

Workshop

## **Towards a Typology Olfactory Expressions**

at the 49th Annual Meeting of the Societas Linguistica Europaea

31 August - 3 September 2016

University of Naples Federico II, Naples, Italy

### WORKSHOP CONVENORS

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### WORKSHOP DESCRIPTION

Cultural contexts and social environments often determine the vocabulary as well as the development of particular morpho-syntactic patterns leading to a linguistic variation and diversity across languages. A heterogeneous realization of a single linguistic category can also be observed with regard to the linguistic encoding of olfaction, which we would like to focus on in this workshop. The received wisdom has it that the terminology of olfactory expressions is generally poorly developed in Indo-European languages (cf. Cain 1979, Lawless & Engen 1977, Engen 1987, Wnuk & Majid 2014, among many others). Recent typological research, in turn, shows that a much richer vocabulary and morpho-syntactic templates describing various odors exist in Non-Indo-European languages, cf. Burenhult & Majid (2011), Majid & Burenhult (2014), Tufvesson (2011) for Aslian languages, Lee (2010, 2015) for Formosan languages, Blench & Longtau (1995), Hombert (1992) and Van Beek (1992) for different languages spoken in Africa, to name but a few. In the recent two decades, comparative approaches to odor terms identification and categorization have gained more attention, as well, cf. e. g. Ayabe-Kanamura et al. (1998) for Japanese and German, Ibarretxe-Antuñano (1997) for Basque, English and Spanish or Staniewski (2013) for German and Polish. However, despite the increasing number of descriptive and comparative works a typological account of odor terms unifying their linguistic diversity is still missing.

The main objective of this workshop is thus to promote the discussion on olfactory expressions across typologically (un)related languages and, simultaneously, to figure out to what extent the linguistic diversity of odors can be brought down to a common typological denominator. The discussion is expected to provide new insights into how olfactory language systems work in general and to show to what extent they are determined by culture-specific factors.

Topics for the workshop include, but are not limited to, the following questions:

- ⇒ What is the relationship between odor perception and odor language? Do they constitute completely independent systems? To what extent does olfactory language reflect olfactory psychophysics?
- ⇒ What role do culture-specific factors play in forming olfactory categories in language (cf. Classen 1992, Low 2005)? How strong does the olfactory vocabulary depend on ethnobiological knowledge, in particular in indigenous and in non-literate communities?
- ⇒ Are we able to identify so-called basic odor terms, as has been proposed by Berlin & Kay (1969) with regard to color terms (cf. Holz 2005, 2007)? What could be deemed to be their typical hallmarks?
- ⇒ How is the smell lexicon structured? What role do these structures (e.g. reduplications) and/or templates tell us about olfactory perception? How can olfactory gradience be expressed? Do olfactory expressions apply across multiple sensory domains or are they used exclusively with smell? Are smell terms phenomenon-oriented descriptions or do they encode smell qualities irrespective of their sources applying to different classes of objects?
- ⇒ What kinds of dimensions can be identified with respect to olfactory expressions? What role do pleasantness, dangerousness, familiarity, intensity and/or edibility play? To what extent are they related to each other? How do they determine the choice of a particular smell term?
- ⇒ How do olfactory expressions evolve/change? Do they shift from denoting a smell of one particular object to a more general expression (cf. Lawless et al. 1991)? Do olfactory expressions undergo a grammaticalization process and develop into functional signs?

Based on these questions, we would like to bring together scholars working on olfactory expressions from a typological perspective, to broaden our view on their functional as well as formal properties, and - last but not least - to create an international forum focusing on a deeper and better understanding of olfactory expressions, not only in individual languages but also across typologically unrelated languages.

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WORKSHOP SCHEDULE

31st August 2016 (Wednesday)

8:00 - 9:00	Registration	
9:00 - 9:30	Opening session	
9:30 - 10:30	Plenary talk: Martin Haspelmath	
10:30 - 10:55	C o f f e e b r e a k	
Sessions start		
11:00 - 11:25	Workshop convenors	<i>The linguistics of olfaction: Introduction to the workshop</i>
11:30 - 11:55	Åke Viberg	<i>The lexical semantics of olfaction in relation to sensation, perception and cognition in general (plenary talk)</i>
12:00 - 12:25	Seongha Rhee	<i>Lexicalization patterns in olfactory expressions in Korean</i>
12:30 - 12:55	Kate Bellamy	<i>Let me count the ways it stinks: Olfactory language in Purépecha</i>
13:00 - 14:25	L u n c h	
14:30 - 14:55	Teresa Oliveira	<i>How fishy does it smell when it smells fishy? A study on the Portuguese olfactory verb cheirar</i>
15:00 - 15:25	Francesca Strik Lievers & Eleonora Sausa	<i>Smelling over time. The lexicon of olfaction from Latin to Italian</i>
15:30 - 15:55	Iraide Ibarretxe-Antuñano	<i>Smell in Basque: Linguistic resources, meaning, motivation, and usage</i>
16:00 - 16:25	Amy Pei-Jung Lee	<i>A cognitive typology of olfactory expressions in Formosan languages</i>
16:30 - 16:55	C o f f e e b r e a k	
17:00 - 17:25	Workshop convenors	Concluding remarks + proceedings

**The lexical semantics of olfaction  
in relation to sensation, perception and cognition in general**

Åke Viberg, Uppsala University

This presentation takes Viberg (2015) as a point of departure and looks at the place of olfaction in the sensory vocabulary in general. Figure 1 presents a simple grid for verbs.

	Experiencer-based		Phenomenon-based		
Sense modality	Activity	Experience	Sensory copulas	Perceptibility verbs	Sensory verbs
NEUTRAL	examine	perceive notice	seem	be noticeable	
SIGHT	look at	see	look	be visible	shine-shimmer- glimmer-gleam-glitter- glint- glisten-flash...
HEARING	listen to	hear	sound	be audible	crack-creak-rattle- crash; sough-surge- buzz...
TOUCH	feel touch	feel	feel		tickle-abrade-tingle- sting-burn-smart...
TASTE	taste	taste	taste		
SMELL	smell (at) sniff	smell	smell		stink reek

**Figure 1.** The verbs of perception in English. A simple grid.

Canonical verbs of perception like *look/ see* and *listen /hear* obligatorily take an Experiencer as subject and refer to specific sense modalities. In English, the Experiencer is optional with Sensory copulas: *Peter looks happy (to me)*. Perceptibility verbs do not really exist in English but are verbs in Finnish and Swedish (e.g. *synas* ‘be visible’). Sensory verbs describe a relatively “raw” sensation without introducing an Experiencer explicitly. A typological comparison requires the inclusion of sensory adjectives and nouns. Several types of hierarchies have been proposed to account for lexicalization and associations between meanings within the field. Viberg (1983) presented a universal sense modality hierarchy for the lexicalization of (canonical) perception verbs (see Aikhenvald & Storch 2013, Maslova 2004 and San Roque et al. 2015 for discussion and critique). Strik-Lievers (2015) presents a new perspective on synesthetic associations. Perception verbs – in particular SEE and HEAR – have a tendency to develop cognitive meanings such as ‘understand’, ‘know’ and ‘think’ and diachronically shift into cognitive verbs that refer to thoughts and reasoning without referring to a specific sense modality (Evans & Wilkins 2001, Vanhove 2008). *Smell* has some cognitive uses (*smell treason*) but only one language (Luwo) has so far been identified with a strong association between SMELL and KNOW (Storch 2013). As for sensory verbs (and adjectives), variation appears to be less predictable. Like many European languages, English has a large number of light- and sound verbs, but few specialized verbs for taste and smell. However, these domains

are richly elaborated in some non-European languages, see Nkagawa for taste verbs in Khoe languages and Majid & Burenhult (2014) for smell in Jahai. In addition to studies of “the five senses”, there are also typological studies of more specific domains such as color, temperature (Koptjenskaja-Tamm 2015) and pain (Reznikova et al. 2012). Studies of the sensory vocabulary in general will help us to answer questions such as what kinds of semantic dimensions (features) are specific for olfactory words and which are shared with other types of sensory words.

A few comments related specifically to olfaction and to the abstracts. (I will elaborate more on this in the oral presentation).

- To what extent is it meaningful to talk about basic odor terms and what makes a term basic? (frequency, codability, shortness, single morpheme; source rather than target of semantic extensions; semantic generality (basic level): see >spot, listen > eavesdrop)
- To what extent do we find canonical perception verbs referring only to smell? In some languages evaluation appears to be obligatory: smell=good/smell=bad. To what extent can a clear distinction be made between taste and smell? Are good taste and bad smell unmarked?
- Are there languages with an elaborate set of activity verbs referring to smell (cf. the troponyms of look > stare/peer...)
- What are the major semantic dimensions distinguishing sensory words for smell? (evaluation, intensity, prototypical substances/objects (smoke, flowers), qualia?) Lee adds (im)politeness as an important dimension in Formosan languages.
- Semantic extensions (metonymy, metaphor). Smell as a source and target domain. The development of cognitive meanings are discussed in contributions by Oliveira (Portuguese), Ibarretxe-Atunano (Basque) and Strik Lievers & Sausa (from Latin to Italian). SEE or HEAR functions as the source of KNOW in many languages. What type of cognitive meanings tend to develop from SMELL? Lee discusses smell as a source domain of other sensory modalities and emotion in Formosan languages. Across languages, different sense modalities serve as the source for Pain. Is smell a possible source?

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## Lexicalization Patterns in Olfactory Expressions in Korean

Seongha Rhee (Hankuk Univ. of Foreign Studies)

Korean has arguably one of the richest inventories of olfactory terms across languages. Lexicographers list a large number of terms expressing odors across nominal, adjectival and adverbial categories. For instance, Nam (1992) lists 156 olfactory expressions and Paek (2012) lists 75 nouns that denote odor names. A consolidated list shows 206 olfactory terms.

In the nominal category of 75 terms, the dominant naming strategy is derivation with the nouns *nay* and *naymsay*, both denoting ‘odor,’ in compounding (e.g. *hulk-nay* ‘dirt-smell,’ *phwul-naymsay* ‘grass-smell,’ morphologically decomposable but treated as monolexemic) or univertation of a modifier-noun construction (e.g. *pilin-nay* ‘fishy-smell,’ *nwulin-nay* ‘burnt-fat-smell,’ also treated as monolexemic).

A far more intriguing state of affairs is observed with respect to adjectival and adverbial categories. In lexicalizing olfactory sensation, diverse strategies are recruited. Sound symbolism is among the most determinative factors, one of the widespread constraints of vowel harmony in word formation in general, often invoking the notion of ‘positive’ vowels (a, o, æ, and diphthongs involving them) and ‘negative’ vowels (ə, e, u, and diphthongs involving them). As a general principle, positive vowels are associated with describing small, delicate, and bright objects, whereas negative vowels, with big, crude, and dark objects (Koo 2007, Rhee 2016). Sound symbolisms operative in olfactory naming may be summarized in part as follows (*italics* to represent sounds):

- (a) positive vowels for sharper sensation vs. negative vowels for more blunt sensation  
e.g. *gosoha-* vs. *gusuha-* ‘oily and cheesy (agreeable)’
- (b) phonetic extension to invoke the sense of extended duration of the sensation by way of suffixing *-tabunha-*, *-taptapha-*, *-təbunha-*, *-təptəpha-*, *jigunhaha-*, etc.  
e.g. *guritəbunha-* ‘lingering stinking smell coming from feces, etc.’
- (c) reduplicative suffixation to invoke the sense of extended duration and repeated sensation.  
e.g. *biritbiritha-* ‘lingering fishy smell coming from a dead fish, etc.’

An investigation into the olfactory naming patterns in Korean reveals an iconic relationship between the perceived state of affairs in the world, i.e. olfaction, on the one hand, and the linguistic forms, on the other, with intricate application of elaborate sound symbolism, which also suggests olfactory-visual-auditory synesthesia in olfaction lexicalization (cf. Rhee 2016 for a similar state of affairs in the color lexicalization domain). Since the sound symbolism involving vowel polarity and reduplication has such a robust representation in the minds of the native speakers, when newly coined olfactory terms are encountered, they can correctly conceive of the odors denoted by the neologism without trouble. Thus olfactory lexicalization is a productive derivational process which borders on, and sometimes blends into, other related perceptual domains such as auditory perception, color perception, tactile perception, depth perception, value judgment, etc. Equipped with such a rich and elaborate derivation system, Korean has a paradigm of extraordinarily fine-grained olfactory terms that defy faithful translation into other languages. The lexicalization pattern of olfactory lexicalization in Korean is a cross-linguistically unique idiosyncratic feature in terms of its productivity and far-reaching effects across diverse grammatical categories.

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## Let me count the ways it stinks: Olfactory language in Purépecha

Kate Bellamy, Leiden University Centre for Linguistics

Friedrich (1971, 1984) was the first scholar of Purépecha (isolate, Mexico) to notice that the language possesses an unusually large number of terms meaning ‘to stink’, yet until now this observation has slipped under the radar of olfactory language researchers. In this paper I aim to fill this gap by offering a preliminary classification of odour terms in Purépecha, thereby also expanding our typological understanding of the morphosyntactic properties and domains of reference for these specific smell terms. To do so, I draw on data from Friedrich’s published and unpublished materials (idem.; Friedrich, unpublished), a late 16<sup>th</sup> century dictionary (Warren, 1991) and my own fieldwork data from 2014 and 2015, gathered using the language of olfaction elicitation kit (Majid, 2007) and interviews.

On the basis of these sources I have identified three types of smell terms in Purépecha: (i) basic or evaluative terms (following Berlin & Kay, 1969), (ii) descriptive terms, and (iii) source terms (cf. Lee, 2015). Basic (evaluative) terms in Purépecha comprise roots that refer to a hedonic odour statement such as ‘to stink’; to form a grammatical smell term the root must be reduplicated and followed by specific smell morphology, the “spatial couplet” (Friedrich, 1971: 71) of *-jku* and *-ndi*, which then provides a range of odour meaning (1-2). I have identified ten such terms, nine of which have negative associations and whose prototypical sources I will present in this talk.

- (1) **kiní-kiní-jku-ndi**  
**stink-RD-LOC-LOC**  
‘to stink (from body dirt, especially of unwashed person)’
- (2) **jió-jió-jku-ndi**  
**smell.bad-RD-LOC-LOC**  
‘to have a bad smell’

Descriptive terms can also take the “spatial couplet” morphology<sup>1</sup> in order to indicate that the quality or property designated by a given root is being smelled, as opposed to tasted or otherwise apprehended (3-4). The root of these terms is also reduplicated, but the reference to smelling is derived from the entire construction rather than being inherent to the root *kurú-* ‘burn’ or *te-* ‘sweet’. Reduplication is also not obligatory in this case.

- (3) **kurú-kurú-jku-ndi-ni**  
**burn-RD-LOC-LOC**  
‘to smell badly, like buzzard, burnt feathers, unwashed old man’
- (4) **te-te-jku-ndi-ni**  
**sweet-RD-LOC-LOC-INF**  
‘to smell sweet’

Source terms indicate the object that emits said odour (5-6), and are often introduced with the generic smell verb whose root is *já(ku)-*. They do not take any specific smell-related morphology, unlike types (i) and (ii).

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<sup>1</sup> More generic property concept terms such as *purhuani* ‘to boil, boiled’ were also used to describe smells in this category, but show no spatial couplet morphology.

- (5) i isk'u urhusī-ni jaku-n-sīn-ti  
 and so type.of.plant-OBJ smell-HAB-PROG-3.DECL  
 'And this one smells like *urhusīni* (type of plant)'
- (6) chkari-ni jaku-ni  
 wood-OBJ smell-INF  
 'It smells (like) wood'

Type (iii) responses comprised the overwhelming majority of responses to the language of olfaction kit stimuli (84%), with type (ii) constituting the remainder. This may indicate that type (i) is falling into obsolescence under the influence of bilingualism with Spanish, and/or a disconnect between the culturally salient and target odours in the stimuli. Nonetheless, the observed propensity for negative hedonic smell terms in Purépecha supports the notion that foul odours are more consciously salient than pleasant ones (Burenhult & Majid, 2011).

## References

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**How fishy does it smell when it smells fishy?**  
**A study on the Portuguese olfactory verb *cheirar***  
Teresa Oliveira (CLUNL, FCSH, Universidade NOVA de Lisboa  
and Polytechnic Institute of Portalegre, Portugal)

The expression of olfactory perception in Portuguese makes use mainly of one verb, *cheirar* ('smell'). This is predicted by Viberg's (1983) sense-modality hierarchy of the verbs of perception, which postulates differences in linguistic representation, according to cultural and cognitive relevance attributed to each of our five senses. Thus, verbs of modalities higher in the hierarchy –Sight > Hearing > Touch > {Smell, Taste–enjoy a greater frequency in usage, show a higher degree of polysemy, and tend to be lexically more varied. As smell occupies a lower place in the hierarchy, it is usually under-represented in Indo-European languages, as it is the case in Portuguese. The verb *cheirar* is used as both subject-oriented and object-oriented: in the first case, it expresses intentionality (*A Maria cheirou as flores*, 'Mary smelled the flowers'); in the latter, it may encode either an evaluation or an inference. Evaluation is usually based on perception (*A sopa cheira a alho*, 'the soup smells of garlic'), while inference is based on cognitive evidence, with no physical perception involved. In this case, the link between knowledge and perception is understood as metaphorical transposition (cf. Sweetser 1990), and it is linguistically materialised in idioms such as *cheira a esturro* ('it smells fishy').

This paper proposes to make a thorough description of the verb *cheirar*: the syntactic constructions in which it occurs, the idioms it enters, as well as the inferential, metaphorical and subjectivity values involved. It is also intended to draw the path of linguistic change this verb underwent, from denoting olfactory perception to expressing cognitive reasoning, and finally, to explore how its occurrence in contemporary idioms may reinforce the hypothesis that this verb presents evidence of a process of grammaticalization in progress. In order to understand the functioning of *cheirar*, this study proceeds to corpora research and analysis: diachronic data is supported by historical corpora (mainly, CIPM, Tycho Brahe and CLP); the analysis of contemporary occurrences makes use of corpora compiled under the Linguateca project.

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## Smelling over time. The lexicon of olfaction from Latin to Italian

Francesca Strik Lievers (University of Milano-Bicocca)

and Eleonora Sausa (University of Pavia)

Recent years have witnessed an increasing interest in the linguistic expression of olfaction. On the one hand, anthropological studies have described cultures that attribute to the sense of smell a more important role, compared to Western culture (Classen *et al.* 1994). On the other hand, linguists are bringing evidence that a higher cultural status of smell tends to be mirrored by a richer and more complex olfactory lexicon (Majid & Burenhult 2014).

Studies in sensory anthropology show that the relative importance of a sense within the sensorium can vary not only across cultures and space, but also over time (see, for instance, the book series *A Cultural History of the Senses*, Bloomsbury). Within Western culture, for instance, the increasing role of vision has been accompanied by a gradual decline of smell (Classen 1993). Interestingly, however, the possible linguistic reflections of this historical and cultural change have not received much attention so far. Our study explores precisely the diachronic dimension of the language of olfaction. More specifically, it aims to understand whether and how the olfactory lexicon has changed from Latin to Modern Italian (henceforth Italian), through Old Italian.

First, we collect the olfactory lexicon of Latin and Old Italian thanks to *Thesaurus Linguae Latinae* (TLL) and *Tesoro della Lingua Italiana delle origini* (TLIO). Next, we explore the OVI (*Opera del Vocabolario Italiano*) corpus, containing a miscellanea of texts written before 1375, with the aim of describing the system of olfactory terms found in Old Italian, in comparison on the one hand with Latin, and on the other hand with Italian. Old Italian shows an interesting stage of language as its olfactory lexicon seems to be richer compared with Latin, and organized in a more systematic way compared with Italian. A close inspection of the occurrences of olfactory terms in the OVI corpus allows us to identify basic terms and to investigate whether it is possible to arrange olfactory lexemes along a scale measuring their evaluative strength. Furthermore, we describe how the semantics and more specifically the polysemy (*intrafield* and *transfield* polysemy, cf. Evans & Wilkins 2000) of olfactory lexemes changes over time. In fact, not only some Old Italian olfactory lexemes are lost in Italian (e.g., *aulentoso* ‘scented as a flower’), but many of them undergo interesting semantic shifts. For instance, the noun *odore* ‘smell’ referred to pleasant smells in Old Italian, while it has a neuter / negative value in Italian. The verb *fiutare*, which meant ‘to smell’ in Old Italian, is now mostly used with the cognitive meaning ‘to detect by means of intuition’.

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## Smell in Basque: Linguistic resources, meaning, motivation, and usage

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The domain of olfaction has been traditionally considered not only a more restricted lexical field with less lexical items available to describe smells and odours but also a weaker source domain for extended metaphorical meanings in comparison with the other senses (Caplan 1973; Viberg 1984; Sweetser 1990; Gisborne 2010). Although it is partially true that this domain in human beings is not as developed as other senses such as vision, research on less-known cultures and languages has shown that olfaction is not as restricted as it seems at first sight (Classen et al. 1994; Drobnick 2006; Ibarretxe-Antuñano 1999, 2013; Majid & Burenhult 2014).

This paper analyses the domain of olfaction in Basque, a genetically isolated language spoken on both sides of the western Pyrenees. Previous studies (Ibarretxe-Antuñano 1999, 2013) on the sense of smell in this language attested that Basque smell share with other languages semantic extensions such as “sensing”, “suspecting”, and “investigating”, and that these extensions were grounded in the physiology as well as in the psychology (folk models) of this sense. However, these studies left many important issues unexplored, namely, the role of other olfaction related lexical items and constructions, semantic extensions particular to Basque, and the usage of these resources in Basque language (i.e. the saliency of these semantic extensions in everyday discourse). The goal of this paper is to provide a detailed study of these issues.

The first part presents an overview of the different linguistic resources that Basque provides to describe the sense of smell (verbs such as *usaindu* ‘smell’, nouns such as *kino* ‘odour’, *usna* ‘olfaction’, and constructions to describe the perception and emission of odours (e.g., *usna aditu* (smell hear) ‘smell’, *-ri kiratsa dario* (-DAT stench.ABS flows) vs. *kiratsa dakar* (stench.ABS brings) ‘something stinks’). The second part studies smell as a source domain for semantic extensions. Based on previous crosslinguistic and crosscultural work on this sense (Drobnick 2006; Vanhove 2008, among others), I will (i) discuss the extended meanings of smell in Basque, and compare them with those in other languages, (ii) account for the bodily and cultural motivation that grounds these extended meanings, and (iii) provide a description of their usage on the basis of corpus data analysis from two large Basque corpora (Statistical Corpus of Twentieth Century Basque [<http://xxmendea.euskaltzaindia.net/Corpus/>]; Corpus of Contemporary Basque (ETC) [<http://www.ehu.eus/etc/>]).

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## A cognitive typology of olfactory expressions in Formosan languages

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This paper explores how the structure of smell lexicon and olfactory expressions in Formosan languages (i.e., the Austronesian languages spoken in Taiwan) is pragmatically linked with metaphorical mappings in speakers' mind. Three research questions are explored: (1) what linguistic strategies (i.e., lexical, morphological, or analytic) are used in these languages to express or describe perceived odors? What linguistic resources such as olfactory terms or fixed expressions are there in these languages to classify olfaction? (2) What are the similarities and differences in these languages in terms of olfactory expressions and linguistic synaesthesia? (3) How is olfactory cognition classified and conceptualized in these languages and how is their osmology represented?

These questions are tackled from two aspects: (1) Lexical categories of abstract smell terms and the structure of source-oriented construction (henceforth SOC); (2) pragmatic and cognitive implications of olfactory expressions.

Firstly, linguistic structure of olfaction in these languages is divided into three types: generic smell terms, abstract smell terms, and SOC. Generic smell terms, morphologically derived from the verb 'to smell', the stative verb 'be bad/be good', or the noun 'wind', reflect that the concept SMELLY is universal. Abstract smell terms are mostly encoded based upon the phoneme template (C)a.·(∥)CV(C) (see also Blust 1988). The SOC is represented by the schema [PREFIX-(REDUPLICATION) X] (Lee 2010), in which the associated prefix functions as an evidential marker of information source and the X as an odorant source.

Secondly, olfactory expressions in these languages may function as euphemism/ dysphemism and pragmatically associated with (im)politeness. Compared with SOC, abstract smell terms are more often used to express politeness while mentioning embarrassing odors. It is found that several languages adopt the semantic distinction of [human] and [nonhuman] for olfactory expressions, which pragmatically pertains to euphemistic usage and verbal abuse. Therefore, abstract smell terms are used for describing odors from humans, whereas SOC for those from animals. On the other hand, whether an odorant source is visible or not also determines the choice of olfactory expressions. These factors, [± polite], [± human], and [± visible], play a role in the choice of certain smell terms and olfactory constructions, rendering olfaction as the source domain of emotions and other sensory modalities such as vision and gustation. Both cognitive and typological approaches are adopted to analyze these data in the hope to shed light on how smell terms and olfactory expressions are categorized cognitively with regards to pragmatic functions and metaphorical mappings.

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