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L-syntax and phono-symbolism: on the status of ideophones in complex predicates*

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Abstract

In this article, the author demonstrates that verbal compound constructions involving an ideophone and a light verb represent a widespread syntactic device in the world's languages. The author provides evidence that phono-symbolic morphemes cannot be treated as 'bare' direct objects in such constructions. Ideophones appearing in the light verb-adjacent position form a semantic unit with the verbal predicate, despite the fact that in some languages they can be *syntacticized* as (bare) nouns and appear in argumental position. Specifically, ideophones in complex predicates are part of the verbal domain with which they 'blend' (yielding a single predicate) through the mechanism of conflation, along the lines of Hale and Keyser (1993, 2002), and building on Ramchand (2008).

Keywords: ideophones, complex predicates, internal arguments, light verbs, L-syntax

Résumé

Dans cet article, l'auteur montre que les constructions verbales composées impliquant un idéophone et un verbe léger constituent un dispositif syntaxique répandu dans les langues du monde. L'auteur argumente que dans de telles constructions, les morphèmes phono-symboliques ne peuvent pas être traités comme des objets directs « nus ». Les idéophones qui apparaissent dans la position adjacente à un verbe léger forment une unité sémantique avec le prédicat verbal, bien que dans certaines langues ils puissent être syntactisés comme des noms « nus » et apparaître en position argumentale. Plus précisément, les idéophones dans les prédicats complexes font partie du domaine verbal avec lequel ils se combinent, grâce au

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mécanisme de la conflation, pour produire un prédicat unique, selon la proposition de Hale et Keyser (1993, 2002) et en s'appuyant sur Ramchand (2008).

Mots clés: Idéophones, prédicats complexes, arguments internes, verbes légers, L-syntaxe

1. INTRODUCTION

Ideophones generally represent a significant part of the lexicon of human languages (see Alpher 1994, Childs 1994, Dingemanse 2012, among many others, for a general overview). They are uninflected words ('bare lexemes' according to Creissels 2001), often of an onomatopoeic character (or at least with a phonologically deviant organization), which typically encode pivotal events (natural sounds, movements, lights, beats, etc.).[1]

Ideophones have often been characterized in the literature as an independent syntactic category (e.g., Evans and Levinson 2009). It is true that they usually exhibit distinctive phonology (such as vowel changes to signal switches in size or intensity, and/or unusual phonemes or tonal patterns) and distinctive morphology (such as special morphemic reduplication patterns), and occur sometimes in highly constrained morpho-syntactic constructions, but I believe that it is better to describe them as *overlapping with* (a set of) the lexical categories of a given language. Indeed, as Childs (1994: 178) writes, "In reality, the features of ideophones are not unique, or even qualitatively different from those possessed by other word categories. No feature is unique to ideophones, but they do function somewhat apart from the matrix language, possibly due to their greater reliance on universals and lesser reliance on language-specific conventions."

[1]The following abbreviations are used (note that original glosses have been retained in examples from different sources): 1SG: 1st person singular; 3: 3rd person; 3P: 3rd person plural; 3PL: 3rd person plural; 3SG: 3rd person singular; 3SM: 3rd person masculine singular; 3SR: 3rd person singular; 7,10: noun class markers; A: agent-like marker; ACC: accusative; Appl: applicative; ART: article; AUTO: autobenefactive/spontaneous; AUX: auxiliary; CL: clitic ; CLF: classifier; CNV: converb; CONS: consecutive; CONT: continuous; CONV: converb; CVANT: anterior converb; CVB: converb; D: gender agreement marker; DAT: dative; DECL: declarative; DES: desiderative; DEM: demonstrative; DIM: diminutive; DOM: differential object marking; DP: determiner phrase; DUR: durative; EMPH: emphasis; ERG: ergative; F: feminine; FACT: factual; FP: far past; FS: feminine singular; FUT: future; G: gender; GEN: genitive; IDPH: ideophone; IF: immediate future; INCH: inchoative; IND: independent; *init*: initiator; IPFV: imperfective; lit: literally; LNK: linker; LOAN: loanword; LOC: locative; LV: light verb; M: masculine; MED: medial; N: neuter; NAR: narrative; NMZ: nominalizer; NOM: nominative; NP: noun phrase; PASS: passive; PAST: past; PER: personal-factual evidential; PF: perfective; PFV: perfective; PL: plural; POSS: possessive; POSSN: possession; PP: prepositional phrase; *proc*: process; PROG: progressive; PRS: present; PRX: proximal; PST: past; PTC: participle; PTCP: participle; REL: relative pronoun; REP: reported evidential; *res*: result; SBJ: subject; SC: subject class marker; SBRD: subordinator; SEQ: sequential; Spec: specifier; SG: singular; SS: same-subject marker; TAM: tense/aspect/mood; TESTIM: testimonial; TODP: today past; TOP: topic; VIS: visual-sensory evidential; VP: verb phrase; WP: witnessed past tense; YESTP: yesterday past.

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The goal of this work is to analyse the morpho-syntactic characteristics of a specific syntactic environment in which ideophones appear, namely the construction in which they are introduced by a light verb with meanings such as 'do', 'say', 'have', or 'be'. Descriptively, at least three main syntactic contexts in which ideophones usually appear have been distinguished (Childs 1994; Creissels 1997, 2001). First, they can occur *in isolation* (as a kind of interjection, or functioning as an independent clause, (e.g., Kilian-Hatz 2001)), as shown in the Italian example in (1).

(1) *glu glu*, la barca affondò.
IDPH the boat sink.PST.3SG
'Gobble gobble, the boat sank.'

Second, they can occur as *adverbials*, in combination with verbs that express the same or a related meaning, as in the case of Japanese so-called 'mimetics' (cf. Shibatani 1990; see also Nuckolls 1996 on Pastaza Quechua). Consider the Italian example in (2).

(2) la vespa volava a *zig zag*.
the wasp fly.IPFV.3SG at IDPH
'The wasp was flying in a zigzag pattern.'

Finally, as already pointed out, ideophones can appear *attached to a light verb* often meaning 'say', 'do', 'have', 'be', etc. Such constructions are the precise focus of my investigation. Consider an example of this structure from Italian in (3).

(3) il mio cuore fa *bum bum.*
the my heart do.PRS.3SG IDPH
'My heart beats.'

Two aims will be pursued here. The first is to provide a detailed comparative illustration of the phenomenon of ideophonic complex predicates from a cross-linguistic perspective. The second is to provide evidence that ideophones appearing in the light verb-adjacent position form a semantic unit with the verbal predicate, despite the fact that in some languages they can appear in argumental position. Complex predicates are standardly defined as "predicates which are multi-headed; they are composed of more than one grammatical element (either morphemes or words), each of which contributes part of the information ordinarily associated with a head" (Alsina et al. 1997: 1). In this article, I argue that ideophones in complex predicates are part of the verbal domain with which they 'blend' (yielding a single predicate) through a mechanism of (hidden) conflation, along the lines of Hale and Keyser (1993, 2002; see also Mateu 2002), and building on Ramchand (2008). I will also suggest that the light-verb construction with ideophones is likely to originate from a genitive-like noun phrase involving the ideophone as the 'possessum'.

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2. Cross-linguistic evidence for a widespread light verb + ideophone pattern

In this section I show, with a broad range of cross-linguistic examples, that verbal compound structures involving an ideophone and a light verb represent a widespread syntactic device in the world's languages. The observation that ideophones are quite commonly found together with 'neutral' verbs is far from new (e.g., Childs 1994: 187, Alpher 2001: 10–11, Schultze-Berndt 2001: 360–367, Güldemann 2008: 280, Amha 2010, Dingemanse 2012, among others), but, to my knowledge, no attempt to provide a comparative illustration of the phenomenon has been available until now.

In such constructions, the basic universal pattern is the following: the lexical meaning is determined by the (uninflected) ideophone, while the grammatical content (e.g., tense, aspect, mood (the TAM markers)) is carried by the light verb. This section also provides some empirical evidence that ideophones are part of the verbal predicate rather than internal arguments of the (light) verb. This point, namely the evidence that ideophones cannot be treated as ('bare') direct objects, could be useful to support the formal characterization of ideophonic complex predicates to be sketched in section 3.1. I begin with a prototypical African example. As shown in Creissels (1997, 2001: 80–83) ideophones in Setswana (Bantu) normally combine with the light verb *re* 'say'. Consider the example in (4) where *re* combines with the ideophone *phatla*.[2]

(4) Dikokwana ts-a *re* *phatla* fa di bona segodi.
10.chicken SC10-CONS say IDPH when SC10 see 7.hawk
'The chickens suddenly scattered when they saw the hawk.'
Setswana (Creissels 2001: 81)

Creissels (2001: 79) argues that "Setswana ideophones are basically predicative lexemes that constitute the lexical element of compound predicates in which the function of auxiliary is fulfilled by the verb *re*." Interestingly, *re* is unusual among Setswana verbs (cf. Creissels 2001: 83) in that it cannot take a noun phrase as its complement, but only clauses and ideophones. This fact militates against taking the ideophone to be an internal argument of the light verb, at least in Setswana.

Afro-Asiatic languages also display large inventories of ideophones entering a complex predicate construction. Amberber (1996) has shown that in Amharic the light predicate *al* 'to say' is commonly used to create complex predicates with a full set of different lexical bases, including ideophones, in a configuration that he assumes is parallel to quotative constructions. In their description of Somali ideophones, Dhoorre and Tosco (1998: 129) assume that "ideophones are limited to

[2]The data reported in this section are drawn from comprehensive descriptive grammars (e.g., Croom Helm/Routledge Descriptive Grammars, Mouton Grammars, PhD dissertations, etc.) and articles with a typological focus, published up to 2014. For many languages, the relevant data are not available, as ideophones are often not included in the average reference grammar. A language is included in the survey only if unambiguous data were available concerning the ideophonic nature of the items entering complex predicates. All the items glossed as IDPH in this paper are glossed/interpreted as such in the original sources.

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use with the verb *yiri* 'to say' when intransitive […] and the verb *sii* 'to give' when transitive; if the use of the ideophone with the verb *yiri* 'to say' is transitive, its use with the verb *sii* 'to give' involves a causative meaning."

More details, from the case of Wolaitta (Omotic), are given below. As shown in Amha (2010: 278–279), Wolaitta ideophones obligatorily occur with the verb *g-* 'say' when they enter intransitive predicates, and with *ʔoott-* 'do' when they enter transitive predicates. These two verbs act as dummy verbs uniquely devoted to hosting TAM morphology, as illustrated in (5). Note that in Wolaitta, according to Amha, the ideophone and the light verbs *g-* and *ʔoott-* cannot be separated by any other constituents. This rigid ordering may be considered as evidence that ideophones form a unit with the verbal predicate.

(5) a. kúnd-étt-íyo *t'úlʔu-g*-aási
fall-NMZ-F.ACC IDPH-say-1SG.F
'I failed.' [when talking about a test on the Wolaitta language]
Wolaitta (Amha 2010: 262)

b. guútta moóre ʔašo *cácácácáca* *ʔoott*-ádá tamá-n
little fat meat.ACC IDPH do-SS.A.CNV fire-LOC
t'iit'-aásu
roast-3SG.FS.G.PF
'She roasted a little fat meat on the fire.'
Wolaitta (Amha 2010: 278–279)

Continuing the crosslinguistic overview of verbal complexes including an ideophone, it becomes apparent that these constructions are quite common in the languages spoken in Asia. I begin with the languages spoken in Siberia. In many Mongolic languages the verb for 'say' can occur as a light verb in conjunction with ideophones (cf. Matić and Pakendorf 2013: 387). Below we provide an example from Buryat in which the verb *ge* 'say' acts as a light verb, combining with the non-inflected lexeme *teb-teb* (ideophone for chew) and encoding TAM features.

(6) Tiixeden baabgajn *teb-teb* *ge*-xyn duula-ad.
then bear IDPH.chew say-FUT.PTC.GEN hear-PF.CVB
'Then the bear heard (the fox) chewing.'
Buryat (Matić and Pakendorf 2013: 387)

In Nivkh (isolate), a language spoken in Eastern Siberia and on Sakhalin Island, complex predicate structures including ideophones display the same basic pattern and are usually accompanied by the verb *ha-* ('be so'), as shown in (7), where the light predicate is used together with the expressive item *ŋəa ŋəa* (doze).

(7) Q'o-jnə-r *ŋəa ŋəa* *ha*-d.
sleep-DES/INCH-CONV.NAR.3SG doze doze be.so.IND
'Feeling sleepy he is dozing.' Nivkh (Nedjalkov and Otaina 2013: 90)

In the Tungusic languages spoken in Eastern Siberia and Manchuria we observe an analogous system. Consider the case of Evenki (Nedjalkov 1997: 304) in which ideophones form complex predicates with the light verb *o:-* 'to make/do'.

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Examples include *kachuso:-* 'make a noise' from the ideophone *kachus* 'hush'; *taso:-* 'crack' (of ice) from *tas* 'cracking/crackling'; *d'usero:-* 'flash' from *d'user* 'flashing', etc.[3]

Ideophonic complex predicates seem to be a syntactic object widely available in other language families of the Asian continent. Such constructions are attested in Tibeto-Burman languages, as reported for example in Matisoff (1994: 120), who described Lahu's complex predicates in which an ideophone occurs directly before the dummy verb *qáy* (commonly translated as 'go'), as in *qáw-qáw*$_{ideo}$ *qáy*$_{verb}$ *ve* 'go bow-bow'. In recent work on Japhug, a Tibeto-Burman language spoken in the Barkam County of Sichuan, China, Jacques (2013) shows that in this language ideophones can be used with up to four distinct light verbs: (a) the semantically empty stative verb *pa*, from proto-Rgyalrong 'to do'; (b) the light verb *ti* 'say'; (c) the manner verb *stu* 'do like…'; (d) its reflexive form *zɣʁ-stu* 'act like…'.

The verb *pa* is a stative intransitive verb. It is exclusively attested as a light verb and requires the presence of an ideophone. It is used with ideophones for shape, colour, or spatial disposition. Consider the example in (8).

(8) ɯ-phoŋbu nɯ rcanɯ *ʁɲɟliʁɲɟli* ʑo nɯ-*pa*.
3SG.POSS-body TOP TOP IDPH EMPH TESTIM-LIGHT.VERB
'Its body, it is enormous.' Japhug (Jacques 2013: 271)

The verb *ti* 'say' is used intransitively as a light verb with ideophones expressing sound and sensations, as illustrated in (9).

(9) ɯ-t^{h}oʁ nɯ tɕu *zɟɯɣ* zo *ti* ɲɯ-ŋu.
3SG.POSS-ground TOP LOC IDPH EMPH FACT.say TESTIM-be
'[The stone] made a loud noise (as it fell) on the ground.'
Japhug (Jacques 2013: 272)

The transitive manner deixis verb *stu* 'do like…' always indicates a volitive (causative) action, unlike the light verbs *pa* and *ti*. The verb can either have no semantic patient, as in (10), or a definite patient, like *ɯ-ku* 'its head' in (11). On the contrary, its reflexive form *zɣʁ-stu* 'act like…', which also describes a volitional activity, shows only an intransitive use.

(10) ɯ-sŋɯro lu-lɤt tɕe *ɬɯɣnʁluɣ* *ɬɯɣnʁluɣ*
3SG.POSS-breath IPFV.UPSTREAM-throw LNK IDPH IDPH
tu-ste ɲɯ-ŋu.
IPFV-do.like[III] TESTIM-be
'When it breathes, [one can see its body] expanding and contracting with each breath.'
Japhug (Jacques 2013: 273)

(11) ɯ-ku ra pjɯ-nɯ-χtɕi tɕe ɯ-ku ra *rloʁnʏrloʁ*
3SG.POSS-head PL IPFV-AUTO-wash LNK 3SG.POSS-head PL IDPH

[3]A light verb for DO (*wo:-*) merges with ideophones also in the cognate language Udihe, as shown in (i), taken from Nikolaeva and Tolskaya (2001: 642).

(i) modor modor wo:-ini.
IDPH:slobber slobber make-PST.3SG
'He slobbered.'

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tu-ste ɲɯ-ŋu
IPFV-do.like[III] TESTIM-be
'When it cleans its head, it moves it with rhythm' Japhug (Jacques 2013: 273)

In Lao (Tai-Kadai) ideophones, when not employed as manner adverbs, can occur in a light-verb construction with *hêt1* 'DO/MAKE' as a host verb (Enfield 2007: 301). Normally, the verb *juu1* 'be.at, continuous' is also present in the construction, in final position, as shown in (12).

(12) mia2 laaw2 *hêt1* *tòk1-pòk1* juu1.
wife 3SG.F do IDPH CONT
'His wife is being squat, comical.' (tòk1-pòk1) Lao (Enfield 2007: 301)

Dravidian languages are also able to 'syntacticize' ideophones in light-verb constructions, specifically together with an inflected form of the verb for 'say' (Emeneau 1980, Abbi 1992, Krishnamurti 2003). For instance, examples from Telugu include complex predicates formed with the verb *–an* ('to say'), such as *curukku-m-an* 'a body part burns with a heated object suddenly', *thalukku-m-an* 'flash like lightning', etc. An analogous construction is at work in the cognate language Kota, where ideophones are again accompanied by the verb *-in* 'say', as in *danak in-* 'become limp with fatigue' or *kulak in-* 'body feels cool' (Krishnamurti 2003: 485).

At the crossroads of Asia and Oceania, Papuan and Austronesian languages offer interesting insights into the syntax of verbal predicates including a phono-symbolic morpheme. Mian (Ok / Trans New Guinea / Papuan) has two 'light' verbs, *ge/ga∼gena* 'do' and *ke* 'make', which combine with a noun (e.g., *tekein* 'knowledge') or an ideophone (e.g., *kalkal*, 'sizzle', *bokbok*, 'boil') to form a complex predicate (Fedden 2007: 306). Two examples of these complex predicate constructions are given in (13). Interestingly, *ge/ga∼gena* 'do' only occurs in light-verb constructions, whereas *ke* 'make' can act as an independent verb and license object arguments. Note that *ge/ga∼gena* merges almost exclusively with ideophones, yielding unergative structures. This pattern can be taken as further empirical evidence of the verbal-predicate–internal status of ideophones, because these elements are very unlikely to be licensed as *bare* direct objects in the Mian pattern.

(13) a. naka.l *tekein* *ke*-b-i=be.
man.M DEM.M.SG knowledge make-IPFV-1SG.SBJ=DECL
'I know this man.'

b. *kalkal* *ge*-bi-n-e=a…
IDPH do.IPFV-AUX.IPFV-SEQ-3SG.N1.SBJ=MED
'It (some meat) was sizzling and then…' Mian (Fedden 2011: 154)

In the cognate language Oksapmin, the lexical morphemes that combine with the light verbs *li-* 'say' and *pl-* 'tell' show a certain degree of sound symbolism and "appear to have consistent sound-meaning correlations" (Loughnane 2009: 313).[4] Consider for instance the ideophonic item *xoj* 'make noise as when one engages in

[4]Note that a very similar pattern has been reportedfor the Trans New-Guinea language Abui, in which the verb *ba* 'say'normally follows onomatopoeic lexemes (Kratochvíl 2007).

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traditional singing and dancing', as shown in example (14). The ideophonic nature of this item is confirmed by the fact that the syllable rhyme /*oj*/ is not attested elsewhere in Oksapmin.

(14) mə=ma sjap ma ixile kom san mə-de=x
DEM.PRX=REL cassowary REL 3P.POSS back body DEM.PRX-across=3SM
pla-t-pel=xən *xoj* *li*-n-gop=li.
pull-PFV-IF.PL=SBRD IDPH SAY-PFV-VIS.FP.SG=REP
'When the cassowaries pulled with their backs, they made singing noises.'
Oksapmin (Loughnane 2009: 314)

Interestingly, in Oksapmin the verb *pl-* is morphologically the causative counterpart of *li-*, although the meaning of *pl-* is not strictly the causative of *li-*, but rather its 'transitive' form. In such cases the transitive object encodes the addressee/hearer, as shown in (15), where the phono-symbolic morpheme *goŋ* 'whistle' is present.

(15) *goŋ goŋ* *pli*-l tap oxə pli-n-gwel
IDPH TELL-IPFV.PER.TODP pig 3SM come-PFV-VIS.YESTP
'I whistled to him and then (I saw that) the pig came'
Oksapmin (Loughnane 2009: 315)

In Austronesian languages ideophones have not been the object of detailed studies, the only exceptions I know of being Klamer (2002) and Bradshaw (2006). Bradshaw identifies a set of phono-symbolic items in Numbami and Jabêm, two Austronesian languages spoken in Papua New Guinea. In both languages ideophones employed as manner adverbs/movement imitatives appear with specific grammatical suffixes.

(16) Ai-sarja i-yotomu *pakapdka-adala.*
tree-branch it-severed IDPH-ly
'The tree branch snapped with a crack.' Numbami (Bradshaw 2006: 56)

(17) Tuàmbiŋ gêlôb *ôŋôŋ-geŋ* gêja.
hombill it-flew IDPH-ly it-went
'The hornbill flies with a flapping noise.' Jabêm (Bradshaw 2006: 58)

Hinton, Nichols, and Ohala (1994: 3) have shown that a subgroup of sound-symbolic words is precisely that of 'movement imitatives', namely sound-symbolic expressions for the characterisation of movement. For instance, Japanese has a large set of 'mimetics' movement imitatives (Hirose 1981, Hamano 1998, among others) as shown in (18).

(18) a. Dosa-dosa(-to) aruku 'to walk with a loud noise'
b. Doka-doka(-to) aruku 'to walk noisily and violently'
c. Kotu-kotu(-to) aruku 'to walk with hard-soled shoes'
d. Saku-saku(-to) aruku 'to walk in soft snow'

Note that the examples in (18) are optionally grammatically marked with the case morpheme/ complementizer *–to,* patterning in this respect with the Austronesian examples reported in (16) and (17). Another language that, like Japanese, shows a large sound symbolic vocabulary of movement imitatives (more than 800, according

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to Ibarretxe-Antuñano 2004) is Basque. Movement imitatives in Basque are the result of a derivational process by means of the suffix *-tu* when used in adverbial contexts and, as expected, the result of compounding with the light verb *egin* 'make' in verbal predicate context. Note that in Indo-European languages also, adverbs signalling bodily movements/movement imitatives are signalled by the means of special derivational suffixes, for instance in Italian by means of the suffix *-one/i* (e.g., *carpone/i* 'on all fours', *tentone/i* 'gropingly'), in French by means of the circumfix *à …-on(s)* (e.g., *à reculons*, 'backward', *à califourchon*, 'astride', and in German by means of the suffix *-lings* (e.g., *näslings* 'face down', *bäuchlings*, 'upon one's belly', etc.). See Franco (2015) for a recent morphosyntactic analysis of such adverbial items in Italian. See also Torrence (2013) for a similar analysis of manner-adverbial ideophones in Wolof.

Returning to Austronesian languages, Klamer (1998, 2002) shows that Kambera (Malayo-Polynesian/Austronesian) also displays complex predicates with idephones. In Kambera, ideophonic roots are an open class, and they make up approximately 10 per cent of the language lexicon. Klamer (2002: 262) specifically writes that "[s]yntactically, the ideophonic roots are exceptional because they can surface only in the position of a quote in a special 'quotative' construction […]. Morphologically, they are special because they are the only root forms that, in order to be used as verbs, must be derived by circumfixation rather than by prefixation or suffixation, as 'normal' roots are."

The circumfix employed to derive verbal predicates from ideophones is *ka-…-k*, as shown in (19). Without such a morphosyntactic tool, the ideophones can appear only as 'bare roots' in constructions with the verb *wà* ('say/report'), as illustrated in (20b).

(19) jila 'flash' (sight) > ka-jila-k 'to gleam; to flash (as lightning)'

(20) a. Na-ka-jila-k na uma.
3SG.NOM-IDPH ART house
'The house gleams/shines.'

b. Jila wa-na na uma.
IDPH report-3SG.GEN ART house
'The house gleamed.'
Kambera (Klamer 1998: 245–247)

Another Austronesian language that employs the light verb-ideophone construction is Muna (Malayo-Polynesian/Austronesian). In Muna there are many ideophonic roots that form the basis of a verbal derivation with the morpheme *ko-*, yielding roughly the meaning 'to make the sound of' (cf. Van den Berg 1989: 194). Consider the examples in (21). Notably, verbal derivations that include the light verbal prefix *ko* 'have' usually have the meaning 'have, possess', as illustrated in (22).

(21) a. no-*ko-bhondu* 'to make the sound of a falling coconut'

b. no-*ko-pisi* 'to make the sound of a thin, flat surface hitting something'

c. no-*ko-rangku* 'to make the sound of falling rice, maize or stones'
Muna (Van den Berg 1989: 194)

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(22) no-*ko*-bhake-mo ghai aitu.
3SR-HAVE-fruit-PF coconut that
'That coconut tree has borne fruit.' Muna (Van den Berg 1989: 90)

Unlike languages of the Austronesian family, Australian languages have been widely studied with respect to the syntactic behaviour of their ideophone inventories. Compound verbs are common in Australian languages (Heath 1976; Schultze-Berndt 2000, 2001; McGregor 2002; Bowern 2008; among many others) where they are described as an open class of non-inflecting lexical roots – of which ideophones are a subset – that, together with a reduced set of light (auxiliary) verbs hosting TAM morphology, form complex predicates. An example from Jawoyn (Gunwinyguan) is given in (23).

(23) ga-*wutjwutj-mar/mang*.
3SG-IDPH:bubble-LV.PRS
'It bubbles, it boils.' Jawoyn (Merlan 2001: 371)

Amerindian languages also seem to make heavy use of ideophone–verb compounds, even if there are not yet any systematic comparative studies on the topic. Amazonian languages make extensive use of light verbs to accommodate ideophones in their syntax. In Macushi (Carib), ideophones can occur with an inflected form of the verb *taa* 'say', as shown in (24).

(24) a. tuna-ya *tiko tiko* *taa* tanne, tiaron witi-'pi
water-ERG IDPH:bubble say while, another go-PAST
'While the water was bubbling, another one went.'

b. *sisiu* *ta*-i-ya.
IDPH:lightning say-3-ERG
'It is lightning.' Macushi (Abbott 1991: 149)

A similar pattern is attested elsewhere in Amazonia and in the Andes. For instance, in Hixkaryana (Carib), ideophones can occur with the verb *ka-* 'to do' (Derbyshire 1977: 179). Similar constructions have been described in other Amazonian (Panoan) languages such as Kashibo-Kakataibo and Matses, which show a class of ideophones that are embedded in a complex predicate with the light verbs *ke* 'say' and *ka* 'say/do', respectively (Fleck 2003: 197; Zariquiey Biondi 2011: 244, 376; see also Mihas 2012). Recently Reiter (2013) has also shown that in Awetí (Carib), an ideophone may be the uninflected part of a complex predicate with an inflected light verb based on the root *'e* 'to say'. Similarly, in the non-cognate language Alto Perené (Arawak) spoken in Eastern Peru, ideophones merge as complement of the speech verb *opoimatatzi* or with the light verb *kant* 'to be', 'to say', 'to do' (Mihas 2012: 305).

Complex predicates including phono-symbolic expressions have also been described in Mosetén, a Mosetenan language spoken in the foothills of the Bolivian Andes (Sakel 2004, 2007). Most actions and events commonly expressed by lexical verbs in other languages are complex predicates in Mosetén. Thus, Sakel (2007: 329), in her description of Mosetén complex predicates, draws an explicit parallel with ideophones in Australian languages, in which compound verb

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constructions are abundant. Complex predicates always consist of a so-called 'verbness marker', such as for example *-yi-*, meaning 'do/be/say' (Sakel 2007: 316).[5]

The verbness marker determines the syntactic environment in which the (syntactically inert) lexical base appears, as shown in the examples in (25), with the phonosymbolic item *wai'* 'boil', that appears as a bare stem.[6] The verbness markers specify different aspectual interpretations as well as different possible syntactic derivations. In particular, the morphemes *-yi-* (25a) and *-tyi-* (25b) give rise to predicates that differ in the amount of control of the subject over the action in terms of volition and causation; the morpheme *-ki-* has a stative interpretation (25c), and finally the light verb *-jo-* in (25d) signals an accidental action.

(25) a. Yäe *wai'-ye-*' öjñï'.
1SG.M boil-DO/BE-1M.SG>3F.SG water.F
'I boil the water.'

b. Mö' öjñï' *wai'-tye-*'.
3F.SG water.F boil-PUT-1M.SG>3F.SG
'I put the water to boil.'

c. Mö' öjñï' wai'-*ki-*'.
3F.SG water.F boil-BE-3F.SG
'The water boils.'

d. Mö' wej *wai'-jo-*' arosh-khan.
3F.SG seed.F boil-BECOME-3F.SG rice.LOAN.F-IN
'The seed was (accidentally) boiled in the rice.'

Ideophones in North American languages also appear in the same syntactic construction. For instance, Mithun (1982) showed that in Iroquoian languages such as Mohawk, Oneida, Cayuga and Seneca, they invariably appear in compound predicates directly accompanying a verb like 'say' or 'do'.

[5]Another isolate language of Central Bolivia, Yurakaré (cf. Van Gijn 2006, 2010: 283) presents a large inventory of ideophones accompanied by the light verb *ta* roughly meaning 'say'. The same morpheme appears, interestingly, in Yurakaré as a middle 'intransitive' marker, contrasting with the causative morphemes *li/che*. Consider the examples in (i):

(i) a. *porrok porrok ta-*ø=w=ya.
IDPH IDPH say-3=PL=REP
'"porrok porrok", they went (hoofs of tapirs).'

b. *dürrüm ta-*ø=ya
IDPH say-3=REP
'"Brooom", it went.' (something heavy falling on the ground)

[6]According to Sakel (2004, 2007), in Mosetén, verbness markers can appear with unmarked stems, (exactly as in (25)) with the 'bare' item *wai'* 'boil', as well as with adjectives, adverbs, nouns and demonstratives. As Sakel (2007: 321) points out, Mosetén unmarked stems usually occur with a verbness marker, forming a complex predicate, but they can also appear on their own as ideophones. This pattern is not permitted with the other lexical classes, which merge with the verbness marker.

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The languages of the Caucasus provide further striking evidence for the universality of the observed tendency for ideophones to combine with light verbal items when they are used as verbal predicates. In Ingush (Nichols 2011: 122) phono-symbolic elements appear in light-verb constructions, usually with the light verbs *joax* 'say/do', *oal* 'say', or *d.uoll* 'insert'. Interestingly, the light verb–ideophone construction in such languages usually appears as an adverbial clause, as illustrated in (26). In Ingush the light verb is required in order to syntacticize the ideophone as a manner adverb, while elsewhere in this syntactic configuration ideophones may surface as bare lexical items, accompanied by an adposition or a case marker, or bearing a derivational affix (see Nichols, Part 1 and fn. 4).

(26) *zou zou* *eanna* oarqanjg diezhar
IDPH.ring say.CVANT plate D.fall.WP
'The plate fell with a ringing sound' Ingush (Nichols 2011: 122)

The case of the cognate language Udi is also interesting. In Udi most verbal predicatives are composed, in all TAM categories, of a light verb and a lexical base. According to a recent analysis put forth by Harris (2008), Udi light verbs act as *classifiers*, classifying the verb type. Thus, there is a specific light verb/classifier for inchoatives, *-bak*; a specific item for other unaccusatives, *-eγ-*; a classifier for unergatives, which are invariantly marked with *-p-*; a classifier for transitive verbs of inherently directed motion, *-č-*; one for transitive change-of-state verbs, *-b-*; and finally a classifier for the other transitives, marked with the *-d-* morpheme. Udi ideophones are used exclusively with the light verb *-p-* for unergatives, which originally meant 'say'. Examples include verbs expressing non-language noise as in (27a) or verbs expressing sounds that animals make, as in (27b).

(27) a. giʕzgiʕz-p- 'laugh'
gügü-p- 'thunder'
xrp-xrp-p- 'crackle, rustle'

b. boʕγoʕ-p- 'low, moo (of cattle, livestock)'
q'iʕlaʕnc'i-p- 'bray of a donkey or buffalo'
γaʕγaʕ-p- 'snap, snarl' Udi (Harris 2008: 223)

The construction under scrutiny here is also attested in Uralic languages. Consider, as an example, the structure in (28) below from Erzá Mordvin, a language spoken in the Middle Volga region of Russia, described in Wälchli (2005). Here, ideophones merge with the verb meaning 'do'.

(28) śeźeź pŕa marto sandal'anzo *čikor-lakor* *t'e*jst'
tear.PTC.PASS head with sandal.PL.POSS.3SG IDPH do.PST.3PL
'[The woman walked on tiptoe, from which] her sandals with torn tips squeaked.'
Erzá Mordvin (Wälchli 2005: 164–165)

To conclude this brief cross-linguistic overview of ideophone–light verb compounds, I now turn to some Indo-European languages. This will be the main focus of section 3, where a formal characterization of such constructions is proposed. Ideophones have generally been underdescribed in Indo-European, despite their widely attested use. Indeed, as Dingemanse (2012: 657) points out, "in Classical

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Sanskrit imitative words were followed by the quotative verb *–iti* according to Pāṇini's 4th century BCE grammar (Pāṇini 1962: 196), and this same construction was used to mark reported speech and gestures."

Phono-symbolic expressions entering the light verb pattern, for instance, are very common in Romance languages. Consider the case of Italian in (29) (see also example (3) above) and the Catalan example in (30).[7] Here, both languages use the dummy verb *fa* 'does/makes' to introduce the ideophone in an unergative form. Ideophones normally cannot form transitive predicates in such languages, as shown with an Italian example in (31).

(29) Il treno fa ciuf ciuf
the train do.PRS.3SG IDPH:chug
'The train chugs along'

(30) el ventijol fa xiu xiu
the breeze do.PRS.3SG IDPH:whisper
'the breeze whispers'

(31) a. *Il treno fa ciuf ciuf i binari
the train do.PRS.3SG IDPH:chug the tracks

b. Il treno fa ciuf ciuf sui binari
the train do.PRS.3SG IDPH:chug on.the.PL tracks
'The train chugs on the tracks'

Ideophones in Indo-Iranian languages present a very similar pattern. Consider the case of Persian, in which most ideophones are reduplicated monosyllabic words (Mahootian 1997: 343). In complex predicates, ideophones form invariantly intransitive predicates accompanied by some tensed version of *kærdæn* 'to do' or *zædæn* 'to hit'.[8]

(32) a. gorbe xor xor mi-kone
cat IDPH:purr DUR-do.3SG.PRS
'the cat purrs'

[7]For a detailed list of Catalan ideophones see Hualde (1992: 413–415).

[8]Another recently described Iranian language that employs the light verb–ideophone construction is Juhuri, spoken in Azerbaijan, Dagestan and Israel (Authier 2013: 242). Ideophones (intransitively) combine with the dummy verbs *soxde* 'do' or *zere* 'hit', as in (i).

(i) a. seg ħovħov sox-de.
dog IDPH does
'the dog barks'

b. qiloq qärqär ze-re.
raven IDPH hits
'the raven croaks'

c. xuruz ʕüʕü ze-re.
cock IDPH hits
'the cock says cock-a-doodle-doo'

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b. in pesær negh negh mi-zane
this boy IDPH:lament DUR-hit.3SG.PRS
'this boy cries'

The case of Persian is quite intriguing because, like many other Iranian languages, it relies heavily on light-verb constructions. In fact, it has been argued that simple verbs in these languages form a small class or even a closed class. Consequently, most light-verb constructions do not have lexical verb counterparts (Folli et al. 2005, Megerdoomian 2012, among others).[9]

Megerdoomian (2012: 179–180) writes that "the status of bare lexical elements in light verbal predicates has been a controversial topic for languages with a productive complex predicate formation process. The bare nouns […] display mixed properties, sometimes behaving as the internal argument and at other times forming a semantic unit with the verbal predicate." In section 3.1, based on an analysis of the syntactic behaviour of Persian ideophones, which relies in turn on a set of diagnostics developed in Megerdoomian (2012), we will see that the syntactic configuration in which phono-symbolic expressions are introduced is that of a 'bare' predicative root and not that of an internal argument.

Nevertheless, ideophones can also appear in argumental position, as internal or external arguments, as shown in (33) for Italian, Catalan and Persian:

(33) a. Non sopporto il *tic tac* dell' orologio
not stand.PRS.1SG the IDPH of.the clock
'I cannot stand the ticking of the clock'

b. M' agrada el *xiu xiu* del vent
CL.DAT.1SG like.PRS.3SG the IDPH of.the wind
'I like the whisper of the wind'

c. *vaq vaq*-e sag asab-am-o khoord mi-kone
ideo-LNK dog nerve-my-DOM break DUR-do.PRS.3SG
'The bark of the dog is getting on my nerves'

The morphosyntactic properties of such kinds of 'argumental' ideophones are discussed in section 3.2.

The main results of this crosslinguistic overview can be summarized as follows. The verb most used in ideophone–verb compounds is the verb for 'say' but there are many other light items. such as 'do', 'be', and 'have', that can merge with phono-symbolic morphemes. Our investigation casts some doubts on the fact that 'say' verbs in this context can always be semantically interpreted as quotative verbs. Consider again the case of Udi, described by Harris (2008). As mentioned above, here the *-p* originally derived from 'say' acts as a classifier and introduces all the intransitive predicates (including ideophonic predicates), as shown below in (34). No quotative meaning is detectable in such constructions.

[9]Karimi (1997: 276) argues that the number of verbs in Persian does not exceed 115, and many of them are infrequent. Haig (2000) shows that verbs in Kurdish form a closed class, based on a corpus study in which about 60 verbs account for over 96% of all verb tokens (see also Schultze-Berndt 2000).

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INTRANSITIVE	Ø	✓	*widespread pattern*
INTRANSITIVE	TRANSITIVE	✓	*attested pattern*
Ø	TRANSITIVE	×	*unattested*

Table 1. Ideophonic Complex Predicates

(34) a. gölöš-p- 'dance'
b. axšum-p- 'laugh'
c. mərə-p- 'mew' (IDPH)

Similarly in Persian, another language where complex predicates are far more common than lexical verbs, the light verb *kærdæn* 'do, make' is usually combined with nominals to form intransitives, as shown in (35). The same verb, as we have already seen in (32), is usually employed with ideophones. Again, there is no trace of a quotative semantics (Potts 2007).

(35) gerye kærdæn (crying do) 'cry'
šena kærdæn (swim do) 'swim'
vez-vez kærdæn (IDPH: buzz do) 'buzz'

In addition, Plank (2005: 473), following the insight of Benveniste (1966), argues against a mere 'quotative' interpretation of 'delocutive' ideophone–verb compounds, claiming that "the syntax of expressive constructions is not quite like that of regular speech reporting" and that in "'say' constructions with expressives […] the action denoted is not really one of speaking but of doing, and a semantic development from 'saying' via 'saying and/or doing' to 'doing' seems more plausible than the reverse."[10]

Furthermore, ideophonic complex predicates crosslinguistically seem to obey a very basic implicational hierarchy [*unergative* > *transitive*]. This hierarchy captures the observation that, while in all the languages we have encountered, ideophone–verb compounds give rise to intransitive predicates, only in a subset of them is a transitive counterpart available, normally encoded with a different light verb.[11] This main finding is recapitulated in Table 1.

[10]Plank notes that it has been suggested that the historical source of the delocutive verbs employed with ideophones might be a verb meaning 'to do, make'. For instance, in Hindi-Urdu and other modern Indo-Aryan languages, ideophones normally enter the verbal domain by means of a suffix, such as Hindi *jhaTa-k* 'to make the sound *jhaTat*'. This suffix has been interpreted as deriving from the light verb *kr-* in Sanskrit (see also Deo 2002), which originally meant 'do/make' and 'generally served to verbalize non-verbs' (Plank 2005: 480).

[11]Regarding possible split intransitivity patterns (i.e., unergative vs. unaccusative), we may say that – at least for the languages for which we have primary data – ideophonic complex predicates appear to be consistently unergative. For instance, in Italian, they select the auxiliary *avere* 'have' as unergatives do, whereas unaccusative predicates commonly select *essere* 'to be' (Burzio 1986, among many others).

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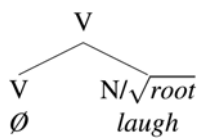
As we have seen, there are also languages (e.g., Mosetén or Japhug) that allow ideophones in a full set of verbal configurations, but the relevant fact is that, invariably, ideophonic predicates seem to typically describe internally caused eventualities, construed as arising from inherent properties of their single agent argument. In this respect, they pattern with the verbs of sound/light emission described in Levin and Rappaport Hovav (1995, 2005). Interestingly, many objects 'transitively' licensed by the ideophonic predicates seem actually to be addressees/hearers/beneficiaries, as shown in (15) for the Oksapmin language, and in (11) for Japhug. We will give a comprehensive interpretation of these aspects of the syntax of ideophone–light verb formation in the next section.

3. The l-syntax of ideophones

At the end of the previous section, it was claimed that ideophones, crosslinguistically speaking, generally give rise to unergative structures when merged with a light verb. It is not very common to find languages in which such structures are able to license direct objects.

Since the early 1990s, many inquiries into the structure of verbal predicates have embraced a view of the verbal layer whereby syntactic derivations are built compositionally by combining the various components of the verb (Jackendoff 1990, Hale and Keyser 1993, Levin and Rappaport Hovav 1995, Harley 1996, Travis 2000, Mateu 2002, Ramchand 2008, among many others). In their seminal work on argument structure, Hale and Keyser (1993, 2002) argue for a derivation of argument structure that is strictly dependent on the syntactic organization. Within the lexical module, which Hale and Keyser label *l-syntax*, lexical items are decomposed into atomic primitives that are combined by the syntactic tools of complementation and adjunction, and are subject to *criteria* of grammatical well-formedness (e.g., the *Empty Category Principle* of Chomsky 1981 and the *Head Movement Constraint* of Travis 1984). As for the configuration in which ideophones appear more frequently, Hale and Keyser (1993, 2002) basically argue that unergative verbs (*laugh, dance*, etc.) involve a hidden transitive structure where an (empty) light verb selects for (merges with) a bare noun (or a $\sqrt{}$Root; see Marantz 1997, Harley 2005, Kayne 2009, among others). Consequently, the l-syntax of a unergative verb like *laugh* would be as illustrated in (36). 'Unergative' ideophones would represent cases in which this covert transitive structure is *de facto* spelled out (just as in those languages – e.g., Basque, Persian, Mosetén, etc. – in which complex predicates represent a usual way of encoding verbal meanings), as in (37).

(36)



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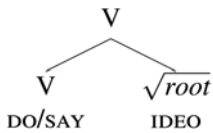
(37)



In what follows I argue that ideophones can have a structure like (37), roughly parallel to bare noun roots such as *laugh* in (36), but that the structures in such derivations cannot behave like transitive constructions; that is, ideophones and bare noun roots do not behave like direct objects in transitive structures.

3.1. Ideophones are not internal arguments

To show that ideophones cannot occupy an argumental position, I provide an analysis of Persian light verbs combining with phono-symbolic expressions. As pointed out in section 2, light verbs are an important feature of many Iranian languages. Indeed, in Persian, complex predicates frequently express what in English would be expressed by a lexical verb, as in the unergative examples in (35).

With respect to the structure of the Persian VP, some authors (e.g., Ghomeshi and Massam 1994, Vahedi-Langrudi 1996, Samvelian 2001) have assumed that bare nouns in a light-verb construction are not syntactically different from bare direct objects of transitive verbs; that is, the two sentences in (38) below would have the same underlying structure. The predicative root and the bare object would occupy the same position in the syntactic configuration and should therefore receive identical treatment. According to such analyses, ideophones – which can be employed as nouns in Persian[12] – should be parallel to direct object NPs. Note that both sentences in (38) contain the verb *xordæn* (eat), which in Persian may be used either as a heavy or as a light verb.[13]

(38) a. Mæn hævij *xord*-æm. *'bare' DP object*
I carrot ate-1SG
'I ate carrot(s).'

b. mærdom færib *xord*-æn. *'bare' √ element*
People deceit ate-3PL
'(The) people were deceived.' (Megerdoomian 2012: 180)

The two types of preverbal items, bare object DPs and nominal root elements, actually display many similar properties. Among other similarities, they are both

[12]On this, see (33c) above and the discussion in section 3.2 below.

[13]Megerdoomian (2012:189) has shown that the interpretation of the verb and of the preverbal item is very different with heavy verbs and with light verbs, even though certain verbs can be either heavy or light. Considering *xordæn* (eat), the preverbal item in sentence (38a) "corresponds to an entity that undergoes the action denoted by the verb (i.e., they are being consumed)." These nouns must satisfy the selectional restrictions of the verbal element. The verb *xordæn* in (38a) is thus a thematic verb meaning 'to eat' and it can appear with "any noun that refers to edible entities." In contrast, this is not true of the preverbal element in (38b), which has an 'idiomatic' reading.

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unmarked for number, they appear immediately before the verb, and they receive the main VP stress. However, Megerdoomian (2012) (see also Folli et al. 2005) has presented clear evidence, based on a set of diagnostics, that the two elements are distinct. In what follows, I show that ideophones pattern with nominal root elements in many of the tests employed by Megerdoomian. Their behaviour in fact shows that ideophones form a semantic unit with the light verbal predicate. Consequently, their syntax must be different from that of true bare DP objects.

First, evidence for a distinct distribution and for different syntactic shapes of the preverbal root item and the true bare DP object is provided by interrogatives. Bare DP objects can be questioned, as shown in (39b).

(39) a. nima ketab mi-xun-e.
Nima book DUR-read-3SG
'Nima is reading a book'

b. Q: nima či mi-xun-e?
Nima what DUR-read-3SG
'What is Nima reading?'
A: ketab.
'Book.' (Megerdoomian 2012: 190–191)

In contrast, Persian nominal roots in complex predicates cannot be questioned, as shown below again for *færib xordæn*, 'to be deceived'.

(40) Q: mærdom či xord-æn?
people what ate-3PL
'What did people eat?'
A: *færib.
'Deceit.'

Persian ideophones pattern with nominal roots in complex predicates and cannot be questioned, as shown in (41). The only way to obtain a grammatical question/answer pair is to provide an answer that includes the whole complex predicate, clearly interpreted as a conceptual unit.[14]

(41) a. Sag vaq vaq mi-kone
dog IDPH DUR-do.PRS.3SG
'the dog barks'

b. *Q:* Sag či mi-kone?
Dog what DUR-do.PRS.3SG
'What is the dog doing?'
A: *?vaq vaq / vaq vaq mi-kone
IDPH IDPH DUR-do.PRS.3SG
'Barking.'

Similar question formation data with ideophonic predicates can be found in Italian. Indeed, questioned 'predicative' ideophones cannot surface as the wh-pronouns usually

[14]The grammaticality judgements were provided by six native speakers of Persian (age range 14–67).

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designating direct objects, (*che*) *cosa* 'what' and *chi* 'who'. In these cases, questions can be formed only with the wh-particle normally employed in Italian with PP adverbials, *come* 'how', as shown in the examples in (42).[15] The use of ideophones in such contexts is interesting because the Italian light verb *fare* 'to do/make' can licence a direct object DP elsewhere, as shown in (43). Thus, in Italian as in Persian there is a clear contrast between ideophonic roots and true internal arguments.

(42) a. Q: Cosa/*come mangia Gianni?
'What/*how does Gianni eat?'
A: Una banana
'A banana'

b. Q: Come/*cosa mangia Gianni?
'How/*what does Gianni eat?'
A: Con le mani/voracemente
'with hands/ greedily'

c. Il cane fa bau bau - il treno fa ciuf ciuf
'the dog IDPH:barks - the train IDPH:chugs'

d. Q: Come /*cosa fa il cane? - Come/*cosa fa il treno?
'How/*What does the dog do? - How/*What does the train do?'
A: 'Bau bau / Ciuf ciuf'

(43) Q: Cosa fa la gallina?
'What does the hen do?'
A: 'L'uovo'
'The egg'

Returning to Persian, a second test developed by Megerdoomian to disentangle nominal roots and internal arguments bears on 'number neutrality', a common property of bare nouns. For instance, in (44), "the professors were eating an unspecified number of pomegranates: they could have been eating many pomegranates or sharing the same one" (Megerdoomian 2012: 191).

(44) ostad-a ænar mi-xord-æn.
professor-PL pomegranate DUR-ate-3PL
'The professors were eating a pomegranate/pomegranates'

By contrast, in complex predicates, (nominal) roots do not entail an interpretation involving on a ±singular entity and are instead conceived as predicate-internal. Indeed, bare DPs can also appear with numerals, taking on a numeral reading, while bare 'predicative' VP roots cannot show up with numerals. This is shown in (45) and (46), adapted from Megerdoomian 2012: 193. With respect to number neutrality, ideophones again pattern with bare roots, as shown in (47).

(45) ostad se-ta ænar xord
professor three-CLF pomegranate ate.3SG
'The professor ate three pomegranates'

[15]These judgements were provided by native speakers of Italian.

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(46) * mærdom se-ta færib xord-æn.
People three-CLF deceit ate-3PL
Lit. '(The) people ate three deceits'

(47) *? Sag se-ta vaq vaq mi-kone
dog three-CLF IDPH DUR-do.PRS.3SG
Lit. '(The) dog is doing three *vaq vaq*'

Finally, another crucial test distinguishing DP objects from bare roots/ideophones concerns the availability of the definite/specific DOM suffix *–ra*. In standard Persian, the *–ra* morpheme is optionally attached to definite/specific direct objects (Ghomeshi 2003, Cagri 2007; see also Manzini and Franco 2016). The sentences in (48) show a bare object (48a) and its definite/specific counterpart (48b) The object in (48b) can also bear plural morphology and be accompanied by a demonstrative.

(48) a. ostad ænar xord *bare direct object*
professor pomegranate ate.3SG
'The professor ate a/some pomegranate(s)'

b. ostad in ænar-a-ro xord *specific direct object*
professor this pomegranate-PL-DOM ate.3SG
'The professor ate these pomegranates'

By contrast, as illustrated in (49) (Megerdoomian 2012: 194), no definite/specific counterpart is available for the nominal root in light-verb constructions, suggesting again that the nominal root is part of the verbal predicate rather than the internal argument of the verb.[16] As expected, ideophones behave exactly like bare roots with regard to the availability of the specific/definite *–ra* morpheme, as shown in (50).[17]

(49) a. pesær-æk dobare færib xord
boy-DIM again deceit ate
'The little boy was deceived again'

[16]An anonymous reviewer suggests that passivization could be another useful test to show that ideophones are not internal arguments. Actually, passivization is not included here because many authors (Moyne 1974, Karimi 2005, Folli et al. 2005, among others) have suggested that Persian lacks passive constructions entirely. Nevertheless, in Romance languages, the passivization of ideophones adjoined to light verbs as bare roots does not appear to be grammatical, as expected. Consider the Italian examples in (i).

(i) a. l'acqua ha fatto glu glu. *active voice*
'the water flowed' (lit. the water has done IDPH)

b. *glu glu è stato fatto dall'acqua *passive voice*

[17]Italian ideophones are also very unlikely to appear with markers of specificity/definiteness; they cannot normally be introduced by definite determiners when they are merged with light verbs (e.g., **il cane fa il bau bau*, 'the dog barks', lit. 'the dog does the IDPH'; **il treno fa il ciuf ciuf*, 'the train chugs', lit. 'the train does the IDPH').

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b. ?* pesær-æk dobare færib-ro xord
boy-DIM again deceit-DOM ate
'The little boy fell for the deception again'

(50) a. *Sag vaq vaq-ro mi-kone
dog IDPH-DOM DUR-do.PRS.3SG
Lit. '(The) dog is doing the *vaq vaq*'

b. *gorbe xor xor-o mi-kone
cat IDPH:purr-DOM DUR-do.3SG.PRS
'the cat purrs'

In sum, I have shown, using diagnostics developed by Megerdoomian (2012), that ideophones do not have the properties of direct objects. I now turn to the syntactic representation of their behaviour, relying mainly on Ramchand (2008). Both the cross-linguistic overview in section 2 and the data illustrated in this section for Persian show that ideophonic predicates are prototypically unergative. In addition, like other unergatives, they are typically atelic (Harley 2005). Examples are given in (51).

(51) a. Il treno ha fatto ciuf ciuf *in un'ora/per un'ora. Italian
'The train chugged *in an hour/for an hour.'

b. il ragazzo ha tossito *in un'ora/per un'ora.
'The boy coughed *in an hour/for an hour.'

c. Sag *dær ye saæt/saætha vaq vaq kærd. Persian
'The dog barked *in an hour/for hours.'

d. pesær *dær ye saæt/saætha sorfe kærd.
'The boy coughed *in an hour/for an hour.'

e. pesær dær ye saæt/??saætha in ænar-a-ro xord.
'The boy ate these pomegranates in an hour/??for an hour.'

Using an event-based decomposition of the VP along the lines of Ramchand (2008) (see also Svenonius 2008, Lundquist 2008) suppose that ideophones, as archetypal unergative predicates, are endowed with [*init, proc*] category features. The argument of such a predicate initiates or gives rise to an event, and thus undergoes the event. Ramchand (2008) basically argues that the VP can be split into three projections (*init, proc, res*), corresponding to *subevental predications*. Unergative/ideophonic complex predicates involve only two (*init, proc*) of the three subevents shaped in Ramchand, with *res* not relevant to the unergative domain. Given the basic event decomposition, I assume that in ideophonic predicates the undergoer features are *underassociated*, following Ramchand's terminology.[18] What this means is that the [*proc*] feature is essentially suspended, or deactivated. The syntactic derivation of ideophonic predicates can thus be thought of as involving only the higher level of the VP phase; that is, [*init*].

[18]According to Ramchand (2008), when part of the structure in a lexical item is unused for the spell-out of a given syntactic structure, that unused piece is "underassociated".

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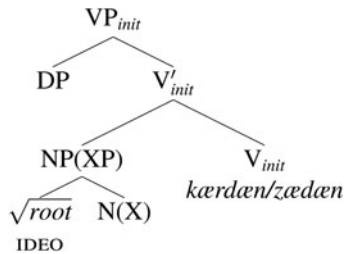
The ideophonic root is inserted in the complement position of a verb of initiation, often spelled out as a light verb. According to this analysis, the rough representation of a Persian complex predicate involving an ideophone is as shown in (52)

(52)



In a structure like (52), nothing prevents the morphological incorporation or conflation[19] of an ideophonic root into a verbal slot, roughly as in the English example *to laugh* in (36), where the complement root is incorporated into a null *init verb* or verbal affix. Indeed, there are languages where ideophones can alternate between the two possibilities. For instance, in Hindi (Kachru 2006: 127) verbs may be derived from ideophonic roots by means of the verbal suffix *–na*, which is also employed with other parts of speech, as in (53), or the ideophonic root may merge with the light verb *kərna* 'to do',[20] to derive an ideophonic predicate, as in (54).

(53) bəɽbəɽ-ana 'to grumble'; hinhin-ana 'to neigh' [film-ana 'to film']

(54) cɛ̃cɛ̃ kərna 'to chirp' - bəkbək kərna 'to jabber' [saf kərna 'to clean']

An analogous pattern can be seen in English, as shown in (55) with the ideophone 'bubble', which is syntacticized as a verbal predicate without the aid of a light verb.

(55) The soapy water *bubbled* down the drain.

Actually, the strong crosslinguistic tendency of ideophones to appear with light verbs may be interpreted as a consequence of their peculiar phonological and morphological properties,[21] which do not allow them to easily undergo derivational processes such zero conversion, affixal derivation, etc. Phono-symbolic expressions are *sui generis* items in natural language lexica. To this end, it is interesting to note that

[19]In recent work, Haugen (2009) has provided evidence that Incorporation and Conflation are two distinct ways of forming denominal verbs. He shows that Incorporation is conceived of as head movement (Baker 1988), and is instantiated through the syntactic operation of Copy, whereas Conflation is instantiated directly through Merge (compounding). Under this view, it may be assumed that ideophone roots are directly merged with light verbs via Conflation.

[20]This is a very productive process in Hindi and elsewhere in Indo-Aryan languages, not only with ideophones but also with other lexical categories.

[21]These properties represent a possible linguistic universal, (Childs 1994).

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verbal ideophones frequently pattern with loanwords.[22] The fact that loanwords are generally accompanied by a light verb when they enter the lexicon of a given language has been related to the observation that the borrowing of verbs as verbs is crosslinguistically marked (Moravcsik 1975, Muysken 2000, Schultze-Berndt 2001, Wichman and Wohlgemuth 2008, among others). Consider the data in (56) from Persian, in which loanwords usually enter verbal predicates by the means of the same light verbs recruited for use with ideophones.

(56) a. danlod kærdæn
download do
'to download'

b. fæks kærdæn
fax do
'to fax'

c. imeyl zædæn
email hit
'to email'

d. klik kærdæn
click do
'to click (on a mouse)'

Returning to the representation given in (52), I propose that the structures produced in these derivations must be distinguished from transitive constructions (contra Hale and Keyser 2002; see also Gallego 2012, Bosque and Gallego 2014). In addition to the empirical evidence given above, based on Megerdoomian's (2012) diagnostics, a further reason to argue against a transitive interpretation of these structures is that many different lexical categories can be incorporated into, or act as complements of a possibly null light verb. For instance, in Basque, unergative predicates may be formed by the light verb *egin* ('do') plus an ideophone (*irrist*$_{ideo}$ *egin* 'slip'), an NP (*disdira*$_{NP}$ *egin* 'glitter'), an AdvP (*hagin-ka*$_{AdvP}$ *egin* 'bite') or a PP (*hega-n*$_{PP}$ *egin* 'fly'), but crucially not with a case-marked DP (Ibarretxe-Antuñano 2004, Berro 2012). If we follow the standard minimalist assumption that case is an uninterpretable T feature on D (Pesetsky and Torrego 2001, 2004; Chomsky 2001); in other words, a form of agreement involving D, the lexical items occupying the root position in a structure like (52), which cannot be DPs, must be caseless and thus non-argumental.

I have argued that ideophonic predicates are prototypically unergative, but as seen in the crosslinguistic overview there are also some languages in which ideophones seem to form transitive predicates. I tentatively propose that such cases are actually causativized unergatives and again, broadly following Ramchand (2008: 174), I claim that these structures include a causative projection above the V_{init} postulated in (52), as illustrated in (57) (see also Folli and Harley 2007, Horvath and Siloni 2011).

[22]Interestingly, as shown in Ibarretxe-Antuñano (2015), some Basque ideophones (e.g., *arrast* 'drag') are likely Spanish loanwords, but due to their phonological markedness, they pattern with ideophones in Basque. Conversely, some Basque ideophones have been borrowed into Spanish: for instance, *sirimiri* 'drizzle' from Basque *zirimiri* (txirimiri) or *pilpil* 'sound of boiling water' from Basque *pil-pil*.

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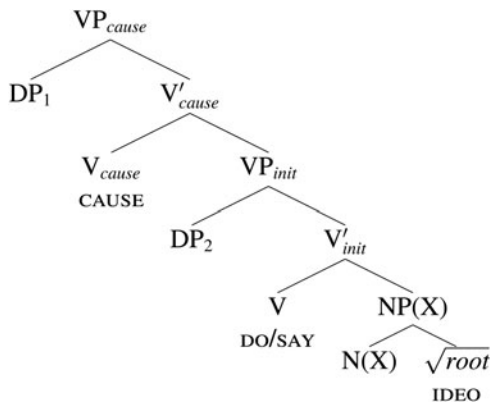
(57)



The relevant point is that the structures in (57) have two external arguments in specifier position, a causative agent in DP1 and a lower agent (initiator or causee) in DP2 (see also Pylkkänen 2008 for a similar interpretation of causativized unergatives in Finnish). The lower, or internal agent of the construction is introduced as the internal argument of $VP_{cause} + \{VP_{init}; \sqrt{root}\}$. This structure does not seem to be universally available; this would explain why only a subset of the languages introduced in section 2 displays an unergative/transitive alternation with respect to ideophones.[23]

Evidence that this approach is on the right track comes from the behaviour of unergatives in some Indo-Aryan languages (Bhatt and Embick 2004, Ramchand 2008). It was shown in (53) that Hindi ideophonic predicates may be formed by suffixation. Many other unergative predicates are formed with the same suffix, as shown in (58).

(58) hãs-na 'to laugh'
naach-na 'to dance'
ur-na 'to fly'

Many Hindi unergative verbs can appear with a transitive/causative interpretation when the suffix *-aa* is added, as shown in (59) and (60).

(59) hãs-aa-na 'to make laugh'
naach-aa-na 'to cause to dance'
ur-aa-na 'to fly (tr.)'

(60) a. patang ur rahii hai *unergative*
kite fly PROG.F be-PRS.SG
'The kite is flying.'

[23]Pylkkänen (2008) claims that the presence of a causee – the specifier of V_{Init} in (57) – in languages such as Finnish (which allows causativized unergatives), is possible because in such contexts it is realized in the specifier position of a projection CauseP. According to her analysis, this [Spec, Cause] position is available only when Voice and Cause appear in the syntax of a given language as independent heads. In the case of English, this is not possible because Voice and Cause are bundled on a single head, making it impossible for Cause to have its own Spec (see also Tubino Blanco 2011).

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b. anjali patang ur.aa rahii hai
Anjali kite fly PROG.F be-PRS.SG
'Anjali is flying a kite' Hindi (Ramchand 2008: 174)

According to Richa (2008: 43, 178), at least a subset of the ideophones (Levin and Rappaport Hovav's 1995 'verbs of external sound/light emission') of the type illustrated in (53) can participate in the alternation as shown in (61).

(61) kəʈək-na 'boil noisily' > kəʈək-aa-na 'to make boil noisily'
cəmək-na 'to shine' > cəmək-aa-na 'to make shine'

These data from Hindi validate the view of 'transitive' ideophonic predicates as causativized unergatives, as illustrated in (62), where the morphemes *–na* and *–aa* are hosted respectively in V_{init} and V_{cause}.[24]

(62) [VP_{cause} *aa* [VP_{init} *na*]]

When morphological transitivizing suffixes are not available, possibly due to a parameterization of the Cause projection along the lines of Pylkkänen (2008), languages like Italian or French must use analytical or periphrastic causatives (Kayne 1975, Rizzi 1978, Guasti 1996, Cinque 2004, Folli and Harley 2007, among many others) to spell out ideophonic predicates, as shown for Italian in (63). In such cases, according to a standard minimalist view, a functional head Appl checks the (dative) DP initiators, *il treno* 'the train' or *il cane* 'the dog' (Cuervo 2003, Pylkkänen 2008).[25]

(63) a. Il macchinista ha fatto fare ciuf ciuf al treno.
'The driver made the train do IDPH.'

b. L'allarme ha fatto fare bau bau al cane.
'The alarm made the dog do IDPH.'

An alternative configuration in which the ideophone predicate may in principle occur is that of *ditransitive structures* (causative, for many authors; e.g., Harley 2002, Manzini and Franco 2016). Indirect evidence comes from Italian examples like (64) and (65), where the verb *dare* 'give' is used instead of *dire* 'say', as might be expected for certain routine social acts (Plank 2005). The verb *fare* 'do' may also be recruited in this context, as in (65).

[24]Ramchand (2008) assumes that the addition of the *-aa* morpheme to unergative items leads to underassociation of the *init* feature of the root. Thus, the structure of causativized transitives would still involve a configuration with both *init* and *proc*. The simplified representation in (62), however, is sufficient to illustrate the basic facts introduced here.

[25]See Manzini and Franco (to appear) for an alternative implementation by which the 'dative' preposition *a* 'to' has as its primitive predicational content an **'**inclusion**'** (part-whole) relation. See the discussion below.

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(64) a. Ho dato la buonanotte ai bambini.
have.PRS.1SG give.PST-PTCP the goodnight to.the children

b. * Ho detto la buonanotte ai bambini.
have.PRS.1SG say.PST.PTCP the goodnight to.the children
'I said goodnight to the children' (lit. I give the goodnight to the children)

(65) a. Gianni mi ha dato/fatto gli auguri
G. CL.DAT.1SG have.PRS.3SG give/make.PST-PTCP the wishes
di Natale.
of Christmas

b. *Gianni mi ha detto gli auguri di Natale
G. CL.DAT.1SG have.PRS.3SG say.PST-PTCP the wishes of Christmas
'Gianni wished me a Merry Christmas' (Lit. 'give/made me')

Interestingly, some verbs of sound emission (not necessarily ideophonic, but semantically linked to ideophones in many languages) may follow an analogous pattern in Italian, employing the light verb *fare* 'do', as in (66) or *dare* 'give' as in (67).

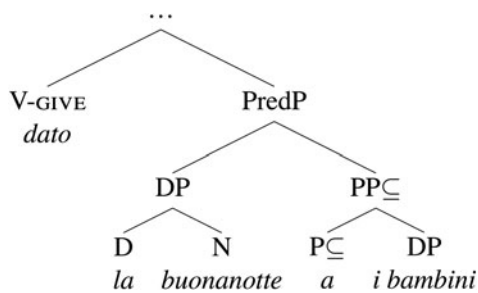
(66) a. Ho fatto un fischio a Gianni.
have.PRS.1SG made a whistle to Gianni.

b. ?? Ho fischiato a Gianni.
have.PRS.1SG whistled to G.
'I whistled to Gianni' (Lit. 'I made a whistle to G.')

(67) Ho dato un colpo di telefono a Gianni.
have.PRS.1SG give.PST-PTCP a bang of telephone to Gianni
'I phoned Gianni' (Lit. 'I give a bang of telephone to Gianni.')

Following Manzini and Franco (see also Manzini and Savoia 2011a,b), I assume that the primitive content of the preposition *a* 'to' in (63)–(65) is **'**inclusion**'** (part-whole). I notate inclusion with ⊆, though the inclusion relation must be interpreted not mathematically but loosely as *zonal inclusion*, in the sense of Belvin and Den Dikken (1997). Prepositions like English *to/of* or Italian *a/di* that have predicative inclusion content are notated as P(⊆), as in the structure of (64), given in (67). P(⊆) takes as its internal argument the DP *i bambini* 'the children' and as its external argument the sister to its projection, that is, the DP *la buonanotte* **'**the goodnight'.

(67)



While this issue will not be further explored here, since the languages for which I have primary data (Romance and Iranian languages) do not exhibit relevant examples, an interpretation of transitive ideophone-based predicates based on 'give'

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might explain the crosslinguistically attested pattern in which the syntax of verbal ideophones encodes an addressee or beneficiary, as for instance in the Papuan language Oksapmin – see (15) – or in Somali, as described by Dhoorre and Tosco (1998). In any case, the idea just introduced of a primitive (part-whole, possessive) content preposition such as *to* or *of* will be relevant for a brief discussion of the syntax of ideophones in noun phrases, a largely unexplored topic to which I now turn.

3.2 Ideophones and noun phrases

In this section, I propose that the widespread availability of the complex predicate construction with ideophones might be explained if it is derived from a genitive-like noun phrase with the ideophone as the 'possessum'. Indeed, in many different languages ideophones can appear as nouns in a seemingly possessive construction. Some examples were shown in (33), repeated in (68).

(68) a. il *tic tac* dell'orologio — Italian
the IDPH of.the clock
'the ticking of the clock'

b. el *xiu xiu* del vent — Catalan
the IDPH of.the wind
'the whisper of the wind'

c. *vaq vaq*-e sag — Persian
ideo-LNK dog
'The bark of the dog'

In Italian and Catalan, the ideophone noun is accompanied by a genitive phrase introduced by the preposition for 'of' (*di/de*). In the Persian example, the ideophone bears the *ezafe* morpheme, which introduces genitive DPs as well as adjectival modifiers (Ghomeshi 1997, Samvelian 2007, Kahnemuyipour 2014, among others).

Similar construction types have been observed in other languages. Consider (69) from Finnish, and (70) from the Amazonian language Macushi.

(69) Puu-n kanttura
tree-GEN IDPH.NOM
'a tree bent by wind, weight of snow, etc.'
Finnish (Armoskaite and Koskinen 2014)

(70) a. sarai sarai u-saraisara-ri
'combing' 1sg-comb-POSSN
'my comb'

b. kiri kiri u-kirikiri-ri
'filing action' 1sg-file-POSSN
'my file' Macushi (Abbott 1991: 150)

To my knowledge, the only syntactic analysis so far proposed for such structures is that of Armoskaite and Koskinen (2014) for Finnish. They point out that in constructions such as (69), the merging of a nominative ideophone *kanttura* with a genitive noun, *Puu-n* 'tree-gen' triggers an evaluative (*pejorative,* in the example) interpretation. They show that the [NGEN NIDPHNOM] complex behaves as a

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morphosyntactic unit in Finnish, and it is possible to modify the entire string, but not each individual noun, and when the compound inflects for number, only one suffix is allowed.

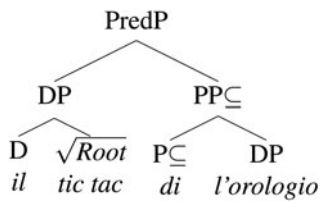
Their evaluative analysis for Finnish seems not to work for Romance, or for Iranian languages. Consider the Italian example in (71).

(71) il ciuf-ciuf leggero delle vecchie macchine a vapore
'the light IDPH of the old steam machines'

Here the string [N_{IDPH}NOM N_{GEN}] has no evaluative meaning, and both the ideophone and the genitive DP can take independent modifiers. The example in (71) therefore cannot be interpreted as a single morphosyntactic unit. Note that Italian allows prepositional compounds forming a N-PREP-N unit, such as *topo di biblioteca* 'bookworm', lit. 'mouse of library'; *colpo di fulmine* 'love at first sight', lit. 'bolt of lightning', (Delfitto and Melloni 2009, Franco et al. 2013). Nevertheless, Armoskaite and Koskinen (2014) argue correctly that – in our terms – syntactically, the sound-symbolic [N_{GEN} N_{IDPH}NOM] string in Finnish is a kind of possessive construction.

Freeze (1992), Kayne (1993) den Dikken (1995), Larson and Choi (2003), among others, propose that possessive sentences with 'have' are built on an underlying small clause predication relation between a possessor and possessee (see also Barwise and Cooper 1981, Partee and Borschev 2003, among others, for relevant semantic characterizations of genitive/part-whole relations). Following this characterization, which can be traced back to Benveniste (1966) and Fillmore (1968), Freeze (1992) proposes that possessive *have* constructions such as 'John has a bike' are composed underlyingly from the copula *be* and a part-whole-like/locative prepositional phrase as in 'the bike of John'. A possible derivation for (68a) is given in (72), roughly based on Freeze (1992). For our current purposes, I will assume that it is basically correct, but see Levinson (2011) for Icelandic data that may weaken Freeze's account. I assume that the 'inclusion' (part-whole) relation ⊆, introduced above for the verbal domain, plays a role in nominal contexts as well. See Manzini and Savoia (2011b), for morphological evidence based on the widely attested genitive/dative syncretism that is present in many genetically diverse languages.

(72)



A sentential derivation of a light verb-ideophone complex predicate such as *l'orologio fa tic tac* 'the clock goes tick tock' based on the configuration in (72) would have the structure in (73).

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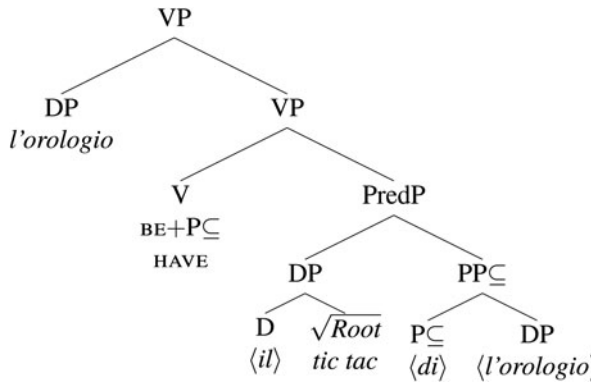
(73)



In (73) the part-whole preposition incorporates into verbal element BE. The possessive light verb HAVE spells out the BE + *of* (*to*) complex. The ideophonic morpheme, following Ramchand (2008), would then underassociate its N feature, which allows it to merge with a D item, and appear as a bare (non-argumental) root in the structure.

While there are some languages, such as Muna, illustrated in (21) and (22), in which complex ideophonic predicates are introduced by a HAVE-like verb, the vast majority of the languages of the world use a DO/MAKE or a SAY light verb.[26] However, the 'possessive interpretation' of even sentential ideophones finds support in the fact that there is a clear semantic link between (inalienable) possession and verbs of internal sound emission such as *whistle, hum, squeak, click*, etc. As shown in the cross-linguistic overview, these verbs are often realized by the means of a light verb + ideophone compound. There is a physical constraint: the need to possess certain characteristics in order to produce the sound rendered by a given verbal predicate. According to Folli and Harley (2008: 192; see also Levin and Rappaport Hovav 1995, Levin 2012) inanimate DPs also obey such physical 'possession' constraints and "it seems clear that although trains and tables are not animate entities, they have properties internal to their construction that makes them appropriate or typical whistlers and squeakers. Trains, in fact, are built with whistles in them, and tables that squeak do so by virtue of their physical characteristics."

With an eventive perspective similar to the one developed here, they further assume that in such cases "Agents are entities which can produce particular events by themselves: they are sufficient on their own to initiate and carry out the entire

[26] An anonymous reviewer suggests that it is unlikely that a light verb meaning 'hit', used in combination with ideophones in Iranian languages (see (32) and fn. 9), could appear in the structure in (73). Nevertheless, the grammaticalization path from 'hit' verbs to light verbs and auxiliaries is widely attested. Heine and Kuteva (2002: 51) describe such cases in Swahili and Ewe, where a frequently used action verb turns into a semantically empty predicate marker. A Swahili example is given in (i).

(i) Swahili *ku-piga* 'to beat', 'to hit', *verb > empty predicate marker*

a. ku-piga picha
to-hit picture
'to make a photo'

b. ku-piga kelele
to-hit noise
'to make noise'

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event denoted by the predicate" (Folli and Harley 2008: 192). Thus, given their dual nature of owners on the one hand and initiators/undergoers on the other, it is conceivable that there might be languages that use the light verb for 'have' to introduce ideophonic complex predicates. The 'do' strategy is, in any case, far more common.

Interesting evidence for a link between possession and ideophones can be found in languages like Great Andamanese (Abbi 2011: 765) where ideophonic sound/light emission items are treated as equivalent to a product of the body, appearing obligatorily with a 'body class marker'; that is, a specialized classifier that classifies items based on the part of the body that they occupy. An analogous pattern seems to hold in Belhare (Eastern Kiranti, Tibeto-Burman) where body-products such as *hildkpa* 'hiccup' or *gauppa* 'burp' are derived from or interpreted as ideophones (Bickel 1997: 140). While body-part terms are commonly treated as possessed, the possessor may also be promoted to be the external argument of the sentence (Wierzbicka 1999), as in the Vietnamese examples in (74). Italian works similarly, as shown in (75).

(74) a. bụng tôi (bị) đau
stomach 1SG suffer sick
'My stomach aches'

b. Tôi (bị) đau bụng
1SG suffer sick stomach
'I ache/am sick in the stomach.' (lit. 'I stomach-ache')
(Clark 1995: 544, cited in Vittrant 2013)

(75) a. La testa mi *fa* male.
'My head aches.' (lit. 'the head does pain to me')

b. *Ho* mal di testa.
'I have headache.' (lit. 'I have pain of head')

This example illustrates an alternation between *fare* 'do' in (75a) and *avere* 'have' in (75b), a further indication that the possession hypothesis may be on the right track. Further exploration of this issue is left for future research.

4. Conclusion

I have shown that verbal compound constructions containing an ideophone and a light verb are crosslinguistically widespread, and that phono-symbolic morphemes cannot be treated as bare direct objects in such constructions. Ideophones appearing adjacent to the light verb form a semantic unit with the verbal predicate, although in some languages they can be syntacticized as bare nouns and appear in argumental position. Specifically, I have argued that ideophones in complex predicates are part of the verbal domain, forming a single predicate with the verb through a mechanism of conflation, along the lines of Hale and Keyser (1993, 2002), and building on Ramchand (2008). I tentatively sketched in section 3.2 a possible characterization of the syntax of nominal ideophones in terms of a possessum-possessor relation.

Ideophones are an intriguing topic and many aspects of their lexical and syntactic behaviour require further investigation. Recent experimental work, for instance, has

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shown that three-year-old children learned non-words words better when the form and meaning of the words were ideophonically related. Such results were obtained both with children learning Japanese, a language with a rich inventory of sound symbolic expressions, and English, which has a smaller number of ideophones (Imai et al. 2008, Kantartzis et al. 2011, among others). This kind of sound-symbolic 'assistance' has been thought to be an evolutionary device. That is, children's ability to use sound symbolism in acquisition would be the vestige of a protolanguage (Bickerton 1990, Jackendoff 1999, Hurford 2011, among others) consisting largely of ideophones. On this, McGregor (2002: 335ff) (see also Heat 1976, Givón 2009), investigating diachronic processes involving ideophones in Northern Australian languages, proposes that the uninflecting parts of complex predicate constructions have consistently originated from ideophones. Surely, phono-symbolic expressions also deserve more attention in the realm of formal linguistics.

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