

Analogy-making in the Semai Sensory World

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ABSTRACT In the interplay between language, culture, and perception, iconicity structures our representations of what we experience. By examining secondary iconicity in sensory vocabulary, this study draws attention to diagrammatic qualities in human interaction with, and representation of, the sensory world. In Semai (Mon-Khmer, Aslian), spoken on Peninsular Malaysia, sensory experiences are encoded by *expressives*. Expressives display a diagrammatic iconic structure whereby related sensory experiences receive related linguistic forms. Through this type of form-meaning mapping, gradient relationships in the perceptual world receive gradient linguistic representations. Form-meaning mapping such as this enables speakers to categorize sensory events into types and subtypes of perceptions, and provide sensory specifics of various kinds. This study

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illustrates how a diagrammatic iconic structure within sensory vocabulary creates networks of relational sensory knowledge. Through analogy, speakers draw on this knowledge to comprehend sensory referents and create new unconventional forms, which are easily understood by other members of the community. Analogy-making such as this allows speakers to capture fine-grained differences between sensory events, and effectively guide each other through the Semai sensory landscape.

KEYWORDS: language of perception, expressives/ideophones, iconicity, analogy, Semai

Application and classification of a label are relative to a system; and there are countless alternative systems of representation and description.

Goodman (1976: 40)

Introduction



How do we, through language, interact with the perceptual world? How do we represent and structure our sensory experiences? And how do we capture similarity between sensory experiences?

This article discusses the use of iconic structures in the linguistic representation of the sensory world. Iconic structures have been demonstrated to provide an important principle for the way in which we humans organize and represent the world. However, the role that this organizing principle plays in the interplay between language and the human sensorium is less explored. The current study investigates such structures in the interface between language and the sensory world.

A particular group of words is in focus, namely *expressives*; vocabulary specialized for encoding sensory perception. The sensory *culture* in focus is that of the Semai, an ethnolinguistic minority group of Peninsular Malaysia. The Semai total around 30,000 people and live in scattered settlements in the mountainous interior of the peninsula, areas covered by dense tropical rainforest. Most communities subsist on a combination of agroforestry, hunting and fishing, and trading of forest products (Dentan et al. 1997). Semai is an Aslian language, related to the Austroasiatic language family of mainland Southeast Asia.

Expressives

In Semai, sensory perception is typically encoded by a distinct class of words referred to as *expressives* (Diffloth 1976). Together with

a number of other languages in the world, Semai has developed a distinct category of words devoted to describing sensory phenomena (cf. Voeltz and Kilian-Hatz 2001). Expressives typically package multiple aspects of a sensory event into a single word. Until recently, expressives have rarely been incorporated in dictionaries and language descriptions, as they have been considered to hover somewhere between extra-linguistic material and “real” language. Fortunately this attitude is now changing, enabling more in-depth studies of sensory perception and the language–culture interface. Cross-linguistically, expressives are also known as *ideophones* or *mimetics* (cf. Dingemanse, this issue).

Semai expressives often display special sound patterns that set them apart from other classes of words in the language, and make them acoustically marked. They are also exceptionally rich in meaning and capture various aspects of a sensory event, such as multiplicity of an experience: *cnarum* ‘sound of multiple water splashes’; spatial distribution: *kduckdec* ‘experience of bitter smells from various places’; or temporal information: *gsa:csa:c* ‘experience of a continuous coarse feeling on the skin.’ In addition, expressives often capture one’s experience of other people, for example their physical features: *cidūʔcidēʔ* ‘impression of a short, chubby person, tilting from one side to another when walking’; their character: *ləlɪʔt* ‘the experience of annoyance due to continuous irritating behavior from a person with importunate demands for attention’; or intention: *laʔor* ‘impression of someone strolling in a carefree manner, eager to make contact with people.’ These examples demonstrate how Semai expressives represent first-hand experiences of sensorial events, be it the way something is seen, felt or interpreted (cf. Diffloth 1976). Speakers convey their *own* personal impressions and are able to fine-tune their expressives to reflect their specific qualia. The most productive and creative fine-tuning strategy is provided by the iconic structure of expressives.

Perceptual Variation and Relatedness in Semai Expressives

Semai expressives display a distinct type of iconic mapping between form and meaning of words. The base of an expressive is typically a string of consonants that serves as a template. This template provides information on a type of perceptual notion, or quality, and functions as a sensory-referential basis. Templates can, for example, encode a type of color quality, a type of odor or a particular sound quality. Inside the consonant string is an open slot into which speakers insert various vowels. These vowels provide specifics to the type of perceptual quality set by the template, e.g. a specific hue for colors, the perceived intensity level of an odor, or the perceived pitch or loudness level for a sound. This template and vowel structure is exemplified in Table 1, using an expressive for a type of acrid odor for which the various vowels indicate different odor intensities.

Table 1 Expressive template and vowel structure exemplified.

<i>gh__p</i>	'acid odor'
<i>ghu:p</i>	'acid; neutral'
<i>gho:p</i>	'acid; intense'
<i>ghɔ:p</i>	'acid; very intense'

The consonant template with its vowel variants all share a common perceptual core; a type of acrid odor. Vowel alternation captures different levels of perceived intensity; a neutral, intense, and very intense sensation. Expressive templates usually have two to five established variants, commonly used by most speakers in the community. As we shall see, speakers can modify variants in order to adjust their depictions of sensory experiences. Although there appear to be some regularities in the function of vowel qualities across templates, choice of vowels and their functions is typically tied to a template. Within each template, the greatest perceptual difference is typically captured by vowels that are acoustically most different. As in the example of *gh__p*, where *ɔ* is acoustically more different to *u* than it is to *o*.

In the example in Table 1, gradient perceptual relationships receive gradient linguistic representations. Form-meaning mapping such as this creates a perceived likeness between form and meaning, as similar meanings receive similar word forms. The form of the individual words themselves is not motivated by an inherent likeness to their meanings. For example, there is no natural likeness or direct iconic relationship between the term *ghoop* and its meaning 'acid odor; intense.' Nor between the term *ghɔpp* and its meaning 'acid odor; very intense.' What we see in Table 1 is rather an instance of diagrammatic, or second-order, iconicity, where likeness between form and meaning is driven by the aligning of similar forms with similar meanings (Peirce 1955: 104). The variant forms of an expressive side with sensory perceptions of similar kinds and through analogy they capture parallels across sensory situations (cf. Gentner 1983).

The diagrammatic iconic structure is a powerful device for expressing sensory gradience in Semai, and allows for great lexical elaboration of sensory terms. Below I present how speakers fine-tune their reference to sensory experiences by making use of this structure. I focus on the sensory domains of color, smell, and sound, in which this analogous mapping is found to be particularly productive.

Color

Semai speakers routinely use some eight expressives templates to refer to colors. These terms are abstract in their referential value, and can be used to refer to the color of any object (Berlin and Kay 1969).

With a diagrammatic structure at hand, speakers expand their eight-term system and capture the diversity of colors in their environment.

A color template typically encodes a *type* of color, while the alternating vowels convey differences in hue and/or brightness of the established color type. For example, the template *ch__r* encodes a ‘reddish’ color quality (see Table 2). Its associated alternating vowels correspond to differences in hue, yielding ‘orange-red,’ ‘purple-red,’ and ‘brown-red.’ The template *brʔ__l* encodes both ‘blue’ and ‘green,’ a color term known as ‘grue.’ Its associated vowel alternation encodes change in brightness (see Table 2).

Table 2 Expressive templates of ‘reddish’ and ‘grue’ colors.

<i>ch__r</i>	‘reddish’	<i>brʔ__l</i>	‘grue’
<i>che:r</i>	‘orange-red’	<i>brʔa:l</i>	‘lighter grue’
<i>chɛ:r</i>	‘purple-red’	<i>brʔɛ:l</i>	‘darker grue’
<i>chɪ:r</i>	‘brown-red’		

The main function of vowel alternation in color expressives is indeed to capture differences in brightness or hue. Sometimes vowel change carries both functions within one and the same template. This is the case in *blʔ__k*, which encodes a ‘dark quality’ of colors, i.e. a low level of brightness. Here, vowel change captures a ‘dark’ versus ‘darker’ distinction *within* one type of color, and also dark variants *across* different types of colors, yielding six variants of the same expressive. This is presented in Table 3, where the brightness difference is depicted vertically while the hue difference is organized horizontally.

Table 3 Expressive template of ‘dark’ colors.

<i>blʔ__k</i>	‘dark’				
<i>blʔik</i>	‘gray’	<i>blʔɛk</i>	‘rust-brown’	<i>blʔuk</i>	‘dark purple’
<i>blʔak</i>	‘black’	<i>blʔɪk</i>	‘darker rust-brown’	<i>blʔɔk</i>	‘darker purple’

Smell

Reference to olfactory perception is common among the Semai. Speakers frequently use odor terms to characterize their immediate sensory context (cf. Burenhult and Majid, this issue, for discussion on odor terms in other Aslian languages). In addition to the encoding of specific types of odors, most terms also provide evaluative information. The majority of expressives refer to unpleasant odors, while terms encoding distinct pleasant odors are rare.

Of the twenty-five or so odor terms in frequent use, about fifteen display a template structure. The function of templates and vowel

alternation in the color domain is mirrored in the smell domain; templates encode a type of odor, and vowel alternations capture perceptual gradience. In the earlier example of *gh__p* ‘acidic odor,’ we saw that vowel alternation indicates differences in intensity level. In the case of *pŋ__s*, a ‘musty odor,’ the variant vowels do not indicate intensity differences, but rather related variants of the specific odor quality established by the template (see Table 4). In other templates, a vowel change appears to capture both related variants and information on odor intensity. This is the case of *sʔ__k*, a ‘rank odor’ (see Table 4).

Table 4 Expressive templates of odors.

<i>pŋ__s</i>	‘musty’	<i>sʔ__k</i>	‘rank’
<i>pŋēs</i>	‘of dirty bird plumage’	<i>sʔē:k</i>	‘of onion; unwashed hair’
<i>pŋūs</i>	‘of mold; wet fur’	<i>sʔĕ:k</i>	‘of rancid fish/meat’
<i>pŋōs</i>	‘of stale rice’	<i>sʔū:k</i>	‘of rotten animal’

Sound

Expressives used for sounds capture various acoustic phenomena of the Semai soundscape. Most commonly they encode sounds of the natural acoustic environment such as of the weather, the forest, human and animal activity, or various types of water sounds. In sound expressives, vowel alternation commonly encodes differences in perceived pitch and/or loudness for the type of acoustic quality set by the template. By encoding such differences, sound expressives provide acoustic knowledge which allows speakers to calibrate spatial distance and navigate surrounding environment. In *ch__s*, typically used for a type of ‘roaring sound’ from waterfalls, the vowel change captures differences in perceived pitch and loudness. This difference is often used by speakers to provide information on size of a waterfall (see Table 5). In *gr__p*, used for a type of ‘crispy sound,’ vowel change captures related types of ‘crispy-soundingness,’ from eating foods of different sorts (see Table 5).

Table 5 Expressive templates of sounds.

<i>ch__s</i>	‘roaring sound’	<i>gr__p</i>	‘crispy sound’
<i>chɔ:s</i>	‘of small waterfalls’	<i>grɛ:p</i>	‘of chewing fruit’
<i>chu:s</i>	‘of large waterfalls’	<i>gra:p</i>	‘of chewing crisps’
		<i>grɪ:p</i>	‘of chewing cassava’

Sensory Analogies

The iconic diagrammatic nature of Semai sensory vocabulary provides a basis for categorization of sensory perceptions into

types and subtypes. This categorization enables Semai speakers to efficiently identify and communicate subtle as well as substantial differences among sensory perceptions. With the mapping of similar perceptions to similar forms, speakers categorize related sensory experiences as belonging to *one* sensory category; e.g. *brʔa:l* and *brʔɛ:l*, which both belong to the color category of *brʔ__l* ‘grue’; or *pŋɛs* and *pŋŭs*, both variants of a ‘musty odor.’ When two sensory terms do not display a common form, they appear not to share an obvious perceptual core and are not members of the same sensory category; for example ‘orange-red’ *che:r* versus ‘light grue’ *brʔa:l*; or a ‘musty, stale odor’ *pŋɔs* versus a ‘rank, rotten odor’ *sʔŭk*.

As we have seen in the examples above, the sensory framework of a category is set by the template. Members within a category align and create a perceived motivation between form and meaning. Once a category-specific alignment is established, the diagrammatic structure allows speakers to generate new members of the set. Frequently in spontaneous speech, speakers draw on these established alignments and add new members to a sensory category. Take for example the template of ‘grue’ *brʔ__l*. In addition to the more established variants *brʔa:l* and *brʔɛ:l*, speakers have been found to expand this category with *brʔu:l*, to express an even darker variant of ‘grue.’ This is not a conventionalized member of the set and would not necessarily be used by all speakers in the community. However, when used, listeners follow the speaker’s intended meaning and can place the sensory referent within the established system of terms (see Table 6). Another example of category expansion is found in spontaneous usage of the auditory term *kl__k*, a type of ‘clucking/gurgling sound’ common of water bubbles or raindrops. Only the variants *kluk* and *klok* are more conventionalized members. However, *klɛk* has been recorded to depict similar water sounds. This form is automatically understood by listeners to capture the sound of particularly small bubbles or raindrops (see Table 6).

Table 6 Expansion of sensory categories.

<i>brʔ__l</i>	‘grue’	<i>kl__k</i>	‘gurgling sound’
<i>brʔa:l</i>	‘lighter grue’	<i>klɛk</i>	‘of even smaller bubbles’ ←
<i>brʔɛ:l</i>	‘darker grue’	<i>kluk</i>	‘of smaller bubbles’
<i>brʔu:l</i>	‘even darker grue’ ←	<i>klok</i>	‘of larger bubbles’

When creating new or less conventionalized forms such as these, speakers utilize the inherent structure of the sensory category. Drawing on already established relations, speakers transfer their sensory knowledge from one situation to another and place the meaning, carried by a novel form, in relation to more established members. Through analogy speakers link a linguistic representation

to a reference in the sensory world, and immediately know sensory specifics of that reference. With this possibility for lexical elaboration, speakers tailor the sensory vocabulary to fit their qualia, specific to person and context.

Diagrammatic Iconicity in Cultural Practice

Diagrammatic iconicity is found in various areas of human culture; in ritual performance, material culture, social structures, language, etc. (Mannheim 1999). It is a resource available to structure our representations of, and interaction with the world, and enables us to express relatedness among events and situations.

Studies on drumming performance among the Kaluli on Papua New Guinea show how the structuring of musical sounds is iconic to social interaction (Feld 1988, 1991). In a Kaluli cultural context, drum sounds represent spirits, and when played the sounds establish social relationships between listeners and the spiritual world, which then evoke emotional states in the listeners. Drum sounds vary in pitch and rhythm, variations that represent different social relationships. The internal relations among the sounds, with regards to pitch and rhythm difference, align with differences in emotional states. A diagrammatic structure is constructed, where acoustic differences are analogous to differences in social relations and emotional states.

In Belau, a Micronesian society in the western Pacific Ocean, diagrammatic icons play an important role for the cultural coding of social activity (Parmentier 1985). Different types of social relations display different diagrammatic structures, which organize social activity differently with regards to social division and hierarchy. These organizing structures have been said to provide distinct cognitive templates for the way in which people structure their social activity and interaction with others.

Studies focusing on the interplay of language and culture have argued that language itself provides structures for culture-specific behavior and activity – that language, in fact, creates systems that uphold distinct ways of interaction with the world and with others (Silverstein 1976). In the two examples above, we see how iconic diagrammatic structures are used to organize non-linguistic representation and interaction with the world; in ritual performance (Kaluli) and in social structuring of society (Belau). In the same way, linguistic iconic diagrams can provide a distinct organizational structure for sensory representation and human interaction with the sensory world, as seen in Semai expressives.

Conclusion

Language provides means for depicting and sharing our sensory perceptions with each other. Language also serves as an organizing tool when we structure our representations of what we experience. Illustrated with Semai expressives for color, odor, and sound, this

study shows how linguistic structures map onto sensory structures in a diagrammatic iconic way. The use of diagrammatic icons provides an interface between language and the sensory world, where gradient perceptions receive gradient linguistic representations. The iconic structure also provides a basis for sensory categorization, where perceptions are organized into types and subtypes, automatically indexing larger or smaller differences between sensory experiences.

In a diagrammatic system of sensory representation, related sensory experiences bundle together in networks of related terms, networks that speakers easily draw on to expand their sensory lexicon and understanding of sensory referents. These connective systems of perceptual knowledge are a kind of analogy-making among sensory events and constitute an interplay between the Semai language and the sensorium in the Semai sensory world.

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