The retellings thus show what L1 and L2 users spontaneously do (as opposed to what we can push them to do) – certainly in a lab setting, but based on contextualized, coherent, and complex retelling tasks (as opposed to targeted naming/description tasks based on depictions of isolated motion events in short video/cartoon clips).

This gives participants more freedom in choosing which aspects of the events to encode (information focus) and which linguistic means and patterns to use for their encoding (information locus; cf. Akita & Matsumoto 2020: 152) and thus goes one step into the direction called for by Athanasopoulos and Bylund (2020), namely to take investigations of CLI out of the lab into the real world, in order "to assess […] naturally occurring behavior and communicative strategies" and thus to "provide a much-needed missing link between the existing experimental research and an ecologically valid approach that considers the extent to which laboratory studies generalize to natural spoken language use" (Wang & Wei 2022: 53), although it does still not meet either the request for mixed-methods approaches in the domain of motion event encoding and CLI (Wang & Wei 2022: 54) or the challenge to "broaden the scope of language-and-thought research to measurable social interactional and cultural effects" (Wang & Wei 2022: 55).

The retellings in the present study represent authentic narratives, as participants strive to create suspense, concentrate on the characters' plans, the plan breaks, and typical story frames. In addition, only a very small number of participants report some level of attention to motion events in the debriefing interviews, a further indication of task authenticity. In contrast to more controlled elicitation studies, the participants did thus not work out hypotheses about the target structures of the study.

In addition, the present study used a mix of retellings based on wordless picture books (Mayer 1959; Haughton 2014) and short animated cartoon sequences (Cavandoli 2003). Picture books have widely been used for elicited retellings of motion events, primarily the so-called *Frog Story* (Mayer 1959); this makes the present data set comparable to prior studies. The second picture book (Haughton 2014) was chosen because motion events of a broad range of types are nicely embedded in an engaging story, which, in addition, has a typical three-way repetition structure in itself (three different attempts at catching a bird), allowing for repetition and variation in encoding choices. However, picture books are challenging – as compared to animated cartoons – because participants need to infer which motion events may have taken place in between the individual pictures (whereas the relevant events are explicitly depicted in animated cartoons); this has been criticized, for instance, by Navarro and Nicoladis (2005: 104), advocating for the use of video films for data elicitation instead:

> This technique enables participants to describe a motion scene based on an actual dynamic figure that is in displacement within a given context. As a result, participants have access to a more accurate and realistic observation that triggers a natural use of motion frames. Previous studies of motion descriptions largely depended on picture stories. This kind of stimuli yielded interesting results, though participants were faced with the challenge of having to infer motion events from static images […].

Stories in picture books also tend to be highly complex, which has been criticized with respect to data elicitations from (younger) children; we might assume that

L2 users, particularly at lower levels of overall competence, might be overwhelmed, too, by the amount of information to process in order to make decisions about what aspects to choose for encoding. In order to avoid information overload, participants in the present study were free to watch the animated cartoons several times, at their own pace, before retelling them one by one; and they were free to look at the picture books several times before retelling (and even while retelling).

As participants were adults in the present study, they were introduced to the task and then left alone in a quiet room (with the audio recording device switched on) to work their way through the powerpoint presentation at their own pace; there was thus no control for whether they retold all sequences or whether they mentioned motion in their retellings. This differs from more controlled interactive approaches, e.g., Allen et al. (2007), where participants are prompted, by a listener/experimenter, to provide a description of each motion event if they do not spontaneously do so (Allen et al. 2007: 26, 28); even if the prompts did not explicitly focus on either path or manner of motion in Allen et al. (2007), they may still have contributed to raising participants' awareness of what was really expected from them, that is, encoding the motion event for each stimulus, therefore raising participants' potential awareness of the target structure and possibly inducing a more strategic approach to the task.

The number of participants in the present study is very small of course (6 participants with L1 German, L2 French; 6 participants with L1 French, L2 German); the data set is thus very likely to be strongly impacted by individual differences amongst learners. On the upside, there is a very rich data set for each participant (up to 1000 clauses), allowing for the investigation of variation in L1 and L2 productions (preferred lexicalization patterns, range of available patterns) across a large variety of motion (and other) events (some of which with inconspicuous path and manner components, others with salient paths of motion, still others with salient manners of motion). This is important as "[t]he knowledge of a speaker-hearer cannot be understood as a fixed grammar, but rather as patterns of activation across a statistical ensemble of memorized language experiences that change slightly every time a new utterance is processed" (Ellis 2012: 265-266), also in the course of data elicitations. The corresponding concept of (intra-individual) variation is certainly at the core of interlanguage research (Dimroth 2019), but has recently begun to receive new attention not only in experimental, but also in corpus linguistic research (e.g., Ädel 2015; Wulff & Gries 2021). Wisniewski, Lüdeling, and Czinglar (2022: 202) assume that (intra- and interindividual) variation is a key concept in understanding L2 acquisition and use. As in this study, each participant provided data in their L1 and L2, we can compare motion event descriptions across and within groups and individuals.

Conflict of interest statement

The authors declare none.

Data availability statement

The data set can be requested from the author for review, replication etc.

Ethics statement

All participants provided their written informed consent to participate in this study.

License

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Appendix

Statistical analyses were carried out in R (R Core Team 2024), using non-parametric Kruskal-Wallis rank sum tests followed by pairwise comparisons using Wilcoxon rank sum test (p-value adjustment method: BH).

Tables 6 / 22: Manner verb frequencies

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Kruskal-Wallis rank sum test
        data:  VerbtypBINAER by Group
        Kruskal-Wallis chi-squared = 53.371, df = 3, p-value = 1.528e-11
```

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbtypBINAER and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	5.2e-10	-	-
L2Ger	0.0069	0.0029	-
L2Fr	2.0e-08	0.6681 n.s.	0.0089

Tables 7 / 23: manner adjuncts

Kruskal-Wallis rank sum test
data: MannerSat by Group
Kruskal-Wallis chi-squared = 18.947, df = 3, p-value = 0.0002804

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$MannerSat and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	0.03683	-	-
L2Ger	0.56204 n.s.	0.01823	-
L2Fr	0.07958 n.s.	0.00022	0.24702 n.s.

Tables 8 / 24: combined expressions of manner in a manner verb plus a manner adjunct

Kruskal-Wallis rank sum test
data: VerbtypMannerMitMannerSat by Group
Kruskal-Wallis chi-squared = 4.6805, df = 3, p-value = 0.1967 n.s.

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbtypMannerMitMannerSat and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	0.23 n.s.	-	-
L2Ger	0.88 n.s.	0.23 n.s.	-
L2Fr	0.88 n.s.	0.23 n.s.	0.88 n.s.

Tables 11-12 / 28-29: frequencies of specific path types; co-occurrence frequencies of specific path types per verb type (manner vs. non-manner)

(number of) directional adverbs

Kruskal-Wallis rank sum test
data: PathGroundGlobalDIR_ADV by Group
Kruskal-Wallis chi-squared = 327, df = 3, p-value < 2.2e-16

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$PathGroundGlobalDIR_ADV and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	<2e-16	-	-
L2Ger	0.096 n.s.	<2e-16	-
L2Fr	<2e-16	-	<2e-16

(number of) adverbial paths in general

Kruskal-Wallis rank sum test
data: PathGroundGlobalADV by Group
Kruskal-Wallis chi-squared = 184.35, df = 3, p-value < 2.2e-16

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$PathGroundGlobalADV and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	< 2e-16	-	-
L2Ger	0.5317 n.s.	2.9e-16	-
L2Fr	< 2e-16	0.0056	< 2e-16

(number of) path satellite ellipses

Kruskal-Wallis rank sum test
data: PathGroundGlobalE by Group
Kruskal-Wallis chi-squared = 197.42, df = 3, p-value < 2.2e-16

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$PathGroundGlobalE and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	< 2e-16	-	-
L2Ger	3.2e-13	0.00033	-
L2Fr	< 2e-16	0.01958	1.9e-08

directional adverbs in combination with manner verbs vs. non-manner verbs

Kruskal-Wallis rank sum test
data: VerbtypPathDIR_ADV by Group
Kruskal-Wallis chi-squared = 7.0395, df = 1, p-value = 0.007973

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbtypPathDIR_ADV and all.df$Group

	L1Ger
L2Ger	0.008

complex paths in combination with manner verbs vs. non-manner verbs

Kruskal-Wallis rank sum test
data: VerbtypPathCOMPL by Group
Kruskal-Wallis chi-squared = 2.1143, df = 3, p-value = 0.549 n.s.

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbtypPathCOMPL and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	0.78 n.s.	-	-
L2Ger	0.78 n.s.	0.78 n.s.	-
L2Fr	0.78 n.s.	0.92 n.s.	0.78 n.s.

path satellite ellipses in combination with manner verbs vs. non-manner verbs

Kruskal-Wallis rank sum test
data: VerbtypPathE by Group
Kruskal-Wallis chi-squared = 26.292, df = 3, p-value = 8.285e-06

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbtypPathE and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	0.7020 n.s.	-	-
L2Ger	0.0010	4.1e-06	-
L2Fr	0.3946 n.s.	0.0975 n.s.	0.0013

prepositional phrases in combination with manner verbs vs. non-manner verbs

Kruskal-Wallis rank sum test
data: VerbtypPathPREP by Group
Kruskal-Wallis chi-squared = 20.879, df = 3, p-value = 0.0001116

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbtypPathPREP and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	0.00268	-	-
L2Ger	0.00523	0.91755 n.s.	-
L2Fr	0.00012	0.46105 n.s.	0.51454 n.s.

Table 27: frequencies of path verbs

Kruskal-Wallis rank sum test
data: VerbTypTab27 by Group
Kruskal-Wallis chi-squared = 12.521, df = 3, p-value = 0.005797

Pairwise comparisons using Wilcoxon rank sum test with continuity correction
data: all.df$VerbTypTab27 and all.df$Group

	L1Ger	L1Fr	L2Ger
L1Fr	0.230 n.s.	-	-
L2Ger	0.011	0.020	-
L2Fr	0.206 n.s.	0.731 n.s.	0.043 n.s.