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# Within-type variation in Satellite-framed languages: The case of Serbian

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**Abstract:** After a wealth of studies on motion event descriptions, it seems hard to say something new: the Verb-framed/Satellite-framed typology proposed by Talmy has spawned a long debate. Among other things, previous work has shown within-type variation for one of the two language types defined by Talmy, namely Verb-framed languages. In this paper, we address this debate, showing within-type variation for the other type, Satellite-framed languages, with new data elicited from native speakers of Serbian. In order to do so, we compare it with five other languages, from three Indo-European language families (Romance, Germanic and Slavic). Our data show that Serbian is a particularly interesting case, since it is structurally Satellite-framed, but behaves like Verb-framed languages in that speakers do not always express manner and path jointly (i.e. manner in the verb and path in the satellite), as expected on the basis of Talmy's typology. The main result of our paper is thus that there is a good deal of within-type variation for both language types identified by Talmy.

**Keywords:** Verb-framed typology, Satellite-framed typology, motion event description, Serbian

## 1 Introduction

Much has been said about the way languages describe space, or, more precisely, the way language users are guided by their language systems in the description of their spatial surroundings (see e.g. Vandeloise 1986, Bloom et al. 1996, Pütz and Dirven 1996, Hickmann 2003, Hickmann and Robert 2006, Levinson and Wilkins 2006, Evans and Chilton 2010, Aurnague 2004). The debate between universalists and relativists is still actual despite its age – see for instance the

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works of von Humboldt in the nineteenth century or even Condillac in the eighteenth, on similar issues.

The present paper focuses on a related theme, viz. the question of a possible typology of languages as proposed by Talmy (1991, 2000). This typology predicts that specific linguistic structures, described as “lexicalization patterns” (cf. Talmy 2000: e.g. the presence of PATH satellites) have consequences for the semantic distinctions made by speakers (e.g. the frequent use of fine-grained MANNER verbs). It thus establishes a distinction between Satellite-framed (henceforth SF) languages, i.e. those that have a specific slot for PATH expression – the satellite – outside the verb, leaving the verb free for the expression of MANNER (example 1), and Verb-framed (henceforth VF) languages, i.e. those that tend to express PATH in the main verb root, leaving MANNER either unexpressed (example 2) or expressed outside the main verb (example 3):

(1) *The boy ran out of the room* (English)

(2) *Le garçon est sorti* (French)  
 DEF.M.SG boy AUX.PRS.3SG exit.PAST.3SG.M  
*de la pièce*  
 from DEF.F.SG room  
 ‘the boy exited the room’

(3) *Le garçon est sorti* (French)  
 DEF.M.SG boy AUX.PRS.3SG exit.PAST.3SG.M  
*de la pièce en courant*  
 from DEF.F.SG room in run.PRS.PART  
 ‘the boy exited the room at a run’

This typology could be seen as a generalization of earlier suggestions made by specialists of French and German on such examples, showing that French had a tendency to express only PATH, whereas German frequently expressed MANNER as well (Bally 1965 [1932], Vinay and Darbelnet 1958, Tesnière 1959, Malblanc 1961).

Picking up on earlier work which showed (partial) empirical confirmation of this typology for six languages (Thai, Swedish, Polish, German, French and Piedmontese, Fagard et al. 2013),<sup>1</sup> we focus here on a different question, the within-type differences for SF languages. In order to do this, we compared the

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<sup>1</sup> We take this opportunity to thank Anetta Kopecka and Jordan Zlatev, co-authors of the paper in question, for their help and insights, as well as the anonymous reviewers, for their precious comments.

results of Fagard et al. (2013) with similar data for Serbian. Serbian, a South Slavic language spoken in Serbia and neighboring countries by close to 9 million speakers, is a flexional language with rich nominal and verbal morphology, and SVO order. It has a productive system of prefixes (*od-* ‘away from’, *do-* ‘toward’, *iz-* ‘out of’, *pro-* ‘past’) which combine with all types of verbs. These prefixes play a fundamental role in the aspectual system, determining the opposition between perfective and imperfective. They also have spatial meanings, and may combine with motion verbs (Stosic 2001, 2007, Filipović 2002, 2007). In such uses, when MANNER and PATH of motion are both expressed, as in (4)–(5), these prefixes express PATH and they should be analyzed as satellites, while the verb expresses MANNER.

(4) *Istrčao je u baštu* (Serbian)  
 out.run.PAST.M.SG AUX.PRS.3SG into garden.ACC  
 ‘he ran out into the garden’

(5) *Ptica je proletela iznad kuće* (Serbian)  
 bird.NOM AUX.PRS.3SG past.flown.PAST.F.SG above  
 house.GEN  
 ‘the bird flew past above the house’

These examples illustrate the fact that Serbian typically patterns with English at least for some kinds of motion-event descriptions. Serbian is thus structurally a SF language, and has been classified as such by Talmy (1991).

However, Filipović (2002, 2007, 2011) argues that it behaves more like an intermediate language, between SF and VF, namely with a much lower frequency of MANNER expression than English, both in experimental conditions (Vidaković 2012) and in corpora (Filipović 2010). We propose to test these premises on the basis of additional elicited data.

Our data consist of some 4,285 utterances in which participants describe a series of video-clips, obtained with an elicitation tool designed specifically for the investigation of motion event verbalization in a typological perspective (Ishibashi et al. 2006). We selected for this purpose two pairs of genetically close languages, which in Talmy’s typology are SF languages: Polish and Serbian, German and Swedish, and one pair of VF languages (French and Piedmontese).<sup>2</sup> Our goal with this language selection is therefore to have a

<sup>2</sup> Our goal in this paper is to show the importance of within-type variation for SF languages: we included VF languages only to show across-type variation.

measure of *within-type* variation to oppose to the *across-type* analysis traditionally associated with typological investigations. By now, many studies have pointed out the limits of Talmy's typology which, among other things, fails to predict family-internal variation, something which is particularly relevant for Romance languages (Gsell 1982, Berthele 2006, Iacobini and Masini 2006, Cini 2008, Iacobini 2009; see Section 2).

In order to measure similarity or distance within and across the two language types, we focus on meaning construction, by observing the expression or non-expression of MANNER and PATH. We take here the term *construction* both in a very broad sense of "co-expression" of features in an utterance or clause, and in a strict sense, following the lines of construction grammar as developed by Goldberg and others (see e.g. Goldberg 2013): a construction is then understood as a more or less conventionalized form-meaning pair, in which the 'form' counterpart of the meaning can take on various shapes, from phoneme to complex, abstract construction. Our idea is that the problem lies not with the *presence or absence* of specific semantic information (such as PATH and MANNER), or their simple encoding in a given lexical item (i.e. lexicalization strategies *à la* Slobin), but with their *distribution* (see Beavers et al. 2010). As shown by Slobin (2004), languages differ not so much in what they (enable their speakers to) express as in the way they organize and structure the information; in consequence, some semantic components may be more salient than others. This is in line with the claim by Croft et al. (2010) that a better typological analysis would be to propose construction types rather than language types, languages showing affinities to one or more construction types.

Our expectation is thus that there will be *more* variation if we take into account the distribution of semantic components over clauses, in a first approximation towards a constructional analysis.

## 2 State of the art

Differences in the way speakers of Germanic and Romance languages describe motion events have been pointed out by various authors in the mid-twentieth century (Bally 1965 [1932], Vinay and Darbelnet 1958, Tesnière 1959, Malblanc 1961), and formalized by Talmy (1985, 1991). The latter distinguished two groups of languages on the basis of the locus of a specific semantic component of motion event descriptions, namely PATH: SF languages such as English and VF languages such as Spanish. Talmy indicated that all languages should fall into one of the two categories, but that a language could present constructions pertaining to another type, such as satellite constructions in Spanish (actually

a ‘split-system’ in Talmy 1991); Modern Greek also seems problematic, with a rather SF structure and mixed behavior as far as the expression of MANNER and PATH is concerned (Soroli 2011). Serbian seems to be a further example of this tendency: it is structurally SF, but there is an incipient lexicalization of PATH prefix and verb stem (Filipović 2007). As Slobin (2004: 251–252) notes, this is somewhat parallel to the evolution found in Latin (see also Iacobini and Fagard 2011, Iacobini 2015).

This embracing proposal, and even more so the binary SF/VF typology (Talmy 2000), have sparked a long and vivid debate on various accounts (see Fortis and Vittrant 2016 for a clear historical overview). Though this proposal has been extremely fruitful, there remain a few problematic issues. An important one is the number and nature of types which should be taken into account: if Talmy’s typology is concerned above all with the locus of PATH expression, i.e. in the ‘main’ verb and/or satellite, then how should languages which seem to participate in both VF and SF be classified? For instance, the speakers of some languages may express both MANNER and PATH in the verb, e.g. languages with serial or bipartite verbs. Should they be considered as a third type (Zlatev and Yangklang 2004) of “equipollently-framed” languages (Slobin 2004), along with languages such as Jaminjung (Schultze-Berndt 2006) in which both MANNER and PATH are expressed in (conjoined) preverbs?

One possibility suggested by Slobin (2004) would be to focus not on the locus of expression of PATH, but on the expression of MANNER; Slobin thus shows that languages can be put along a cline of MANNER salience. Another approach would be to view the typology as one of *constructions* rather than *languages*: Croft et al. (2010) argue that, as already pointed out by Talmy, there is no ‘homogeneous’ or ‘systematic’ behavior of languages vis-à-vis the SF/VF typology. A ‘VF’ language can very well present instances of ‘SF’ constructions, and does so frequently in contexts with no boundary-crossing, as illustrated in (6).

- (6) *Juan bailó                    hacia    la            puerta*                    (Spanish)  
       John dance.PAST.3SG towards DEF.F.SG door  
       ‘John danced towards the door’                    [Aske 1989]

This can be explained by the difference between *language system* and *actual language use* (Schøsler 2008), and by the importance of *narrative construction* (Slobin 2004), i.e. the fact that speakers use structures present in their language to create personal narratives, which are only partly constrained by the language system.

One crucial point for the present paper is the fact that researchers showed the existence of within-family discrepancies, with much work on Romance languages,

which do not appear to be consistently VF. This has been shown for various Romance languages<sup>3</sup> (Gsell 1982, Berthele 2006, Iacobini and Masini 2006, Cini 2008, Iacobini 2009, Kopecka 2009), and could be linked to the specificity of Italian among Romance languages (Koch 2000, 2001), specifically to the existence of verb-particle constructions illustrated in (7)–(8) below (examples taken from Iacobini 2010; see also Simone 1997, 2008, Masini 2005), though it is also true of other Romance languages (see e.g. Hijazo-Gascón and Ibarretxe-Antuñano 2013).

- (7) *Un orangotango salta fuori* (Italian)  
 DET.INDF.M.SG orangutan jump.PRS.3SG out  
*dal recinto.*<sup>4</sup>  
 from.DEF.M.SG pen  
 ‘An orangutan **jumps out/bursts out** of the pen’.

- (8) *L’ esofago scompare, scompare* (Italian)  
 DEF.M.SG esophagus disappear.PRS.3SG disappear.PRS.3SG  
*anche il fastidio forte e tenace per*  
 also DEF.M.SG discomfort strong and persistent for  
*quel tubo che mi scivola dentro e*  
 DEF.DEM.M.SG tube that me.DAT slide.PRS.3SG inside and  
*si muove e striscia.*  
 PRON.PERS.REFL move.PRS.3SG and slither.PRS.3SG  
 ‘The esophagus disappears, as well as the strong and persistent discomfort caused by that tube sliding inside and moving and slithering.’  
 [Iacobini 2010; our glossing]

The presence of these constructions in Italian could be due to contact with Italo-Romance dialects (verb particle constructions correspond to the prevailing pattern of expression for motion events in various Italo-Romance dialects, especially in Northern Italy). It may also represent an inherent feature of Italian: verb-particle constructions were already attested for Old Italian, as illustrated for the particle *via* ‘away’ in (9) below.

<sup>3</sup> Including a series of Italo-Romance dialects which are not socio-geographical varieties of Italian, but linguistic systems separate from Italian. They developed from Italo-Romance vernaculars, spoken across the country ever since the Middle Ages; hence they do not derive from Italian.

<sup>4</sup> Note that in French, for instance, a similar sentence would probably have a default interpretation of non-translocative motion: *un orang-outan saute dehors* ‘an orangutan is outside and jumps’, though the context might force a translocative reading.

- (9) *mo' la speranza la qual eu* (Old Italian)  
 now DEF.F.SG hope PRON.F.SG which PRON.1.SG  
*aveva en madona Venus se n' è*  
 have.PAST.1SG in lady Venus PRON.REFL ADV AUX  
*andàa via, e lo dolore sì me remane.*  
 go.PAST.PART.F.SG away and DEF.M.SG pain yes me.DAT remain  
 'now the hopes I had put in lady Venus have left me, and the pain remains.'  
 [*Pamphilus volgarizzato in antico veneziano*, anonymous, 1250, p. 39,  
 OVI database]

It could, alternately, be a result of language contact with Germanic, as noted by Berthele (2013: 71) for (Sursilvan) Romansh, which also presents interesting SF constructions as in (10).

- (10) *E lu ein ei i ora sils* (Romansh)  
 and then AUX PRON.PL go.PAST.PART out on.DEF.PL  
*praus*  
 meadows  
 'And then are they gone out on the meadows'  
 [Berthele 2013: 63; our glossing]

However, this explanation is not entirely satisfactory, and the author himself points out the existence of a "satellite-framed 'Crypto-Romance' tradition that has been neglected by mainstream research focusing on a selection of standard Romance only" (Berthele 2013: 71). The existence of SF constructions elsewhere is readily illustrated, e.g. for Catalan in (11) below.

- (11) *Hi en avia que saltavan*  
 there PRON.ADV have.PAST.3SG COMP.REL jump.PAST.3PL  
*abaix* (Catalan)  
**down**  
 'Some even jumped down (the abyss)'  
 [TVE3, Al natural, *Solsonès*, <http://www.rtve.es/alcarta/videos/al-natural/natural-solsones/1063762/>, 7'30"]

Besides, it does not explain why Italo-Romance varieties should be more SF than French<sup>5</sup> – a language which had a long history of language contact with

<sup>5</sup> What makes it all the more intriguing is the fact that French cannot be said to have undergone less changes than Italian with respect to Latin; if anything, rather the opposite (see De Mulder and Lamiroy 2012).



Germanic varieties. This debate has led some researchers to advocate dropping the typology altogether; as Berthele (2013: 73) rather harshly puts it,

it seems to be time to put into question the flawed standard theory and to come up with a better account of the variation discovered and still to discover in the field of the linguistic construal of motion events.

### 3 Data collection

For the purpose of eliciting descriptions of motion events, we used a series of video-clips showing male and female agents in natural settings. These clips were designed by the research group *Trajectoire* (Ishibashi et al. 2006). There were 76 such clips in total, including 2 warm-up clips, 55 target clips showing motion events, and 19 distractor clips, showing other activities. The stimuli were appropriate for our purpose since they were designed to vary according to the following parameters: (a) PATH of motion: Begin, Middle, End; (b) DIRECTION of motion: towards the camera, away from the camera, sideways; (c) MANNER of motion: walking, running, jumping; (d) BOUNDARY-CROSSING: presence or absence. A full description of the elicitation tool is found in Kopecka and Ishibashi (2011).

Overall, 96 participants between 20 and 25 years old were included in the study, distributed across languages as shown in Table 1 below, which presents the size of collected and analyzed data (limited to target descriptions). As pointed out in Section 1, six languages can be seen to represent the major language types, SF (German, Swedish, Polish, Serbian) and VF (French, Piedmontese).

**Table 1:** The data analyzed for the present study (gathered and transcribed by Johan Blomberg (JB), Massimo Cerruti (MC), Benjamin Fagard (BF), Anetta Kopecka (AK), Laure Sarda (LS), Dejan Stosic (DS), Snežana Todorović (ST) and Jordan Zlatev (JZ)).

Type	Language	Speakers	Utterances	Total words	Data gathering & transcriptions
SF	Polish	14	699	5,766	AK & BF
SF	German	18	968	15,655	BF
SF	Serbian	12	660	5,678	ST & DS
SF	Swedish	17	838	8,297	JB & JZ
VF	French	11	536	9,972	BF & LS
VF	Piedmontese	10	486	4,306	MC & BF
Total		96	4887	56,754	

Elicitation was conducted in the homeland of participants. In all cases, the researcher conducted the study using the target language, except for Piedmontese, where the study was conducted in Italian.

All participants were asked to briefly describe each scene after viewing it, telling the researcher “what had happened” in the video-clip. These descriptions were either video- or audio-recorded.

## 4 Data analysis

### 4.1 Semantic annotation

All descriptions were first transcribed in the standard orthography of each language, and then manually coded for expressions of MANNER and PATH. Though the definition of PATH is quite straightforward (see Grinevald 2011), it has been noted repeatedly that it is not the case for MANNER, which is steadily defined on an intuitive basis (see Stosic 2009), and which has been described as a “poorly-defined dimension” (Slobin et al. 2014: 704), and “an ill-defined set of dimensions that modulate motion, including motor pattern, rate, rhythm, posture, affect, and evaluative factors” (Slobin 2004: 255).

It was defined as “an additional activity that the Figure of a Motion event exhibits” by Talmy (2000: 45). In our study, MANNER is defined as a specific qualitative characterization of the motion event, and results from its processing by various means and strategies: lexical (e.g. *to go* > ***to run***), syntactic (e.g. *to go slowly*), morphological (e.g. Fr. *sauter* ‘to jump’ > *sautiller* ‘to hop (around)’), and grammatical ones (e.g. ***how*** *to go over there?*) (see Stosic 2011). Since the stimuli were not originally designed to elicit a varied array of MANNER descriptions, we did not expect to find in our data the whole range of MANNER verbs existing in each language under study. However, we did expect to find most of the basic distinctions related to walking and running (see, among others, Slobin et al. 2014: 715).

In turn, PATH was defined by Talmy (2000: 25) as “the path followed or site occupied by the Figure object with respect to the Ground object”. In our analysis, this term applies to the expression of motion FROM, THROUGH, TO or TOWARDS and AWAY. We did *not* code as PATH expressions the use of geocentric (*ascend*, (*go/walk/run*) *up*), as in example (12), or inherently deictic (*come*) expressions, as in example (13) (see Aurnague 2011).

- (12) *un petit gars qui descend les marches en sortant d' une grotte [...]* (French)  
 DET.INDF.M.SG little fellow who.NOM go.down.PRS.3SG DEF.PL  
 step.PL in exit.PRS.PART of DET.INDF.F.SG cave  
 'a little boy who **goes down** the stairs and out of a cave [...]'  
 [tr\_028\_path\_C\_walk\_outof\_cave\_to\_sea\_sideLR\_fr4]
- (13) *en kvinna kommer ut ur en skog* (Swedish)  
 DET.INDF woman come.PRS out of DET.INDF forest  
 'a woman is **coming** out of a forest'  
 [tr\_027\_path\_F\_walk\_outof\_woods\_sideRL\_sw19]

## 4.2 Construction types

The semantic categories MANNER and PATH can be expressed by various form-classes, including *verb*, *adverb*, *prefix*,<sup>6</sup> *verb-particle*, *prepositional phrase*, *adjective*, *case marker*, and *preposition*. As pointed out by Beavers et al. (2010), there is no equivalence between the two semantic domains in this respect: in our corpus at least, MANNER tends to be expressed in the verb (as in examples 14 and 15), less frequently in adverbs (example 14), adverbials (typically prepositional phrases, as in example 16) and quite rarely elsewhere – for instance in a verb phrase (example 17), or a noun phrase in a verbless clause (example 18).

- (14) *eine Frau geht langsam aus einer Höhle* (German)  
 DET.INDF.F.NOM.SG woman walk.PRS.3SG slowly out.of  
 DET.INDF.F.DAT.SG cave  
 'a woman is walking slowly out of a cave'  
 [tr\_023\_path\_F\_walk\_outof\_cave\_front\_gm109]
- (15) *là elle court devant un arbre* (French)  
 DEL.ADV she run.PRS.3SG in.front.of DET.INDF.M.SG tree  
 'now she runs in front of a tree'  
 [tr\_033\_path\_F\_run\_awayfrom\_tree\_front\_fr11]

<sup>6</sup> Including inseparable verbal prefixes (German *be-*, Polish *w-*, Serbian *do-* 'in(to)') and separable ones (German *ein-* 'in(to)').

- (16) *eine* Art Allee mit Bäumen ein (German)  
 DET.INDF.F.NOM.SG type alley with tree.DAT.PL DET.INDF.NT.NOM.SG  
*Baumstamm liegt mitten drin und*  
 tree.trunk lie.PRS.3SG middle there.in and  
*ein junger Mann springt*  
 DET.INDF.M.NOM.SG young.M.NOM.SG man jump.PRS.3SG  
*drüber im Laufen*  
 there.over in.DEF.NT.DAT.SG run  
 ‘a kind of alley with flowers, a tree trunk lies there in the middle, and a  
 young man jumps over it at a run’  
 [072\_path\_M\_jump\_over\_tronc\_back\_gm17]

- (17) *a fan na spasegiada* (Piedmontese)  
 PRON.3PL do.PRS.3PL DET.INDF.F.SG stroll  
 ‘they go on a stroll’ [tr\_072\_path\_M\_jump\_over\_tronc\_back\_pm6]

- (18) *la course sur les dunes* (French)  
 DEF.F.SG race on DEF.F.PL dune.PL  
 ‘racing on sand dunes’ [tr\_042\_path\_C\_run\_behind\_stone\_sideLR\_fr6]

PATH, on the other hand, is most frequently expressed in satellites and prepositional phrases (see *aus einer Höhle* in example 14 above), as well as in the verb (see *sortant* in example 12 above or *traversa* in example 19). With PATH verbs such as ‘to enter’ or ‘to exit’, a noun phrase referring to a Ground element represents the direct object of a verb and hence can be used without adposition, as in example (19) below; the sentence thus has a PATH reading (without the use of an adposition).

- (19) *traversa l bosc* (Piedmontese)  
 cross.PRS.3SG DEF.M.SG wood  
 ‘he goes through the woods’  
 (049\_path\_M\_walk\_across\_path\_sideRL\_pm4)

The identification of these form-classes and their comparison across languages raises many questions, as pointed out among others by Haspelmath: “Descriptive formal categories cannot be equated across languages because the criteria for category assignment are different from language to language” (Haspelmath 2010: 663).

We took into account the locus of expression of MANNER and PATH (i.e. the specific form-class bearing the semantic load) as well as its distribution (or not)

across clauses, since the main constraint for speakers of VF languages is that it is complicated and/or heavy for them to express both in a single clause (though not impossible, see Aske 1989, Slobin and Hoiting 1994). Our main clue in the identification of clauses was the number of finite verbs in a given utterance, as in example (20), which consists in two clauses:

- (20) *čovek hoda i ulazi u* (Serbian)  
 boy.NOM.SG walk.PRS.3SG and into.go.PRS.3SG into  
*šumu*  
 forest.ACC.SG  
 ‘the boy walks and enters the forest’  
 [tr\_056\_path\_M\_walk\_into\_bush\_back\_sb6]

In order to measure more finely the importance and means of expression of MANNER and PATH in our data, we distinguished two main cases. The first case includes constructions in which MANNER and/or PATH are expressed in a single clause ([M], [P] and [MP]). The second case corresponds to complex constructions in which MANNER and PATH are both expressed, but distributed over two or more clauses ([M/P]). MANNER and PATH can indeed be expressed jointly in a given utterance, but by two verb forms. These verbs may be both finite, or include one finite form and one non-finite form (gerund, participle or infinitive): the latter case is illustrated in (21), in which the main verb (*oddalić się* ‘move away’) expresses PATH, while a Gerund (*biegnąc* ‘running’) expresses MANNER.

- (21) *dziewczyna oddaliła się* (Polish)  
 young.girl.NOM.SG move.away.PAST.F.3SG REFL.PRON  
*od drzewa biegnąc [...]*  
 away.from tree.GEN.SG run.PRS.PART  
 ‘a young girl ran away from a tree [...]’  
 [033\_path\_F\_run\_awayfrom\_tree\_front\_pl4]

The types of PATH and MANNER distribution in utterances thus included, theoretically, the following constructions:

- [P]: PATH only (example 19)
- [M]: MANNER only (examples 15, 17 and 18)
- [MP]: MANNER and PATH in the same clause (example 14)
- [M/P]: MANNER and PATH in the same utterance but in different clauses (examples 20 and 21)

This classification helps evaluate how closely a given language – in our case, Serbian – follows Talmy’s typology. Indeed, his VF/SF dichotomy predicts that SF languages will typically express MANNER and PATH jointly in a single clause ([MP] type, with MANNER in the verb and PATH in a satellite), while VF languages will either leave MANNER or PATH unexpressed (i.e. [P] and [M] types) or express both but in different clauses ([M/P] type).

Even when describing scenes which are clearly dynamic in nature, some participants chose not to express motion at all – the result being the absence of any MANNER or PATH information (examples 22–23). We coded such utterances as belonging to none of the above constructions ([∅]):

- (22) *c’ est toujours les jeux les* (French)  
 DEM.NT.SG be.PRS.3SG always DEF.M.PL game.PL DEF.M.PL  
*jeux de plage*  
 game.PL of beach  
 ‘still games, games on the beach’  
 [058\_path\_C\_walk\_into\_cave\_sideRL\_fr6]

- (23) *i è du cit al* (Piedmontese)  
 DEL.ADV be.PRS.3SG two boy at.DEF.M.SG  
*mar sugli scogli*  
 sea.SG on.DEF.M.PL rock.PL  
 ‘there are two boys at the seaside on the rocks’  
 [030\_path\_C\_walk\_outof\_cave\_toward\_C\_sideLR\_pm1]

## 5 Results

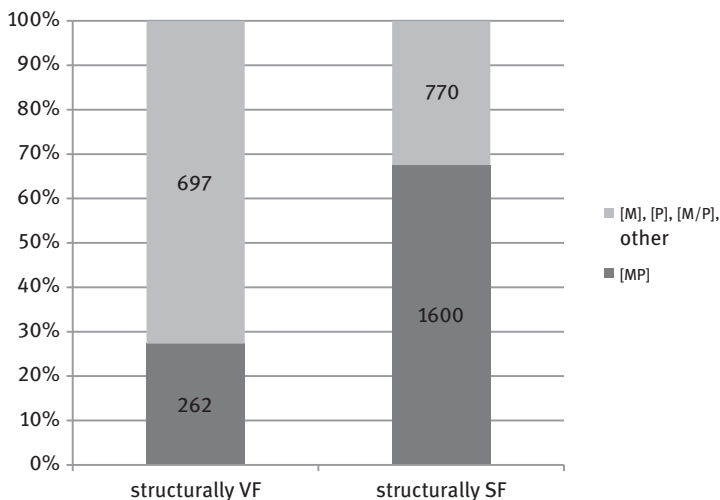
Our main goal in this paper is to determine whether there are important within-type differences in Talmy’s SF/VF typology, with a main focus on Serbian. It has been hypothesized that Serbian does not behave perfectly like other SF languages as far as motion expression is concerned, as it tends to leave out MANNER in motion event descriptions (Filipović 2007, 2011). We wished to test this hypothesis, established on the basis of literary data, with new, elicited (and comparable) data. We therefore expected there to be a difference between Serbian and other SF languages in our data; we did not, however, know beforehand *how different* Serbian would prove to be. The issue we address here is precisely that of the importance of this difference. With respect to the coding scheme we described in the previous section, our question is thus whether the [MP] strategy, in which a speaker expresses both MANNER and

PATH in the same clause, is as prevalent in Serbian as in other SF languages and, conversely, whether other strategies (in which MANNER and PATH are either omitted ([M], [P]) or distributed over different clauses ([M/P])) are more prevalent in Serbian.

Focusing first on the SF/VF opposition, without consideration of individual languages, our data show a striking and statistically significant difference between the two groups ( $\chi^2 = 447$ ,  $p < .01$ ; see Table 2 and the corresponding Figure 1). As expected, in our data, speakers of SF languages often choose to express MANNER and PATH in the same clause ([MP]) – much more often, at any rate, than speakers of VF languages.

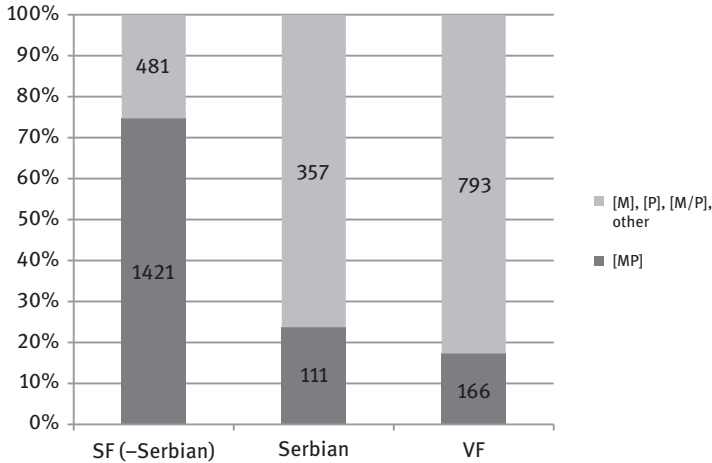
**Table 2:** Proportion of [MP] descriptions vs. other types, in our data, for SF and VF languages.

Languages	[MP]	[M], [P], [M/P], [Ø]	Total
structurally SF (Polish, Swedish, Serbian, German)	1600	770	2370
structurally VF (French, Piedmontese)	262	697	959
Total	1862	1467	3329



**Figure 1:** Proportion of [MP] descriptions vs. other types, in our data, for SF and VF languages (N = 3329 observations).

Another result is that our data clearly set Serbian apart from other SF languages: there is no significant difference between VF languages and Serbian ( $\chi^2 = 0,17$ ,  $p > .05$ ), and there is one between Serbian and other SF languages ( $\chi^2 = 453$ ,  $p < .01$ ). Serbian thus patterns with the structurally VF languages as far as MANNER and PATH expression is concerned, as shown by Figure 2 below.



**Figure 2:** Proportion of [MP] descriptions vs. other types, in our data, for Serbian vs. SF and VF languages (N = 3229 observations).

Finally, the homogeneity of SF and VF language groups is not complete, even discounting Serbian: there are significant differences between some SF languages (Swedish\*German:  $\chi^2 = 14$ ,  $p < .01$ ; Polish\*German:  $\chi^2 = 30$ ,  $p < .01$ ), and between French and Piedmontese ( $\chi^2 = 16$ ,  $p < .01$ ).

## 5.1 Scenes with running and jumping

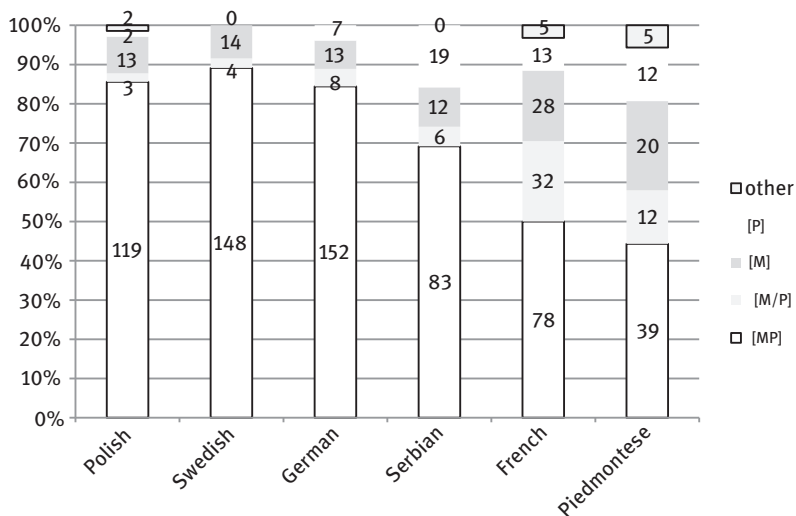
Looking more closely at constructions, we can see that the proportion of [M/P] constructions (i.e. utterances in which there are both MANNER and PATH, distributed over different clauses) is, as we expected, relatively high for scenes in which the Figure runs and/or jumps, in VF languages. As shown in Table 3, for those scenes, speakers of French and Piedmontese clearly chose this strategy more often than speakers of SF languages: [M/P] constructions are actually quite rare, but less so in French (32 occurrences) and Piedmontese (12 occurrences) than in the typical SF languages included in our study, Polish, Swedish and German. These three languages display a very high proportion of MANNER and



**Table 3:** Descriptions of scenes in which the Figure runs and/or jumps, in our corpus.

Language	[MP]	[M/P]	[M]	[P]	[Ø]
Polish	119	3	13	2	2
Swedish	148	4	14	0	0
German	152	8	13	7	0
Serbian	83	6	12	19	0
French	78	32	28	13	5
Piedmontese	39	12	20	12	5
Total	619	65	100	53	12

PATH in one clause ([MP]  $\geq$  80%), a figure which drops significantly for Serbian (69%,  $\chi^2=20,2$ ,  $p<.01$ ) and more yet for French and Piedmontese ( $\leq$  50%,  $\chi^2=123,2$ ,  $p<.01$ ). For these scenes, Serbian is thus significantly different both from other SF *and* from VF languages (for Serbian\*VF,  $\chi^2=14.6$ ,  $p<.01$ ). The Serbian data point to a rather idiosyncratic behavior, with a low proportion of [M/P] constructions like other SF languages, but a high proportion of [P] constructions (i.e. clauses with PATH information only), like VF languages (19 occurrences in Serbian, 13 and 12 respectively for French and Piedmontese: the difference is not significant, be it between Serbian and French, Serbian and Piedmontese or Serbian and French + Piedmontese). Figure 3 illustrates this intermediate position of Serbian quite well.

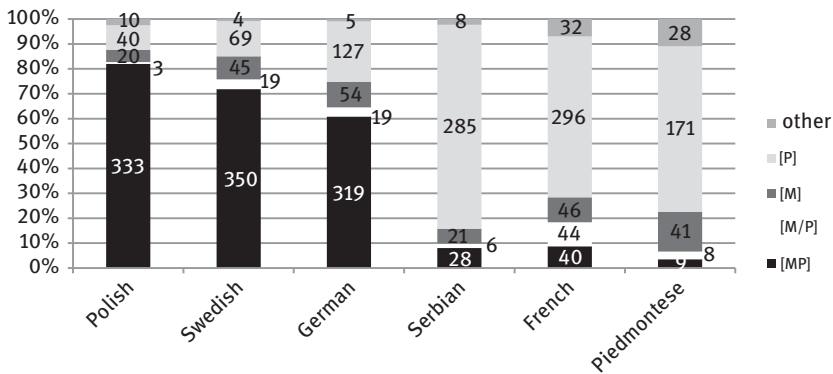
**Figure 3:** Descriptions of scenes in which the Figure runs and/or jumps, in our corpus (N = 849 observations).

## 5.2 Scenes with walking

For scenes in which the Figure walks, Serbian participants behaved in a way which is strikingly close to speakers of French and Piedmontese, as the numbers in Table 4 indicate: in all three languages, participants chose to use PATH verbs such as *enter*, *pass*, or *exit* (Fr. *entrer*, *passer*, *sortir*, Pm. *intrè*, *passé*, *sörte*, Sr. *ući/ulaziti*, *proći/prolaziti*, *izaći/izlaziti*). The proportion of [MP] utterances (i.e. with both MANNER and PATH in a single clause) is very different in Polish, Swedish and German ( $\geq 60\%$ ) on the one hand, and Serbian, French and Piedmontese ( $\leq 10\%$ ) on the other (Figure 4).<sup>7</sup>

**Table 4:** Descriptions of scenes in which the Figure walks, in our corpus.

Language	[MP]	[M/P]	[M]	[P]	[Ø]
Polish	333	3	20	40	10
Swedish	350	19	45	69	4
German	319	19	54	127	5
Serbian	28	6	21	285	8
French	40	44	46	296	32
Piedmontese	9	8	41	171	28
Total	1079	99	227	988	87



**Figure 4:** Descriptions of scenes in which the Figure walks, in our corpus.

<sup>7</sup> This is a statistically significant difference:  $\chi^2 = 995$ ,  $p < .01$  for Polish, Swedish & German vs. Serbian, French & Piedmontese,  $\chi^2 = 451,5$ ,  $p < .01$  for Polish, Swedish & German vs. Serbian alone.

## 6 Discussion

The opposition between types (in Talmy's sense) seems less clear-cut than suggested by Fagard et al. (2013), mainly on account of the Serbian data. This supports the hypothesis that though languages might favor construction types, as suggested by Beavers et al. (2010), and despite the link between construction type and semantic distributions, there is no perfect correlation between means and expression (cf. also Iacobini 2015, Iacobini and Corona 2016 on Latin).

The data show that Piedmontese patterns with a VF language such as French; that seems to set apart Piedmontese from other Italo-Romance dialects, which are generally regarded as SF languages (cf. Section 1). Nevertheless, it is worth considering that this result may actually relate to the particular speaking style elicited, which does not fairly represent spontaneous speech. In fact, SF constructions are consistently found in Piedmontese spontaneous speech (cf. Cini 2008; see also Cerruti 2014).

Our data confirm the specificity of Serbian, which is clearly SF in structure but closer to VF languages in terms of expression of MANNER and PATH in at least some motion event descriptions: though Serbian speakers *could* express MANNER with a low 'cost' in terms of syntactic complexity by encoding MANNER in a verb root and PATH in satellites (prefixes or PP), in scenes in which the Figure walks they often chose to leave it unexpressed, using a basic motion verb (e.g. *ići* 'go') rather than a specific one such as *walk*: in these scenes, there is no statistically significant difference between Serbian on the one hand and Piedmontese and French on the other ( $\chi^2 = 0,5$ ,  $p > .05$ ). In other scenes, in which the Figure runs and/or jumps, descriptions in Serbian were statistically different both from those of VF languages ( $\chi^2 = 14,6$ ,  $p < .01$ ) and SF languages ( $\chi^2 = 20,2$ ,  $p < .01$ ). Serbian participants thus chose to describe the motion-events they were shown by using both typically SF and VF construction types (in the spirit of Croft et al. 2010). The SF construction type most frequently found in our Serbian data is the [MP] construction with MANNER and PATH in the same clause, typically MANNER in the main verb and PATH in a satellite; while the most frequent VF construction types relate to the [P] construction, with the main verb expressing only PATH.

This raises the question of the link between language structure and types as hypothesized by Talmy, and specifically of the analysis he proposed, i.e. to put it simply that SF languages express MANNER because they have a free slot for it: clearly, Serbian has the slot and could express MANNER but Serbian participants, in our experiment, did not do so. This is reminiscent of the case of Modern

Greek, which displays both SF and VF constructions with comparable frequency (Soroli 2012); moreover, preliminary results on Hungarian show a similar behavior (Hungarian patterning neither with VF nor with SF languages despite its clearly SF structure). This might be a result of areal effects, since Greek and Serbian are part of the Balkan Sprachbund (Feuillet 1986, Tomić 2006), and Hungarian is a neighboring language. However, it still puts into question the core element of Talmy's typology, i.e. that MANNER expression in SF languages is linked to the existence of a 'vacant' slot.

## 7 Conclusion

In our study, we expected to verify and document the existence of within-type differences for SF languages, in Talmy's typology, as has been done earlier for VF languages. On the one hand, the SF/VF dichotomy is often a good prediction of speakers' behavior as far as the description of motion events is concerned. On the other hand, it is neither valid for whole language families (cf. Section 1), nor systematically true that language structure predicts speaker behavior. As pointed out by Wälchli (2009: 211), "we cannot state with any kind of certainty whether there is a general cross-linguistic correlation between lack of route [i.e. PATH, in our terminology] verbs and the presence of MANNER verbs in typical route domains. If such a correlation exists, it is a very weak one, at best."

Specifically, in our study, with respect to MANNER and PATH distribution, we found clear differences between languages: the bundling of MANNER with PATH is strikingly (though expectedly) higher in German, Swedish and Polish vs. French and Piedmontese. Serbian never patterns with the other SF languages included in our study. There is, however, a marked difference between two types of scenes, namely those in which the Figure walks, and those in which the Figure runs and/or jumps. That there is a difference between the two is not unexpected, walking being a more prototypical means of motion for humans than running and jumping. Serbian clearly patterns with VF languages in scenes in which the Figure walks: in other words, in our study, Serbian participants consistently chose a VF strategy to describe motion events with low MANNER salience. For motion events displaying a higher degree of MANNER salience, with the Figure running and/or jumping, our results point to a mixed pattern for Serbian: participants choose SF *and* VF construction types, producing utterances which are significantly different both from those of SF language speakers and from those of VF language speakers.

## Abbreviations

1SG	1st person singular
3PL	1st person plural
3SG	3rd person singular
ACC	accusative case
ADV	adverb
AUX	auxiliary
COMP	comparative
CLASS	classifier
COP	copula
DAT	dative case
DEF	definite determiner
DEI	deictic
DEM	demonstrative
DET	determiner
F	feminine
GEN	genitive case
INDF	indefinite
M	masculine
NOM	nominative case
NT	neuter
PART	participle
PAST	past
PERS	personal
PL	plural
PRON	pronoun
PRS	present
REFL	reflexive
REL	relative
SG	singular

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