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**Hitting the high notes:
Argument reversal in contact event descriptions in Nakh-Dagestania and beyond**

Beth Levin*

Abstract. The literature on Nakh-Dagestania languages often highlights the argument realization pattern found in contact event descriptions. In these languages, the instrument is expressed as the verb's object, and the surface contacted is expressed as a dative or locative DP. This pattern is the reverse of the default pattern found in English, where the surface is the direct object and the instrument is expressed in a *with* phrase. In order to promote further investigations into this property of Nakh-Dagestania languages, this paper places this pattern in a larger cross-linguistic context. There are other languages that do not express the surface as an object in their contact event descriptions, with some also showing the argument realization reversal. Further, in these languages the non-object expression of the surface correlates with other typological properties, including the expression of manner outside the verb, smaller manner verb inventories, and verb-framed directed motion event descriptions. Based on the limited data available, this paper suggests that Nakh-Dagestania languages might share these properties as well.

Keywords. argument realization; contact event descriptions; lexicalization patterns; manner; Nakh-Dagestania languages; verb inventory size

1. Introduction. Among her many significant and varied contributions to our understanding of languages and linguistics, Masha Polinsky has added to our knowledge of the languages of the Caucasus, illuminating phenomena with deep theoretical linguistic relevance such as backward control (Polinsky & Potsdam 2002). Yet there are many significant properties of these languages that remain underexplored. In her introduction to *The Oxford handbook of the languages of the Caucasus*, Polinsky (2021: 14) notes that a recurrent feature of some of these languages, specifically Nakh-Dagestania and Kartvelian languages, is an “unusual argument mapping of objects in a subset of transitive verbs that denote physical contact”. In English, the default is for the contacted surface to appear as the direct object and the instrument to appear in a PP, as in (1); however, as Polinsky (2021: 14) elaborates, in certain Caucasian languages “the mapping of non-subject arguments appears reversed: the instrument of the action is expressed as a direct object,

* I am delighted to contribute to this festschrift for Masha Polinsky. I have had many fruitful and thought-provoking discussions with her about languages, linguistics, and more over the years. My work has been enriched by her deep and broad knowledge of languages, leading me to new avenues for investigation, as I hope this paper exemplifies. For discussion of contact event descriptions in a range of languages, I thank Patricia Amaral (Portuguese), Roey Gafter and Malka Rappaport Hovav (Hebrew), Andrew Koontz-Garboden (Ulwa), Paul Kroeger (Kimaragang Dusun), Chigusa Kurumada (Japanese), Francesca Masini (Italian), and Tanya Nikitina (Russian). I am grateful to Eve Clark, Boris Harizanov, Alice Harris, Masha Polinsky, Malka Rappaport Hovav, and Judith Tonhauser, among others, for discussing facets of this work, and to Marcel den Dikken, Malka Rappaport Hovav, and an anonymous reviewer for comments on an earlier draft. Author: Beth Levin, Stanford University (beth.levin@stanford.edu).

and the undergoer [or surface – BL] appears in the dative or locative form”.¹ The example in (2) from the Nakh-Dagestian language Ingush illustrates this pattern most straightforwardly.²

(1) He hit the car with a stick.
AGENT SURFACE INSTRUMENT

(2) Ingush (from Nichols 2011: 340, (47))
Cuo mashienaa ghadzh tiexar.
3S.ERG car-DAT stick-NOM strike
AGENT SURFACE INSTRUMENT
'He hit the car with a stick.'

This pattern is noted repeatedly in the literature on these languages (see section 2), with Daniel & Ganenkov (2008: 682) writing, “With ‘hitting’-verbs it is often the hitting object (rather than object or person hit) that is conceptualized as Patient-nominative” in a handbook paper on Dagestian case marking. Nichols (1984: 188) also echoes that this is “a pan-Caucasian valence pattern”. However, despite such statements, this pattern has not to my knowledge received the sustained attention that its inclusion in Polinsky’s introduction shows that it deserves.

As a step towards stimulating and facilitating future deeper investigations of contact event descriptions in Nakh-Dagestian languages and languages of the Caucasus more generally, in this paper I place this property in the context of an ongoing exploration of contact event descriptions, particularly hitting event descriptions, across languages. As I show, the oblique expression of the surface, including in the argument reversal pattern, is manifested in a range of languages. I show that in these languages, these argument realization patterns correlate with other typological properties, and I suggest based on the limited data at my disposal that Nakh-Dagestian languages might share these properties. In so doing, I hope to also show that this facet of Nakh-Dagestian languages may provide a wedge into the exploration of several interconnected larger issues involving the description of events and argument realization across languages.

The paper is structured as follows. Section 2 elaborates on the properties of contact event descriptions in Nakh-Dagestian languages and contrasts such descriptions with those in North-west Caucasian languages. Section 3 considers variation in contact event descriptions across languages, showing that many languages tend not to express the surface as an object; thus, the Nakh-Dagestian argument reversal pattern instantiates a more broadly attested pattern. Section 4 turns to a second dimension of cross-linguistic variation in contact event descriptions, the locus of manner expression; it introduces strategies for expressing manner outside the verb and considers their interaction with the expression of the surface, necessitating in some instances its oblique expression. Reviewing the limited data at my disposal, I suggest that Nakh-Dagestian languages may adopt one of the strategies that affects argument realization. Section 5 shows that the choice of strategy for manner expression is linked to the relative size of a language’s inventory of hitting verbs and of manner verbs more generally. This correlation is of interest since manner of motion inventory size has been related to a typological distinction in directed motion event

¹ The Nakh-Dagestian languages have ergative case marking (Daniel & Ganenkov 2008; Ganenkov 2021; Polinsky 2021: 9). As in this quote from Polinsky, I take the nominative (also referred to as absolutive) argument of a transitive verb to be its direct object and the ergative argument to be its subject.

² As this paper draws almost exclusively on data from other work, I adopt the glossing conventions used in the source of each example, although this means that the glosses do not always conform to the Leipzig Glossing Conventions used elsewhere in this volume. Another consequence is that glosses may differ in the level of detail provided.

descriptions. Of relevance here is that the type of motion event descriptions found in Nakh-Dagestanian languages – another property that Polinsky highlights in her introduction – are precisely those that are tied to small manner verb inventories. Finally, I conclude in section 6 by revisiting the strategy for manner expression in Nakh-Dagestanian languages in the context of an observation about verb-to-noun ratios in verb-final languages in other work of Polinsky’s.

2. The argument realization pattern in Nakh-Dagestanian languages. In this section, I draw on grammars and papers on Nakh-Dagestanian languages to fill out the picture of the phenomenon to the best of my understanding. Most published discussions are brief, so that the larger picture is necessarily incomplete, but as I discuss in section 3, it resonates with what is known about contact event descriptions in other languages.

As Polinsky (2021: 14) notes, the Nakh-Dagestanian “reversed” argument realization pattern is found with verbs of physical contact, such as those whose meaning is ‘hit’, ‘shoot’, ‘touch’, ‘kiss’, ‘wipe’, ‘comb’, ‘paint’, and ‘stab’. I focus particularly on those contact verbs that qualify as hitting verbs. Such verbs typically describe events that involve three participants: an agent; a surface, which is the locus of contact; and an instrument, which comes into contact with the surface.³ Alternatively, the agent may make contact with the surface with a body part, which fulfills the same role in the event as the instrument. Thus, although ontologically body parts are not tools, throughout the paper I simply refer to the third participant in a contact event as the instrument, even in those instances where it is a body part of the agent; however, I distinguish between instruments and body parts where necessary. The surface is often characterized as a patient or an undergoer in discussions of contact verbs (e.g., the quote from Polinsky in section 1), but I use the more neutral term “surface” since this argument need not undergo a change of state and, thus, does not qualify as a patient or undergoer in the strictest sense.

In English contact event descriptions, the surface is usually realized as the object of the verb, and the instrument, if expressed, is realized in a *with* PP, as in (3). However, as the quote from Polinsky above makes clear, in Nakh-Dagestanian languages the realization of non-agent arguments appears to be reversed, with the instrument realized as the direct object and the surface appearing in the dative case or some type of locative case, as in (4).

(3) He hit the car (with a stick).
AGENT SURFACE INSTRUMENT

(4) Ingush (from Nichols 2011: 340, (47))
Cuo mashienaa ghadzh tiexar.
3S.ERG car-DAT stick-NOM strike
AGENT SURFACE INSTRUMENT
‘He hit the car with a stick.’

In fact, English can also show a reversal in the expression of the surface and instrument arguments as object and oblique, respectively (Fillmore 1970: 133, fn. 11, 1977: 74–76; Dowty 1991: 594–597), although this argument realization pattern is not considered the default.

³ The argument reversal pattern is necessarily found in agentive contact events, as it requires distinct surface and instrument arguments, and instruments must be manipulated by agents. For this reason, I do not consider non-agentive contact event descriptions, although at least in English such event descriptions are found (Levin to appear).

- (5) He hit a stick against the car.
 AGENT INSTRUMENT SURFACE

This “reversed” argument realization pattern is also mentioned in descriptions of the following Nakh-Dagestanian languages: Bezhta (Comrie et al. 2015: 545), Hinuq (Forker 2013: 485–486), Ingush (Nichols 1984: 188, 2011: 467–470, 746), Khwarshi (Khalilova 2009: 332–334), Lezgian (Haspelmath 1993: 269–270, 272), Mehweb (Ganenkov 2019: 193), Sanzhi Darghwa (Forker 2019: 351), and Tsez (Polinsky 2015: 152–156, 2021: 14). Forker (2013: 476) also cites Chechen and Bagvalal as languages showing this pattern.⁴

As Polinsky (2021: 14) notes, the instrument may be omitted; a point reiterated and elaborated in some of the cited work on other Nakh-Dagestanian languages (Daniel & Ganenkov 2008: 682; Forker 2013: 485–486 on Hinuq; Khalilova 2009: 322, 420 on Khwarshi; Ganenkov 2019: 193–194 on Mehweb; Polinsky 2015: 155 on Tsez). However, as these discussions make clear, even when the instrument is left unexpressed, the verb is not intransitive despite the oblique expression of the surface. Evidence is provided by the case marking on the agent. If the verb were intransitive, the agent would be expected to be in the nominative (i.e., absolutive) case; however, it remains in the ergative case. Further, verbs agree in noun class with the nominative DP. As discussed by Nichols (1984: 188), Forker (2013: 485–486; 2019: 351), and Ganenkov (2019: 194), in contact event descriptions the verb still shows agreement with a nominative DP, even in the absence of an overt nominative DP, i.e., instrument. Concomitantly, an instrument is still understood, typically, as the prototypical instrument used in that situation, and the noun class agreement on the verb reflects this. This phenomenon is illustrated in (6) from Hinuq, where a body part, *kʷezey* ‘hand’ (class V), is understood, and the verb shows agreement for its noun class, according to Forker (2013: 485–486), who elaborates that “If the speaker wants to say that another instrument was used, then this instrument must be explicitly mentioned” (486).

- (6) Hinuq (from Forker 2013: 486, (877))
 hes q’ono r-oi-no hayiu-z
 onetwo V-hit-UWPST she.OBL-DAT
 SURFACE
 ‘(They) hit her one, two times.’

The pattern in Nakh-Dagestanian languages is especially striking when these languages are contrasted with Northwest Caucasian languages, which also have an ergative case system. These languages also express the surface in contact event descriptions as an oblique DP, as reported by Catford (1975: 44), Lucassen (1985: 260), and Malchukov (2005: 84); see also Polinsky (2021: fn. 20). However, there is a significant difference between languages of these two types. As just shown, in Nakh-Dagestanian contact event descriptions, even when only the agent and surface are expressed (that is, there is no overt instrument DP), there is evidence from case marking and verb agreement that the verb still takes an instrument argument. In contrast, contact event descriptions in Northwest Caucasian languages can simply involve the agent and the surface.⁵ Evidence again comes from case marking and verb agreement. The agent is realized in the nominative rather than the ergative typically used for the agent of two-argument verbs, and the surface

⁴ Some of these languages may have a few verbs that express the surface as a direct object; a reviewer notes such a verb in Akusha Dargi, citing van den Berg (1999: 157, (3)).

⁵ As a reviewer notes, this difference is not especially surprising as Northwest and Northeast Caucasian languages do not show particularly strong typological similarities.

is oblique; that is, the verb is intransitive. In the Abkhaz example (7), this pattern is reflected in the verbal agreement: the verb shows dative agreement with the surface and nominative (absolute) agreement with the agent (Malchukov 2005: 84).

- (7) Abkhaz (Malchukov 2005: 84, (4); from Lucassen 1985: 260)
- | | | | |
|------------|-------------|-------|------|
| D | -sə | -sə | -yL |
| 3SG/AGRABS | -1SG/AGRDAT | -beat | -TAM |
| AGENT | SURFACE | | |
- ‘S/he beats me.’

As Catford (1975: 44) writes, “Certain verbs that we would regard as distinctly transitive normally occur in N.W. Caucasian in the nominative construction”, where in this construction two-argument verbs are formally intransitive, taking nominative and oblique arguments. Among the verbs said to be found in this construction are the contact verbs ‘beat’, ‘bite’, ‘kiss’, and ‘stab’ (Catford 1975: 44). However, Polinsky (2021: 14) cites Kartvelian languages as patterning with Nakh-Dagestanian languages with respect to their contact event descriptions, providing the Georgian example (8).⁶

- (8) Georgian (from Polinsky 2021: 14, (7))
- | | | | |
|----------|----------|------------|---------------|
| Gogo-m | k’at’a-s | (top-i) | esrola. |
| girl-ERG | cat-DAT | gun-NOM | throw.AOR.3SG |
| AGENT | SURFACE | INSTRUMENT | |
- ‘The girl shot (lit. threw the rifle to/at) the cat.’

As this example shows, as in Nakh-Dagestanian languages, in Georgian the agent remains in ergative case, even when the instrument is not overtly expressed.

3. The expression of the surface in a larger cross-linguistic context. In this section, I present a generalization about the cross-linguistic expression of the surface that emerges from a larger investigation of contact event descriptions across languages, with a focus on those involving hitting events. I draw on the discussion in Levin (2015), which establishes the basic generalizations presented in this and the following section. In the ensuing years, I have collected data from additional languages that provide further support for these generalizations and have allowed them to be refined. Moreover, the presentation of the material here is quite different than in the 2015 paper since my goals are different: to provide context for promoting further work on contact event descriptions in Nakh-Dagestanian languages and languages of the Caucasus more generally.

Before turning to the details, I stress that the survey of hitting event descriptions that the generalizations draw on was not carried out systematically. Rather, it is based on discussions that I found in the literature, supplemented by consultation with experts on certain languages. Although clear trends emerge, a larger, more systematic cross-linguistic investigation remains necessary.

This survey reveals that the argument reversal that Polinsky notes in contact event descriptions in Nakh-Dagestanian languages is also attested in other languages. Equally, as I also discuss, this reversal is really one manifestation of a larger generalization: many languages do

⁶ A reviewer provides a comparable Georgian example with the verb ‘hit’, but writes that they are unaware of any systematic studies of this phenomenon in any South Caucasian language.

not realize the surface, particularly if inanimate, as a direct object. But it is worth noting that a single language may use more than one argument realization strategy, even if one is preferred.

Most strikingly, Tibetan, which like the Nakh-Dagestian languages has ergative case marking, shows precisely the argument reversal pattern observed in Nakh-Dagestian languages, as (9) and (10) show.

- (9) Tibetan (from DeLancey 2000: 13, (61))
 shing-la sta=re gzhus-pa
 tree-LOC axe hit
 SURFACE INSTRUMENT
 ‘hit the tree with an axe.’
- (10) Tibetan (from DeLancey 2000: 13, (64))
 thub=bstan-gyis blo-bzang-la mur=rdzog gzhus-song
 Thubten-ERG Lobsang-LOC fist hit-PERF
 AGENT SURFACE INSTRUMENT
 ‘Thubten punched Lobsang.’

In Tibetan, the surface is expressed in the locative case (DeLancey 1995: 6, 2000: 13), while the instrument is in the unmarked nominative (absolute) case. Again as in Nakh-Dagestian, the agent retains ergative case marking even when the instrument is not expressed, with the surface remaining in the locative case.

- (11) Tibetan (from DeLancey 2000: 6, (18), 2002: 274)
 thub=bstan-gyis blo-bzang-la gzhus-song
 Thubten-ERG Lobsang-LOC hit-PERF
 AGENT SURFACE
 ‘Thubten hit Lobsang.’

The pattern described in Northwest Caucasian in section 2 is also more widespread. In this pattern, the counterparts of at least some English contact verbs are not transitive, with only the agent and surface – and not the instrument – being expressed. The surface, whether animate or inanimate, is expressed in an oblique case, usually some kind of locative case. Such verbs are found in Czech (Janda 1993: 539, 561), Eastern Armenian (Daniel & Khurshudian 2015: 505– 506), Hebrew (Botwinik-Rotem 2003; Halevy 2007), and Ulwa (A. Koontz-Garboden p.c.), as illustrated by the Ulwa example (12).

- (12) Ulwa (from Koontz-Garboden field notes: 0405-1024)
 M raudi L *(kau) bau-t-ida.
 M SUBJ L at hit-TA-3SG
 AGENT SURFACE
 ‘M hit L.’

A slight twist on this argument realization pattern is observed in some Germanic languages, including Dutch (de Swart 2014), German (Fleischhauer 2018), and Swedish (Viberg 2004: 337–338; Lundquist & Ramchand 2012) (although not English), as well as in Russian. In these languages, the expression of the surface is sensitive to animacy: the surface is realized as a direct

object if animate, but generally as an oblique if inanimate, as the Swedish examples in (13) show.⁷

- (13) a. Swedish (from Lundquist & Ramchand 2012: 224, (2a))
 Jag sparkade *(på) bordet (flera gånger).
 I kicked on table.DEF many times
 AGENT SURFACE
 ‘I kicked on the table many times.’
- b. Swedish (from Lundquist & Ramchand 2012: 224, (1b))
 Jag sparkade (på) honom (flera gånger).
 I kicked on him many times
 AGENT SURFACE
 ‘I kicked him many times.’

Although animacy sensitivity in the realization of the surface is systematically attested in some languages, in other languages there are individual hitting verbs that show this type of differential argument realization: languages may have a verb that requires only animate or inanimate surfaces. For example, the Hebrew verbs *hirbits* ‘hit’ – the hitting verb most frequently used colloquially – and *satar* ‘slap’ take animate surfaces only, and then only if expressed in the dative (M. Rappaport Hovav p.c.). Turning to Nakh-Dagestanian, Ganenkov (2019: 193) notes that Mehweb has distinct verbs for hitting inanimate entities and animals. Forker (2013: 485–486) notes an instance of animacy sensitivity in Hinuq with the verb *oi-* ‘hit’, although it is different from that described so far: when the surface is animate, the argument reversal pattern is found, so the surface is realized in dative case and the instrument in absolutive case although it is usually omitted; when the surface is inanimate, the surface is in the absolutive case and the instrument takes the instrumental case.

In recognition of Polinsky’s considerable work on Austronesian languages, I briefly mention contact event descriptions in Kimaragang Dusun, a Philippine-type language, drawing on Kroeger (2010: 8–11). Kimaragang Dusun also allows argument reversal in such event descriptions with some contact verbs, although the reversal is mediated through the voice system characteristic of Philippine-type languages. As in such languages, every Kimaragang Dusun sentence has a “nominative” (i.e., unmarked) DP whose semantic role is indicated by a voice affix on the verb root. Generally, instruments are expressed as the nominative DP when the verb takes the zero-affix allomorph of the instrument voice together with the transitive prefix *poN-*, as in (14).

- (14) Kimaragang Dusun (from Kroeger 2010: 10, (20b))
 Gibangnopo ot pongoduntung ku dialo, aba no.
 left only REL IV-TR-punch 1SG.GEN 3SG faint PRTCL
 ‘Even if it is only my left (hand) that I hit him with, he will pass out.’

With this realization of the instrument, the other arguments of the verb retain the marking they typically show when they are not associated with the voice affix. The surface is expressed as an accusative DP, which would be an analogue of the basic English expression. However, hitting verbs allow another option: the instrument may be expressed as the nominative DP with the *i-*

⁷ The exact patterns of animacy sensitivity may require further investigation; see Fleischhauer (2018), for example, for a fuller picture of the patterns observed in German.

allomorph of the instrument voice form of the verb, but the surface is now marked in dative case – that is, it has an oblique expression, as in (15).

- (15) Kimaragang Dusun (from Kroeger 2010: 10, (20a))
 N-i-duntung dialo sid tobon a tonggom yo.
 PST-IV-punch 3SG DAT wall NOM fist 3SG.GEN
 AGENT SURFACE INSTRUMENT
 ‘He punched his fist against the wall.’

Such contact event descriptions are comparable to the Nakh-Dagestanian argument reversal pattern and the *against* pattern found in English. They “describe a particular manner of moving a theme in order to bring it into contact with a surface” (Kroeger 2010: 11).

Yet another option is found in Emai, an Edoid language of Nigeria, which lacks case marking, but has double object constructions, which it uses in contact event descriptions (Schaefer & Egbokhare 2004). As in Nakh-Dagestanian languages and Tibetan, the instrument, which may be a body part of the agent, is expressed as an object – the second object in the double object construction – while the surface is expressed as the first object. (16) illustrates this pattern with the verb *so* ‘smack, collide with’.

- (16) Emai (from Schaefer & Egbokhare 2004: 309, (1a))
 òhí só ójé èkpà.
 Ohi smack Oje fist
 AGENT SURFACE INSTRUMENT
 ‘Ohi punched [smacked his fist against] Oje.’

With *so* and *hian* ‘strike’, the first object must be human; other animates or inanimates are not possible. Thus, once again we find animacy sensitivity. Further, the second object must be chosen from a limited set of body parts, a point that I return to in section 4.2.2. Yet another verb found in Emai contact event descriptions is *fi* ‘hit’. It too is found in a double object construction with an animate surface as first object and an instrument as second object, as in (17).

- (17) Emai (from Schaefer & Egbokhare 2004: 313, (12a))
 òhí fí ójé úkpóràn.
 Ohi hit Oje stick
 AGENT SURFACE INSTRUMENT
 ‘Ohi hit Oje with a stick.’

However, this verb too shows a form of animacy sensitivity. When the surface is inanimate, the verb *fi* ‘hit’ is used in a construction that resembles the Nakh-Dagestanian argument reversal pattern, as in (18): the instrument is the object and the surface, necessarily an inanimate entity, is in a locative PP (Schaefer & Egbokhare 2004: 313).⁸

- (18) Emai (from Schaefer & Egbokhare 2004: 314, (12c))
 òhí fí úkpóràn vbi òtòì.
 Ohi hit stick LOC ground
 AGENT INSTRUMENT SURFACE
 ‘Ohi hit a stick on the ground.’

⁸ Interestingly, as M. Rappaport Hovav (p.c.) points out, in English too it is odd to have an animate entity as the surface in the comparable construction: ?**Sam hit the stick/his hand against Kim*.

For a better understanding of how the double object option for contact event descriptions relates to other options described in this section, it is useful to consider it in the context of the argument realization options cross-linguistically attested for ditransitive verbs. Languages use two major types of constructions for ditransitive verbs, canonically represented by *give*: a double object construction or a construction that involves a direct object and a dative NP. Semantically, the first object in a double object construction corresponds to the argument that is expressed in the dative case in languages without double object constructions: both realize the recipient with core ditransitive verbs such as *give*. In fact, Gerdts (1993) and Siewierska (1998) propose that in terms of morphosyntactic behavior the first object in a double object construction patterns with the dative DP in languages that use such an expression for the recipient of a ditransitive verb. If so, then the Emai pattern with a human surface may resemble an argument reversal pattern, where the surface is an oblique, more than it might initially appear. I leave it for further investigation whether such a comparison is fruitful.

To conclude this section, Nakh-Dagestanian languages are not unique in showing an oblique expression of the surface, nor in manifesting argument reversal in contact event descriptions. However, the observed argument realization patterns, including the precise instantiation of argument reversal, if attested, is modulated by the morphosyntactic properties of individual languages. Further, the Nakh-Dagestanian argument reversal could be seen as an instantiation of a more general hallmark of contact event descriptions across languages: a preference for not expressing the surface as an object.

4. The locus of manner encoding. Contact events can differ in the manner in which the contact comes about, and a speaker of a language may want to specify the manner in describing such an event. By manner of contact, I intend not only the instrument or body part used, but also other dimensions of the contact, including how strong a force is exerted against the surface (e.g., *tap* vs. *bash*) and whether the contact is necessarily iterated or not (e.g., *pound* vs. *kick*).

The cross-linguistic survey of contact event descriptions reveals a second dimension of variation: the locus of expression of the manner of contact. In English, as I elaborate in section 4.1, the manner of contact is generally lexicalized in the verb. However, in other languages surveyed the manner is (often) expressed outside the main verb, with languages choosing among several strategies to accomplish this, as set out in section 4.2. As I discuss in section 4.3, the limited data on contact event descriptions in Nakh-Dagestanian languages suggest that they too tend to express the manner outside the verb, adopting one of the strategies described in section 4.2.

4.1. ENCODING MANNER CONTENT WITHIN THE VERB. English has a rich – that is, large and diverse – inventory of contact verbs, as I illustrate with hitting verbs. Two of these verbs, *hit* and *strike*, seem to lexicalize nothing more than contact, so they can be used in the description of just about any contact event. Other hitting verbs are only appropriate for describing certain hitting events because they lexicalize more specific information about the manner of contact. On analogy with Slobin’s characterization of manner of motion verbs (see section 5), I propose that the hitting verb inventory consists of “two tiers” (cf. Slobin 1997: 459). The first tier includes what I call “basic hitting verbs”, such as *hit* and *strike*, whose meaning is fairly nonspecific, simply lexicalizing the fact of contact. The second tier consists of verbs lexicalizing more specific types of contact; these verbs are generally hyponyms of the basic hitting verbs (e.g., *tapping* is a kind of hitting). The second tier verbs can be subclassified according to the facet of manner lexicalized,

as in (20).⁹ Noteworthy are the onomatopoeic verbs in (20d) (Richardson 1983; Stringer 2011: 18), which lexicalize a sound emitted through surface contact, with the nature of the sound providing insight into the nature of the contact.

(19) FIRST TIER (I.E., BASIC) HITTING VERBS: hit, strike

(20) SECOND TIER HITTING VERBS:

- a. INVOLVING A BODY PART: bite, butt, claw, elbow, kick, knee, lick, nip, paw, peck, pinch, punch, slap, smack, spank, ...
- b. INVOLVING A TOOL: bat, belt, birch, bludgeon, cane, club, cosh, cudgel, cuff, flog, hammer, knife, lash, paddle, ram, stab, strap, truncheon, whip, ...
- c. INVOLVING DEGREE/NATURE OF FORCE: bash, batter, beat, bonk, bop, buffet, bump, clobber, clout, conk, dash, drum, jab, knead, knock pat, poke, pound, prod, pummel, rap, scratch, slug, smash (where no effect implicated), sock, strike, stomp, swat, swipe, tamp, tap, thrash, wallop, whup, ...
- d. INVOLVING A SOUND CHARACTERISTIC OF THE IMPACT: bang, clink, clank, clatter, ping, thud, thump, thwack, whack, wham, whump, ...

4.2. ATTESTED STRATEGIES FOR ENCODING MANNER CONTENT OUTSIDE THE VERB. Most – if not all – languages have a monomorphemic counterpart of English *hit*, that is, a basic or first tier contact verb. But at least some languages have few, if any, second tier contact verbs: that is, they lack monomorphemic verbs lexicalizing hyponyms of English *hit* such as *punch*, *slap*, *swat*, or *tap*. However, such languages use other strategies to encode manner outside the verb, allowing finer distinctions to be made in the hitting domain; these strategies provide a means of conveying some of the same concepts lexicalized in English by second tier hitting verbs. I now present several of these strategies.

I begin in section 4.2.1 with a strategy where the main verb in a contact event description does not lexicalize contact, and turn next in section 4.2.2 to a related strategy where the main verb is a basic hitting verb – lexicalizing nothing more than the contact – or another nonspecific verb lexicalizing force transmission. With both these strategies further detail about the manner of contact is expressed outside the verb using one of its argument slots. Thus, these strategies can have repercussions for the expression of the surface. In section 4.2.3, I turn to a third strategy: the use of ideophones to express manner. In general, the data in section 4.2 are sparser than in section 3, since this facet of contact event descriptions appears not to have been systematically investigated; two exceptions are studies of Portuguese and Spanish.

4.2.1. LIGHT VERB PLUS “CONTENTFUL” NOUN. One way of expressing concepts lexicalized as second tier hitting verbs in English is via a light verb plus an appropriately chosen “contentful” noun complement to this verb, as in the English *give a kick/punch*; I refer to these as verb-noun combinations. This option is attested in the Romance languages Catalan (L. McNally p.c.), Italian (Masini 2012; cf. Folli & Harley 2013), Portuguese (Baptista 2004), and Spanish (Palancar 1999), as well as in Hebrew (M. Rappaport Hovav p.c.). The light verb used in such constructions – often a counterpart of English *give*, *make*, or *put* – does not lexicalize a notion of contact, but simply provides a scaffolding for specifying the manner and arguments in a contact event

⁹ Some of these verbs could go into multiple subclasses. Where the best placement is unclear, I have put the verb in class (c), the most general class.

description (cf. Jackendoff 1974; Grimshaw & Mester 1988). The light verb’s object provides the manner content; it can denote a body part, a tool, or an “action pattern” (Jackendoff 1990: 34).

I illustrate this strategy with Portuguese, drawing on the extensive discussion in Baptista (2004). Portuguese has a few hitting verbs including the first tier *bater* ‘hit’ and a few second tier verbs such as *chicotear* ‘whip’ and *martelar* ‘hammer’ (Baptista 2004: 39–40). Nevertheless, the happenings described by many English hitting verbs are only expressible via verb-noun combinations. Thus, English kick_V is translated as *dar pontapé* ‘give kick_N’ in Portuguese (Baptista 2004). Some simple nouns (pontapé ‘kick’, *murro* ‘punch’) enter into these verb-noun combinations as the object of the light verb; however, the noun is often what Baptista (2004: 31) calls a “violent action noun”, formed by adding *-ada* to a concrete noun denoting a tool or body part that can be used to hit, such as those in (21).

- (21) Portuguese (from Baptista 2004: 39–40)
agulha ‘needle’, *bastão* ‘club, staff’, *bengala* ‘cane’, *chibata* ‘switch, rod’, *faca* ‘knife’,
porra ‘club’, ...

Baptista lists over 40 violent action nouns ending in *-ada*, and notes that such nouns are productively formed, providing the nonce examples *sapatada* ‘shoe-ada’ and *cadeirada* ‘chair-ada’. Palancar’s (1999) study of *-ada*’s Spanish counterpart *-azo* suggests that it too is productive.

I now turn to the implications of this strategy for Portuguese contact event descriptions. When the surface is animate, it is expressed as a DP in the dative case as in (22), while, if inanimate or a body part, it is expressed in a PP headed by the locative preposition *em*, as in (23).

- (22) Portuguese (from Baptista 2004: 36, (18c))
 [O João] deu [uma bengalada] [ao Pedro].
 the John give.PERFPST3SG a caning to.the Peter
 AGENT LIGHT VERB MANNER SURFACE
 ‘John gave a cane-*ada*, i.e., a caning, to Peter.’

- (23) Emai (P. Amaral, p.c.)
 [O João] deu [uma bengalada] [no carro].
 the John give.PERFPST3SG a caning in.the car
 AGENT LIGHT VERB MANNER SURFACE
 ‘John hit the car.’

As mentioned, English allows a version of this strategy: *give* plus a noun zero-related to a verb, as in (24), but does not distinguish animate from inanimate surfaces.¹⁰

- (24) Tracy gave the horse/the door a kick/punch/whack.
 AGENT LIGHT VERB SURFACE MANNER

4.2.2. BASIC FORCE TRANSMISSION VERB PLUS NOUN DESIGNATING BODY PART OR TOOL. Some languages, including Tibetan (DeLancey 2000) and Emai (Schaefer & Egbokhare 2004),

¹⁰ M. den Dikken (p.c.) asks whether English contact event descriptions with transitive verbs might not be light verb constructions in disguise. He observes that the verb *shoot*’s object cannot felicitously host a depictive (**John shot the bear_i sad_i*; Motut 2014: 241, (3a)), a property that is shared with the first object of a ditransitive verb, and thus should follow for *shoot* on a light verb analysis. However, as den Dikken himself notes, the proposal faces a problem: depictives apparently can be hosted by the first object of *give* precisely in light verb constructions (Maling 2001: 424; Pyllkkänen 2008: §2.1.3.3; Bruening 2018: 548).

manifest a strategy related to the light verb strategy: concepts lexicalized as second tier hitting verbs in English are expressed via a basic hitting verb or another fairly nonspecific verb that, like ‘hit’, lexicalizes force transmission such as ‘throw’, together with a noun, expressed as the object of the verb, denoting a tool or body part. Usually the verb-noun combination is not understood literally, but takes on a conventionalized, slightly specialized meaning, as in the Tibetan (25). Here the verb-noun combination ‘hit/throw kick’ is understood as the counterpart of the English monomorphemic contact verb *kick*. DeLancey (2000: 14, (64)) also provides a second example where the combination ‘hit fist’ is understood as the counterpart of English *punch*. (BFV stands for ‘basic force transmission verb’.)

- (25) Tibetan (from DeLancey 1995, (20))
 nga-s blo=بزang=la rdog=rdyag gzhus-pa yin
 I-ERG Lobsang-LOC kick_N hit/throw-PERF/CONJUNCT
 AGENT SURFACE MANNER BFV
 ‘I kicked Lobsang.’

As DeLancey (2000: 13) writes, the counterparts of surface contact verbs in Tibetan are “fixed constructions with a semantically non-specific verb and a lexically-specified object”. Emai also uses this strategy, having “a predication type in which verbs collocate with specific parts of speech to express meanings that languages of another type express primarily with a single verb lexeme” (Schaefer & Egbokhare 2004: 309). The realization of the surface is different than in Tibetan: as discussed in section 3, Emai lacks case marking and uses a ditransitive construction instead. In this construction with the verbs *so* ‘smack, collide with’ and *hian* ‘strike’ the first object realizes the surface, while the second object, drawn from a small number of body parts, specifies the manner. As (26) shows, *èkpà* ‘fist’ is used with *so* to convey the meaning ‘punch’.

Other nouns and the meanings they are used to convey are listed in (27) (Schaefer & Egbokhare 2004: 309). In each instance, the verb-noun combination takes on a slightly specialized meaning.

- (26) Emai (Schaefer & Egbokhare 2004: 309, (1a))
 òhí só ójé èkpà
 Ohi smack Oje fist
 AGENT BFV SURFACE INSTRUMENT
 ‘Ohi punched [smacked his fist against] Oje.’

- (27) Emai (Schaefer & Egbokhare 2004: 309)
úkpà ‘beak’ to convey ‘peck’
ízà ‘heel’ to convey ‘kick’
ikhókhòì ‘knuckle’ to convey ‘knuckle’
àkón ‘teeth’ to convey ‘bite’
èhìén ‘fingernail’ to convey ‘pinch’

In the Tibetan and Emai examples too, the manner is realized as the object of the verb, with the surface receiving an alternate realization (assuming the second object in a double object construction is analogous to a transitive object; see section 3). Thus, there is an interaction between this strategy for expressing manner and argument realization in contact event descriptions.

4.2.3. BASIC FORCE TRANSMISSION VERB OR LIGHT VERB PLUS IDEOPHONE. As noted in section 4.1, the English hitting verb inventory is expanded in size by onomatopoeic verbs. Although

languages with limited contact verb inventories are unlikely to have such verbs, some have a class of ideophones (also known as mimetics) and use them to achieve comparable effects. Thus, notions lexicalized as second tier hitting verbs in English are expressed via a basic force transmission verb or a light verb together with an ideophone evoking the sound produced by the contact, just like English onomatopoeic verbs. The ideophone provides manner information in that the properties of the sound allows inferences to be made about the nature of the contact as with English onomatopoeic verbs. This strategy is attested in Emai with basic force transmission verbs (Schaefer 2001) and in Japanese with both light verbs and basic force transmission verbs (Kageyama 2007: 47). This phenomenon is illustrated with data from Emai in (28), which adds an ideophone to the argument reversal pattern illustrated in (18).

- (28) Emai (Schaefer & Egbokhare 2004: 349, (21c))
 ó fi ághán vbí óran gbógbógbó.
 he hit sickle LOC tree with-a-smack
 AGENT BFV INSTRUMENT SURFACE IDEOPHONE
 ‘He smacked a sickle on the tree.’

Japanese has a small number of hitting verbs, including those in (29); however, more specific nuances about the nature of the contact can be expressed using an ideophone with the verb. In (30), the ideophone occurs with a basic force transmission verb, while in (31), the ideophone occurs with the light verb *suru* ‘do, make’, which is productively used in Japanese to express a variety of concepts (Grimshaw & Mester 1988).

- (29) Japanese (from Kageyama 2007: 51–53)
humu ‘step on’, *kamu* ‘bite, chew’, *keru* ‘kick’, *koneru* ‘knead’, *naderu* ‘stroke’, *tataku* ‘hit’, *tuku* ‘poke’, *tutuku* ‘poke’

- (30) Japanese (from Kageyama 2007: 47, (36))
 Yukiko-ga doa-o gongon(-to) tatai-ta.
 Yukiko-NOM door-ACC ‘bang’(-ADV) hit-PST
 AGENT SURFACE IDEOPHONE BFV
 ‘Yukiko banged the door.’

- (31) Japanese (from Kageyama 2007: 44, (25))
 Hahaoya-ga [akatyán-no senaka-o] tonton suru.
 mother-NOM baby-GEN back-ACC ‘tap’ do.PRES
 AGENT SURFACE IDEOPHONE LIGHT VERB
 ‘Mother taps her baby on the back.’

Since the ideophone does not appear in an argument position, the surface can still be realized as an object of a basic force transmission verb, as shown by the accusative case in the Japanese example (30), just as it does in the absence of an ideophone as shown in (32).

- (32) Japanese
 Yukiko-ga doa-o tatai-ta.
 Yukiko-NOM door-ACC hit-PST
 AGENT SURFACE BFV
 ‘Yukiko hit the door.’

Thus, this option does not necessarily have the effects on argument realization that the verb-noun combination option does.

4.2.4. MANNER ENCODING: A SUMMARY. In some languages, including those where argument reversal seems to be the default means of describing contact events, verb-noun or verb-ideophone combinations are used to convey notions lexicalized by some second tier English contact verbs. The attested types of non-verbal content include a noun denoting a body part or tool, as in Emai and Tibetan; an action nominal derived from a body part, tool, or other manner content, as in Romance languages; and an ideophone evoking the sound produced by the contact, as in Japanese and Emai.

4.3. BACK TO NAKH-DAGESTANIAN. In the introduction, I did not cite Polinsky’s own Tsez example of argument reversal precisely because it illustrates that Nakh-Dagestanian too uses the verb-noun combination strategy to express manner. Her example, given in (33), is translated using the English verb *shoot*, but as the gloss makes clear, the original actually involves a verb translated as ‘throw’ – a basic force transmission verb also used in Tibetan as in (25) – together with the noun ‘rifle’.

- (33) Tsez (Polinsky 2021: 14, (8))
 čanzqan-ä zey-qo (tupi) caʎi-n
 hunter-ERG bear-POSS.ESS rifle-ABS.IV throw-PST.nWIT
 AGENT SURFACE INSTRUMENT BFV
 ‘The hunter shot (lit. threw the rifle at) the bear.’

That is, in (33) an instrument-denoting noun plus a verb together convey a meaning lexicalized by a monomorphemic verb in English; thus, the verb-noun combination is not understood literally but receives a conventionalized meaning.¹¹ Nichols gives the comparable Ingush example (34).

- (34) Ingush (Jakovlev 1940: 43; from Nichols 1984: 189, (12c))
 as p̄agalna tuop qüössira.
 I-ERG rabbit-DAT rifle-NOM threw
 AGENT SURFACE INSTRUMENT BFV
 ‘I shot at the rabbit with a rifle.’

In her work Nichols (1984: 189, 2011: 341, 419, 468) provides a handful of other verb-noun combinations in Ingush involving notions of contact where the meaning of the whole does not reflect the literal meaning of the parts. Rather, they take on what Nichols describes as a “specialized” meaning (1984: 198). These are given in (35).

- (35) *urs tuoxan*, literally ‘knife strike’, means ‘stab’, not ‘hit with a knife’
kur tuoxan, literally ‘horn hit’, means ‘butt’, not ‘hit with a horn’
cerjg tuoxan, literally ‘tooth strike’, means ‘bite’, not ‘hit with a tooth’
zwok tuoxan, literally ‘beak strike’, means ‘peck’, not ‘hit with a beak’

¹¹ A full analysis of these constructions requires an investigation into the morphosyntactic status of the noun. Nichols (1984: 190) raises this issue, suggesting that the noun is still a normal direct object as “it can easily be modified, made referential, quantified, and the like”; however, later she takes a more nuanced stand, noting that the data she considered earlier are stylistically marked (Nichols 2011: 330).

The first combination and the previously cited *tuop tuoxan* ‘rifle hit (i.e., shoot)’ involve nouns that are ontologically instruments, while the other three combinations involve body parts that like some ontological instruments are used to effect contact. A counterpart to ‘rifle hit’ is found in the Tsez example (33) and mentioned by Forker in Hinuq (2013: 485). She also cites ‘whip’ in Hinuq as being such a combination (2013: 486, (876b)). Thus, each of these corresponds to a simple verb in English, just as the Emai and Tibetan examples in section 4.2.2 do. And as in these two languages, since the manner content is expressed as the verb’s object, the surface must receive an alternate realization in a contact event description.

In his grammar of Lezgian, Haspelmath (1993: 270) notes that “quite generally verb meaning is more general than in the familiar European languages” in the context of a discussion of contact event descriptions. He notes that the verb *guc’ün* is understood as ‘stroke’ in the context of ‘hand’, but as ‘wipe’ in the context of ‘cloth’, and that *eläğun* is understood as ‘sweep’ in the context of ‘broom’, but also “‘wave (with a cap)’ and ‘nod (one’s head)’”. Similarly, in her discussion of Tsez contact verbs, Polinsky (2015: 152–154) gives data that suggest Haspelmath’s observations about Lezgian extend to Tsez. She notes that the verb AGR-*iñ*- ‘put’ is understood in various ways, including as ‘stroke’ in the context of ‘hand’, ‘scratch’ in the context of ‘nail/claw’, ‘spread’ in the context of ‘butter’, ‘wipe’ in the context of ‘cloth’, and ‘sweep’ in the context of ‘broom’. She also describes the verb AGR-*ic*- ‘fill’ as having “more specific realizations” (2015: 154) in the context of various nouns, including as ‘kiss’, ‘hug’, and ‘embrace’. She lists a few Tsez hitting verbs (2015: 153–154), but their glosses indicate that generally they do not lexicalize the detailed manner specifications characteristic of the second tier English hitting verbs in (20). Instead, verb-noun combinations are used to convey more detailed manner.

The materials available to me do not make clear how widespread the use of verb-noun combinations is within the contact event domain of each language, although light verb constructions are a feature of these languages as discussed, for instance, by Forker on Hinuq (2013: §9.3) and Dargwa (2019: §12.2). Further, as a reviewer notes, these languages have relatively small closed classes of synthetic verbs, as discussed, for example, by Nichols (2011: 328) for Ingush. In summary, the available data suggest that the Nakh-Dagestanian languages have limited contact verb inventories, but further investigations must confirm the validity of this suggestion.

5. On manner verb inventories. Cross-linguistic variation in the richness of verb inventories extends beyond the hitting domain: it is well documented in the manner of motion domain and noted in other manner domains as well. Further, the literature on verb inventory size in the motion domain connects verb inventory size to a typological distinction involving the form of directed motion event descriptions. As I discuss in this section, this connection allows us to link the argument reversal pattern in Nakh-Dagestanian contact event descriptions to a second property of these languages that Polinsky (2021: 14) highlights in her handbook introduction – their classification with respect to the typological divide in motion event descriptions.

Slobin (1997, 2000, 2004a,b, 2006, 2017) highlights considerable cross-linguistic variation in the size and diversity of manner of motion verb inventories. Manner of motion verb inventories show the same structure as hitting verb inventories, “Languages seem to have a ‘two-tiered’ lexicon of manner verbs: the neutral, everyday verbs – like *walk* and *fly* and *climb*, and the more expressive or exceptional verbs – like *dash* and *swoop* and *scramble*” (Slobin 1997: 459). Languages with small manner of motion verb inventories lexicalize major gaits (e.g., walking, running), but not their hyponyms (e.g., types of walking such as *amble*, *prance*, *strut*). Slobin’s statement receives support from a range of studies, including studies encompassing a range of

languages (Matsumoto 2003: 409–411; Malt et al. 2008, 2014; Iacobini 2010; Verkerk 2013; Stathi 2023), as well as specific languages (Baird 2008 on Kéo; Cardini 2008 and Iacobini & Vergaro 2010 on Italian; Cifuentes-Férez 2007, 2009 on Spanish; Kopecka 2010 on Polish).¹²

Interestingly, languages may also compensate for small manner of motion verb inventories through the use of ideophones (Wienold 1995: 319–322; Schaefer 2001; Matsumoto 2003; Slobin 2004b: 233–235). Japanese, which as discussed in section 4.2.3 uses ideophones in contact event descriptions, also uses them in directed motion event descriptions (Sugiyama 2005; Akita 2008; Stringer 2011; Toratani 2012; Wienold 1995: 319–322). For example, the Japanese first tier manner of motion verb *aruku* ‘walk’ can combine with ideophones to express hyponyms of English walk: *yochiyochi aruku* means ‘toddle, totter’, *sutasuta aruku* means ‘walk briskly’, *burabura aruku* means ‘stroll’, and *shonarishanari aruku* means ‘walk daintily’ (Wienold 1995: 320, Table 8; see also Shibatani 1990). Wienold describes the use of this strategy in the East Asian languages Korean and Thai, while Schaefer (2001) and Ibarretxe Antuñano (2006, 2009) describe its use in Emai and Basque, respectively.

Subsequent studies suggest that there may be a larger generalization about the locus of lexicalization of manner in languages. Wienold (1995: 319–322) suggests that the small manner of motion verb inventories of Japanese, Korean, and Thai are one manifestation of a more general reduction in the size of their manner verb inventories. In fact, Japanese uses ideophones in combination with a more basic or light verb to also make fine distinctions in the manner domains of laughing, crying, looking, and speaking (Shibatani 1990: 155; Wienold 1995: 319–322; Matsumoto 2003: 413; Tsujimura 2007: 449). Slobin (2009: 208, fn. 8) extends the observation about reduced manner of looking verb inventories to other languages, while the larger point is confirmed in additional languages across more manner domains in Gast et al. (2014) and Stathi (2023).

In the motion domain, variation in manner verb inventory size is discussed in conjunction with the “verb-framed” vs. “satellite-framed” language distinction (Talmy 1975, 1985, 2000), which reflects the preferred locus of encoding of the path in a directed motion event description. Two major options are attested: the path can be expressed in the verb, with the manner expressed outside the verb, or the manner can be expressed in the verb, with the path expressed outside the verb in what Talmy calls a “satellite”. So-called verb-framed languages express the path within the verb, while satellite-framed languages express the path outside the verb; however, as Beavers et al. (2010) and Croft et al. (2010), among others, discuss, many languages may show more than one strategy for describing motion events even if one is preferred; further, the morphosyntactic resources of a language may allow for alternate instantiations of the major strategies, leading to further subclasses of languages (e.g., Acedo-Matellán 2016 introduces the notion “weak verb-framed language”; see also Lewandowski & Mateu 2020).

Slobin (1997) is the first to suggest a correlation between a language’s classification as verb- vs. satellite-framed and verb inventory size: “In S[atellite-framed]-languages, the second tier is extensive and elaborated, making distinctions that do not play a role in the considerably smaller

¹² Some caution is necessary about claims about verb inventory size in the literature, including those reviewed here. First, the methods used to assess verb inventory size vary (see Slobin 1997: 458–459), so not only are the results not necessarily comparable, but the results for a given language can differ across studies. Second, assessments of whether an inventory is large or small are qualitative, and the benchmarks used vary. Most often, assessments involve a cross-linguistic comparison of inventory sizes, often taking English as a reference point; however, in a few studies the relative size of the path and manner verb inventories provides the basis for the assessment (Matsumoto 2003).

second tiers in V[erb-framed]-languages” (459). This proposal is generally supported by the verb inventory data reviewed above, which emerged from studies addressing Slobin’s proposal. The East Asian languages that Wienold discusses are all verb-framed, as are the Romance languages, Emai (Schaefer 1986a,b), and Basque (Ibarretxe Antuñano 2004), while English is satellite-framed.

A question that is not fully resolved is why there should be a link between a language’s typological classification and manner verb inventory size. One suggestion is that as a manner verb cannot be the main verb in a directed motion event description in verb-framed languages, there may be less need for a rich set of such verbs; in fact, when manner information is included in these descriptions it is via adverbial expressions, prepositional phrases, and ideophones. In contrast, satellite-framed languages can use manner verbs in their directed motion event descriptions, and this may “facilitate” (Slobin 2017: 426) the development of a richer set of such verbs.

Turning back to contact event descriptions, the languages that use verb-noun combinations – Portuguese and Spanish – as just mentioned are verb-framed languages (Aske 1989; Talmy 1985, 2000; Slobin 1996), as is Emai (Schaefer 1986a,b). Similarly, Japanese, which uses ideophones, is also verb-framed (Yoneyama 1986) and, as just mentioned, so is Emai. In contrast, English and German, which have large manner of motion and hitting verb inventories, are satellite-framed. Gast et al. (2014) and Stathi (2023) too find the relevant correlation between a language’s typological classification and its hitting verb inventory size.

Returning to Nakh-Dagestanian, as Polinsky (2021: 14) also notes in her handbook introduction, the languages of the Caucasus too are verb-framed. Thus, there may well be a link between the two properties that Polinsky highlights in her introduction. That is, the argument reversal characteristic of Nakh-Dagestanian contact event descriptions is compatible with the use of verb-noun combinations to express certain notions lexicalized as simple hitting verbs in other languages, making up for a small hitting verb inventory, and this small inventory size might itself be related to the verb-framed nature of Nakh-Dagestanian languages. Of course, if these correlations hold, a theory of why these properties should fall together is still necessary, and such a theory should encompass not simply the data from Nakh-Dagestanian languages, but the generalizations about contact event descriptions more generally. The larger question is why should the form of these descriptions be potentially correlated with the form of directed motion event descriptions? What are the underlying factors – or perhaps “parameters” – that bring them together? Past work on the cross-linguistic expression of directed motion events has noted correlations with other argument realization phenomena, particularly the availability of resultative-like phenomena (Washio 1997; Talmy 2000; see Levin & Rappaport Hovav 2019: 403 for references), but I am unaware of discussions that bring contact event descriptions into the picture.

6. In conclusion: Hitting the high notes. It is perhaps fitting to conclude by relating the discussion of contact event descriptions to another line of Polinsky’s research. In a 2012 study, “Headedness again”, published in expanded form as “Headedness and the lexicon: The case of verb-to-noun ratios” (Polinsky & Magyar 2020), Polinsky examines the ratio of nouns to verbs in verb-initial vs. verb-final languages. She finds that overall verb-final languages have larger noun-to-verb ratios than verb-initial languages; that is, they tend to have a smaller number of verbs relative to the number of nouns. She further points out that several of the verb-final languages in the study tend to make use of light verb constructions to express concepts that are lexicalized by simple verbs in other languages; that is, such constructions provide a way of

expanding the inventory of events that can be described. Although not included in her study, Nakh-Dagestanian languages are verb-final and the potential use of verb-noun combinations as a way of enriching the range of contact event descriptions in these languages would be consonant with the observations in Polinsky (2012) and Polinsky & Magyar (2020). Thus, I end by underscoring not only Polinsky's many contributions, but also the rich avenues for future research that they open up.

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