Ideophones across modalities?

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1 Introduction

Many typologically unrelated spoken languages such as Japanese or Akan (Kwa) have been shown to feature a special class of words, so-called ideophones, which have been characterized as "an open lexical class of marked words that depict sensory imagery" (Dingemanse 2019: 16).[1] Ideophones are conventionalized iconic expressions challenging the doctrine that the relation between form and meaning in (spoken) languages is arbitrary. In typical 'ideophone languages', ideophones are quite large classes of words that contain marked expressions which are at the same time an integral part of the lexicon and the grammatical system used in everyday language. But even in languages like English and German, which do not belong to the group of 'ideophone languages', lexical items such as *plitsch-platsch* ('splish-splash') or *ratzfatz* ('very quickly') can be characterized as ideophones and are frequently used at least in specific contexts and registers (Barnes et al. 2022, Cwiek 2022). Ideophones are thus available in many different languages and, like iconic co-speech gestures, an interesting example for the impact of iconicity on language. With both iconic meaning aspects enter the semantic representation of the corresponding utterance (Barnes and Ebert 2023). Unlike co-speech gestures, however, ideophones are produced with the same articulators as speech, that is, the iconic depiction and the linguistic description share the same auditory modality.

In this article, we want to broaden the view by asking ourselves whether ideophones are not only attested in spoken languages (to a varying degree) but whether they also exist in sign languages (see Dingemanse 2019 for a similar research question with a different answer), that is, we ask ourselves whether the

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class of words that has been characterized as ideophone in spoken languages is a universal modality-independent linguistic concept. We show that in sign languages, ideophones are more difficult to identify. The main reason for this is that iconicity (i.e. the depiction of sensory imagery) has a higher impact on sign languages than on spoken languages, both on the lexical and the grammatical level (Perniss et al. 2010, Taub 2012, Emmorey 2014). Nevertheless, we provide evidence that sign languages also use a special class of marked lexical items that share essential properties with ideophones in spoken languages. Consequently, we argue that the development and use of this special class of expressive gestural lexical items is a modality-independent general property of human languages.

The comparison of ideophone-like expressions in the two modalities does not only open new perspectives on the specific formal and functional properties of these marked items but also contributes to a better understanding of ideophones in spoken languages. Likewise, a broad typological investigation of ideophones in both modalities will provide new insights on the impact of iconicity on language in general, and additionally poses new challenges for cross-modal formal semantic theories that take the semantic impact of iconic components on linguistic meaning seriously.

This article is organized as follows: In the next section, we briefly discuss seven key properties of ideophones in spoken languages. Based on this discussion, we turn to the visual modality and show that sign languages also have a special class of signs, so-called 'idiomatic signs', that can be compared to ideophones in spoken languages. In the final section, we briefly discuss some consequences of our observations for the structure of the lexicon in spoken and sign languages and formal semantic analyses of the meaning of ideophone-like expressions in the two modalities.

2 Ideophones in spoken languages

Ideophones are well described for many typologically unrelated spoken languages. Comparative studies have shown that 'ideophone' is a flexible concept with different characterizing properties that may vary from language to language, that is, a typical ideophone in language A may not share all defining properties of a typical ideophone in language B (Dingemanse 2019). In addition, some languages like Japanese or Akan have many ideophones that are an integral part of the grammatical system and fulfill basic grammatical functions. Other languages such as German and English only have a small class of ideophones which are less integrated in the grammatical system and often restricted to specific contexts or registers. Note finally that even in one language, the class of ideophones is not homogeneous, that is, the grammatical and semantic properties of ideophones may differ from item to item.

Formal and functional descriptions of ideophones in different languages have brought to light at least the following seven key properties, which we illustrate in the following with examples from German (Dingemanse 2012, 2019, Dingemanse and Akita 2017, Barnes et al. 2022, Cwiek 2022, Barnes and Ebert 2023).

(1) *Open lexical class*: Ideophones form an open lexical class. Ideophones must not belong to one syntactic class and the size of this class may differ from language to language. Japanese, for instance, has a large class of ideophones (mimetics). By contrast, in German the class of ideophones is comparatively small.

(2) *Markedness*: Ideophones are marked expressions. They have phonological, morphological and syntactic properties that make them stand out from other words such as, for instance, reduplication – as can be seen in the German examples *plitsch- platsch*, *zick-zack* ('zig-zag') and *husch-husch* ('very quickly').

(3) *Conventionalization*: Ideophones are words and thus conventionalized lexical items with a specific phonological form. Ideophones can be listed in the lexicon and defined on basis of specific grammatical and semantic properties. Like conventionalized descriptive lexical items, ideophones are subject to typological variation. *Splish-splash*, the corresponding English ideophone of *plitsch-platsch*, shares, for instance, the two vowels with its German counterpart but differs in the onset and in the coda.

(4) *Depiction*: Ideophones are lexical expressions that have depictive meaning aspects. As opposed to unmarked descriptive lexical items, ideophones depict rather than describe. The German ideophone *plitsch-platsch* represents, for instance, iconically the sound of wet feet of a moving entity (often accompanied by an iconic gesture of moving wet feet).

(5) *Sensory imagery*: The meaning of ideophones lies in the domain of sensory imagery. They typically encode information about movement and sound. The German ideophone *holterdiepolter* ('helter-skelter') depicts a situation with loud chaotic movement. Ideophones can also depict metaphorically sentiment or mental states such as, for instance, the German ideophones *plemplem* or *ballaballa* ('gaga' or 'crazy').

(6) *Expressiveness*: Ideophones are expressive items which are typically realized with intonational foregrounding and expressive morphology. In addition, ideophones are often accompanied by manual and nonmanual co-speech gestures (Dingemanse and Akita 2017). The depictive meaning components of an ideophone (as well as the accompanying co-speech gesture) contribute expressive meaning. Interestingly, the degree of expressiveness corresponds to the degree of integration: Less integrated ideophones are more expressive (Dingemanse and Akita 2017).

(7) *At-issueness*: Ideophones are often non-at-issue or at least less at-issue than corresponding descriptive words. Barnes et al. (2022) show that adverbial ideophones such as *plitsch-platsch* ('splish-splash') in German make a similar meaning contribution as co-speech gestures and are less at-issue than corresponding conventionalized adverbials: Both contribute non-at-issue information or information which is less at-issue. Note that the degree of at-issueness of ideophones depends on various factors such as the syntactic position, the grammatical function, the conventionalization of an ideophone, the frequency of ideophones in a language and the availability of alternative descriptive expressions. Asiedu et al. (2023) show, for example, that ideophones in Akan are, unlike ideophones in German, equally at issue as conventionalized adverbials. Recall that Akan belongs to the class of 'ideophone languages', which make frequent use of ideophones and where these ideophones are highly conventionalized. Moreover, Barnes et al. (2022) argue that the degree of at-issueness of a particular ideophone in German also depends on frequency and conventionalization, that is, some ideophones in German are more at-issue than others.

We can summarize that ideophones are an open lexical class of conventionalized marked words that depict sensory imagery and typically provide expressive non-at-issue information. The depiction of sensory imagery and the (iconic) expressiveness seem to be two key properties of ideophones in spoken languages. Based on these observations, Barnes and Ebert (2023) argue that ideophones have two meaning components: (i) a conventionalized descriptive meaning component and (ii) an iconic meaning component, which is typically non-at-issue. The second component can be modelled as a gestural demonstration along the lines of Davidson (2015) and Henderson (2016). For the German ideophone *plitsch-platsch*, (i) the first (descriptive) meaning component describes a movement event. (ii) The second (depictive) meaning component adds the non-at-issue information that this movement event is a splashing movement event and that there is a gestural auditory demonstration (the utterance of *plitsch-platsch*), which is similar in the relevant dimensions to the actual movement event the utterance refers to.

So far, we have seen that 'ideophone' is a complex and variable linguistic concept based on at least seven properties. The key property is the depiction of sensory imagery, that is, ideophones are iconic expressions that involve a (context-dependent) gestural demonstration of movement and sound. This depiction of sensory imagery can be modelled as a second (non-at-issue) iconic meaning component which is based on a gestural demonstration. In the next section, we turn to the question whether similar items also exist in sign languages.

3 Ideophones in sign languages?

Linguistic investigations of ideophones in spoken languages have shown that ideophones are attested in many unrelated spoken languages. Even languages like German and English that do not belong to the group of typical 'ideophone languages' have a special class of words which share many properties of ideophones in typical 'ideophone languages'. Since ideophones are used in so many different spoken languages, it is an obvious question whether ideophone-like expressions are also attested in sign languages. Dingemanse (2019), who already discussed this question, did not find evidence that sign languages have a specific class of signs that can be compared to ideophones in spoken languages. In this section, we reexamine this question and argue that sign languages actually do have a corresponding open lexical class of marked expressive signs that depict sensory imagery. As opposed to spoken languages, the depiction in sign languages is, however, obviously not in the auditory but in the visual domain.

We already mentioned in the introduction that sign language counterparts of conventionalized iconic lexical expressions such as ideophones in spoken languages are more difficult to identify. One reason for this is that sign languages have a stronger iconic (gestural) basis than spoken languages – potentially due to the visual-gestural modality sign languages use. Dingemanse (2019: 27) argues that "[v]isible semiotic resources have a broader range of affordances for iconicity, which may make depictions more interpretable even if they veer away from conventionalization." Different kinds of (visual) iconicity are still visible in the grammar and lexicon of sign languages. Very often, phonological features of signs such as handshape, place of articulation or movement as well as nonmanual features are motivated iconically. Likewise, the grammaticalization of prosodic markers (e.g. for topicalization or sentence-types) and inflectional markers (e.g. plural, agreement or aspect markers) can be traced back to iconic gestural origins. And finally, gestural demonstrations play an important role in the expression of spatial relations using classifier constructions or in reported speech and reported action using role shift (Aronoff et al. 2005, Pfau and Steinbach 2011, Meier 2012, Van Loon et al. 2014, Davidson 2015, Strickland et al. 2015, Goldin-Meadow and Brentari 2017, Schlenker 2018, Steinbach 2021).

Let us illustrate the impact of iconicity on sign languages with two examples: lexical iconicity and gestural demonstrations. Consider lexical iconicity first. It has been argued that many conventionalized lexical signs have manual and/or nonmanual iconic properties, that is, the form of these signs is semantically transparent and partly based on (visual) sensory imagery. Consequently, many lexical signs are to a certain degree iconic in many if not all sign languages (Perniss et al. 2010, Taub 2012). Trettenbrein et al. (2021) conducted a norming

study with more than 300 basic signs frequently used in German Sign Language (DGS). In this study, deaf native signers assigned most lexical signs a (surprisingly) high iconic value (between 4 and 7 on a scale from 1 to 7). Hence, most lexical signs used in this study have transparent iconic features which depict sensory imagery, i.e. a key property which is typical for ideophones in spoken languages. However, it is certainly not the case that unmarked conventionalized iconic signs such as, for instance, BOOK and CAR in DGS should be analyzed as ideophones in sign languages. Iconicity is thus a necessary but no sufficient criterion for ideophones.

Second, classifiers and role shift are two prominent examples for constructions that systematically combine (conventionalized) linguistic description with gestural demonstrations to express, e.g., the motion or location of an entity in space or the actions of a protagonist in a narration. Both meaning components can be combined simultaneously in one sign (classifiers) or in a sequence of signs (role shift). Recall that the combination of these two meaning components (i.e. a conventionalized descriptive meaning component and an iconic meaning component which involves a gestural demonstration) is again a typical property of ideophones. And again, clearly we do not want to analyze all instances of classifiers and role shift as sign language counterparts of ideophones.

These two observations (many lexical signs have iconic properties and classifiers as well as role shift involve gestural demonstrations) make the identification of ideophone-like expressions in sign languages more difficult. In the previous section, we have shown that one of the key properties of ideophones is the depiction of sensory imagery. As we have seen, in sign languages, this criterion is not sufficient to distinguish unmarked conventional lexical items from marked expressive items such as ideophones. However, both conventionalized lexical signs and gestural demonstrations in classifiers and role shift lack other properties crucial for the identification of ideophones. On the one hand, conventionalized lexical signs such as BOOK and CAR in DGS are neither marked nor expressive. On the other hand, the depictive gestural demonstrations used with classifiers and role shift are not conventionalized. Therefore, it is important not to focus on the key properties of ideophones alone, but to broaden the perspective and take all properties discussed in the previous section into consideration. In the following, we check whether ideophone-like expressions in sign languages can be identified based on a combination of all seven properties.

Interestingly, there is special class of signs, which has not yet received much attention in sign language linguistics, that seems to share many if not all properties of ideophones in spoken languages. These 'special signs' are usually discussed in the context of sign language teaching and in sign language communities as an important and indispensable part of a competent sign language communication (Konrad 2011).

In the following, we argue that these 'special signs' can – to some extent – be analyzed as the sign language counterparts of ideophones. Four representative examples of 'special signs' in DGS taken from two DGS calendars (Finkbeiner and Pendzich 2019, 2022) are illustrated in Figure 1:

'time flies'   'no chance'

'no idea'   'don't feel like it'

Figure 1: Four still images of idiomatic signs, © Finkbeiner and Pendzich (2019, 2022)

This class of 'special signs' has received different names, depending on which feature the author(s) want to highlight: 'multi-channel signs', 'special signs' or 'Spezialgebärden', 'polyseme', 'Rede-/Gebärdenwendungen' and '(signed) idioms' or 'idiomatic signs' (Brennan 1992, Konrad 2011, 2014 Schütte 2014, Wrobel 2017, Finkbeiner et al. 2023: 191–194). Note that some of these names imply a broader denotation and include signs or phrasal expressions that do not correspond to ideophones in spoken languages as defined in Section 2.

The term 'ideosign' would be a good new technical term, which could be used to highlight the similarities between ideophones in spoken languages and

these 'special signs' in sign languages. However, we decided not to introduce a new term. Instead, we will use the term 'idiomatic sign', which is an already established technical term used by the Deaf community and in the context of sign language teaching to refer to the class of 'special signs'. The main aim of this section is thus to check whether the seven properties discussed in Section 2 also apply to idiomatic signs, i.e. whether idiomatic signs are, like ideophones, an open class of conventionalized marked lexical items (words or signs) that have a depictive expressive meaning component.

(1) *Open lexical class*: Idiomatic signs form an open lexical class which is subject to sociolinguistic variation and open to new additions (Thomas Finkbeiner, p.c.). The DGS dictionary (Kestner 2021) lists 92 idiomatic signs ('allgemeine Idiome/Redewendungen') and the DGS corpus 250 idiomatic signs ('Spezialgebärden') with more than 4.000 tokens (Konrad et al. 2020, Kestner 2021). In addition, sign language communities as well as dictionary and corpus teams have some informal agreement on the core group of idiomatic signs. Not surprisingly, many idiomatic signs can be found in different compilations and publications with the same formal and functional properties.

(2) *Markedness*: Idiomatic signs are marked expressions. They have a marked phonology which is evidenced especially by a lexically specified mouth gesture and a specific gestural facial expression. In addition, idiomatic signs are often propositional stand-alone elements with a complex context-dependent meaning. Note that the names used by sign language communities and teachers already expresses that these signs – like ideophones in spoken languages – are somehow special ('special signs').

(3) *Conventionalization*: Idiomatic signs are conventionalized non-complex lexical items with specific manual and nonmanual features that can be listed in the lexicon and defined on basis of specific grammatical and semantic properties. Like conventionalized descriptive lexical items, idiomatic signs seem to be subject to typological lexical variation.

(4) *Depiction*: Not surprisingly, idiomatic signs have depictive meaning aspects. However, as opposed to unmarked conventional lexical items, the iconic features (especially the iconic nonmanual features) typically contribute an important expressive depictive meaning component. By contrast, with conventional lexical signs, "iconicity seems to play no role in acquisition, recall, or recognition [...] in daily use" (Taub 2012). The iconic properties of BOOK and CAR might have been the gestural basis of the emergence of these signs and signers are still aware of the iconic features (which are still visible in the phonological form of the signs) when asked to rate the iconicity of signs like BOOK and CAR. However, the depictive meaning components are not (necessarily) relevant for the semantic interpretation: These signs simply denote sets of entities without an obvious iconic depiction of size, shape and handling features

of these entities.

(5) *Sensory imagery*: Following Davidson's (2015) theory of demonstration, idiomatic signs can be argued to express a (metaphorical) gestural demonstration of certain aspects of an event including "[...] facial expressions, sentiment and/or gestures" (Davidson 2015). Especially the facial expression and body posture are typical means used in gestural demonstrations (Steinbach 2021, 2023a). Again, for conventional lexical signs, gestural demonstrations are not a relevant aspect of the meaning of these signs. Note that for some idiomatic signs such as the sign illustrated in the left picture in Figure 1 ('time flies'), the gestural demonstration might be motivated by the meaning of spoken languages idioms.

(6) *Expressiveness*: Idiomatic signs have been argued to be particularly expressive (Konrad 2011). They are typically realized with expressive nonmanual phonology (mouth gestures and gestural facial expressions). The specific facial expression, mouth gesture and body posture used in the gestural demonstration seem to trigger intonational and phonational foregrounding of the idiomatic sign (for lexical nonmanuals, see Pendzich 2020). Note that the meaning of idiomatic signs is usually paraphrased and translated into spoken languages with different figurative phrasal expressions.

(7) *At-issueness*: In the previous section, we mentioned that the degree of at- issueness of ideophones depends on various factors such as the syntactic position, the grammatical function, the conventionalization of an ideophone, the frequency of ideophones in a language and the availability of alternative descriptive expressions. Ideophones in Akan are, for instance, more at-issue than ideophones in German. Since idiomatic signs are an integral part of the linguistic system of sign languages and since sign languages frequently integrate gestural demonstrations into the linguistic structure of a sign or sentence, we expect the at-issueness of idiomatic signs to correspond to the at-issueness of ideophones in languages like Akan, that is, idiomatic signs in DGS should be more at-issue than ideophones in German (for a more general discussion, see Steinbach 2023b). However, further empirical studies on the at-issueness of iconic features including sign languages are necessary to decide this issue.

We can summarize that idiomatic signs, like ideophones, are an open lexical class of conventionalized marked signs that (gesturally) depict visual sensory imagery and typically have a strong expressive meaning component. Especially the nonmanual markers (mouth gesture and facial expression) contribute expressive meaning. As opposed to conventional lexical signs, these marked expressive features are an integral part of the meaning of idiomatic signs. The figurative gestural demonstration enters the semantic representation of these signs. Therefore, idiomatic signs cannot be replaced by semantically equivalent conventional signs without a loss of meaning and expressive power.

Because of these similarities, the semantic analysis of ideophones sketched

in the previous section can also be applied to idiomatic signs (Steinbach 2023b). Like ideophones, idiomatic signs have two meaning components: (i) the conventionalized meaning of the sign and (ii) the expressive meaning of the gestural (iconic) demonstration. For the idiomatic sign illustrated in the third picture in Figure 1 (i.e. the ideophone with the meaning 'no idea'), the first (descriptive) meaning component (i) describes a specific mental state. The second (depictive) meaning component (ii) adds the information that this mental state involves lack of knowledge and that there is a gestural demonstration by the dominant hand and the facial expression which is similar in the relevant dimensions to this mental state.

The second meaning component is what makes idiomatic signs special. Unlike classifiers and role shift, the gestural demonstration is a conventionalized (lexically specified) part of the sign. And unlike conventionalized lexical signs, iconic features enter the semantic representation as part of a gestural demonstration.

4 Modality and demonstration

So far, we have argued that both modalities obviously have an open class of conventionalized marked expressions that combine a descriptive with a depictive expressive meaning component. The iconic features are, however, not sufficient indicators for this special class of signs in sign languages. Nevertheless, the specific expressive status of the depictive features and the iconic enrichment triggered by the corresponding (conventionalized) gestural demonstration distinguishes conventionalized lexical signs from idiomatic signs. Only idiomatic signs involve a lexicalized gestural demonstration that triggers an iconic enrichment. In addition, we indicated that we can provide a modality-independent semantic analysis for marked expressive words (i.e. ideophones) and marked expressive signs (i.e. idiomatic signs) which is based on the distinction between two different meaning components: (i) a conventionalized descriptive meaning and (ii) an iconic meaning involving a gestural demonstration. Note finally, that the second meaning component is a conventionalized part of the meaning of idiomatic signs. Unlike classifiers and role shift, idiomatic signs combine a descriptive meaning component with a fully conventionalized gestural depiction.

The conventionalization of the iconic meaning component provides evidence for a process of lexicalization of gestural demonstrations in spoken and sign languages (for sign languages, see also Cormier et al. 2012). Ideophones and idiomatic signs can be located somewhere in the middle on a continuum from fully lexicalized items to open non-linguistic gestural demonstrations. Unlike free gestural demonstrations in sign language role shift or iconic co-speech

gestures in spoken languages, the gestural demonstration in ideophones and idiomatic signs is lexically specified and thus a conventionalized component of the meaning of these marked expressions. Unlike conventionalized unmarked lexical expressions like 'book' in English or воок in DGS, this iconic meaning component is an important part of the semantic representation of ideophones and idiomatic signs. Expressions like 'book' or воок are, in contrast, either completely arbitrary or involve iconic features which do not trigger any kind of iconic enrichment.

In this article, we have argued that ideophones and idiomatic signs involve a component of demonstration and iconic enrichment, which yields expressive meaning and which is less at issue by default. We believe that it is a universal property of language to make use of expressive depictive means, which can be conventionalized into lexical expressions. And this, we argue, is the case for ideophones in spoken languages as well as idiomatic signs in sign languages.

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