

The semantics of quotative ideophones

Rebekah Baglini | Stanford University

rbkh@stanford.edu

1 Introduction

Ideophones are defined as a grammatically **marked class of lexical items** which convey **sensory experiences** in a vivid way (Dingemanse, 2012, 265). Speakers have the sense that ideophones are iconic: that is, that the mapping between form and meaning is not totally arbitrary. Consider the following examples from Wolof (West Atlantic, Niger Congo; Eth: [wol]):

(1) *Lamp b-i dafa jég-jég ne ràyy*
 Lamp CL-DEF do-3SG suddenly ne IDEO
 The lamp suddenly flashed.

Fieldnotes:YD_160304_002

(2) *Pneu b-i di ne mbèll ñepp daw*
 Tire CL-DEF IMPF ne IDEO everyone run
 Everyone ran away when the tire exploded.

Fieldnotes:YD_160304_002

Cross-linguistic properties:

- Marked free forms(words): ideophones form a class separate from the rest of the lexicon, via special phonological form, morphological marking, or syntactic distribution.
- More common in spoken language and carry significant social meaning and expressiveness (Irvine, 1982)
 - Highly specific meanings, clustered around sensory events
 - Use sound-symbolism to relate aspects of their phonological form to their meaning.
 - Descriptively ineffable

Ideophones are semantically unusual in **depicting** their referents in addition to describing them (Dingemanse, 2011). Depiction has also been recognized in quotations, which both describe speech events but also replicate salient aspects of them.

Ideophones which surface with a quotative marker (QM) are cross-linguistically common (Plank, 2005; Güldemann, 2008) and provide a compelling empirical link between ideophones and the semantics of speech reports.

Coming up

- Introduce empirical landscape of quotative ideophones in Wolof and identify semantic challenges.
- Motivate unified logical basis for quotation and ideophony via **linguistic depiction**: similarity function relating events to utterance-level properties of linguistic objects
 - QMs: grammaticalized; involve context-sensitive similarity dimension
 - Ideophones: lexicalized; involve conventionalized sound-symbolism
- Provide formal account of how QMs introduce both speech reports and ideophonic depictions

2 Ideophones and direct speech reports

An array of unrelated languages have **quotative ideophones**: ideophones which systematically surface with a functional form (often a verb, particle, or complementizer) which otherwise signals a speech report.¹

For example, the Wolof QM *ne* introduces ideophones (1)-(4), as well as direct (6) and indirect (5) speech reports (Dialo, 1985; Munro and Gaye, 1991).²

- (3) *Keroog b-i mu nasal-ee xel-am daf-a-Ø -y ne* karaas-karaas
 other.day CL-DEF 3SG thread-IMPF mind-POSS do-a-3SG-IMPF ne IDEO
 The other day while he was thinking he was shuffling along.
- (4) *Keroog b-i ma mer-ee da-ma ne* ràpp *bunt b-i dem sama yoon*
 other.day CL-DEF 3SG angry-IMPF do-1SG ne IDEO door CL-DEF go POSS.1SG way
 The other day when I was angry I slammed the door and went on my way.
 (Munro and Gaye, 1991, 128)
- (5) *Ali daf-a-Ø ne du lekk yapp*
 Ali do-a-3SG ne NEG eat meat
 Ali said he didn't eat meat INDIRECT QUOTATION
- (6) *Ali daf-a-Ø ne: "Lekk-u-ma yapp."*
 Ali do-a-3SG ne eat-NEG-1SG meat
 Ali said, "I didn't eat meat." DIRECT QUOTATION

Wolof ideophones are syntactically defective: they cannot function as matrix predicates on their own. Thus, the QM serves a critical syntactic purpose independent of any role it plays in ideophonic semantics. But the question remains: why a form otherwise implicated in speech reports, and not some other functional form?

One thing ideophones and quotations have in common is that they involve **depiction**: the relation between form and the meaning is not entirely arbitrary.

2.1 Demonstration-based approach

We often think of direct quotation in the narrow sense, where a quoted expression is introduced by a verb of saying. Such verbatim speech reports simultaneously describe and depict the speech event by reproducing the words originally used (Clark and Gerrig, 1990).

- (7) Sam said, 'I'm hungry.'

¹Cf. Childs (1994); Elleström et al. (2013); Ameka (2001); Güldemann (2008); Dingemanse (2011); Plank (2005) for Niger-Congo; Samarin (1971) and Amberber (2010) for Semitic; Chevillard (2004) for Dravidian, and Le Guen (2011); Henderson (2015) for Mayan languages.

²1 = first person, 3 = third person, AGR = agreement, CL = noun class, DEF = definite, IDEO = ideophone, IMPF = imperfective, NEG = negative, PL = plural, POSS = possessive, REL = relative, SG = singular. Senegambian languages possess grammaticalized, syntactic means of expressing focus (at least subject, non-subject, and verb/predicate). Verb focus, on the other hand, is signaled by the presence of a dummy verb, a grammaticalized form of the verb 'do', *da-*, followed by person/number marking (Torrence, 2005).

But spoken and signed languages often extend the performative potential of QMs, allowing a speaker to ‘quote’ things beyond speech events. For example, English (*be*) *like* quotative constructions can convey internal monologue or reaction (8) and even gestures or facial expressions (9) (Davidson, 2015).

(8) I was like, *no way, dude*.

(9) I was like, [*shakes head*].

In all cases, the quoted material iconically conveys some salient information about the event in question through a **demonstration**.

Demonstration (Clark and Gerrig, 1990): “Enabling others to experience what it is like to perceive the things **depicted**.”

Recent work by Davidson (2015) formalizes demonstrations by treating them as basic entities in the ontology indexed to events, which replicate contextually salient event properties.

- (10) a. Ademonstration reproduces properties of an event relevant in the context. For example, relevant properties of a speech event might include words, intonation, facial expressions, sentiment, and/or gestures. Davidson (2015)
 b. Demonstrations are entities of type *d* indexed to events (type *v*)

Having added demonstrations to the ontology, Davidson defines a **demonstrative predicate** as a particular type of predicate which takes arguments of type *d* and *e*. English *like* is an example, and Davidson assigns it the semantic representation in (11).

(11) $[[like]] = \lambda d \lambda e [demonstration(d, e)]$

(12) John was like [*shakes head*].

(13) Quotative-marked demonstration: derivation of (9)

$[[head-shake]] = d1$ (gestural demonstration)

$[[like]]([[head-shake]]) = \lambda e [demonstration(d1, e)]$

$[[be\ like\ head-shake]] = \lambda x \lambda e [agent(e, x) \wedge demonstration(d1, e)]$

$[[John\ was\ like\ head-shake]] = \lambda e [agent(e, John) \wedge demonstration(d1, e)] = \exists e [agent(e, John) \wedge demonstration(d1, e)]$

2.2 Ideophones as demonstrations?

Can Wolof ideophones be analyzed as demonstrations, casting *ne* as a predicate akin to English (*be*) *like*? There are several obvious challenges to this approach.

- *Ne* functions more generally as a propositional complementizer. This suggests that it must be possible to retrieve propositional meaning from *ne*'s complement.

(14) *Gem-na-a ne Isaa daq-na-Ø xale y-i*
 believe-PFV-1SG ne Isaa chase-na-3SG child CL.PL-DEF
 I believe that Isaa chased the children.

(Torrence, 2005, 159)

- Gesture, facial expression, and pantomime cannot be introduced by *ne*, despite the prominent role such paralinguistic elements play in Wolof discourse (Dialo, 1985; Grenoble et al., 2015) (15)-(16). This suggests that *ne* selects specifically for natural language objects.

- (15) *Ali daf-a-Ø ne [thumbs up/head-shake/dismissive hand]
Ali do-a-3SG ne ...
- (16) *Ali daf-a-Ø ne [bilabial negative click, lateral affirmative click]
Ali do-a-3SG ne ...

- Ideophones seem semantically richer than demonstrations: they are imbued with highly specific and complex information about events(17).

- (17) Kër g-i daf-a-Ø ne ñomm.
House CL-DEF do-a-3SG ne IDEO
The house went suddenly silent. Fieldnotes:YD_160304_002

The next section will introduce further evidence that ideophones have descriptive lexical content beyond demonstration, and pose a puzzle for our analysis of quotative ideophones.

3 A puzzle: adverbial ideophones

QM *ne* is obligatory with some ideophones (e.g. (1), (3), (17)). But a subset of *ne*-ideophones are alternatively realized as adverb-like modifiers ('co-verbs') to particular lexical verbs (Torrence, 2013). For example, *ub* 'close' + ràpp in (18) and *dàgg* 'cut' + fàtiit in (22).

- (18) Bunt b-i daf-a-Ø ub ràpp
Door CL-DEF do-a-3SG close IDEO
The door slammed closed. Fieldnotes:YD_160304_002
- (19) Bunt b-i daf-a-Ø ne ràpp (ub)
Door CL-DEF do-a-3SG ne IDEO (close)
The door slammed closed. Fieldnotes:YD_160304_002

All eventive ideophonic modifiers can be alternatively introduced by *ne*, in which case the lexical verb is optional. Sentence pairs like (18)-(19) are judged to be acceptable paraphrases of each other by native speakers.

Intriguingly, ideophonic modifiers are unique to their verbal collocates.³ For example, the ràpp only occurs with *ub* but not *ubbi* 'open' (20); fàtiit only occurs with *dàgg* 'cut', but not semantically similar *damm* 'break' (21).

- (20) *Bunt b-i daf-a-Ø ubbi ràpp
Door CL-DEF do-a-3SG open IDEO
Int: The door slammed open. Fieldnotes:AC_160310_001
- (21) Daf-a-Ø {dàgg/*damm} bantt b-i fàtiit
do-a-3SG {cut/*break} stick CL-DEF IDEO
S/he {cut/*broke} the branch in one stroke Fieldnotes:AC_160310_001

³Or near-unique. Torrence reports that *fàtiit* is also licensed by the verb *kill* 'rey', but not by any of verb describing an event plausibly done in one stroke. I have not been able to find other ideophones which are compatible with more than one verbal collocate, however.

The modification facts indicate that ideophones have compositionally-accessible descriptive lexical content beyond demonstration.

Ideophonic modification: syntax

Note that the ideophone and verb do not form a unit: as (21) and (22) show, the ideophone remains in-situ when the matrix verb undergoes movement to a higher projection.

- (22) *Daf-a-∅ dāgg jën w-i* fatiit
do-a-3SG cut fish CL-DEF IDEO
 S/he cut the fish in one stroke. (Torrence, 2013, 146)^a

Torrence attributes the difference in order of ideophone and V in pairs like (18)-(19) and (22)-(23) to the independently motivated fact that *ne* blocks verb movement. The word order facts also suggest that the verb is generated below the ideophone.

- (23) *Daf-a-∅ ne* fatiit (*dāgg*) *jën w-i*
do-a-3SG ne IDEO (cut) fish CL-DEF
 S/he cut the fish in one stroke. (Torrence, 2013, 146)

Ideophonic modification appears to be compositionally unique process in the language. Productive modification always involves a relativizing head (Torrence, 2013) (24)-(25). For comparison, a canonical relative clause is given in (24).

- (24) *Garab g-u ma gis*
 tree CL-REL 1SG see
 A tree that I saw. RELATIVE CLAUSE
- (25) *Fas w-u gaaw*
 horse CL-REL fast
 A fast horse ATTRIBUTIVE ADJ
- (26) *Fas w-i daf-a-∅ daw n-u gaaw*
 horse CL-DEF do-a-3SG run CL-REL fast
 The horse ran quickly. ADVERB

^aThe *dāgg*+fatiit data are based on examples from Torrence (2013). I have altered Torrence's examples only by changing the aspectual/agreement paradigm from the perfective *-na*/3p-PL to the neutral *da*-/3p-SG, so the data more consistent with other data in this handout.

We have now seen two ways of expressing ideophonic meanings in Wolof, representative of two of the most widespread grammatical strategies attested in the descriptive/survey literature (Güldemann, 2008, 282).

4 Analysis

4.1 Similarity underlies depiction: evidence from Wolof *n-V* forms

Typological work on ideophone-rich languages reveals grammaticalization patterns which look strikingly similar to English 'like'.

Table 1: Related Wolof *n-* forms

	Type	Form	Example	Relation
a.	Similitive	<i>n-i</i>	(27)[a]	Similarity of individuals
b.	Manner deictic	<i>n-i</i>	(27)[b]	Deictic event similarity
c.	Manner relative	<i>n-i</i>	(27)[c]	Similarity of events
c.	Equative	<i>n-i</i>	(27)[d]	Similarity of degrees
d.	Complementizer	<i>n-e / n-i</i>	(28)[a]	Depictive similarity?
e.	Quotative marker	<i>n-e</i>	(28)[b]	Depictive similarity
f.	Ideophone marker	<i>n-e</i>		Depictive similarity

In many languages, including Wolof, complementizers and QMs like *ne* have evolved from markers of similarity (Güldemann, 2008), as illustrated in Table 1.⁴

(27) **N-i forms**

- a. *Daf-a-∅ mel n-i sa rakam!*
do-a-3SG appear CL-i your brother
 You look like your brother SIMILATIVE
- b. *N-i la-y lekk-e.*
CL-i 3SG-IMPf eat-AGR
 He eats like this. MANNER DEICTIC
- c. *N-i mu ubbe-e bunt b-i*
CL-i 3SG open-AGR door CL-DEF
 The way he opened the door. MANNER RELATIVE
- d. *Xale b-i daf-a-∅ bëgg-a-njool-ee n-i pap-am*
child CL-DEF do-a-3SG want-a-tall-AGR CL-i father-POSS.3SG
 The child wants to be as tall as his father. EQUATIVE
- e. *N-i la tollu [+gesture].*
CL-i 3SG equal
 S/he's this tall/big [with a gesture] DEGREE DEMONSTRATION

(28) **N-e forms**

- a. *Ali daf-a-∅ wax n-e du lekk yapp*
Ali do-a-3SG say CL-e NEG eat meat
 Ali said he didn't eat meat COMPLEMENTIZER
- b. *Ali daf-a-∅ n-e: "Lekk-u-ma yapp."*
Ali do-a-3SG CL-e eat-NEG-1SG meat
 Ali said, "I didn't eat meat." QUOTATIVE MARKER

I take the class marker *n-* to be associated with a general similarity function (29) (from Umbach and

⁴A noun class marker appears in the form of a single consonant on nominal dependents such as determiners and relative particles. The complete set of Wolof noun classes is listed in (i):

- (i) Singular classes k-, b-, g-, j-, l-, m-, s-, w-
 Plural classes ñ-, y-

Among these, a few consonants are associated with particular semantic categories: *k-* for humans, *f-* for locations, and *n-* for manner.

Gust 2014), which holds of two arguments α and β provided they are similar along a contextually-determined dimension F .

- (29) $\lambda\alpha\lambda\beta.\text{SIM}(\alpha, \beta, F)$
 “ α resembles β in terms of F ”
- SIMILARITY
(Umbach and Gust, 2014)

The backbone of linguistic depiction is a particular variant of the similarity relation in (29): in these forms, encoded by Wolof *n-e*, the similarity relation links a semantic argument to utterance-level properties of a linguistic object.

Depiction is a crucially different mode of representing meaning from description (Goodman 1968).

- Descriptions are formed from articulated symbol systems, such as the expressions of a formal logic.
- Depictions are formed of dense or ‘non-articulated’ symbol systems which are intended to analogically resemble their referent.

Interim summary I

Linguistic depictions require us to recognize resemblance between semantic representations and associated utterances

- Quotation: similarity between a remote speech event and the present utterance
 Resemblance dimension: words used (verbatim or not)
- Ideophony: similarity between a remote sensory event and the ideophonic utterance
 Resemblance dimension: sound-symbolic mappings, stored lexically

Wolof *n-e* forms encode linguistic depiction functions.

4.2 *Linking utterances and events through QMs*

To explain the common depictive contribution of *ne* in both quotation and ideophone expressions, I draw inspiration from Potts (2007)’s formal analysis of various types of quotation phenomena, which makes use of utterance-level properties of linguistic objects.

- Linguistic objects are pairs containing a surface representation and a semantic representation (30) (Potts, 2007)

(30) The grammar \mathcal{G} generates pairs $\langle \Pi : \alpha; \sigma \rangle$ in which Π is a phonological representation, and α is a semantic representation of type σ .

- We add a semantic type for utterances u , the type assigned to outputs of the semantic quotation operation (31).
- Thus, the quotation function takes complex natural language expressions and turns them into entity-level expressions of type u .

(31) If $P = \langle \Pi : \alpha; \sigma \rangle$ is well-formed then $\langle \Pi : \ulcorner \langle \Pi : \alpha; \sigma \rangle \urcorner; u \rangle$ is well-formed.

- An operation takes interpreted utterances and returns its underlying semantic representation (32).

$$(32) \quad \text{SEM}([\langle \Pi : \ulcorner \langle \Pi : \alpha; \sigma \rangle \urcorner; u \rangle]) = \alpha$$

- These formal tools are incorporated into a neo-Davidsonian framework, so that direct discourse markers are understood to relate utterances to events.
 - D_u is the domain of utterances (type u),
 - D_v is the domain of events (type v).
 - D_e is the domain of individuals (type e).

Based on the discussion from the last section, all *ne* variants (34) involve the semantic kernel in (33): they assert that some salient properties of an utterance u resemble some event.

The first difference between ideophonic *ne* (34-a) and quotative/complementizer *ne* (34-b)/(34-c) lies in the presence of a predicate P in (34-b)/(34-c). In the absence of a matrix verb, P_c is a contextually-determined predicate (34-b). In the complementizer variant, P is a lambda term saturated through composition with some lexical verb (34-c).

The second difference lies in $\text{SEM}([u])$ —the semantic representation extracted from an interpreted utterance: in (34-b)/(34-c) $\text{SEM}([u])$ returns a propositional argument of P ; in (34-a) $\text{SEM}([u])$ is a property of events.

(33) Depictive similarity function: $\lambda u \lambda e. \text{SIM}(e, u, F)$

(34) a. $[[ne_{\text{ID}}]] = \lambda u \lambda e. \text{SIM}(e, u, F) \wedge \text{SEM}([u])$ IDEOPHONIC *ne*
 b. $[[ne_{\text{QUO}}]] = \lambda u \lambda e. \text{SIM}(e, u, F) \wedge \underline{P}_c(\text{SEM}([u]))$ QUOTATIVE *ne*
 c. $[[ne_{\text{COM}}]] = \underline{\lambda P} \lambda u \lambda e. \text{SIM}(e, u, F) \wedge \underline{P}(\text{SEM}([u]))$ COMPLEMENTIZER *ne*⁵

(35) *Ali daf-a-Ø ne: "Lekk-u-ma yapp."*
Ali do-a-3SG ne eat-NEG-1SG meat
Ali said, "I didn't eat meat." D. QUOTATION (=6)

(36) $[[ne_{\text{QUO}}]](\ulcorner \text{lekk-u-ma yapp} \urcorner)$
 $= \lambda u \lambda e. \text{SIM}(e, u, F) \wedge P_c(e)(\text{SEM}([u])(\ulcorner \text{lekk-u-ma yapp} \urcorner))$
 $= \lambda e. \text{SIM}(e, \ulcorner \text{lekk-u-ma yapp} \urcorner, F) \wedge P_c(e)(\text{SEM}([\ulcorner \text{lekk-u-ma yapp} \urcorner]))$
 $= \lambda e. \text{SIM}(e, \ulcorner \text{lekk-u-ma yapp} \urcorner, F) \wedge P_c(e)(\neg \exists e'. \text{eat}(e') \wedge \mathbf{Ag}(I) \wedge \mathbf{Th}(\text{meat}))$ DERIVATION OF (35)

As a direct quotation marker, *ne* simply entails that an utterance u depicts some salient event. In most cases, this will naturally be understood to be a speech event of some kind.

4.3 Ideophonic depiction: via QM

Ideophones are also introduced by *ne*, by way of a similarity function selecting for utterances (34-a), nearly identical to the *ne* which introduces quotations (34-b).

⁵The complementizer variant of *ne* must be subject to an addition well-formedness condition: it will be interpretable only if $\text{SEM}(u)$ returns a proposition.

But why does, e.g., *ne karaas-karaas* in (37) always get interpreted as a description of a sensory experience and not an event of uttering $\ulcorner \textit{karaas-karaas} \urcorner$?

- (37) *Daf-a-Ø -y ne karaas-karaas.*
do-a-3SG-IMPF ne IDEO
 He was shuffling (along). IDEOPHONE (= (3))

Consider what a speaker knows when s/he knows the meaning of an ideophone. For one thing, s/he knows that it denotes a property of events (38-a). On this level, ideophones are semantically just like verbs (although still quite different morphosyntactically).

But there is another level of lexical knowledge: a speaker also knows that an ideophone **sound-symbolically depicts** the events in the extension of the predicate (38-b).

- (38) Lexical profile of *karaas-karaas*
- a. Description: $[[\textit{karaas-karaas}]] = \lambda e.\textit{shuffling}(e)$
 - b. Depiction: Phonological form $[\textit{karaas-karaas}]$ **depicts the event property** based on inherent and/or conventionalized **sound-symbolic mappings**, e.g.
 - (i) reduplication \iff event-repetition⁶
 - (ii) frication \iff physical friction
etc.

We can reflect both types of information in an enriched lexical entry like (39).

- (39) Ideophone lex. entry template

$$\left\langle \dots \left[\begin{array}{l} \text{PHON } \boxed{1} [\dots] \quad \text{SYN } [\text{POS } \textit{ideo}] \\ \text{SEM } \left[\begin{array}{l} \lambda e \dots (e) \\ | \\ \text{SIM}(e, \boxed{1}, \boxed{2}) \\ \text{F } \boxed{2} [\dots] \end{array} \right] \end{array} \right] \right\rangle$$

(39) captures the intuition that ideophones are lexemes which conventionalize a relationship between their phonological form and their meaning through the basic three-place depiction function in (29).

Recall that an advantage of adding type u objects to the semantics is to access utterance-level properties like phonological form.

Since ideophones inherently reference their phonological form, submitting an ideophone to the quotation function in (31) does little except to shift the type from a function to an entity. Crucially, I posit that quoting an ideophone maintains its sound-symbolic depictive entailments **and passes them to the external QM**.

Thus, *ne*-marked ideophones instantiate the ideophones' sound-symbolic depictive meaning through the valuation of F (40). The depiction is coupled with the ideophone's descriptive content via the

⁶C.f. Robert Henderson's SALT 26 talk!

SEM operation.

$$\begin{aligned}
 (40) \quad & [[ne_{ID}]](\ulcorner \text{karaas-karaas} \urcorner) = \lambda u \lambda e. \text{SIM}(e, u, F) \wedge \text{SEM}([[u]]) (\ulcorner \text{karaas-karaas} \urcorner) \\
 & = \lambda e. \text{SIM}(e, \ulcorner \text{karaas-karaas} \urcorner, F) \wedge \text{SEM}([\ulcorner \text{karaas-karaas} \urcorner]) \\
 & = \lambda e. \text{SIM}(e, \ulcorner \text{karaas-karaas} \urcorner, F) \wedge \lambda e'. \text{shuffling}(e) \\
 & = \lambda e'. \text{SIM}(e', \ulcorner \text{karaas-karaas} \urcorner, F) \wedge \text{shuffling}(e')
 \end{aligned}$$

DERIVATION OF (37)

Interim summary II

- **Linguistic depictions** relate semantic arguments to utterance-level properties through a similarity relation.
 - Ideophones **build a depiction function into their lexical entries**, and entail a sound-symbolic association between their phonological form and the eventive property they describe.
- **Wolof QM *ne*** (all variants) are grammaticalized linguistic depiction functions **relating events to utterances**.
 - If not predicated directly, an **ideophonic utterance** can be alternatively realized via *ne*.

4.4 Ideophonic depiction: lexical

Recall that Wolof also has adverbial ideophones which are optionally expressed with *ne*.

- (41) *Bunt b-i daf-a-∅ ub* ràpp
 Door CL-DEF do-a-3SG close IDEO
 The door slammed closed. ADVERBIAL ràpp
- (42) *Bunt b-i daf-a-∅ ne* ràpp (*ub*)
 Door CL-DEF do-a-3SG CL-e IDEO (close)
 The door slammed closed. *ne* ràpp

The synonymy of (41)-(42) above suggests several things.

- (42) shows that an ideophone describes a properties of events on its own.
- (41) shows that an ideophonic co-verb construction describes the same property of events.

We can therefore posit the following denotations for the relevant words in (41): *ub*

- (43) $[[ràpp]] = \lambda e. \text{slam-close}(e)$ IDEO. ADVERB OF (44)
- (44) $[[ub]] = \lambda e. \text{close}(e)$ VERB

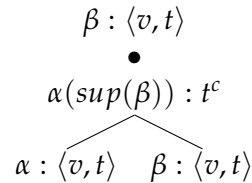
Ideophones' truth-conditional redundancy as modifiers has long been noted as a puzzle: "In general, [modifier] ideophones have also been regarded as a semantically optional element, unnecessary in any referential or information-theory sense." (Childs, 1994, 187)

They seem to be obligatorily non-restrictive modifiers (45), based on their descriptive content.

- (45) **Non-restrictive modification:** *A* non-restrictively modifies *B* iff $[[\lambda v. A(v) \wedge B(v)]] = [[B]]$

Proposal

- As a modifier, the ideophone’s contribution is its depictive entailment. I treat this as a conventional implicature (CI), which is interpreted at a different level from ordinary truth-conditional (‘descriptive’) meanings. These levels are achieved through an enrichment of the type system to include types associated with an expressive meaning (indicated by the superscript c).
- I adopt Morzycki (2008)’s compositional rule of Expressive Predicate Modification (46), a CI-version (Potts, 2003) of Heim and Kratzer (1998)’s Predicate Modification.

(46) **Expressive predicate modification**

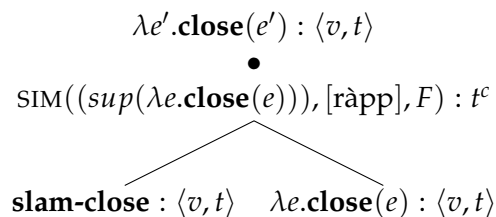
...where the relative order of α and β is as indicated

In (47), the rule of Expressive Predicate Modification passes the descriptive meaning of the verb up to the next node.⁷ The depictive CI is applied to the supremum (largest plural individual) in the domain of the verb.

Thus, the ideophone adds a not-at-issue entailment that the property is depicted by the phonological form $\text{r}\grave{\text{a}}\text{pp}$ according to some conventionalized sound-symbolic mapping.

Again, the absence of any descriptive contribution—while an unusual property for a modifier—is actually consistent with the ‘referential redundancy’ reported to characterize ideophonic modifiers cross-linguistically (Samarin, 1978; Childs, 1994, c.f.),

- (47) a. $[[\text{r}\grave{\text{a}}\text{pp}]][[\text{ub}]]$
 b.



Sidenote: Whether ideophones bear more in common with expressives than just the modification rule in (46) is a question for future research. There are certainly commonalities:

- Carry not-at-issue entailments
- Speaker oriented⁸
- Descriptive ineffability
- Repeatability (c.f. Henderson 2015; SALT 26 talk)

⁷The \bullet is simply a metalogical notation for separating lambda expressions at the (higher) descriptive and (lower) expressive levels.

⁸In the sense that the depiction reflects the speaker’s sensory experience.

Ideophones like *karaas-karaas* (38) and *ñomm* (48) (sensation of sudden onset of silence) are exclusively realized with *ne*. I hypothesize that they convey sensory experiences associated with many event types/stimuli, so fail to fulfill the conditions required to compose with a lexical verb via Expressive Predicate Modification.

$$(48) \quad [[\tilde{n}omm]] = \lambda e.\mathbf{sudden-onset-of-silence}(e)$$

Comparing co-verb composition in (47) with the alternative in (49), we can now see why speakers judge these to be paraphrases of one another: they are descriptively equivalent expressions. The *ne*-paraphrase is similarly trivial in terms of semantic contribution, but necessary syntactically.

$$(49) \quad \begin{aligned} [[ne_{ID}]](\ulcorner \text{ràpp} \urcorner) &= \lambda u \lambda e. \text{SIM}(e, u, F) \wedge \text{SEM}([u])(\ulcorner \text{ràpp} \urcorner) \\ &= \lambda e. \text{SIM}(e, \ulcorner \text{ràpp} \urcorner, F) \wedge \text{SEM}([\ulcorner \text{ràpp} \urcorner]) \\ &= \lambda e. \text{SIM}(e, \ulcorner \text{ràpp} \urcorner, F) \wedge \lambda e'. \mathbf{slam-close}(e') \\ &= \lambda e'. \text{SIM}(e', \ulcorner \text{ràpp} \urcorner, F) \wedge \mathbf{slam-close}(e') \end{aligned}$$

The only difference lies in the level at which entailments are interpreted: the depictive entailment is realized at the descriptive level in (49) rather than the expressive/not-at-issue level. Exploring the predicted projective properties of modifier vs. QM ideophones is an exciting direction for future research.⁹

Summing up

- Ideophones pose a compelling challenge for semanticists, given the supposedly non-arbitrary relationship between their form and meaning.
- In many languages, ideophones are marked as if they were direct quotations. Using Wolof as a case study, I have proposed a logical link between quotation and ideophony in terms of linguistic depiction.
- Formally, linguistic depictions relate semantic arguments to utterance-level properties through a similarity relation.
 - The Wolof data shows how ideophones convey meaning at two levels simultaneously: they have descriptive lexical content, yet much of their semantic power comes from the utterance itself.
 - Wolof adverbial and *ne* constructions reflect predication at these two levels, respectively.

References

- Amberber, Mengistu. 2010. The structure of the light verb construction in Amharic. In *Complex predicates: Cross-linguistic perspectives on event structure*, eds. Mengistu Amberber, Brett Baker, and Mark Harvey, 291. Cambridge University Press.
- Ameka, Felix K. 2001. Ideophones and the nature of the adjective word class in Ewe. *Typological Studies in Language* 44:25–48.
- Chevillard, Jean-Luc. 2004. Ideophones in Tamil: Historical observations on the morphology of

⁹The easiest projection test—negation—is unavailable in Wolof, due to the fact that neither *ne* nor ideophones can host negation morphology. Only sentences where *ne* functions as a completizer can be negated, since they include a matrix verb.

- X-enal expressives. In *Proceedings of the Panel 36 at the 17th European Conference on Modern South Asian Studies: Tamil Studies: Current Trends and Perspectives*.
- Childs, Tucker. 1994. African ideophones. In *Sound symbolism*, eds. Leanne Hinton, Johanna Nichols, and John J Ohala, 178–204. Cambridge: Cambridge University Press.
- Clark, Herbert H, and Richard J Gerrig. 1990. Quotations as demonstrations. *Language* 764–805.
- Davidson, Kathryn. 2015. Quotation, demonstration, and iconicity. *Linguistics and Philosophy* 38:477–520.
- Dialo, A. 1985. *Éléments expressifs du Wolof Contemporain*, Vol. 27. Dakar: Centre de linguistique appliquée de Dakar.
- Dingemanse, Mark. 2011. The meaning and use of ideophones in Siwu. Doctoral Dissertation, Radboud University, Nijmegen.
- Dingemanse, Mark. 2012. Advances in the cross-linguistic study of ideophones. *Language and Linguistics Compass* 6:654–672.
- Elleström, Lars, Olga Fischer, and Christina Ljungberg. 2013. *Iconic investigations*, Vol. 12. John Benjamins Publishing.
- Grenoble, Lenore A, Martina Martinovic, and Rebekah Baglini. 2015. Verbal gestures in wolof. In *Selected Proceedings of the 44th Annual Conference on African Linguistics*, ed. Ruth Kramer et al., 110–121.
- Güldemann, Tom. 2008. *Quotative indexes in African languages: a synchronic and diachronic survey*, Vol. 34. Berlin: Walter de Gruyter.
- Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Oxford: Blackwell.
- Henderson, Robert Martin. 2015. Pluractional demonstrations. Handout presented at Logic and Engineering of Natural Language Semantics 12 (LENLS 12).
- Irvine, Judith T. 1982. Language and affect: Some cross-cultural issues. *Contemporary Perceptions of Language: Interdisciplinary Dimensions, CURT* 31–47.
- Le Guen, Olivier. 2011. Ideophones in yucatec maya. *Proceedings of CILLA V*.
- Morzycki, Marcin. 2008. Nonrestrictive modifiers in nonparenthetical positions. *Adverbs and adjectives: Syntax, semantics and discourse* 19:101–122.
- Munro, Pamela, and Dieynaba Gaye. 1991. *Ay baati Wolof: a Wolof dictionary*. Los Angeles: UCLA Occasional Papers in Linguistics.
- Plank, Frans. 2005. Delocutive verbs, crosslinguistically. *Linguistic typology* 9:459–491.
- Potts, Chris. 2007. The dimensions of quotation. In *Direct compositionality*, eds. Chris Barker and Pauline Jacobson, 405–431. Oxford: Oxford University Press.
- Potts, Christopher. 2003. Expressive content as conventional implicature. In *Proceedings-Nels*, Vol. 33, 303–322.
- Samarin, William J. 1971. Survey of bantu ideophones.
- Samarin, William J. 1978. Inventory and choice in expressive language. *Linguistic and Literary Studies in Honor of Archibald A. Hill* 2:313–329.
- Torrence, Harold. 2005. On the distribution of complementizers in Wolof. Doctoral Dissertation, University of California, Los Angeles.
- Torrence, Harold. 2013. *The clause structure of Wolof: insights into the left periphery*, Vol. 198 of *Linguistik Aktuell/Linguistics Today*. Amsterdam: John Benjamins.
- Umbach, Carla, and Helmar Gust. 2014. Similarity demonstratives. *Lingua* 149:74–93.