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**Title:** Analyzability and semantic associations in referring expressions: a study in comparative lexicology  
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Appendix E

Lexico-Semantic Associations

Introduction and Notes on Data Presentation

If motivated terms are coined or semantic extensions are institutionalized for whatever reasons, they necessarily bear some lexico-semantic associations by the very definition of the concept of lexical motivation, and there is little reason to believe that there is a correlation between the number of terms and their semantic structure.

Thus, however many motivated terms are found in an individual language, speakers in each case, for each meaning to be expressed, have to make a selection out of possible semantic associations. This section surveys the linguistic treatment of each meaning on the meaning list of the present study, and provides short accounts of the cross-linguistic variation found. In this sense, the model of this section is the still unrivalled work of Buck (1949) on Indo-European, and reference will be made throughout to it to compare the cross-linguistic findings with those found in this particular language family. However, there are also important differences from Buck’s pioneering work: first, of course, the evidence presented here is based on a world-wide typological sample from languages of diverse genealogical affiliation, and is not restricted to one language family. Second, in contrast to Buck, the present account is synchronically oriented, as opposed to Buck’s interweaving synchronic observations on lexico-semantic associations with diachronic developments. Third, the style of presentation is different, and the data provided here are more detailed than the discussion of the meanings in Buck: there will be ample data from the sampled languages to illustrate the observed patterns, and precise numbers as to their strength will be provided. In this sense, the chapter is a first step to answer the voices calling for a systematic cross-linguistic investigation of lexico-semantic associations discussed in chapter 2.

However, apart from a mere account of the data, there is more merit to such a discussion: Blank (2003) argues that Tagliavini’s (1949) pioneering study of associations in terms for the ‘pupil of the eye’ allows to predict that it is highly likely that, if a complex term for this meaning should be coined anywhere, the associations will be drawn from the list compiled by Tagliavini. This, while at the same time extending such comparative overviews beyond a single concept, is another value of these data.

In order to make the presentation of the data maximally useful for further research and to make it readable independently from the framework developed in the present study, terminological peculiarities are kept to a minimum. However, sometimes it is useful to be able to have recourse to a number of terminological conventions to talk succinctly about the phenomena encountered. These require little to no additional theoretical assumptions, and thus do not distort the data in terms of a particular theoretical framework. **Similarity** and **contiguity** are, purely descriptively, taken to be the fundamen-
tal semantic relations underlying metaphor and metonymy, respectively. For instance, Cahuilla uses the same term for ‘finger’ and ‘hand’ (in more technical parlance that will be employed in the following, Cahuilla colexifies these meanings), while Aguaruna uses the same term for (colexifies) ‘finger’ and ‘branch.’ Now, the meanings ‘finger’ and ‘hand’ stand in a relationship of contiguity to each other (they are spatially adjacent to each other, or, since indeed the fingers are part of the hand, ‘finger’ is a meronym of ‘hand’), while this cannot be said of ‘finger’ and ‘branch’: rather, they are similar to each other in their longish shape and the fact that they protrude from a larger entity, the (rest of the) hand and the trunk of a tree respectively. In chapter 3, the semantic relationships of contiguity and similarity are defined in terms of test frames, and the categorization in the following relies on these as the criterion as to which fundamental semantic relation should be posited; however, since these test frames are explicitly designed to capture intuitions as to which relation is present it is not strictly speaking necessary for the reader to bear in mind in detail how these tests work in order to get an overview of the linguistic treatment of the concepts of interest to him/her. In analyzable terms which contain more than one lexical element, contiguity anchoring describes the semantics of one of the two constituents which ties back a metaphorical transfer accomplished by the other element to the semantic domain of the target concept. For instance, in Katcha òe mbòr ‘nostril,’ literally ‘eye of nose,’ there is a metaphorical transfer from òe ‘eye,’ the head of the complex term, to ‘nostril,’ while mbòr ‘nose’ is in a relation of contiguity to the target concept ‘nostril’ and anchors the metaphorical term in the domain of the target concept.

Some notes on presentation style are in order: each section begins with an overview of the most common lexico-semantic associations related to the meaning under discussion, in descending order of their occurrence in the languages of the sample. Further, there are percent values giving an idea of whether for this meaning, motivated terms are dominantly contiguity- or similarity-based (here, reported values often do not add up to the total number of motivated terms, which is either due to several possible analyses of the semantic association(s) or it being unclear), and whether they are typically by morphological analyzability or more often by colexification. Also, for each of the meanings, the number of languages for which an equivalent could be retrieved from the consulted sources is stated. In the body of the text, languages betraying a given recurrent lexico-semantic association are named first according to the macro area from Dryer (2005) they belong to, and are, within areas, listed alphabetically. Associations only found in one particular language of the sample are typically listed in a separate section that follows the one discussing recurring associations, except if they relate in some way to one of the associations discussed earlier in the text. If additional meanings mentioned in the consulted sources (other than ones that are so close to the item on the meaning list or one of the recurrent associations which is already discussed that mentioning them specifically seems redundant) are omitted from the discussion, this is indicated by phrases such as “inter alia.” This is mostly done for languages in which the relevant terms have a wide range of meanings none of which seem to be standing in any obvious semantic relation to one another. For this section in particular, it must be emphasized that formulations such as “the term x in language y also means z” or “colexifies z” does not necessarily entail the claim
that the meanings are related semantically. This is true generally, but should be borne in
mind particularly when it comes to statements pertaining to Mandarin Chinese, where
phonological changes discussed in § 5.4.2.3.2. lead to the collapse of a large number of
erstwhile distinct lexical items.

When longer passages or longer glosses anywhere in the following are quoted di-
rectly from a consulted source, they are given in double quotation marks (this does not
exclude the possibility that shorter glosses given in single quotes coincide with the gloss
in the source). In the case that phonological processes alter the shape of the constituent
morphemes of an analyzable term on the surface, the (inferred) morphological analysis is
given in square brackets after the relevant object language term, as in Ket destul /dēs-d-
ūl/, literally ‘eye-poss-water’ and meaning ‘tear.’ Otherwise, the surface form in italics is
segmented directly in order to save space. Grammatical material in glosses is, as in this
example, printed in small caps and usually abbreviated; a list of these abbreviations can be
found in the front matter. Possibly existing analyzable terms of the redundant type (as
when the simplex ange in Kosarek Yale denotes both ‘umbilical cord’ and ‘navel,’ but there
also is the complex term ange lom, with lom meaning ‘hole, valley,’ to single out the mean-
ing ‘navel’) are usually not mentioned.

Discussions of individual meanings are referred to as “sections” along with their
respective numbers in cross-references within this appendix, while cross-references to
chapters in the main text are indicated by a paragraph sign ($§$).

The proxies, if any, that were accepted for a given meaning on the list are identi-
cal generally to those in Buck (1949), unless otherwise noted. For instance, as in Buck
(1949), no attempt to distinguish between (bigger) ‘lake’ and (smaller) ‘pond’ is made. As
noted in chapter three, a given term may exhibit more than one lexico-semantic associa-
tion, either by virtue of being of the lexical type, or by being analyzable, but at the same
time also colexifying more than one meaning. The latter fact in particular is a problem for
a smooth and readable discussion of the associations found in terms for a given meaning,
since it would require discussion constantly to jump back and forth between different
associations. For instance, the Fijian word for ‘mirror,’ i ilolo, contains the instrument
nominalizer i and a reduplication of the verb ilo ‘to look at.’ However, at the same time, it
also colexifies ‘glass’ in general, a pattern that other languages exhibit as well, and thus
Fijian has to be mentioned twice in the discussion, first in discussing terms derived from
verbs meaning ‘to look,’ and second in terms colexifying ‘mirror’ with ‘glass.’ Since it is
impossible to always do so without proliferating cross-references within each individual
section ad absurdum, it is not always indicated which term bears which multiple semantic
associations. This can be inferred simply from languages being mentioned twice, except if
a language has several terms for the meaning and they exhibit different lexico-semantic
associations. Conversely, however, it may be that languages have synonyms for the mean-
ings in question and different ones bear different associations. That is, if a language is
mentioned several times in each section, this does not necessarily always entail that it is
always the same term bearing all associations.

Moreover, not all patterns of colexification are mentioned for constituents in
complex terms. For instance, terms for ‘tear’ often consist of elements meaning ‘eye’ and
'water,' with 'eye' having secondary readings (see section 140 and § 6.2.3.1.) which are not mentioned since clearly it is the core meaning 'eye' that is relevant in the conceptualization of 'tear.' Any other way of proceeding would yield a resulting discussion that is highly cumbersome to read. This policy is departed from in cases where it seems unclear which sense of the constituent is relevant for the conceptualization of the complex term, in which case different meanings of constituents are separated by slashes in the gloss.

A further issue is ambiguities arising due to strictly speaking conflicting information in two-way dictionaries. For instance, Nez Perce hímí is stated in the Nez Perce-English section of the consulted source to mean 'mouth; mouth of river, cave,' but when one seeks to identify the Nez Perce term for 'lip' from the English-Nez Perce section, one also encounters hímí as one of the equivalents. In this and other such cases, all information was taken into account, that is, Nez Perce is mentioned as a language colexifying 'lip' and 'mouth' and is mentioned as such in both relevant sections, in spite of being not explicitly glossed as 'lip' in the dictionary.

1. The Animal

Representation: 83%
Motivated: 43.1%
Thereof Analyzable: 26.8% Thereof Colexifying: 18.3%
Thereof by Contiguity: 32.8% Thereof by Similarity: 1.6%

Recurrent associated meanings: thing, meat, life/be alive, bird, livestock, cattle, move, pig, dog, insect, forest/wood, kill, move on ground, brute, person, land

A common association, by contiguity, is that with 'meat' or 'flesh,' since obviously animals are the source of meat to be consumed by humans. The association is mostly realized by colexification and occurs in Efik, Hausa, Ngambay, Noni, Yoruba, Gurindji, Yir Yoront, Abzakh Adyghe, Sora, and Yanomámi, and by noun class alternation in Swahili.

Another common pattern is to have terms for 'animal' which also at the same time mean 'thing' very generally. This is found by colexification in Buli, Kwoma, Arabela, Chayahuita, Lengua, Wayampi (where the relevant term can also mean 'kind of' and 'luggage'), and Samoan. In Lengua, as well as in Khalkha, the term may also refer to a 'person' and in Buli also to a 'figure, unrecognizable person;' compare also Copainalá Zoque copan 'animal' and pan 'person.' Furthermore, in Katcha, there are the complex terms nimo mo tile 'thing of forest' and nimo mo di 'thing of house' to refer to wild as opposed to domestic animals respectively (for the former term, compare also Bora bůjú-e-jpi 'mountain/forest-belong.to-CL.M.S,' and Gravelle's 2004: 375 statement that a similar term is found in Meyah; the distinction between domestic and wild animals is also made in Rendille, Oneida, and Aymara; for Cushitic specifically see also discussion in Sasse 2002). Similarly, Itzaj has b’a’al-che’ ‘thing-wood/tree’ for ‘animal, fauna.’ Still further, Bwe Karen has the somewhat unclear term de-pho-de-wè ‘thing-child/little.one-thing-bug’ glossed as 'dumb creatures, animals' (compare colexification of 'animal' and 'bug' in Highland Chontal and of 'animal' and 'insect' in Nivkh, Kildin Saami, and Hawaiian). There is a semianalyzable term with the identifiable constituent meaning ‘thing’ in Sko.
Mandarin has dong4-wu4 ‘move-object/being,’ and Japanese and Vietnamese, due to Chinese influence, dō-butsu ‘move-thing’ and đồ mạt ‘move object’ respectively. Moreover, Hani, a language also spoken in Southeast Asia, has nivzeig ~ nilzeig, maybe related to niv ‘moving; action’ (though note also nil, meaning ‘the outside, wild’ inter alia), Nuuchahnulth has səxtuup ~ səxtuup /sa-tüp/ ‘crawl.on.all.fours-creature,’ (with tüp also glossed as ‘thing’ generally as well as ‘kind, sort,’ compare Chukchi ɣənə which is perhaps related to -ŋərt- ‘four’). Similarly, Blackfoot has iksowá’pomaahkaa /iksow-á’p-omáąkka/ ‘at.ground.level-about/around-move.along.on.foot,’ and Lakhota wamákhašk is literally translatable as “those moving about on earth.”

Returning to associations with ‘thing,’ Khoekhoe has ūitsama xūn, with ūitsama meaning ‘living’ (derived from ūi ‘to escape, to escape death, be alive’), and xūn referring to ‘possessions’ and ‘livestock.’ Both associations recur: ‘livestock’ is also colexified in Rendille, Basque, and Yay, and relevant terms in Gurindji, Bezhta, and Samoan also denote ‘cattle’ specifically. For the association with ‘life’ or ‘be alive,’ there are derived terms in Muna and perhaps in Greek, Kiliwa has tːkwːipaaː-y ‘OBJ-WH+be.alive-ATT,’ Nez Perce waqːswitin /waqːswit-iːn/ ‘life-with,’ and Carrier rhenna ‘large animal’ is a verbal noun derived from rhesna ‘to be alive.’ Lenakel combines the association with the already familiar pattern relating ‘animal’ and ‘thing,’ and ‘life’ or ‘be alive,’ and Piro giwakachri yotaljetachri relates again to the association with ‘movement;’ it contains elements meaning ‘to be alive’ and ‘to move.’ Yoruba ẹlẹmí is analyzable as ẹlẹ-ẹmif/ ‘owner-breath/life’ (there is also the term ẹ-dá ‘NMLZ-to.create’ for ‘creature, creation’). Further, Central Yup’ik ungungssiq contains the base ungua ‘life,’ in Samoan, there is the redundant analyzable term meaola, with mea meaning ‘thing, animal’ (and also ‘genitals’ and ‘place’ generally inter alia), and ola ‘living,’ and there are (probably) further terms that are diachronically related to verbs meaning ‘to live’ in Khalkha (here, the relevant term seems to have further connections to terms related to ‘breathing’), and Kolyma Yukaghir.

Upper Chehalis xas=dy=t’m3 is (semi)analyzable as ‘bad=??=land,’ and Central Yup’ik has a term for land animals, nuna-miutaq, which is analyzable as ‘land-one.whose.proper.place.is.’ A pattern peculiar to New Guinea is to have dvanda compounds expressing the concept ‘animal,’ with the constituents denoting particular animal species: thus, Kyaka has suwua-pe saa-pe pyasingi ‘dog-ASSOC furred.animals-ASSOC pig-ASSOC mixed.assorted.group,’ Sentani obo-joku ‘pig-dog,’ and Takia bor-goun likewise ‘pig-dog,’ but here the compound has reference to ‘domestic animals’ specifically. Hawai’ian has holoholo-na ‘walk-NMLZ,’ and there is a semianalyzable term featuring a constituent meaning ‘walk’ in Great Andamanese. Haida has gina tiʔaraa ‘creature/thing be.killable’ for ‘land mammals’ specifically, and the Oneida term for ‘wild animals,’ kutilyoʔshh̓a, is likewise derived from a verb meaning ‘to beat, kill.’ Lesser Antillean Creole French and Basque colexify ‘animal’ with ‘brute.’ Kwoma boboy also means ‘plant,’ and the association might also be present in Abipón, but this is considered unsure in the consulted source.

Berik and Biloxi make a distinction between ‘female animal’ and ‘male animal’ (the Berik term for ‘wild animal,’ giri, also means ‘deep river’). Upper Chehalis, Highland Chontal, Huambisa, Jarawara, Fijian, Kapingamarangi, Rotuman, and Samoan colexify
‘animal’ with ‘bird,’ that is, a lower rank in ethnobiological taxonomies, and ‘animal’ is colexified with specific animals on the generic level in Dadibi (‘cuscus’), Sora (‘pig’), Kolyma Yukaghir (‘elk’), Pawnee (‘deer’), and Central Yup’ik (‘bear’).

Other associations include: Buli dūng also means ‘to press down, press out’ inter alia, and Efik u’nam might be related to nam with the basic meaning ‘to do, make’ (considered unsure in the consulted source). Ngambay da also means “to assemble something” and also denotes a “kind of tree, bark strings to attach the roof of a house with.” Noni nyam might consist of the verb yam ‘to suck’ and a prefixal noun class marker. The Anggor term nine-hondi is analyzable as ‘fur/feather-mother.’ Khakhla aduyasun(n) is derived from aduyu(n) ‘herd of horses, horse’ by means of the suffix -sun the function of which is, according to Poppe (1954: 44), “to form nouns of which the meaning is usually the same as that of the primary word.” Ket has assel /ē-sēl/ ‘wild reindeer,’ which is likely an instance of a so-called markedness reversal (Berlin 1972, Witkowski and Brown 1983). The Cahuilla term ʔik̓iiŋ aviš is likely to contain -ʔi ‘leg, foot, footstep, track.’ Kashaya ʔiiba contains ʔiiba ‘body,’ and Kiowa has a term for domestic animal, yitbi-dou, which is analyzable as ‘go.live.with-have.’ Quileute ʔixʷátils appears to be related lexically to ʔixʷátil ‘to hunt,’ and Tuscarora yuʔiik̓ehrat contains the roots -(e)ʔik̓eh(r)- ‘mind’ and -aʔ- ‘stand.’ The Yana term mooyau(na) consists of ma- ‘to eat’ and the nominalizer -yau(na), and Yuki he’lik’ke appears to contain ʔik ‘to swallow.’ Embera ʔrimdrā also means ‘inhuman’ and ‘cruel,’ Sáliba omadí also ‘heart,’ and Yanomámi yaro can in some contexts also refer to an ‘enemy warrior.’ Finally, Kapingamarangi manu is also the name of a constellation involving the star Sirius.

2. The Ashes

Representation: 96%
Motivated: 38.5%
Thereof Analyzable: 17.4% Thereof Colexifying: 21.0%
Thereof by Contiguity: 5.3% Thereof by Similarity: 18.4%
Recurrent associated meanings: dust, fire, powder, embers, coal, faeces, dirt, gray, kitchen/fireplace, wood, lime, sand, black, soot, blue, soil, flour, burn, feather

Intra-domain associations with other fire-related terms, namely ‘coal’ and ‘embers,’ are frequent for ‘ashes’ (or ‘cinders’), see also sections 13 and 19. Five sampled languages, Burarra, Kwoma, Yir Yoront, Khalkha, and Sedang colexify ‘ashes’ and ‘coal,’ and there are derived terms in Wintu (colexifying ‘soot, soot carried by the wind;’ for the association with ‘soot,’ compare also Hawaiian pa’aahi ‘soot fire,’ denoting ‘soot’ next to “black cindery sand or ash”) and Great Andamanese. In a parallel fashion, Kosarek Yale, Khalkha, Carrier, Kiliwa (by the complex term kw+pal ‘PERF+hot’), Cubeo, and Ancash Quechua colexify ‘embers,’ while Aymara has nina sank’a and nina japu ‘fire/embers embers.’ More generally, mirroring an association also diachronically attested in Indo-European (Buck 1949: 73-74), many sampled languages employ the same term for ‘ashes’ and ‘dust,’ namely Efik (where the relevant term also can refer to a “dimness of vision as if a mist were before the eyes” and a kind of spearmint), Berik, Burarra (where the relevant term more
precisely means “little particles, as ashes and sand mixed where a fire has been burning” as well as ‘dust’), Lavukaleve, Mali, Nunggubuyu, Rotokas (colexifying also ‘wood chips’), Basque, Upper Chehalis (‘cold ash’ specifically), Chukchi, Biloxi, Carrier, Highland Chontal, Lesser Antillean Creole French, Lake Miwok, Oneida, Tuscarora, Wintu (where *bukul* contains *buk* ‘dark’), Yuki (where *poi* (‘burn’ and *po* ‘gray’), Cavineña (where the relevant term means ‘dust cloud’ more specifically), Hani, and Bwe Karen. Alternatively, some languages have complex terms for ‘ashes’ based on ‘dust,’ mostly with ‘fire’ acting as a contiguity anchor, as in Northern Yana *tabi* (‘dust’). Such terms are also found in Carrier, Nez Perce, and Wichí; alternatively, in Pawnee, ‘ashes’ is *karaak-tuuhcu*, analyzable as /itkaar-haak-tuuhc-u/ ‘dust-wood-NOM’ and in Hawaiian *lepo uli*, analyzable as ‘dust/dirt/soil/rubbish/dark.color’ (a semianalyzable term with the constituent ‘dust’ is found in Kashaya and San Lucas Quiaviní Zapotec).

For the Yuki association with ‘gray,’ note also that Muna *ghabu* may also refer to the “grey colour of certain fruits (indicating old age)” (cf. also *ghabu* ~ *ghada* ‘enormous’), as well as that Tuscarora *uːk̡ehreh* colexifies ‘ashes,’ ‘dust,’ and ‘gray.’ Huambisa ‘ashes,’ ‘gray,’ and ‘lead,’ and Hawaiian *lehu* means ‘gray,’ but is used more specifically to describe the color of chickens inter alia. On a related note, Yanomámi *ushi* ‘ashes,’ ‘gray,’ and ‘lead,’ and Hawaiian *lehu* means ‘gray,’ but is used more specifically to describe the color of chickens inter alia.

Metaphor-driven associations linked with ‘ashes’ specifically, but usually not with ‘dirt’ (with the exception of the evidence from Hawaiian already discussed above) are that with ‘faeces’ or ‘excrement,’ occurring by colexification in Kwoma (the term also colexifies ‘flower’) and by analyzable terms of the structure ‘fire-faeces’ in Cayapa, Bislama, and Takia, while Itzaj has *taːan* /ta’-Vn/ ‘excrement-deriv’ (note also the somewhat unclear case of Kiowa *sā’-p’im*, perhaps ‘excrement-cloud/sky’). The Itzaj term betraying this connection in addition colexifies also ‘lime,’ while in Copainalá Zoque *cuy-jam* is analyzable as ‘tree/wood-lime.’ Outside Mesoamerica, Tetun has *ahu-metan* ‘lime-black’ (for which in turn compare Santiago Mexquititlan Otomí *bo-spi* ‘black-fire’ and Kyaka *keyihapa* now, where *keyihapa* is ‘black’ and *now* is a term for color and coloring earth pigments), and Fijian colexifies ‘ashes’ with ‘slacked lime’ specifically (the relevant term *dravu* means ‘to rub the head with ashes’ as a verb). There is an association with ‘feather’ found in Tsafiki.
Further complex terms in which ‘fire’ acts as a contiguity anchor include Lesser Antillean Creole French \textit{sann dife} ‘sand fire’ (compare colexification of ‘ashes’ and ‘sand’ in Cayapa and Hawaiian), and Sedang \textit{plö on} ‘fermenting.agent fire.’ Semianalyzable terms with ‘fire’ are found in addition in Mbum, Toaripi, Kosarek Yale, Nez Perce, and Pipil. Sedang \textit{plö on} ‘fermenting.agent fire’ also colexifies ‘hearth’ or ‘fireplace,’ and the association with ‘fireplace’ or ‘kitchen’ is mirrored by unanalyzable or semianalyzable terms in Muna, Sahu, and Toaripi (note also the apparent relationship Guaraní \textit{tanimbu} ‘ashes, remains of things that were, debris’ and \textit{tanimbupa} ‘kitchen, hearth’). There are also some terms which highlight that the ashes are the remnants of a fire. These include Abzakh Adyghe \textit{səəefe/səəafe}/‘burn-REST’ (compare the association between ‘ashes’ and verbs meaning ‘to burn’ in Indo-European languages, Buck 1949: 73), Central Yup’ik \textit{qamlleq/qame-lleq}/‘die.down-one.that.has,’ and Samoan \textit{lefulefu}, where the reduplication base \textit{lefu} means ‘for a fire to go out’ (compare again Kiliwa \textit{kw+pal} ‘PERF-hot’ as well as Welsh \textit{gweddil/on} ‘ashes,’ which is related to \textit{gweddillon} ‘ashes,’ which is related to \textit{gweddill} ‘remnant’).

Further associations include: Hausa \textit{ru’bUSHI} ‘hot ashes’ is also the name of a kind of sweet pastry inter alia, and \textit{raushi} ‘hot fine ash’ also means, inter alia, ‘softness, tenderness.’ Kyaka \textit{pee} also is a general term for a ‘receivable’ and specific receptacles inter alia, and Chukchi \textit{piŋ(piŋ)} also means ‘falling snow.’ Japanese \textit{hai} also means ‘yes’ (with the term in the meaning ‘ash’ perhaps being borrowed from Chinese). Kwoma has \textit{hikishebo}, colexifying ‘ash’ with “black paint, black pigment used to make paint” and “object burnt by fire” as well as “earth blackened by fire.” Ngaanyatjarra \textit{tjurnpa} also means ‘husks,’ and Rotokas \textit{gavuta} is also glossed as ‘bed of fire.’ Badaga \textit{budi} also means ‘ashmound’ as well as ‘contrary,’ Khalkha \textit{coy} also ‘sparks’ and, figuratively, ‘glory’ and ‘energy’ inter alia, and Welsh \textit{ulw} also ‘utterly.’ Upper Chehalis \textit{sqʷə́lín}s is derived from \textit{qʷə́lí} ‘roast, cook, ripe, ripen’ and contains the lexical affix =\textit{nš}/’basket’ (or ‘ball’). Tuscarora \textit{uhsêhareh} means also ‘lye,’ and the first variant of Abipón -\textit{aci} is identical formally with terms for ‘tongue’ and ‘tear.’ Cashinahua \textit{mapu} colexifies ‘ashes’ with ‘brain’ (the tertium comparationis being the gray color of both?), \textit{soap}, and ‘handle of a tool’ inter alia. Jarawara \textit{hasawiri/hasawiri} also means ‘smoke,’ and Kapingamarangi \textit{lehu} also ‘smegma.’ Sedang \textit{trói} is also the name of a ‘leaf-eating ant,’ and Bislama \textit{asis fæa} can also refer to ‘relic, remnant’ in non-standard usage.

3. The Bark

<table>
<thead>
<tr>
<th>Representation: 93%</th>
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<tbody>
<tr>
<td>Motivated: 68%</td>
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<tr>
<td>Thereof Analyzable: 23.7%</td>
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<tr>
<td>Thereof by Contiguity: 0.6%</td>
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Recurrent associated meanings: skin, peel/rind/shell, tree/wood, hide/leather, cover, scale, husk/chaff, crust, clothing, pod, scab of wound, hard, tire, fingernail

\footnote{“smegna” in the source.}
Clearly, the most frequent association is that with ‘skin.’ It occurs either by colexification or analyzable terms (with ‘tree’ or, less frequently, ‘wood’ as contiguity anchor, as in Yei ᵇᵣᵃʳᵃ ‘tree skin’ or Abzakh Adyghe px-a-s’e ‘wood-skin,’ and sometimes also, due to the colexification of ‘tree’ and ‘wood’ in many languages as reported in section 65, with both, as in Berik ti tifin ‘tree/wood skin’). Such terms are attested in as many as 82 sampled languages. 55 languages are of the colexifying type: Bakueri, Efik, Yoruba, Anggor, Buin, Burarra (where the term also colexifies ‘wrapper, outer case’ and is perhaps related to a word for ‘clan’), Gurindji, Kwoma, Kyaka, Lavukaleve (colexifying ‘bark of coconut tree’ specifically with ‘skin’), Mali (colexifying also ‘body’), Muna, Ngaanyatjarra, Nunggubuyu, Sahu, Sentani (where the relevant term is also the name of a palm species and a discourse particle), Sko, Southeastern and Western Tasmanian, Toaripi, Koserek Yale, Basque, Bezhta, Biloxi, Chickasaw, Ineseño Chumash (where the relevant term means ‘smooth bark’ specifically), Comanche, Haida, Pipil, Xicotepac de Juárez Totonac (‘skin of leg of a person’ specifically), Yaqui, Copainalá Zoque, Abipón, Bororo, Carib, Cashinahua, Cayapa, Guarani, Hupda (colexifying also ‘dish, plate, food’), Jarawara, Kaingang, Maxakalí, Piro, Ancash Quechua, Tsafiki, Wayampi, Yanomámi, Bilisama, Fijian, Hawaiian, Bwe Karen, Lenakel, Malagasy, White Hmong, Rotuman, and Samoan. There is a derived term in Great Andamanese, and twenty-four languages have complex terms with ‘tree’ and/or ‘wood’ acting as contiguity anchor: Mbum, Ngambay (ŋóy giri kake ‘skin/peanut.shell/peeling behind tree’), Baruya, Berik, Kaluli, Meyah, One, Waris (where ‘skin’ is colexified with ‘blood’), Yei, Yir Yoront, Abzakh Adyghe, Japanese, Kolyma Yukaghir, Wappo, Yuki, Cavanaugh, Miskito, Sáliba, Rama, Hani, Mandarin, Takla, Tetun (where ‘tree’ and ‘plant’ are colexified), and Ya; further, Noni has a term with this structure not for ‘bark’ generally, but for ‘skinned bark’ specifically. The association is diachronically detectable also in Chuitchi. Given the fact that there are 138 languages in the sample for which data are available, this means that the association occurs in almost 60 per cent of the sampled languages, and that in all regions of the world. Kiowa is a little different in that here ʼækʼuq seems to be a diminutive of kʼae ‘skin’ indicated by vowel nasalization combined with an unknown second element, and Ket ᵇᵣᵣ-o-t is analyzable as ‘skin.PL-covering-NMLZ.’ Furthermore, Cubeo jocu-curi is analyzable as ‘wood-CLASS.TEXTURED.COVER,’ and in Yanomámi hisi, hi is a term for ‘wood’ which also acts as a classifier for plants with wooden trunk and s is means ‘cover’ generally; there also is an alternative reduplicated term sisi for ‘bark.’ Note also that there are many languages with redundantly complex terms, such as Dungolese Nubian ḡðwñ-r-gábad ‘tree-GEN-bark.’ Buli also colexifies ‘bark’ and “hard skin” (e.g. of a crocodile) specifically, and there are semianalyzable terms where the identifiable constituent means ‘skin’ in Copainalá Zoque (where the unknown element recurs in many terms for specific trees) and Great Andamanese.

Due to colexification of ‘skin’ with ‘leather’ or ‘hide’ (compare section 135) a subset of these languages also betrays this association by colexification. This is the case in Kyaka, Muna, Sentani, Ket (by the analyzable term ᵇᵣᵣ-o-t ‘skin.PL-covering-NMLZ’), Cahuilla, Pipil, Yaqui, Copainalá Zoque, Abipón, Bororo, Carib, Cashinahua, Guarani, Jarawara, Piro, Ancash Quechua, Tsafiki, Yanomámi, Hawaiian, Bwe Karen, White Hmong, Rotuman, and Samoan. Complex terms with the ‘tree/wood’ contiguity anchor are found in Highland...
Chontal, Pawnee (where the constituent denoting ‘hide’ also means ‘peeling’ generally inter alia), Wappo, Cavineña, Miskito, Sáliba, Mandarin, and Tetun. In addition, in Sedang, *kotou* colexifies “bark; peeling, rind, husk; egg shell; outer edge of ...,” that is, a different term for ‘skin’ is used, and the same is true of Chayahuita.

Another quite frequent association also exhibited by the Sedang term is that with the meaning ‘shell’ in general and/or ‘rind, peel,’ as for instance of a fruit, an egg, or a mussel more specifically, occurring in fifty-nine sampled languages, by colexification in Bakueri, Buli, Hausa, Yoruba, Kyaka, Ngaanyatjarra, Mali, Muna, Abzakh Adyghe, Badaga, Greek, Khalkha (also colexifying ‘bark of birch tree’ specifically), Sora, Kildin Saami (here the relevant term *kēr* also means ‘hard, rough,’ as is the case in White Hmong; similarly, Hawaiian has a derived term, which is, however, rare), Cahuilla, Chickasaw, Ineseño Chumash, Haida, Kiliwa, Lakhsota, Lesser Antillean Creole French, San Mateo del Mar Huave, Nez Perce, Pipil, Central Yup'ik, Copainalá Zoque, Aguaruna, Bororo, Cashinahua, Cayapa, Guarani, Huambisa, Hupda, Jarawara, Kaingang, Macaguá, Maxakalí, Piro, Ancash Quechua, Tsakiki, Yanomámi, Bislama, Fijiian, Hawaiian (where the term has a very broad range of meanings, including also ‘scalp’ and ‘surface, area’ inter alia), Rotuman, Sedang, Tetun, and Vietnamese, and by complex terms in Efik (*ikpok ët深深地skin/bark/scale/shell/husk/pod tree*), Ngambay (*ŋgɔ́yi kakeskin/peanut.shell/peeling behind tree*), San Mateo del Mar Huave (*mipang xuǐlshell tree*; this is a different term from the colexifying one mentioned above), Itzaj (pach che’ ‘shell tree’), Yuki (*ʔol šil tree skin/shell*), Copainalá Zoque (cqˈyunaka ‘tree-skin/shell’), Arabela (*naana co ‘tree shell’*), Bora (*kó-miʔo ‘wood-scm.hard.shell* and umé-he-miʔo ‘tree-cl.tree-scm.hard.shell’), Rama (*katuuk /kát-ûk/ ‘tree-skin/coat/rind’), Sáliba, where *ixexe* colexifies ‘skin,’ ‘hide,’ and ‘shell,’ while ‘bark’ is *nugu ixexe* (*nugu, ‘trees’*), and Hani (*albol alhov ‘tree-skin/peel/outer.layer.of.grain’*); moreover, Bezhta *yicalo* contains an element meaning ‘peel.’ In most of these languages, ‘skin’ is also colexified; exceptions are Kiliwa, where *yal* is only used for ‘bark’ and ‘shell,’ but not for ‘skin,’ Tetun, where *kakun* colexifies ‘peel,’ ‘shell’ and ‘bark,’ but not ‘skin,’ Pawnee, which has *raakikusu*, analyzable as */raak-(i)kuus-u/ ‘tree/wood-peeling-nom* (with *(i)kuus-also being capable of referring to ‘hide, shell’ and other similar meanings, but apparently not to ‘human skin’), as well as Bezhta, where the term already mentioned is derived from an element meaning ‘peel.’ As for the association with ‘tree, wood,’ there is one language, Abipón, which colexifies ‘bark’ and ‘tree’ directly.

Furthermore, nine sampled languages colexify ‘bark’ with ‘scale,’ namely Hausa, Lavukaleve (where the relevant term also denotes the “place coconut stalk hangs from”), Bezhta, Biloxi (where the relevant term also colexifies ‘horns,’ ‘hoof’ and ‘nails on fingers and toes,’ which latter association is also present in an analyzable term in Rama), Nez Perce, Central Yup’ik, Guarani, Jarawara, and Bwe Karen, and Efik has the complex term already mentioned. In most of the above languages, the relevant terms have a rather broad semantics which, from an extensional point of view, colexify at least one other, but frequently many more, meanings figuring in this report, so that their semantics, in these cases, may also be described intensively as ‘outer surface’ of anything. In fact, in Sko, Basque, Chickasaw, Comanche, Haida, Lakhota, Guarani, Huambisa, Maxakali, Piro, Yanomámi, Lenakel, and Bislama, the relevant terms are also explicitly glossed as meaning
‘cover, covering’ (in Haida also as ‘surface of waves’ and in Lakhota also as ‘envelopes’ and ‘wrappings’ specifically). Instructive in this context is the example given in the consulted source for Kaingang fár: kar vỹ, fár nĩ: ka kar, nẽn tánh kar, ẽq mẽg kar, ẽq ke qẽ “everything has fár: trees, plants, animals, we do, too.” However, Bezhta qal exclusively denotes ‘scale’ and ‘bark,’ while for ‘skin’ and other meanings alternative terms are available.

Very broad semantic range of the relevant terms is also the case for the terms in which the following associations figure, unless otherwise noted as for Bezhta above. In seven sampled languages, Yoruba, Bakueri, Anggor, Muna, Sahu, Bislama, and Sedang, ‘bark’ and ‘husk’ or ‘chaff’ are colexified (in Anggor also ‘container’), while Efik has the complex terms already mentioned. Kyaka, Muna, Basque, Greek, Sora, Hawaiian, and Rotuman colexify ‘crust’ (Greek ‘crust of earth’ and Sora ‘incrustation’ specifically; the relevant Hawaiian term is that derived from ‘hard’ mentioned above and may also mean “cooked crisp, as pig” inter alia), and in four sampled languages, Anggor, Sko, San Lucas Kuivaviní Zapotec, and Piro, ‘bark’ and ‘cloth,’ ‘clothes,’ or ‘clothing’ are colexified (in San Lucas Kuivaviní Zapotec also ‘rag used as diapers’ is colexified, while the relevant Sko term also denotes a tree species). Abzakh Adyghie and Yoruba also colexify ‘pod’ (‘pod’ is colexified in the element meaning ‘skin’ and other things figuring in the complex Efik term mentioned above), while Buli, Hausa and Hawaiian in addition colexify ‘bark’ and ‘scab of wound’ (Hausa also “scurf of a scalp disease” and “bits of skin from desquamation”). Rotuman and Samoan also colexify ‘(rubber) tire’ (Samoan in addition “kin, kinsmen” as well as “belt (for a machine)” and ‘foreskin’).

Other infrequent lexico-semantic patterns include: Buli tapagi also colexifies “board, flat piece of wood,” while Khoekhoe ǂammi is derived from the verb ǂam- ‘debark.’ Rendille has unrelated terms for “soft inner tree bark” and “soft outer tree bark,” with the former also meaning “soft membranes” and “bags of waters in pregnancy” of animals, while in Nivkh, oym also means ‘root.’ Burarra mun-ngarnama is analyzable as ‘class.domestic-inner.thigh,’ which illustrates the widespread mapping of body-part terms onto entities of the physical world in Australia, and in Kyaka imbu ‘hard shell, bark’ may also be used to refer to “anger, annoyance” as well as a ‘bowstring.’ Muna kuli also means to “have a simple meal without side dish.” Ngaanyatjarra miri may also refer to “people of a certain skin colour, race of people” as well as “get a shock, be shocked,” pangki (Northern dialect) experienced semantic extension to ‘orange’ by synecdoche and piilyurru also denotes the ‘carpet snake, woma python,’ “the shed skin of a snake or goanna,” and a “chrysalis case, shell enclosing a grub before it turns into a moth” (see Evans 1992 on such associations in languages of Australia). Sko ró also denotes a tree species, and Basque colexifies “exterior, outside” and ‘surface’ generally, as well as ‘cover,’ ‘spread,’ ‘case,’ ‘sheet,’ and ‘rascal.’ Chukchi colexifies ‘bark’ with ‘edible whale skin,’ and Khalkha xoltusu(n) ~ xoltasu(n) also denotes ‘monkshood’ (aconitum variegatum). Xicotepec de Juárez Totonac colexifies ‘copal.’ The Wintu term λaplah contains λap ‘lying down,’ ẑahay also means ‘sheath’ generally and denotes the ‘inner bark of maple’ as well as “deerleaf, cowleaf, the fat sheath velling of the stomach of an animal ...” specifically, and qoq also

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2 Original Portuguese translation from the source: “Tudo tem ‘pele’: árvores, plantas, animais, nós também.”
means ‘to pull of chunks.’ Abipón has l-aoel-ag-Ra ‘POSS.INDF/3SG-heart/guts-PRODUCT-ABSTR.’ Guaraní ape colexifies ‘back’ and pire ‘movie.’ Maxakalí xax also means to ‘seek, hunt, long for.’ Piro mta may also refer to a ‘surface’ or ‘mat,’ the Rama term sarpan also to ‘bast,’ Yanomámi hisi also to a ‘wasp,’ and Wayampi pile also to any sort of covering of artifacts. Yanomámi colexifies ‘bark’ with ‘bud,’ Bwe Karen with “to scratch, claw, maul,” Maxakalí with ‘cover of book’ (the term is said to be capable of referring to “any ... outside covering” in the source), and finally, Bislama skin is also used with the meanings “very strong, effective, very good, cool.”

4. The Bay

Thereof Analyzable: 47.3% Thereof Colexifying: 44.8%
Thereof Motivated: 90.3%
Thereof by Contiguity: 69.2% Thereof by Similarity: 13.9%
Recurrent associated meanings: corner, sea, harbor, lake, valley, crooked/crookedness, elbow, mouth, breast, inside/interior, bend of river

Five sampled languages—and this already is the most frequently occurring association—colexify ‘bay’ (or ‘inlet,’ ‘gulf’ which were accepted as proxies) with ‘corner’ more generally. These are Nunggubuyu, Meyah, Khalkha, Toba, and Hawaiian (where the relevant term may also refer to a ‘cove,’ ‘indentation’ and ‘cell of beehive’ inter alia). Tetun has the complex terms tasi-lidun ‘sea-corner’ and tasi-sikun ‘sea-elbow/corner’ (in addition, the language also has the terms tasi-keta ‘sea-to.separate,’ tasi-nadā ‘sea-tongue’ and tasi-soman ‘sea-companion,’ for the second term mentioned, compare colexification of ‘elbow’ and ‘cubit’ in Khalkha). For the association with ‘corner,’ compare that with ‘curved shape’ reported by Buck (1949: 39) for Indo-European and the somewhat similar analyzable terms kjantsko-kʰ ‘ocean-edge’ in Manange, colexification of ‘to bend’ and ‘crooked, winding’ in Mandarin, and helodranomāsina /hèloka-ranomāsina/ ‘crookedness-sea’ in Malagasy. In four sampled languages, terms for ‘bay’ are lexically connected with the meaning ‘lake,’ by colexification in Nez Perce, Santiago Mexquitlan Otomí and Rotuman (in the latter language by the analyzable term tan hāe /tanu ħāe/ ‘water contain,’ the term can also refer to a ‘puddle’), while Berik has the complex term fő boga /fo bogan/ ‘river/lake calm.’ Again four sampled languages, Burarra, Lavukaleve, Lesser Antillean Creole French, and Lenakel colexify ‘bay’ with ‘harbor’ (compare again Buck 1949: 39 for evidence from Irish and Germanic); in Burarra the relevant term is semianalyzable and contains a verb meaning ‘to be helpless.’ Another term for ‘bay’ in which the semantics of the constituents suggest that ‘harbor’ is a secondary meaning is Miskito slaup yukuwaik ‘boat shelter.’ Lenakel nouanhuln is analyzable as /noua-nhul-n/ ‘opening-mouth-3SG.POSS.’ For this term, compare also Tehuelche kon kórken ‘bay, shore of river’ which may alongside k’on~k’on ‘river’ contain k’onk’en ~ konken ‘mouth’ (or perhaps k’or ~ k’or ~ k’oṛ ‘pasture’?), as well as the common ‘mouth’-metaphor in terms for estuary reported in section 20. Two sampled languages of Europe, Basque and Greek, colexify ‘breast’ and ‘bosom’ (Basque also ‘stomach, guts’ and Greek also “apopleptic fit”); this is a pattern peculiar to Europe (see Buck 1949:
38–39 for further Indo-European evidence and § 6.4.3.3. for some details on the history), and in three other sampled languages, Central Yup’ik, Hawaiian, and Takia, associations with ‘valley’ or ‘depression’ are found: Takia ilo- colexifies “inside, emotions, valley, bay,” Hawaiian Hono- colexifies ‘bay, gulch, valley’ (but occurs only as part of place names), and in Central Yup’ik (Yukon dialect), ilutak contains the base ilu- ‘interior’ and colexifies ‘valley, dip.’ Somewhat similarly, ilutuqaq /ilutu-tuqaq/ ‘be.deep-one.that.has.to.a.large.degree’ colexifies ‘bay’ with ‘depression’ and ‘deep place’ (there are also the terms kangíqqaq /kangiqq-qaq/ ‘headwaters-area.of.possessor’ and kangir-rluk ‘headwaters-one.that.has.departed.from.its.natural.state,’ the full meaning range of kangir- is “meaning, principle, source, headwaters of river, beginning” and “strait of water”). Similarly, Rotuman colexifies ‘bay’ with ‘hollow, cavity, recess.’ Yir Yoront larrngarrp (containing larr “place, site, tract, estate, country”) and Khalkha colexify ‘bay’ with ‘bend of river.’ Upper Chehalis s-qiwt-ci is analyzable as ‘continuative-stink=water/river,’ and also denotes ‘saltwater’ and ‘sea, ocean;’ colexification with ‘sea’ is also found in Nez Perce.

Other associations include: Yoruba has the (suspiciously long) terms i-ya-wọ omi ìkun sinu ilè ‘NMLZ-to.branch-to.enter water sea into land’ (compare also Japanese irie containing ir- ‘to enter’) and ñálo ti o wà lárin òwọ meji ‘space REL 3SG exist between pillar two.’ Muna kolowa also denotes a ‘path in a cave,’ and Nunggubuyu -duy- also a ‘burrow,’ while Chukchi (ka) arii iryin contains iryin ‘shore.’ Kolyma Yukaghir ğedaníl “semi-circular bay without an estuary”contains ańil “estuary.” Welsh llawrhyf also means ‘laurel,’ and cilfach also can refer to a ‘nook’ or ‘recess.’ Nuuchahnulth hita-čus is analyzable as ‘loc-dig.’ Fijian toba contains tō ‘filled, saturated with water or milk’ (toba also denotes a plant), and for Great Andamanese tōngmu and mūgu ‘face.’ There is a semianalyzable term where the identifiable constituent means ‘water, fresh water’ in Lenakel. Finally, Rotuman popo also means ‘rotten, decayed’ inter alia.

5. The Beak

Representation: 73.6%
Motivated: 66.8%
Thereof Analyzable: 15.9% Thereof Colexifying: 52.4%
Thereof by Contiguity: 3.2% Thereof by Similarity: 57.5%
Recurrent associated meanings: nose, mouth, snout/muzzle/nozzle, end/point, bird, tooth, lip, prow of canoe, thorn, peck, toe of shoe

To convey the meaning ‘beak,’ languages overwhelmingly choose body-part metaphors, at least where terms are synchronically motivated. Frequent are associations with the ‘mouth.’ The association is realized formally mostly by colexification, as found in Buli, Efik, Khoekhoe, Swahili, Baruya, Kyaka (where the relevant term in fact means ‘wide beak’ specifically), Toaripi, Abzakh Adyghe (among other meanings), Nivkh, Kashaya (the relevant term haʔbo is analyzable as /aʔaʔ-ʔbo/ ‘mouth-enlarge/swell.up’ and means ‘protrusion of the mouth’ and ‘external mouth’), Yaqui, Hupda (by the term nag'ōd, perhaps analyzable as nag’-ōd ‘mouth.related-inside’), Fijian, Malagasy, Rotuman, Samoan, and Tetun
(colexifying also ‘bank, shore;’ secondary associations in some languages that are likely genuinely linked with ‘mouth’ rather than ‘beak’ are not discussed here unless relevant, see section 124 for these). Six languages have morphologically complex terms with ‘bird’ acting as a contiguity anchor, such as Guaraní guyra-juru ‘bird-mouth.’ These are Kanuri, Mbum, Yoruba, San Mateo del Mar Huave (where ‘animal mouth’ more specifically is the meaning of the constituent), Guaraní, and Lenakel. Other complex terms where the second element is not ‘bird’ include Ngambay ngàw-tà ‘claw-mouth,’ Wappo naphúce, analyzable as /nán-phúce/ ‘mouth-poker,’ and Kiliwa haʔ=phaqy, which contains haʔ ‘mouth’ and phaqy ‘pointed’ (moreover, Hani meiq-tuv might be analyzable as meiq-tuv ‘mouth-peck,’ although meiq only occurs with the meaning ‘mouth’ in conjunction with haʔ, a classifier for hollow things, and both meiq and tuv have other meanings; a semianalyzable term with ‘mouth’ is found in Japanese). ‘Beak’ and ‘end’ or ‘point’ are colexifed in Buli, Efik, Ngaanyatjarra (here the term also means ‘face’ and ‘nipple’ inter alia), Abzakh Adyghe (also colexifying ‘beginning’ and other things), Basque (also colexifying ‘front, façade’ and ‘bit smidgeon, a little bit’), Ket (also colexifying ‘top’ and ‘protuberance’), Itzaj, Quileute, Bororo, Guaraní (here also colexifying ‘smoke’ and ‘vapor’), Piro (also colexifying ‘arrowhead’ specifically), Tehuelche (the relevant term is ñor ~ ñor ~ or ~ note the similarity to ñor ~ ñor ~ or ~ or ‘tooth;’ there is another phonologically similar term meaning ‘perhaps’), and Yanomámi. There is a semianalyzable term for ‘straight beak’ with the identifiable constituent meaning ‘point’ in Great Andamanese (also, in Cubeo, the root cãpi- occurring in cãpiło ‘beak,’ when suffixed with a different classifier, assumes the meaning ‘point, headland,’ which is an association found by colexification also in Fijian). At least for some of these languages, the association might be secondary, since the relevant terms in these languages also colexify ‘nose’ in addition to ‘end,’ and this association is in fact the second most frequent lexico-semantic tie to be observed, occurring by colexification in as many as 29 sampled languages (Yoruba, Gurindji, Ngaanyatjarra, Kosarek Yale, Abzakh Adyghe, also colexifying ‘beginning,’ Chukchi, Khalkha, Kildin Saami, Sora, Chickasaw, where the relevant term may also refer to the ‘bill of a hat,’ Itzaj, Lake Miwok, Nez Perce, Quileute (where in fact ‘nose’ and ‘mouth’ are colexified), Wintu (which also colexifies ‘stone, rock’ and ‘bare protuberance generally’), Copainalá Zoque, Aguaruna, where the relevant term also colexifies ‘wax,’ Cavineña, Guaraní, Huambisa, Macaguán, Miskito, Piro, Tehuelche, Tsafiki, Wayampi, Fijian, which also colexifies ‘cape’ and ‘mountain peak’ inter alia, and Hawaiian. An interesting situation is found in Yir Yoront, where “bottom of bird’s beak” is colexified with ‘mouth,’ and “top of bird’s beak” with ‘nose.’ Five languages, Laz, Cheyenne, Kiowa, Santiago Mexquititlan Otomí, and perhaps Bora have analyzable terms involving a constituent meaning ‘nose,’ the contiguity anchor being ‘bird’ in Laz, Cheyenne, and Kiowa, and ‘bone’ in Santiago Mexquititlan Otomí, while in Bora, the relevant term is perhaps analyzable as tju-wa ‘nose-CL.PLANK.’ Another frequent metaphor-driven pattern of colexification is that of ‘beak’ with ‘tooth,’ found in Baruya, Kyaka (here, the term denotes a ‘narrow beak’ specifically and also colexifies ‘food’ and “sharp, biting, erosive”), Itzaj (by a different term than that mentioned above; this one also colexifies ‘grain of corn’), Araba, Bora, Cashinahua, Lengua, and Rama. Compare also Embera kidhá ‘tooth’ with kidá ‘beak.’ White Hmong has kaus ncauj ‘beak mouth’ for both ‘beak’ and ‘fang, tusk, canine
teeth,’ while Highland Chontal has *lihay gaga* /lahay ḋaga/ ‘tooth bird’ and Chayahuita *inaaira natë* ‘bird tooth.’ This pattern is obviously very common in languages of South America. An association exclusively occurring by colexification in the sample is that with ‘lip,’ found in Swahili, Kyaka (colexifying “wide beak” more specifically), Carrier, Central Yup’ik, Jarawara (where the relevant term may refer to ‘fruit’ and ‘lump’ inter alia, likely due to the frequent homonymy in the language mentioned by Dixon 2004), Yanomamö (here the colexification is with ‘lower lip’ specifically), and Takia (here it is with ‘pouting lips’ more specifically).

A subsidiary pattern is the association with ‘snout,’ ‘muzzle,’ or ‘nozzle,’ found by colexification in Buli, Khoekhoe, Yoruba, Muna, Khalkha (where *xosiγu(n)* also may refer to ‘chatter,’ the ‘spur of a mountain,’ a ‘cape, promontory’ or ‘peak,’ and other things), Haida (also colexifying ‘mouth of vessel’), Kashaya, Lesser Antillean Creole French, Nez Perce, Quileute, Copainalá Zoque, Guaraní, Huambisa, Jarawara, and Hawaiian (note that in Nez Perce, Quileute, and Hawaiian, ‘nose’ is also colexified and in Jarawara also ‘upper lip’ is; in the other languages the association is not at the same time with other pertinent meanings). In San Mateo del Mar Huave, this association is realized formally by a complex term, namely *ombeay quiec* ‘animal.mouth bird.’ Possible other body-part metaphors are found in Nunggubuyu, where *dhamunung* is derived from *lhamunung* ‘chin’ (which is in turn related to *lha* ‘mouth’), and the Sko term *lóeto* resembles *loè* ‘ear.’

Metaphorical associations not based on the transfer of a body-part term to the ‘beak’ are the colexification with ‘thorn’ in Kyaka (where it is colexified with ‘narrow beak’ more specifically), Bororo, and Lengua, and that with ‘prow (of canoe)’ in some South American languages, namely Aguaruna, Bora, Guaraní, Huambisa, Piro, and Wayampi (here by the analyzable term *sĩ-ngɛ* ‘nose/beak-old’), as well as Hawaiian. The cluster in South America is suggestive of an areal pattern of South America, and indeed it may be so, but Blust (2009: 314) reports that this association is also common in Austronesian languages, as suggested by its presence in Hawaiian in the present sample. San Lucas Quiaviní Zapotec and Hawaiian colexify ‘beak’ with ‘handle of pitcher’ and ‘beaker of pitcher’ respectively, and in Khalkha and Hawaiian, there is colexification with ‘toe of shoe’ (the relevant Hawaiian term may also refer to the “thick pearl of pearl-shell shank”).

The only recurrent pattern in the sample that is not metaphor-based is the association with verbs meaning ‘to peck,’ and even this pattern is highly restricted areally, namely to Western North America. In Upper Chehalis, the ‘beak’ is called *ɬákw̓* /ɬə́kw̓/ ‘peck=instr,’ in Nuuchahnulth *ƛ̓upk̓y̕ak* is analyzable as /ƛ̓upk̓-y̕ak/* ‘peck-instrument,’ and in Ineseño Chumash, the same root is used for ‘beak’ and ‘to peck’ (but note the evidence from Hani discussed above and that Tetun has the redundant complex term *ibun-tutu-n* ‘mouth/beak-peck-singularative’).

Still other associations include: Khoekhoe *ammi* also means ‘deep furrow,’ Kyaka *nenge* also ‘sharp’ inter alia, Greek *rámfas* also ‘burner, jet (of light),’ Welsh *pïg* also ‘spout,’ and Wintu *sɔ* also ‘stone, rock’ and *sono* also ‘point of rock.’ Arabela colexifies ‘beak’ and ‘claw of crab,’ and Bororo has one term colexifying ‘beak’ with ‘plait’ and ‘fibre,’ and another one colexifying it with ‘sting,’ both times among other colexified meanings. Tsafiki uses the same term to refer to the beak of a bird as well as to a ‘box,’ and Wayampi *sĩ* also
means ‘white.’ In Hawaiian, the semantic range of the relevant term *ihu* also includes “mouth or entrance, as of a harbor, river, or mountain pass or gap” inter alia.

6. The Bird

**Representation:** 98%

**Motivated:** 20.9%

- Thereof Analyzable: 10.9%
- Thereof Colexifying: 10.7%
- Thereof by Contiguity: 9.2%
- Thereof by Similarity: 1.6%

Recurrent associated meanings: animal, chicken/fowl/duck/goose, fly, wing, airplane, penis, insect, feather, game, small/little, sky

Terms for ‘bird,’ if they are motivated, are often related to the next higher level in the ethnozoological taxonomy, namely ‘animal.’ In fact, Upper Chehalis, Highland Chontal, Huambil, Jarawara, as well as Fijian, Rotuman, Kapingamarangi and Samoan, have terms which colexify the two ranks in one term, thus putatively being on the stage of lexical expansion in which terms on the life-form level come to include the unique beginner rank (Samoan also colexifies ‘cattle’ specifically as well as ‘thing’ generally; Highland Chontal also colexifies ‘bug’ and may be an instance of the “wug”-category as defined by Brown 1984; note also that Nunggubuyu, very similarly, has a term also capable of referring to ‘terrestrial game animals’). More frequently, however, are complex terms for ‘bird’ where one of the constituents is ‘animal’ and the other serves to specify and narrow down the semantic range. Terms where the second element is ‘to fly’ are found in Buli (*jayirim* /jaab-yirim/ ‘animal/thing-flying’), Nivkh (*pyi-na* ‘fly-animal’), and San Lucas Quiaví Zapotec (*ma'anyarzuh* /ma’an-ruu/h/ ‘animal-flies;’ the language also has the alternative term *ma’any zhaybàà* ‘animal sky’). However, there are also terms of the derived type, as in Sahu *soloro* (soloro ‘fly’), Nez Perce *weyoxliket* /weye-lixnik-e*·t/* ‘fly-move.around-AGT,’ Nuuchahnulth *maamaati* /maa-mat-i*·p/* ‘RED-fly-THING....ED,’ and Bora *wahpê-be* ‘fly-CL.M.S.’ Furthermore, semianalyzable terms where one of the constituents means ‘fly’ are found in Basque, Central Yup’ik, Cavineña, and Toba (here, the indentifiable constituent means more specifically ‘to fly alone’), and in Wintu, the identifiable constituent of an idiolectal word for ‘bird’ is “to glide, spread the feathers to glide” (see also Buck 1949: 183 on this association in Greek and some Celtic and Germanic languages). Frequently, terms involving ‘wing’ are also found (as is also the case in Greek and Sanskrit, see Buck 1949: 183 and § 5.4.2.7.2.). Complex terms with ‘animal’ being the second constituent are Yir Yoront *minh-puth lon* ‘animal-wing with’ and Ket *keyassel*, analyzable as /kêŋ-assel/ ‘wings-wild.animal.’ Other terms in which the meaning ‘wing’ is used include Buin *perekupa*, containing *kupa* ‘wing’ and presumably *pere* ‘to turn, roll’ (the term also means ‘go hunting for birds’ as a verb), Khalkha *ziyrg-ten* ‘wing-coll.,’ and Central Yup’ik *yaqulek* /yaqaq-lek/ ‘wing-one.having’ (dialectally meaning ‘angel’). There is a semianalyzable term in Miskito, and the association is diachronically detectable also in Dongolese Nubian. In Hupda, the ‘bird’ is called *hũ-tã’h*, perhaps analyzable as ‘animal-small,’ and a term with the same structure is encountered also in Miskito. Complex terms of the derived type in which the meaning
Lexico-Semantic Associations

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‘feathers’ figures are found in Carrier, Kiliwa, and Abipón; note also Cahuilla wiwikmal ~ wikitmal ‘bird’ and wikil ‘feather’ (as well as múlmal ‘butterfly’?).

A relatively frequent association is with ‘chicken,’ ‘fowl,’ ‘duck,’ or ‘goose’ occurring by colexification in Basque, Chukchi, Greek (see also Buck 1949: 183 for evidence from Ancient Greek), Khalkha, Welsh, Nez Perce, Central Yup’ik, Abipón (also with ‘stork’ specifically), Lenakel and Tetun. In addition, in Muna manu is ‘chicken’ (compare the apparent cognacy with the ‘animal’-term in Rotuman and other Austronesian languages mentioned above) and namanamu is ‘bird,’ while Sahu namo diwang is analyzable as /namo diwang/ ‘chicken sky.’ This is interesting in the light of Berlin’s (1972) report that in Tzeltal the indigenous term for ‘bird,’ mut, experienced a semantic narrowing induced by the introduction of the domesticated chicken by the Spaniards to the effect that its meaning potential was reduced to ‘chicken.’ In the modern language, ‘bird’ is expressed by the compound telikil mut ‘forest chicken.’ A similar “markedness reversal” (Witkowski and Brown 1983) may have taken place in Sahu and likely also in Muna (but note that there are languages, such as Buli, in which ‘fowl’ is specifically excluded from the semantic range of the general ‘bird’-term).1 In three sampled languages, Ancash and Imbabura Quechua as well as Tetun, terms for ‘bird’ are metaphorically extended to ‘penis’ (a pattern known also in other languages, compare e.g. English cock), and in another three, Nunggubuyu, Jarawara, and Lesser Antillean Creole French, terms also mean ‘game’ (‘terrestrial game animals’ more precisely in Nunggubuyu). Swahili, Mali, Yir Yoront, and Toba colexify ‘bird’ with ‘airplane’ (Mali ‘large bird’ specifically; on complex terms for ‘airplane’ on the basis of ‘bird,’ see section 72). A Khalkha term colexifies ‘bird’ with ‘child,’ and the Bwe Karen term cuɓápho contains -pho ‘child.’

It should also be pointed out that in some languages, ‘small bird’ and ‘large bird’ are lexically distinguished; this pattern is found in the sample in Rendille (where the term for ‘large bird’ also denotes the ‘vulture’ specifically; compare Sasse 2002: 1053 on this in Cushitic languages in general), Carib, and Yanomámi. In Buli, jayarim may also refer to an ‘insect,’ and the same is true of the Miskito term daivwan liupia ‘animal small’ and the Rotuman term mammanu ferfere ‘bird/animal restless.’ Hani colexifies ‘bird’ with ‘meat,’ for which compare the likely relationship between Yei yarmak ‘bird’ and makar ‘flesh.’

Further unique associations are rare: In Buli, nuim is also the name of a mark made in the skin believed to act as a remedy against a disease caused by a particular bird. Efik i’niën can also refer to a kind of magical conjuration. In Khoekhoe, ani ~ anis ‘bird, cock’ is derived from ani- ‘decorate, adorn, color in, dress up,’ Ngambay yēl also means ‘to feel sick,’ while in Kwoma, the relevant term also includes ‘flying foxes’ in its denotational range and that in Kyaka also ‘bat’ alongside other meanings (but not flying insects). The relevant Muna term also denotes a children’s game involving flying objects, and that in Toaripi also a kind of flying fish. Sko tāŋ also means ‘fishing net,’ while Basque txori also means ‘chief,’ ‘mumps,’ ‘hinge,’ ‘eyelet,’ ‘dickey’ and ‘bun.’ Itzaj ch'iich also means “pick out (small things), delouse,” and for Kiowa kuatou compare tou ‘house.’ Wintu čil also means

1 The precise denotatum of English chicken is subject to some dialectal variation and there thus may be ambiguities here due to the use of English as the metalanguage.
‘eclipse’ and ‘bear.’ The quite obviously onomatopoetic Wintu term *tilirtilit* also denotes the ‘snipe’ specifically, while Yuki *č̓i·mit* also the ‘blackbird’ specifically. Arabela *šiyojua* contains the classifier *-jua* which is glossed as ‘tierra, volador’ in the source, and for Maxakalí *putuxnäg* compare *putux* ‘heavy.’ Sáliba *lìde* also denotes the ‘moriche palm,’ while Wayampi *wila* also denotes a round dance consecrated to birds, as well as, presumably by homonymy, ‘tree, wood.’ Yanomámi *yõõ pesi* ‘big bird’ contains *pesi* ‘sheath, nest’ (the term also has other meanings), Bislama *pijín* is rarely used for Bislama, but commonly employed to refer to “Melanesian Pidgin as spoken in Solomon Islands and Papua New Guinea,” i.e. probably Tok Pisin. Hawaiian *manu* also denotes “any winged creature” as well as ‘wing of a kite.’ Lenakel *menuk* is also the name of a child’s illness said to be caused by birds. Manange *iyima* also means ‘gill, ear,’ Sedang *chêm* is also the Sedang name of the star Antares, and Yay has phonologically identical terms for ‘bird’ and ‘to hoe.’

7. The Blossom

<table>
<thead>
<tr>
<th>Representation: 93%</th>
<th>Motivated: 23.4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thereof Analyzable: 7.7%</td>
<td>Thereof Colexifying: 15.7%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 4.2%</td>
<td>Thereof by Similarity: 7.3%</td>
</tr>
<tr>
<td>Recurrent associated meanings: plant, bud, fruit, eye, pretty, shine, burst, pod, child, lid/cover, sprout, rose, picture, grass, head, yellow</td>
<td></td>
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Lexico-semantic associations of the meaning ‘blossom’ (‘bloom,’ ‘flower’) are manifold, though none of them is particularly frequent cross-linguistically. Six languages, Efik, Khoekhoe, Yoruba, Baruya, Itzaj, and Pawnee colexify ‘bud’ by temporal or provenience contiguity (and Pawnee in addition ‘flower bud’ specifically). Another Itzaj term colexifies ‘flower’ and ‘sprout, seedpod,’ and ‘pod’ and ‘flower’ are also colexified in Rao. Efik (by a term derived from a verb meaning ‘to peel’ and colexifying ‘seed’ inter alia), Kaluli, Kyaka, Sahu, and Samoan colexify ‘flower’ with ‘fruit’ (“inedible tree fruits” in Kaluli specifically; Samoan also colexifies ‘egg’ and ‘products,’ compare the colexification with ‘roe of fish’ in Rotuman). Metaphor-driven conceptualizations, however, are more frequent than contiguity-based ones. Badaga and Hawaiian colexify ‘flower’ and ‘child(ren)’ (the Badaga term also means ‘shoot’ and ‘harvest,’ and the semantic range of the relevant Hawaiian term also includes “tassel and stem of sugar cane” and ‘arrow, dart’ inter alia), Buli and Bororo colexify ‘flower’ and ‘stomach’ (the Bororo term also means ‘liquid, blood’ and ‘shininess’ inter alia, and the Buli term also includes ‘pregnancy’ alongside other meanings in its semantic range, see discussion of connections between ‘stomach’ and ‘womb’ in section 148). In Pawnee, the generic term for ‘flower,’ *kiriktarahkataaru*, which also, however, denotes the ‘sunflower’ more specifically, contains *kirik- ‘eye’* and *rahkataar* ’be yellow’ (‘flower’ is colexified with ‘yellow’ in Malagasy). Furthermore, Wintu *tuh* ‘flower, bloom, blossom’ betrays a lexical connection to *tuh* ‘eye.’ The lexicographer (Pitkin 1984) remarks: “parallel to English daisy, i.e., day’s eye.” Similarly, in Central Yup’ik, the base *uit* in means ‘to open one’s eyes, to wake up, to bloom (of flowers),’ and parallely, Burarra
colexifies ‘to have eyes open’ with ‘be in bloom,’ by the analyzable term ga-na ~ ja-na ‘take-see/look.at.’

In Yir Yoront, par-thaw is analyzable as ‘head/top-mouth,’ and in Cheyenne, tsé-péhevéstseavó’o’e also contains htsédá ‘head;’ lexicographers state that a literal morpheme-by-morpheme translation of the entire term would be “that.which.is.pretty-headed-growth” (cf. Central Yup’ik nau-cetaaq ‘grow-something.used.to.cause.to’), and also note that “[it] is quite likely that there was no historical word for ‘flower’” (for ‘pretty’ as the meaning of a constituent, compare colexification of ‘pretty’ and ‘flower’ in Miskito, Ket aqta daan is ‘pretty/good grass,’ and for the association with ‘mouth’ compare Blackfoot waapistsisskitsii ‘flower’ with waapi’tstsi ‘empty one’s own mouth of’). The comparison is likely based in both cases on the fact that both ‘head’ and ‘flower’ are roundish structures that are found on top of the human body or a twig of a tree or bush or flower respectively. This is further corroborated by Rotokas kokookua ‘open flower,’ which contains kokoo “food on plate, something which is placed on top of something else” (see Buck 1949: 525 for a similar association with ‘point’ and ‘edge’ in Indo-European). Rama and Yay colexify ‘flower’ with ‘lid’ or more generally ‘cover’ (the Yay term colexifies in addition ‘wall of a house’). In Dongolese Nubian, ë also means ‘fire, flame’ and ‘light,’ and perhaps similarly, Yoruba itanna ewéko is analyzable as ‘lamp.lightning plant,’ Muna kambea is derived from mbea “glow, shimmer, shine, twinkle,” and in Lake Miwok, ‘to bloom’ is colexified with ‘to shine’ as of the sun inter alia (see Buck 1949: 526 for Indo-European). Furthermore, for reasons unknown, two languages of Eurasia, Khalkha and Kolyma Yukaghir, colexify ‘flower’ with ‘picture;’ in Khalkha, the relevant term also denotes ‘smallpox,’ and another Khalkha term denotes in addition the concepts ‘comb of cock’ as well as ‘club in cards,’ in Kolyma Yukaghir the relevant terms also means ‘embroidery,’ ‘ornament’ and ‘color.’

Itzaj and Lake Miwok colexify ‘flower’ with ‘sprout.’ Comanche lubutsaakaťy contains a verb referring to something blowing up or bursting, and ‘to bloom, blossom’ and ‘to burst’ are colexified directly in Nunggubuyu and Itzaj. The Dongolese Nubian and Abipón terms also denote the ‘rose’ specifically (according to Wehr 1976: 1061 this is a pattern of autohymonomy also found in Standard Arabic, so that areal spread or even direct borrowing into Dongolese Nubian is at least a possibility).

Before listing patterns found only in one sampled language each, it must be pointed out (as already done in chapter 3) that a problem with the concept ‘flower’ is that the English word flower is ambiguous between the reading ‘blossom’ and ‘smallish blossoming plant’ (German blüte vs. blume). This hampers systematic analysis, as lexicographers often do not make clear which of the two meanings of English flower is meant. It cannot be excluded that colexification with ‘plant,’ found in Meyah, Badaga, Kildin Saami (here also with ‘grass’ and ‘vegetable’), San Mateo del Mar Huave, Santiago Mexquititlán Otomi, and Central Yup’ik is in some cases due to lexicographers selecting the blume-sense of ‘flower,’ and the same is probably true for terms such as Ket aqta daan ‘pretty/good grass.’ Another point worth mentioning is that terms for ‘flower’ are in many languages deverbal in nature, with a verb meaning ‘to bloom, blossom’ being derivationally basic (see again Buck 1949: 526 for Indo-European).
Other associations include: Hausa *huda*, a term of the Kuda dialect for the flower of any plant other than that of the tobacco plant, also means “be slightly split,” “ooze with water,” and ‘to pierce.’ Ngambay *pitu* also means ‘white hair.’ Swahili *ua* also means ‘fence’ and ‘yard, court,’ while Yoruba *đđđđ*, as an adjective, denotes the color ‘scarlet.’ Kwoma *she* also means ‘ash’ and ‘faeces,’ and Kyaka *jingi* also ‘waterfall, rapids’ (for the meaning ‘flower,’ *isa* ‘tree, bush’ may be used in apposition). Nunggubuyu *-dhag* is derived from *ḥag* ‘feather;’ on the basis of this term, there is the complex verb *-ṭhagida-* meaning ‘to be in bloom,’ presumably originally containing -*wida-* ‘to be new moon’ (the lexicographer notes that “the semantics make a synchronic segmentation questionable”). Similarly, Buin *paru* ‘feather, plumage’ is also glossed as “(used for) flower.” Sko *pang* in *ripang* ‘flower’ (where *r* means ‘tree, wood, scales of fish’) is identical segmentally to *pang* ‘pus.’ Cheyenne *vehpöste* “primarily means ‘leaf’ but is sometimes extended to mean ‘flower’” (compare also Nivkh *enj tjomr* ‘flowering leaf’). Muna *wuna*, a term for ‘bloom’ which is however not used for the flowers of most trees and flowers, also denotes “[t]he island of Muna,” as “according to legend it is called Muna (=flower) because the first inhabitants saw a stone with flowers growing on it.” Badaga *huː* ‘*uː*’ also means ‘tail-side of coin,’ and Japanese *hana* also ‘nose, nasal mucus’ (the terms are prosodically different though, and in the ‘flower’-sense, *hana* may be an early borrowing from Austronesian). The literal meaning of Cheyenne *tsëhes* ‘tsëhes’ tsëhëstse, a Cheyenne term for ‘flower,’ is stated to be “various kinds how they grow.” Chickasaw *pakli* is derived from *pakli-* to open, bloom,’ and similarly, Lake Miwok *tike ~ take*, a verb meaning ‘to bloom,’ also may mean ‘to come out, emerge’ inter alia. Itzaj *wach’al* is derived from *wach’* -‘to loosen, disentangle,’ and Wintu *lul* is connected lexically to *lul* ‘long cylinder.’ San Lucas Quiahuiztlá *giala* can also refer to a mixture of corn meal floating on top of tejate (a traditional Oaxaca beverage made from maize and cacao). Aguaruna *yaqakjá* is also a man’s name (compare also the segmental similarity to *yaqju* ‘yellow’), Cashinahua *jua* also denotes ‘corn silk,’ and Cayapa *llulú* appears to be a reduplication of *llu* ‘penis, wood.’ Chayahuita *nitërinso* is derived from *nitërin* ‘bear fruit,’ and Jarawara *mowe* also denotes the ‘Brazil nut.’ Tsafiki *luñ* may also refer to a ‘cockscomb’ and is related by unknown means to *luban* ‘red,’ while Toba *lasovixa* is a nominalization of *asov*, colexifying ‘to bloom’ with ‘to fray, frazzle.’ Yanomamí *horehore* appears to be a reduplication from *hore* ‘hidden below.’ Hani *yeiv* also means ‘not firm,’ Tetun *funan* can also assume the meaning ‘mildew’ and ‘product, interest,’ and *aifunan*, a compound with *ai* ‘tree, plant,’ can also refer to one’s ‘girlfriend.’ Vietnamese *bông* also denotes ‘cotton,’ Yay colexifies ‘flower’ with ‘bone,’ Bislama *flaoa* also denotes “any plant grown for decoration (as against plant grown for food)” and Lesser Antillean Creole French *fle* is also used with the meanings ‘best’ and ‘choice.’

8. The Branch
Representation: 95%
Motivated: 40%

Thereof Analyzable: 12.5% Thereof Colexifying: 27.5%
Thereof by Contiguity: 9.9% Thereof by Similarity: 28.3%
Recurrent associated meanings: arm, hand, leg, wing, tributary, horn, knot in tree, tree, fork/divide/separate/branch off, bush, shoot/sprout, point/end, fin, wing of army, descendants, prong, leaf, member, root, bone

The most frequent lexico-semantic association for ‘branch’ is metaphorical in nature and consists of lexical ties with either ‘arm,’ ‘hand,’ or both (assuming in the following discussion that terms glossed as ‘limb’ do not exhibit any of the patterns of colexification). This pattern is also attested diachronically in the history of Germanic according to Buck (1949: 523). Formally, both colexification and morphologically analyzable terms are amply attested. All in all, the association with ‘arm’ is found in 29 sampled languages, by colexification in Koyraboro Senni, Buin, Burarra, Kwoma, Mali, Ngaanyatjarra, Khalkha (more generally, ‘limb’ is colexified here), Ineseño Chumash, Itzaj, Kashaya, Kiliwa (by the analyzable term *tʰaʔ-tay ‘OBJ+bone=be.large’; ‘branch’ and ‘bone’ are colexified, inter alia, in Bororo), Quileute, San LucasQuiaviní Zapotec (colexifying ‘upper arm’ and ‘upper arm of front leg of animals’ specifically), Carib, Cashinahua, Jarawara, Bislama (among other colexified meanings), Great Andamanese, Fijian (also colexifying ‘upper arm’ specifically), Hani (also colexifying ‘branch of clan’), and Lenakel, and by analyzable terms in which ‘tree’ acts as a contiguity anchor, as in Yir Yoront yo-puth ‘tree-arm,’ in Anggor, Dadibi, Yir Yoront, Highland Chontal, Santiago Mexquititlan Otomí, Chayahuita, Kaingang, and Yanomámi; furthermore, a semianalyzable term where one of the constituents is ‘arm’ is found in Yana. With ‘hand,’ colexification is found in Koyraboro Senni, Yoruba, Buin, Kwoma (also with ‘handprint’ and “artist’s personal style of painting and carving”), Mali, Ineseño Chumash, Itzaj, Quileute, San LucasQuiaviní Zapotec, Jarawara, Bislama (again, among other colexified meanings), and Lenakel, and analyzable terms are present in Mbum (*nduk-ka ‘hand-tree’), Anggor, and Kosarek Yale. Moreover, there is a semianalyzable term in Pipil. Now, languages frequently colexify ‘hand’ and ‘arm’ (Brown 2005b), and where the above groups overlap, this is due to such colexification.

Other complex terms with ‘tree’ as contiguity anchor include One aila plana ‘tree two,’ San Mateo del Mar Huave omal xiül ‘point tree’ (for which compare colexification of ‘branch’ with ‘pointed, pointed object’ in Abzakh Adyghe and with ‘pointed, sharp’ inter alia in Muna), and Tetun ai-sorun ‘tree-side.’ Furthermore, Nuuchahnulth -mapt ‘plant, bush, tree,’ and semianalyzable terms in which one constituent is identifiable as ‘tree’ (and sometimes ‘wood,’ see section 65.) are found in Berik, Sko, Waris, Rama, and Bwe Karen. However, ‘tree’ cross-linguistically not only serves as a contiguity anchor in complex terms, but colexification of ‘tree’ and ‘branch’ by spatial contiguity, or more precisely meronymy, is also attested, namely in Ngambay (where many other tree-related meanings are colexified as well, among them ‘forest’), Buin (colexifying ‘small tree’ and a particular tree species more precisely), Welsh, Blackfoot, and Kiliwa. Similarly, in Efik, okpüt also colexifies “branches of the young trees lopped off in clearing a plantation” as well as “the trees themselves being left as yam sticks.” Moreover, Dongolese Nubian, Muna, and Khalkha colexify ‘branch’ with ‘shoot, sprout,’ and Haida hlaʔatii also means ‘bush,’ “stem (raceme or panicle) of berries or of blossoms grow-
ing on bushes” and ‘supporting frame’ inter alia; the association with ‘bush’ is also found in Middle Eastern and Southeastern Tasmanian and Nuuchahnulth.

Interestingly, an alternative to ‘hand’ and/or ‘arm’ is colexification with ‘leg,’ as found in Buli, Khalkha (‘limb’ generally is colexified here), Arabela, and White Hmong (in Buli also with ‘hind leg,’ ‘foot’ and other meanings specifically, and in Arabela also with ‘handle of pot,’ ‘backrest of hammock,’ ‘grip of bag,’ and other things), and with ‘foreleg’ specifically in Buin, Ngaanyatjarra, San Lucas Quiaivini Zapotec, and Fijian (in Buin also with ‘pectoral fin;’ ‘fin’ is colexified with ‘branch’ inter alia also in Hawaiian). As in Buli, Nunggubuyu colexifies ‘branch’ with ‘hind leg, upper leg’ specifically, and has the redundant complex term -n’u-dhalbar ‘-guts-upper.leg/hind.leg,’ for which compare Maxakalí mím-máŋ ‘wood-small.intestine.’ Similarly, colexification of ‘branch’ and ‘leg of insect’ is found in Kwoma, while Wappo colexifies ‘branch’ with “many-branched, many-legged.”

Other notable metaphor-driven patterns of colexification are that with ‘horn’ or ‘antlers,’ occurring in Hausa, Ngambay (colexifying also other meanings), Basque, Kildin Saami (more specifically, “branching at the antlers”), Abipón (here, ‘jump’ is colexified in addition, and there is a redundant complex term involving ‘wood’), and Toba, that with ‘wing’ in Dongolese Nubian, Buin, Burarra, Kwoma, Ngaanyatjarra, Cashinahua, Jarawara, and Fijian (Dongolese Nubian, notably, is the only of these languages in which the association with ‘wing’ is surely genuine, that is, in which the relevant terms do not also colexify ‘arm’), and that with ‘tributary’ of a river in Khoekhoe, Baruya, Basque, Khalkha, Arabela, Jarawara, and Toba (and in Burarra, mernda ~ marnda and gurnjirra also denote the ‘creek’ itself, an association that is at least etymologically also detectable in Nunggubuyu and is also attested in Germanic according to Buck 1949: 524). Semantic extension to ‘wing of an army’ is documented for Hausa and Hawaiian (and to ‘division’ in Lesser Antillean Creole French), to ‘descendants’ in Hausa and Khoekhoe (in which latter the relevant term also can refer to a ‘tiller,’ ‘sucker’ and ‘water-shoot’ and “leg of skin/hide”), to ‘member,’ as of e.g. a society, in Khalkha and Hawaiian (in both languages alongside other meanings), and to ‘prong’ in Khalkha and Rotuman (in Khalkha also to ‘component’ generally, as well as ‘department,’ ‘detachment’).

Terms for ‘branch’ are also frequently associated lexically with meanings such as ‘to fork,’ ‘to divide,’ ‘to separate,’ or ‘to branch off’ (see Buck 1949: 523). Kaluli i gasa is analyzable as ‘tree things.that.separate’ (the language has another term, i élé, where élé is identical segmentally to the word for the ‘moon’), Kyaka paka pingi as ‘branched/divided root/rudiment/base,’ itself denoting a ‘division’ or ‘fork’ as well, and Pawnee raktwai’u’ as /rak-kita-wi-u’/ ‘tree/wood-be.branching-??-NOM.’ Khalkha has a derived term, and such associations are also found by colexification in Badaga, Kildin Saami, Rotuman, and Sedang (furthermore, Sahu sasalanga colexifies ‘fork in tree, branch, fork in road,’ and Muna tuna also means ‘fork of fingers and toes’ as well as ‘to bud’). Furthermore, five languages of Western North America, Carrier, Upper Chehalis, Lake Miwok, Nez Perce, as well as the Nunivak Island dialect of Central Yup’ik colexify ‘branch’ and ‘knot in tree’ or ‘knot in wood,’ and two sampled languages, Gurindji and Nuuchahnulth, colexify ‘branch’ and ‘leaf’ (Gurindji more specifically ‘leafy branch’ while Nuuchahnulth also uses the relevant term to denote the ‘Kinnikinnick Berry’). Ngaanyatjarra colexifies ‘side root,’ and Buli ‘root’
generally (compare the association with ‘root’ in Indo-European mentioned by Buck 1949: 523).

Other patterns found in the data are: Efik colexifies ‘branch’ with ‘root shoots of cereals,’ and another Efik term, ṅ’ök, is derived from kök, meaning ‘to overlay, overlap’ and ‘to heap up’ inter alia. Khoekhoe ḗnâub also denotes the ‘brim of a hat,’ Rendille colexifies ‘branch’ with ‘notch’ as well as ‘(male) dog,’ and Yoruba with ‘spray.’ Muna karagha also denotes a “large natural drain, ravine” inter alia, tuna also means ‘bud’ as well as ‘to bud, sprout,’ and ragha also ‘plot, field, piece of land.’ Ngaanyatjarra mirna may also refer to a “pannikin, mug, cup,” ‘sleeve of dress,’ and “steering arm or wishbone of vehicle.” Sahu colexifies ‘branch’ with “midrib of a palm frond,” while Abzakh Adyghe qʼatame, a formally redundant compound of qʼa ‘branch’ and tame ‘wing,’ may also refer to ‘grape,’ and qʼare also means ‘hard, rough, raspy.’ Badaga mole also means ‘nail’ and ‘peg’ and sui also ‘whorl of hair.’ Basque adar also can refer to a ‘bedpost’ or ‘chairpost,’ as well as a ‘lineage.’ Khalkha nailzayur ~ nailzur is analyzable as /nailza-yur/ ‘swing-INTR’ (the variant nailzayur also means ‘glanders’) and another Khalkha term colexifies ‘branch’ with ‘tendril,’ while Welsh cainc also means ‘tune, song’ and ‘knot.’ Nuuchahnulth colexifies ‘branch’ with ‘rind, bark’ as well as, by another term, with ‘plant.’ Wintu lōb is said to be connected to lēw ‘oscillate’ as well as to meanings like ‘hanging, overhang.’ The base ava- in Central Yup’ik awayaq occurs in other terms with the meaning ‘son.’ Aguaruna tsajám(pe) also means ‘finger,’ Cashinahua punyun also ‘sleeve,’ Embera huwáte also ‘stick pole’ (the meanings are associated with different genders), and Jarawara mani/mo, colexifying already ‘hand,’ ‘arm,’ ‘wing’ and ‘tributary,’ furthermore may refer to a ‘watch band’ and ‘bunch.’ Macaguán pebukrán might be semianalyzable (pebú, ‘fruit’), and Sáliba anojahñojo appears to contain anojaha ‘shoulder.’ Wayampi colexifies ‘branch’ with ‘head’ and other meanings, and Great Andamanese åkčáti appears to be derived by prefixation of a possessive prefix from čáti, a term for a ‘yam species.’ Bwe Karen colexifies ‘branch’ with ‘narrowest part of something,’ and Fijian inter alia with ‘store of the house’ and ‘page of book.’ Kapingamarangi manga also means ‘to turn brown from heating’ and ‘to tan,’ Hawaiian lāhā colexifies ‘coconut frond’ and ‘to diverge,’ among many other meanings, and mana also means ‘mana,’ ‘power,’ and ‘variant, version,’ again among other meanings. Finally, Kapingamarangi colexifies ‘branch’ with ‘branch of government.’

9. The Bud

Representation: 51%
Motivated: 53.5%
Thereof Analyzable: 19.7% Thereof Colexifying: 33.8%
Thereof by Contiguity: 10.5% Thereof by Similarity: 7.9%
Recurrent associated meanings: shoot/sprout, flower/blossom, to sprout, seed, eye, young leaf, child, tobacco, pimple, button, fruit, foam, egg, burst open

Terms for the ‘bud’ are sometimes associated lexically with the meaning ‘to sprout.’ Yoruba has Ṣhù ohun ọgbìn ‘sprint thing plant,’ Berik fás feresu /fás feresu/ /zero/NEG sprout,’ in Chayahuita pichopitērinso’ is lexically related to pichopitérin ‘to sprout,’ Tetun
has ai-tubuk ‘plant-to.sprout,’ while ‘bud’ and ‘to sprout’ are colexified directly in Hausa and Muna. Colexification with ‘shoot, sprout’ (and sometimes also ‘seedling’) is attested in Kyaka, Ngaanyatjarra (also with “small plants emerging from the soil” as well as “budding grain, unripe grain” specifically), Rao, Badaga, Basque, Welsh, Pipil (the relevant term -mulinka is derived from -muluni ‘to swell up, dry out’), Wappo, Lesser Antillean Creole French, Aguaruna, Arabela, Bora, Embera, Guaraní, Ancash Quechua, Yanomámi (which also colexifies ‘new branch’), and Tetun, in which latter some of the relevant terms are analyzable: ai-bo’as ‘plant-burst’ and ai-dikin ‘plant-shoot.’ Ten languages in the sample showcase associations between the meanings ‘bud’ and ‘flower’ or ‘blossom.’ These are Efik, Khoekhoe, Yoruba, Baruya, Itzaj, and Pawnee by colexification (in Khoekhoe and Pawnee, relevant terms are deverbal derivatives from verbs meaning ‘to bloom,’ while in Itzaj, wach’il, which can also mean ‘tassel,’ seems to be derived from wach’ ‘to loosen, disentangle;’ moreover, the Samoan term may optionally be enhanced by an element meaning ‘to open’). As for complex terms, the Basque term is metaphorical and based on ‘eye’ (lore-begi ‘flower-eye,’ note also direct colexification of ‘eye’ and ‘bud’ alongside other meanings in Ancash Quechua and Hawaiian as well as Piro yhale-xi ‘eye-fruit/seed/DIM’ which, in addition, colexifies ‘ankle’ and ‘belt buckle’), while Kyaka jingi ene is analyzable as ‘flower unfinished,’ Wayampi poti-yat as ‘flower-child’ and Kapingamarangi akai modo as ‘flower unripe.’ Furthermore, three sampled languages, Sko, Jarawara (by the analyzable term aka-bori ‘wear-container/nest’), and Hawaiian, colexify ‘bud’ and ‘young leaf,’ and in two sampled languages, Buri and Tetun, a lexical association with the meaning ‘burst’ or ‘burst open’ is found - in Buri by colexification (also with ‘to pierce,’ ‘to rise’ inter alia), and in Tetun by the complex term ai-bo’as ‘plant-burst;’ furthermore, Piro muhip-werekatu also appears to contain hipwere ‘to burst open.’ Colexification with ‘fruit’ is found in Efik (by a term derived from a verb meaning ‘to peel’ inter alia) and Sáliba (also with ‘seed’ in this case, as in Efik and Lesser Antillean Creole French, which latter also colexifies ‘germ’ and ‘rose-bud;’ note also Oneida yonshute?, containing -nah- ‘seed, grain, oats’ and -N-ut- ‘be attached,’ and the Piro term already mentioned above). Efik and Toaripi colexify ‘bud’ with ‘tobacco’ (“trade tobacco, tobacco twist” specifically in Toaripi), and Khoekhoe and Ancash Quechua with ‘foam’ (the Khoekhoe term denotes the bud of Acacia Watkins specifically).

Further metaphorical associations include that with ‘child,’ occurring by colexification in Tuscarora (here also with ‘embryo’) and Hawaiian (where the relevant term also has a range of other meanings) and by a morphologically complex term (poti-yat ‘flower-child’) in Wayampi (note also colexification of ‘bud’ with ‘descendant’ in Wichi), as well as the colexification of ‘bud’ and ‘pimple’ in Fijian and Lesser Antillean Creole French (also with ‘protuberance’ generally inter alia in Fijian). In two languages of the sample, Lesser Antillean Creole French and San Lucas Quiaví Zapotec, the relevant terms also mean ‘button;’ this is likely due to copying of the pattern of colexification in the lexifier language French for the former and to that in the donor language Spanish (btoony is a loanword from Spanish botón) in the latter language. Finally, Kaingang jurm kį jê ‘flower bud’ looks as if it contains jê ‘tooth,’ and the same is true of Meyah ofoncow ‘to bud’ (ofon ‘tooth’).
Other associations include: Efik ikkọn has a wide range of meaning, including ‘grass, herbs,’ ‘vegetables of all kinds,’ ‘leaf,’ and ‘tobacco.’ Hausa dum’baru also means ‘lips’ as well as “first coming-through of a tooth,” while toho also denotes a particular drum. Noni com ‘to bud’ also means ‘to color,’ Berik koksa also ‘to grow,’ Kyaka kene may also refer to a “small edible crab, found in some streams,” while the Muna term tuna may also refer to a ‘twig’ or ‘branch’ as well as to the ‘fork of fingers and toes.’ Muna lasi also means ‘to weld’ (this sense is due to borrowing from Indonesian/Dutch). Ngaanyatjarra yurntturntu is also used with the more specific meaning “budding grain, unripe grain.” Rotokas koko ruu is a complex term consisting of the constituents koko ‘pour out, spill’ as well as ‘dish out, portion out’ and ruu ‘enclose,’ a variant of which is kokoko ruu, where koko means “food on plate, something which is placed on top of something else.” Toaripi kuku assumes the meaning ‘unopened’ when occurring in compounds, Sahu boro seems to be derived from woro ‘wide, spacious,’ and the primary meaning of Yir Yoront nhapus is ‘egg’ (note also that Great Andamanese ørmol appears to be derived from moli-o ‘egg,’ and that a diachronic association between ‘bud’ and ‘egg’ is likely in Wintu). Badaga colexifies ‘bud’ with ‘hair knot, braid,’ and Basque ernamein also means ‘outbreak.’ The meaning of Khalkha’s comurlity ranges over “bundle, bunch, bouquet” as well as ‘anthology,’ whereas nakija is ‘shoot of grass, leaf bud’ (compare naki ‘to bend; to cave in, be shaky’?). Upper Chehalis mayspaqni contains mày “begin to, just now, recently, just a little while ago, hardly” and pąpjn ‘to bloom.’ Arabela jiýoto colexifies ‘bud’ and ‘nut,’ and Embera dodhua also means ‘cocoon.’ Miskito kiama namika urawan ba is not fully analyzable, but the element kiama can also refer to the ‘ear,’ while Ancash Quechua colexifies ‘bud’ with ‘yerbasanta,’ a type of tree. Toba lýaxataxa is derived from a verb meaning ‘to raise, grow,’ Fijian has kovukovu, with kovu ‘to tie up’ being the reduplication base. The term is also used with reference to an enclosed portion of land. Hani colexifies ‘to bud’ with ‘to weed with hoe.’ The semantic range of Hawaiian liko also includes ‘shining, sparkling’ and ‘fat’ inter alia, while őpu’u is derived from pu’u with the basic meaning ‘protuberance.’ Samoan moemo is a reduplication of moe, meaning ‘sleep,’ and Sedang rombé lóng also may refer to the “soft, tender part of a plant.” Finally, Tetun tubun, adjectivally, also means “young, fledgling.”

10. The Cave

Representation: 84%
Motivated: 53.3%
Thereof Analyzable: 24.3%      Thereof Colexifying: 29.2%
Thereof by Contiguity: 37.9%      Thereof by Similarity: 4.5%
Recurrent associated meanings: hole, stone/rock, den/lair, earth/ground, tunnel, valley,
pit, opening, house/dwelling, ledge/overhang, in/inside, hill, mouth

As for the ‘cave’ (‘cavern,’ ‘grotto’), there is one motivational pattern that is by far the most frequent and outnumbers all others in terms of the number of languages it occurs in, namely complex terms of the lexical type where one of the constituents means ‘rock’ or ‘stone’ and the other ‘hole.’ Structurally, these terms obviously vary from language to language. For instance, Hupda has the compound pǎć moy ‘stone/hill hole/house,’ Yoruba...
has the phrasal term ihò inu òpàta ‘hole in rock,’ Cubeo cùracoibe consists of cùra ‘stone’ and -cobe, a classifier for hole-like objects, and in Oneida, yotstahlakdlute? consists of the verb -kahlút- ‘be an opening, be a hole’ which has incorporated the root -iststi-ł ‘rock, mountain, outcropping’ (there is an alternative term where the incorporate is -uhwatsy- ‘land, earth, ground’) and accompanying grammatical material, but the source concepts are remarkably constant cross-linguistically. All in all, this pattern is found in 20 sampled languages all over the world: Yoruba, Berik, Toraripi, Basque, Highland Chontal (with some phonological deviations), Haida, San Mateo del Mar Huave, Oneida, Bororo (where ia in ia-ri also means ‘mouth’ and ‘opening’ more generally, compare also Baruya simaanga /silamaanga/ ‘stone-mouth’ and the semantic extension of ‘mouth’ to ‘opening’ in general discussed in section 124), Cubeo, Guaraní, Hupda, Rama, Wayampi, Hani (where the association is also realized by means of a classifier), Lenakel, White Hmong, Tetun, and Bislama. In addition, San Mateo del Mar Huave and Tuscarora have complex terms based on roots meaning ‘hole’ and ‘hull,’ while Cheyenne tsévéévóote‘, literally, according to the source “that which is a concave hole,” can be extended to mean ‘vagina’ or ‘anus.’ A derived term featuring a lexical constituent meaning ‘to make a hole in the ground’ is featured in Great Andamanese, a semianalyzable term one of the constituents of which is ‘hole’ is found in Rama, and one with ‘stone’ is featured in Kemituk. Alternative complex terms based on ‘stone, rock’ are Itzaj aktun, perhaps /’aak-tun/ ‘turtle-rock’ and Chayahuñu na/pitëana, containing na/pi ‘rock’ and -ana, a classifier conveying the notion ‘around’ (there is also the term cari-ana ‘precipice-Class.AROUND’). In Malagasy, there is a complex term lavabato, consisting of vato ‘stone’ and lavaka, which in fact colexifies ‘hole,’ ‘pit,’ and ‘cave,’ and it is not the only language where the association between ‘cave’ and ‘hole’ or ‘hollow’ is formally by colexification: Efik, Sko, Badaga, Khalkha (colexifying also ‘empty’), Kildin Saami, Sora, Acoma (by the analyzable term pâamiizeesa containing pâami ‘bag’ and zeesa ‘place where’), Cahuilla, Upper Chehalis (where Zackwälajxʷ contains the root kʷsxʷ- ‘hollow’ and a marker for stative aspect), Cheyenne, Comanche, San Mateo del Mar Huave, Itzaj, Lesser Antillean Creole French, Quileute, Xicotépec de Juárez Totonac, Wappo, Wintu, Aguaronna, Cavinha, Cayapa, Huambisa, Ancash Quechua, Toba, Yanomámi, Fijian, Hawaiian, Kapingamarangi, Mandarin, and Takia all feature terms that are likewise of this type (Toba and Yanomámi also colexify ‘opening’ generally). In analyzable terms, an alternative pattern is for the constituent other than ‘hole’ to mean ‘earth,’ ‘ground’ or ‘land’ rather than ‘stone,’ as in Cayapa tu-juru ‘earth-hole.’ Such terms are also found in Kaluli, Chickasaw, Oneida, Pawnee (where the relevant term also colexifies ‘cellar’ or ‘storm cellar’), Tuscarora, Bora, and Guaraní (where an additional element meaning ‘big’ is present), and a semianalyzable term where one of the constituents is ‘earth’ is also found in Huambisa. A semantic association loosely related to the complex revolving around the meanings ‘stone’ and ‘rock’ in some languages is that with ‘house’ or ‘dwelling’; Kyaka has kana anda ‘stone/rock house’ (with both constituents also having other meanings), Sahu ma’di sasa’du ‘cavern’ is analyzable as ‘stone/rock ceremonial.house’ (more precisely, sasa’du is glossed as “ceremonial house with octagonal roof present in each original Sahu village”), and, as already seen, in Hupda moy in pác moy colexifies ‘hole’ and ‘house.’ The association with ‘house’ or ‘dwelling’ is found by colexification in Kwoma, while Comanche colexifies ‘hole,’
‘cave’ and ‘room.’ Burarra (where the relevant term gun-ngarnama is analyzable as class:domestic-inner.thigh’) colexifies ‘room’ and ‘wall.’

There are also other unrelated lexico-semantic associations for terms meaning ‘cave.’ Sora luyaram colexifies ‘inside,’ while Chickasaw yaakanonka’ is analyzable as /yaakh/-anonka’/ ‘earth-inside,’ Bwe Karen lo-bú as ‘stone-in’ and jo-bú ‘in a cave in the cliffs’ as ‘cliff-in.’

Eleven sampled languages, namely Hausa (one of the two relevant terms denotes “a hole in the ground where mat-makers sit and work” inter alia), Noni, Ngaanyatjarra, Badaga, Khalkha, Nivkh, Kildin Saami, Cheyenne, Toba, and Hawaiian colexify ‘cave’ with ‘den’ or ‘lair’ of an animal, and in five sampled languages, Ngambay, Khalkha, Nivkh, Nez Perce (colexifying also ‘bluff’ and ‘rockshelter’) and Pipil, the relevant terms also denote a ‘ravine’ and/or a ‘valley.’

Six sampled languages of the Americas, Haida, Oneida, Quileute, Wintu (where the relevant term holoq contains holo ‘dark’), Aguaruna and Cashinahua colexify ‘cave’ and ‘tunnel,’ whereas Khalkha, Sora, Itzaj, Hawaiian, and Malagasy colexify ‘cave’ with ‘pit.’ Furthermore, three of the sampled languages, Khoekhoe, Rendille, and Kosarek Yale have terms for ‘cave’ (in Kosarek Yale more specifically ‘cave (where bats dwell)’) which can also refer to a ‘ledge’ or an ‘overhang.’ The Kosarek Yale term is bubun, for which compare bubu ‘liver, carrying part, point of support.’

Other less common patterns include: Efik aba also means ‘more, gain’ and ‘forty, fortieth.’ Ngambay wel also means ‘rapidly,’ Dongolese Nubian gár also ‘shore, bank, waterside’ and ‘to crush (grain)’ (in the sense ‘cave’ it is a loanword from Arabic), Lavukaleve colexifies ‘to burst,’ and Meyah mansú can also refer to a hollow in a tree. Muna la also denotes ‘stinging hair on leaves, bristles.’ Rotokas kakiua contains kaki ‘opened, cracked, split open’ and the classifier ua for narrow objects. The same suffix is present in tarieua, where the lexical root means ‘to encircle.’ Sko long also means ‘key,’ and Yir Yoront colexifies ‘cave’ with ‘jail.’ Abzakh Adyghe nbye also means ‘nest,’ Badaga colexifies ‘place’ generally, and Basque leize can also refer to an ‘abyss,’ ‘chasm,’ or ‘depths’ in general. Khalkha kebtesi also means ‘uterus’ and ‘placenta.’ Sora rupan also means ‘pit’ and ‘pool in stream’ and is derived from rupa- “to form pits and hollows on account of rain.” Tuscarora yunhúːčeʔ is built around the lexical root -nu:čeq- meaning ‘be a corner’ and also means ‘cape’ and ‘nook,’ while Wappo hōca also means ‘sweathouse’ or ‘dancehouse.’ San Lucas Quiavíní Zapotec cweb is also the name of a children’s game, and Copainalá Zoque colexifies ‘hole in ground, cavity.’ Aguaruna juwainu can also mean ‘island,’ ‘opening,’ and ‘drilled,’ and Aymara putu also can refer to a small hole in the ground where produce is stored. Cashinahua bean debu contains debu ‘point, end, source of river,’ while Cavineña colexifies ‘cave’ (and ‘hole’) with ‘well.’ Huambisa waa can also refer to a ‘partridge,’ Ancash Quechua machay also means ‘to get drunk,’ and the Piro term for ‘cave,’ mahka, can also refer to a ‘hill, ascent.’ Tehuelche ma: is also one of the variants of a verb meaning ‘to kill.’ Hawaiian ana colexifies ‘larynx’ inter alia, lua in the same language also denotes ‘grave,’ ‘mine,’ and ‘crater’ alongside other meanings, and pao, again alongside other meanings, also ‘(arch of a) bridge’ as well as ‘to scoop out, dub out.’ Kapingamarangi lua is also the numeral ‘two.’
11. The Clearing

Terms for ‘clearing’ frequently make reference by verbal elements to notions such as ‘to open up,’ ‘to clear up,’ or contain other lexical items meaning ‘clear,’ ‘open,’ or ‘unobstructed.’ Such terms are found in eleven sampled languages, namely Efik (where the relevant tem can also refer to ‘openness’ as a character trait), Nunggubuyu, Rotokas, Welsh, Upper Chehalis, Nez Perce, Bororo (where ‘clear’ is colexified with ‘light, bright,’ inter alia; Fijian colexifies these meaning directly with ‘clearing’), Miskito, Yanomamí, as well as in Hawaiian (the term is curious: pā-pū also means ‘fort, fortress’ and is in this sense literally translated by lexicographers as ‘gun enclosure.’ It also means “plain, clear piece of ground; clear, unobstructed, visible, in plain sight, directly confronting,” and since both constituents have very many meanings, it is hard to tell which of these are relevant for conceptualization), and Samoan. For instance, in Rotokas, the term for a ‘clearing’ is koraua, containing korau ‘clear, unobstructed’ and the classifier for narrow objects ua, and in Bororo boe ali is analyzable as ‘thing clear;’ Nunggubuyu aba-ya-ya-ya ‘open.area slender’ also denotes the ‘clear sky.’ Itzaj has jāwān-k’i / jāwān-k’i-’il / ‘open-world-ABSTR’ for both ‘clearing’ and ‘plaza’ (alongside petexka’ / petex-ka’ / ‘circle-world’). Moreover, Great Andamanese has ēr-tālimare ‘place-clear.’

Four sampled languages, Efik, Kaluli, Kwoma, and Hawaiian, have terms referring to the fact that a clearing may come into being by the cutting down of trees (although ‘tree’ is not always present as a contiguity anchor): Efik eritem is derived from tem ‘to cut down’ (the term can also refer to a ‘boiling, cooking,’ which is due to tem also having the corresponding verbal semantics ‘to boil, cook’ inter alia), Kaluli has i-kuwo: ‘tree-cut,’ Kwoma a-ka tobo me yii ‘house trunk tree cut’ and yii poy ‘cut completed,’ and Hawaiian kāhanahana, which is related to kahana ‘cutting.’ In another two languages the terms make reference to the fact that on a clearing there is no plant cover: Baruya has ku-marat /ku-ta-wa-maaya/ ‘inside-none,’ meaning ‘open area, clear area, area without grass’ and Carrier hwoozai-ket ‘nothing-on’ (this term colexifies ‘glade’). In another three languages, terms utilize in some way the fact that a clearing improves visibility: Basque argi-une ‘light-space/moment’ (also indeed denoting a “moment of light” or a “moment of ludicity”), Bororo baru-gwa ‘sky piece,’ and Fijian talāsiga, made up of tala ‘to clear away rubbish, transplant, load cargo’ and siga ‘day, daylight, sun,’ in addition Great Andamanese term elōtwālōgā colexifies ‘clearing in jungle’ with ‘view.’ Seven sampled languages colexify ‘clearing’ with either ‘meadow,’ ‘glade,’ ‘lawn,’ or ‘field.’ These are Badaga, Carrier, Kashaya, Lake Miwok, Pawnee, Tuscarora, and Central Yup’ik. Five languages, Khalkha, Chickasaw, Itzaj, Lake Miwok and Pawnee (here by a term that can be literally translated as “flat ground place,” also meaning ‘flat ground, prairie,’ and ‘low level area,’ inter alia).
have terms that colexify ‘clearing’ and ‘valley,’ ‘glade,’ or a similar meaning, the motivation probably being similar to that for colexification of ‘forest’ and ‘mountain’ (see also sections 26 and 39 as well as § 6.3.). Finally, Badaga and Itzaj colexify ‘clearing’ with ‘gap.’

Other associations include: Khoekhoe !gorab ~ !goras, also denoting a “bare/denuded area (as when burnt down/mowed),” is derived from !gora ‘barren, denuded, bald,’ and Noni ykasr consists of kase ‘to clear a field’ and the noun class prefix ŋ-. Buin aarono also can refer to the ‘open sea’ (in old style) or an ‘open space’ in general, while Baruya colexifies ‘clearing’ with ‘bald.’ Ngaanyatjarra yurril(pa) is similarly used to refer to an ‘open place,’ but is also extended to mean ‘room, space’ and ‘outside,’ and Nunggubuyu abala can also refer to a ‘ritual clearing.’ Badaga natta ~ natta means “common wasteland, common place used for non-agricultural purposes,” and tera also “chance, opportunity, course.” Khalkha cabcijal seems to contain cabc- meaning inter alia ‘to blink’ and ‘to chop, to hew,’ and Sora has terms that colexify the meanings ‘hill,’ ‘clearing on a hill,’ but also ‘forest;’ they are derived from a verb meaning ‘to make a clearing on hill, cultivate on hill.’ Chickasaw kochchaafokka’ is analyzable as /kochcha’ aa-fokha-/ ‘outside LOC-be.in-NMLZ,’ and denotes “an open place out in the middle of nowhere” generally, including a ‘valley.’ Haida colexifies ‘muskeg’ and ‘bog,’ and Kiowa ḥ̄ʔeidl contains ḥ̄ ‘wood’ and ṭeq̄ ‘be smooth;’ the unknown element ṭeidl is probably related to ṭ ‘cut several’ according to the consulted source. Itzaj yam may also refer to a ‘groove’ or ‘canal,’ and yet another Itzaj term, paak, also means ‘stack, packet.’ Central Yup’ik cangurneq consists of the root cangur ‘to lack symmetry’ and the postbase (cf. § 4.4.2) -neq ‘area.’ Carr’ilqaq ~ carr’ilqaq, another Central Yup’ik term for ‘clearing,’ contains carr- ‘to clean’ and the postbase -quq ‘one that is.’ Bororo boe giguduru appears to contain boe ‘thing’ and gigudu ‘dust.’ Fijian lalama also means ‘transparent, too thin (of cloth),’ Hawaiian paia also ‘wall, side of a house,’ as well as “walled in” by vegetation, and Samoan lafo inter alia also denotes a “plot of land (made ready for planting).”

12. The Cloud

Recurrent associated meanings: fog/mist, sky, smoke, day, steam, rain, black/dark, ca ta-ract of eye, skin/leather, white, wind, faeces

33 sampled languages colexify ‘cloud’ (generally ignoring in the ensuing discussion if sources indicate that the relevant terms denote specific types of cloud unless this seems relevant) and ‘fog/mist’ (see § 6.3. for discussion of possible influence of environmental conditions, section 25 for analyzable terms for ‘fog/mist’ on the basis of ‘cloud,’ and Buck 1949: 65 for this pattern, which is pervasive by semantic shift in Indo-European). These are Bakueri, Ngambay, Dongolese Nubian, Yoruba, Anggor, Baruya, Buin, Kwoma (colexifying also ‘white,’ for which compare Bororo baru gigudu ‘sky clear/white’), Meyah, Ngaanyatjarra, Rotokas, Waris, Kosarek Yale, Basque, Bezhta, Sora, Haida, Lesser Antillean
Creole French, Nez Perce (by a lexical affix), Xicotepec de Juárez Totonac, Arabela, Aymara, Maxakalí, Piro, Ancash and Imbabura Quechua, Tehuelche, Yanomámi, Hani, Lenakel, Manange, Sedang, and Takia (note also the similarity between Embera hɨ́rɨ́r ‘cloud’ and hɨ́rɨ́rɨ́r ‘fog, mist’). Colexification with ‘smoke’ is found in nine languages, Nez Perce (again by the lexical affix also colexifying ‘fog’), Arabela, Bora, Cavineña (also colexifying ‘smell’), Cayapa (by the term nɨ́vɨ́jɨ́cha, perhaps containing nɨ́ ‘fire, flame, seed’ and ɨ́vɨ́j cha ‘difference in height’), Maxakalí, and Tsafiki, and in Sedang by the analyzable term kia hɨ́ ‘ghost light.weight,’ colexifying also ‘air;’ moreover, Buin colexifies ‘white cloud’ and ‘white smoke’ (as well as ‘to be smoking tobacco, be affected by smoke’) specifically. Colexification with ‘steam, vapor’ is less frequent (attested in five languages, Anggor, Arabela, Bora, Cayapa (again by the term nɨ́vɨ́jɨ́cha), and Tsafiki; note also the similarity between Koyraboro Senni duu le ~ duula ‘cloud’ and dullu ‘smoke, steam’).

As for complex terms, Cashinahua has nai kuin ‘sky smoke’ for ‘cloud’ and Hupda has jɨ́k kudɨ́ ‘smoke group’ with the meaning ‘cloud, cloud of smoke/ fog.’ A further common cross-linguistic association is that with ‘sky’ (see also Buck 1949: 65 for evidence from Latvian, Welsh, and Breton). It occurs by colexification in Efik (by the analyzable term ikpa’en yɨñ, with ik’pa meaning ‘animal skin’ inter alia and en’yɨñ ‘sky, heavens;’ the association with ‘skin’ is mirrored by colexification, also with other related meanings, in Toba, and compare also Kolyma Yukaghir nɨ́nqar and qar ‘skin’), Lavukaleve, possibly in Nunggubuyu, Bezhta, dialectally in Sora, Upper Chehalis, Cheyenne (the meaning ‘sky’ is considered insecure by lexicographers in this language), Comanche, Kiowa, Lakhota (here also colexifying ‘heaven’), Nez Perce, Miskito, and Rama (by the analyzable term nɨ́n kɨs ‘sun/day meat;’ note in this context that Rao graća ‘cloud’ appears to contain gra ‘sun’ and that Yei mɨrama kər seems to contain mɬər ‘flesh’). As for complex terms, alongside the one in Cashinahua already mentioned above, Efik has ɨdɨ́k’en yɨñ /ɪdɨ́k’en yɨñ/ ‘bad/unpleasant-sky,’ Yoruba əwọsânmá /awọ-sânmá/ ‘color/image-sky’ and ojú-sanmá ‘eye-sky’ (alongside ojú ərun ‘eye heaven’), Dadibi bulu gi dagadu ‘taro.type garden sky’ (denoting an “alto-cumulus cloud formation” specifically), Ket espul /es-hul/ ‘sky.mound,’ Central Yup’ik qilaggluk /qilak-rlluk/ ‘sky-one.that.has.departed.from.its.natural.state,’ Bororo baru kigadu ‘sky clear/white’ (meaning ‘white cloud’), Guarani arai /arai/ ‘sky/day-dim’ (ara also has further meanings, and the term is said to be a contraction of ara in the sense of ‘weather’ and vai ‘bad’), and Jarawara neme sabi ‘sky/up be.foamy.’ Furthermore, the association is realized by noun class alternation in Swahili, and there is a semianalyzable term in Wayampi, which also denotes a magical plant that makes clouds come. Alongside Guarani and Rama, which have an association between ‘cloud’ and ‘day’ by virtue of colexifying ‘sky’ and ‘day,’ there are also other cases with this pattern. Blackfoot sokistsikó is analyzable as /sok-iksistsikó/ ‘above-be.day,’ and in Hawaiian and Samoan, ao may refer to both ‘cloud’ and ‘day’ (in Hawaiian, also to the ‘dawn’ and other concepts and in Samoan also to the ‘head’), but notably not to the ‘sky.’ Furthermore, Badaga kare is glossed as “overcast sky, clouds hovering overhead.”

Occasionally, as already seen in the example from Kyaka and Bororo, terms make reference to either the white or black/dark color of clouds. This distinction is not exclu-
sively found in motivated terms; for instance, Berik has anis ‘white cloud’ and umiyan ‘black cloud,’ whereas Chayahuita huairo’të and yararo’të, ‘white cloud’ and ‘black cloud’ respectively, contain the respective color terms. Further complex terms involving either constituents meaning ‘black’ or ‘dark’ include Mali achêlaingagi, derived from chluing ‘black,’ Sahu lobi-lohi, reduplicated from lobi ‘dark,’ and Lesser Antillean Creole French an mawe ‘in bulk dark,’ while Piro colexifies ‘cloud’ and ‘darkness’ directly.

A linguistic pattern peculiar to New Guinea are terms literally translatable as ‘wind faeces’: Toaripi has mea-e ‘wind/weather faeces’ and Takia tim-tae-n ‘wind-faeces-3SG.’ Four sampled languages, Mbum, Nunggubuyu, Yir Yoront, and Cahuilla, colexify ‘(rain)cloud’ and ‘rain’ (Yir Yoront also ‘rainbow serpent;’ note that this is a typical instance of actual/potential-polysemy common in Australia). Furthermore, in Khoekhoe, a term for ‘cloud’ in the Nama dialect, inanu-s, shares the root inanu- with inanu-b ‘rain, thunderstorm,’ and the meaning is differentiated by the alternation of the nominal suffix. Kwoma wayi keyi is analyzable as ‘rain make.mark.’ Two languages, Hausa and Khalkha, extend a term for ‘cloud’ metaphorically to ‘cataract of the eye’ (the Hausa term with this pattern denotes ‘light fleecy clouds’ specifically and also bears the meaning ‘cuttlefish,’ while the Khalkha term may also refer to a “cloud-like pattern or design”).

Further patterns include: a further Hausa term denotes ‘small clouds’ and “a perfectly circular calabash;” this term, san doki, goes back etymologically to sawun doki, literally ‘horse’s footprint.’ Geregge, yet another Hausa term, denotes “[I]argish clouds in wet season” as well as ‘to shake off,’ said of garment, plumage, and other things. In Khoekhoe, laub - tâu is derived from tâu ‘expect, await’ (perhaps because the presence of clouds arouse the expectation of rain? In fact, tâu also means ‘expectation, hope’). Another register-specific Khoekhoe term for ‘cloud’ and ‘rain,’ lhûdara-el, is literally ‘ground-mouse,’ since the first drops of rain “make marks like footprints of mice.” The Noni term kembezw contains the noun class marker ke- and is otherwise identical with mbcw ‘beside, near,’ while Dongolese Nubian nîčč(i) ‘cloud, mist’ is historically derived from nîg ‘to sew’ and hence also denotes the ‘action of sewing;’ the extension to ‘cloud, mist’ is explained in the source by them apparently veiling the environment like cloth. The Kwoma term apoduwan keyi (apoduwan ‘crested or crowned pigeon; keyi ‘make mark’) denotes ‘small black clouds,’ Rotokas rukuta may contain ruka meaning ‘hinder, hold back, block’ among other things, and Sko also denotes the ‘blackpalm’ inter alia. Sahu samasamama ‘fleecy clouds’ is apparently formed by partial reduplication from samama ‘crocodile.’ Basque laino figuratively may also assume the meaning ‘confusion,’ and Japanese kumo also means ‘spider.’ The Pawnee term cka’u also means ‘face,’ while Tuscarora urâdëh also means ‘spleen.’ Another term conceptualizing clouds using an internal organ as the vehicle is found in South America, namely Cubeo, which has oco-penibo ‘water-liver.’ Surudar tuna synonymously seems derived from tun ‘very early in the morning’ by means of the nominal possession prefix x-. Aguaruna yuajkîm is also the name of a valley, and the Bororo term tua can refer to ‘cloud’ as well as to a ‘shadow’ and ‘suspicion, decision’ alongside other things. Huambisa yuajkîm contains yu̞a “fruit,” but is not further analyzable, while Maxakalî gîy denotes ‘cloud,’ ‘smoke,’ as well as ‘flood.’ The Piro term mko is not only used for clouds, but also for ‘tufts’ or ‘clusters’ more generally, Ancash Quechua puyu also means ‘moth,’
while Fijian ʻō is also used figuratively with the meaning ‘sign, trace’ (alongside being an interjection in ceremonial settings). Hawaiian ʻōpua ‘puffy, cumulus or billowy cloud, cloud bank’ is derived from pua which inter alia can mean ‘flower, blossom,’ but also ‘to issue, come forth, emerge,’ said of smoke, wind, speech and colors. Rotuman aoga is also the gerundive form of ao ‘to seek,’ and Sedang xok is also used with the meaning ‘garbage.’

13. The Coal

Representation: 93
Motivated: 29.3%
Thereof Analyzable: 12.8%  Thereof Colexifying: 16.4%
Thereof by Contiguity: 6%  Thereof by Similarity: 3.6%

Recurrent associated meanings: embers, fire, black, ashes, burn/burnt, stone, soil

Frequently, languages colexify ‘coal’ and ‘embers,’ as do Koyraboro Senni, Noni, Swahili, Yoruba, Gurindji, Kyaka, Ngaanyatjarra, Nunggubuyu, Upper Chehalis, Cheyenne, Chickasaw, Wappo, San Lucas Quiauiní Zapotec, Copainalá Zoque, Arabella, Carib, Guarani, Toba, Wichí, Yanomami, Kapingamarangi (by the analyzable term ma-lala ‘RESULTATIVE-heat.up’ which also denotes “wood chips made when using adze”), Manange, and White Hmong. In addition, Wayampi has the complex term api-ape ‘embers-PAST’ and Kiowa has eip-k’qygym ‘live.coal-black.’ In fact, it is frequently the case that terms for ‘coal’ make reference to its black color, as in Blackfoot sêk-kohkotok ‘black-stone’ or Biloxi pëxtëorro ‘sæpi’, containing pe’ti ~ pëti ‘fire’ and sëpi ~ sëp ‘be black.’ Further languages in which one of the constituents is the color term for ‘black’ or means ‘dark’ are found in Kwoma (keyhapa now ‘black color/earth.pigment,’ which in fact also means “black paint, black pigment used to make paint” as well as “object burnt by fire” generally), Nuuchahnulth (tumš/tum-Ps ‘dark-consume’), Cavineña (etiru-sehueda ‘burnt-black,’ which is also capable of referring to a type of tree and the black fruit of a tree), Cubeo (ñemichĩchĩ /ñemico-chichi/ ‘black-CLASS.SCALE-LIKE.OBJECT’), and Yanomami (ishiishi, reduplicated from ishi ‘black, burnt’). For Tasmanian, Plomley (1976: 180) mentions the term ly.hooner veene, consisting of ly.hooner ‘black’ and veene ‘wood;’ note also the apparent lexical relationship between Cahuilla tuf ‘coal’ and tül-nek /tul-ek ‘black’ and between Bwe Karen peh thror ‘coal’ and khi thör ‘be very dark.’ In addition, Badaga and Tucarora colexify the meanings (Badaga also with ‘vegetables, curry’ and ‘envy, jealousy, grudge’), and a semianalyzable term for ‘coal’ involving the word for ‘black’ might be present in Abzakh Adyghe.

Alongside Biloxi, terms for coals in which ‘fire’ acts as a contiguity anchor are found also in a number of other languages, and the respective terms are frequently metaphor-driven. Efik u-kañ makara is analyzable as ‘NMIZ-fire European’ and denotes the “charcoal used by smiths,” Yoruba eyin iná is literally ‘egg fire’ (eyin alone can also be used to refer to ‘coal’), Meyah mah ofóm is analyzable as ‘fire ripe,’ Waris suxesumbul ~ suwumbul as /suwe-sumbul/ ‘fire-earthworm,’ and Abipón nkaate l-ahak as ‘be.burning 3SG-wood’ (Macaguán colexifies ‘coal’ with ‘firewood,’ and semianalyzable terms with constituents meaning ‘tree’ or ‘wood’ are also found in Mbem and Embera). Carib wa’to-po, which colexifies ‘embers,’ is derived from wa’to ‘fire,’ Jarawara yifo witi is analyzable as
Lexico-Semantic Associations

'fire/firewood edge/nose/button' (this term also colexifies the meanings 'brand,' 'torch,' and 'fire' itself), Rama abung kung as 'fire louse,' Tsafiki nin calá as 'fire silver/money,' and Tetun ahi-kaar as 'fire-work.' There are semianalyzable terms featuring a constituent meaning 'fire' in Noni, Sko, Upper Chehalis, Bora, Guaraní, Huambisa, and Rama, and in San Lucas Quiaviní Zapotec, gyih is glossed as "fire: esp., coals, embers."

Alongside Blackfoot, in which the term for 'coal' contains that for 'stone,' Carrier tší-tolk is analyzable as 'stones-burn,' and Great Andamanese taili châpa consists of taili 'stone' and châpa 'firewood.' Khoekhoe lui-hom-n is analyzable as 'stone-produce,charcoal-nmlz,' and a semianalyzable term where one of the constituents is 'stone' is found in Huambisa. Furthermore, six sampled languages, Burarra, Kwoma, Yir Yoront, Khalkha, Jarawara, and Sedang colexify 'coal' and '(hot) ashes,' and in Yaqui maatum 'coal' consists of maatu 'ashes' and the plural marker -(i)m (a semianalyzable term for 'coal' containing the word for 'ashes' is also found in Bwe Karen). Two languages, Rendille and Yanomami, colexify 'coal' and 'soot.'

Further associations include: Buli kaali also means 'to rub with hand,' Ngambay kor also means 'fire, bus,' inter alia, and käl also 'to cook, prepare food.' Gurindji kunyini also means 'hearth,' while Muna gheo ~ ghio also means 'to cover with charcoal' as well as "dry and cold (of corn, coconuts etc.).' Kyaka langa also means 'careless, lax, impetuous,' and Toaripi aró is also the name of the frigate bird (which is mostly of a deep black color) as well as a kind of squid. Nez Perce sínux is also a man's name, Wintu kal also means 'to stare, gaze, intense visual contact, glow,' 'receive intense visual impression/sensation' and 'feather,' and Central Yup'ik qetek is the name of the "underground tuber of the mare's-tail plant (Hipperus vulgaris) or horsetail plant (Equisetum arvense)" and also means "piece of coal, from its similar, black appearance," while Lesser Antillean Creole French chebon ~ chabon also means 'carbuncle.' Aguaruna kayishik might contain kayut 'to smoke,' and the Yanomámi term oshôhre also denotes the 'burnt bone of a dead person,' Bislama kol also means 'cold, cool,' (due to phonological collapse of Eng. cold and coal), 'sticky, adherent,' and "greeting, call (on radio)," and Hani meiq also 'to teach.' Hawaiian colexifies 'coal' with 'bituminous,' Lenakel nouanikku contains noua 'fruit,' and Rotuman mahala may also refer to 'cinders,' 'coke,' and 'clack lead.'

14. The Coast

Representation: 59%
Motivated: 53%
Thereof Analyzable: 41.2% Thereof Colexifying: 12.4%
Thereof by Contiguity: 17.2% Thereof by Similarity: 22.7%
Recurrent associated meanings: edge/end/border/point/limit, sea, water, side, river/stream, land, hem, proximity

Clearly the most frequent lexico-semantic association for the 'coast' (or 'shore,' 'beach') is that with meanings such as 'edge,' 'end,' 'border,' 'point,' or 'limit' (see Buck 1949: 31-32 for Indo-European evidence, where this association is well-attested). This may be by colexification, as in Noni, Kyaka, Bezhta (where the relevant term also means 'land' in
general, as is the case in Dongolese Nubian; there is a semianalyzable term where this is the meaning of the identifiable constituent in Rotuman), Khalkha, Sora (colexifying also ‘line’), Santiago Mexquititlan Otomi, Wintu, Aguarama, Bororo, Chayahuita, Sáliba, Toba, Tehuelche (where the relevant term -ork’en is derived from -or ‘around’ and also means ‘body’), and Yanomámi, but occurs more frequently by morphologically complex terms, with the second constituent being ‘river,’ ‘sea,’ or more generally ‘water,’ as in Buin atijaminno ‘sea-edge’ or Dadibi ái boqabadu/ái boqabadu/ ‘water border.’ Further languages with terms of this type are Yoruba (where ‘edge’ is colexified with ‘ear’), Sahu, Toaripi (where ‘point’ is colexified with ‘corner,’ ‘peak, summit, topmost point’), Basque, Khalkha (by another term than the colexifying one listed above), Laz, Chickasaw, Lesser Antillean Creole French, Pawnee, Yaqui, Bora (where ‘edge’ is colexified with ‘side’; note in this context that Gurindji pirntiwirti is reduplicated from the base pirnti ‘side,’ and that Aguarama, Bororo, and Toba colexify ‘coast’ and ‘side’), Guaraní, Hupda, Hawaiian, Malagasy, White Hmong, and Yay. All in all, the association is found in 31 sampled languages. Variants of the association are found in Efik, where adaña, which also denotes a ‘morning ebb’ among fishermen and ‘mark, average’ generally is derived from daña ‘to fix boundaries, fix extremes,’ Ket, where ‘land’ rather than ‘edge’ or ‘border’ is the meaning of the relevant constituent (sast baˀŋ, analyzable as /sê-s-d-baˀŋ/ ‘river-POSS-land’ and ul-baˀŋ-t, possibly ‘water-land-NMLZ’) and Wichí, where tewuk lihp is literally ‘river part’ (Blackfoot has iišótahtaa /iso-niitahtaa/ ‘on.a.horizontal.surface-river’). There are also structurally different complex terms in which one of the constituents is ‘sea.’ One such term is Khoe-khoe hurí-ammi ‘sea-deep.furrow’ (ammi also means ‘beak’), another one is Huambisa nayantsa pakari, containing nayants ‘sea, ocean’ and paka ‘plain.’ Yir Yoront, where there is also a complex term of the redundant type yuwl-ther ‘sea/seashore-edge,’ Abzakh Adyghe, Badaga, and Yuki colexify ‘coast’ and ‘sea,’ the latter language by the complex term ũuk hôt ‘water big,’ while Mali colexifies ‘coast’ and ‘salt water.’ Semianalyzable terms one of the constituents of which is ‘sea’ are found in Huambisa, Rama, and Piro. Furthermore, Miskito and Rama, spoken in close proximity and in contact, share terms for the ‘coast’ that are strikingly similar: Miskito has kabó lama ‘sea proximity’ (though lama also means ‘breast’ inter alia) and Rama táuli shá suka and táuli ska ~ táuli ská, containing táuli ‘sea’ and súka ‘next.’ Other structures are also found for complex terms on the basis of ‘water’: here, the cross-linguistic variation includes terms such as Kanuri ci njì-bè ‘mouth water-of,’ Carrier yathúpa, containing ya ‘sky’ and thû ‘water’ and the Kashaya terms q̪ʰatow, analyzable as /ʔahq’a-tow/ ‘water-at’ and q̪’ami lahwal, containing ahq’a ‘water’ and lahwal ‘across.’ There is a semianalyzable term where the identifiable constituent is ‘water’ in Manange. Khalkha and Yanomámi colexify ‘coast’ with ‘hem;’ the relevant Khalkha term kebege(n) ~ kěbyge appears to be derived from kěbe- ‘tack, baste in sewing,’ suggesting that ‘hem’ is the original meaning.

Other associations include: Efik usuk and i̊kpekhe are derived by a nominalizing prefix from the verbs suk ‘bring down’ (this term may also refer to “[c]ountries beyond, out of the river, e.g. England” and occasionally to the ‘south’) and pekhe ‘divide’ (this term also may refer to a ‘division,’ ‘curtain,’ and ‘apartment’ inter alia). The variant g̪ər of Dongolese Nubian g̪ər ~ nər ~ ərk also means ‘to crush (grain)’ and ‘cave’ (the latter reading is
due to borrowing from Arabic). Swahili has *pwa-ni* ‘ebb-LOC,’ Yoruba *àgbègbè* also means ‘neighborhood, vicinity’ and ‘region,’ and Anggor colexifies ‘coast’ with ‘sand.’ Berik has *fi eyep* ‘salt around’ (note also Noni *ŋem* (*yoo*), derived from a verb meaning ‘to surround, encircle’ by a noun class prefix; *yoo* is ‘water’). Burarra *gochilawa* ‘coastal area, on land or out on sea’ is derived from *gochila* ‘abdomen,’ while Nunggubuyu *madhalag* has a narrow reading ‘beach, coastline’ but may more generally refer to the ‘coastal region’ (the same is true of Basque *kostalde*). Basque *costa* also means ‘to dock, berth.’ Lesser Antillean Creole French *lakòt* can also refer to “places away from the city” generally, Nez Perce *ʔalláq* denotes “a low place, bottom of valley” generally and also “the downriver region (toward the Pacific Coast); downward; toward the Pacific Coast.” Santiago Mexquititlan Otomí *náni* also means ‘to defend.’ Pawnee has the term *huukaahaaru* , containing *huuka(wi)-‘along a stream course’ and *haar* ‘place;’ this term also means ‘dry river or lake bed.’ Somewhat opaque semantically is Tuscarora *ki? tiwakhyyaʔ?n?yik?, which is based on the verbal root *-akhyyaʔ-‘to extend from.’ Wintu *ʔet* also denotes the ‘edge of fence or earthlodge;’ ‘at the edge, marginally’ and ‘all over, toward,’ *ʔaq* also means ‘bar, rocky bar’ and ‘along,’ while, similarly, Central Yup’ik has *canineq*, which contains *cani* ‘area beside’ and the postbase (see § 4.4.2.) *-neq* ‘area of.’ This term also has the meaning ‘area.’ Arabela has a semianalyzable term containing an element meaning ‘lagoon, pool,’ Bororo *iba* is also the name of the place outside the village where fishermen gather before hunting or fishing to evoke certain spirits and to distribute tasks. Carib colexifies ‘coast’ with ‘wharf,’ Imabura Quechua with ‘beside,’ Wayampi inter alia with ‘lip,’ and Yanomamí with ‘periphery’ and ‘contour.’ Great Andamanese *tötgora* and *ígora* appear to be derived from *góra* ‘be durable,’ and Hawaiian *makālae* ‘beach, shore, coast near a point’ contains *lae* ‘point.’

15. The Dew

Representation: 77%
Motivated: 30%

| Thereof Analyzable: 16.3% | Thereof Colexifying: 14.1% |
| Thereof by Contiguity: 6.0% | Thereof by Similarity: 8.5% |

Recurrent associated meanings: water, fog, cold/frost, hoarfrost, urine, snow, wet/moist, star, ice, drizzle, night, wind

In eight sampled languages, Burarra, Rotokas (by the term *vusiva*, for which compare *vusi* ‘burst forth, erupt, break out’?), San Mateo del Mar Huave, Quileute, Arabela, Rama, Hawaiian, and Bwe Karen, ‘dew’ is colexified with ‘fog, mist’ (in Burarra, the colexified meaning is ‘heavy fog’ more specifically, and Rama also colexifies ‘smoke’). Similarly, Wintu colexifies ‘dewy’ with ‘misty.’ In San Mateo del Mar Huave, the relevant term colexifying ‘dew’ and ‘fog’ is *ajmiüc naquind* ‘fall cold.’ This is, however, not the only language in which ‘dew’ is lexically associated with meanings like ‘cold,’ ‘cool’ or ‘frost.’ Badaga, Greek, Comanche, Itzaj, Hawaiian, and Tetun colexify one of these meanings with ‘dew;’ in Rotuman, ‘dew’ is *matit toka* / *matiti koka* / ‘cold be.calm/be.still’ (this term also means “cool night breeze or air”) and Ngaanyatjarra *nyinnga kumpu* is analyzable as ‘frost urine’ (note also that Carrier *terhzö*, containing *terh* ‘above,’ also means “hoar-frost on trees,” a pattern
of colexification also encountered in Buli, Cavineña, and Tehuelche). Furthermore, Tehuelche and Hawaiian colexify ‘dew’ with ‘ice,’ and Buli, Badaga, Cavineña, and again Hawaiian colexify ‘dew’ and ‘snow.’ These associations are of little surprise when one bears in mind that dew is caused by cooling down of the air which causes atmospheric water to condense. Another subsidiary explanation may be recent semantic extension of ‘dew’-words to ‘ice’ or ‘snow’ in regions where these states of water do not naturally, or only seldomly occur, as is suggested in the consulted source for the colexification of ‘dew’ and ‘snow’ in Buli.

There are many sampled language where ‘dew’ is expressed by a complex term with one of the constituents meaning ‘water.’ However, there is, with the exception of Nez Perce, no language in the sample that colexifies these two meanings (the closest to this is Lenakel, which uses the same term for ‘dew’ and “water on the ground after rain”). Terms with such a structure include Khoekhoe lgâ-ǁgam-mi ~ lgâ-ǁgam-mi ‘grass-water-3SG.MASC,’ Abzakh Adyghe weseps /we-se-p-sa/ ‘sky-?i-water/liquid,’ Nivkh fi-sax ‘bore-water,’ Itzaj p’u-ja’ ‘sweat-water,’ Central Yup’ik mert’aq /meq-raaq/ ‘fresh-water-a.little.bit.of’ (this term also means ‘holy water’), Miskito diwas laya ‘wind.from.land.or.east liquid’ (note also the colexification of ‘wind, storm’ in Kyaka and “gentle land breeze, as of West Hawai’i” in Hawaiian), Imbabura Quechua yaku wiki ‘water drop,’ Wayampi iapi /ii-api/ ‘water/river-source’ (colexifying ‘dew’ with ‘valley’ and ‘spring’), Yanomámi heuhen, presumably containing he ‘head, upper or lower extremity’ and u ‘liquid’ (an alternative term is hemahu, presumably containing maa ‘rain’ alongside he), Bislama wata blong naet ‘water of night’ (in Muna, ‘dew, expose to dew, put something out overnight to cool’ is aloma ~ alo, with alo also meaning ‘night, evening;’ this association is also not surprising given that the air cools down in the night and thus dew is typically found in the evening, night or morning), and Tetun mahan-been ‘shadow-liquid.’ Kiliwa has a derived term, and semianalyzable terms where the identifiable constituent is ‘water’ are found in Kosarek Yale, Ket, and Guaraní. Moreover, there is the idiolectal term ok-yobi-’water-be.spring-NMLZ’ in Chickasaw.

In five languages, namely Anggor (perhaps), Upper Chehalis, Ineseño Chumash, Kiliwa, and Hani, the term for ‘dew’ is lexically related to a word for ‘wet’ and ‘moist.’ In Upper Chehalis, the word for ‘dew’ is sōx‘sxv, reduplicated from sōx ‘wet, damp,’ and in Ineseño Chumash, spuyan is derived from puy ‘being moist.’ In Kiliwa, the association is by colexification, and in the rest of the mentioned languages the relevant terms are semianalyzable only. There is a notable area in the Northwest Amazon region where metaphorical terms for ‘dew’ are found, involving either ‘star’ (note again that the cause of dew is condensation of atmospheric water at night), ‘urine,’ or both as a source concepts. In Bora, the word for ‘dew’ is mićäru ni-jpa, probably analyzable as ‘star urine-CL.liquid,’ in Arabela, it is riya shaaca ‘star, urine,’ in Hupda, it is called wadham’e th nału ‘star saliva.’ While in these particular configurations, the association is clearly an areal phenomenon on a small scale (see Epps 2007: 285 and Zamponi 2009: 590 for data from Maipure specifically, but note also that Farr 2001: 126, citing T. and C. Weber in personal communication, reports fial ok ‘star water’ for Bimin in New Guinea), the association with ‘urine’ is also found elsewhere: Kaluli eleya: ba: contains elé ‘moon’ and ba: ‘urine’ and Ngaanyatjarra nyimga
kumpu, as mentioned above, is analyzable as ‘frost urine.’ Finally, Wintu p’tOn and Arabella shushiquia also may refer to a ‘drizzle.’

Further associations include: Efik mbara also denotes “drops of rain hanging on the bushes after a shower” and Hausa ra’ba is also the name of “[a] disease of goats and sheep in which ‘bags’ of fluid are found in the abdomen (like highly magnified dewdrops),” inter alia. Khoekhoe laub may be related to lau, a verb meaning ‘to trickle, purl’ inter alia, which also yields the formally identical laub ‘spring, fountain.’ Ngambay ‘tāal’ is also the name of the ‘jackal,’ the Rotokas terms uriteva and vui’siva also mean ‘manna’ (presumably used in Bible translations), and Sko kū also means ‘special armband.’ Yir Yoront ‘kal’ is also a kinship term while kalvmr also denotes the ‘galah,’ also known as rose-breasted cockatoo. Badaga colexifies ‘dew’ also with ‘hail’ and ‘cold season,’ and Bezhta ‘xia’ also means ‘snot.’ Kiowa ‘t’da’ contains ‘t’ ‘smoke, misty rain’ and ‘da’ ‘to be’ (and is incidentally identically segmentally with the term for ‘tree, wood’ and ‘plant’), and Santiago Mexquititlán Otomi xa also means ‘to mow.’ San Lucas Quiajovi Zapotec go’ohp also means “dumb, stupid, slow-moving.” Aguaruna jegashik appears to contain jéga ‘house,’ while Chayahuita poroncayo’ possibly contains cayo ‘egg.’ In Yanomámi hemaahu, the first constituent might be he ‘head,’ but all these associations in languages of South America seem quite dubious semantically. Hupda paç nāŋ is analyzable as ‘sky grease,’ Fijian yau inter alia also means ‘to carry, to bring,’ Hawaiian colexifies ‘dew’ with ‘to blow’ (as of a breeze), ‘to hit,’ and other things, Bwe Karen colexifies ‘gallbladder,’ and Yay ‘stripe,’ ‘design,’ and ‘to write’ inter alia.

16. The Dust

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<tr>
<th>Representation</th>
<th>Motivated</th>
<th>Thereof Analyzable</th>
<th>Thereof Colexifying</th>
<th>Thereof by Contiguity</th>
<th>Thereof by Similarity</th>
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<td>92%</td>
<td>54.2%</td>
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Recurrent associated meanings: powder/grit, land/soil/earth, dirt/rubbish/garbage, ashes, smoke, sand, flour, steam, fog/mist, spray of sea, pollen, gray, sawdust, insect droppings

Notable are the lexical associations found between ‘dust’ and some aerosols. Frequently, languages colexify ‘dust’ and ‘smoke’ (found in Bezhta, Wintu, Carib, Hupda, Ancash Quechua, Bislama, where also ‘cigarette’ and other meanings are colexified, Fijian, Hawaiian, and Sedang, see also Buck 1949: 18 for evidence from Indo-European) or have complex terms for ‘dust’ on the basis of ‘smoke,’ a pattern found in Guarani, Tsafiki and Tetun, where, for instance, ‘dust’ is raí-bolon ‘earth-smoke.’ In a subset of these languages, Carib, Guaraní, Hupda, Ancash Quechua, Tsafiki, and Fijian, an association with ‘steam’ is also found, due to colexification of ‘smoke’ and ‘steam;’ in addition, in Hupda, the redundant complex term may j’lk ‘house smoke/steam/fog/dust’ is available to single out the ‘dust’-reading of j’lk. Tsafiki also betrays an association with ‘cloud’ and furthermore, four sampled languages, Abzakh Adyghe, Wintu, Hupda, and Hawaiian, also have an association between ‘dust’ and ‘fog.’
However, these are neither the only nor the most frequent cross-linguistic associations. In 26 sampled languages, associations with 'dirt,' 'rubbish,' or 'garbage' are found, by colexification in Buli, Efik, Burarra, Kwoma, Kyaka, Ngaanyatjarra, Southeastern Tasmanian, Badaga, Chickasaw, Highland Chontal, Ineseñu Chumash, Kiowa, Nuuchahnulth, Oneida, Pawnee, Wintu, Central Yup’ik, Aguaruna, Arabela (colexifying ‘street dirt’ specifically), Aymara, Bororo, Cayapa (by a semianalyzable term containing pe ‘faeces’), Humbisa, Hani, and Sedang. Nuuchahnulth, in addition, has the derived term mačq-mis ‘dirty-nmlz,’ and Khalkha has the analyzable term ṭoy saṭ ‘filth/rubbish/sweepings egg.of.insect’ with the meaning “dirt, dust, esp. in a house, refuse, rubbish,” which is mirrored by a Rotokas term colexifying ‘dust’ and ‘insect droppings.’

22 sampled languages, without the emergence of any clear areal pattern in their distribution, colexify ‘ashes’ and ‘dust’ (again, see Buck 1949: 18 for parallel Indo-European data). These are Efik, Berik, Burarra (where the relevant term is glossed as “little particles, as ashes and sand mixed where a fire has been burning” more specifically), Lavukaleve, Mali, Nunggubuyu, Rotokas, Basque, Chukchi, Biloxi, Carrier, Upper Chehalis (colexifying ‘cold ash’ specifically), Highland Chontal, Lesser Antillean Creole French (by the analyzable term sann cho ‘sand fire’), Lake Miwok, Oneida, Tuscarora, Wintu, Yuki, Cavineña, Hani, and Bwe Karen. Furthermore, one of the Buli terms for ‘dust’ is tanbulum /taung-buluim/ ‘sand/soil-powdered’ (which also colexifies a special kind of fine white clay (chalk?) that is eaten (sucked) by many Ghanaian people”), in Kaluli, ‘dust’ is sa-nu ‘sand-ash,’ in Bislama, it is asis blong graon ‘ashes of ground/soil,’ and in Mandarin there is the redundant compound hui1-chen2 ‘ashes-dust.’ Equally frequent are languages in which there is a term for ‘dust’ which also has the more general meaning of ‘powder’ or ‘grit,’ as in Kwoma, Kyaka, Muna, Basque, Chukchi, Greek, Kildin Saami, Welsh, Biloxi, Highland Chontal, Lesser Antillean Creole French, San Lucas Quiajirivi Zapotec, Arabela, Cavineña, Cubeo, Embera, Lengua, Piro, Ancash Quechua, Toba, Malagasy, Manange, Mandarin, Rotuman, and Samoan, (and several Indo-European languages, Buck 1949: 18). Furthermore, in Maxakalí, ‘dust’ is hāpkōnōn, putatively analyzable as /hāp-kōnōn/ ‘roast-powder,’ Bwe Karen has (de)ga:mu ‘(thing-)be.powdered’ and ha phi mu ‘earth husk be.pulverized,’ and White Hmong hmoov av ‘powder.soil.’ The association with ‘sand’ is not only found in the languages mentioned so far. By colexification, it also occurs in Efik (also with ‘clay’), Burarra (here the relevant term baluk is said to mean “little particles, as ashes and sand mixed where a fire has been burning”), Ngaanyatjarra, Toaripi (by a semianalyzable term containing a constituent meaning ‘earth’), Khalkha, Chickasaw, and Arabela (where the relevant term also means ‘beach’ and ‘sandpit’), and Tehuelche temxen ‘dust’ contains tem ‘soil, sand, wandering dune.’ Seven sampled languages, Kildin Saami, Biloxi, Tuscarora, Sáliba, Wayampi, Manange, and Mandarin, colexify ‘dust’ and ‘flour’ (Wayampi also ‘spot of reddish paint on face’), while in Mbum, ‘dust’ is sōmn-jāl ‘flour-soil’ and in Imbabura Quechua allpa jaku ‘land flour.’ As has become clear from several of the examples cited above, ‘land,’ ‘soil,’ or ‘earth’ are frequently involved as a contiguity anchor in complex terms for ‘dust.’ Further terms of this kind that do not fall in any of the categories of semantic associations discussed so far include Yir Yoront larrpown, which is analyzable into the words for ‘ground, earth, soil dirt,’ larr, and ‘strike,’ pow, (both con-
stituents also colexify other meanings) followed by a noun theme formative, Kiliwa ?-mat,sa? ‘on-earth-grease/fat,’ Santiago Mexquititlan Otomí fonthai, analyzable as /font’i-hai/ ‘spread-out-earth,’ and Miskito tasba yyyu ‘earth/soil/place grain/little particle,’ while Ineseño Chumash šupšup ‘dust’ appears to be reduplicated from šup ‘earth.’ Furthermore, Bakueri, Efik, Dongolese Nubian, Yoruba, Dadibi, Ngaanyatjarra, Southeastern Tasmanian, Nuuchahnulth, Oneida, Wintu, Arabela, Aymara, Ancash Quechua, Toba, and Hawaiian feature terms that colexify ‘dust’ with ‘earth,’ ‘soil,’ or specific types thereof (Yoruba also colexifies ‘mud’). Arabela ñojojua colexifies ‘starch’ and ‘milk powder.’

Two sampled languages, Tuscarora and Yuki, associate a color term for ‘gray’ with ‘dust,’ Tuscarora by colexification and Yuki by the analyzable term poʔot, containing poʔ- ‘burn’ and poʔ- ‘gray’ (these terms both also colexify ‘ashes’); a semianalyzable term containing an element meaning ‘gray’ is also found in Upper Chehalis. Languages which employ the same term for ‘dust’ and ‘spray of sea’ are Khoekhoe, Fijian, and Hawaiian (Hawaiian also colexifies ‘foam’ inter alia, and Fijian also “the foam at the front of a swiftly moving canoe” specifically). Three languages of Oceania, Kyaka, Kosarek Yale, and Hawaiian have terms which colexify ‘dust’ and ‘pollen’ (Kyaka kuku in general may refer to a “bit, flake, tiny fragment, crumb, dust, talc, powder” and also denotes a kind of tree). Finally, Kildin Saami puenn also denotes ‘sawdust’ -a parallel is found in Chayahuita- and ‘metal filings’ specifically.

Other associations include the following: Efik obu is derived from bu ‘to rot, corrupt,’ ntni also means “dimness of vision as if a mist were before the eyes” and denotes a type of spearmint, m’bio, derived from bi'o ‘to cut,’ also means ‘chaff, trash, sweepings’ and ‘mote,’ and n’tan also denotes a plant, “the flowers of which eject a fine dust when touched.” Hausa k’ura also dialectally means “[a]ny drinking water in which nothing has been admixed” and ‘urine,’ Khoekhoe tsarab also means “dirt dust of cloud and ‘smog,’ while Rendille malalwa can mean, alongside “fine dust found in certain places,” also ‘sandstorm’ and ‘duststorm;’ ‘dust cloud’ is also colexified with ‘dust’ itself in Gurindji, and in Upper Chehalis sƛ̓asqʷ contains a root meaning ‘dusty’ and ‘dust flying,’ Dadibi pusugu bage may contain bage ‘mixed group,’ Kwoma hapasen might contain hapa ‘bone,’ while Meyah ofóu is peculiar in that it is glossed meaning ‘egg,’ ‘meaning,’ and ‘dust,’ which is likely due to homonymy. Ngaanyatjarra kuwiri is also used with reference to “a place where a kangaroo has lain.” Rotokas has terms for ‘dust’ which are based on verbal roots for ‘leave’ and ‘arrive’ respectively: kavuro, containing kavu ‘leave,’ and poupou which apparently is reduplicated from pou ‘arrive.’ Kosarek Yale loloŋa also means ‘chips, chippings’ and “remains of a fire or an earth-oven” and uddoba also “powder on butterfly wings.” Ket colexifies ‘dust’ with ‘mould.’ Welsh lluwh also means ‘spray’ and ‘snowdrift.’ A semianalyzable Upper Chehalis term for ‘dust’ colexifying ‘cold ashes’ specifically appears to contain a constituent meaning ‘inside.’ Comanche hukkupu - hukkupu appears to contain huu ~ huupi ~ huuqpi ~ huuhpi ‘tree, wood,’ while Tuscarora avethq, alongside ‘flour,’ has also been extended semantically to mean ‘gunpowder,’ and San Lucas Quiaviní Zapotec deheh to ‘washing detergent.’ Wintu sud, as a verb, also means ‘to cure with smoke’ and ‘disinfect,’ and buku ‘ashes, dust, dirt, soil’ contains buk- ‘dark.’ Central Yup’ik caarrluk contains ca- ‘something’ and the postbase (see § 4.4.2) -rrluk ‘one that has departed from
its natural state.’ Cashinahua kudu can also be used to refer to the color ‘cream,’ Jarawara hobokori appears to be derived from hoboko, the name of a tree species, and Rama ūng uláng contains ūng ‘pot’ (and colexifies ‘pot dirt’). Great Andamanese ērōltōbut is analyzable as /ér-l’-ōt-bōbut/ ‘place-??-3SG.POSS.BODY.PART-soot,’ and there is another not otherwise analyzable term containing ēr ‘place.’ Hawaiian lele-huna ~ lele-hune “[f]ine windblown rain spray, dust, mist; to fall as fine rain” is analyzable ‘fly-particle,’ and lepo, another term for ‘dirt’ in the language, can also be used to refer to ‘excrements’ and ‘silt’ inter alia. Kapingamarangi bopobo, colexifying ‘decayed’ and ‘mildew,’ is derived from bobo, meaning ‘rotten, decayed, old.’ Tetun colexifies ‘dust’ with “to crumble, fall apart, smash” among other meanings, and, finally, Yay pun’ can also mean ‘manure, fertilizer.’

17. The Eclipse

Terms for this concept are, where data are available, in the overwhelming majority of languages expressed by morphologically complex metaphor-driven terms, with the meanings ‘sun’ and/or ‘moon’ acting most often as contiguity anchors. The most commonly recurring pattern features lexical associations with either ‘to die’ or ‘to kill.’ This is found in Chickasaw, Central Yup’ik, Bororo, Chayahuita, Sáliba, Kapingamarangi, Lenakel (where ‘to die’ is colexified with ‘be ill;’ San Lucas Quiavíní Zapotec colexifies ‘be in eclipse’ with ‘be ill, have menstrual period,’ and Ancash Quechua has rupay qishyana /rupay qishyay-n/ ‘sun become.ill-3SG’), and Tetun by morphologically complex terms (for instance, Tetun loro-mate ‘sun-die’), and by colexification in Central Yup’ik which has the complex term iraluq nata-luq ‘moon/month die-??,’ but also colexifies the relevant meanings in the verbal root nala-, which can either mean ‘to die,’ ‘to become numb,’ and ‘to be eclipsed’ as well as convey other meanings. Furthermore, Kiliwa has t+hī+y=hu ‘obj+spirit=3+kill’ and Samoan gase-toto ‘be.numb/be.dead-blood’ (note the parallelism in the association between numbness and death in Central Yup’ik and Samoan).

Another pattern that is common in particular in languages of Southeast Asia is complex terms for ‘eclipse’ that are based on the respective words for ‘eat’ plus the name of an animal. Thus, in Yay, an ‘eclipse’ is called baaj’ kun‘ duan‘ ‘flying.squirrel eat/drink month’ or baaj’ kun‘ taaj’van‘ ‘flying.squirrel eat/drink sun;’ in Sedang, a lunar eclipse is called kau ka khē‘ ‘kau.fish eat moon’ and a solar eclipse kosé‘ ka hāi ‘centipede eat sun,’ while in Hani, the ‘eclipse’ is called ba’la neivq-keeq zaq ‘moon spirit-dog eat’ or naolma neivq-keeq zaq ‘sun spirit-dog eat;’ the “spirit-dog” is said in the consulted source to figure in a traditional story. Furthermore, Sora and Upper Chehalis have complex terms for the eclipse involving verbs meaning ‘to swallow’ and ‘to eat’ respectively (the association with
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'swallow' is diachronically detectable in Haida as well), and the Xicotepec de Juárez Totonac term hua’can, which is combined with the respective terms for 'sun' and 'moon' to refer to a solar or lunar eclipse respectively, contains hua' 'eat, drink.' Some degree of areal convergence may be assumed to be responsible for terms for the 'eclipse' found in three African languages which involve a verb meaning 'to catch' (Hausa rana tâ kama wata 'sun 3SG do catch moon,' Mbum séû/sésèlé gbâhà nànà séû/sésèlé 'sun/moon catch other sun/moon' and Yoruba imiṣòkikùn, analyzable as /í-mù-še-òkìkùn/ 'NMLZ-catch-do-darkness;' similarly Khalkha has nara(n) barixu and sara barixu, containing the respective term for 'sun' and 'moon' and bari- meaning 'to hold, grasp, seize, catch' inter alia). In fact, terms based on the meanings 'darkness' or 'darken,' as in Yoruba, are relatively frequent cross-linguistically, occurring either by terms of the lexical or derived type also in Khoekhoe, Dadibi, Basque, Arabella, and Fijian (for instance, Basque has ilun-aldi 'darkness-time' and itzal-aldi 'shade-time;' the first term may also refer to 'darkening' or, figurative-ly, 'sadness' or 'confusion,' and the second also to 'darkness' or 'a period of darkness'). Particularly noteworthy is also the Dadibi term gilga ge begelama hulia saidao, as it seems to be based on the idea that the sun turns over to the other side and thus does not shine anymore, the literal translation offered by lexicographers is "sun having turned over, (it) had gotten darkness." The association with 'darkness' or 'darken' is also found by colexification, namely in Cheyenne, Piro, and Hawaiian. In three sampled languages, Oneida, Cavineña and Guarani, terms for 'eclipse' involve verbs meaning 'to disappear' and the secondary meanings 'to get lost' in Cavineña and 'flee' in Guarani. In two languages of the Americas, Carrier and Tuscarora, the 'eclipse'-terms are based on a verb meaning 'to go into' (sa yë-te-aih 'sun sky-recess-pocket-get.in' and ḥkà-yë-h respectively which is analyzable as /či-ka-yë-h/ 'REPETITIVE-3SG.INDEF.AGENT-go.into-HAB;' note in this context also Nez Perce ìpéncuúleyekse which revolves around the verb leyák 'to move into a hole').

Of course, there is also a number of other metaphor-driven analyzable terms for either lunar or solar eclipse in which either 'sun' or 'moon' act as contiguity anchor. These include Hausa wata yâ yì zazza bi 'moon 3SG.MASC do feverishness' and wata yâ yì mashashara 'moon 3SG.MASC do small.pox/feverishness,' Noni diuu bo kpwee dwee lo 'sun ?i moon bridge take.by.force' and diuu e baj kpwee 'sun to cover moon' for 'lunar eclipse' and diuu bo kpwee e tasen e mvunsheen, which involves the words for 'sun' and 'moon' as well as tasen 'to meet' for the 'solar eclipse,' Nivkh k'jen mu yr 'sun boat time,' and Kaingang míg tá kysá/rá mán 'panther with sun/moon carry.' Quileute xitítssil pitâtschoʔ is not amenable to a precise morphological analysis on the basis of the source, but the literal meaning is given as "a monster bit away chunks of the moon," and Toba qa'yapo'quet na l'edaxa aňí nala' contains 'edaxa 'light, flame' and nala 'sun.' In addition, Great Andamanese lajabaginga, to which either bôdo 'sun' or ḏgar 'moon' is added to refer to 'solar eclipse' and 'lunar eclipse' respectively, might contain jabagi 'to damage.' Semianalyzable terms on the basis of 'sun' or 'moon' are found in Ineseño Chumash and Cavineña.

Further isolated associations include: Buli yesinta chaab joka contains yesinta 'shadows' (the literal translation offered by the lexicographer is "shadows entering each other"), while Efik eríinme is derived from nîme meaning 'to extinguish, eclipse' inter alia, and indeed can also refer to 'extinguishing,' 'extinction,' or 'vanishing.' Katcha tígirono
ma there and thigirono ma ndhinaia are presumably related to thigidono ‘silence’ (there is ‘moon’ and ndhinaia appears to be a variant of ndhanaya ‘sun’). Welsh diffyg means ‘lack’ and rhagori ar is literally ‘excel on.’ Wintu šił may be related to a word for ‘bird’ and ‘bear’ of the same shape. San Lucas Quiaviní Zapotec rda’au lohoh contains rda’au ‘get shut, be stuck’ and lohoh ‘mouth, in front of, on top of.’ Bora ĭyûnubđáve contains ĭiyûnu ‘become night,’ and there is also a semianalyzable term containing an element meaning ‘be night’ in Blackfoot. Lesser Antillean Creole French ěklips is also used to refer to a ‘loss of brilliance.’

18. The Egg

Representation: 97%  
Motivated: 26.2%  
Thereof Analyzable: 5.2%  
Thereof Colexifying: 21.0%  
Thereof by Contiguity: 1.4%  
Thereof by Similarity: 1.3%  
Recurrent associated meanings: testicles, seed, fruit, child, hen/chicken/bird, nut, spawn, ovum/zygote, male genitals

Terms for the ‘egg’ of a bird or a chicken specifically are cross-linguistically frequently associated with other smallish round objects, such as ‘fruit,’ ‘nut,’ ‘seed,’ or ‘stone’ in a mixture of analyzable and colexifying terms. In seven sampled languages, Buin, Toaripi, Kosarek Yale, Comanche, Hawaiian, Samoan, and Takia, ‘egg’ is lexically associated with ‘fruit.’ As becomes clear from the above list, this pattern is particularly frequent in languages of the broader New Guinea area (see McElhanon and Voorhoeve 1970: 29, Laycock 1970: 1141-1142). The association is mostly realized by colexification, except for Toaripi (ori fare ‘bird fruit’) and Comanche (kokorà pokogi ‘chicken fruit’). Also in New Guinea, colexification with ‘nut’ is found, specifically in Dadibi (indeed, the relevant term is also glossed as ‘small object’), Kaluli, Kyaka, and Takia (note that Takia belongs to both groups, and indeed, it is the same lexeme that can refer to either ‘egg,’ ‘fruit,’ or ‘nut’). The same areal hotspot in New Guinea is discernible for an association with ‘seed,’ and also here, Takia, as well as Kyaka, participate in the pattern by virtue of the same term having a wide semantic range. Other languages in which ‘seed’ and ‘egg’ are colexified are Buin, Rotokas, Kosarek Yale, Abzakh Adyghe (inter alia), Wintu (where āu also means to ‘stab, pierce, poke’), and Hawaiian, while Baruya colexifies ‘sprout,’ ‘shoots,’ and ‘seedling.’ In addition, in Kiliwa, ‘egg’ is xmaʔ=yat-y ‘hen=seed-ATT.’

A pattern common in North America is to have terms for ‘egg’ based on ‘child’ and/or ‘daughter/son’ more specifically. This is found in Japanese (tama-go ‘ball-child’), Chickasaw (akankoshi’, analyzable as /akanka’-oshi/ ‘chicken-son;’ this term in fact also denotes a ‘chick’), Comanche (kokorà atuapu ‘chicken child’), and by colexification in Kiowa, San Lucas Quiaviní Zapotec, and, outside of the Americas, in Kosarek Yale and Hawaiian. A somewhat similar term is found in Abipón, where tetarik l-kae-te is analyzable as ‘hen POSS.INDEF/3SG-work/creature-PL.’ In general, the cross-linguistic evidence reveals that terms for ‘egg’ are sometimes morphologically complex with ‘bird’ acting as a contiguity anchor (a semianalyzable term is in addition found in Kemtuïk). In contrast, there is
no language in the sample in which the reverse situation holds, i.e. in which the word for ‘bird’ is secondary to that for ‘egg’ (compare section 6; interestingly, unlike the situation observable for the meanings ‘bee’ and ‘honey,’ there is also no language which colexifies ‘bird’ and ‘egg’), and this provides cross-linguistic support for the assumption that in Proto-Indo-European, the word for ‘egg,’ *h₂ej(w)óm in Mallory and Adams’s (2006: 143) reconstruction, is derived from that of ‘bird,’ *h₂ewei-, and not the other way around, see Schindler (1969) for more detailed discussion.

Furthermore, Koyraboro Senni colexifies ‘egg’ and ‘stone’ (although the relevant term assumes the meaning ‘egg’ only in compounds), and in Santiago Mexquititlan Otomí mādo ‘egg’ contains do ‘stone’ (see Buck 1949: 256 on this association in Baltic languages). A very common and well-known metaphorical transfer pattern connects the meanings ‘egg’ and ‘testicle’ (also in evidence in Indo-European according to Buck 1949: 256). This is found in the sample in as many as 19 languages by colexification (and in nine by complex terms, see section 142), namely Efik, Ngaanyatjarra, Carrier, Highland Chontal, Itzaj, Santiago Mexquititlan Otomí, Pawnee (with slight deviations in form), Pipil (Cuinahuat dialect), Tuscarora, Bororo, Miskito, Piro, Ancash Quechua, where the relevant term also colexifies ‘scrotum’ and ‘rattle (snake),’ Imbabura Quechua, Rama, Tsafiki, Yanomámi, Bwe Karen, and Lenakel. In One and Sedang, moreover, ‘male genitals’ rather than ‘testicles’ specifically are colexified with ‘egg.’

Four languages, Efik, Kyaka, Sora, and Wintu, colexify ‘egg’ and ‘spawn,’ and two languages, Basque and Hawaiian, colexify ‘egg’ and ‘ovum’ or ‘zygote.’

Other associations include: the Efik term nsen also denotes “a granule of any thing” as well as the ‘foetus in the womb,’ while niqwa is also “the general name of a bead.” Ngambay kābbè is also the name of a large kind of tree, Kaluli colexifies ‘egg’ with ‘center,’ and Kyaka kapa can also refer, inter alia, to the ‘core of something,’ a ‘larva,’ a ‘friend,’ or ‘iron.’ There are two further languages in the sample where the term for egg has other meanings which do not seem to be in any substantial relation with ‘egg’: Meyah ofáu also means ‘meaning’ and ‘dust,’ and Sentani do which also means ‘man’ and ‘name.’ The Kosarek Yale term wana also means ‘heart’ and “flower-stalk,” Yir Yoront colexifies ‘egg’ with ‘bud,’ and Sora arec – arren is derived from arec- ‘lo lay eggs’ (this may also be the situation recoverable etymologically for Basque; compare also Hani alwu ~ hawuv and wuv ‘to hatch,’ Yay ?an’ cay’-CLASS.THING lay egg,’ and for Jarawara hife/hifene ‘egg’ hifá ‘brood, lay eggs;’ Itzaj colexifies ‘egg’ and ‘to lay egg.’ Abzakh Adyghe -č’e also means ‘to grow’ inter alia. Highland Chontal colexifies ‘egg’ with ‘cocoons,’ and Kiowa is unusual in apparently employing the same term for ‘child,’ ‘egg,’ and ‘semen,’ ‘in (there is also the term ‘ih- / to single out the ‘egg’-reading), and the general meaning of the Wintu peλ in peλábuhabe is stated to be “rounded, smooth and shiny,” and the term denoting ‘eggs’ containing it is also used to refer to ‘marbles,’ ‘apples,’ ‘watermelons’ and moreover means ‘baldheaded.’ Cashinahua bachi can also refer to a ‘piece of clothing’ as well as to a ‘wasp nest’ and a ‘blackhead.’ Cayapa napipu may contain pu ‘thorn, thin bone.’ Cubeo jiđu (analyzable as ji, which bears the lexical semantic meaning ‘egg’ and the classifier -du for roundish three-dimensional objects) can also be used to refer to any kind of protuberance in general. Maxakalí xuí’uk has a short form xuk; there is a verb of that form
meaning “to carry in a bag or sack, to be pregnant.” Ancash Quechua lluntu can also be used with reference to ‘hail’ (although this term is said to be specific to child language), and Toba lco’oue’ is derived from a verb meaning ‘to give birth.’ The correct analysis (if any) of Tsafiki pi’poca is not straightforward; it might consist of pi ‘water, liquid’ and poca ‘cane of the Guadua bamboo.’ Hawaiian hua has a wide range of potential referents, including alongside those already discussed also ‘tuber,’ ‘produce, yield’ alongside ‘round objects’ in general. Kapingamarangi ngogo can also mean ‘brain’ and ‘zero,’ probably both because of the similarity concerning the roundish appearance, while Rotuman is unique in colexifying the meanings ‘egg’ and ‘chrysalis.’ Samoan fia also means ‘flower, bloom’ as well as ‘products,’ similar to the cognate Hawaiian term, and Takia patu- may also mean ‘shell’ and ‘back.’ Yay cay2 is also a verb meaning ‘to lay eggs.’

19. The Embers

Representation: 64%
Motivated: 55.9%
Thereof Analyzable: 26.2% Thereof Colexifying: 30.2%
Thereof by Contiguity: 16.5% Thereof by Similarity: 6.9%
Recurrent associated meanings: coal, fire, flame, ashes, burn, hot/heat/warm, spark, cinders, wood/firewood, small, red, grain

Rather than being based on similarity, terms for the ‘embers’ (or ‘live coal’) are most frequently associated lexically with meanings from the same domain by contiguity, that is, meanings being related in some way to ‘fire.’ Six sampled languages, Kosarek Yale, Khalkha, Carrier, Kiliwa, Cubeo, and Ancash Quechua colexify ‘embers’ and ‘(hot) ashes’ (Carrier also ‘dust’), and in two languages, the term for ‘embers’ is related by word-formation to that for ‘ashes’ (Mandarin hui1-jin4 ‘ashes-what.is.left.from.fire’ and Yoruba eéri gbígboná ‘ashes hot’). Still more frequent, however, is an association with ‘coal,’ and this pattern also occurs formally by both colexification and morphological analyzable terms. Among the colexifying languages are Koyraboro Senni, Noni, Swahili, Yoruba, Gur-indji, Kyaka, Ngaanyatjarra, Nunggubuyu (the term is also glossed as “heart of fire”), Upper Chehalis, Cheyenne, Chickasaw, Wappo, San Lucas Quiaviní Zapotec, Copainalá Zoque, Arabela, Carib (by the term wa’topo, derived from wa’to ‘fire’), Guarani, Toba, Wichí, Yanomámi, Kapingamarangi (by the term malala, derived from the verb lala ‘to heat up’ and colexifying “wood chips made when using adze”), Manange, and White Hmong, and it may be present diachronically in Ket. Where the association is by analyzable terms, the additional constituent is often also from the same semantic field. For instance, Buli has kaala bolim ‘coal:PL fire/light’ ('fire' is also present in Lesser Antillean Creole French ti mòso chabon difi‘ small piece coal fire,’ which also has sam cho ‘sand hot/burning’), Basque ikatz bizi and ikatz gorri ‘coal live’ and ‘coal red,’ Bororo eradu uru ~ joradu uru ‘coal heat,’ Miskito kwasku lakni ‘coal flame,’ Kaingang prânh gru ‘coal flame/burning,’ and Fijian qilaiso sa waqa tū ‘charcoal PART be.burning stand’ ('burn' is one of the additional constituents also in Sko, compare also Lesser Antillean Creole French sam cho ‘sand hot/burning’ and Abipón leer gRaie, which consists of grammatical material that is built around the root eery- ‘burn,
sparkle;' this term colexifies ‘nettle’). Similar to the associations with ‘red,’ Vietnamese has than hồng ‘coal pink,’ and in addition, there are semianalyzable terms one of the constituents of which is ‘coal’ in Yuki, Miskito, and Sāliba. All of the above associations also recur in different configurations. Meanings like ‘heat’ and ‘warmth’ are also relatively frequently associated in the languages of the sample, occurring alongside the cases of Yoruba, Lesser Antillean Creole French, Bororo, and Kapingamarangi that were already mentioned also in Kiliwa (kw-pal, which also colexifies ‘ashes,’ is analyzable as ‘per会同-hot,’ note the parallel to the Carib term where the morpheme acting to derive the complex term makes reference to the past), and Great Andamanese (arpίl’iγιγια, presumable containing pίj ‘hair, feather’ alongside ùya ‘warm’). A term for ‘red’ is alongside Basque also one of the constituent of the relevant Biloxi term, where pe’t xöno ‘tcti’ contains pe’ti ~ pe’ti ~ pе’t ‘fire’ and tcti ‘red.’ Alongside Sko, Lesser Antillean Creole French, Kaingang, and Fiji-an, ‘burn’ is also the associated meaning as revealed by analyzable terms in Japanese (by a derived term) and Bwe Karen (mi-ui ‘fire-burn/catch.fire’); tekeyashi ‘burning’ is furthermore one of the constituents of Arabela tekeyashi nootunenu ‘embers’ and Wayampi apiι contains api ‘burn down.’ Furthermore Hupda teg hʊ ‘wood burn’ colexifies ‘fire,’ ‘flame’ and ‘embers,’ as does Badaga kicc (the term also means ‘confagration,’ ‘bonfire’ and, figuratively, ‘jealousy’ inter alia), while Buli colexifies ‘embers’ and ‘flame’ (but not ‘fire’), Cashinahua and Piro colexify ‘embers’ and ‘flame,’ and Aymara also colexifies all three meanings, but by two different terms. ‘Wood’ or ‘firewood’ are also sometimes encountered as constituents in complex terms, occurring, alongside the special case of Hupda, in Efik (ikpri ifia ikan ‘small:PL firewood fire’) and Sora (ora de:de-te-an/ ‘wood-??-fire-N.SFX’). Four languages, Basque, Khalkha, Haida, and Tuscarora colexify the meanings ‘embers’ and ‘spark’ (in Basque, the relevant term can also mean ‘spunk, pep’ colloquially and in Khalkha it also means ‘slendour, grandeur, glory, energy’ and ‘spirit’). In two sampled languages of the Americas, Santiago Mexquititlan Otomí and Imbabura Quechua, there are parallel terms that involve a metaphorical transfer from ‘grain’ to ‘embers’ by analyzable terms with ‘fire’ acting as a contiguity anchor. The Otomí term is detspi /detsibi/ ‘fire-grain’ and the Imbabura Quechua one, nina muru, is also analyzable as ‘fire grain.’ As already mentioned above, ‘fire’ in general is unsurprisingly the most ‘popular’ contiguity anchor cross-linguistically. Buli bolim njiak might be analyzable as ‘fire origin’ or as ‘fire liquid’ (analysis is considered insecure by the lexicographer), Kosarek Yale auk wana is analyzable as ‘fire fruit/seed/egg,’ and semianalyzable terms where ‘fire’ is one of the constituents are found in Ngambay, Noni, Kaluli, Toaripi, Kosarek Yale, Cheyenne, Nez Perce, Pipil, Chayahuita, Guaraní, and Yay. Alongside colexification in Hupda, Badaga, and Aymara, San Lucas Quiaviní Zapotec gyih is glossed as “fire: esp., coals, embers.” Finally, Cubeo ɨacov ɨ may contain ɨaco ‘cinder field,’ and Lenga and Tetun in fact colexify ‘embers’ with ‘cinders.’

Other associations include: Rendille is unique in using the same word for ‘embers’ and ‘testicle,’ jilah. Yoruba oguna sọsu contains sọsu ‘greatly,’ and the relevant Anggor term may also refer to glowing metal. Kyaka langa also means ‘careless, lax, impetuous.’ The Mali term sachongini is derived from sachon ‘eye’ by means of the diminutive singular suffix -ini. Abzakh Adyghe meš’eš’ek contains š’ek ‘ember, surrounding of fire,’ which in
turn contains \(k'(e)\) ‘surrounding, depression.’ Badaga \textit{ganda} also means ‘sandalwood paste.’ Welsh \textit{marwor} appears to be derived from \textit{marw} ‘to die,’ and \textit{marwydos}, another Welsh term, seems to be related to the verb as well. Aymara \textit{k'aja} also denotes a ‘loud color’ as well as ‘high temperature.’ The meaning potential of Tuscarora \textit{u273reh} includes ‘candle, ember, flash of light, lamp, light, spark, taper.’ Central Yup’ik has \textit{cupun} ~ \textit{cup'un} /cupe-n/ ‘blow-device.for’ (this term also means ‘straw’ and ‘rifle’).

20. The Estuary

Thereof Analyzable: 36.5% Thereof Colexifying: 15.2%
Thereof by Contiguity: 9.9% Thereof by Similarity: 27%

Recurrent associated meanings: mouth, river/stream, opening, water, foot/leg, branch, last, sea, flow out/go out

The ‘estuary’ is a meaning more often expressed by terms with similarity rather than contiguity as the underlying semantic relation; in either case, the relevant terms are mostly analyzable. The most frequent metaphor-driven pattern is the association with ‘mouth,’ occurring in eleven of the sampled languages, namely Efik, Khoekhoe, Muna, Toaripi, Abzakh Adyghe, Welsh, Upper Chehalis, Cheyenne, Nez Perce, Fijian and Mandarin; moreover, there is a semianalyzable term in Lesser Antillean Creole French. In Efik, Khoekhoe, Toaripi, Abzakh Adyghe, Upper Chehalis, Nez Perce, and Mandarin, the association is by colexification (as well as in Latin according to Buck 1949: 228), in the remaining language it is realized by morphologically complex terms. In Welsh, Muna, and Fijian, the second meaning involved is ‘river,’ as in Muna \textit{wobha-no laa} ‘mouth-poss river,’ and in Cheyenne, the verb \textit{ho'ome} meaning ‘be the confluence, be the mouth of a river’ perhaps contains \textit{ho'} ‘arrive’ and \textit{ôm} ‘mouth’ (in many of these languages there are also additionally colexified meanings peculiar to ‘mouth,’ such as ‘opening’ in general, ‘beak,’ etc., see § 6.2.3.2. for discussion). In addition, the Chayahuita term also appears to contain the word for ‘mouth’ and that for ‘to berth,’ and the Kolyma Yukaghir term \textit{ajil} ‘opening, river-mouth’ derives diachronically from the same root as ‘mouth’ (note that Arabela \textit{jiyucauai} ‘estuary, entry to path’ contains \textit{jiya} meaning ‘hole, earth’ inter alia). Somewhat parallel to the pattern of colexification in Kolyma Yukaghir, ‘opening’ is also colexified with ‘estuary’ and ‘mouth’ in Efik, Khoekhoe, Toaripi, Abzakh Adyghe, and Mandarin.

Another body-part metaphor that is however rarer is that based on ‘foot’ or ‘leg,’ which occurs in Muna and Tetun, in the former language by colexification, in the latter by the analyzable term \textit{mota-ain} ‘river-leg/foot’ (note also that Haida \textit{t'aa} also means ‘foot of trail’ and ‘foot of bed,’ compare the noun \textit{st'a} ‘foot’). Chukchi colexifies ‘estuary’ with ‘throat,’ and Wayampi with ‘head’ inter alia. An association not based on a body-part that is still clearly metaphorical in nature is that with ‘branch’ occurring in Burarra (also with ‘arm, wing’) and Basque. In the latter language, the term for estuary is \textit{itsas-adar} ‘sea-branch/horn,’ the association with ‘sea’ is also present by a derived term in Welsh.
Contiguity-based analyzable terms include ones based on a verb meaning ‘to flow out’ or ‘to go out’ in Chukchi and Nuuchahnulth, and the Kashaya and Piro terms for ‘estuary,’ which include a constituent part with the meaning ‘to fork off’ or ‘fork, intersection’ (compare Piro skipha ‘estuary’ and ski ‘base intersection, fork;’ this term also denotes a ‘confluence of rivers’). Obviously, analyzable terms frequently include constituents with the meaning ‘water’ or ‘river’ as contiguity-anchoring devices. Among these, ‘river’ is the most commonly used contiguous concept. Further terms of this kind include Kwoma pa bogo ‘river junction/bend,’ Sko pā-long ‘river-hole,’ Yanomámi u paa thapi pa, where u is ‘liquid, river,’ thapi is ‘further’ and pa ‘away’ (this term is said to mean ‘above the estuary’), and Bwe Karen bā-kā ‘river-bottom.’ Moreover, Welsh colexifies ‘estuary, confluence’ and ‘stream’ directly. Terms with ‘water’ include Carrier thû-ḳĕ-tcĕ ‘water-on-tail,’ Kashaya ʔoḥqʰawi, analyzable as /ʔašo-ʔahqʰa-wi/ ‘south-water-at’ (note for this term that ʔoḥqʰa ‘south water’ is a site at the mouth of the Russian River in Northern California, so this term is more of a toponym rather than a general term for ‘estuary’), as well as the apparently cognate terms of Hawaiian mūlî-wai ‘after/last-water’ and Samoan mūlî-vai ‘be.last-water’ (mūlî has other meanings in both languages, in Samoan, inter alia ‘buttocks,’ so here a body-part metaphor might be underlying the conceptualization).

Further associations include the following: Buin tope also means ‘to dry out, wither;’ Burarra colexifies ‘mouth of river’ with ‘lower back, tail bone.’ This term also has the more general reading of “base or rear end of anything,” while the Yir Yoront term ngopngir denotes the property ‘wide’ in a general sense, and, more particularly, a wide place in a river and an estuary. Another colexifying term is found in Khalkha, where aday also denotes any kind of ‘end’ inter alia. Lesser Antillean Creole French labouchwi also means ‘harbor,’ and Tuscarora nyawékq̱? is analyzable as /t-ya-ek-ʔeʔ/ ‘CISLOC-3SG.INDEF.PATIENT-liquid-fall-PUNCTUAL’ (presence of roots is sure, precise analysis otherwise inferred and perhaps erroneous).

21. The Feather

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<tr>
<th>Representation: 95%</th>
<th>Motivated: 56.0%</th>
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<tr>
<td>Thereof Analyzable: 11.2%</td>
<td>Thereof Colexifying: 45.0%</td>
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<tr>
<td>Thereof by Contiguity: 10.4%</td>
<td>Thereof by Similarity: 40.6%</td>
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Recurrent associated meanings: hair, fur/wool, wing, leaf, bird, bristle, quill, pen, beard, needle of tree, wool, scale

Most commonly, terms for ‘feather’ are associated lexically with the meanings ‘hair’ and/or ‘fur’ and ‘wool,’ both by colexification as well as by morphologically complex terms, in which case most often ‘bird’ acts as a contiguity anchor. Colexification with ‘hair’ (without a difference made between ‘body hair’ and ‘head hair’ in the ensuing discussion) is found in as many as 41 sampled languages, namely Buli, Efik, Hausa, Dongolese Nubian, Anggor, Berik, Burarra, Kaluli, Kwoma, Kyaka, Meyah, Muna, Sahu, Sentani, Middle-Eastern and Southeastern Tasmanian, Toaripi, Kosarek Yale, Abzakh Adyghe (where the relevant term also means ‘tooth’ and ‘seed’), Kolyma Yukaghir, Biloxi, Chickasaw, San
Mateo del Mar Huave, Central Yup’ik, Copainalá Zoque, Abipón (colexifying also ‘leather’), Arabela, Chayahuista, Guaraní, Lengua, Rama, Séliba, Toba, Fijian, Great Andamanese, Hawaiian, Kapingamarangi, Bwe Karen (which also colexifies ‘between’ and “to be strong, forceful”), Lenakel, Malagasy (colexifying also ‘moss’), Tetun, and Yay. Colexification with ‘fur’ or ‘wool’ is found in 39 languages, namely Dongolese Nubian, Swahili, Baruya, Burarra, Kaluli, Kwoma, Kyaka, Meyjah, Muna, Nunggubuyu (where the reading ‘feather’ is rare), Sahu, Middle-Eastern and Southeastern Tasmanian, Toaripi, Kosarek Yale, Kolyma Yukaghir, Abzakh Adyghe, Chickasaw, San Mateo del Mar Huave, Central Yup’ik, Copainalá Zoque, Aguaruna, Arabela, Bora, Chayahuista, Guaraní, Huambisa, Kaingang, Lengua, Miskito, Rama, Toba, Tsafi, Han, Hawaiian, Bwe Karen, Lenakel, Tetun, White Hmong, and Yay. The two categories are not mutually exclusive, since a large number of languages does not distinguish between ‘hair’ and ‘fur/wool’ lexically. There are also complex terms such as Hupda ḥuτæ’h pã’t ‘bird hair,’ which are also found in Yei, Laz, Wichí, and Vietnamese, and thus obviously without any particular areal hotspot in a certain region of the world. Other complex terms where one of the constituents is ‘hair’ include Mali chësgengvês, derived from kësgeng ‘hair,’ Santiago Mexquititlan Otomí xi’ni /xi-oni/ ‘body, hair-chicken’ and Kapingamarangi n̄gaa-hulu ‘movement-hair.’ Complex terms on the basis of ‘fur’ or ‘wool’ are less frequent, and are only encountered in Chukchi (ɣalɣa-rəɣaɣ ‘bird-fur’) and Manange (1ŋima-2m̄i ‘bird-fur’). Due to very vague semantics of the Kosarek Yale term for ‘hair’/‘feather’ which also includes ‘beard’ and ‘fur’ in its semantic extension, an association with ‘beard’ is also diagnosed in that language, as is the case in Bororo. An association with ‘scale’ is found in Middle-Eastern and Southeastern Tasmanian and Bororo.

Other terms with ‘bird’ as a contiguity anchor include Sko tång-hó ‘bird-undress’ (colexifying ‘bird’s tail’) and Bakueri yali ḣaṷwa ‘leaf of fowl,’ as well as the similar Toaripi ori tolo ‘bird leaf’ for “long feather, from wing or tail,” and there are semianalyzable terms in Mbum and Kyaka. In fact, Bakueri and Toaripi are not the only languages in which an association between ‘feather’ and ‘leaf’ is found, although they are the only ones in the sample where it is realized by an analyzable term. By colexification, the association is also found in Burarra and Ngaanyatjarra (colexifying “broad leaf” more specifically), and in seven languages of the Americas, namely Chickasaw, Ineseño Chumash, Abipón, Cashinahua (colexifying also ‘silver, money’), Jarawara, Lengua, and Toba. In Kolyma Yukaghir and Chickasaw, in addition, the relevant terms also denote the needles of a coniferous tree.

In 18 sampled languages, Kanuri, Yoruba, Gurindji, Lavukaleve, Ngaanyatjarra, Badaga, Greek, Sora, Acoma, Upper Chehalis, Nez Perce, Cayapa, Jarawara, Kaingang, Macaguán, Piro, and Bwe Karen, terms which colexify ‘feather’ and ‘wing’ exist, a relation also very common in Indo-European (Buck 1949: 246). In addition, Cubeo cave-do ‘feather’ is analyzable as ‘wing-class.large.cylindrical.slim.and.acute.object.’ Buli, Kwoma, Bora, and Rama also colexify ‘feather’ with ‘bristle,’ and Basque, Cheyenne, Lesser Antillean Creole French, and Hawaiian also with ‘quill.’ Finally, three languages, Basque, Nivkh, and Lesser Antillean Creole French colexify by (at least initial) functional contiguity ‘feather’ and ‘pen’ (Nivkh by further extension also ‘pointed drill’). In Buin, paru ‘feather, plumage’ is glossed also as “(used for) flower,” and in Nunggubuyu –dhabaq
'feather' can also refer to the 'flowers' of certain plants (see Laycock 1970: 1145; 1975: 228); the relevant Buin term can also refer to a “tangle-net trap for phalangers, flying-foxes, rats, and other small game.”

Other associations include: Buli kok can also refer to a ‘ghost,’ Hausa gashi also means ‘character’ inter alia, and jawaska is also used with the meaning ‘the habits and customs of a country.’ Baruya features unrelated terms for feathers removed from the bird and feathers when they are on the bird. Muna wulu also denotes a kind of small bamboo and means ‘to have a dessert’ as a verb, while Ngaanyatjarra nyarlpi can also refer to ‘playing cards.’ In Yir Yoront, marr means ‘feather’ and ‘wing-feather’ specifically, and, by a metonymic transfer typical for the Australian language area, also denotes the ‘red-winged parrot’ (Aprosmictus erythropterus) which has a bright red (hence, “salient”) wing feather. Rotokas orupa contains oru ‘trim down, shave away,’ Abzakh Adyghe c(e) may also refer to a fine substance, Basque luma can also refer to a ‘snowflake’ and hegats also to a ‘fin’ and ‘eaves’ (this term may be related diachronically to hatz ‘finger’), Greek fteró also to a ‘feather-duster’ and ‘mudguard,’ Sora bən also to “the plume worn by the Sora-men on a turban,” and Cheyenne mée’e also means ‘collarbone.’ The Kiowa term, according to the consulted source, may be related to a lexeme with the meaning ‘tree, wood, stick,’ and Lake Miwok pütte also denotes “that part of the dance headpiece which fits on top of the head.” Nez Perce colexifies ‘(large) feather, wing’ with “eagle with white-tipped wings; golden eagle, Aquila chrysaetos,” Wintu kal also means ‘to stare, gaze, intense visual contact, glow,’ ‘receive intense visual impression/sensation’ and ‘coal’ and kalaq also ‘feather headdress,’ while Central Yup’ik melquq is analyzable as /meqe-quq/ ‘shed.hair-one.that.is’ (compare perhaps also buuni ‘feather’ in the Yahi and Northern Yana dialects of Yana with buu ‘to shed hair,’ the association is however unsure in the consulted source). Bororo colexifies ‘feather’ with ‘shell’ of animals and insects as well as ‘casing.’ Toba laue also means ‘tower, observation point.’ Yanomámi hakorakɨi ‘wing feathers’ appears to contain hako ‘shoulder.’ Finally, Bislama colexifies ‘feather’ with ‘pubic hair,’ ‘grass,’ ‘fern,’ and ‘mould,’ Hawaiian with ‘brush’ inter alia, Hani with ‘to be stuck onto, to smear,’ Bwe Karen with ‘to spread,’ and Rotuman with ‘eaves.’ Finally, White Hmong plaub also means ‘four.’

22. The Flame

Terms for the ‘flame’ are frequently formally complex, with ‘fire’ typically being the contiguity anchor. The dominant pattern cross-linguistically is metaphorical in nature and involves a transfer from ‘tongue’ to ‘flame.’ This is very frequent, and is found in all areas of the world in a total of 24 languages (Efik, Hausa, Kanuri, Katcha, Mbum, Noni, Swahili, Yoruba, Baruya, Kyaka, Toaripi, Abzakh Adyghe, Bezhta, Kildin Saami, Sora, Upper Che-
halis, Highland Chontal, Ineseño Chumash, San Mateo del Mar Huave, Fijian, Lenakel, Malagasy, White Hmong, and Takia). Canonically, the terms are of the lexical type, as in Katcha ndago m-isi ‘tongue ??-fire,’ with the variation that in Hausa the association is by colexification, in Lenakel, the association is (“possibly,” according to the consulted source) realized by reduplication (nam ‘tongue,’ namnam ‘flame’), and in Abzakh Adyghe, the relevant term ts’ez ~ ts’abze is analyzable as /tx(e)-bze/ ‘catch-tongue’ rather than ‘fire-tongue.’ Note also Chayahuita pen nenirinso, containing alongside pen ‘fire’ nenirin meaning ‘to flame’ as well as “to stick out the tongue,” as well as Lake Miwok letaw-, which also means “to dart the tongue (said of a snake).” Other terms with ‘fire’ acting as a contiguity anchor are Buli bolin njiax, which might be either analyzable as ‘fire origin’ or ‘fire liquid,’ Kanuri kammidamb /kannu cambi ‘fire it.has.given.birth.to,’ Yoruba owó-iná ‘hand/branch-fire,’ Japanese honoo /hi-no-ho/ ‘fire-gen-ear,’ Carrier khwen-ték ‘fire-uses.to.dart.out,’ Bora cújůwa péétene /cújůwa péete-ne/ ‘fire light-ct.thing.or.action,’ Bororo eru-gu ~ joro-gu ‘fire-liquid/blood,’ Jarawara yama hirini ‘thing catch.fire,’ Miskito pauta klaunaka ba ‘fire/firewood burning dem,’ Wichi itoj ‘burnh ‘fire brightness,’ Hawaiian lape ahi ‘ridge/slope fire,’ and Vietnamese ngon lática ‘peak fire,’ while Malagasy lāla in lālā ‘flame’ colexifies ‘tongue and ‘blade’ (āfo is ‘fire’). There are semianalyzable terms where the identifiable constituent is ‘fire’ in Kosarek Yale, Waris, and Santiago Mexquititlan Otomi. Moreover, Sedang has pla on for ‘flame,’ with on meaning ‘fire’ and pla inter alia “to mediate, to reconcile, to break up a fight, to come between and stop a quarrel.” However, similar to the association with ‘blade’ above, there is also pla ‘knife blade’ which may be the constituent rather than pla.

In addition, Chukchi iyelenyalet /iyel-yalet/ ‘burn-warm.up,’ Hupda teg hô ‘wood burn,’ and Yanomâmi kōa wake /kōa wake/ ‘wood red’ colexify ‘flame’ and ‘fire,’ and this is also the case for simplex terms in Dongolese Nubian, Berik, Badaga, Ket, Khalkha, Comanche, Nez Perce, San Lucas Quiaviní Zapotec, Arabela, Cayapa, Tehuelche and Mandarin, so there are in total fifteen languages with colexifying terms. Alongside Chukchi and Hupda, in eight further languages, Upper Chehals, Cheyenne, Xicotepec de Juárez Totonac, Kaingang, Miskito, Kapingamarangi, Rotuman, and Samoan, associations with a verb meaning ‘to burn’ are encountered, in Kaingang, Kapingamarangi, and Rotuman by colexification, in the others by morphologically complex terms: Upper Chehals skâwmitn ~ skəwmitn and skâwitn contain ków ‘burn.’ Cheyenne has exó’sótse /éxó’sé-otse/ ‘burn-become,’ Xicotepec de Juárez Totonac lamand is analyzable as /lama-na/ ‘burn-agt,’ Miskito pauta klaunaka ba as ‘fire burning dem,’ and Samoan has a derived term ‘burn’ is also a common association in Indo-European, Buck 1949: 72). Similarly, Sahu colexifies ‘high flames’ specifically with ‘to burn fiercely.’ Thirteen sampled languages, Dongolese Nubian, Buin, Gurindji, Ngaanyatjarra, Nunggubuyu, Yir Yoront, Sora, Wintu, Abipón, Bora, Bororo, Lengua, and Miskito have terms for the meaning ‘flame’ which betray a lexico-semantic association with meanings such as ‘(fire) light’ or ‘to light’ occurring in a mixture of colexification and analyzable terms of the derived and lexical type. Colexification occurs in Dongolese Nubian, Gurindji, Ngaanyatjarra, Nunggubuyu, Rotokas, Yir Yoront, Wintu, Abipón, Bororo, Guarani, Lengua, and Hani (Gurindji also colexifies ‘torch,’ Ngaanyatjarra also ‘electricity,’ and Yir Yoront also ‘light-source’ and ‘flame color;’
Bororo eru-gu ~ joru-gu is analyzable as ‘fire-liquid/blood’ as mentioned above, but colexifies ‘light’ in addition, and the same is true of Abipón l-irie-Ra, which is analyzable as ‘poss.indef/3SG-ignite-abstr’). Sora gan’em-an ~ qem-an is derived from the verb gan’em ~ qem- ‘to light,’ and Bora has, as already mentioned, cúújuwa péétene, which is analyzable as /cúújuwa péete-ne/ ‘fire light-CL.thing.or.action.’

In Swahili, Tuscarora, and Bororo, ‘flame’ and ‘ray,’ ‘beam of light’ are colexified (and in Tuscarora in addition ‘halo’). Further, Meyah ésa is glossed as ‘flame, shine’ (probably it is a verb). In four languages, colexification of ‘flame’ with ‘spark’ is found. In two of them, Abzakh Adyghe and Chayahuita, the respective terms are also formally analyzable and fall into the category of terms with constituent elements meaning ‘fire’ and ‘tongue,’ while in San Mateo del Mar Huave and Bororo the terms in question are not so analyzable.

Two languages of South America, Arabela and Yanomámi, colexify ‘flame’ and ‘candle’ (and Arabela colexifies also ‘match’ and ‘wax’). Relatedly, Wintu sayi also colexifies ‘lantern’ and ‘lamp,’ and Gurindji employs the same term for ‘flame’ and ‘torch’ (see Buck 1949: 72 for parallel evidence from the history of Romance). The Bulli, Badaga, Aymara, Cashinahua, Hupda, and Piro terms also include ‘embers’ in their denotational range. Khoekhoe ḋhabub ~ ḋhapub is derived from ḋhabu ‘to catch alight,’ and ‘flame, flare up.’

The latter meaning is also colexified in Muna, and there is a semianalyzable term in Rotokas. Lesser Antillean Creole French, Pawnee, and Hani colexify ‘blaze’ (Hani also ‘ardor’). In Hawaiian and Kapingamarangi, relevant terms also can refer to species of lobsters.

Other associations include: Dongolese Nubain colexifies ‘flame’ with ‘flower, blossom.’ The Kyaka term for ‘flame’ varies in form between uu lenge, wii lenge and wilenge. All of these terms apparently contain the Kyaka word for ‘eye,’ lenge (which, however, also means ‘node, knuckle’ inter alia). Sahu lejanga can also refer to a ‘glow’ inter alia. Badaga kiccu is also used figuratively with the meaning ‘jealousy,’ and kolli is glossed as ‘thicket, bush, firewood; flame, brand, firebrand,” Basque sugar may also refer to a ‘male snake,’ and lama also means ‘glare, gleam’ alongside ‘lame,’ a spiritual teacher in Buddhism. Greek flóga also has the figurative meaning ‘fire, passion,’ Khalkha zali can also mean ‘spirit’ and refer to “[r]use, craft, cunning, trick, deceit,” and dôly can also mean ‘to be timid, not dare.’ Itzaj jom also means ‘to break hole, perforate,’ Nez Perce dâla also ‘hell,’ and Wintu čul may be related to čul ‘pour, spill.’ The Chayahuita term ohuca pochin ninino is apparently based on a metaphorical connection with sheep (ohoica), which flames are apparently felt to be (ninin) like (pochin), and for Emberra ne eradrú, compare eraadrú ‘lightning.’ ‘Flame’ and ‘lightning’ are indeed colexified in Tsafiki. Guaraní tendy also means ‘saliva.’ Toba l’edaxa colexifies ‘brilliance, gleaming’ alongside ‘heat, fever,’ and similarly, Tehuelche colexifies flame with ‘flickering.’ Tsafiki pinda also means ‘thunderbolt.’ Hani miqlaol contains lool, a verb meaning ‘be warm or hot,’ and miqbia contains bia ‘bright, shining, flash.’ Great Andamanese archâl is derived from châl ‘beam, shine.’
23. The Flood

Terms for ‘flood’ (or ‘floodwater,’ ‘deluge,’ ‘flood tide’) betray a variety of lexico-semantic associations cross-linguistically. Frequently, the meanings ‘water’ or ‘sea’ act as contiguity anchors in morphologically complex terms, and in four further languages, Berik, Yir Yoront (where an etymological connection with ‘sand’ may be present), Comanche, and Piro, semianalyzable terms are found where one of the constituents with the meaning ‘water’ is identifiable.

In five sampled languages, Kyaka, One, Upper Chehalis (in One and Upper Chehalis there is a single term for ‘water’ and ‘river,’ and hence, there is also a lexical association with ‘river;’ similarly, Ngaanyatjarra and Badaga colexify ‘floodwater’ with ‘river’ or ‘stream,’ and Ineseño Chumash ‘stream, creek’ with ‘flood’ itself), Chickasaw and Lake Miwok, the second element in their complex terms for ‘flood’ is ‘big’ or ‘to be big.’ For instance, Lake Miwok has ʔudí-kik/ʔudí-kik/ ‘be.huge.water.’ Note also Efik a’qua i’nyañ ‘great wide.expanse.of.water’ and the formally redundant Central Yup’ik term ule-rpak ‘flood/high.tide-big.’ In five languages, Dadibi, Sko, Nivkh, Pawnee, and Hawaiian, the second term has the meaning of ‘come,’ ‘go inland’ or ‘move forward’ (for instance Dadibi asobo wē ‘come water,’ and Sko tí hō toe/tí hōe toe/ ‘sea go.beachwards come.up’). In the Pawnee term kicuutaˀ, an additional element with the meaning ‘swell’ is encountered; the term is analyzable as /kic-huutaˀat/ ‘be.liquid-swell’ (compare colexification of ‘to flood’ and ‘to swell’ in Jarawara). Similarly, Haida has gay-h’ll ‘ACTION.OF.WAVES-move’ (there is another term featuring gay). In Yoruba, there are the terms ʔahqha hco-Xibio/ ‘water-leave,’ and Guaraní y-sẽ ‘water-leave,’ and Hawaiian wai-holomoku ‘water-rush.’ Somewhat unclear and potentially spurious associations with ‘sea’ acting as contiguity anchor include San Mateo del Mar Huave tengual ndec, where
nde is ‘sea’ and *tenguia* is a demonstrative element and Rama *táuli alka bángi* ‘salt/sea sun/hot let.us’ (One also has a term colexifying ‘floodwaters’ with ‘sea,’ and there is a semianalyzable term where the identifiable constituent means ‘sea’ in Miskito). In addition, as mentioned above, three languages in the sample, Ngaanyatjarra, Badaga, and Ineseño Chumash, colexify ‘flood’ or ‘floodwater’ and ‘river, stream’ (Badaga also ‘ditch,’ ‘lake,’ and ‘bottomland’ inter alia), while in Tetun, one term for ‘flood’ is *mota-tun* ‘river-down/descend,’ and there is a semianalyzable term where the identifiable constituent means ‘water, river, lake’ in Berik and one where it means ‘river’ only in Rama. In two languages of New Guinea, Kwoma and Kosarek Yale, there are verbs colexifying the meanings ‘to cover’ and ‘to flood’ (Kosarek Yale also colexifying ‘to hide’ and ‘to keep secret’), and in Tuscarora, the term for ‘flood’ consists of the contiguity anchor ‘water’ and a stative verb ‘cover’ with the term for ‘land’ incorporated (*k̓w̓l̓* *w̓aʔw̓n̓aw̓erh̓*ę, analyzable as /k̓w̓l̓* w̓aʔw̓t̓-awerhu-ę/ ‘water 3SG.NEUT.AGENT-land-cover-STAT’). Also in Kwoma and Kosarek Yale, there are verbs meaning ‘to push underwater,’ ‘to put under surface of water’ and ‘to flood;’ Bislama has *draonem* (< Engl. *drown*) with the same semantic structure, and, given the language’s relative proximity, it is intriguing to speculate whether this is a more general semantic pattern of the broader New Guinea area which Bislama has acquired by relexification. Similarly, ‘flood’ and ‘(to) torrent’ are colexified in Kwoma, Kyaka, Basque, Guaraní, Hawaiian, and Tetun, and ‘flood’ and ‘(to) overflow’ are in Buli, Muna, Comanche, Nuuchahnulth, and Hawaiian. In two languages of Oceania, Mali and Fijian, complex terms for ‘flood’ revolve around a verbal element meaning ‘to scrape’ (see Stebbins n.d. for details of the underlying conceptualization in the former). In Buin, Kwoma, and Welsh, associations with the meaning ‘current’ are encountered (the relevant Welsh term *llif* also means ‘saw’). In Kwoma, *ukwi kiya* is analyzable as ‘water.current carry,’ and in the other languages the association is by colexification (Buin also colexifies “be light brown (the colour of a river in flood”).

Other associations include: Buli *mobi*, used verbally, means ‘to cut,’ ‘to crack,’ and ‘to burst’ (said of banks) inter alia, Hausa colexifies “ingress of mass of water” with “watersprout, cloudburst” as well as ‘congestion.’ Kwoma has two colexifying terms, namely *dabu*, which also means ‘to pour down’ or ‘to spill’ inter alia, and the aforementioned *ukwi kiya*, which means ‘for a river to rise’ and again ‘to pour down.’ Meyah colexifies ‘flood’ with ‘surplus’ and Kosarek Yale *yamak-* also means “‘to fill the air with a smell.” Basque *uholde* can also be used metaphorically to a plethora of something (as can English *flood*). The relevant Chukchi term is semianalyzable, containing an element meaning ‘deep,’ and Yana *yuk*—also means ‘to push’ and ‘to poke, to spear.’ Bislama *draonem* also means ‘to post a letter.’ Hani *eelpuv puv* contains *puv* meaning inter alia ‘to roll, to cross over,’ *eelqaoq taoq* contains *taoq* ‘to pound, to butt, to rub against,’ and *eelqaoq leiq* also contains *leiq* meaning ‘to look for, to deviate’ inter alia. Kapingamarangi *dolbo* also denotes a species of duck. Samoan *lolo* is a nominalization of a verb meaning ‘for water to run,’ and Tetun *nabeen* can either mean ‘to liquify’ or ‘to flood.’
24. The Foam

Representation: 85%
Motivated: 32.5%
Thereof Analyzable: 11.5% Thereof Colexifying: 21%
Thereof by Contiguity: 13.6% Thereof by Similarity: 13.9%
Recurrent associated meanings: bubbles, saliva/spittle, suds, water, lungs, soap, boil, spray, bud, fog, foam on mouth, swell

The meaning ‘foam’ (‘froth,’ ‘scum’), when terms for it are lexically motivated, is expressed to about equal proportion by terms with an underlying semantic relation of contiguity and of similarity, and this is reflected in the two cross-linguistically most frequently associated meanings: ‘bubbles’ by contiguity and ‘saliva, spittle’ by similarity. The association with ‘bubbles’ occurs in fourteen languages by colexification, Mbam, Gurindji (colexifying also ‘steam’), Kwoma, Nunggubuyu, Ineseño Chumash, Haida, Itzaj, Cayapa, Guaraní, Wayampi, Hawaiian, Mandarin, and Rotuman, and one language, White Hmong, has the analyzable term ‘bubble water,’ which, however, denotes ‘bubbles’ itself as well. Noteworthy is the Guaraní term ‘tyjúi,’ perhaps analyzable as ‘ty-jýi’ ‘urine-rainbow,’ which then would make reference to the iridescent reflections of the light occurring especially with bubbles on soapy water (in fact, an association with ‘soap’ or ‘soap powder’ is found in Ngaanyatjarra, Sko, and Miskito, which latter has the analyzable term sòp laya ‘soap water,’ and ‘suds’ is colexified in Koyraboro Senni, Burarra, Khalkha, Cahuilla, Pawnee, Aymara, Hawaiian, and Rotuman, while Nez Perce tìpìp is related to tìpìp ‘become sudsy’).

Interesting is the association with ‘saliva, spittle’ or sometimes ‘slave, drivel’ because it is particularly frequent in New Guinea and Oceania. It is found in a total of thirteen languages, Baruya, Buin, Kwoma, Lavukaleve, Muna, Ngaanyatjarra, Sko, Southeastern and Western Tasmanian, Badaga, Lesser Antillean Creole French, Tsafiki, Bislama, Lenakel, by colexification in nine languages and by analyzable terms in four (Baruya has aal-maagwala ‘water-saliva,’ Muna bura-no tehi ‘foam/froth-POSS sea,’ where the example in the source suggests that bura is used for ‘foam on mouth,’ but this case remains somewhat unclear, Sko fœfœ, reduplicated from fœ ‘spittle,’ and Lenakel nihi-noua tehe ‘liquid-mouth sea,’ where nini-noua- ‘liquid-mouth-’ is ‘saliva’). Similarly, Basque and Malagasy colexify ‘foam on mouth’ and Kaluli “froth from mouth during seizure” specifically. Given that ‘saliva’ has a foamy structure as well, and is also in a contiguous relationship with ‘foam at the mouth’ one may wonder whether in the colexifying languages, the target meaning is really ‘foam’ as found on water. Indeed, morphologically complex terms like that found in Lenakel suggest that this may be so (although, to be sure, each language is different and there may be some spurious cases).

In Buin, Kaluli, and Toaripi, ‘foam’ is colexified with ‘lungs’ (due to the spongy appearance of this organ), and Kaingang jénéjé is glossed as ‘foam of lung’ (it is also common cross-linguistically to have complex terms for ‘lungs’ on the basis of ‘foam,’ see section 122). Two languages, Khoekhoe and Ancash Quechua, colexify the meanings ‘foam’ and ‘bud’ (in Khoekhoe, especially the bud of Acacia Watkins), and another two, Cahuilla...
and Hawaiian, colexify ‘foam’ and ‘fog.’ Similarly, Ngambay colexifies ‘fog’ and Gurindji ‘steam.’ Also in two languages, an association with a verb meaning ‘to boil’ is found. In Itzaj, the same term may be used as a verb with the meaning ‘to boil’ and as a noun with the meaning ‘foam,’ and in Abipón, l-apa-Ra ‘steam of boiling water, foam’ is analyzable as ‘POSS.INDER/3SG-boil-ABSTR.’ Efik ëfut’ (probably accidentally also meaning ‘fifteen, fifteenth’) is derived from a verb colexifying ‘to boil’ with ‘to swell, ferment, foam’ and other meanings, and similarly, Khalkha kõgesy(n) is a resultative nominalization of the verb kõge- ‘to swell, distend, intumesce, foam.’ In addition, the Xicotepec de Juárez Totonac term puput ‘foam’ appears to be derived from pupú ‘to boil,’ and lexical connections between ‘foam’ and ‘to boil’ are also reported for Wintu and, diachronically, for Haida. Furthermore, Burarra and Wayampi colexify ‘foam’ with ‘spray’ on waves, and in Great Andamanese, the same root bôag yields the meaning ‘foam on mouth’ and ‘foam on sea’ depending on the possessive prefix attached.

Other associations include: Buli puuk also means ‘stomach, belly’ and ‘pregnancy’ inter alia, Hausa kumfa also ‘and then, thereupon,’ and Burarra munjanachana is derived from janachana ‘make crumbs’ by prefixation of the class marker mun-. Rotokas ruirui so appears to contain ruirui, meaning ‘to dry up’ or ‘to wipe up,’ Nunggubuyu colexifies “flood debris,” and Toaripi ma sese ‘slight foam on waves, white caps’ is analyzable as ‘water fibres’ (the Northern dialect of Ngaanyatjarra colexifies ‘foam’ with ‘water’ directly, there is a semifinalizable term with an element meaning ‘water, river’ in One, and a Ket term may be diachronically relatable to one meaning ‘water’ as well). Abzakh Adyghe txəmbe (with the variant txərbe) is analyzable as /txə-m-be/ ‘white-RELAT/EPEN-hollow.’ Greek is the only language in the sample where the term for ‘foam,’ afrós, can also mean ‘cream,’ Japanese awa also means ‘foxtail millet,’ Khalkha ceger also ‘taboo, prohibition, abstinence’ and ‘quarantine,’ and Soraba bub buryan also “[b]eads of various kinds made of glass or metal, used as ornaments.” Kolyma Yukaghir colexifies “dirty water which remains after cleaning a fish.” Itzaj õtz’tik and ootz’ can also mean ‘wrinkle,’ Lake Miwok pōta also ‘to be gray, to be cloudy’ and ‘semen,’ Tuscarora colexifies ‘effervescence’ with ‘thin foam,’ Cavineña colexifies ‘tree,’ and Cayapa chimbijpu (or shimbijpu) also denotes the ‘bladder’ of an animal. Ancash Quechua ñawi also means ‘eye,’ ‘spring of water,’ and has other related readings. Rama ngi aya and inga aya literally mean ‘house corn.’ The Toba term for ‘foam’ varies in form between lchi and lcochi; lchi also means ‘leg, tributary.’ Fijian vuso generally also means ‘top end’ and ‘to squeeze out the juice from leaves, coffee powder.’ Hawaiian hu’a is, presumably by metaphor, extended to ‘border’ and ‘suburb’ among other meanings, and ehu also means ‘dust,’ ‘pollen,’ and ‘faint, difficult to see’ inter alia. The complex Manange term 2kju 1atsap 1mo 1mu contains 2kju ‘water,’ tsap ‘clean’ and a negative marker inter alia, and Mandarin colexifies ‘foam, bubble’ with ‘blister’ as well as ‘to soak.’ Tetun has furî-n ‘sprinkle-SINGULATIVE,’ and Samoan piapia is reduplicated from pia ‘secretion of the genital organs, smegma.’ Bislama nus (< Engl. nose) means ‘nose,’ ‘mucus of nose’ (by metonymy) and ‘foam’ (by metaphor).
25. The Fog

Representation: 89%
Motivated: 47.7%
Thereof Analyzable: 13.4% Thereof Colexifying: 34.5%
Thereof by Contiguity: 1.6% Thereof by Similarity: 35.7%

Recurrent associated meanings: cloud, smoke, steam, dew, dust, cover, white, cold/frost, darkness/darkening, foam, rain, fall, land/ground, water

For the meaning ‘fog,’ associations with other aerosols, namely ‘smoke,’ ‘steam,’ and ‘cloud’ abound. These associations are frequently realized formally by colexification, but also quite often by morphologically complex terms. The interesting fact, however, is that the relationship between the meanings as revealed by analyzable items is unidirectional, in that there are complex terms for ‘fog’ on the basis of the aforementioned meanings, but the reverse situation is unattested in the sample.

The association with ‘cloud’ is present by colexification in Bakueri, Buin, Ngambay, Dongolese Nubian, Yoruba, Anggor, Baruya, Kwoma, Meyah, Ngaanyatjarra, Rotokas, Waris, Kosarek Yale, Basque, Bezhta, Sora, Haida, Lesser Antillean Creole French, Nez Perce (by a lexical affix), Xicotepec de Juárez Totonac, Arabela, Aymara, Maxakalí, Piro, Ancash and Imbabura Quechua, Tehuelche, Yanomámi, Manange, Sedang, Takia (and perhaps Tasmanian, Plomley 1976: 230, as well as perhaps Embera, where the relevant terms are almost identical segmentally). In Ngaanyatjarra, Sedang, and Takia, the colexified meaning is ‘low cloud’ more specifically, while even more specialized types of cloud are colexified in Buin (‘white cloud’), Aymara (“fairly dark cloud”), Shayahuita (‘white cloud;’ there is also an analyzable term of the redundant type with the additional constituent meaning ‘to rise up’), Hani (“thick cloud”), and Hawaiian (“light cloud on mountain”). Similarly, Badaga colexifies ‘veil of cloud.’

Analyzable terms include Kyaka yangama kopa and yuu kupa ‘morning cloud’ and ‘ground cloud’ (both denoting ‘ground fog’ specifically), Upper Chehalis s-pǻf-sq ‘CONTINUATIVE-drop/fall=cloud,’ Highland Chontal dedikima lummaway ‘encircle cloud,’ Santiago Mexquititlan Otomi bongui /bong-ui/ ‘be.stretched.out-cloud,’ White Hmong pos huab ‘moist cloud,’ and Samoan pu-ao ‘hole-cloud’ (see Buck 1949: 66 for the association between ‘fog’ and ‘cloud’ in Indo-European, which is common there). In Khoekhoe, there is a semianalyzable term where the identifiable constituent is ‘stratus cloud.’

‘Fog’ and ‘smoke’ are colexified in Efik (by the analyzable term nsuñ’ikañ /n-suñ-ikañ/ ‘soft/gentle-fire’), Buin (‘white smoke’ specifically is colexified here), Burarra, Gurindji (colexifying ‘light fog’ with ‘smoke haze’), Yir Yoront, Abzakh Adyghe, Nez Perce (by a lexical affix), Wintu, Central Yup’ik (colexifying also ‘dust in air’), Hupda, Jarawara, Lengua, Maxakalí, Miskito, Wayampi (by the analyzable term atâsi /ata-si/ ‘fire-whiteness’), and Mandarin (colexifying also ‘cigarette, tobacco’). There are semianalyzable terms in Ngaanyatjarra (here, the term also denotes a “grey-leaved acacia shrub”), One, San Lucas Quiavini Zapotec, Lengua, and Rama. Similarly, Burarra has another term colexifying ‘light fog’ with ‘smoke screen.’ Analyzable terms are Santiago Mexquititlan Otomi
'bipa, analyzable as /'bifi-pa/ ‘smoke-heat,’ and Arabela cohuaja najaca as ‘white cloud/smoke/vapor.’

Finally, ‘steam’ (or ‘vapor’ generally) is colexified in Efik (again by the analyzable term nsuŋ’ikaŋ /n-suŋ-i-kaŋ/ ‘soft/gentle-fire’), Anggor, Burarra, Kyaka (also colexifying ‘pawpaw’), Yir Yoront, Abzakh Adyghe, Greek, Khalkha, Welsh, Wintu (colexifying also ‘gas’ and ‘lungs’), Arabela, Hupda, Lengua, Miskito, Hawaiian, and Rotuman, which also colexifies ‘fine spray’ (see also Buck 1949: 67 for evidence from Swedish and Norwegian). Perhaps similarly, Sora colexifies ‘black vapour’ more specifically. There are two languages with analyzable terms: Ket has ulij /ul-ii/ ‘water-vapor’ and Lesser Antillean Creole French vape ki ka kouve late ében lanme, containing vape ‘steam,’ kouve ‘cover,’ and lanme ‘sea.’ As discussed in some more detail in § 6.2.2.2., in the colexifying languages, sometimes more than one of the associated meanings is expressed by the same term.

Furthermore, a lexical association between ‘fog’ and ‘dew’ is found in eleven languages of the sample (see also Buck 1949: 66 for evidence from Greek): Burarra, Rotokas, Biloxi, San Mateo del Mar Huave, Quileute, Wintu, Arabela, Rama, Hawaiian (where the relevant term is also the name of a “gentle land breeze, as of West Hawai’i’), Bwe Karen and Vietnamese. The association is mostly by colexification (in Burarra, the meaning colexified is more precisely ‘heavy fog,’ and in Wintu, ‘dewy’ is colexified with ‘foggy’), with the exception of Vietnamese, where ‘fog’ is sương mù ‘dew blind’ and Biloxi, which has ayuuka’, presumably /ayu-ka/ ‘dew-something.’ The reasons for this association remain somewhat unclear, although a likely source for it is that both ‘fog’ and ‘dew’ require low temperatures to occur, which would then be a case of motivation by temporal contiguity. Some circumstantial support comes from the San Mateo del Mar Huave term ajmiüc naquind, which, in addition to colexifying ‘fog,’ is also analyzable as ‘fall cold’ (compare the Upper Chehalis term involving a constituent meaning ‘to drop, fall’). In fact, in two further sampled languages, Yuki and Bislama, the meaning ‘fog’ is expressed by morphologically complex terms associating it with ‘cold’ or ‘frost’ (which is the cause for the phenomenon in the first place). Yuki k̓or ngť contains or is related to koh ‘frost’ and ngť ‘ice,’ while Bislama kolkol (the reduplication base being kol ‘cold’) can itself also mean ‘cold,’ ‘cool,’ ‘stale’ (said of food) and other things as well, and ‘be foggy’ is moreover colexified with ‘be frosty’ in Blackfoot. An association between the color ‘white’ and the meaning ‘fog’ is found in four sampled languages, namely Kwoma (here by colexification) as well as Chickasaw, Arabela, and Wayampi. Chickasaw tooboklhili ~ toboklhili is analyzable as /tohbi-oklhili/ ‘be.white/be.pale-night,’ Arabela cohuaja najaca as ‘white cloud/smoke/vapour,’ and Wayampi atãs, as already mentioned above, as /ata-si/ ‘fire-whiteness’ (the Wayampi term, as suggested by the semantics of its constituents, also colexifies ‘smoke,’ so it is dubious whether the association of ‘white’ with ‘fog’ should be considered as genuine in this case). Note also Rendille dûubât ‘fog’ and dûuḥ “white circular hat, turban of white cloth.”

Complex terms for the meaning which involve a verbal element with the meaning ‘to cover’ are found in four sampled languages, Cheyenne, Kiliwa, Lesser Antillean Creole French, and Hawaiian. However, the conceptualization seems to differ to some extent in spite of this commonality: in Cheyenne, nêhpóemâno’e can be literally translated according
to lexicographers as “closed-in(cov ered)-environment,” whereas in Kiliwa, yuw=hi? is ana- lyzable as ‘eye=cover.’ Hawaiian has uhi-wai ‘covering-water’ (colexifying also a “kind of tapa”); for the Lesser Antillean Creole French evidence see above. In Kolyma Yukaghir, in addition, šažil’ ~ šaril’ can refer both to ‘fog’ and a ‘covering,’ and indeed is derived from the root šar- “to cover, to bury, to press; to overtake,” and can, presumably due to the sense ‘bury,’ also refer to a ‘root.’ Two languages of Eurasia, Khalkha and Welsh, colexify ‘fog’ and ‘darkness,’ ‘dimness’ or ‘darkening,’ featuring at least one term (alongside others) that can express both meanings. Similarly, Nez Perce has a word for ‘fog’ as well as “dark- ening from fog or approaching storm” which contains the lexical affix ?ipé- ‘pertaining to smoke, clouds, fog’ and is hence formally redundant, but contains a further constituent meaning ‘to be dark.’ Wayampi twilaki contains twi ‘buttocks, rump’ and ki ‘to rain,’ Dadibi colexifies ‘mist’ and ‘slight rain,’ and a semianalyzable term one of the consituents of which is ‘rain’ is also found in Noni. Relatedly, associations with ‘water’ acting as a con- tiguity anchor are found in Ket and Hawaiian, as mentioned already, and there is a semianalyzable term in Itzaj. In two languages of the sample, Cahuilla and Hawaiian, ‘fog, mist’ and ‘foam’ are colexified (Cahuilla also has another term related to a verb meaning ‘to enter’). In four languages, Abzakh Adyghe, Wintu, Hupda, and Hawaiian ‘dust(y)’ and ‘fog(gy)’ are colexified (although it should be noted that the semantic range of the Hupda term is quite large, also colexifying ‘smoke’ and ‘steam’), and Itzaj has aj-tanat-ja’ ‘MASC-dust-water.’ Similarly, Central Yup’ik colexifies ‘dust in air’ specifically with ‘haze.’

Other patterns include: Dongolese Nubian níčč(ɪ) is related to níǧ ‘to sew’ and also denotes the ‘action of sewing,’ the extension to ‘cloud, mist’ is explainable according to the source by clouds and fog “veiling” the environment like what one sews, that is, cloth. The Rotokas terms guiguisiva and vusiva may be related to the verbs guiguisi ‘spray out’ and vusi ‘burst forth’ respectively, compare the apparent lexical relationship between Dadibi segeni ebo ‘mist, slight rain’ and sege ebo ‘heavy.’ Muna gavu, as a verb, also means ‘be hazy, dim, distant’ said of objects or vision, Western Tasmanian perhaps colexifies ‘fog’ with ‘shadow,’ while Yir Yoront also colexifies ‘spray on waves,’ and similarly, Hawaiian ‘rain spray.’ Abzakh Adyghe -ý-e- also means ‘yellow, blond’ inter alia, and Basque laíno is also used metaphorically with the meaning ‘confusion.’ Japanese kiri also means ‘awl’ (though kiri ‘fog’ is a nominalization of kir ‘become foggy,’ so the similarity is accidental). A precise morphological analysis of Cheyenne něhpoése ma’ëno is not possible; however the literal meaning of this term according to the lexicographers is ‘the turtle is shrouded.’ Guaraní tataína contains tata ‘fire.’ Ancash Quechua colexifies ‘moth,’ Fijian kaũ also means ‘to sow or scatter small seeds,’ and for Bwe Karen (de)boći, perhaps compare boći ‘gallbladder.’ In Bislama, the meaning of sno (< Engl. snow) has been extended to also mean ‘fog,’ Hawaiian ʻohu colexifies “adorned with a leis,” and ʻehu inter alia also ‘faint, difficult to see’ and ‘pollen.’ Finally, Tetun has rai-ahu ‘land-lime.’
26. The Forest

Representation: 84%
Motivated: 42.1%
Thereof Analyzable: 10.9% Thereof Colexifying: 31.3%
Thereof by Contiguity: 21.2% Thereof by Similarity: 0%
Recurrent associated meanings: bush/grove/scrub, wood, tree, mountain/hill, place/area, lumber/timber, branch/stick, plant, weeds, wilderness, thicket, taiga, place to defecate, grass, interior

As one might expect, terms for ‘forest’ (or ‘jungle’) are most frequently lexically associated with terms for ‘tree’ and/or ‘wood,’ either by colexification or morphological (semi-)analyzability (see Buck 1949 for evidence from Indo-European, among the languages where this association is attested diachronically is German). For ‘tree’ specifically, colexification is found in six languages: Ngambay, Khalkha, Upper Chehalis, Nez Perce, Yaqui, and Hawaiian (Ngambay, Yaqui, and Hawaiian, like Muna and Wayampi, colexify also ‘plant,’ and the Hawaiian term has also still other meanings). Alternatively, seemingly analyzable terms for ‘forest’ on the basis of ‘tree’ are found in eleven sampled languages, Anggor, Baruya, Kwoma, Comanche, San Mateo del Mar Huave, Santiago Mexquititlan Otomí, Arabela, Ancash Quechua, Fijian, in another Hawaiian term for the meaning, as well as in Tetun. In Baruya and Ancash Quechua, the relevant terms are of the lexical type, the second element bearing the general meaning of ‘place’ or ‘area’ (Baruya yıldarya, literally ‘tree area’ for ‘clump of trees, forest’ and Ancash Quechua sacha marka ‘tree/plant area’), while in Anggor, nimambe ‘forest, jungle’ is analyzable as /nim-i-ambe/ ‘tree-in,’ Kwoma me kaba “mature forest (including sago swamps) growing on relatively level terrain” might be a dvandva compound of me ‘tree, wood’ and kaba “type of long-bladed grass that grows prolifically in swamps and lagoons,” in Comanche, the word for forest, soo hwañi, is analyzable as ‘many trees,’ in San Mateo del Mar Huave, tixiül appears to be analyzable as ’kug-tree,’ Pipil (Cuisnahuat dialect) has ku(j)htan, analyzable as /kuh-tan/ ‘tree/wood-locative/under,’ and in Santiago Mexquititlan Otomí, ‘forest’ is mbo-zaa ‘place.where.around-tree.’ The Arabela term is formally the plural of that for ‘tree,’ Fijian has vei-kau ’COLL-tree/wood/stick,’ and Tetun ai-laran ‘tree-interior’ (compare colexification of ‘jungle’ and ‘interior’ in Berik, presumably because this is where it is located). Hawaiian, moreover, has ulu lā’au ‘grove tree/forest’ (there is a further rare semianalyzable term featuring ulu which also means ‘brush, undergrowth’), and there is another term that can mean either ‘trees’ or ‘forest’ (note that for Arabela and Cashinahua, the respective terms are also glossed as ‘trees’). A Sora term for ‘forest’ is ərə-jaŋ, containing ərə- ‘wood, wooden’ and perhaps jaŋ- ‘bone, hard dry stalk.’ In addition, there is a relatively large number of languages with semianalyzable terms for the meaning ‘forest,’ one of the constituents clearly being words for ‘tree,’ namely Kaluli, Xicotepec de Juárez Totonac, Bororo, Embera, and Sáliba.

Colecxification with ‘wood’ is found in fifteen languages in the sample: Buli, Ngambay, Dongolese Nubian, Badaga, Basque, Chukchi, Greek, Khalkha, Laz, Welsh, Haida, Miskito, Hawaiian, Tetun, as well as Lesser Antillean Creole French (where the relevant
term also means ‘arm’). This situation may also obtain in Wayampi, though here the meta-
language gloss ‘bois’ itself colexifies ‘forest’ and ‘wood,’ thus making the case unclear.
Cubeo has jocu-burumu ‘wood-vegetation.that.is.not.cut.down,’ Fijian, as mentioned above,
vei-kau ‘coli-tree/wood/stick,’ and there are semianalyzable terms with an identifiable
constituent meaning ‘wood’ in Sora, Xicotepatlá Juárez Totonac and Maxakalí. Similarly,
Khalkha, Cheyenne, Nez Perce, Pawnee, Hawaiian, and Lesser Antillean Creole French
(also) colexify ‘lumber, timber’ more specifically.

As also discussed in § 6.3. dealing with environmental factors and their influence
on patterns of colexification, eight languages colexify ‘forest’ and ‘mountain’ or ‘hill’ (see
also Buck 1949: 46-47 for evidence from Indo-European): these are Kwoma, Laz, Nivkh,
Sora (also colexifying ‘clearing on hill’), Ineseño Chumash, Aguaruna, Huambisa, and Yair.
Moreover, Kwoma colexifies ‘forest’ also with ‘netbag’ and ‘womb,’ Basque also with
‘wooded hill,’ and Khalkha also with “mountain ridge, range, or plateau,” alongside ‘taiga,’
the latter association being shared with Kolyma Yukaghir (note also that the potential
cases of Xicotepatlá Juárez Totonac, Copainalá Zoque, Aguaruna, Arabela, Aymara, Bora,
Cashinahua, Cavineña, Cayapa, Chayahuita, Cubeo, Guaraní, Huambisa, Lengua, Sálaba,
Tsafiki, and Yanomámi, where the relevant terms are (also) glossed as ‘monte’ and/or
‘selva,’ which are capable of referring to a ‘mountain’ but more generally denote all kinds
of non-cultivated territory, and are hence ignored here when assessing colexification).

Quite a number of languages colexify ‘forest’ with meanings such as ‘bush, bush-
land,’ ‘grove,’ or ‘scrub, undergrowth, underbrush.’ These are: Bakweri, Buli (also colexify-
ing ‘savannah’), Efik, Hausa, Ngambay, Buin, Burarra, Gurindji, Kwoma, Nunggubuyu, Skö,
Northeastern Tasmanian, Badaga, Blackfoot, Cheyenne, Haida, Ineseño Chumash (also
colexifying ‘chaparral,’ a type of vegetation in California), Nez Perce, Pawnee (by a
semianalyzable term containing an element meaning ‘place’), Chayahuita, Miskito (also
colexifying ‘opening, hole’ as well as ‘rectum, anus’), Rama, Wichí, Hawaiian, Lenakel, and
Samoan; Kanuri kàráà sə̀lə̀m is literally ‘bush black.’ Moreover, Oneida kélhiteʔ is analyz-
able as /ke-lh-Nit-eʔ/ ‘ANOMALOUS PREFIX-woods-be.in-STAT.’ Chickasaw abokkolanonka’ is analyz-
able as /abokkoli’-anonka’/ ‘thicket-inside,’ while Khalkha and Hawaiian colexify ‘forest’
and ‘thicket’ directly.

Three Austronesian languages, Muna, Hawaiian, and Samoan, colexify ‘forest’ and
‘weeds,’ Muna and Wayampi also ‘grass,’ and Samoan ‘tall grass’ specifically. Furthermore,
Ngambay colexifies ‘branch,’ and Khalkha, Nez Perce, Bororo, and Hawaiian colexify ‘for-
est’ with ‘stick’ (Nez Perce with ‘small forest’ more specifically), while in Carrier, tcentherh
is analyzable as /tetcen-therh/ ‘stick/wood-in.’ While for Ngambay, Khalkha, and Nez
Perce, it should be noted that the relevant terms also colexify ‘tree’ and the association
with ‘branch’ may thus be not immediate, this is not the case for Bororo. Ngambay kake in
fact has a very broad semantic range and may also refer to a ‘rod,’ ‘stick,’ as well as ‘place’
generally, a pattern shared with Jarawara, where the relevant term also means ‘thing’ and
‘time’ (see § 6.4.3.15.), and Kaingang. Similarly, Yanomámi colexifies ‘forest’ with ‘region,
area, territory’ as well as ‘city’ and ‘country,’ and note also that the semianalyzable Lengua
term mentioned above contains an element meaning ‘place.’ In Badaga, kaːdu, meaning
‘forest, jungle woods,’ but also ‘field’ and ‘wasteland’ among other meanings, is also used
as a term for the “place where one defecates,” and in Lenakel, nikinhamra ‘forest, bush’ is also glossed as “[t]he place in the bush where one goes to urinate or defecate ...” Finally, relevant terms in Koyraboro Senni, Badaga, and Hawaiian are also glossed as ‘wilderness.’

Other associations for this meaning and semantic nuances conveyed by the respective terms are manifold. Buli sagi also can refer to a far-away country inter alia, Hausa kurmi also denotes a “wooded ravine” and is an “expression of wonderment,” and Ngambay kav also means ‘coal’ inter alia. Buin maika also is the name of two Buin villages, the Burarra term gumurra is based on the root murra meaning ‘clustered.’ Kwoma colexifies “dense undergrowth” among other meanings. The Kyaka term imwua can also refer to the ridge-pole of a house that is cut from a very tall tree, and Muna has katuqha ~ kamothuga, derived from tugha ‘hard, ripe’ and karumbu ~ karombu ~ kahombu, perhaps related to rumbu “to stink (as of old wounds),” Another term colexifies ‘forest, jungle’ with “part of a field not yet cleared (of weeds),” as well as to “separate off part (of a field) to be worked later.” Sko hāŋpeng apparently contains peng, which can either refer to a tree species or mean ‘clear, cleared,’ and Yir Yoront larrkurq contains larr which means ‘land, site’ and other related things. Basque baso also means ‘vase, glass’ and ‘vessel;’ these senses are presumably due to borrowing from Romance. The Khalkha term cabdayul is derived from cabda- ‘split,’ using the agent nominalizer -γul and also means ‘grove’ as well as ‘domino,’ while oi also means ‘birthday, anniversary,’ and ‘mind, intellect, memory’ inter alia. Upper Cheha lis yámacumš appears to be analyzable as /yámac=umš/ ‘douglas.fir-place,’ while Nez Perce colexifies ‘forest’ with ‘tree trunk.’ The Wintu term kel can also be used in an adjectival sense, then meaning ‘long, far.’ Highland Chontal colexifies ‘forest’ with ‘wide open space outside the village, the woods,’ and more specifically also ‘airstrip’ and ‘basketball court.’ Copainalá Zoque pecatza’ma might be analyzable as /peca-tzaman/ ‘old-amate.tree.’ Guarani ka’aguay appears to contain ka’a ‘mate herb,’ and Wayampi kaʔ also means ‘grass.’ Hawaiian moku can also refer to a ‘district,’ an ‘island,’ a ‘fragment of something,’ as well as, when used verbally, mean ‘to be cut, broken’ inter alia, while Rotuman vao also denotes a ‘net, fishing net.’ Sedang chiu also means ‘burned’ inter alia, pría also ‘hailstone, ice,’ sá also “bow of kētro bow trap,” and Yay dog also means ‘to pickle.’

27. The Gold

Representation: 63%
Motivated: 34.2%
Thereof Analyzable: 20.3% Thereof Colexifying: 14%
Thereof by Contiguity: 17.7% Thereof by Similarity: 7.9%
Recurrent associated meanings: yellow, metal, money, silver, red, gold ornament, diamond in cards, jewel, iron

Motivated terms for ‘gold’ have a clearly recognizable areal distribution. They are rare in the Old World and common in the New World, in particular North America, but are sometimes also found in South America and Eastern Eurasia, including Southeast Asia. A frequent pattern, found in ten languages (Japanese, Khalkha, Cheyenne, Chickasaw, Nez Perce, Oneida, Pawnee, Bororo, Maxakali, and Rama), is to have complex terms for ‘gold’
where one of the constituents is a word for ‘metal,’ while in Nez Perce, Mandarin and Tetun, colexification of ‘gold’ with ‘metal’ is encountered. In analyzable items, the semantics of the second element is subject to some cross-linguistic variation. In Japanese, a term for ‘gold’ is ō-gon ‘yellow-metal’ (this structure is also found in Chickasaw, Kiliwa, Pawnee, where the relevant term colexifies ‘brass,’ Bororo, where the relevant term denotes any type of yellow metal generally, and Rama; in addition, note that Nez Perce has the optional complex term maqsmáqs kícuy, where maqsmáqs is ‘yellow’ and kícuy is ‘metal, money, dollar, gold.’ However, both constituents of the Nez Perce term can be used alone to refer to the concept ‘gold’). In Cheyenne, ‘gold’ is called vēhone-ma’kāta ‘chief-metal;’ lexicographers note that this denomination may have come into being due to “the Indian chief head which has appeared on some old gold coins,” and note that this term may refer to gold coins specifically rather than the metal generally. Khalkha erkim temyr is analyzable as ‘supreme iron/metal,’ Maxakali pipkup yānām as ‘metal.object light/lamp,’ Tetun murak-mean redundantly as ‘metal/gold-red/golden,’ Oneida ohwistanolú as /o-hwist-noluʔ/ ‘NOUN-PREFIX-metal-be.expensive-STAT,’ and Pawnee also has the term paapicistaarkisisu, which is analyzable as /paapics-raarkisisuʔ/ ‘metal/money-authentic-NOM.’ Both the Oneida and Pawnee terms in fact also mean ‘silver,’ and this is also the case in the Santo Domingo de Guzmán dialect of Pipil. In Lakhota and Malagasy, the relevant terms are analyzable (mázaskázi/mázaská-zí/ ‘silver-yellow’ and volamèna/vòla-mèna/ ‘silver-red’). In fact, associations with the color terms for either ‘yellow’ or ‘red’ are also commonly found and that in combination with elements of varied semantics, as already seen in some of the above examples; this is also common in Indo-European (Buck 1949: 610). Alongside the already explicitly mentioned cases of Japanese, Chickasaw, Pawnee, Bororo, and Rama with terms of the ‘yellow-metal’-type, as well as Lakhota and Nez Perce, an association with the color ‘yellow’ is found in other languages. Most often, the second element in terms of the analyzable lexical type is ‘money,’ as in Buli ligmoaning/ligra-moaning/ ‘yellow/red-money.’ Terms with constituents meaning ‘money’ and ‘yellow’ are also found in Kiliwa, Chayahuita, Miskito, Pawnee, and Rama (for the Nez Perce and Pawnee cases, compare discussion above). Terms with other or more specific patterns include Khoekhoe’s !huni-luriib ‘yellow-iron,’ Tuscarora’s tikaičtkwahnayeqʔ, which is analyzable as /ti-käččtkwahn-yəʔ/ ‘PARTITIVE-3SG.INDEF.AGENT-yellow-lay,’ and Guaraní’s ita-ju ‘rock-yellow.’ The association with the color ‘yellow’ is by colexification in Sahu, Quileute, Hani, and Vietnamese (it cannot be excluded that in some of these cases ‘gold’ is meant as a color term rather than the name of the metal). Alongside the languages already mentioned, the association with ‘red’ is also found in Upper Chehalis (ščiqt t tála ‘red INDEF.ART money,’ tála being a loan from English dollar), and Rotuman moné méʔa ‘money red.’ As these examples make clear, a frequent constituent for terms for the ‘gold,’ by functional contiguity, is ‘money.’ This is found in a total of eleven sampled languages, most of which have already been discussed: these are Buli, Biloxi, Upper Chehalis, Comanche, Nez Perce, the Santo Domingo de Guzmán dialect of Pipil (colexifying also ‘lead’), Pawnee, Miskito, Rama, Wayampi, and Rotuman (in addition, the Chayahuita term is semianalyzable and the recognizable constituent is a term for ‘money’). The association is by colexification in Comanche, Nez Perce, Pipil, Pawnee, and Wayampi. In line with this, Oneida ohwistanolú,
which also means ‘silver,’ is analyzable as /o-hwist-noluʔ/ ‘NOUN.PREFIX-metal-be.expensive-STAT,’ and Ancash Quechua colexifies ‘gold’ with ‘very valuable, precious.’

Finally, three sampled languages, Hausa, Badaga, and Bororo, by provenience or configurational contiguity, colexify ‘gold’ with ‘gold ornament’ or particular ornaments made of gold (Bororo also with a type of labret), and two further languages, Carib and Sedang, colexify ‘gold’ and ‘jewel.’ Wappo ʔoroʔ and San Lucas Quiavini Zapotec oor (both < Span. oro) also mean ‘diamond in cards’ (San Lucas Quiavini Zapotec oor also means ‘time, hour’ due to phonological collapse of Span. oro and hora). Similarly, Basque colexifies ‘gold’ with ‘gold suit’ (in the Spanish Baraja deck of cards).

Further motivated and possibly motivated terms for ‘gold’ include: Efik kut inter alia also means ‘to see, to feel,’ Ngambay tàngu is also the name of a brown fruit, and Muna bulawa may be related to bula ‘albino, white skin.’ Sora colexifies ‘gold’ with ‘wealth.’ Co-mache puhihwí is analyzable as /puhi-ekahwi/ ‘leaf-shiny;’ since this term also colexifies the meaning ‘money,’ a possibility is that this term originally referred to a banknote and was only later extended to ‘gold.’ Wintu yóqas contains yóq ‘wash, pan for gold, gold dust,’ and Carib ikamipu is derived from kami ‘to glisten’ by the circumfix nominalizer i-…-po. Bislama gol also means ‘goal’ (< Engl. gold and goal), and Bwe Karen thɛ́ also ‘bear’ inter alia. Hawaiian colexifies ‘gold’ with ‘plain,’ ‘pasture’ and other meanings (the ‘gold’-reading of kula, the relevant term, is due to secondary English influence). Likewise due to the collapse of an English loan with native lexical material, koro also means ‘fortress’ inter alia. Finally, White Hmong kub also means ‘horn’ and ‘to burn,’ while Yay colexifies ‘gold’ with “loved or treasured person” and ‘needle.’

28. The Grass

Representation: 88%
Motivated: 37.2%
Thereof Analyzable: 2.9% Thereof Colexifying: 34.2%
Thereof by Contiguity: 19.0% Thereof by Similarity: 0.8%
Recurrent associated meanings: hay/straw, meadow/pasture/lawn, plant, vegetable, green, leaf/foliage, (garden) rubbish, shrub, undergrowth, tobacco, fodder, forest

Lexico-semantic ties between ‘grass’ (or ‘weeds, herb’) – these are not distinguished for present purposes, and neither is ‘grass’ collectively as opposed to individualized ‘blade of grass’) and other concepts are typically realized by colexification, where the underlying semantic relation is one of contiguity. Globally, the most frequently found pattern (in 22 languages) is that languages feature a single term for ‘grass’ and ‘hay’ and/or ‘straw.’ This is particularly frequent in North America, but also figures in a significant number of languages in other parts of the world, namely in Buli, Ngambay, Abzakh Adyghe, Badaga, Bezhta, Khalkha, Kildin Saami, Upper Chehalis, Cheyenne, Chickasaw, Highland Chontal, Itzaj, Kashaya, Kiowa, Lakhota, Nez Perce, Nuuchahnulth, Oneida, Pipil, Tuscarora, Yaqui, and Mandarin (as well as in Indo-European languages, Buck 1949: 519-520). Yah and Central Yana maadu is also glossed as ‘wild hay.’ Turner and Brown (2004) interpret the presence of this pattern in Salishan and other languages of North America as a process of lexi-
cal acculturation: since ‘hay’ as a foodstuff for domestic animals was unknown in pre-contact times, there was no distinct term for it, and the native terms for ‘grass’ experienced semantic extension to also cover this aspect.

In fourteen further languages, Buli, Rendille, Kwoma, Ngaanyatjarra, Toaripi, Badaga, Greek, Khalkha, Welsh, San Mateo del Mar Huave (colexifying also ‘firewood’), Arabela, Chayahuita, Kaingang, and Tetun, terms for ‘grass’ are found that at the same time also may be used to refer to a conjunction of grass, that is, a ‘meadow,’ a ‘pasture,’ a ‘lawn’ or a grass-covered area in general (in Buli, this meaning is associated with the plural form of the term). This is a fine instance of configurational contiguity (also attested diachronically in Indo-European according to Buck 1949: 519).

Just a little less frequent, occurring in thirteen languages, namely Muna, Abzakh Adyghe, Badaga, Bezhta, Ket, Kildin Saami, Upper Chehalis (by a semianalyzable term containing an element meaning ‘grow’), Cheyenne, Ineseño Chumash, Embera (colexifying also ‘thicket,’ ‘vegetation,’ as well as ‘mount, mountain;’ the meanings are associated with different genders), Guarani, Maxakali, and Wayampi is colexification of ‘grass’ with ‘(green) plant’ (sometimes also ‘bush’ and other similar meanings), that is, colexification of two adjacent ranks in the ethnobiological taxonomy (the relevant Muna and Wayampi terms also mean ‘forest,’ while similarly Rotuman colexifies ‘grass’ with ‘plants and bushes growing wild’ inter alia). Embera and Fijian also colexify ‘shrub’ more specifically, and Kaluli and Rotuman also ‘undergrowth.’

In four sampled languages, Rendille, Ngaanyatjarra, Khalkha, and Tuscarora, the term for ‘grass’ is associated lexically with the color term for ‘green’ (it appears to be quite frequent for color terms for ‘green’ to be lexically related to terms for ‘grass,’ see e.g. Callaghan 1979 on some Miwokan languages, Proulx 1988 on Algic languages, and Buck 1949: 520 for diachronic evidence from Indo-European). In Tuscarora, there is also a complex term for ‘grass’ on the basis of the root –her- ‘green, grass,’ namely uherúhkweh, analyzable as /u-her-(a)hkw-eh/ ‘NOUN.PREFIX-green/grass-INSTRUMENTAL-NOUN.SUFFIX.’ This term has a wide semantic range, which includes alongside ‘grass’ also “ground, cover, hay, reed, rush” as well as ‘weed.’ Alongside these languages, there is a semianalyzable term for ‘green grass’ found in Welsh which appears to contain glas ‘green.’

Also in four languages, namely Efik, Swahili, Tasmanian (Middle-Eastern, South-eastern, and Western), and Xicotepec de Juárez Totonac, and here exclusively by colexification, an association with the meaning ‘leaf’ and/or ‘foliage’ is found (in Swahili also with ‘needle’). Other recurrent associations by colexification, some of which are particularly frequent in certain regions of the Old World include that with ‘(garden) rubbish’ (Baruya, Buin, Sora, Bora, in which latter also “cumbering things” is colexified), with ‘tobacco’ (Efik and Basque, which latter also colexifies ‘brow, forehead’), with ‘fodder’ (Badaga, Sora; an association very common in Indo-European, Buck 1949: 519-520), and with ‘vegetable’ (Efik, Ket, Khalkha, Kildin Saami, Guarani, and Fijian, compare also Greek chortári ‘grass’ and chortarikó ‘vegetable’ and the colexification with ‘lettuce’ in Nez Perce).

Associations found only in one particular language only are many. Efik i’köñ also means ‘bud,’ and Hausa hakí also means ‘wages’ and may refer to “panting; gasping, breathlessness.” Ciyawa, another Hausa term, is also used to refer to the first signs of vari-
ous diseases. Khoekhoe colexifies ‘sheath of grass,’ and Noni gayi is also used to refer to so-called “elephant grasses” specifically. Rendille robô can also be used to characterize the fertility of vegetation, Anggor wohi also means ‘to weed,’ and Kaluli kis also may refer to ‘small weeds in garden.’ Nunggubuyu mada also refers to a fish species called ‘long tom’ which “swims with long, pointed mouth out of water, perhaps resembling a blade of grass.” Rotokas rauritave kou and isiso kou may contain kou, a classifier for ‘heaps’ according to Robinson (2011), and isiso is “steaming, giving off steam,” “steam something, heat with steam, scald.” Tasmanian terms in all varieties except the Western also denote ‘seaweed,’ while Yir Yoront warrq exhibits a typical Australian actual/potential polysemy, meaning both ‘grass’ and ‘grass or bush fire.’ Abzakh Adyghe wâc is also can also mean ‘medicine’ (presumably originally made from herbs, i.e. by metonymy) and then, by further extension also ‘chemical medicine’ and ‘chemical product’ in general. Badaga aye ~ hañe can also mean ‘grazing’ and ‘swamp, wetland,’ as well as “upper part of a ridge” and ‘water channel,’ Basque belar colexifies ‘forehead,’ and Khalkha ‘dish’ of food. Kildin Saami râss’ also means flower,’ Upper Chehalis s-mâqʷm=umš is analyzable as /s-mâqʷm=umš/ ‘CONTINUATIVE-prairie-place,’ and Nuuchahnulth ñgmapt also denotes the ‘Brome grass’ specifically. For Kiowa sôqa ‘plant or tuft of grass,’ compare sô-da ‘grind; brush hair,’ and for San Lucas Quiavini Zapotec gîzhya’ah, compare gîihah ‘rock, stone.’ Tuscarora unëhsakwt katerʔahθę́·tih must be analyzable (unëhsakwt may mean ‘by the house’), but the constituents cannot be identified with any certainty. Wintu čaruq ‘grass, greens’ also denotes ‘edible clover’ specifically. Arabela jiya-socua is one of the few cases of a complex term for the concept, literally meaning ‘land-CLASS.ROUND.TIMBER.’ Guaraní ka’a also denotes a “type of Paraguayan tea” and ‘vegetation’ generally. Bislama colexifies ‘grass’ with ‘feather,’ ‘pubic hair,’ ‘fern’ and ‘mould,’ Fijian with ‘to pierce’ inter alia, and Bwe Karen with ‘to command’ and other meanings. Hani jahhaq might be related to haq, meaning inter alia ‘bitter,’ Hawaiian mau’u is also the name for a ‘kava strainer’ and ‘strand of pandanus plaiting’ used in making hats, while Mandarin colexifies ‘grass’ with “disorderly, negligent.” Finally, Lesser Antillean Creole French zeb can also mean ‘black magic.’

29. The Headland

Recurrent associated meanings: nose, point/tip, head/forehead, end/to end, corner, sprout

‘Headland’ (or ‘cape, promontory’) is one of the meanings predominantly expressed by metaphor-driven analyzable terms. In fact, the most frequent association is a fine example of a body-part metaphor. This is the association with ‘nose,’ clear cases of which are found in six of the 39 languages for which data are available. This association is realized by analyzable terms in two languages, Basque and Vietnamese (lur-mutur ‘earth-snout/nose’ and mûi dât ‘nose land’ respectively), and by colexification in Kolyma Yukaghir, Haida (in
which the relevant term can also inter alia mean ‘end’ in general, for which compare colexification with ‘to end, be finished’ as well as ‘ultimate, final, last’ and ‘hair, lady’s locks, tuft of hair, knot’ in Badaga and Welsh pen-rhyn ‘end/head/top/mouth-hill’ and pen-tir ‘end/head/top/mouth-land’), Fijian (colexifying also ‘mountain peak’ inter alia), and Rotuman (which also has optional complex terms). In addition, the Ineseño Chumash and Great Andamanese terms are semianalyzable, and one of the identifiable constituents is the respective word for ‘nose.’ In four languages, another body-part metaphor is found, the source concept this time being the ‘head’ or ‘forehead,’ for which compare the etymology of Engl. cape, ultimately related to Latin caput ‘head’ (Oxford English Dictionary). The relevant languages are Yoruba (iyòrí ilè ògògoro, analyzable as /i-órí ilè ògògoro/ ‘NMLZ-to.sprout.or.appear head’), Welsh (pen-rhyn ‘end/head/top/mouth-hill’ and pen-tir ‘end/head/top/mouth-land’), Lavukaleve, and Hawaiian, where the association is by colexification (but in Lavukaleve it is more precisely ‘forehead’ which is colexified, and in Hawaiian also ‘brow’ and ‘wisdom’ inter alia are colexified). In addition, Swahili rasi assumes the meaning ‘head’ in poetic languages (this association is already present in Arabic, from which it is borrowed), and the case of Toaripi harihari is somewhat similar to this pattern, as this term also denotes the ‘temples’ (as well as ‘river bend’); the same goes for Efik, where isì in isì ikòt can, alongside ‘tip of tongue, tip of finger’ and other meanings in a variety of contexts, also mean ‘face’ (ikòt is ‘forest’). Two sampled languages, Tuscarora and Mandarin, have complex terms for the meaning ‘headland’ in which ‘corner’ acts as a source concept, for instance, the Mandarin term is hai3-jiao3 ‘sea-corner/horn’ (the Tuscarora term colexifies ‘cave’ as well as ‘nook’). Another case of shape-based similarity with a body-part is found in Takia damo-, which also means ‘shin bone.’ Four languages’ terms betray associations not characterized by metaphor, in that the source concept is ‘point’ or ‘tip’: these are Efik (for data see above), Buin (tiitiana, reduplicated from tiuna ‘point, peak of mountain, junction of rivers’), Ket (solgup /sa’l-kūb/ ‘sharp-point’ for a “piece of land jutting out into river”), Kashaya (ʔama p’ışušaʔ, containing ʔama ‘land’ and -ʔsúš- ‘be pointed’), and Rotuman, where in fact ‘nose’ and ‘point, tip’ are both colexified with ‘headland’ alongside other meanings. Moreover, in Hawaiian one term for ‘headland,’ ‘oi’o’ina, is a nominalization of ‘oi’oi ‘pointed, protrude, sharp,’ and in Aymara, moqo may also refer to a ‘protuberance’ of any kind. The Tetun term for ‘headland’ is rai-dilan ‘land-bud/sprout/shoot,’ for the similar conceptualization in Yoruba see above.

Further patterns in the available data are: Efik ukabare is derived via the nominalizing prefix u- from kabare ‘to turn’ and also means “a turning around; varying, variation” as well as a ‘turning point’ and ‘turn’ generally. Buin colexifies ‘cape’ with ‘peninsula,’ and Rotokas kipekipe also means ‘point at base of ridge’ and ‘spine of lizard.’ Sko pong can also function as a verb meaning ‘to be closed’ and ‘to blow at fire,’ but this may be due to homonomy rather than a genuine case of lexical motivation. Chukchi colexifies ‘prow of boat.’ Nivkh knyłk also means ‘rock, cliff,’ and Nuuchahnulth ?apquuʔa is also a toponym denoting a specific point of land. Malagasy tənjona can also mean ‘aim’ or ‘objective’ and tsiraka also denotes a “sandy seashore,” while Samoan tolotolo is reduplicated from tolo, which has a large amount of different meanings, among them ‘to crawl,’ ‘to pull,’ ‘to mix,’
and also ‘yam tuber,’ which is perhaps the most likely reduplication base because of similarity in shape.

30. The Honey

Representation: 77%
Motivated: 53.2%
Thereof Analyzable: 27.7% Thereof Polysemous: 25.4%
Thereof by Contiguity: 31.7% Thereof by Similarity: 14.1%

Recurrent associated meanings: bee, liquid/sap/juice, sweets/sugar, beehive, syrup, fat/grease, resin, honeycomb, faeces, nectar, wax, jam, gum, oil, egg

‘Honey’ is an interesting concept cross-linguistically in that in some languages, the same term is actually used to denote both the product ‘honey’ as well as its producer, that is, the ‘bee.’ This pattern is found in 17 of the sampled languages, namely Hausa, (denoting “honey together with the comb”), Ngambay, Yoruba, Burarra, Ngaanyatjarra, Nunggubuyu, Yir Yoront (by a number of semianalyzable terms denoting different types of bee species and the honey they produce, all containing may ‘vegetable food,’ one of them also containing ponh ‘hornet’ and another one containing kathn ‘yamstick’), Chickasaw, San Mateo del Mar Huave, Xicotepec de Juárez Totonac, Cavineña, Kaingang, Lengua, Miskito, Wichí, Yanomámi, and Hawaiian, and thus in all areas of the world except Eurasia, including Southeast Asia (compare the absence of the pattern in Indo-European, Buck 1949: 383-384); moreover, Bislama honet ‘wasp, hornet’ rarely assumes the meaning ‘honey.’ There are also languages with a variant of this pattern, namely languages in which the meanings ‘beehive’ and ‘honey’ are colexified. These are Gurindji, Itzaj, and Yanomámi, while in Bora and Chayahuita, the association with ‘beehive’ is realized by complex terms involving classifiers (íilmúhojíjácyo /íilmúho-hpácyo/ ‘beehive-CL.liquid’ and nino-i’ ‘beehive-CLASS.LIQUID’ respectively; Bora íilmího ‘beehive’ is in fact itself analyzable as ‘sweetness-CL.oblong,’ and the language has the alternative term íilmúba arávé-jpácyo /íilmúba arávé-hpácyo/ ‘sugar.cane condense-CL.liquid,’ with íilmí-b ‘sugar cane’ analyzable as ‘sweetness-CL.3d’). Moreover, Soro has adaj’dam ~ adaj’dam, presumably containing elements meaning ‘beehive’ and ‘water, liquid,’ and Cubeo has mimicoro, consisting of the root mimu associated with bees and the classifier -coro for liquid states, and in Yanomámi all three semantically related meanings – ‘bee,’ ‘honey,’ and ‘hive’ – are expressed by the same term puu. The same situation relates in Nunggubuyu.

However, even more frequent than colexification with ‘bee’ are complex terms in which this meaning serves as a contiguity anchor. Within this class of terms, several recurrent patterns are encountered. By far the most common cross-linguistic tendency, encountered in the form of fully analyzable terms in ten sampled languages, Kyaka, Meyah, Rotokas (here, ‘bee’ and ‘honeycomb’ are colexified, while in Nunggubuyu and Kiliwa, ‘honey’ and ‘honeycomb’ are, in Kiliwa by the analyzable term miʔ-yaw-y ‘light-larvae-ATT’), Toaripi, Pawnee, Yaqui, Maxakali, Piro, Rama, and Tetun, is to have terms for ‘honey’ consisting of the word for ‘bee’ (or rarely ‘wasp’) and ‘water,’ ‘liquid,’ ‘sap,’ or ‘juice.’ Note also that Hausa, which is of the colexifying type, also features the
compound *ruwa-n zuma* ‘water/liquid-gen honey/bee,’ denoting “honey apart from the comb” specifically; the situation in Miskito and Hawaiian is comparable. However, notably, even this association is not exclusively realized by morphologically complex terms. In Nunggubuyu, *(wl)arqayag* (which may be related diachronically to *-ar*-‘water’) also means ‘juice,’ Basque *ezti* means both ‘sap, juice’ and ‘honey’ (alongside ‘graft, grafting’ and ‘vaccine’ inter alia), and in Huambisa, *yumiri* is used with reference to both ‘liquid’ in general as well as ‘soup,’ ‘juice,’ and ‘honey’ specifically. There are redundant terms with this structure on the basis of the term colexifying ‘bee’ and ‘honey’ in Yanomami and Hawaiian. A semianalyzable term where the identifiable constituent is ‘water’ is found in Berik.

In four languages (Efik, Mbum, Biloxi and Carrier), an association by complex terms with ‘fat’ or ‘grease’ is found; for instance, in Carrier, ‘honey’ is *tsihna-re* ‘wild.bee-grease.’ In addition, in Nunggubuyu, the association is realized by colexification, and Ngambay has a complex term of this kind which is however redundant due to colexification of ‘bee’ and ‘honey.’ In two languages, Efik and Kwoma, an association with ‘oil’ is found, for instance in Kwoma *heemi kwarr* ‘bee oil’ (*kwarr* is more precisely “the name of two related types of tree with very oily wood;” the fact that Efik figures in both categories is because the constituent element in fact can refer to either ‘fat’ or ‘oil’). A semantic pattern either realized by analyzable terms or by colexification is the association with the meanings ‘sweet(s)’ or ‘sugar.’ Next to the somewhat different case of Bora already discussed above, it occurs by means of morphologically complex terms with the other constituent being ‘bee’ in Upper Chehalis, Comanche, and Hani (for instance, in the latter language one of the terms for ‘honey’ is *biaq-quil* ‘bee-sweet;’ in Comanche, *unu bihnaa* is analyzable as */unuʔ pihnáʔ/ ‘insect sugar’ more specifically), and by colexification in Muna, Basque, San Mateo del Mar Huave, Kiowa (colexifying also ‘panocha’), Lake Miwok, Yaqui, Aymara, Guarani, Hupida, and Imbabura Quechua. Xicotepec de Juarez Totonac colexifies ‘honey’ with ‘sugar cane conserve,’ Pipil (Cuinsahuat dialect) has *nekayut*, containing *nek* ‘candy, sweets’ and *ayu* ‘liquid, juice.’ In addition, the semianalyzable Abzakh Adyghe term *s’ew* contains *s’e* ‘sweet, sugar,’ and redundant terms with this structure on the basis of a simplex colexifying ‘bee’ and ‘honey’ directly are encountered in Chickasaw and Miskito. A similar pattern predominantly found in North America (Upper Chehalis, Cheyenne, Itzaj, Nez Perce, Oneida), but also in White Hmong in Southeast Asia is that with ‘syrup.’ For instance, in Upper Chehalis, *cíčəlás* is analyzable as */cíčəlás/ ‘bee-syrup,’ *lás* being a loanword from French (< *mélasse*) that entered the language via Chinook Jargon. The association is by colexification in Itzaj, Nez Perce and Oneida.

Haida *sr̓a̓l narii* is analyzable as */sr̓a̓l nara/ ‘bee faeces.’ Other languages with terms with such structure are Blackfoot and Fijian. In one sampled language, Buin, the same term is used for ‘urine’ and ‘honey’ (the relevant term is also a toponym for a river and a mountain), a pattern which one might have expected to be more frequent given that, alongside the tertium comparationis available for both ‘faeces’ and ‘urine,’ namely that all three are excretions of a living being, here also the fact that both ‘honey’ and ‘urine’ are fluid is available. In Dadibi and Bislama, an association by morphologically complex terms with ‘egg’ is found; in Dadibi ‘egg’ is colexified with ‘nut’ and ‘round object generally,’ and in Bislama, the term denotes especially honey “taken directly from the
hive,” while otherwise *hani* (<Engl. honey) is also used. Wappo is unique in the sample in that in this language, ‘honey’ is called *ruš-huměy ‘bee-tear.’ There is a semianalyzable term where the identifiable constituent denotes a certain bee species in Piro, and one with the generic term for ‘bee’ in Hani.

By colexification, three sampled languages associate the meanings ‘honey’ and ‘resin.’ These are Nez Perce, Oneida, and Bwe Karen (colexifying ‘to be pure, clean,’ inter alia), and Tuscarora has *rušdåhkę uthwkewh,* consisting of *rušdåhkę ‘bee’ and uthwkewh,* which can refer to ‘resin,’ but also ‘cement,’ ‘glue,’ ‘gum,’ ‘jam, jelly,’ ‘molasses,’ ‘syrup,’ ‘tar,’ and ‘wax’ (‘jam’ and ‘honey’ are colexified directly in Gurindji, and ‘gum’ and ‘honey’ are in Oneida; see above for the association with ‘syrup’). As is clear from this list, this pattern appears to be particularly frequent in the Americas. Buli colexifies ‘honey’ and ‘wax’ (and this may be the case in Nunggubuyu, too, but this is not sure), and Khalkha and Vietnamese share colexification with ‘nectar.’

Further unique associations in the sample include the following: Koyraboro Seeni *ayuua,* a dialectal variant of *yuua,* also means ‘manatee,’ and for Ineseño Chumash *aq’ika’s* compare *aq’ika’s* “to burn in the throat from sweetness, as honey does.” Nunggubuyu *mala* also means ‘navel’ and*(clear) sky,* Ket colexifies ‘honey’ with ‘copper,’ and Nez Perce *temšqy,* alongside ‘syrup’ and ‘honey,’ also means ‘sorghum’ and denotes the “gelatinous sap of the tamarack tree.” Bora, alongside a term featuring an association with ‘beehive,’ also features other terms formed with the classifier for liquids, *-hpácyo,* namely *ócóómehojpácyo,* where *ócóómeho-* denotes the hive of a particular type of bee. The Wayampi term *ei~ey* also can refer to a religious ‘honey dance’ that the Wayampi perform. Manange *4kʷe* also means ‘song,’ and Hawaiian *hone* (at least in the sense of ‘honey’ <Engl. honey) colexifies ‘honey’ with “sweet and soft” (said of music) and “sweetly appealing” (said of perfume) and other meanings. Furthermore, there are a number of terms in different languages in which the term for honey strikingly resembles semantically related words, but which resist morphological analysis. These include the following pairs: Highland Chontal *alguñua* ‘honey’ and *galgijua* ‘honey bee,’ Wintu *huβít ‘honey of bumblebee’ and huβit ‘yellowjacket’ (sharing the root *huβ-b-), Huambisa *yumiri ‘liquid, soup, juice, honey’ and yumin ‘sweet’), and finally Lengua *yohna* ‘honey’ and *yohan ‘bee.’ Finally, it should be noted that several sampled languages have a more specific honey terminology, in which one general term stands alongside a range of more specific terms for different types of honey, and in Arabela, a general superordinate term is lacking altogether and only specific types of honey are lexically designated.

31. The Horizon

Representation: 28%
Motivated: 66.5%
Thereof Analyzable: 67% Thereof Colexifying: 1.9%
Thereof by Contiguity: 3.7% Thereof by Similarity: 54.9%
Recurrent associated meanings: sky, edge/border/fringe, end/finish, land/earth, meet/meeting place, cloud, basis, sea
As the above figures make clear, the 'horizon' is one of the concepts predominantly expressed by analyzable terms driven by metaphor. The most frequent lexico-semantic association is that with meanings such as 'edge,' 'border,' or 'fringe.' This is found by colexification in Buin (though the relevant term *kitai(na)* appears to be derived from *kita* 'split longitudinally, split with the grain') and by analyzable terms with 'sky' acting as contiguity anchor in Abzakh Adyghe (there is also an alternative version of the term where 'sky' is replaced by 'cloud'), Basque, Khalkha, Carrier, Haida (where the term can be literally translated as "(where) the edge of the sky hits the land or water"), Bororo (which also has the alternative term *barubaru*, reduplicated from *baru* 'sky' and colexifying 'type of spirit'), Kaingang, and Hani (where *aoqkaq milkaq* contains *aoq* 'sky' and *milkaq* 'border line'; there also is another term with similar structure featuring *zeil* 'line'). There is a derived term in Hawaiian which also denotes the "[c]ords or fine ropes threaded through marginal meshes of upper and lower edges of nets" and also means 'trickery, deceit, deceive, cheat,' and similarly, Greek *orίζον* is related to *orίζ* 'to bound, delimit.'

A very similar conceptualization strategy where 'end' is the source concept is found with 'sky' as the contiguity anchor in Efik and Guarani (*uít enyöñ* 'end sky' and *arapa ha*/ára-paha/ 'sky-end' respectively). Similarly, Maxakalí has *hãmõgnõy*, presumably containing *hãm* 'earth' and *nõg* 'finish off, use up.' In Buin, the association is by colexification; it is the only sampled language to behave in this way. In three languages, Upper Chehalis, Miskito, and Hawaiian, an association with verbs meaning 'to meet' or nouns meaning 'meeting-place' is found. For instance, Upper Chehalis *xʷúqʷxʷúqʷə́lʷstn* contains *xʷúqʷi*- 'to gather, come to be gathered' and the lexical affix =tn 'place.' In Hawaiian, this association is by colexification. Furthermore, in three sampled languages of Oceania, Kosarek Yale, Fijian, and Hawaiian, analyzable terms featuring an element meaning 'basis' are found (Fijian *vū-nilagi* 'basis-POSS-sky,' Hawaiian *kumu-lani* 'base-sky,' Kosarek Yale *imbubuak* and *soobuak*, containing *im* 'sky' and *soo* 'earth, soil' respectively alongside *bubu* 'liver, carrying part, point of support'). Also in three sampled languages, one of the constituents of the term for 'horizon' is that for 'cloud.' One of the Abzakh Adyghe terms for the 'horizon' is, as alluded to above, *pšape*/pše-pe/ 'cloud-edge/tip,' in Biloxi, it is called *natci´-xw*úhi´ 'cloud-low' (this term indeed also denotes a 'low cloud'), and in Itzaj *chákil muyal* 'red cloud.' As has already become clear from the previously mentioned Kosarek Yale and Haida terms, in some languages a constituent of the word for the 'horizon' is a term with the meaning of 'land' or 'earth.' This is also found in Maxakalí and Miskito. Further terms where one constituent is 'sky' are Ngambay *gél-dāra* 'origin-sky,' Khalkha *tngrí jin xormain* 'sky GEN lower.hem/foot.of.mountain,' Kiliwa *?+-ma?i=-haa+p+-lw-m-u?* =n-sky=move/go=PASS+stand-THR-OBL, a more palpable literal translation of which is "where the sky stops," Tuscarora *weyurhyaʔnilhq* (built around the roots -rhy- 'sky' and -ʔniha- 'sprain'), Bororo *barubaru* (reduplication base: *baru* 'sky'; the complex term is also the name for a kind of spirit), Hani has *aoq-daoq aoq-zeil*, containing *aoq* 'sky, heaven' and *zeil* 'line,' Hawaiian *pōai-lani* 'circle-sky,' Lenakel *noua-nisii-neai* 'fruit-excrement-sky/sea' (for which compare Carib *palana lali* 'sea floor' and Hawaiian *iil-kai* 'surface-sea,' which indeed also denotes the 'surface of the sea' and 'horizontal' more abstractly), and
Rotuman là ne lâgi 'foot art.pl sky.' There are semianalyzable terms in Central Yup’ik, Cubeo, and Guaraní.

Further associations include: Khoekhoe mûs (di) lkhâu-s is analyzable as ‘eye (poss) radiate-3sg.fem’ (Khoekhoe has also borrowed horisonni from English or German), Nuu-chahnulth has a lexical suffix colexifying ‘on the horizon’ with ‘far out at sea,’ and Chayahuita hui’tontarinso’ contains hui’tonin’ ‘paint with horizontal strokes’ (for which compare colexification of ‘horizontal’ as well as ‘surface of the sea’ in Hawaiian), and there is another term, aqû noteñuañera, containing aqû ‘far.’ Maxakalí hàpkux-yû may be analyzable as ‘shoreline-fragment,’’ for Hani caqqiq, compare caq ‘a mark’ and qiq ‘to lift up’ (both possible constituents also have further meanings). Hawaiian, featuring a wealth of terms for the concept, also has Kahiki moe ‘Tahiti prostrate,’ as well as ‘alihi lani, which is redundantly analyzable as ‘horizon sky’ and colexifies “deceit, trickery” inter alia. Samoan i tafatafa-ilâ-gi is analyzable as ‘part side-spot-suffix’ and means ‘on the horizon’.

32. The Horn

Represented: 86%
Motivated: 44.7%
Thereof Analyzable: 7.2%
Thereof Colexifying: 37.5%
Thereof by Contiguity: 12.2%
Thereof by Similarity: 24.3%
Recurrent associated meanings: antler, musical instrument, branch, tusk, antenna, point, ear, tooth, cockshorn, bone, post, tributary, clavus, nail, thorn, signal horn, corner, wood

Analyzable terms for the meaning ‘horn’ are relatively rare cross-linguistically, and where they occur, it is typically in areas without indigenous species of large horned animals, such as Australia and the Amazon region of South America. An association with ‘ear’ is found by complex terms in Jarawara (warabi aewiwarabi ewe /warabi/narabo aewi/ewe/waewaewi/ ‘ear piece.of.wood,’ for which compare Kaingang nî-ka ‘flesh-tree/wood’), Wayampi (âmîsîsî containing nam ‘ear’ and ãs ‘pointed’), and Hawaiian (pepeiao-hao ‘ear-iron,’ with Hao also being the name of the horn of a goat itself). Similarly, Yir Yoront has pin+ngon ‘ear+hornlike.process;’ in addition, the association is realized by colexification in Burarra (where the relevant term may also refer to any “appendage that sticks out like an ear” as well as “witness to what was said”). Great Andamanese has wôlo-tà ‘adze-bone.’ This term denotes the ‘horn of cattle’ specifically, and the translation of the example for its usage provided in the source makes particularly clear that it is a neologism for a newly encountered concept: “when we first saw cattle we called the horns (lit. things on their heads) wôlo-tà (da), i.e. adze(-like) bones.” By colexification, the association is found in Mesoamerica, namely in Highland Chontal and Itzaj (in the latter language, b’ak, the term in question, also means ‘employment;’ the association with ‘bone’ is also noted for Kolyma.

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4 The source for Yoruba also lists ibiti o dabi enipe ilé ati orun pade ‘place:rel 3sg appear like land and sky meet;’ it is not mentioned in the above since Joseph Atoyebi (p.c.) informs that this is not a conventionalized part of the Yoruba lexicon.
Yukaghir according to an older source incorporated into the consulted source). In fact, the association with ‘ear’ and ‘bone’ is the only recurrent one typically realized by morphological analyzability. Further analyzable terms include Central Yup’ik ciru-neq ‘cover-area,’ Bora iydděj-to ‘animal-CL.spine,’ and Kapingamarangi madaago /mada-goo/ ‘end-husking.stick/coccyx.’

Associations by colexification, in contrast, are much more varied cross-linguistically, although here also recurrent tendencies emerge. Basque, Chukchi, Nivkh, Kolyma Yukaghir, Carrier, Upper Chehalis, Cheyenne, Haida, Kiowa, Lake Miwok, Nez Perce, Quileute, Wappo, Wintu, Yuki, Central Yup’ik, Tehuelche, Bwe Karen, Hani, Hawaiian, and Sedang colexify ‘horn’ with ‘antlers.’ In five languages, Rotokas, Chickasaw, Ancash Quechua, Wayampi, and Tetun, the word for ‘horn’ is also used with the meaning ‘antenna’ or ‘feeler’ of an insect, or, according to the Ancash Quechua source, of a ‘worm’ in this language (compare also Sora dereŋənn ‘horn’ and dereŋbadən ‘antenna of insect’), while six languages, Hausa, Ngambay, Basque, Kildin Saami, Abipón, and Toba, have one term covering both ‘horn’ and ‘branch’ or similar meanings (Basque also colexifies ‘tributary’ - a pattern also found in Toba- ‘lineage,’ and ‘bedpost, chairpost’). Furthermore, in three languages, Arabela, Ancash Quechua and Bislama, the same term is used for ‘horn’ and ‘cockscomb’ (in Bislama apparently also for ‘comb’), and in two, Khalkha and Lesser Antillean Creole French, ‘horn’ has a semantic extension to ‘clavus.’ In two further sample languages, Wintu and Fijian, an association with ‘nail’ is present (in Fijian by the analyzable term i vako ‘DERIV put.nail.through,’ while in Wintu, the same term may also be used to refer to a ‘hammer’ and a ‘drill’). Also exclusively by colexification, in three languages, Kyaka, Chukchi, and Samoan, ‘tooth’ and ‘horn’ are lexically associated (the Kyaka term also colexifies ‘food, edible material’ as well as “sharp, biting, erosive,” and the Samoan term nifo is also used figuratively to refer to an ‘enemy’). Similarly, Takia fai colexifies ‘horn’ with “upper canine teeth” specifically, and also with ‘crocodile.’ Kyaka (where the relevant term also has still other meanings) and Guaraní colexify ‘horn’ with ‘thorn.’ Similarly, Lake Miwok kili ‘horn, antler’ seems to be related to kili ‘to hook with the horns, thorn, stickers on weeds or berry bushes.” In addition, Bora and Guaraní colexify ‘horn’ and ‘point’ (compare Wayampi’s term amillaś containing aśi ‘pointed,’ and the similar connection with ‘point, peak’ in Irish mentioned by Buck 1949: 208), while Aymara and Basque colexify ‘horn’ and ‘post’ (‘bedpost,’ ‘chairpost’ more specifically in Basque). For six languages, Kanuri, Basque, Welsh, Chickasaw, Lesser Antillean Creole French, and Hawaiian, lexicographers note that the word for horn is also used for a musical instrument, as is the case in many European languages (Welsh corn also colexifies ‘corn,’ ‘stethoscope,’ and ‘might’). Furthermore, in Khoekhoe, the same roots associated with different nominal designants yield the relevant meanings, and Quileute píoš-kəol may be conceived of as variation of the association with musical instruments reported above, as it also means ‘horn of a ship.’ Similarly, the relevant Aguaruna and Huambisa terms (both apparently borrowed from Spanish) may also refer to a ‘signal horn,’ Bislama colexifies ‘loudspeaker,’ and Lesser Antillean Creole French colexifies ‘motor horn,’ alongside ‘corn’ and ‘horny area.’ Finally, in six languages, Noni, Swahili, Baruya, Toaripi, Lenakel and Samoan, the word for ‘horn’ may also refer to a ‘tusk’ (as of a pig or an elephant, for instance), and Hani
and Mandarin colexify ‘horn’ with ‘corner,’ among other meanings (see Matisoff 2004: 352 for further evidence from both within and outside Southeast Asia).

As already mentioned, there are many different associations by colexification, and a lot of them are found in only one sampled language. Hausa k’aho (presumably by provenience contiguity) also denotes a ‘cigarette-holder,’ but also “a kind of tattooing” and “a person who is either destitute or gives nothing away.” Ngambay gājī, alongside ‘branch’ and ‘horn,’ also means ‘rubbish’ inter alia. Baruya colexifies ‘horn’ with “curved moon, crescent moon” as well as “curve below the navel where skirts fit.” Gurindji is the only language in the sample that uses the same term for ‘horn’ and ‘root,’ whereas Muna uses the term tāndu not only to denote ‘horn,’ but also verbally with the meaning ‘to butt, gore’ inter alia. Abzakh Adyghe bāž(e) can inter alia also refer to a drinking vessel such as a glass or cup, probably originally motivated by the former function of horns as drinking vessels, Badaga kombu also may refer to a “horn shape made from hill pavetta which is put inside the roofes [sic!] of houses after the uppaṭṭuva,” and Greek krēs is also used to refer to a ‘wing of an army.’ Biloxi ahi’ ~ ahe’ ~ ahē’ ~ he is unusual in having the semantic range of “skin, fingernails, horn, hooves, scales of fish, bark of tree,” and Upper Chehalis wināw, by perceptual similarity, also denotes a ‘wedge.’ Kiowa qgādéi also means ‘afterbirth.’ The Santiago Mexquititlan Otomí term ndānī also denotes a ‘ram,’ whereas Pawnee’s paariiku7 clearly showcases meaning extension by metaphor: it also means ‘colon’ and ‘banana.’ Arabela tuhuaja is also used to refer to ‘adornment’ as well as ‘crown.’ Kácho, the Embera term for ‘horn’ can also mean ‘slice’ or ‘piece’ (it is in fact borrowed from Latin American Spanish cacho with the same semantic potential). Guarani tati also means ‘prow,’ while Ancash Quechua waqra can also refer to a ‘useless thing.’ Yanomámi yōnā not only means ‘horn,’ but also ‘fin.’ The motivational history for Fijian i leu appears to be complex: leu is “to extract, as a thorn from flesh” and the derived nominal i leu in the first place means “the instrument for so doing; tweezers,” and then also ‘a small stick or needle’ and finally, presumably by yet another metaphorical extension, also ‘the horns of an animal.’ A similar line of meaning extension may be hypothesized for seru-na, which is analyzable as ‘to.comb-POSS.’ Hawaiian kiwi also denotes the “horn” of the Kala fish (known in English as the Bluespine Unicornfish, Naso Unicornis), and furthermore any curved or bent object, and indeed, in an adjectival sense, also ‘curved’ and ‘bent.’ Rotuman ipeisi also denotes a particular type of ‘flat wedge-shaped wooden spatula,’ Samoan seu also means ‘to steer,’ ‘stir, mix,’ and ‘to intercept,’ White Hmong kub also means ‘gold’ (in this sense borrowed from Chinese) and ‘to burn,’ and, finally, Yay kaw7 also is used to refer to “a vine or creeper” and a ‘protrusion’ generally.

33. The Lagoon

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Recurrent associated meanings: lake/pond, water/liquid, sea, puddle, swamp, tide, reef, round, big
Commonly, languages do not differentiate lexically between 'lake, pool' and 'lagoon,' using a single term for both referents. This is the case in Kwoma (colexifying also ‘waterway, canal’), Tasmanian (Middle-Eastern and Southeastern), Toaripi, Yaqui (by a semianalyzable term containing an element meaning ‘water’), Copainalá Zoque, Arebela, Ayamara, Bora, Chayahuita, Cubeo (by the analyzable term *maca-jitabʉ ‘faeces-puddle;’ compare colexification of ‘lagoon’ and ‘puddle’ in Copainalá Zoque and Ancash Quechua), Embera (where the meanings are associated with different genders), Guaraní, Huambisa, Miskito, Ancash and Imbabura Quechua, Tsafiki, Fijian, and Takia, while Greek has *limnothálassa /limn-o-thálassa/ ‘lake-STEM.FORMATIVE-sea,’ Carrier ‘a-pen-ket ‘fog-lake-on,’ Hawaiian *loko kai ‘lake/inside sea,’ and Mandarin *xiè-hu2 ‘pour.down/fall-lake’ and *jiàohu2 ‘reef-lake.’ Hawaiian has, like Mandarin, an association with ‘reef’ (*kai kohola ‘sea reef.flats,’ which indeed can also refer to the ‘shallow sea within a reef’). Greek, Mandarin, and Hawaiian are not the only languages associating ‘lagoon’ with ‘sea’: Nivkh has *kerq ᵁlu ‘sea bay,’ there is a semianalyzable term in Welsh, and San Mateo del Mar Huave and Kapingamarangi colexify the meanings directly (along with ‘tide, salt water, salt’ and ‘to close up, shut’ in the former language; for the association with ‘tide,’ compare Samoan *taʻi-tafoa ‘tide-spread.out’ and that Rotuman *maka is glossed as “tidal flat, wide stretch of beach covered only at high tide” and also means ‘to sing, dance’). Likewise, Yaqui is not alone with its association with ‘water’ or ‘liquid’: Yanomámi has *mon ŭ ‘round-bodied liquid,’ Takia parallely *you ʻlanti ‘water 3 SG-be.round,’ Bororo *kuruwa, perhaps analyzable as *kuru-ɡa ‘liquid-go,’ and Tsafiki *hua pipilū, containing *hua ‘big’ and pi ‘water.’ Other complex terms involving a constituent meaning ‘water’ are San Mateo del Mar Huave *wijyow ‘neck/mane-water,’ denoting a specific lagoon, and Tetun *ke-lilun ‘water-dam/tank.’ Moreover, Guaraní directly colexifies ‘water’ (and ‘river’) and ‘lagoon,’ there is a semianalyzable term with a constituent meaning ‘water’ in Guaraní, and a further semianalyzable term with a constituent meaning ‘accumulation.’ Kwoma and Yanomámi colexify ‘lagoon’ with ‘swamp’ (Yanomámi *wawèwawè is a reduplicated form of *wawè ‘wide, empty’); Tetun *kelan is also glossed as ‘saltwater swamp’ in parentheses. Bora colexifies ‘lagoon’ with ‘parched arm of river,’ and, conversely, Yir Yoront with “stretch of river where water remains in the dry season” as well as ‘billabong.’

Other associations include: in Buin, the relevant term also colexifies the meaning “rainwater hole containing brackish water,” Yoruba ọ̀ga also has a temporal meaning ‘space of time, season, interval,” and Kwoma ᵁbu can also refer to a swamp or a canal. Japanese kuta also means ‘shoulder’ but has different prosodic structure from kuta ‘lagoon.’ Bororo features two terms with unclear motivations for the concept: *baru-bo is analyzable as ‘sky-division’ and *kuru-ɡa, as mentioned above, perhaps as ‘liquid-go.’ Finally, Fijian *totobu, meaning also ‘deep place in center of stream,’ is presumably reduplicated from *tobu, meaning “pool in a river, bathing hole, well” inter alia, and Hawaiian *kua-ʻau ‘basin inside the reef, lagoon’ is tentatively analyzable as ‘back/windward-project.’

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5 The consulted source also has adaği ibiti ọmì ìkùn nàì wá sì which is not a conventionalized Yoruba lexical item according to Joseph Atoyebi (p.c.).
34. The Lake

As discussed in § 6.2.2.5., bodies of water are sometimes not lexically distinguished from the substance ‘water,’ and this situation is also found for ‘lake’ (or ‘pond’) in five of the sampled languages, Berik, Itzaj, Bororo (by a register-specific term), Jarawara and Bislama (and is attested diachronically in Indo-European, evidenced by cognates meaning ‘lake’ in Avestan but ‘water’ in Sanskrit, Buck 1949: 38). In the case of Buli, Hausa, Ngambay, Rendille, Berik, Badaga, Khalkha, Bororo (by a term largely restricted to ritual language), Guarani, Maxakali, Jarawara, Piro, and Bislama ‘river’ is colexified (‘perennial river’ more specifically in Rendille), while there are, due to colexification of ‘water’ and ‘river,’ terms betraying this association by analyzable terms in Efik, Sko, Tsafiki, and Kaingang. Moreover, there is a semianalyzable term where the identifiable constituent can refer to both ‘water’ and ‘river’ in Kosarek Yale. In Itzaj and Jarawara, ‘rain’ is colexified (and similarly, ‘rain water’ is in Comanche). The Jarawara term faha, like Bislama wota and Itzaj ja’, is very general, the reference of which may include ‘water’ as a substance, ‘river,’ as well as ‘lake’ (and ‘juice’ and other meanings in Bislama).

More frequent are, however, associations with ‘water’ by way of morphologically complex terms. One pattern found in three languages of the Americas, Blackfoot, San Mateo del Mar Huave, and Tsafiki, is that the second element is ‘big,’ e.g. Blackfoot ọmahksikimi /omahksi-ikimi/ ‘older/large-liquid’ (note, however, that the San Mateo del Mar Huave term nadam yow ngo mawaag contains the unknown element mawaag plus, apparently, the negating morpheme ngo, and compare also the redundant complex term ọku ba ‘big water/lake’ in Ngambay, and the same situation in Itzaj). In three sampled languages, Yanomami, Rotuman, and Takia, the additional element is ‘round,’ e.g. Yanomami mono u ‘round.bodied liquid’ (compare in addition Lengua yakyengyiam ‘lake’ and yakyeyi ‘be round’). Other complex terms for ‘lake’ where one of the constituents is ‘water’ include Efik mkpö-diok’hô-môñ ‘thing-be.placed water’ and (èbiët) udiökhömôñ /èbiët u-diök’hô-’môñ/ ‘(place) NMLZ-stand.level water,’ Sko pato /pa-tô/ ‘water-inside,’ Abzakh Adyghe psawoc”a-ye ‘water-stand-PAST,’ Cheyenne tsé-sééha mähpe ‘that.that.is-spread.out water,’ Tetun bee-lihun ‘water-dam/tank’ (‘lake’ and ‘dam’ are colexified in Badaga and Chickasaw) and Rotuman tan hae/ ‘water contain’ (this term also means ‘puddle’ and ‘bay, inlet,’ which latter association is shared with Nez Perce). Cahuilla päl múyeqalet contains päl ‘water, river’ and -müye- ‘fill up;’ the literal translation provided by the lexicographer is “water which fills up.” In addition, Maxakali puxhep contains pux ‘pour out’ and hep ‘blood, sap, liquid,’ and kõña'ãgkox is analyzable as /kõña'ã-g-kox/ ‘water-hole.’ Furthermore, there is a wealth of semianalyzable terms for ‘lake’ where the element ‘water’ is discerni-
ble, but the full morphological structure cannot be elucidated. This is the case in Noni, Kosarek Yale, Kiowa, Comanche, Yaqui, Yuki, and Samoan.

Associations with the ‘sea’ are also found, either by colexification (seven languages, Ngambay, Khalkha, Nez Perce, Tuscarora, Tehuelche, Yanomami, and Hawaiian; diachronic shift is well-attested in Germanic, Buck 1949: 38) or by morphologically complex terms. This is found in the Japanese term for a ‘big lake’ (mizu-umi ‘water-sea’), but is also found in two languages of Africa which have interestingly a very similar conceptualization strategy. In Bakueri, the ‘lake’ is called mmána mmánda ‘child sea’ or ngámda mmánda ‘younger sea,’ and in Khoekhoe hurirob, a term used in Bible translations, consists of huri ‘sea’ followed by the diminutive suffix -ro and the nominal designant -b. Moreover, there is a semianalyzable term in Hani where the identifiable constituent means ‘sea, ocean’ as well as ‘to soak in water.’ In connection with the metaphorical transfer of a ‘child’ as a prototypically small referent (Jurafsky 1996), the Waris term polomb deserves some discussion. It obviously contains pol ‘liquid,’ and the second element looks like a truncated form of ombol ‘son.’ There is a parallel for this from the same area: Baruya features the term budaya for a ‘small lake’ which is formally redundant, since the constituent buya alone can already be used to refer to a lake, but the other constituent of this compound is taaya ‘girl.’ A further analyzable term is Yanomami wawëwawë, the reduplication base of which appears to be wawë ‘wide, empty’

Exclusively by colexification, associations between ‘lake’ or ‘pond’ and ‘swamp’ are found in eleven of the sampled languages, namely Buli (where the interpretation of the relevant term as ‘lake, pond’ is rare), Ngambay, Gurindji (where the term also denotes a specific lake and ‘something in ceremony’), Kwoma, Basque, Ket, Chickasaw, Lesser Antillean Creole French, Kaingang (by the analyzable term oré ki goj ‘mud in water/river’), Pawnee, Yanomami (by the term wawëwawë, reduplicated from wawë ‘wide, empty’), and Hani (and see Buck 1949: 38 for Indo-European evidence), with ‘lagoon’ in 21 languages, Kwoma, Tasmanian (Middle-Eastern and Southeastern), Toaripi, Yaqui, Copainalá Zoque, Arabela, Aymara, Bora, Chayahuita, Cubeo, Embera (where the meanings are associated with different genders), Guarani, Huambisa, Miskito, Piro, Ancash and Imbabura Quechua, Tsafiki, Yanomami, Fijiian, and Takia, and with ‘spring’ or ‘well’ in Buli, Wintu, Yuki, Cayapa, Kaingang, and Maxakali (by the analyzable term kōnāgkox /kōnāg-kox/ ‘water-hole’). Given the possible variation in the size of lakes, from very small to very large, and the fluid boundaries between a lake and a pool down to a small pond, the meaning ‘puddle’ is also colexified in 24 of the sampled languages, namely Efik, Baruya, Buin, Kyaka, Rotoskas, Kosarek Yale, Abzakh Adyghe, Cheyenne, Haida, Lesser Antillean Creole French (also colexifying ‘mast, pole’), Tuscarora, Copainalá Zoque, Bora, Cashinahua, Guarani, Ancash Quechua, Hawaiian, Lenkakel, Rotuman (by the analyzable terms mentioned above), Sedang, and Yay. Cubeo macajitab is, however, peculiar, apparently consisting of maca ‘faeces’ and jitab ‘puddle.’

In two Polynesian languages spoken on small islands, Hawaiian and Fijian, the meaning ‘inland’ or ‘interior’ is also colexified; in Hawaiian, there is an optional complex term loko wai ‘interior/lake water.’
Other associations are also found cross-linguistically. Buli biung is primarily used to refer to a “watering hole that dries up quickly” and rarely assumes the meaning ‘lake, pond.’ Hausa tabki - tafi also refers particularly to “water in a borrow-pit” (it is also an “exclamation of astonishment at bigness”) and bingi also to a “rough-coated fowl” as well as “[a]ny large donkey” inter alia. Swahili ziwa also means ‘breast,’ Kwoma naba is also used to refer to a ‘waterway’ and ‘canal,’ Kyaka colexifies ‘lake’ with ‘shallow water,’ and Ngaanyatjarra murrkungu, denoting a ‘salt lake’ specifically, is by metonymy also used for ‘salty soil,’ while parntu can also refer to ‘salt’ itself. Badaga alla - halla also may refer to a “bottomland, lowest spot, depression” and ‘floodwater.’ Khalkha nanur can also refer to a “dry lake bed.” Welsh ilyn is also used with the meaning ‘liquor, drink’ and llwch, an obsolete term for ‘lake,’ also means ‘dust, powder.’ Kolyma Yukaghir jalyil is also the name for the tambourine of a Shaman, and nöröl colexifies ‘moss.’ Kashaya colexifies ‘slick,’ Lakhota ‘I went,’ the reduplication base of Lake Miwok pólpol means ‘float, flood’ (although pólpol may be a loanword from Cache Creek Patwin as a whole), and Wintu lōt, also denoting a ‘water hole,’ may be etymologically connected to a word for ‘to bubble’ (there is also the term sawal for a mountain spring with mythological significance). Cavineña bei is also the name of the ‘anteater,’ Hawaiian loko also means ‘in, inside’ and may refer to the ‘internal organs’ inter alia, while moana is, alongside its usage to denote both ‘lake’ and ‘ocean,’ also applied to name a “campground, consultation place for chiefs” (the common denominator apparently being that both are an expanse). Bwe Karen nū also denotes a ‘moat’ and a “written musical note” (perhaps, as the source suggests, due to English influence), while Lenakel nisī also denotes a particular lake, namely Lake Siwi on Tanna Island, Vanuatu. Mandarin hu2 also means “bottle-gourd, flask, teapot” (in both meanings going back to Early Middle Chinese ɣɔ, Pulleyblank 1991: 126), Sedang colexifies ‘naked,’ and by another term ‘ripe, red,’ and Lesser Antillean Creole French lak also may refer figuratively to a “slackening of control.”

35. The Lightning

Metaphorical denominations for ‘lightning’ (or ‘thunderbolt’) are common in the world’s languages, and some of them have a remarkable areal distribution (see § 6.4.3.). In Eurasian languages (represented by Khalkha and Kildin Saami in the sample), complex terms for ‘lightning’ using the source concepts ‘thunder’ and ‘arrow’ are found (ajungya, jin sumu ‘thunder GEN arrow’ and tīrm’es’-jull ‘thunder-arrow’ respectively). Another pattern predominantly found in Eastern Eurasia (Ket and Kolyma Yukaghir), but also in languages of the American Northwest (Central Yup'ik and Kashaya) is a lexico-semantic association
with ‘fire.’ Ket has ekkina bo’k, analyzable as /ekkin-na bo’k/ ‘thunder-3POSS.AN.PL fire,’ Kolyma Yukaghir jedun-ločil ‘thunder-fire,’ Kashaya maʔkala ?oʔo ‘thunder fire,’ and Central Yup’ik kenerpallak /keneq-pallag/ ‘fire-intensively;’ there are semianalyzable terms where ‘fire’ is the meaning of the identifiable constituent in Chukchi and Kildin Saami (the association is also weakly attested in Indo-European, Buck 1949: 57). Areality with respect to the meaning ‘lightning’ is also found in languages of Southeast Asia: the source concept ‘blink’ is encountered in Manange and White Hmong (Manange tipi-li ‘blink-come’ and White Hmong xob lajm ‘xob blink,’ see Bauer 1992 for further discussion). White Hmong, by way of having a term referring to a spirit named Xob, also participates in another putative Southeast Asian pattern, which is precisely characterized by making reference to a spirit: Yay has pya’ ʔaw’‘pya’ throw’ and pya’ ta’ yaaf ‘pya’ pull/draw sword,’ pya’ being the spirit causing thunder and lightning (note in this context also Japanese kami-nar-i ‘god-sound-NR,’ as well as the fact that Burarra andarrbaykarda is also the name of a lightning spirit, and compare also the association between ‘lightning’ and ‘Thor’s hammer’ in Old Norse and with ‘Perkun’s hammer’ in Lettic). In turn, the association with ‘sword’ in Yay is also likely to be part of an areal pattern of Southeast Asia, the evidence being that Sedang has chüng toro ‘sword/men’s tool thunder.’ One of the source concepts in two languages of New Guinea, Meyah and One, is ‘cloud;’ the Meyah term is mocgój efésa ‘fog/cloud flash,’ the One term is semianalyzable only. Two languages, Tsañiki and Tetun, have an association between ‘lightning’ and ‘flame’ (cunta pinda ‘thunder lightning/flame’ and rai-lakan ‘land flame’ respectively; note also Yaqui yuku be’ok-t(e)-ia/ ‘rain-lightning-INTR-NMLZ’ which also means ‘to take out the tongue several times’ and the semantic connection between ‘tongue’ and ‘flame’ reported in section 22; Yaqui also has the term yuku jimaa-ri ‘rain throw-RES’). Unsurprisingly, ‘lightning’ is also associated with meanings such as ‘to gleam,’ ‘to lighten,’ ‘to shine,’ or the like (common also in Indo-European, Buck 1949: 56-57). Hausa walk’iya also means ‘glossiness’ alongside ‘lightning,’ Toaripi kevaro also means, often re-duplicated, “the shine, gleam on the leaves of plants and trees, or on a person’s skin; the flash or sparkle of anything bright.” Associations like these are also found by colexification in Abzakh Adyghe, Arabela, Bororo, and Lenakel, while Efik and Toba have derived terms, Sora kilai-gum is analyzable as /’kila:i-gum/ ‘shine.brilliantly/dazzle-rain’ (there is another semianalyzable term with a constituent meaning ‘rain’ in Sora), Carib kapekape is reduplicated from kape “smoothness, gleam,” Guarani araréa is analyzable as /ára-vera/ ‘sky-brilliance’ (Guaraní also has aratiri /ára-tiri/ ‘sky-crack;’ for the association with ‘sky,’ compare also Kwoma neer hopo ‘sky snake’ and Hani aqq-miaovq miaovq sky-burn RED), and Tetun rai-nabilan as ‘land-shine.’ There is a semianalyzable term where the identifiable constituent means ‘to shine’ in Hani. Another association that is akin to that just discussed is that with ‘light,’ occurring in six sampled languages. In Chukchi, janqeryen (containing jan ‘fire’) means both ‘light of fire’ and ‘lightning,’ and in Rendille ‘lightning’ is colexified with ‘flash(es) of light’ generally. Lenakel nasiapumelaan is derived from asiapumel to lighten, flash,’ which in turn contains asi “[m]ake a light, make a torch (from coconut fronds).” If the association is by analyzability of the lexical type, there is variation in the semantics of the second element: in Berik and San Lucas Quiavini Zapotec, it is
‘thunder’ (iris naf ‘thunder light’ and xcha’ xtèe’ bzìu’ ‘light GEN thunder’ respectively); in Maxakalí, it is ‘rain’ (tex yânâm ‘rain light’). In fact, as already seen in the Yaqui example cited above, ‘rain’ is also a meaning that is frequently associated with ‘lightning.’ Alongside Sora, Yaqui, and Maxakalí, which were already discussed, the pattern is also found in Mbum, where ‘lightning’ is either sàk à mbàm ‘tear GEN rain’ or màw mbàm ‘mother-rain.’ An association with the ‘eye’ is found in three languages of North America, Ineseño Chumash, Nez Perce, and Tuscarora, although it is doubtful whether they represent the same conceptualization strategy. In Ineseño Chumash, the ‘lightning’ is called stix a sok’on “the eye of the thundercloud.” In contrast, in Nez Perce, it is called taqasaʔyóxolt /teqe-se-Tiyóxolt/ ‘suddenly-eye-watch,’ suggesting that this term is not metaphorical in nature, but rather refers to the sudden perception of light by the human eye. The same is true of Tuscarora newatkahrénaríks, containing the roots -kah(r)- ‘eye’ and -rik- ‘bite.’ In Lakhota, a literal translation of the word for ‘lightning,’ wakį́yą́tų́wą́pi, would be ‘the thunderbirds are looking’ (compare the notion of the thunderbird in North America mentioned in §6.4.3.15.5.). Further complex terms for which the internal structure is not entirely clear include Kiowa’s bọqẹbinéqyn which appears to contain the root bọqẹ- ‘transparent,’ Sko’s hęnghęng (putative reduplication base: hęng ‘fart’) and Bororo’s baigabe (compare baiga ‘Bororo bow’ and be ‘excrement’).

An interesting conceptualization of the meaning ‘lightning’ is found in Haida, involving verbal classifiers and the word for the colour ‘red’: sri q’asda contains sri ‘to be red’ and the classifier q’a for loud sounds (or possibly for large twodimensional surfaces) and srid raaʔuhlda the classifier raa for flashing light and ʔuhlda ‘to blink eyes’ (for which compare the association with ‘eye’ in other North American languages discussed above; note also that Comanche ekawitsèe may contain eka- ‘red’).

As already seen in various examples, complex terms for ‘lightning’ unsurprisingly frequently are made up in part of terms for ‘thunder.’ Other complex terms with that structure other than those already mentioned are Japanese raku-rai ‘fall-thunder,’ Carrier títini elkrés ‘thunder emit.flashes,’ and Cayapa cuidya pí’queno ‘thunder little’ (obviously of relatively recent vintage due to the presence of the loan from Spanish). However, ‘thunder’ and ‘lightning’ are also frequently associated by colexification, which is the case in 21 sampled languages: Buli, Ngambay, Rendille, Yoruba, Kwoma, Tasmanian (dubiously), Abzakh Adyghe, Japanese, Itzaj, Xicotepac de Juárez Totonac, Yana, Yaqui, Abipón, Arabela, Aymara, Hupda, Farwara, Tehuelche, Bislama, and Bwé Karen. In Itzaj, the meaning ‘lightning’ can be singled out by the complex term jatz’ chaak ‘whip thunder/lightning,’ and in Takia by the verbal terms well i-fni ‘thunder/lightning 3SG-hit’ and well i-raklawi da ‘thunder/lightning 3SG-wink’ (for this association compare Efik ekepkep, derived from kep meaning ‘to corruscate, flash, lighten,’ but also ‘to wink’). There is a semianalyzable term with an identifiable constituent with the meaning ‘thunder’ in San Lucas Quiaviní Zapotec, and in three further languages, Ngambay, Burarra and Tetun, ‘thunderstorm’ or ‘electrical storm’ is additionally colexified.

By colexification, associations with ‘spark’ are found in six sampled languages, namely Abzakh Adyghe, Badaga, Abipón, Bora, Ancash Quechua and Lesser Antillean Creole French. Yanomámi colexifies ‘lightning’ with ‘electric spark’ particularly, and indeed, a
relatively common pattern of semantic extension is to use the term for ‘lightning’ also for ‘electricity.’ This is found in Swahili, Basque, Khalkha, Nez Perce, Pawnee, Hupda, Hawaiian, and Samoan (the relevant Khalkha and Nez Perce terms colexify also ‘telegraph’).

Other associations include: the general meaning of Buli ngmoruk is ‘rain,’ and it rarely refers to ‘thunder’ and ‘lightning.’ Ngambay ndàngè also means ‘to scold someone’ and ‘hurry,’ and tèel also means ‘suffering, pain’ and ‘announcement.’ Muna has bhibhi, containing bhibhi ‘to quiver, shake,’ Nunggubuyu -marawadja-, containing -w-adja- ‘to hit, kill,’ and for Rotokas paraka, compare paraka ‘wide, spread out,’ ‘width’ and the classifier for narrow objects ua. Colexification with ‘hailstone’ is found in Basque, and Japanese has inazuma, analysable as /ine-tsuma/ ‘rice-spouse.’ In Khalkha, vacir ~ vcir ~ ocir is also the name of a sacred instrument in Buddhist ceremonies, Cheyenne vovó’ho’kâ’sé’há contains vovó’h ‘spotted white’ and also means ‘to flash repeatedly,’ Itzaj lelem ~ lenlem appears to be reduplicated from lem ‘calm,’ while in Jarawara, the same term is uniquely (with respect to the sample) also used for the ‘sun’ (and by extension also ‘clock,’ see discussion in section 79) and both ‘lightning’ and ‘thunder.’ Wichi has pelhache’ /pelhay-ch’e/ ‘storm-stick,’ Bislama laetning also means ‘in excess’ and ‘very quickly,’ and Fijian liva also ‘lift, lever’ (in this sense due to borrowing from English). Kapingamarangi ila is also the term for a ‘mole on the skin’ or a ‘maggot,’ Rotuman mere also means ‘to criticize, find fault with,’ and colexification with ‘wheel’ in Samoan is almost certainly secondary due to English influence – the relevant term is uila.

Finally, it should be mentioned that in many languages, the semantics of ‘lightning’ is primarily or exclusively encoded verbally and the noun being derived from it, due to the temporal instability of the concept and its essentially event-like nature. This is for instance the case in Khoekhoe (napa-b ~ tapa-b ~ lapa-b ‘to.strike.as.lightning-3SG.MASC) and in Laz, where the verb divalai is used to refer to the event of lightning.

36. The Meteoroid/Shooting Star

Representation: 48%
Motivated: 61.5%
Thereof Analyzable: 55.9% Thereof Colexifying: 5.6%
Thereof by Contiguity: 5.3% Thereof by Similarity: 54.3%
Recurrent associated meanings: star, tail, faeces, fall, fly, fire, run, spark

Terms for the meteoroid (for which ‘comet’ was accepted as a proxy if no other terms could be retrieved from the sources) are most frequently of the lexical type, one of the constituents being ‘star’ (or very rarely, a term with a fire-related meanings such as ‘spark,’ see below for further possibilities) and the noun being derived from it, due to the temporal instability of the concept and its essentially event-like nature. This is for instance the case in Khoekhoe (napa-b ~ tapa-b ~ lapa-b ‘to.strike.as.lightning-3SG.MASC) and in Laz, where the verb divalai is used to refer to the event of lightning.
second constituent is nominal in nature: recurrent patterns of this kind include a metaphorical comparison with ‘tail,’ as in Yoruba ɨrəwọ̀nìrù /ɨrəwọ̀-oní-ìrù/ ‘star-owner-tail’ and also in Ineseño Chumash and Rama (where an additional element meaning ‘sending’ is present’), or, a little more commonly, ‘faeces,’ as in Highland Chontal ɨfay galxammə ‘faeces-star,’ and also in Haida, Central Yup’ik (where ‘meteor’ is colexified with ‘puffball,’ since ‘meteors are traditionally said to turn into puffballs when they land’), Toba (where the relevant term colexifies ‘meteoroid’ with ‘mushroom,’ Toba also has to’olloxoic, apparently derived from to’olloxoi ‘mushroom’ by means of the masculine suffix -c; for the association between ‘mushroom’ and ‘faeces,’ see section 41 and § 6.2.3.3.), Sedang, and Tetun (where an additional element meaning ‘hurl’ is present). Further complex terms involving ‘star’ are Basque izar koloka ‘star loose,’ Khalkha suγunaγodu(n) ‘column.of.smoke star,’ Carrier sem-the ɭṣek ‘star-uses.to.go.off,’ Upper Chehalis scak̓uṭ̓wahkan ɭačis, containing ɭačis ‘star’ and the reciprocal marker -twal, presumably among other morphemes, Kashaya q’amọs șut’uḥtadu, analyzable as /q’amọs šu-ht’ut-ci’d-w/ ‘star by.pulling-pieces.come.off.bigger.object-DUR-ABS,’ Bororo ikuije uki거래eu, containing ikuije ‘star’ and kиграeu ‘adorned,’ Miskito slilma dакwi ba, consisting of slilma ‘star,’ dakwaia ‘break’ and the demonstrative element ba, Piro katagiri psojiṭe ‘star.fragment,’ and Fijian kolokalo cavu ‘star eradicate’ (with cavu also having other meanings, among them ‘adorned, highly decorated’). Moreover, Rotuman hef sá’l’ak mala contains hefu ‘star’ and mala meaning ‘red hot’ but also denoting a red kind of belt worn by high chiefs, and a further San Mateo del Mar Huave term for the ‘meteoroid’ is nandaab ocas ‘burnt star.’ Colexification with ‘star’ itself (as well as ‘planet’) is encountered in Toaripi and Sora, while in Khoekhoe, the same term suffixed with different nominal designants yields the meanings ‘star’ and ‘comet’ respectively; in both cases, the relevant terms are derived from a verb meaning ‘to blink, twinkle.’ In Bislama, sta is glossed as “any heavenly body (e.g. moon, star, meteorite).” There are semianalyzable terms where the identifiable constituent is ‘star’ in Mbum, Sko, Biloxi, and Chayahuita. None of the abovementioned patterns has a clear areal hotspot of occurrence, rather, each one recurs in many different areas of the world.

There are also variants of some of the associations in which, rather than ‘star,’ some other meaning figures. Guaraní has jagua-veve ‘dog-fly,’ and Tuscarora nekačis-nahkwáŋ? contains the roots -čišn- ‘spark’ and -ne’n- ‘fly’ (for which compare Hani miqzaq miqseil ~ aqzaq miqseil ‘fire spark;’ miqseil is also “a woman who is dissatisfied with her marriage”). Variants of the denomination via ‘tail’ are San Mateo del Mar Huave miwiiül ɨx ‘tail rock.iguana’ and Dongolese Nubian kāj-n-ɨu ‘horse-GEN-tail’ (indeed, both terms can also be interpreted literally and refer to an iguana and horse tail respectively). Badaga is the only language in the sample where this association is realized by colexification (also colexifying “slender means” and “anything meagre”). Lake Miwok wikáwíki is a reduplicated version of wíki ‘fire,’ while Itzaj colexifies ‘shooting star’ with ‘fire’ and other meanings directly. Guaraní yvarata is analyzable as /yva-tata/ ‘fruit-fire’ (there is also a semianalyzable term where the identifiable constituent is ‘sky’).

Another strategy is found in Middle-Eastern Tasmanian, where pōkarit’g appears to contain a constituent meaning ‘ghost’ (compare the annotation for Kwoma maway: “Shooting stars are thought to be the souls of outstanding warriors who have died. At the
second, or final, burial of such a man his soul, in anthropomorphic form, flies through the air holding a burning coconut frond torch in its hand, which is the light seen in the sky, towards one of the many large lagoons that surround the Washkuk hills”). Great Andamanese chàugalalachoinga is somewhat similar in that it makes reference to the ‘spirit’ (chàugalalachoinga) means ‘light of torch.’

Other unique denominations are found in Efik, where inòntanta’jioň contains i’nô ‘thief’ and ika’ is derived from ka ‘to go.’ Sahu has deter’e ma ngi’di ‘tooth poss thunder,’ and Welsh maen mellt ‘stone lightning’ alongside awyrfaen /awyr-maen/ ‘air/sky-stone.’ Basque meteor is also glossed as ‘atmospheric phenomenon.’ A literal translation of Kiliwa xsiiíi’?aawmpaay is ‘Xsmii’s fiery urine’ (Xsmii is the name of a constellation; compare the associations with ‘faeces’ discussed above). Wintu nomleynas is literally ‘going west.’ For Abipón neik, compare eiaqaiag- ~ -eiaqaiak- ‘walk, travel.’ Miskito has imyula mabra ‘lightning egg,’ while Piro gijrukachri appears to contain gijru ‘shaft, handle.’ Yanomami thoru waké consists of thoru, the name of a plant species, and waké ‘red,’ and is at the same time the name of the fire spirit.

For terms for the Milky Way (or ‘galaxy,’ which was accepted as a proxy), it is the rule rather than the exception to be motivated. Apparent exceptions are found in Katcha, Khoekhoe, San Lucas Quiaviní Zapotec, Nunggubuyu, Great Andamanese and Kapingamarangi, for which no analyzability can be safely diagnosed on the basis of the source and no further meanings are stated. Lexico-semantic associations are often culture-specific and bear mythological connections. For instance, Rendille inti waraday abártiís káiít ét is literally translated as ‘the place where the hyena dragged his mother’ and comes from a Rendille children’s story of the same name, and in Ket the name for the Milky Way is Albakaŋ, analyzable as /alba-kàŋ/ ‘Alba-way,’ Alba being a Ket mythological hero (Andrey Nefedov p.c.). In spite of the highly language-specific associations for the Milky Way, there are nevertheless some general naming tendencies, and the Ket example already provides an example of this: in fact, a recurring denominational pattern for the Milky Way found also in many well-known European languages is that involving various travel paths.
such as ‘trail,’ ‘road,’ ‘street,’ and also in a few cases ‘river,’ with the second element unusually language-specific. Thus, Muna has sala waghua, containing sala ‘path, trail’ and presumably ghua ‘gray hair,’ Blackfoot has makóyôohsokoyi /makóyi-mohsokó-yi/ ‘wolf-road-inan.SG,’ Upper Chehalis sxai-yoxot ‘trail-poor.people,’ Cheyenne Áméó’o is analyzable as /ame-meo’o/ ‘pemmican-way’ and séotsé-méó’o perhaps as ‘corpse-road’ (the source notes difficulties with the precise translation), Chickasaw Ofi’ Tohhi’ Iňhina’ ~ Ofi’ Tohhi’Iňhina’ as /ofi’ tohhi’- im-hina/ ‘dog be.white/be.pale-NMLZ DAT-road,’ Itzaj has sák-b’ej ‘white/gray-trail/road’ (colexifying ‘highway’), Lakhota wanágíthačhakú /wanágí-tha-chákú/ ‘ghost-??-road,’ Nez Perce čevće-w-nim ʨikit is ‘ghost-poss trail,’ Wintu qanal yemer ‘be.open.wide road’ and qaql yemer ‘oblivion road.’ Chayahuita chimirin irta is ‘death way,’ Kaingang kríg japý ‘star way’ (there is a further semianalyzable term with kríg that is also the name of a particular star), Miskito swara bila ‘eel way’ (bila also has other meanings alongside ‘way’), Rama núnik kás aríra, a literal translation of which is ‘cloud street’ (although aríra is glossed as ‘string, fold’ on its own), Wayampi tapiʔ-la-ɛ is ‘tapir-of-way’ (a further variant being tapiʔ-ɨp ‘tapir-track,’ compare Guarani mborevirape, also containing mborevi ‘tapir’ and tape ‘way’), Fijian sala-ni-cagi ‘road-poss.wind/air,’ Sedang trāng hōlōŋ ‘road star’ (alongside the alternative term hōlōŋ nxéŋ ‘star mirror’).

As the examples show, the Milky Way is often associated also with otherworldly phenomena, such as ‘ghosts’ in Lakhota and Nez Perce and ‘death’ in Chayahuita, but by no means necessarily so. Nor is it the case that the association with travel paths is always by morphologically complex terms, Hausa is an example of a language with colexification (here, also ‘channel,’ ‘intermediary,’ and ‘beehive’ are colexified inter alia). A further case of colexification is perhaps Tasmanian (Plomley 1976: 408), and Muna has a semianalyzable term.

Yir Yoront and Ancash Quechua colexify ‘Milky Way’ with ‘river’ directly (in Ancash Quechua, there is the optional complex term paqas mayu ‘night river’), Chukchi has cayej-weem ‘sandy-river’ and Tetun mota-klakatak ‘river-reflection/image’ and mota-leten ‘river-top/summit.’ In Khalkha, an association with a ‘gird’ is found by a morphologically complex term (oyturyal jin byse ‘sky GEN girdle’ alongside tngri jin ojual ‘sky GEN seam’), and one of the glosses of Hawaiian kau is ‘to gird.’ The association with ‘milk’ (the tertium comparationis obviously being the whiteness) is restricted to languages of Europe in the sample: Basque has esne-bide ‘milk-way’ (as well as the alternative term santiago-bide ‘San-tiago-way’) and Greek a synchronically semianalyzable term. However, there are also languages outside Europe in which associations with whiteness seem to occur. For instance, Sahu has ka’e ma geolo/ka’e ma ge’olo/ ‘drink/palm.wine POSS foam,’ Kiliwa ?=ma?i=ny=?phuuy ‘DN=sky=POSS-DN=smoke,’ Bororo kuiejeđoge eruadu, containing the words for ‘star’ and ‘ash’ (there is also the alternative term ikuijeđoge eruadu containing ikuije ‘star’ and eruag ‘see’), San Mateo del Mar Huave Minajdot Oleaj Micawiy Santiago, containing najdot ‘dust’ and cawiy ‘horse.’ Note also Xicotepec de Juárez Totonac i’xtej stā’na’ kaxtaj (kaxtaj, ‘lime’) alongside the already mentioned Chickasaw and Itzaj terms.

In Hawaiian, the Milky Way is either i’a, the basic meaning of which is ‘fish’ (it can also refer to an ‘eel’ inter alia specifically, compare the Miskito association with ‘eel’ mentioned above), or i’a-lele-i-aka ‘fish-jump-in-shadow’ (and there is also the term hōkī-
nohoaupuni ‘star-rule’). As seen from the examples discussed so far, ‘star’ is an as frequent as obvious meaning of constituents of complex terms. Alongside the languages already mentioned, an element with this meaning also features in Sora (ə-on-’tu-i-an ‘ross-child-star-N.SFX’), Nuuchahnulth (taatusanit, analyzable as /tatus-añit/ ‘star-along’), and Hani (aqgeel caqkov, presumably analyzable as ‘star ditch.around.house,’ although ‘star’ is more fully aqgeel aqsiq or aqgeel).6

In two languages of North America, Ineseño Chumash and Kiowa, an association with the ‘back bone’ is found: šnokok’ a saxiyi’ “the spine of the night” and tįŋ-γųmįt’gu ‘star-backbone’ respectively (in Ineseño Chumash, an alternative term is əşiyoqas “the piñon gatherer”). Tuscarrora yurehydhuku, containing the roots -rehy- ‘sky’ and -huk- ‘light up,’ can also refer to a ‘rainbow’ and the ‘Aurora Borealis,’ and the Yuki term miįʔon kaw also betrays an association with ‘sky’: it is analyzable as /miįʔ on kaw/ ‘sky land light.’ Likewise, Hawaiian lā-lani might be analyzable as ‘sun/day-sky’ (though both putative constituents also have many other meanings).

Other associations include: in Welsh, the Milky Way bears the name of mythological castles: caer Wydion and caer Arianrhod (caer ‘castle’), and in Carrier it is called ya̱-kə̱tsīlkrai ‘sky-one-run.over.’ Pawnee Rakiraruhuuturuuhat contains uhaʔ ‘to pass in a line,’ and in Central Yup’ik Tanglurallret contains tangluq ‘snowshoe;’ it is so called because “because in legend it is the snowshoe trail of the raven.” Associations by collexification are, as noted above, much rarer, though not nonexistent: Hausa, by another term than that mentioned above, also collexifies “[t]he top of the head of a horse, between the ears” and “[t]he top of the occult of human beings” inter alia. The Ngaanyatjara terms tjukall(pa) and yintiri both also mean ‘tree ladder,’ Nunggubuyu burumburun’a also “galaxy, cluster of stars,” and Khalkha mecid also denotes ‘monkeys’ or ‘apes’ (formally it is the plural of mecï(n) ~ beci(n) ‘ape, monkey, ninth year in twelve-year cycle’). Hawaiian kau has, alongside ‘Milky Way’ and ‘fish, eel,’ also the meaning ‘to place, put’ and is the “name of a star in the northern sky that served as guide to mariners” inter alia, and there is also the term lele-aka ‘fly-shadow’ and a further term containing lele which collexifies ‘shark-sucker’ and ‘remora’ inter alia. For Kapingamarangi ganiwa compare gani ‘penis’? The relevant Lenakel term contains a constituent meaning ‘girls.’

### 38. The Moon

<table>
<thead>
<tr>
<th>Representation: 100%</th>
<th>Motivated: 67.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thereof Analyzable: 6.5%</td>
<td>Thereof Collexifying: 60.6%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 52.5%</td>
<td>Thereof by Similarity: 5.2%</td>
</tr>
</tbody>
</table>

Recurrent associated meanings: month, sun, moonlight, season, night, albino, menstrual period, light, snail, bright, white, torch

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6 In the English-Kiowa section, the term is given as tį̂ŋ-γųmįt’gu in which case it would be ‘sibling-backbone’; this is likely a printing error, since under the lemma for γųmįt’gu the term for ‘Milky Way’ is stated to be tį̂ŋ-γųmįt’gu.
Many of the analyzable terms found cross-linguistically are due to the fact that many languages of the Americas, but also some in Siberia, lack true lexical differentiation for ‘sun’ and ‘moon,’ and have a single term for the two luminaries (found in 17 sampled languages all in all: Blackfoot, Carrier, Upper Chehalis, Cheyenne, Chickasaw, Lakhota, Nez Perce, Nuuchahnulth, Quileute, Tuscarora (according to an older source incorporated into the consulted source), Wappo, Wintu, Bora, Cayapa, Cubeo, Hupda, Macaguan, and possibly Tehuelche, where the relevant terms are very similar segmentally. In some of these languages, ‘watch’ and/or ‘calendar’ is also colexified due to the ‘sun’-reading, see section 60 for fuller discussion, and sometimes there is the possibility of optional disambiguation. Another possibility is morphologically complex terms for the ‘moon’ containing the respective word for ‘sun,’ for instance Lake Miwok káwul híi ‘night sun.’ The latter situation is encountered also in two other sampled languages, Kolyma Yukaghir (emin-pu:gu ‘night-sun’) and Maxakalí (mayón-hex ‘sun-female/man’s.sister,’ for which compare Rama tukán kuna ‘moon woman/female’).

At times, however, complex terms with a different structure are encountered. The Abipón term eergRaik, which is interestingly also used for ‘star,’ is derived from eerg- ‘to burn, sparkle,’ and Central Yup’ik unuqssuun ~ unucsuun is analyzable as /unu-k-cuun/ ‘night-device.for’ and generally means ‘night-light,’ but ‘moon’ in the dialect of Nelson island. Kapingamarangi malama is derived from lama meaning ‘torch’ (alongside ‘dry coconut leaves’) and indeed also means ‘lantern;’ a similar situation is encountered in Hawaiian (note also that one of the terms used for ‘moon’ in Miskito, ingni, also means ‘light’ and ‘lamp,’ and that the Yuki term is semianalyzable with the identifiable constituent meaning ‘light’ inter alia). Furthermore, Greek selhí is diachronically related to a verb meaning ‘to shine,’ and Wintu colexifies ‘moon’ with “something shining, bright, white, albino, rare” (Fijian vula colexifies ‘partial albino,’ the Hani term for the moon contains an element meaning ‘white,’ the Yuki term an element meaning “light, clear, clean, shine,” and the association with ‘brightness’ and ‘light’ is also present in a group of Indo-European terms, Buck 1949: 53). Interestingly, there are also two sampled languages in which the word for ‘month’ is monomorphemic, and that for ‘moon’ (at least synchronically, since semantic shift is of course possible) secondary to it (Yay roj duan ‘bright month’ and San Mateo del Mar Huave múm caaw ‘mother month’).

As far as colexification is concerned, a ubiquitous pattern is indeed that with ‘month,’ occurring in 98 languages of the sample and in all areas of the world (and reconstructed for the Proto-Indo-European level as well as present in many daughter languages, Buck 1949: 54), namely Buli, Efik, Hausa, Katcha, Khoekhoe, Koyraboro Senni, Mbum, Ngambay, Noni, Dongolese Nubian, Rendille, Swahili, Yoruba, Berik, Buin, Gurindji, Kwoma, Kyaka, Lavukaleve, Mali, Muna, Ngaanyatjarra, Nunggubuyu, Meyah, Rotokas, Toaripi, Sahu, Sko, Yir Yoront, Abzakh Adyghe, Badaga, Chukchi, Japanese, Khalkha, Laz, Kolyma Yukaghir, Acoma, Biloxi, Cahuilla, Upper Chehalis, Cheyenne, Chickasaw, Highland Chontal (colexifying also ‘goddess’), Ineseño Chumash, Comanche, Haida, Kiliwa, Kiowa, Lake Miwok, Nez Perce, Nuuchahnulth, Oneida, Santiago Mexquititlan Otomí, Pawnee, Quileute, Xicotepec de Juárez Totonac, Wintu, Yaqui, Yuki, Central Yup’ik, San Lucas Quiavini Zapotec (colexifying also ’comb’ and “comb for pushing back woven material on a
loom”), Copainalá Zoque, Arabela, Aymara, Carib, Cashinahua, Cavineña, Chayahuita, Cubeo, Guarani, Huambisa, Hupda, Jarawara, Kaingang, Lenguá, Macuguán, Miskito, Piro, Ancash Quechua, Rama, Saliva, Tehuelche, Toba (by the term ca’agoxic, for which compare ca’agoxic ‘always hurries/worries,’ the original gloss being ‘se apura siempre’), Tsafiki, Fijian, Great Andamanese, Haní, Hawaiian, Kapingamarangi, Bwe Karen (colexifying also ‘be green, blue’ inter alia), Lenakel, Malagasy, White Hmong, Rotuman, Samoan, Sedang, Takia, Tetun, and Bislama (obsolescently). This, together, with the colexification of ‘sun’ and ‘moon’ mentioned above, is chiefly responsible for the high percentage of terms for ‘moon’ with another colexified meaning. Buli, Bislama, Hawaiian, and Mandarin colexify ‘moon’ with ‘moonlight,’ and in Ngambay, Kyaka, and Samoan, alongside ‘month,’ the meaning ‘season’ is also colexified (in Kyaka also ‘weather’).

A pattern conspicuously found in two languages of Australia, Burarra and Gurindji, is that the word for ‘moon’ also is used to refer to a ‘snail’ (for Burarra, it is explicitly stated that this snail is white and moon-like in appearance). Similarly, in Nunggubuyu, the word for ‘moon’ also denotes ‘small white grubs’ and the ‘chambered nautilus’ (and in another Australian language, Yir Yiron, the relevant term is also glossed as “moonlike in colour and shape”); perhaps similarly, Fijian vula is also the name of a kind of bêche-de-mer, inter alia, and Rotuman hula is also the name of a kind of sea slug – given that the terms seem either cognate or related by borrowing into Rotuman, it is even possible that this secondary meaning is inherited or contact-related. Itzaj and Bislama colexify ‘menstrual period,’ and Itzaj by another term also ‘bead’ and ‘crumble.’

Other associations include: Buli chiik is also the name of a “moon-amulet,” and traditionally the ‘soul’ inter alia. Efik òfiòñ also denotes a “circular figure in painting” and is presumably related to the name of two days of the week. Buin eekio is also used to refer to “a period of ten days.” Kyaka kana also means ‘rock, stone’ as well as ‘money, coin.’ Sko ké is also the name of a “post for hanging things” and means “catch, get, take, fetch” as a verb. Sahu colexifies “something round” generally. Toaripi papare contains papa ‘grandparent, ancestor,’ and Khalkha sumija also bears the meaning ‘Monday,’ which was however obsolete at the time the consulted source was written. In Kiowa, the relevant term pa’ can also refer to a ‘river’ and is the name of a game, Lake Miwok koméenawa is analysable as /kóme-nawa/ ‘vagina-old.man,’ Nuuchahnulth colexifies ‘moon’ with ‘thimbleberry,’ and Central Yup’ik tanqik only means ‘moon’ in the dialect of Nunivak island, and denotes ‘brightness’ generally in other dialects. Cayapa colexifies ‘moon’ with ‘lowered, fallen,’ Tsafiki with ‘excrement,’ Yanomámi with a mushroom species, and Hawaiian with a “crescent-shaped fishhook” and an “eye of the snail at the end of its horn” inter alia. Rotuman hula also means ‘seed, pip of fruit’ and other things, and Samoan colexifies ‘moon’ with ‘chief.’

39. The Mountain
Representation: 91%
Motivated: 53.7%
Thereof Analyzable: 11.4%
Thereof by Contiguity: 15.9%
Thereof Colexifying: 42.7%
Thereof by Similarity: 28.6%
Recurrent associated meanings: hill, forest, stone/rock, summit/peak, high/top, land/earth, scarp/slope, pile, mountain range, head, valley

Cross-linguistically, lexico-semantic associations on a global scale closely mirror those mentioned by Buck (1949: 23-24) for Indo-European. Analyzable terms are most frequently based on notions such as ‘high’ or ‘top,’ alongside colexification in Yoruba. This is the case in five sampled languages: Kaluli has "hen misyi'o: 'land high.place/high.ground,' Muna kabhawo ‘astr-high,’ Miskito il tara ‘hill high,’ Rama king-up ‘head/top-eye’ (there are further semianalyzable terms involving up, for taisup compare taik ‘piece, thing, top, nose, penis, and for kaisup compare kais ‘tick?’), and Fijian dela-nil-vanua ‘top-poss-land’ and uluni-vanua ‘head/top-poss-land’ (note also that White Hmong roob is probably a loanword from Chinese chóng ‘high, lofty’); Abzakh Adyghe has q°ʔəṡḥ /(-)q°(e)-šəhe/ ‘arm/branch/pointed.object-up.there.’ This is also the only clear instance of analyzable terms involving a body-part metaphor. Analogously to the analyzable term in Rama, ‘mountain’ and ‘head’ are colexified in Gurindji and Kaingang, where the relevant term also means ‘cockscomb.’

Terms for ‘mountain’ often also mean ‘forest’ by spatial contiguity, as already discussed in section 26. This is the case in Kwoma, Basque (colexifying ‘woodland’ more specifically), Khalkha, Laz, Nivkh, Ineseño Chumash, Aguaruna, Huambisa, and Nay (disregarding terms glossed as ‘selva’ and/or ‘monte’ in Spanish, since these also capable of referring to ‘wilderness’ more generally and thus the sense colexified is unclear due to this bias exerted by the metalanguage). Similarly, Sora colexifies ‘hill’ with ‘forest,’ Cubeo has jocu-burumun ‘wood-class.vegetation’ (there is another semianalyzable term involving a classifier for vegetation that has not been cut down in Cubeo), and Embera uses the same term for ‘mountain’ and, associated with different genders, various kinds of plants as well as ‘plantation’ and ‘vegetation’ generally. Also by spatial contiguity, Buin and Tsafiki colexify ‘mountain’ with ‘valley.’

Alternatively, terms for ‘mountain’ may contain constituent elements meaning ‘hill’ and an additional element frequently conveying an additional semantic component of big size or height: San Mateo del Mar Huave has ti-tüc which appears to be analyzable as ‘Aug-hill,’ Cheyenne hōhonde-voše ‘rocky-hill,’ Tuscarora yunetherʔiyʔ, containing -neth(e)- ‘hill’ and -iyu ‘be great, be beautiful,’ and Miskito il tara ‘hill high.’ There are semianalyzable terms in Bororo and Lengua. As also noted by Buck (1949: 23) with regard to ‘hill,’ there are sometimes “fluctuating discriminations” between ‘mountain’ and ‘hill,’ and this is reflected insofar as that these meanings are also frequently colexified. This is the case in Buli, Ngambay, Dongolese Nubian, Yoruba, Burarra, Gurindji, Kwoma, Kyaka, Muna, Ngaanyatjarara, Tasmanian (Northeastern, Middle-Eastern, and Southeastern), Toaripi, Sentani, Yir Yoront, Abzakh Adyghe, Badaga (where there is a verb of the same phonological structure meaning ‘to cut’), Ket, Upper Chehalis, Cheyenne, Chickasaw, Highland Chontal, Itzaj, Kiliwa, Lake Miwok, Lesser Antillean Creole French, Santiago Mexquiquitlan Otomí, Pawnee, Tuscarora, Wappo, Yaqui, Yuki, San Lucas Quiavini Zapotec, Bora, Bororo, Embera (where the meanings are associated with different genders), Hupda (also colexifying ‘cliff’), Jarawara, Lengua (colexifying ‘large hill’ specifically), Macaguán,
Maxakalí (colexifying ‘steep hill’ specifically), Ancash Quechua, Rama, Tsafiki, Wayampi (dialectally), Yanomámi, Bislama, Hawaiian (colexifying ‘high hill’ specifically), Kapingamarangi, Malagasy, Rotuman (colexifying also “mound of earth or sand” inter alia), Samoan, Takia, and Tetun; note also that for Toaripi raepa, glossed as ‘hill, mountain,’ the lexicographer remarks that “[f]or the latter meaning the adjectives rovaea (=big) or koa (=high) is often added.”

As already seen in some terms, complex terms for ‘mountain’ at times also feature a constituent with the meaning ‘land’ or ‘earth’ generally. Further instances of this are found in Efik (akamba obüt ‘great land/earth’), Kosarek Yale (mok-soo ‘place-earth;’ this term also means ‘world’ and ‘land’ by itself), Guarani (yvy-ty ‘earth-pile’), Wayampi (iwí-tí ‘ground-big’), and possibly Cheyenne (o’ome may contain -o’ome ‘region’ and -nó ‘place’). There is a further semianalyzable term where the identifiable constituent is ‘land’ in Kaluli.

Buli, Abzakh Adyghe, Jarawara, and Tetun colexify ‘mountain’ with ‘scarp, slope,’ and Ngaanyatjarra, Yaqui, and Mandarin with ‘mountain range.’ There is, as also noted by Buck (1949) for Indo-European, a recurrent association between the meanings ‘mountain’ and ‘stone, rock,’ in the languages of the sample in Buli, Ngambay, Ngaanyatjarra (these two languages also colexify ‘pebble’), Kolyma Yukaghir, Biloxi (where the colexified meaning is “round-topped hill” more specifically, the relevant term may contain an element meaning ‘sharp’), Cahuilla, Oneida (also colexifying ‘outcropping’), Hupda (colexifying also ‘sky’), and Hawaiian (where “kind of hard stone from which adzes were made” is in addition colexified). White Hmong has pob-tsuas ‘ball-rock.mass,’ and there is a semianalyzable term featuring a constituent meaning ‘stone’ in Copainalá Zoque. In Kyaka, kyau also means ‘pale’ and ‘swelling,’ Highland Chontal tiula also means ‘pale,’ and Lesser Antillean Creole French mon may also figuratively refer to ‘a large heap’ (compare Lenakel touar ‘mountain’ and tou ‘to heap up food, yam heap?’), while Kiowa koup may also refer to a ‘knob’ (again, compare Buck 1949: 23); there is also a verb of the same form meaning ‘to lay several.’ At times, the relevant terms also denote the ‘summit’ of a mountain or ‘peak’ more specifically, a case of meronymy. This is found in Baruya, Burarra (“top of rocky outcrop” more specifically), Abzakh Adyghe, Badaga, Khalkha (‘flat mountain top’ more specifically), Wintu, and Ancash Quechua; note also Abzakh Adyghe ?a-šhe ‘summit-up.there.’

Other associations include: Dungolese Nubian gëbel also means ‘desert’ (a meaning which is also colexified in Sudanian Arabic, from which the term is borrowed). Buin kumpa is also the name of an ‘edible mountain fern’ and a male name (the relevant term is, however, a poetic epithet for ‘mountains’ only), Rendille häl also means ‘pack camel’ and also denotes a particular mountain, Kwoma kwo also means ‘netbag’ and ‘womb,’ and One ala nala ~ ala nela appears to contain nala ~ nela ‘tooth’ (there is a variant ala palla, for which compare palla ‘body hair’). Sko pi also means ‘full,’ and Abzakh Adyghe bja also ‘waist’ and ‘backrest.’ Adjectivally, Badaga male also means “puffed up, haughty, self-important, towering above,” and Basque colexifies ‘mountain’ with “country, wild country.” Bezhta has an unusual pattern of colexification in that mà is also the default term for the ‘nose’ (note that Abzakh Adyghe çape might contain p(e), meaning ‘nose, beak, point’ inter alia).
Khalkha colextifies ‘mountain’ inter alia with ‘plateau’ as well as “shelf, hanging rack,” Ineseño Chumash with ‘north,’ Itzaj with ‘pyramid,’ Santiago Mexquititlan Otomi with ‘dark,’ and Tuscarora with ‘billow.’ For Lesser Antillean Creole French montani, compare montan ‘rising, ascending,’ and for Yana ziigai(la) ~ ziigal(xi) (which are dialectal variants), compare ziir ‘smoky, foggy.’ Copainalá Zoque colextifies ‘mountain’ with ‘field,’ and the Abipón term lkaagRanRat appears to be analyzable as l-kaag-Ran-Rat ‘POSS.INDEF/3SG-split-CAUS-CAUS’ (original Spanish gloss of the root aag ~ -aage ~ -aak ~ kaak is ‘morder, hender, partir, cavar’). Toba qasoxonaxa is also the name of a mighty being causing lightning, and is also used to refer to the ‘elephant.’ Hawaiian has kuahiwi, containing hiwi ‘sharp ridge of mountain’ and kua, meaning ‘back, rear’ inter alia. Kapingamarangni gono duu is analyzable as ‘form/surface/hue stand/stop/belt.’ Bwe Karen colextifies ‘skin, shell’ inter alia, and Lenakel “elevated place, village, township.” Rotuman solo, as a verb, also means ‘for the sun to sink,’ Sedang colextifies ‘mountain’ with ‘stump,’ and Tetun with “country(-side).”

40. The Mushroom

Terms for ‘mushroom,’ if they are motivated, have a very marked lexico-semantic profile: motivation is very often realized by analyzable terms, and the semantic relation underlying them is very often one of similarity. Although there is wide variation as to the specific semantic source concepts to be discussed below, there are two recurring strategies that are both remarkable. One conceptualization is based on ‘faeces’ (see also § 6.2.3.3.) and the other one is based on ‘ear.’ Thus, Rendille has u’di-yeyyah ‘moon-faeces,’ San Mateo del Mar Huave aonts poxit ‘excrete black.vulture,’ Toba huqqajñi l-‘atec ‘star 3SG.POSS-excrement’ (colextifying ‘shooting star’), Hawaiian kākae-li ‘excrement/dung-horse,’ (this term also denotes grasses where horses are pastured. For the association with ‘horse,’ compare Toba caínaton /caaño-naton/ ‘horse-glans;’ there are several variants of this term, and in one of them, the element denoting ‘glans’ is colextified with ‘sombrero’), and Cashinahua resorts to direct colextification.

Carrier has impiñ-dzo ‘pigeon-ear,’ Central Yup’ik (Nunivak Island dialect) tuunram ciitt ciitt contains elements meaning ‘spirit, devil’ and ‘ear,’ Fijian has daliga ni kalou ‘ear ross spirit,’ and Bislama sora blong devel ‘ear ross spirit.’ Moreover, Aguaruna, Rotuman, and Samoan colextify ‘ear’ with (types of) ‘mushroom’ inter alia, and there is a semianalyzable term in Anggor; the Rotuman term faliga also means ‘pectoral fin,’ and there is also a complex term faliga ne ‘atua, with ‘atua meaning ‘ghost.’

The Samoan evidence, where the relevant term is said to denote several species of fungus, points to a potential problem: it is not possible to be sure that terms in the consulted sources really correspond to the life-form level and do not rather denote a specific
type of mushroom on the generic level. However, it seems unlikely that the cross-linguistically robust occurrence of the associations can be due only to such ambiguities due to dictionary information. For the area of Oceania, genealogical inheritance, areal spread, or a low diversity of biological diversity on the small islands of Oceania cannot be excluded as possible factors, but even then, the association is also found in areas of the world in which such factors seem unlikely. If the association with ‘ear’ is thus indeed a genuinely recurring phenomenon, what is the cause? Tree-growing fungi are quite widespread globally, and in some areas may even be the only type of mushroom found. Often, these fungi have a decidedly ear-like shape, as opposed to the typically cap-like appearance of soil-growing mushrooms. The Jew’s ear (Auricularia auricula-judae), particularly mentioned in the dictionary gloss for Samoan, is an instance of this.

There are, alongside those occurring in association with the metaphorical transfer of ‘ear,’ also other terms making reference to spirits: Wichí has ahot-lhu ‘spirit/soul/penis’ for ‘black mushroom,’ and Fijian furthermore iviu ni tēvoro ‘fan.palm poss demon.’ There are further metaphorical patterns including associations with certain animals in languages of Africa: Hausa has nama-n kaza ‘meat-gen hen’ (kaza also denotes an ungrateful person) and Kanuri tāmbāl kōkō-be ‘drum frog-of’ (there is another term in Kanuri which appears to colexify ‘rainy season’); moreover, Wichí has mawu-tonek ‘fox-liver’ for ‘orange mushroom.’ Still other metaphor-based terms are Japanese ki-no-ko ‘tree-gen-child,’ Kolyma Yukaghir aran-paj ‘naked-woman’ for a ‘mushroom growing on earth,’ Upper Chehalis ūm-lwtxʷ ‘wrinkle/shrink=house/building/place.where.animal.lives’ and Kiliwa phitsismay with the literal meaning ‘little lost fart’ (compare also Yay rat' raap² ‘mushroom’ with taw3 rat’ ‘to break wind?). There is also an association with ‘hat’ or ‘cap’ in one language, Haida. There are several complex terms involving dajing ‘hat, cap’ one of them kagann dajing, with kagann meaning ‘mouse’ (‘[m]ice were the physical form assumed by witches’ evil spirit’).

Other associations are: Efik udìp’ ek’pe seems analyzable as ‘nmlz-hide bunch’ (with ek’pe also meaning ‘panther, leopard’ inter alia). Ngambay bbé also means ‘quiver,’ and Yoruba colexifies ‘chief among persons’ and ‘queen of ants’ with ‘mushroom.’ Kaluli kolo: is also a “word to signal or point back to something just talked about or something just mentioned,” Sahu colexifies ‘mushroom’ with ‘rust,’ Basque zīza also means ‘lisping’ as well as ‘to excise tax,’ and Lesser Antillean Creole French champignon also ‘champion’ (due to collapse of Fr. champignon and champion). Wintu ?aλ also means to ‘look on, observe, watch’ inter alia, qun in the same language also means ‘mold’ and ‘blue.’ Central Yup’ik palurutuq ~ paluqtaq (Hooper Bay and Chevak dialect) also means ‘quonset hut’ and ‘turtle.’ Cubéo chichi colexifies ‘scale,’ and Miskito yula is also used with the meanings ‘dog,’ ‘insects,’ ‘little animal,’ and ‘parasite’ inter alia, and srakpa, another term, seems to contain srak ‘algae, moss.’ Piro colexifies ‘mushroom’ with ‘lichen,’ and Malagasy hôteatra also means ‘scar.’ In addition, the Yay term rat’ raap² appears to contain raap² “to carry on the two ends of a shoulder pole.”
41. The Nest

Representation: 89%
Motivated: 40.0%
Thereof Analyzable: 21.0% Thereof Colexifying: 19.0%
Thereof by Contiguity: 5.1% Thereof by Similarity: 32.1%

Recurrent associated meanings: house/home, bird, den/lair, container/box,
beehive, bed, web, basket, raft, shelter, hole, grass, rubbish, egg

There is one metaphorical pattern that is more frequent than any other lexico-semantic associations found for it in the database. This is the likening of the bird’s nest to the house of humans. The association can be realized by both colexification and morphologically complex terms, although the latter strategy is more common. Complex items can be most often be translated literally as ‘bird house’ (such as Kaluli o:ba: a ‘bird house,’ this is also the case in Efik, Kanuri, Mbam, Ngambay, Nuni, Yoruba, Quileute, Miskito, and Malagasy), but some variation is found. For instance, Embera has ímband dhe ‘bird home,’ and Kiowa tou-sqû’n consists of tou ‘house’ and sqû’n ‘grass.’ The same structure is also found in Cayapa, compare also Toaripi ori roro ‘bird rubbish/refuse/weeds’ and Pawnee rahkisitu’t/raar-kisit-u’/’TER-flat.reed-NOM.’ In turn, for the association with rubbish, compare Pipil -tapahsul, consisting of the ‘unspecified object’ prefix ta- and -kupahsul ‘rubbish’ (there is an alternative possible source for the sequence pahsul: mu-pahsulua “for one’s hair to be messed up”). In San Mateo del Mar Huave omb-iùm is analyzable as ‘hole-house’ (this complex term can also refer to a ‘house’ itself, compare colexification of ‘nest’ and ‘hole’ in Kolyma Yukaghir). Kyaka features in addition the term anda pingi ‘house/nest root,’ Kap-ingamarangi hale ngogo ‘house egg,’ and Sora has aswûntä ‘/'SUN-tid-an/ ’POSS-hut.for.temporal.use-bird-NMLZ.’ Moreover, there is a derived term in Kiliwa, and colexification with ‘house’ and/or ‘home’ is found in Hausa, Khoekhoe (where the term is formally derived from a verb meaning ‘to build, construct), Kyaka (also colexifying “open valley area” and ‘shed’), Muna, Badaga, Wintu, Maxakalí, and Lenakel (and in Tasmanian with ‘hut, camp’ more specifically).

A further metaphorical transfer is one from the meaning ‘bed’ rather than ‘house’ to the ‘nest.’ This is found in Samoan and Bislama by morphologically complex terms (fa’amoega ‘like-bed’ and bed blong pijin ‘bed of bird’ respectively), and in Guaraní and Manange by colexification (similarly, Khoekhoe colexifies ‘nest’ with “sleeping place, resting place”). The Burarra term for ‘nest’ consists of the verb for ‘to mound up,’ gapulawa, nominalized by prefixation of the ‘general’ class marker gun- and also means ‘clump, knot.’ The same pattern is possibly also found in Wintu (however, the relevant term is only attested from one speaker). In four sampled languages, Muna, Kolyma Yukaghir, Jarawara, and Hupda, an association with ‘container’ or ‘box’ is found (in Welsh also with ‘case’), in the case of Hupda by the morphologically complex term hûtâh câ ‘bird box,’ and in Muna by a term derived from a verb meaning ‘to collect, receive’ inter alia. Similarly, Buin and Fijian colexify ‘nest’ with specific types of baskets (Fijian also with other meanings). Efik has e’fök i’muën ‘sheath bird.’
A very interesting association is found in Nunggubuyu and Middle-Eastern Tasmanian: in both languages, the relevant terms can also refer to a ‘raft’ (in Nunggubuyu, to a raft made from paperbark specifically), and this may be a case of provenience contiguity, since (at least some) birds in this area build their nests in paperbark trees.

Common is also colexification of ‘nest’ with other habitations of animals: with ‘den’ or ‘lair’ in fifteen sampled languages (Kwoma, Rotokas, Waris, Basque, Greek, Khalkha, Kolyma Yukaghir, Nez Perce, Wintu, Cashinahua, Maxakalí, Hani, Mandarin, Sedang, where the relevant term colexifies ‘garment, blanket,’ and Yay), with ‘hive’ in Nivkh, Hawaiian, Mandarin, and Lesser Antillean Creole French, and with ‘web’ in Buli, Muna, and Ineseño Chumash. Badaga and Lesser New Guinean also colexify ‘shelter’ generally.

Given that the function of a bird’s nest is to lay eggs in it, it is surprising that lexico-semantic associations with ‘egg’ are quite infrequent. Alongside Kapingamarangi hale nqo ‘house egg’ which was already mentioned, Ket has eŋgəj /eŋ-aj/ ‘eggs-sack,’ and Chukchi kətsəɣjoləŋ is related to kətsənjo- glossed as ‘sit in ambush for’ in the consulted source, which also cites an older source stating its meaning to be ‘to sit on eggs’ (compare Itzaj k’otb’aj ‘brood, nest, cluck with chicks,’ derived from k’ot ‘to brood’).

Morphologically complex terms constituting semantic relations that occur only in one of the sampled languages include Swahili kiota ~ kioto, consisting of ota ‘sprout’ and a noun class prefix and Muna kaofe ~ kaufe, apparently derived from ofe ~ ufe to “squeeze cooked rice into a round shape, compress.” Abipón features a term derived from a verb meaning ‘to assemble,’ Fijian vakavevëde may contain vaka, which alongside grammatical functions means ‘be like, resemble,’ vëve ‘crooked, bent’ and dē ‘to fix firmly.’ Derivation by suffixation of classifiers is found in two languages of the Amazon: Chayahuita pëpërin ‘carry’ by the instrumental classifier -të’, and Cubeo curibu appears to be derived from curô ‘place, site’ by the classifier -bu for cylindrical or round objects. Khoekhoe haïres contains hai ‘tree, wood, plant, stick,’ Badaga has a term for “nest among stones” containing a constituent meaning ‘stone,’ Upper Chehalis one meaning ‘moss,’ and another Upper Chehalis term contains a verb meaning ‘to settle down, reside.’ The Tuscarora term for ‘nest’ appears to contain the word for ‘mother.’ The relevant Arabela term contains a classifier for balls of fibres, the Guaraní one a constituent meaning ‘pile,’ Piro sreta is related by unknown means to sure ‘leaf, sheet of paper,’ Sáliba juwëchë appears to contain juwo ‘hairs, feathers,’ and the Great Andamanese term ãrrâm is derived from râm ‘to cover’ by prefixation of a possessive marker. Semianalyzable terms including a constituent meaning ‘bird’ are attested in Khoekhoe, Kemtuik, and Kwoma.

Unique patterns of colexification include that with ‘winnow’ as well as ‘pour into vessel’ inter alia in Efik, with ‘iris of the eye’ and other meanings, and, by a different term, with ‘support’ and ‘husband’ in Buin, with ‘bush camouflage, hide’ in Nganyayjarra, with ‘rudiment’ and other meanings in Kyaka, with “(family) goods, possessions” in Sentani, with ‘writing’ in Sko, with ‘cave’ in Abzakh Adyghe, with ‘bear’ and ‘womb’ in Bezhta, with ‘cradle’ in Kashaya, with ‘niche, nook’ in Lesser Antillean Creole French, with ‘straw’ in Wintu, with ‘base’ in Carib, with ‘diaper’ in Cavineña, with ‘hammock’ and/or ‘yawl’ in Wichí, with ‘shelter’ and ‘gathering place’ and other meanings in Hawaiian, with ‘string, rope’ and by another term with ‘blood’ in Bwe Karen, with ‘placen-
ta, afterbirth, ‘cocoon,’ and ‘handle’ in Lenakel, with “body cavity, such as armpit, hollow of the knee” as well as ‘tide, morning tide’ in Mandarin (though the latter term has a different etymon, Pulleyblank 1991: 51), and with “shelf up high” in Sedang. There are extensions to the human sphere in Khalkha (‘cell of a political party’) and Mandarin (‘“nest” of robbers’). Similarly, the Basque term habia may also be employed metaphorically with reference to the human sphere. Finally, note that Yuki noh ~ noʔ ‘nest’ and noh ~ noʔ ‘to live’ are identical segmentally.

42. The Plant

Representation: 59%
Motivated: 66.9%
Thereof Analyzable: 20.6% Thereof Colexifying: 46.8%
Thereof by Contiguity: 28.1% Thereof by Similarity: 0%
Recurrent associated meanings: tree, grass/weed, thing, grow, vegetable, flower/blossom, bush/shrub, vegetation, leaf, forest, seed, to plant, sprout/shoot, green, plantation, stalk, land/earth

It is common for terms for ‘plant’ to be associated in some way with a more specific type of plant further down the taxonomy (autohyponymy, in terms of Horn 1984). Thus, Khoekhoe, Ngambay, Rendille, Ngaanyatjarra, Yir Yoront, Sora, San Mateo del Mar Huave, Kashaya, Kiowa (where the relevant term is furthermore identical segmentally with that for ‘to be dewy’), Nuuchahnulth, Quileute, Yaqui, Ancash and Imbabura Quechua, Fijian, Hawaiian, Rotuman, Samoan, Takia, Tetun, Yay, and Bislama colexify ‘plant’ with ‘tree’ (some also with further meanings discussed in section 65), and there is an overt term exhibiting the relationship in Bora (umé-hé-wu ‘tree-c-t.tree-dm’). Muna, Abzakh Adyghe, Badaga, Bezhta, Ket, Kildin Saami, Upper Chehalis (by a semianalyzable term containing an element meaning ‘grow’), Cheyenne, Ineseño Chumash, Embera, Guaraní, Maxakalí, and Wayampi colexify ‘plant’ with ‘grass’ (similarly, Chickasaw colexifies ‘wild plant’ with ‘weed’ and Miskito ‘plant’ with ‘medicinal herb’). There is a semianalyzable term where the identifiable meaning is ‘vegetation, weeds’ in White Hmong. Meyah, Badaga, Kildin Saami, San Mateo del Mar Huave, Santiago Mexquititlan Otomí, and Central Yup’ik colexify ‘plant’ with ‘flower, blossom’ (Badaga also with ‘harvest’ and ‘offspring’). Rendille, Kyaka, Badaga, Nuuchahnulth, Embera, and Maxakalí colexify ‘plant’ with ‘bush, shrub.’ Moreover, San Lucas Quiavini Zapotec cwààa’n is ambiguous between a narrow reading ‘alfalfa’ and the broad reading ‘plant in general.’

Muna, Yaqui, Wayampi, and Hawaiian, as well as Ngambay, also colexify ‘forest’ (Abzakh Adyghe also ‘decoction, medicine’ and, probably from there on, ‘cleaning, chemical product,’ Bezhta also ‘hay,’ and Embera also ‘mountain’ and ‘thicket,’ see also Buck 1949: 521 for similar associations in Ancient Greek and Latin).

Dongolese Nubian, Abzakh Adyghe, Ket, Kildin Saami, Central Yup’ik (dialectally), Guaraní, and Hawaiian colexify ‘plant’ with ‘vegetable,’ and Dongolese Nubian, Rendille, Cheyenne, Embera, and Guaraní with ‘vegetation’ generally (similarly, Hawaiian colexifies
‘greenery’ and has the analyzable term *mea ulu* ‘thing vegetation’). Embera and Kaingang colexify ‘plant’ with ‘plantation.’

Moreover, it is common that ‘plant’ is colexified with specific parts of plants (automeronymy, if one likes). Thus, Hausa, Kyaka, Carrier, Nuuchahnulth, and Tuscara colexify ‘plant’ with ‘leaf’ (Kwoma also with ‘paper;’ in Tuscara, the ‘leaf’-reading is archaic), and there are complex terms betraying this association in Yoruba (*ewé-ko* ‘leaf-farm’), and Nivkh (*pani-tjomr-ku* ‘grow-leaf-plural.suffix’); furthermore, Carrier has the redundant complex term *yenhwəqan*, containing *yen* ‘earth’ alongside *tan* ‘leaf, plant.’ Hausa colexifies ‘plant’ with ‘root’ (alongside ‘source of river’ and ‘double sheet of paper’ inter alia), and Kyaka has *renge pəni-pi* ‘stem/basis/origin root-ASSOC.’ Baruya, Upper Chehalis, Aguuruna, and Huambisa colexify ‘plant’ with ‘seed’ (Aguuruna by a term that might be semianalyzable, containing a constituent meaning ‘field’), and Ngambay colexifies it with ‘stalk, reed,’ an association mirrored by the verbal Pawnee term *tut-kus* ‘stalk-to.be.sitting.’ Nuuchahnulth *laqapt* can also mean ‘branch.’

However, there are also complex terms for ‘plant’ not of the two major types so far discussed. Nivkh *pan-ijomr-ku* ‘grow-leaf-plural.suffix’ was already mentioned, and there is also a number of other languages where there is an association with ‘to grow.’ Sora, for one, has *a-n’eb-an ~ neb-an* (‘poss-to.grow-N.SFX,’ Hani *ja-ssaq* ‘grow.tall-class.smaller,’ Malagasy *zavamaniry*, analyzable as */zàvatra-manir)(* ‘thing-to.grow,’ and such terms are also found in Katcha and Japanese. Abzakh Adygeh have *s’x’ent’eya’c’e /s’x’ant’e-ye-č(е)/ ‘green-ABSTR-grow,’ with the item meaning ‘to grow’ also colexifying ‘seed’ and ‘egg’ inter alia (compare the Hawaiian term mentioned above). The association with ‘growing’ is also present by a derived term in Central Yup’ik and in Ineseno Chumash by an unclear morphological process. Upper Chehalis *s₃aːcàéiñis* contains *laːc* ‘grow’ and *s’teñîs* ‘land,’ and Chayahuita has *no’pa quëran paporin-so* ‘earth from grow-3SG.SUB’ (for this association, compare also the Carrier term mentioned above, as well as that there is a semianalyzable term with the Carrier term mentioned above, as well as that there is a semianalyzable term with the meaning ‘soil’ as the identifiable constituent in Guarani). Upper Chehalis has another term derived from another verb meaning ‘to plant, to grow’ colexifying ‘seed,’ while ‘plant’ and ‘it is growing’ are colexified in Acoma, and there are semianalyzable terms featuring a verb meaning ‘to grow’ in Upper Chehalis and Central Yup’ik; moreover, Kosarek Yale *bongodoba* contains *bongodob* ‘everything which grows,’ and note also the similarity between Yuki *ču* ‘plant’ and *ču-h-‘to grow’ (see Buck 1949: 521 for this association in Indo-European). As also noted for Indo-European by Buck, Badaga, Kolyma Yukaghir, and Tuscara colexify an association of ‘plant’ with ‘sprout, shoot’ by colexification (Badaga also colexifies ‘harvest’ and ‘offspring,’ and Kolyma Yukaghir also ‘beam’), and the association is realized by alternation of noun class in Swahili. Moreover, there are a number of terms in which ‘plant’ is associated lexically with ‘to plant.’ Yoruba has *d-gbin* ‘NMLZ-to.plant’ (colexifying ‘planter, farmer’), and *ohun d-gbin* ‘thing NMLZ-to.plant,’ Hupda *yûm* for ‘plant planted by humans’ is analyzable as ‘plant/SOW.NMLZ,’ and Fijian has *i kei* ‘DERIV to.plant.’ Mandarin and Vietnamese, as isolating languages, have complex terms for ‘plant’ featuring the constituents ‘to plant’ and ‘thing,’ and there is a semianalyzable term in Piro.
As noted throughout, there are some languages in which the relevant terms feature a constituent meaning ‘thing.’ Rendille, Kwoma, Ngaanyatjarra, and Yir Yoront colexify ‘plant’ and ‘thing’ directly (but ‘grass’ is excluded from the denotational range of the Rendille term; Kwoma also colexifies ‘animal’), and a semianalyzable term of this kind is also found in Efik. While Abzakh Adyghe has a complex term for ‘plant’ with a constituent meaning ‘green,’ Dongolese Nubian directly colexifies ‘green, light blue’ with ‘plant,’ and there is a semianalyzable term in Ineseño Chumash.

Other associations include: in informal usage, Khoekhoe haii also means ‘marihuana,’ and Rendille géey also means ‘dance, song.’ Kaluli é also denotes a ‘seedling’ specifically. The Basque term landare is derived from landa ‘field.’ Lesser Antillean Creole French plan also means ‘plan, scheme’ (due to collapse of Fr. plante and plan), Kiowa gouwp also ‘vine,’ and Nuuchahnulth əaqapt also ‘Kinnikinnick, Bearberry.’ Guarani ywa ra’y is analyzable as ‘fruit dim,’ and ka’avo appears to contain ka’a ‘mate,’ which according to another consulted source alongside ‘mate’ also means ‘plant’ by itself, as well as ‘vegetation.’ Bwe Karen -mu also means ‘day’ inter alia, Hawaiian mea ulu is analyzable as ‘thing vegetation,’ Rotuman ‘qi colexifies ‘stiff, rigid’ and other meanings, hū in the same language also means, inter alia, ‘lower end,’ and Takia ai also means ‘pelvis.’

43. The Puddle

<table>
<thead>
<tr>
<th>Representation: 46%</th>
<th>Motivated: 85.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thereof Analyzable: 68.1%</td>
<td>Thereof Colexifying: 19.6%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 53.7%</td>
<td>Thereof by Similarity: 26.0%</td>
</tr>
<tr>
<td>Recurrent associated meanings: pond/lake, water, swamp, stand/sit/be stagnant, mud, hole, spring/well, lagoon, rain, pit</td>
<td></td>
</tr>
</tbody>
</table>

Often, terms for ‘puddle’ (not distinguishing between ‘puddle’ and ‘pool’) are contiguity-based complex terms of the lexical type, with one of the constituents being a word for ‘water.’ There is a recurrent subtype, namely that with terms meaning ‘to stand, to sit’ or ‘stagnant’ acting as the second constituent, as in Ineseño Chumash s-qil-lik’in ‘3SG/3SG.POSS-water-stand.’ Such terms are also found in Efik, Abzakh Adyghe, Pawnee, and Tetun (where ‘to stagnate’ is inter alia, Hawaiian mea ulu is analyzable as ‘thing vegetation,’ Rotuman ‘qi colexifies ‘stiff, rigid’ and other meanings, hū in the same language also means, inter alia, ‘lower end,’ and Takia ai also means ‘pelvis.’

San Mateo del Mar Huave has ndorrop yow ‘hole water,’ and a term with this structure is also found in Lesser Antillean Creole French. Sora has rupa:’luq’dan /rupa:-’l’uq-da-n/ ‘hole-pit-water-N.SFX,’ Piro tkomha /tkome-ha/ ‘small.hole-water/eye,’ and the meanings are directly colexified in Greek; similarly, Yoruba has kòtò ketere ‘pit small.’ Aymara has uma uma (reduplicated from uma ‘water’), and precisely the same structure is found in Samoan. Dadibi has pu áí ge /pu aí ge/ ‘mud water nut/egg/small.object’ for ‘puddle of dirty water’ specifically; note also colexification of ‘puddle’ with ‘mud’ in Basque (also with ‘drop,’ ‘waterhole,’ and ‘reservoir’), Khalkha, Aguaruna, Wayampi (‘muddy ground’ more specifically), and a semianalyzable term where the identifiable constituent is ‘dirt’ in Chayahuita, and one with ‘earth’ and another one with ‘adobe’ in Bora. Pipil (Cuísnahuat dialect) has tuc-le-pani ‘ground-water-be.born,’ which colexifies ‘puddle’ with ‘swamp’ and ‘spring, well.’ The
former pattern of colexification is attested also in Muna, Basque, Khalkha, San Mateo del Mar Huave, Arabela, and Bora, and the latter in Basque, Oneida, and Hawaiian. Mbum has ßì-mbûm ‘at-rain’ and Berik aro fo ‘rain water/lake/river,’ while Nunggubuyu warqalg is glossed as “rainwater on ground (including puddles).”

Other complex terms involving a constituent meaning ‘water’ are Efik mkpö-diök’hö-möñ ‘thing-be.placed-water,’ glossed as “water surrounded by land, collected in a depression; a pool; a pond,” Kaluli hon wakan, where hon is ‘water’ and wakan the name of a “inedible wild taro-like plant that grows by water,” Ket Ḥynul, analyzable as /hynu-û/ ‘small water,’ Cheyenne tsé-a’köm-oëka, containing tsé- ‘that which is’ and oëka ‘water,’ Kashaya ūa’q’a šu-naca’l-w ‘water by-pulling-remain-ABS,’ Oneida kahnkeñoĩ, analyzable as /ka-hnek-No-ʔ/ ‘NEUT.AGENT-liquid/liqour-be.in.water/cook.in.water-STAT,’ Central Yup’ik meqarkrulk, perhaps containing meq ‘fresh water’ and -rrluk ‘thing that has departed from its natural state,’ Guarani y-no’ô ‘water-accumulation,’ Piro tkomha /tkome-ha/ ‘small.hole-water/eye,’ Hawaiian laha-laha wai ‘KED-extended water,’ Rotuman ūn kūlu ‘water encircle’ and ūn ħā ‘water contain’ (these terms also mean ‘lake,’ and the latter also ‘bay, inlet’). There are semianalyzable terms in One, Chickasaw, Piro, Toba, and Tsafiki, as well as one featuring a constituent meaning ‘liquid’ in Yanomámi.

Furthermore, Efik, Baruya, Buin, Kyota, Rotokas, Kosarek Yale, Abzakh Adyghe, Cheyenne, Haida, Lesser Antillean Creole French, Tuscarora, Copainalá Zoque, Bora, Cashinahua, Guarani, Ancash Quechua, Hawaiian, Lenakel, Rotuman, Sedang, and Yay use a single term for both ‘lake, pond’ and ‘puddle’ (Lenakel colexifies “pool on the reef at low tide” more specifically; Lesser Antillean Creole French colexifies also ‘mast, pole’). Some of them are analyzable, their internal structure being discussed in section 34; furthermore, Yoruba has ãgodo keke ‘pond small’ and there is a derived term in Hawaiian. In Copainalá Zoque and Ancash Quechua, ‘lagoon’ is colexified in addition.

Other associations include: Buin rungapau also denotes a “flooding on road, gutter, stream,” Muna tobhi can also refer to “the deepest part of a river or the sea” inter alia, and the variant šalba of Khalkha šalbaya ~ šalbayay ~ šalba ‘pool, puddle, mud’ also means ‘quick, quickly.’ Bora has adô-wa ‘drink.NMLZ-CL.pond’ for a “well or pond in the bush where animals drink (slightly salty) water.” Embera nambùa means ‘puddle, pool’ with masculine gender and ‘profundity, depth’ with feminine gender. Yanomámi colexifies ‘puddle’ with ‘ditch,’ Great Andamanese elãkãkõo might contain kõo, ‘coil of rope’ along-side the possessive prefix äkã-. Hawaiian colexifies ‘puddle’ with “small pool for stocking fish spawn,” ‘cistern,’ ‘mollusc,’ and other meanings. Another term, hâpuna, is figuratively used with the meaning ‘child,’ and, due to English influence, ‘harpoon.’ Finally, Sedang töng also is the name of a kind of grass.

44. The Rain
Representation: 99%
Motivated: 28.9%
Thereof Analyzable: 8.8% Thereof Colexifying: 21.4%
Thereof by Contiguity: 21.5% Thereof by Similarity: 2.7%
Recurrent associated meanings: water/liquid, cloud, rainy season, storm/rainstorm, sky, rain shower, neck, day, calabash for carrying water, descend, lake/pond, weather, fall, stone

‘Rain,’ as one might intuitively have expected, is a meaning that is not very frequently expressed by motivated terms cross-linguistically. The most common association, by configurational contiguity, is that with ‘water’ (further associations due to this pattern of colexification, for instance that with ‘river,’ are not discussed here, though see sections 34 and 47 as well as § 6.2.2.5.). This pattern is also suggested for Indo-European in diachrony (Buck 1949: 68). Sixteen of the sampled languages, namely Hausa (which also has the optional complex term ruwan sama ‘water/rain sky;’ ruwa also has many other meanings, among them ‘juice’), Anggor, Gurindji, Ngaanyatjarra (here also ‘waterhole’ is colexified), Waris, Kosarek Yale (where the relevant term also means ‘life-sap, vitality’ as well as ‘talk, criticism’), Cheyenne, Itzaj, Pipil (colexifying also ‘well’ and ‘pool’), Lesser Antillean Creole French (colexifying also ‘sweat’), Xicotepécu de Juárez Totonac, Aguaruna, Huambisa, Hupda, Jarawara, and Miskito directly colexify ‘rain’ with ‘water.’ Alternatively, a few sampled languages also feature analyzable terms that may be either characterized by contiguity or by similarity, in both cases with ‘water’ acting as contiguity anchor. Examples of the former are Koyraboro Senni (Labbezanga dialect) beene-hari ‘sky-water,’ Ket icles /ül-es/ ‘water-sky,’ Bororo bu-butu ‘water-fall/descent/birth’ (compare Dadibi tulubuge, presumably analyzable as /tulubo-ge/ ‘fall.down-nut/egg/small.object,’ as well as colexification of ‘rain’ and ‘to descend’ in Kiowa), and examples of the latter are San Lucas Quiavini Zapotec nnyi’sgyihah, analyzable as /nnyil’hs-gyihah/ ‘water-stone’ (compare also Tsafiki suhuá, analyzable as /su-hua/ ‘stone-big’) and Rama yat si ‘abscess water.’ Further semianalyzable terms with ‘water’ are found in Bororo and Rama, and similarly, Miskito has pura laya ‘above liquid’ for ‘rainwater’ and another semianalyzable term featuring laya, while Lenakel nihi-n may possibly, according to the source, be analyzable as ‘liquid-3SG.POSS.’ Four languages in the sample, Mbum, Nunggubuyu, Yir Yoront, and Cahuilla, colexify ‘rain’ and ‘cloud(s)’ or more specifically ‘raincloud’ by provenience contiguity (Yir Yoront also uses this term for the ‘rainbow serpent,’ compare section 44), while in Kiliwa, ‘rain’ is kwiy h-uhaa-k ‘cloud 3+arrive-HR,’ and in Khoekhoe, the same root yields terms for ‘rain, thunderstorm’ and ‘cloud, raincloud,’ with nominal designants distinguishing the readings. In three sampled languages, Badaga, Pawnee, and Abipón, ‘rain’ is colexified with ‘storm’ or ‘rainstorm’ (similarly, Southeastern Tasmanian colexifies ‘rain’ and ‘thunderstorm’), and in another three, Badaga, Arabela, and Yanomámi, relevant terms may also refer to a ‘rain shower’ (as is the case in Irish, Buck 1949: 68). Nivkh colexifies ‘rain’ with ‘weather,’ for which compare dialectal Central Yup’ik cella-llok ‘world/outdoors/weather-bad.’

In four other languages, Gurindji, Muna, Wayampi, and Hani ‘rain’ and ‘rainy season’ are colexified (in Hani also ‘summer’). Bezhta and Sentani colexify ‘rain’ with ‘day’ (according to Nikolayev and Starostin 1994, this pattern is due to accidental phonological changes in Bezhta). Furthermore, two languages of South America colexifying ‘rain’ and ‘water,’ Aguaruna and Huambisa, also colexify ‘calabash used to carry water’ in the same
term (Aguaruna in addition, ‘juice’ and ‘mucous membrane’). Katcha thimbido ~ thombodo also means ‘sky, heaven,’ and Manange also colexifies ‘rain’ with ‘sky’ (note that according to Dixon 1982: 69, in dialects of Dyirbal a cognate means ‘sky’ in northern dialects and ‘rain’ in related languages, so this pattern may be more frequent cross-linguistically). Itzaj and Jarawara colexify ‘rain’ with ‘lake.’ Kapingamarangi and Samoan, presumably by homonymy, colexify ‘rain’ with ‘neck.’

Other associations include: the Buli term ngmoruk also rarely refers to ‘thunder, lightning,’ while wen-zuk, perhaps analyzable as ‘sky-head’ means ‘up, upwards, above’ normally, but is used for ‘rain’ by the section of the clan that is responsible for rain and which hence must not utter the ordinary term. For Koyraboro Senni baana compare baan-a, meaning ‘to be soft’? Rendille colexifies ‘rain’ with ‘God,’ while Burarra yorr is also the name of a type of shellfish and Meyah mós also means ‘fish’ generally. Kosarek Yale mok, dialectally meaning ‘rain,’ also without dialect restrictions means ‘place, area’ and ‘side sprout, offshoot.” Abzakh Adyghe šχ(e) can also mean ‘to plaster, to fuse,’ Chukchi il(o)il is connected (reduplication?) to ilb ‘damp,’ Greek vróchí is connected to vréchó ‘to dampen,’ Japanese ame with different prosodic properties also denotes ‘candy, sweets,’ and Nivkh lyx also means ‘rainy’ and ‘wet.’ Nuuchahnulth k̓iik ‘light rain’ also denotes “raining mist, spray,” while Yana barĩku ~ bareekũ contains ba- ‘to spill, to flow’ and -ri(̓)ku “down, downhill, on the ground.” Bororo butaadoge is also the name for spirits causing rain. Embera kío means ‘rain’ with feminine gender and ‘heavy downpour’ with neuter gender. The denotational range of the Jarawara term isi/iso includes ‘leg, lower leg,’ ‘handle,’ ‘stalk,’ ‘rain,’ ‘hasta,’ and ‘seedless fruit,” while Macaguán em also means ‘winter.’ As a verb, Piro hina also means ‘to come,’ Sáliba o xo also means ‘leaves,’ and Wichí iwumcho’ inter alia contains wu ‘make’ and the locative suffix -cho’ ‘under.’ Bwe Karen colexifies ‘bug’ and other things, while Lesser Antillean Creole French lapli is also used figuratively with the meaning ‘shower.’ Malagasy ˈdrana also denotes the ‘crayfish,’ and Mandarin yu3 also means ‘and.’

45. The Rainbow

Representation: 90%
Motivated: 33.7%
Thereof Analyzable: 28.8% Thereof Colexifying: 6.3%
Thereof by Contiguity: 3.4% Thereof by Similarity: 30.8%
Recurrent associated meanings: snake, bow/arc/bend, sky, god, rain, snare, color, thunder, rope, cloud
Lexico-Semantic Associations

(ćir’mes’ju̯kker ‘thunder-bow’), Welsh (bwa’r Driddod, as well as bwa’r arch, both containing bwa ‘bow’ and the latter term arch ‘ark’), Kiliwa (s?-nwaaw=x-u?=siw=h-qhaa-tay ‘INST.LONG-DN+bend=CAUS-ABL+??=3+shoot-FREQ), Yuki (sik was ‘blue/green bent,’ the analysis is considered questionable by lexicographers, there also is the alternative term sikwástlik /si:k-wástlik/ ‘blue/green-stand’), Kaingang (ta vyj ‘rain bow,’ alongside ta no ‘rain arrow’), and Tetun (arku iha lalehan ‘arc have sky’ and arku-iris ‘arc-sky,’ both apparently calqued from Portuguese). Moreover, Rendille colexifies ‘rainbow’ with “arc(s) of stones” for rituals and “barrier of stones,” Swahili upinde consists of pinda ‘bend’ and a noun class prefix, and there are semianalyzable terms in Badaga and Quileute (where the relevant term probably contains an element meaning ‘bent’). Interesting to note is also that Buli nagortom, a loan-word from Twi nyankopon-ton, is folk-etymologized to Naawen gori tom “god has made a bow.” In fact, associations between ‘rainbow’ and ‘thunder,’ as betrayed in Kildin Saami, are an identifiable areal pattern of Eurasia themselves, also occurring in the sample in Ket aqqot /ekŋ-qo’t/ ‘thunder-path’ (compare also Cashinahua nava bai tapia, containing nava ‘dance, singing,’ bai ‘path/river,’ and tapi ‘firefly’) and Nivkh lyj petr ‘thunder ornament’ (petr, more specifically, is the name for a multicoloured ornament worn on shoes); the term also means ‘ulcer,’ ‘sore,’ or ‘wound’ (by virtue of them changing colors when healing?). The phenomenon is discussed in Räsänen (1947), see also § 6.4.3.5.

The other major association is that with ‘snake’ (or a specific snake species), occurring by colexification in Burarra (Gun-nartpa dialect), Nunggubuyu, Toaripi (where lavai is at the same time the name of a particular snake species as well as ‘tortoise’ and ‘dolphin’ inter alia), Yaqui, Bororo, Jarawara (also colexifying ‘jungle monster’), and by analyzable terms in One (suwol ilwola ‘snake shadow’), Kosarek Yale (mano yame ‘snake soul/image,’ this term is said to also denote the ‘spirit of the snake’), Kashaya (mu:šalqol, analyzable as /muša:laʔahqol/ ‘snake-tall’), Aguaruna (páŋki wajáu ‘boa resting’), and Rama (shirkin minguŋk ‘boa throat’); semianalyzable terms exist in Kaluli, Kyaka (where ‘snake’ is colexified with ‘grub’ and other like creatures), and Chayahuita. For Kwoma, the source notes that “[t]he rainbow is often identified as saliva spat out by a snake …” There is a well-known mythological complex in cultures of Australia revolving around the Rainbow Serpent (see contributions in Buchler and Maddocks 1978), and this is evidenced by colexification of ‘rainbow’ with ‘snake’ in Nunggubuyu and with specific snake species in Burarra (and note colexification of ‘rain,’ ‘raincloud,’ and the ‘rainbow snake’ in Yir Yoront; there are semianalyzable terms where the identifiable constituent is ‘rain’ in Khoekhoe and Bislama). Mead (1933) shows that beliefs of the Rainbow Serpent also occur in New Guinea, and points to several similarities between the myths of the Arapesh and those typical of Australia, and Brumbaugh (1987) reports on the Rainbow Serpent as represented in the mythology of the Feranmin and other Mountain Ok groups, also noting that it “in behavior and attributes … corresponds closely” (Brumbaugh 1987: 32) to the ethnographic evidence from Australia. Neither of these authors makes a very strong case for continuity between the beliefs in New Guinea and Australia, although this position appears to be implicit at least in the title and discussion of Mead (1933). A remarkable parallel is Toba, where quemoxonalo ~ qamoxonalo ‘rainbow’ (containing nquemoxon ‘grasps violently’) also denotes a mythological great viper which punishes by causing an earth-
quake if a menstruating woman looks for water (the Marsalai, the Rainbow Snake in Arapesh mythology, pursues a menstruating woman in a story reported by Mead 1933: 41, and there are taboos forbidding menstruating women to frequent places associated with Marsalai according to Mead 1933: 43, and in Feranmin mythology the movements of the Magalim in the earth causes earthquakes, according to Brumbaugh 1987: 27).

A pattern that is more clearly due to areal spread is the association between ‘rainbow’ and ‘snare’ in North America. In the sample, this is found by colexification in Cheyenne (here, the relevant term also conveys the meanings ‘fishhook,’ ‘fishing line,’ and ‘fishing pole’) and Lakhota, and by the complex term *hóqwez-pil* ‘cold-snare’ in Carrier. For Lakhota, the consulted source remarks: “The Indians believed that the rainbow caused the end of a rainstorm by trapping it, so that no more rain could get through” and Hall (1997: 56) states that “‘snare’ or ‘trap’ was a common Plains name for the rainbow because rain disappeared when the rainbow appeared.” Note also that in Tuscarora, the same root *-wen*- yields terms for both ‘rainbow’ and ‘iron.’

There are, of course, also lexico-semantic associations which do not betray any clear areality in their distribution. These include the association with ‘color’ in Kiowa (*tsoue-kuat* ‘water-painted,’ literal translation by lexicographer: “many-colored”) and Yanomámí (*ámayari no mayá* ‘evil spirit color footprint’). The association is formally realized by colexification in Wintu, where *saq* means ‘colored,’ ‘colors,’ and ‘rainbow’ and is in turn probably related to *saq* ‘to bleed’ (Wintu in addition features complex term on the basis of *saq*, and note also the redundant Mandarin term *cai3-hong2* ‘color-rainbow’), that with ‘rope’ in Baruya (*byaangwila*, literally ‘light rope’) and Blackfoot (*náápiwa otó-piim ~ náápiwa otokáa*tsis* ‘Naapi’s rope,’ Naapi being the name of the trickster and creator god), that with ‘cloud’ in Chukchi (*celgia-jaik* ‘red-cloud’) and Hawaiian (*ao akua* ‘cloud god,’ compare also the Rendille children’s term *trityó=hit Waahk* ‘beads=poss god,’ Chickasaw *Chiuwu na jalphpisa* which contains *chihuwu* ‘god’ and *nnalhpisa* ‘promise,’ and Malagasy *antsiben’andriamánitra* /antsbi-bé-n-andriamánitra/ ‘knife-big-gen-god’), with ‘moon’ also in Chickasaw (*ninak ontoomi* ‘moon shine’), and at least by a semianalyzable term in Yoruba (Chickasaw, in addition, also has other semianalyzable terms presumably containing *hashi* ‘sun, moon; one of them colexifies ‘rings around the moon’). In addition, conceptualizations in which ‘rain’ and ‘sky’ act as contiguity anchors are frequent. For ‘rain,’ these include Khoekhoe *tü-hhama-b* ‘rain-garden-3SG.MASC’ (which is restricted to Bible translations) and *lwu-lhama-b* ‘stop-raining-garden-3SG.MASC,’ Mbump *mbam-pelé* ‘rain-tomorrow,’ Abipón *oah-etu* ‘rain-agt,’ and the Kaingang terms already mentioned above (furthermore, semianalyzable terms in Anggor and Kwoma contain an identifiable constituent meaning ‘rain’). For ‘sky,’ they include Basque *ortzadar ~ ostadar /ortzi-adar* / ‘sky-horn,’ Laz *m3a-ort’apu* ‘sky-belt’ (maybe the association with ‘belt’ is an areal pattern of the Caucasus, given that Bezhta *mašola* is perhaps borrowed from Georgian *ašuni* ‘belt’), Koyama Yukaghir *kužun-söril’* and *kužud-onora* ‘sky-tongue’ (as well as *jukud-onora* ‘small tongue’), the Haida “story word” *qwii sdal* ‘sky slope,’ Tuscarora *yurehyudhuk*, containing the roots *-rheld*- ‘sky’ and *-huk*- ‘to light up’ and colexifying ‘Aurora Borealis’ and ‘Milky Way,’ Wayampi *iwa-lwwa* ‘sky-on,’ Yanomámí *hetu këk shë*, consisting of *hetu* ‘sky,’ *shë* ‘light’ and the collective quantal classifier *këk* (see § 4.4.1.1.), Fijian *dró-dró-lagi* ‘run.away-
red-sky,' as well as the associations with 'bow' in Greek, where 'sky' acts as a contiguity anchor. Moreover, there is a semianalyzable term where the identifiable constituent is 'sky' in Lesser Antillean Creole French.

As becomes clear from the above list, the conceptualization in each language is widely different, in spite of the common semantic element acting as the contiguity anchor. Unsurprisingly, there are even more unique and culture-specific metaphorical conceptualizations for this concept. These include: Hausa banan gizo, which also denotes a "single arch in a roof," contains baka ‘mouth, bow’ and gizo ‘mythical spider,’ while Dongolese Nubian kağiibbi is literally ‘killer of horses.’ Buin iroro(na) is also an "epithet for males in songs." The Kwoma term wariipoy ‘green of rainbow, ‘liver’ of rainbow” is also used for a ‘type of small tree that grows near trees in forests.’ The Rotokas term govugovuto seems to contain govugovu ‘clean out, purge.’ Khalkha solungya also denotes the ‘weasel’ or the ‘Siberian marten.’ Sora iliy boýan - 'ilim boýan is built around the noun root 'boy- 'class of deities,' but the additional material remains obscure. Cahuilla píyaxat also denotes a ‘worm with two horns.’ Comanche is unique in having a term for the ‘rainbow,’ pisi ma?rokóó?, that is literally ‘infected thumb.’ The Itzaj term, colexifying “fog rising from earth” is kis witz ‘fart hill.’ For Lake Miwok káccakaca ‘rainbow,’ compare perhaps kácáakaka ‘bluebird, Sialia mexicana,’ a multicolored bird with blue, gray, and orange plumage. Pawnee huraahkipic is semianalyzable: it contains huraar ‘be land.’ Yana laki-yaa is analyzable as ‘navel person;’ the term means ‘newborn baby’ in Central Yana and ‘rainbow’ in Northern Yana. The Central Yup’ik term aglaryak is derived from agluq 'ridgepole, center beam of a structure' by means of addition of the postbase (cf. § 4.4.2.) -yak ‘thing similar to,’ and San Lucas Quiaivín Zapotec garre'ed bihih is literally ‘cart air/wind;’ a variant of the term is garre'ed gyeh, probably analyzable as ‘cart squash/pumpkin.’ Bora tuhi might contain the classifier for small rivers -hi, Bororo jure colexifies ‘rainbow’ with ‘dance’ as well as ‘queue,’ the Cubeo term náme is also used to refer to a ‘string of liana,’ while Ancash Quechua turmanyay also denotes ‘gas that emanates from the earth.’ Fijian mudu or valemu is a half rainbow (mudu means ‘cut off, ceased, ended,’ vale is ‘house’), Hawaiian ànuenue is also used to refer to “the scallop-like design on tapa and tapa-beater,” and haka ‘ula a káne, a poetic term for the ‘rainbow,’ is analyzable as ‘perch red ross Káne,’ White Hmong zaj-sawv is literally ‘dragon-rise,’ and Tetun baur colexifies ‘rainbow’ with ‘to cheat, swindle, and namerak with “to grow murky.” Sedang kia potea apparently contains kia ‘ghost,’ Vietnamese cầu vồng is analyzable as ‘bridge curved,’ while Yay roj’ ?wa’ contains roj’ ‘bright.’ The San Mateo del Mar Huave term ndequiamb poj seems to contain poj ‘terrestrial turtle.’ Finally, Piro colexifies ‘rainbow’ with ‘pus’ and the meaning to be treated in the following section: the ‘resin.’

46. The Resin

Representation: 66%
Motivated: 49.5%
Thereof Analyzable: 27.0% Thereof Colexifying: 24.6%
Thereof by Contiguity: 5.0% Thereof by Similarity: 34.2%
Recurrent associated meanings: water/liquid/juice, tree, blood, tar, stick/sticky, glue, milk, honey, wax, syrup, rust, molass, semen, cud, phlegm, birdlime, pus

Most frequent for this meaning (for which 'sap' and 'gum' were accepted as proxies if it was clear that indeed sap of plants and trees is meant) are lexical associations with 'water' and/or more generally 'liquid' or, less generally, 'juice.' One or more of these meanings are colexified in Lavukaleve, Bezhta, Ket, Sora, Maxakali, and Hawaiian (Bezhta also colexifies 'drink' and Ket also 'alcoholic beverage'). More common, however, are terms in which one of these meanings merely is one of the constituents in analyzable terms, as in Nivkh týr-čox 'tree-juice.' Alongside Nivkh, such terms with 'tree' as the other constituent are also found in Kanuri, Japanese, Cheyenne, Chickasaw, Lesser Antillean Creole French, Yaqui, Carib (colexifying 'torch'), Imbabura Quechua, Mandarin, White Hmong, and the alternative where 'bark' rather than 'tree' is used as the contiguity anchor is attested in Piro (mta-ha 'bark water'). A semianalyzable term in which one constituent can be identified to mean 'water' is found in Kyaka, and further variations of this pattern are Bororo bato kuru 'mangaveira liquid' and Ancash Quechua hacha-pa wiqi-n 'plant-GEN juice/tear-3SG.' In Santiago Mexquititlan Otomí, the relevant term is dehe 'yo-mu(n)hño ngi-zá/dehe 'yo-mu(n)hño ngi-zaa/'water walk-good sap-tree.' The language also has another term for 'resin,' namely 'ba zaa 'milk tree.' Associations with 'milk' are also found by colexification in Kwoma, Sora, and Ineseno Chumash.

An association by colexification between 'resin' and 'blood' is attested in Kwoma, Cubeo, Maxakali, Fijian, and Hawaiian. Also note Sko hi 'sap' and hi 'blood' as well as that Jarawara colexifies 'blood' with 'red sap of certain trees' specifically and, by another term, also colexifies "puss," which is probably an error in the source for 'pus.' At any rate, 'pus' and 'sap, resin' are colexified in Sora and Piro (alongside 'rainbow' in the latter language). Bislama has blad blong tri 'blood of tree.' Colexification with 'honey' is found in Nez Perce, Oneida, and Bwe Karen (which also colexifies 'to be pure, clean' inter alia). Three sampled languages, Tuscarora, Hawaiian, and Tetun, colexify 'resin' with 'wax' (similarly, Rotuman colexifies 'sealing wax' specifically), Nez Perce, Oneida and Tuscarora colexify 'syrup,' Nez Perce and Tuscarora also 'molasses,' and Nez Perce also 'sorghum.' Two of these languages, Tuscarora and Hawaiian, also use the relevant term for 'tar,' an association also occurring in Efik, Aguaruna, and Bora; the Tuscarora term uθręweh also colexifies 'cement' as well as 'jam' and 'jelly,' and the Hawaiian one also 'printers' type' and 'sinker on a fishing line' inter alia. Nez Perce furthermore colexifies 'cud chewing' (by another term than that participating in the above patterns), and 'resin' and 'cud' are also colexified in Chukchi. Four other languages, Buli, Waris (where the relevant term nēnalē appears to contain nē 'forest, forest product'), Fijian, and Tetun colexify 'resin' with 'glue,' either by provenience contiguity if resin is actually used as glue, or by perceptual similarity based on their common stickiness. In fact, there are languages in which the words for 'resin' explicitly make reference to this. For instance, Hawaiian pilali denotes the "[h]ardened sap ... of the kukui tree, gum; resin, birdlime; wax" but also means "gummy, sticky" inter alia, and the association with 'sticky' is also found in Berik and Wayampi by colexification. Welsh has deñyal gludlog o coed 'matter sticky of tree,' Lenakel nouanehapiwit, containing noua 'fruit' and
apwiit ‘stick, cleave to,’ and a semianalyzable term in which the meaning ‘sticky’ or ‘stick’ figures occurs in Kapingamarangi. Furthermore, there are a number of mostly metaphor-driven complex terms for ‘resin’ in which ‘tree’ acts as contiguity anchor. These include Ngambay non-kake ‘tear-tree,’ San Mateo del Mar Huave aonts xiül ‘excrete tree,’ Guaraní yyvra ry’dìi ‘tree sweat,’ Piro (gagmuna-)kshi ‘(tree-)rainbow,’ Hawaiian hū là’au ‘swell tree,’ Malagasy tsironkàzo, analyzable as /tśiro-hâzo/ ‘taste-tree/wood,’ Sedang chhà lôang ‘split tree/twig,’ as well as Takia ai pat-an ‘tree kidney-3sg.’ There are semianalyzable terms with the identifiable constituent meaning ‘tree’ in Kosarek Yale, Cavineña, and Saliba. Sahu and Hawaiian colexify ‘resin’ with ‘birdlime.’ Two languages of Mesoamerica, Itzaj and San Lucas Quiaviní Zapotec, colexify ‘resin’ with ‘rust’ (San Lucas Quiaviní Zapotec also with ‘nectar’ and ‘lymph’). Toba and Hawaiian colexify ‘resin’ with ‘phlegm,’ and Miskito and Hawaiian with ‘semen.’

Other associations include: Gurindji tinung also denotes the “bloodwood sap” specifically, Kosarek Yale keles ‘resin used for glueing and tightening a drumskin,’ according to the consulted source, might be related to kel ‘female’ and es ‘flower,’ and widi, also a name for resin used for tightening a drumskin, also denotes a variety of sugar cane. Abipón licira is derived from –ici ~ -icir- ‘assemble, connect,’ while Arabela riya-ca appears to be analyzable as ‘star: PL-CLASS.FRUIT.’ Bororo colexifies ‘resin’ with ‘rubber,’ and Cayapa also means ‘crescent in a river.’ Chayahuita yaqui’ is derived from the verb yaquirín ‘to cut well or completely’ by means of suffixation of the classifier for liquids, -i’. Huambisa colexifies ‘resin’ with ‘tattoo,’ and Kaingang jê-no might contain jên ‘to eat.’ Guaraní aussy also means ‘gluten.’ Rama shubli ~ ubli ~ yubli can also refer to a ‘stain’ or a ‘secret.’ Hani ziq also means ‘hemp,’ a relevant Hawaiian term colexifies ‘to roll, turn’ inter alia, and Rotuman puli, which can refer to “any adhesive substance” in general, can also be used with the meaning ‘seal.’ Hawaiian pilâli may contain lâli, meaning ‘greasy’ inter alia. Finally, probably accidentally, Tetun colexifies ‘resin’ with ‘candlenut’ and ‘to prune, clip,’ and Yay ðá also denotes ‘any of various devices having a wheel.’

47. The River

The most frequent association in this case, clearly, is with ‘water.’ Many languages in the sample colexify ‘river’ (or ‘stream,’ ‘creek,’ etc., which were accepted as proxies) with ‘water,’ and many of them also use the general term for ‘water’ also for other bodies of water, such as a ‘lake’ or a ‘spring.’ These will not be discussed here, see sections 34, 44, and 56, and especially § 6.2.2.5. for discussion. Terms which colexify ‘water’ (or ‘fresh water’ specifically) and ‘river’ are found in Efik (also colexifying ‘tide’), Mbun, Ngambay,
Anggor, Baruya, Berik, Buin (where the relevant term is also a “general name for all ruta designs” as well as an epithet for a “plumb child”), Kyaka, Mali, Muna, Meyah, One, Sko (where also other meanings are colexified), Waris, Kosarek Yale (where the relevant term also means ‘life-sap, vitality’ and ‘talk, criticism’), Abzakh Adyghe, Badaga (also colexifying ‘floodwater,’ as is the case in Ngaanyatjarra and Abzakh Adyghe), Cahuilla, Upper Chehalis, Haida, Kashaya, Pipil, Quileute, Wintu, Copainalá Zoque, Bororo, Cayapa, Chayahuita, Guaraní, Huambisa, Jarawara, Kaingang, Macaguán, Tsafiki, Wayampi, Yanomámi, Bislama, White Hmong, Sedang (where further apparently unrelated meanings are colexified), and Takia (40 languages all in all and thus a little more than twenty-five per cent of the sampled languages). Kosarek Yale, Abzakh Adyghe, Kashaya, Copainalá Zoque, Tsafiki, and Bislama colexify also ‘juice,’ and sometimes still further meanings.

Some of the languages just mentioned also have special dedicated terms for ‘river’ alongside the colexifying term, such as Efik, which has akpa ‘river’ alongside the general term möñ. Also, some languages have optional analyzable terms, such as Abzakh Adyghe, where psə colexifies ‘water,’ ‘juice,’ and ‘river,’ for which latter psə-x'ə may also be used (x'ə is glossed as “être, devenir, advenir, augmenter, mûrir” in the source), or Wintu, where mem means both ‘river’ and ‘water’ and bohem mem c'uhə is used for river, bohe meaning ‘to be big’ and c'uhə ‘to flow.’

Alternatively, there are also complex terms for ‘river’ where one of the constituents is ‘water,’ and also here there are cross-linguistically recurrent patterns, and in fact, the optional Wintu complex term already points to two of them: complex terms where the second constituent is ‘big’ are found in Noni, Santiago Mexquititlan Otomí, Yana (this term also refers to the Sacramento River in particular), and Yaqui, where batwe is perhaps analyzable as /ba'a-bwe'u/ ‘water-big.’ Malagasy reniráno, analyzable as /rěny-ránro/ ‘mother-water’ is very likely an instance of the pattern as well, given the augmentative function of terms for ‘mother’ in many languages (Matisoff 1992) and the corresponding grammaticalization path; compare also Wappo ?éču tūča/ ?éču tūča/ ‘creek big.’ In some Indo-European languages, terms for river go back to a term for ‘water’ or more specifically, ‘flowing water’ (Buck 1949: 41). Central Yup'ik kuik is said to contain the “deep root” ku- ‘flowing liquid,’ and terms for ‘river’ in which the notions of ‘flowing’ or ‘running’ figure in addition to ‘water’ are found in Fijian, Samoan, and Tetun (where ‘stream’ and ‘torrent’ are colexified; note also the redundant term y-syry ‘river/water-flow’ in Guaraní). In one sampled language, the word for ‘river’ and ‘flowing water’ is of the derived type, namely Cahuilla wáni-ś, derived from -wáne- ‘to flow.’

‘Way,’ ‘trail,’ or ‘track’ as the second element in complex terms is found in Laz, Carrier (where ‘track’ is colexified with ‘trace, vestige’ and ‘site’), and Piro (note also Wayampi ia-la-pe ‘canoe-of-way,’ and that Lengua thlinga wathuk ‘stream’ contains thlinga ‘movement,’ as well as that Kashaya biʔda contains the root ʔida meaning ‘extend, stretch’ which is also found in the term for ‘road,’ hiʔda). This association is realized formally by colexification in Toaripi (“because the rivers and creeks are the highways through much of the low lying Elema countryside;” the language also colexifies ‘manner’ and ‘method,’ compare section 92, and, uniquely, ‘hand’ and ‘arm’), and Cashinahua. Moreover, Lesser Antillean Creole French lawivie could be analyzed as containing lawi ‘street,’ but it is more
likely to go back to French la rivière. Itzaj has ok ja’ ‘leg/foot water/lake/rain’ (compare the Yay term ka’ ta’ ‘leg river,’ denoting a “very large river” specifically), Pawnee kic-ka ‘be.liquid-on.horizontal.surface’ (this term also denotes the Arkansas river specifically; alongside Pawnee, there are also other languages in which the term for ‘river’ is ambiguous between ‘river’ in general and a particular river: Dongolese Nubian úru also refers to the Nile specifically and assumes the meaning ‘to wash out, rinse’ as a verb, Badaga ganji -gange also to the ‘Ganges’ and the goddess Parvati, Bororo oroaribo also to the Rio Paraguay and the Rio São Lourenço in Mato Grosso alongside its capability to refer to a certain spirit, and Mandarin he2 also to the Huanghe), Maxakalí kôndagxox, analyzable as /kônd’â-g-xox/ ‘water-hole,’ Hawaiian kaha-wai ‘water-place’ and muli-wai ‘after/last-water’ (which also means ‘estuary’), and Manange mafanj 2kju ‘low.river.valley water’ (the association with ‘valley’ is also found in Khalkha, Nez Perce, Bora, Huambisa, and Hawaiian by colexification. Note further the possible etymological connection between Basque ibai, from earlier *hibaie, with ibar ‘valley’). Similarly, Kwoma, Badaga, Itzaj, and Rotuman colexify ‘river’ with either ‘channel,’ ‘drain,’ ‘ditch,’ or ‘gully.’ Badaga also colexifies ‘bottomland, lowest spot, depression,’ and Mandarin also ‘plain.’

Also note the similarity between Tasmanian liapota ‘river’ and liena ‘water,’ leading Plomley (1976: 372) to connect the two. Furthermore, Bwe Karen has chi-bu ‘water-in,’ and semianalyzable terms in which one constituent is ‘water’ exist in Piro, Rama, and Kapingamarangi.

There are also associations exclusively realized by colexification in the languages of the sample: Buli, Hausa (alongside some highly specialized culture-related meanings), Khalkha, San Lucas Quiaviní Zapotec, and Hawaiian (by the analyzable term kahena wai ‘flowing water’) use the same term for ‘river’ and ‘river bed,’ and in five languages, Efik, Ngambay, Kashaya, Arabela, and Bora, ‘river’ or ‘big river’ and ‘ocean’ (but with the exception of Efik and Kashaya not ‘water’) are colexified. Waris, Kosarek Yale, Pipil, and Jarawara colexify ‘water’ and ‘river’ with ‘rain,’ while Yir Yoront and Ancash Quechua colexify ‘river’ with ‘Milky Way’ (for complex terms for the Milky Way involving a constituent meaning ‘river’ compare section 37). In Ket, ‘water,’ ‘liquid,’ as well as ‘alcoholic beverage’ are colexified, and in White Hmong, ‘water,’ ‘river,’ and ‘wine’ are.

Other associations include: Efik uquä can also refer to a ‘flood,’ and okpa’ in the same language also means ‘first.’ Hausa kogi is also used as an epithet as well as the name of a children’s game, and Khoekhoe (Haillom dialect) dommi also means ‘throat, voice,’ Ngambay colexifies ‘waves.’ The Burarra term angartcha is derived from the verb gartcha ‘be stuck’ by prefixing of the noun class marker ara-. Muna laa also means ‘stem, stalk’ and ‘straight’ inter alia, and another Muna term, oe, also is used metaphorically for “interest (in money).” Meyah mei also means ‘sperm’ (alongside ‘water’). Rotokas gae ‘waterway, river’ has a verbal reading “follow a course, heed talk, drift, wander.” Badaga de ~ hole can also mean ‘reservoir’ and ‘swamp,’ while Basque ibai can also refer metaphorically to an ‘enormous lot.’ The Khalkha term yulduril is derived from the verb yulduri- meaning ‘to spill, to be poured out, to pass through’ (alongside other meanings colexified) by means of the abstract nominalizer –il. Chickasaw abookoshi contains oshi ‘son,’ a morpheme widely used in this language to form metaphorical expression usually conveying a meaning of
smallness. Kiowa colexifies ‘river’ with ‘moon’ (the relevant term is also a name for a game). The term for ‘river’ in Santiago Mexquititlan Otomí, hńe, is also the word for ‘mirror’ (as well as for ‘to put on’). Wintu mem, colexifying ‘river’ with ‘water,’ also means ‘wet,’ ‘thirst,’ and ‘to baptize.’ Aguaruna namðk(a) also means ‘fish.’ The Macaguán term pemndt also means ‘tube,’ and Rama ri is also used adjectivally with the meaning ‘wet.’ Hani lþbaq contains lþ, a classifier for rivers, and baq means ‘direction’ or ‘thin’ and acts itself as a classifier for the side of a mountain and pages of books. Mandarin he2 also means ‘peace, harmony’ (with different etyma, Pulleyblank 1991: 122) inter alia, xi1 ‘small river in mountains’ also ‘to suck in,’ ‘knee’ and ‘tin’ (all reflecting different etyma, Pulleyblank 1991: 328-330), and chuani also “to bore through, pierce” (both indentical segmentally already in Early Middle Chinese, Pulleyblank 1991: 60). Sedang colexifies ‘large river’ with ‘to imprison,’ and Yay with “to put (ones’s own money, goods) with another’s larger amount” and ‘to listen, hear.’

48. The River Bed

Lexico-semantic associations for this concept are manifold. Frequently, either ‘river’ or ‘water’ is one of the constituents in analyzable terms, though note that five sampled languages, Buli, Hausa, Khalkha, San Lucas Quiaviní Zapotec, and Hawaiian (by the analyzable term kahena wai ‘flowing water’) directly colexify ‘river, stream’ with ‘river bed’ (Nez Perce furthermore with ‘waterway’) and five others, Sentani, Abzakh Adyghe, Khalkha, Lengua, Pawnee (by a term literally translatable as “enclosure on a surface”), and Rotuman, colexify it with ‘valley’ or ‘ravine’ (Abzakh Adyghe also colexifies ‘precipice,’ and Rotuman also ‘gutter, gully’ and ‘channel, trench’), while the Khalkha term has still other meanings and inter alia rarely also assumes the meaning ‘large lake.’ In Sentani, the relevant term jaba ‘dry river bed’ appears to contain ja ‘sink,’ for which compare Toba ca’angue ‘dry riverbed’ with ca’angui ‘sunk, to lower in the middle.’ Otherwise, like for ‘river’ itself, there are associations with ‘way,’ ‘road,’ or ‘track’ realized by analyzable terms in Mali (arenγi aha iska ‘river her road’), Nez Perce (weλeʔiskit /weλeʔ-ʔiskit/ ‘flow way;’ for this term compare also Wintu mem ʔoh-i ‘water/river flow-nominal.stem.formant’), and Miskito (tingni bila ‘river way’ and li bila ‘water way;’ bila colexifies many more meanings alongside ‘way’). Also note in this context Guaraní ysyr-ha, probably analyzable as /ysyr- (a)ha/ ‘river go’ as well as Nivkh er my my dɨf ‘river go.downstream track’ which is only perhaps so analyzable, but would fit this pattern. Two languages of Eurasia, Ket and Kolyma Yukaghir, have terms for ‘river bed’ containing an element with the meaning ‘deep’ (sész hobay, containing sès ‘river’, hɔq ‘deep,’ and ba’y ‘place,’ and unuŋ-čegınma ~ unuŋ-čegınma ‘river depth’ respectively), while in two Austronesian languages, Fijian and Tetun, associa-
tions with ‘hole’ or ‘hollow’ are encountered (dreke-ni-wai ‘hollow/cavity-poss-water’ and mota-kuak ‘river-hole’ respectively). In addition, an association with the meaning ‘base’ is found by colexification in Hawaiian (alongside other colexified meanings, the relevant term papakū probably contains papa ‘flat surface, reef, layer’ and kū ‘to stand;’ both constituents also have other meanings) and by the analyzable term isale ndò ‘bottom/base river’ in Yoruba. The metaphorical transfer from ‘bed’ to ‘river bed’ appears to be peculiar to Europe, occurring in the sample only by the analyzable term gwely afon ‘bed river’ in Welsh. There are also languages in which body-part metaphors are employed to convey the meaning ‘river bed’: ‘guts’ and ‘river bed’ (as well as ‘inside’) are colexified in Jarawara, Khoekhoe has the analyzable term lū-hnâ-b ‘river-stomach/interior-3SG.MASC,’ and Rendille colexifies ‘arm, hand,’ ‘elephant’s trunk,’ and ‘river bed.’ Tetun mota-fatim is analyzable as ‘river-place,’ compare the semianalyzable Carrier term nethaykë containing kët ‘place,’ that the second element in the Cavineña term ejiri quini means ‘broad place,’ and that Pawnee huukaahaaru’, denoting a ‘dry riverbed’ specifically and at the same time colexifying ‘beach, shore’ and “dry bed in a pond,” is literally “in water place.” Pawnee also has the term huukaahaaaru’, containing huuka(wi)- ‘along a stream course’ and haar ‘place;’ this term also means ‘beach, shore.’ Other morphologically complex terms with ‘river’ include Efik isôh akpa ‘earth/ground river,’ Rotokas uuko gae, containing gae ‘river’ and uuko, ‘liquid state, fluid,’ ‘to collect water,” Sora alug’naï /a-lun’-nad/ ‘poss-sleep.or.soak.in.water-river,’ Chickasaw abookoshi’ shila-’ ‘river dry-NMLZ,’ denoting a dry river bed specifically. Hawaiian colexifies ‘riverbed’ with ‘bottom’ among other meanings. Furthermore, Samoan ‘alitivai contains vai ‘water’ but is not amenable to full morphological analysis, the same situation is encountered in Piro. There is a semianalyzable term featuring a constituent ‘river’ in Yuki. Finally, Sedang chuá is also the name of a weaving design inter alia.

49. The Root

Representation: 97%
Motivated: 32.6%
Thereof Analyzable: 6.9% Thereof Colexifying: 25.8%
Thereof by Contiguity: 5.4% Thereof by Similarity: 8.4%
Recurrent associated meanings: base/basis, tendon, origin, trunk,

reason/cause, vein, nerve, muscle, stump, tuber, foot, leg, branch, buttocks, liana, root of tooth, tongue root, stalk, foot of hill, tendril, thread, tree

The ‘root’ is a meaning expressed in many languages by non-motivated, non-analyzable terms. If they are motivated, however, body-part metaphors are used in some languages to express the concept. In three sampled languages, Buli, Burarra, and Miskito, ‘root’ is colexified with ‘foot,’ and in Abzakh Adyghe, lâpse is analyzable as /l(e)-ps(e)/ ‘foot-string.’ In Buli, Ngaanyatjarra and Yir Yoront, ‘root’ is colexified with ‘leg’ (in Buli, by the same term that also colexifies ‘foot;’ it also means ‘branch’ inter alia, as does the relevant Ngaanyatjarra term which denotes a ‘side root’ specifically. Buck 1949: 522 also reports this association for Indo-European. Yir Yoront also colexifies ‘tail’ of certain fish species
and is used generically for certain molluscs). Bwe Karen has θο-kha-wi ‘tree-leg-vein.’
There are also some languages in the sample in which ‘root’ and ‘vein’ are colexified,
namely Rendille, One, Basque, Carib, Lengua, and Miskito (similarly, Gurindji more specifi-
cally colexifies ‘single root of tree’ with ‘vein,’ and Hawaiian ‘small root, rootlet’). Howev-
er, for this association, cross-linguistic tendencies in the directionality of the mapping are
hard to assess, given that in Kanuri, ‘vein’ is zâr bû-bè ‘root blood-of.’ Many sampled lan-
guages also colexify ‘root’ with ‘tendon.’ This association is found in Kwoma (where also
‘tendril’ is colexified, a pattern shared with Kiliwa), One, Chickasaw, Ineseño Chumash
(also meaning, presumably by provenience contiguity, ‘bowstring’), Pamee, Jarawara,
Lengua, Miskito, and Hawaiian. In addition, ‘root’ and ‘muscle’ are colexified in Koyraboro
Senni, Ineseño Chumash, Jarawara, and Hawaiian (where the relevant term conflating all
three meanings is also used figuratively for ‘womb’ and ‘offspring’), and ‘nerve’ in
Koyraboro Senni, Basque, Ineseño Chumash, Miskito, and Hawaiian. Note that there is a
large overlap between the four groups due to the fact that very frequently ‘tendon’ and
‘vein,’ and somewhat less frequently also ‘muscle’ and ‘nerve’ are colexified (see sections
141 and 147). The Koyraboro Senni and Highland Chontal terms also denote a ‘liana, vine
or species of liana. Two languages, Sora and Rotuman, colexify ‘root’ with ‘root of tooth,’
Hausa and Yoruba colexify it with ‘buttocks,’ and another two, Cashinahua and Mandarin,
with ‘tongue root.’ Sko hâng ling might be based on a metaphorical comparison with hâng
‘end of intestines, kidney’ (the second element of the term is unknown, and a similar situ-
atuion is encountered in Kwoma; for this possible association, compare Great Andamanese
ârchâg ‘root’ with ōngchâg ‘kidney,’ presumably motivated by alternation of noun class for
which compare discussion in § 4.1.1.2.). Lavukaleve ina also means ‘collarbone,’ and for
Sentani kambu, compare kambi ‘neck.’ The Wintu term caws oxi contains caws ‘green
land, field, valley,’ and xos oxi might be related to xo ‘fog, steam, gas, lungs.’ Kaingang jâ-re
appears to be analyzable as ‘tooth-field,’ and Lenakel nuk may also refer to the ‘armpit.’

Intra-domain ties are somewhat less frequent. Seven languages, Buli, Abzakh Adyghe (by the analyzable term mentioned above, note that this term also means ‘thread’
and compare Swahili mzizi, analyzable as /m-izi/ ‘3/4-thread’), Yaqui, Lesser Antillean
Creole French, Abipón, Miskito, and Tehuelche colexify ‘root’ with ‘trunk’ or parts thereof
(Miskito also with ‘pole’ and ‘substance,’ and Tehuelche also with ‘handle of knife,’ ‘claw,’
and ‘behind of’). Yaqui does so also with ‘stump,’ an association it shares with Biloxi, Less-
er Antillean Creole French (where the term also means ‘stem’) and Nez Perce. The Hausa,
Badaga, Pipil (Santo Domingo de Guzmán dialect), and Jarawara terms are also used with
the meaning ‘tuber.’ Badaga gâsu is also used specifically with reference to the ‘potato,’
and Tuscarora unhêreh is extended to ‘turnip’ and ‘vegetable’ in general. Another associa-
tion is that between ‘root’ and ‘stalk,’ found in Abzakh Adyghe and Badaga (in the latter
language, by a semianalyzable term containing a root meaning ‘to grow,’ ‘fertile,’ and
‘yield’ inter alia, and itself colexifying “water dripping from roots”).

There are also a number of associations where the terms for ‘root’ are used to
map some more abstract meaning. Buli, Hausa, Kyaka, Abzakh Adyghe, Khalkha, Kolyma
Yukaghir, Ancash Quechua, Fijian, and Malagasy colexify ‘root’ with ‘base, basis’ (Kolyma
Yukaghir also with ‘custom’ and ‘similarity’), ‘origin’ is a secondary meaning of ‘root’-
terms in Buli (where it is restricted), Anggor (where the term ahasahari is semianalyzable containing ahari ‘stem’ and colexifies ‘clan’), Basque (where one of the relevant terms also means ‘root in mathematics,’ ‘stock, lineage,’ ‘tentacle,’ ‘udder,’ ‘hinge,’ ‘inclination, tendency,’ ‘beam, sunbeam’ and ‘segment’), Khalkha (also expressing the notions of principality and originality, among others), Nez Perce, Lesser Antillean Creole French, Embera, Rotuman, and Tetun. ‘Reason’ or ‘cause’ is colexified in Buli, Nez Perce, Hawaiian, Malagasy, Mandarin, and Rotuman (the relevant Buli term participating in these patterns is the same that also colexifies ‘trunk,’ but a different one from that realizing the associations with ‘leg’ and ‘root’ reported above, the Hawaiian term also means ‘foundation’ inter alia, and the Rotuman term is also used with the meanings ‘principal village, capital,’ ‘lower end,’ and others). Another metaphorical association, that with ‘foot of hill/mountain,’ is attested in Abzakh Adyghe and Greek.

Further less systematic associations include: Buli kiri can also refer to the ‘character’ of a person, ‘type,’ as well as ‘under, below’ (compare the colexification of ‘root’ with ‘bottom’ in Hawaiian, and that with “upward from below” in Kapingamarangi). Efik äduñ appears to be derived from duñ ‘to dwell, inhabit.’ Hausa saiwa can also refer to a “drabbi-bricoloured goat,” and another Hausa term, tushe, colexifies ‘root of plant’ with ‘plant itself’ inter alia. For Khoekhoe, it is noted that hnomab also means ‘root’ in the linguistic sense. Oddly, Ngambay ndi=kake seems analyzable as ‘hard.to.eat-tree,’ while ko, another term for ‘root’ in the same language, also means ‘to cry’ and ‘seed,’ and ngirà can also be used adjectivally with the meaning ‘hard.’ Ngoni gbwe also denotes the ‘stinger of a bee,’ and Ndonde hiy also means ‘sour milk’ and ‘relatives, kin.’ Baruya colexifies “fine root in or out of ground” with “fat from a pig’s stomach,” while Berik tiskar and Dadibi ni pedali ‘tree root’ apparently contain ti and respectively ni ‘tree, wood.’ Kwoma colexifies ‘root’ inter alia with ‘wrinkled,’ and Gurindji wirnturru also means ‘horn.’ The Muna term pa=kak is also the name of an evil spirit that eats people. Meyah ofom also means ‘ripe.’ The Rotokas term vavu-rupa-to is analyzable as ‘bitter-dark-SG.M,’ while Sahu utu’u also means ‘buttress’ specifically. A Badaga term for ‘root,’ beru, contains the verb be: ‘to grow’ and colexifies ‘finger.’ Khalkha yndysy(n) also means ‘race, nationality’ and is the name for the religious writings in the ‘Tantra,’ and Welsh gwreiddyn is also used with the meaning ‘stock.’ Chickasaw ishtaahikkipa is analyzable as /isht a-hikkipiya-/ ‘with loc-stand-NMLZ’ (the term refers to above-ground roots specifically), Itzaj colexifies “hateful, angry,” Wintu ‘herb charm’ by a semianalyzable term containing a constituent referring to level land and írk colexifies ‘ropelike root(s)’ with ‘rope, cord string,’ ‘to tie a rope.’ The Yuki term koot’kin ~ kutkin might be derived from the verb koot’ ‘to start.’ A Central Yup’ik word for ‘root,’ from the Norton Sound dialect, acilquq, is derived from the noun aci ‘area below, area under’ by suffixation of the postbase (see § 4.4.2) -quq, meaning ‘one that is like’ (there is the variant acipluk /aci-lluk/ ‘area.below/area.under-bad’). Another Central Yup’ik term, nemernaq, consists of the noun nemeq ‘binding, wrapping’ and the postbase -naq ‘one like;’ this term also denotes the ‘lamprey.’ Cashinahua tapun might contain tapu ‘platform, shelf, table,’ and Cayapa telele ‘root’ te ‘firewood.’ Chayahuita Ité’ appears to be analyzable as /l-tel’ / ‘water-nstr/; while Macaguán petakomè appears to be analyzable as /petak-omèt / ‘container-sun/moon.’ Piro colexifies ‘pelvic bones,’ and Maxakalí
mimyipxtit contains mîm ‘wood.’ Toba lpa’a’ ~ lpa’a’q is apparently related to pa’a’, which is the name of a plant the root of which causes hallucinations. Fijian vū also means ‘cough, to cough’ and ‘to wash, cleanse,’ and Hani alqil and daqoqil might be related to qil ‘be firm, be durable.’ Figuratively, Hawaiian a’a also means ‘womb, offspring,’ as well as ‘to send greetings of love; joyous hospitality; joy at greeting a loved one.’ Finally, Samoan a’a also means ‘connection, “involve, implicate,” and ‘influence,’ Sedang rei also is the name of a bird inter alia, while Yay raak5 also means ‘to pull, drag.’

50. The Seed

Representation: 89%
Motivated: 43.3%
Thereof Analyzable: 6.4%  Thereof Colexifying: 36.9%
Thereof by Contiguity: 5.7%  Thereof by Similarity: 13.1%
Recurrent associated meanings: fruit, egg, offspring/descendants, eye, testicle, semen, plant/sow, round/round thing, nut, bead, germ, heart, stone, breed, bullet, bone, plant, grow, kind, bud, face, product, peer/friend, tuber, berry, flower

Associations between ‘seed’ (or ‘grain’ / ‘pit’) and other small roundish objects abound cross-linguistically. Languages of the New Guinea area (but also some others) are particularly fond of Colexifying ‘seed’ with other products of plants or animals that have the property of being round. Buin, Kyaka, Rotokas, Kosarek Yale, Abzakh Adyghe (inter alia), Wintu, Hawaiian, and Takia colexify ‘seed’ with ‘egg,’ and Gurindji, Kwoma, Kyaka, Ket (colexifying also ‘pine nuts’ specifically), Kapingamarangi, and Takia colexify ‘seed’ with ‘nut.’ More generally, ‘seed’ is associated with ‘fruit’ in many languages as well, namely in Efik (here also with ‘flower’ by a term derived from a verb meaning ‘to peel’ inter alia; in Waris, ‘flower of trees’ is specifically colexified), Ngambay, Dongolese Nubian, Buin, Kwoma (here also with “edible part of a plant”), Kosarek Yale, Khalkha, Kiowa (colexifying also ‘vegetable’ and ‘bread’), Abipon, Miskito, Piro (where the relevant term xi also acts as a diminutive marker), Rama (colexifying ‘peanut’ specifically), Saliba (also colexifying ‘bud,’ as is the case in Efik and Lesser Antillean Creole French), Wayampi, Hawaiian, Takia, Sedang (colexifying also ‘pellet in blow gun’ and ‘muscle’), and Yay. Similarly, Tetun colexifies ‘berry,’ while Cheyenne hestâhame is literally ‘heart berry.’ Takia, alongside all these meanings, also colexifies ‘shell.’ This association may be based on meronymy in some cases, but perceptual similarity might also be at work, since many fruits are globular as well. In Rama, the term colexifying ‘seed’ with ‘fruit’ is kat up ‘tree eye,’ and this illustrates that associations with other round objects of small size also transcend domain boundaries. Pawnee is another language with a complex term for ‘seed’ (in particular ‘planting seed’) on the basis of ‘eye’ (rak-kirik-ˀu ‘wood-eye-NOM’), and the association is realized by colexification in Anggor, Burarra, Cahuilla (also colexifying ‘face’), Chayahuita (also colexifying ‘design of a waistband’), Jarawara (here also colexifying ‘face,’ ‘pile,’ ‘color,’ ‘end,’ and ‘pellet’), and Lengu, while the Nunivak Island dialect of Central Yup’ik and Huambisa have semianalyzable terms. For Burarra mipila, the dictionary gloss reads as follows: “eye, or anything suggestive of an eye by virtue of being small and round or exud-
ing fluid, hence hail, seed, bullet, hook of woomera, glass tumbler, nipple, spring of water,” suggesting that ‘eye’ is the dominant reading (see also § 6.2.3.1.). The extension to ‘bullet’ is also found in Ngambay, Toba, and Yanomámi (here also ‘almond’ is colexified’); note that ‘gunshot’ is colexified in Lenga. Four languages, Muna, Badaga, Welsh, and Maxakalí have terms colexifying ‘seed’ with ‘(small round) stone,’ and four languages in the sample, Sentani, Kosarek Yale, Nez Perce, and Samoan colexify ‘seed’ with ‘heart’ (Nez Perce also with ‘pith’). In addition, Cheyenne *hestiâhame* literally means ‘heart berry,’ which suggests a metaphorical transfer of the position of the heart in the middle of the chest to the position of the seed in the center of a fruit, corroborated by the frequent association between ‘heart’ and ‘middle’ (see section 117, though note that the transfer seems to go in the other direction in Hupda hâ-wig which probably goes back to *hay-wig ‘breath-seed’). Transfer from ‘seed’ to the domain of body-parts also occurs with another meaning: seven sampled languages, Welsh, San Mateo del Mar Huave, San Lucas Quiavini Zapotec, Guaraní, Toba, Hawaiian and Kapingamarangi, colexify ‘seed’ with ‘testicle’ (Yanomámi with ‘penis’), and about the same number of languages have complex terms for ‘testicle’ based on ‘seed’ (compare section 142 as well as Brown and Witkowski 1981 for further evidence). Colexification with ‘bead’ is found in six sampled languages, Basque, Lesser Antillean Creole French, Central Yup’ik (which also colexifies ‘single fish egg’ and “any other seed-like thing”), Imbabura Quechua, Maxakalí, and Vietnamese. Moreover, there are also some sampled languages where a term for ‘seed’ in fact is glossed as having a secondary meaning of ‘round thing’ directly. These are Berik (the term seems to be semianalyzable, containing an element meaning ‘tree, wood’), Muna (where the relevant term curiously acts as a classifier also for “any big object;” this term means also ‘to be present, gather together’), One, Hupda, and Hawaiian (note also that Badaga *gundu* assumes the meaning ‘round’ and ‘stout, strong’ when used as an adjective). Less frequent patterns involving colexification of ‘seed’ with a roundish object include that with ‘marble’ in Buli, with ‘nipple’ in Gurindji, with ‘tuber’ (as well as ‘electric battery’ and other meanings) in Kyaka and Hawaiian, with ‘flower in bud’ in Sáliba, with ‘bulb’ in Hawaiian, with ‘clitoris’ in Muna (cf. the extension of ‘fruit’ to ‘clitoris’ in Australian languages, Austin et al. 1976), with ‘tablet’ in Ngaanyatjarra, and with ‘moon, month’ inter alia in Rotuman.

Other recurrent associations are that with ‘bone’ in Yir Yoront, Basque (here, also with ‘fishbone’), Khalkha, and Wintu (common features: hardness and the fact that both ‘seed’ and ‘bone’ are found within larger structures, the body and the fruit respectively? at least the former is suggested by the fact that ‘hard, solid’ alongside ‘unyielding’ is also colexified in Wintu), that with ‘kind’ in three languages of different families of Africa, Efik (here only as of animals and vegetables), Hausa, and Koyraboro Senni (note that Hawaiian ‘ano’ano might be reduplicated from ‘ano’, one of the meanings of which is ‘kind, type’), that with ‘offspring, descendants’ (sometimes also ‘child’) in Hausa, Khoekhoe, Dongolese Nubian, Kosarek Yale, Khalkha, Wintu, Hawaiian (in both Khalkha and Hawaiian also with ‘product;’ see Buck 1949: 505 for the same extension in Swedish), and Bwe Karen, which colexifies also ‘nine.’ Similarly, Badaga *bittu* colexifies ‘father’s line, patrilineage,’ as well as ‘yield’ and ‘crop’ with ‘seed,’ and the Guaraní term colexifying ‘semen’ and ‘testicles,’
ta’yi, is analyzable as /ta’y-i/ ‘son/clot-DIM.’ Still other recurrent patterns of colexification include that with ‘breed’ (e.g. of animals) in Efik, Basque, Miskito, and Tsafiki (similarly, Khalkha inter alia colexifies ‘race, family, clan’), that with ‘peer, friend’ in Koyraboro Senni and Kyaka, and that with ‘semen’ in Dongolese Nubian, Basque, Greek, Welsh, Wintu, Aymara, and Guarani (note that both referents are similar in that they are part of the reproductive system, and see also Buck 1949: 505 for Indo-European, in particular Swedish). Two of these languages, Greek and Guarani, as well as Kyaka, Lesser Antillean Creole French and Hawaiian, also colexify ‘germ;’ in the context of the association with ‘semen,’ note also Kyaka wai, glossed as ‘germs, spark of life’ alongside ‘seed’ (as an adjective, wai means ‘introduced, not native, not local’). Ineseño Chumash ’amîn also means ‘body’ and ‘flesh, meat’ alongside ‘seed,’ and Hawaiian colexifies “meat as in ‘opilhi shell or ‘alamihicrab.’

Entirely different structures are found in terms for ‘seed’ when they are primarily conceived of from the point of view of agriculture. Then, terms derived from or containing verbs meaning ‘to plant’ or ‘to sow’ are common (as is the case diachronically in Indo-European, Buck 1949: 505). Koyraboro Senni and Badaga colexify these meanings, and fully analyzable terms with such structure are found in Ngambay, Abzakh Adyghe (colexifying ‘cereal’ generally), Cheyenne, Nez Perce, Xicotepex de Juaréz Totonac, and Aguarauna, which latter for instance has ajákma-mu /ajákmát-mu/ ‘sow-NMLZ.’ Semianalyzable terms suggesting such a structure are also attested in Koyraboro Senni and Dongolese Nubian, and the association is recoverable diachronically in Greek. In connection with this pattern, note also Carrier hananelyih-i ‘grow.again-REL’ and Nivkh vandu oxì ‘grow powder,’ and colexification of ‘seed’ and ‘to grow’ in Basque and Abzakh Adyghe inter alia. A similar account is available for Quileute katsákwá, containing kátsa- ‘to bury;’ moreover, Baruya, Aguarauna and Huambisa colexify ‘plant’ and ‘seed,’ and Upper Chehalis colexifies ‘seed’ with ‘plant’ as well as with ‘garden.’

Other associations are: Buli birì also means ‘counter’ as of a particular game, Hausa iri also ‘slips,’ and Ngambay kānde also ‘to produce’ as well as ‘genetic inheritance’ inter alia. Ko, another term from the same language also means ‘to cry’ and ‘root.’ Koyraboro Senni dumari also means ‘sprout,’ and in Rendille ‘seed’ and ‘tear, teardrop’ are colexified. Baruya wia also means ‘seedling,’ and Kwoma siik, alongside ‘seed,’ ‘nut,’ and ‘fruit,’ may also refer to a ‘clot of blood’ inter alia. Kyaka kāpa not only participates in the colexification patterns with ‘nut,’ ‘egg,’ and ‘peer,’ but also may refer to the ‘core’ or ‘nucleus’ of something in general, as well as to a ‘larva,’ and ‘fat, suet, grease’ inter alia. Kosarek Yale wana can also refer to a ‘flower-stalk.’ The Muna term lumu also means ‘seedpod inside fruits’ and ‘moss,’ and One tala also ‘tree stump’ and ‘grassshopper,’ while Abzakh Adyghe colexifies ‘seed’ with ‘fur, feather’ and ‘tooth,’ and the Khalkha term korynγγynε also is used inter alia to refer to ‘yeast’ and ‘property, resources.’ Biloxi su also means ‘blown out, extinguished,’ while Upper Chehalis smánis is derived from the verb root námá- ‘done, finished, quit.’ Kiowa ḗyui’t is literally translated “inside one.” Oneida colexifies ‘seed’ with ‘oats,’ while Santiago Mexquititlan Otomi ńa also denotes ‘cotton’ specifically. Pawnee rikactikiisu is analyzable as /riikac-rikiis-ú/ ‘crookneck.squash-kernel-NOM’ (the term is also used generically for ‘seeds’ of all kinds), and Wintu colexifies
'seeds' with 'teeth' by one term and with 'stab, pierce, poke' by another. Carib *epɨpo* is derived from *epɨ(l)i* 'flower' and means also 'stem' and 'stick,' Cayapa *ɨɨ* also means 'flame, fire' (probably due to accidental homonymy), Kaingang colexifies 'seed' with 'braid, bolt,' Miskito with "bulk, mass, lump, particle" inter alia, Ancash Quechua with 'black and white mottled,' Tehuelche with 'leaf,' and Wayampi with 'foot' inter alia and by another term with 'almond.' Finally, Yanomâmi mo colexifies 'seed' and 'penis.'

51. The Shadow

Thereof Analyzable: 92%  
Thereof Colexifying: 42.4%  
Thereof by Contiguity: 7.2%  
Thereof by Similarity: 37.8%

Recurrent associated meanings: soul/spirit/ghost, reflection/image/mirror, image/picture/drawing, photograph, shelter, dark/darkness, cold/cool, cloud

Very frequently, 'shadow' (or 'shade') is associated with 'soul,' 'spirit' or 'ghost' lexically (or, in this case, more likely primarily culturally or mythologically). This association is particularly common in Oceania and the Americas (though reported by Buck 1949: 62 to be common in Indo-European "from Homer on"), occurring by colexification in Mbum, Efik, Ngambay, Anggor (where the relevant term also denotes a type of fly), Burarra, Kaluli, Kwoma, Kyaka, Lavukaleve, Rotokas, Toaripi, Sentani, Sko, Kosarek Yale, Greek, Kolyma Yukaghir, Blackfoot, Cheyenne, Pawnee, Quileute, Wintu (colexifying also 'glimpse' inter alia), Abipón, Aguaruna, Arabela, Carib, Cayapa, Chayahuita, Jarawara, Kaingang, Maxakalí, Miskito, Ancash Quechua, Rama, Wayampi, and Lenakel (35 languages), and by complex terms in Meyah (*efend őrka* 'spirit carry'), the Nunivak Island dialect of Central Yup'ik (*tarenraq /tarneq-aq/ 'soul/spirit-thing.that.resembles.in.some.respect'), and Fijian (*yaloyalo-na* 'reflection-POSS,' with *yaloyalo* reduplicated from *yalo* 'soul, spirit'). Tsafiki, in addition, has a semianalyzable term containing *o'có* 'evil spirit' and colexifying 'firefly.'

There are a number of further associations which cluster strikingly in Oceania and more specifically in New Guinea. Colexification with 'mirror,' '(mirror) image,' or 'reflection' is attested in Hausa (*inuwa*, the relevant term, is also a "name given to any one called Muhammad"), Baruya, Burarra, Kaluli, Kwoma, Kyaka, Lavukaleve, Mali, Muna (where the relevant term is also the name of a tree species), Nunggubuyu, Rotokas, Sentani, Toaripi, Kosarek Yale, Itzaj (colexifying also 'nature'), Lake Miwok, Central Yup'ik (Nunivak Island dialect), Arabela, Bora, Bororo, Cayapa, Kaingang, Piro, Rama, Yanomâmi, Bislama, Hawaiian (also colexifying 'embryo,' 'newly hatched fish,' 'knuckles' and 'joint,' inter alia by one of the relevant terms, and 'bright,' 'dazzling,' 'white' and similar meanings by another), Lenakel, Mandarin, Rotuman, Samoan, Sedang, and Yay, in which latter the relevant term also means 'to shine, sheen' (33 languages); moreover, in Fijian, the association is by the analyzable term mentioned above. Colexification with 'picture, image' and/or 'drawing' is attested in Bakweri, Efik (by the term *ñwet ~ ñwet* derived from *ñwet* meaning 'paint, write, mark' inter alia, the derived term also meaning 'pattern,' 'inscription' as well as 'writing' and, presumably by further semantic extension, 'book' inter alia),
Ngambay, Noni, Rendille, Burarra, Kwoma, Mali, Nunggubuyu, One, Rotokas, Toaripi, Sahu, Sko (by the term, bàleng, presumably analyzable as /bà-lèng/ ‘person-hide.self’), Kosarek Yale, Yir Yoront, Abzakh Adyghe, Central Yup’ik (Nunivak Island dialect), Abipón, Bora, Maxakali, Miskito (also colexifying ‘resemblance’), Sâliba (also colexifying ‘appearance’ and ‘color’), Fijian, Hawaiian, Lenakel, Rotuman, and Samoan (28 languages), and with ‘photograph’ in Ngambay, Noni, Rendille, Kwoma, Mali, Rotokas, Sko, Khalkha (colexifying also ‘age’ and ‘apoplexy’), Central Yup’ik, Arabela, Bora, Jarawara, Lenakel, Rotuman, and Samoan (15 languages, note that with the exception of Khalkha and Jarawara, languages which betray this association actually are a subset of languages which colexify ‘picture’).

In contrast, six sampled languages reveal a different conception of ‘shadow’ in that the relevant terms bear an association with ‘dark’ or ‘darkness’ (as also evidenced by an etymological connection between German and Greek in Indo-European, see Buck 1949: 63). This is found in Mali, Nggaanyatjarra, Kashaya (which also colexifies “sickness caused by fear”) by colexification, while realized by complex terms in Ket (qon-sai ‘dark-night’ and qonji baŋ, containing qon ‘dark’ and baŋ ‘place’) and the Santo Domingo de Guzmán dialect of Pipil (ku-yuwa ‘tree-dark’); moreover, a not entirely analyzable term containing k’iq ‘be dark’ is found in Kiowa. There is also colexification of ‘shadow’ with ‘(to) shelter,’ as encountered by colexification in Buli, Nggaanyatjarra (where the relevant term also denotes a ‘metal canopy’ as well as rings around the moon which are said to indicate coming rain), Welsh, Kapinamaraangi (where the relevant term also means ‘behind some protective cover’) and Rotuman, as well as by the analyzable term mo’á-ha ‘cover/protect-AGT’ in Guaraní (see Buck 1949: 62 for diachronic evidence from Irish; the Guaraní term colexifies also ‘defense’ and ‘protection’). What the structure of these terms show is that here terms are unlikely, as opposed to the examples above, to refer to the shadow of a person specifically. In fact, for instance Efik distinguishes the two lexically: ukpőŋ is used for the shadow of things that move, and mfut for the shadow of things that do not. A similar distinction is made in San Mateo del Mar Huave, although terms for both variants share the same root, with that for persons or animals being inalienably possessed. Baruya has unrelated lexical items for the shadow of clouds and the shadow cast by other entities.

Two other languages, Buli and Arabela, have associations between ‘shadow’ and ‘cold’ or ‘cool place’ (note also Embera kãrdase ‘shadow’ and kārāsa ‘cold;’ this association is recoverable etymologically in Donolgeese Nubian, see also Buck 1949: 63 for evidence from Baltic and Serbo-Croatian). Moreover, Bororo colexifies ‘shadow’ with ‘cloud,’ and Biloxi si natci appears to be analyzable as /si natci‘/ ‘feet cloud’ (compare also Chickasaw hoshtənikacht ‘shadow’ with hoshtonti ‘cloud,’ and see Plomley 1976: 383 for the possibility of this connection in Tasmanian).

Other unsystematic associations include: the Buli term yogsum, colexifying ‘shelter’ and ‘coolness,’ also means “danger, fear, fright, dread, apprehension, terror.” Efik mfut is apparently derived from fut, meaning ‘to swell, boil, foam’ inter alia, Katcha bogo also means ‘place,’ and Koyraboro Senni bii (related diachronically to bibi ‘black’) is also used to refer to an ‘umbrella’ and also means ‘yesterday.’ Kaluli colexifies ‘shadow’ with “reverberation in forest or in memory,” Kwoma mayi also means ‘map’ and is furthermore used to refer to a variety of supernatural powers, One iloula ~ ilwola also denotes a “meas-
uring stick,’ Sahu gu’dumini also means ‘life strength,’ and Western Tasmanian perhaps colexifies ‘shadow’ with ‘fog.’ Badaga colexifies ‘shadow’ with ‘shape,’ and Basque itzal also means ‘prison’ and ‘respect, prestige’ inter alia. Kolyma Yukaghir numet also means ‘fontanel.’ Santiago Mexquititan Otomi xudi also means ‘morning,’ while Oneida colexifies ‘shadow’ with ‘movie, show’ (similarly, Fijian colexifies ‘film’). Tuscarora utiθrghsteh is analyzable as /u-tiθ(e)r-γ-(a)hist-eh/ ‘NOUN.PREFIX-overhang-fall-NMLZ-NOUN.SUFFIX,’ Bororo arodi also means ‘bad, false,’ ‘robbery,’ ‘sign of disease and death,’ as well as ‘hole,’ Cayapa aama also means ‘weapon’ (presumably due to collapse of Span. alma ‘soul’ and arma ‘weapon’), and Cashinahua baka also means ‘scar’ as well as ‘spouse’ and ‘friend.’ Chayahuita sanohuan is derived from sono ‘quiet’ by means of a classifier suffix meaning ‘one who has,’ while Guarani kuarahty’a contains kuarahty ‘sun.’ Ancash Quechua qitqi ~ qetqi ‘shadow of cloud’ also means ‘soot,’ Yanomami noreshi is also used to refer to the ‘phosphorescent shining of certain plants when decomposing’ as well as a “double of humans incarnated in animals.” Great Andamanese ôlêre is apparently derived from ôlêre ‘black beeswax.’ Samoan ata also means “copy, duplicate,” and, in the plural, “[l]ight and shade effect,” while Tetun mahon also means “influence, sway” or ‘framework.’ Yay ram is also the name of a ‘big hawk that soars in the sky and eats chicken,’ Vietnamese bông also means ‘ball,’ ‘cotton,’ and ‘flower,’ whereas Bislama sado (< Engl. shadow) also means “humiliation, dishonour.”

52. The Sky

Representation: 97%
Motivated: 49.1%
Thereof Analyzable: 11.8% Thereof Colexifying: 37.9%
Thereof by Contiguity: 17.1% Thereof by Similarity: 22.7%

Recurrent associated meanings: heaven, high/above/up, cloud, blue, top, air, god, weather/climate, day, light, world, rock, sun, roof, rain, ceiling, hole/opening

The most frequent lexico-semantic association for ‘sky’ (or ‘firmament’) is that with ‘heaven(s)’ by colexification, occurring in 44 languages, namely Buli, Hausa, Khoekhoe, Ngambay, Swahili, Yoruba, Buin (colexifying also ‘swollen’ inter alia), Dadibi, Kaluli, Kyaka, Ngaanyatjarra, Rotokas, Sentani, Toaripi, Kosarek Yarle, Yir Yoront, Badaga, Basque, Chukchi, Ket, Khalkha, Kildin Saami, Highland Chontal, Kiliwa, Lesser Antillean Creole French (which also colexifies ‘paradise’), Lake Miwok, Lakhota, Pawnee, Pipil (Santo Domingo de Guzmán dialect), Quileute, Central Yup’ik, San Lucas Quiavini Zapotec, Carib, Maxakalli, Piro, Hani, Hawaiian, Lenakel, Malagasy, Rotuman, Samoan, Tetun, Yay, and Vietnamese (similarly, Muna colexifies ‘sky’ with “space between heaven and earth”).

The second most frequent association, that with the meanings ‘high,’ ‘above,’ or ‘up, upward,’ has a very striking pan-American distribution in the sample, while being rare elsewhere in the world. This is unexpected, given the seemingly related grammaticalization path ‘sky’ > ‘up’ reported by Heine and Kuteva (2002: 279) also attested in languages of other regions of the world. In the sample, the association is realized by colexifi-
cation in Buli, Mbum, Rendille, Upper Chehalis, Ineseño Chumash, Nuuchahnulth, Jarawara, Lenga, Macaguán, and Miskito, but occurs also frequently by morphologically complex terms: Kashaya has qali qhaʔbe 'clear/above rock,' Lake Miwok lîle-wali 'high-world,' Santiago Mexquititlán Otomi ma-hetsi 'LOC-high,' Pipil (Santo Domingo de Guzmán dialect) ka-ihakhu 'in/at-high,' Aymara alajj-pacha 'above-whole,' and Imbabura Quechua jawa pacha 'above space.' Moreover, Comanche has the formally redundant term tomobaʔatl/ɑ̃tatl 'cloud/sky-above,' and a semianalyzable terms suggesting such a structure is encountered in Ineseño Chumash.

Several of the associations by terms of the lexical type reported above also occur in other configurations elsewhere. Associations with 'cloud' (which are also frequent in Indo-European, Buck 1949: 52-53) occur by colexification in Yoruba, Lavukaleve, possibly in Nunggubuyu, Bezta, Upper Chehalis, Cheyenne (with doubts on behalf of lexicographers), Comanche, Kiowa, Lakhota, Nez Perce, Miskito, and Rama (by the analyzable term núnik kás 'sun/day meat; some of the terms have secondary associations due to the 'cloud'-reading, see section 12). Swahili mbingu 'sky' consists of bingu 'cloud' prefixed with a noun class marker, and Biloxi natci`tóhi is analyzable as 'cloud blue' (and denotes the 'clear sky' specifically). Moreover, Efik has the analyzable term ikpłaenjö/ik'pła-enjöŋ/ 'animal.skin-sky/heaven' used for both 'firmament' and 'cloud.' Hawaiian aouli "Firmament, sky, blue vault of heaven" contains ao meaning inter alia 'light, day, dawn, cloud' (compare the association with 'light' in Swahili noted above, 'light' and 'sky' are also colexified in Guaraní), and uli which can refer to dark colours, including dark green and blue. A color term for 'blue,' as in Biloxi, also figures in other languages of North America: Upper Chehalis tit ʔáciqʷeʷnít is derived from qʷíx- 'blue,' and Cheyenne has otdátvó-omé'ée 'blue-realm;' moreover, Oneida and Tuscarora colexify 'sky' and 'blue.' The association between 'sky' and 'world' in Lake Miwok corresponds to the colexification of these two meanings in Hausa (where it is archaic) and Arabela, which has a term with very wide semantic range, also including 'earth' and 'hole, opening,' which latter meaning is also colexified in Bora. And the Kashaya association with 'rock' is paralleled in Miskito and Hupda, which colexify the meanings (Hupda also colexifies 'mountain'). They mirror precisely the pre-history of the Indo-European inherited term evidenced mainly by Avestan and Sanskrit evidence (Buck 1949: 52).

Four sampled languages, Yoruba, Kosarek Yale, Welsh, Hawaiian (the term here also means 'to float,' 'homeless (person)’ inter alia, and denotes a particular star), and Rotuman have terms colexifying 'sky' with 'air.' In four sampled languages of Africa and Eurasia (and in some other Indo-European languages, Buck 1949: 52-53), Bakueri, Buli, Ket, and Khalkha, the word for 'sky' is also the name of (a) god (Bakueri also has mmán̄yi yay lîwa 'up of god/sky'). 'Sky' is colexified with 'top' in general in five sampled languages, namely Efik (also colexifying 'lift'), Hausa, Koyraboro Senni, Upper Chehalis, and Lenga, and, relatedly, in two languages, namely Hausa and Basque, 'sky' is colexified with 'roof' (the Basque term may also assume the meaning 'canopy,' 'glory,' and 'ceiling; the latter meaning is also colexified in Central Yup'ik, compare also Bwe Karen mōkʰo 'sky' and kho 'top, roof'). In Buli, Khalkha, Wintu, and Rotuman, the relevant term may also assume the
meaning ‘weather’ and/or ‘climate’ (Buli also colexifies ‘season, period, time’ and is a “religious concept denoting the ‘alter ego’ or ‘personal god’ of an individual,” while in Wintu, ‘clear weather’ more specifically is colexified, and this may be the relevant fact underlying the association), Guaraní and Mandarin colexify ‘sky’ and ‘day’ (see Buck 1949: 53 for Indo-European parallels), and there is a semianalyzable term in Upper Chehalis. In Buli, a term which may refer both to the ‘sun’ and the ‘sky’ is encountered, and in two languages, terms for ‘sky’ are based on ‘sun.’ These are Rama (münik kás ‘sun/day meat,’ also colexifying ‘cloud,’ as noted above) and Tsafiki (yo quido ‘sun skin’); moreover, Kapingamarangi has a semianalyzable term. Finally, Katcha and Manange colexify ‘sky’ with ‘rain.’

Other associations include: Hausa sama also colexifies ‘aloft’ inter alia, samaniya dialectally also “[t]he rustle of leaves in the wind,” and gari also ‘flour, powder’ as well as ‘town, township,’ while Khoekhoe lāhuisab is related to lá ‘hang (laundry) out,’ ‘spread out to dry,’ and Swahili ángá is derived by a zero noun-class prefix from ángá ‘light.’ Baruya sigunya also means “fat, as of a pig,” Nunggubuyu -mala- also means ‘navel’ and ‘thick honey,’ and yałamara is also the name of the “ordinary (short-horned) grasshopper’ (the meaning ‘sky’ is rare). Rotokas vuviu ua is analyzable as ‘transparent CLASS.NARROW.OBJECT.’ The Toaripi term kauri is also used to refer to a tree which “has pretty sky blue flowers,” while Waris ov also means ‘to speak, for animals to make their characteristic noise.’ Yir Yoront uses ‘thigh’ to conceptualize ‘sky’: larr-kumn is analyzable as ‘place-thigh.’ The term also means ‘clan.’ Abzakh Adyghe we also means ‘to burst, explode’ inter alia, and Basque ortzi also ‘space’ and ‘storm.’ Khalkha colexifies ‘sky’ with ‘atmosphere’ and Itzaj with ‘to learn,’ while Nuuchahnulth has a lexical suffix colexifying “in the sky” with “on a raised platform.” The Pawnee term for sky, awaahaksu, is analyzable as /awaahak-his-u/ ‘be.an.expanse-PERF-NOM,’ and the Xicotepac de Juárez Totonac term akapín simultaneously denotes the ‘palate.’ The Bora word évehóówa consists of éve ‘empty’ and the classifier for doorways -go:wa. Bororo baru also means ‘beginning,’ while waru also means ‘heat.’ Cayapa selu also denotes a type of wave, Embera baxá appears to be derived from bá ‘lightning’ by means of the suffix -xá for covering surfaces. Guarani ára is also the term for ‘light’ and ‘time,’ whereas Macaguán bôktsebí contains tsébé ‘black.’ Kaingang kahnkã also means ‘family,’ and the Saliba term mumasëxé contains sëxe ‘earth.’ Tsafiki Díöśichi to contains to ‘land’ (with Díöśichi related to Span. dios?), Hani aqo also means ‘yes, all right, okay,’ ‘to hold in mouth,’ ‘to sell’ and is an interjection (‘oh!’), Hawaiian lani is also the name of a very high chief and a kind of flower inter alia, and Kapingamarangi langi also means ‘orgasm’ as well as ‘to commence.’ Rotuman láqi also means ‘wind’ (alongside “to what purpose, wherefore”), and the Samoan term vū-nimo-nimo is analyzable as ‘DIST-vanish-RED.’

53. The Smoke

Representation: 95%
Motivated: 33.9%
Thereof Analyzable: 7.0% Thereof Colexifying: 26.9%
Thereof by Contiguity: 6.8% Thereof by Similarity: 23.6%
Recurrent associated meanings: steam, fog, dust, cloud, fire, cigarette/tobacco, soot, spray, smell, air
Associations with other aerosols, namely, in decreasing order, with ‘steam,’ ‘fog,’ and ‘cloud’ are most frequent, not taking into account the obvious contiguity anchoring with ‘fire.’ Associations with ‘steam’ are mostly by colexification, with the exception of Piro and Tetun (tšītšī-phya and ahi-suar ‘fire-vapor’). Among the colexifying languages are Buli, Efik (by the analyzable term nsun’ikañ /n-suñ-ikañ/ ‘soft/gentle-fire’), Koyraboro Senni, Burarra, Kwoma, Mali (where the relevant term is seminanalyzable, the identifiable constituent meaning ‘liquid’), Ngaanyatjarra, Nunggubuyu, Sahu, Yir Yoront, Abzakh Adyghe, Upper Chehalis, San Mateo del Mar Huave, Central Yup’ik, Arabela, Bora, Carib, Cayapa (by the term ňivijcha, perhaps containing ňi ‘fire, flame, seed’ and vičha ‘difference in height’), Guarani, Hupda, Lengua, Miskito, Ancash and Imbabura Quechua, Tehuelche, Tsafiki, Wayampi (by the analyzable term atas /atā-si/ ‘fire-whiteness’), Fijian, Lenakel, and Samoan. Compare also Embera kouwá, meaning ‘hot flash’ with neuter gender alongside ‘smoke’ with masculine gender with koiwa ‘vapor, fume, stink.’ Buck (1949: 73) reports the pattern in Indo-European. In sixteen languages, Efik (by the analyzable term nsun’ikañ /n-suñ-ikañ/ ‘soft/gentle-fire’), Buin, Burarra, Gurindji (colexifying ‘smoke-haze’ with ‘fog’ more specifically), Yir Yoront, Abzakh Adyghe, Nez Perce (by a lexical affix), Wintu, Central Yup’ik, Hupda, Jarawara, Lengua, Maxakalí, Miskito, Rama, Wayampi (by the same analyzable term mentioned above), and Mandarin, ‘smoke’ and ‘fog’ are colexified (Buin colexifies ‘white smoke’ more specifically, in Rama there is also colexification with ‘dew’), and in nine sampled languages, Buin, Nez Perce (again by the lexical affix), Arabela, Bora, Cavinena, Cayapa (the relevant term again being ňivijcha mentioned above), Maxakalí, Tsafiki and Sedang (here by the analyzable term kia hia ‘ghost light-weight’), ‘smoke’ and ‘cloud’ are (in Buin ‘white cloud’ and ‘white smoke’ more specifically, as well as ‘to be smoking tobacco’ and ‘be affected by smoke’; note also the similarity between Koyraboro Senni dullu ‘smoke,’ ‘steam,’ and duule - dalla ‘cloud’ as well as that the connection may be etymologically detectable for Chukchi). In some languages of the sample, more than one of the aforementioned meanings are expressed by the same term, see § 6.2.2.2. for discussion. Perhaps more surprisingly, nine sampled languages, Bezhita, Wintu (where one of the relevant term also means “cure with smoke, disinfect”), Carib, Hupda, Ancash Quechua, Fijian, Hawaiian, Sedang, and Bislama colexify ‘smoke’ with ‘dust’ (Central Yup’ik with ‘dust in air’ more specifically, and Ancash Quechua also with ‘gas’; compare also the colexification of ‘smoke’ with ‘to be dust-windy’ in Kiowa). By contiguity, ‘smoke’ and ‘soot’ are colexified in four sampled languages, namely Abipon, Xicotepec de Juarez Totonac, Ancash Quechua, and Toba (note that Itzaj b’ut’e also means “blackened with soot”). Also by contiguity, ‘smoke’ and ‘smell’ are colexified in Kwoma and Cavinena (and note the evidence from Embera mentioned above). Six sampled languages colexify ‘smoke’ with ‘cigarette’ and/or ‘tobacco:’ these are Ngaanyatjarra, Abzakh Adyghe, Nuuchahnulth, Quileute, Mandarin, and Bislama (Bislama also with verbal ‘to smoke a cigarette’); the Oneida term may contain a constituent with the meaning ‘tobacco’ as well. Sedang colexifies ‘smoke’ with ‘air,’ while in White Hmong, ‘smoke’ is pa taws ‘air fire.’ As seen in some of the analyzable terms mentioned above, ‘fire’ is an obvious choice as a contiguity anchor for the meaning ‘smoke.’ Other complex terms of this kind include Sko rápōng /fra-pōng/ ‘fire-blow.at’ and Kosarek Yale (Obakak valley dialect) uk solom, perhaps analyzable
as ‘fire light.in.color.’ Cheyenne directly colexifies ‘smoke’ with ‘fire,’ and semianalyzable terms in which the identifiable constituent means ‘fire’ are found in Kwoma, Toaripi, Waris, Bwe Karen, Lenakel, Kapingamarangi, and Manange. Yir Yoront thorqin also has the meaning ‘spray on waves,’ and these meanings are also colexified in Fijian and Hawaiian, which latter also colexifies ‘wisps.’ Similarly, Bislama colexifies ‘smoke’ with “spray splashed up from falling heavy rain.”

Other associations include: Efik colexifies ‘smoke, steam’ with ‘exhalation’ and ‘heat, warmth,’ as well as, from there on, “[a] good or bad influence supposed to be communicated by the heat or exhalation from the body of another.” Baruya colexifies ‘smoke’ with ‘belch, burp,’ Buin kumogana ‘thick white smoke’ is derived from kumogo ‘billow, be thick (of smoke),’ Kyaka colexifies ‘smoke, steam’ with ‘aura,’ Lavukaleve with ‘cheek,’ and Muna ghumbo is also used to refer to ‘many, huge numbers.’ Yir Yoront muw is also used as a color term for ‘gray’ (and Kiliwa ?phuuy is also glossed as “smokey-grey”). Abzakh Agyge -γ'ε- has many meanings, alongside ‘smoke, steam, fog’ also ‘dry, to make dry’ and ‘path, street,’ while Badaga age –hoge is also the term for a “burning heap of rubbish,” the ‘atmosphere,’ as well as a “gloomy state of affairs.” Keak, the plural of Basque ke ‘smoke,’ can also refer to ‘boasting, gloating.’ Biloxi kásidi’ and uksi’di contain si ‘yellow’ and the nominalizing suffix -di. Yaqui biwichia also means ‘worm,’ and Jarawara hasawiri/hasawiri is also used to refer to ‘ashes.’ Yanomámi wakê shì is analyzable as ‘red excrement.’ Fijian kuvu also denotes “the foam at the front of a swiftly moving canoe,” and Kapingamarangi huiahi also means “to chase away, to cause to flee.” Finally, Sedang colexifies ‘smoke’ with “a blanket or shawl worn on shoulder for carrying child,” and Yay colexifies ‘smoke’ and ‘previous.’

54. The Soil
representation: 80%
Motivated: 72.4%
Thereof Analyzable: 6.4% Thereof Colexifying: 66.2%
Thereof by Contiguity: 47.1% Thereof by Similarity: 0.4%
Recurrent associated meanings: land/ground, dirt, world, place, dust, clay, sand, floor, year/time, property/estate, surface, mud, field, bottom/below, day, ashes, black

For the meaning ‘soil,’ intra-domain associations are dominant. Most common is that with ‘land’ (sometimes also with ‘country’ as a political or administrative entity) and/or ‘ground,’ occurring by colexification in 67 languages, namely Efik (where the relevant term i’söñ is analyzable as /i-söñ/ ‘NMLZ-be.hard/be.firm’), Hausa (here, the relevant term also denotes a “small, red, malodorous ant,” and is also the generic name for ‘snake’ inter alia), Khoekhoe, Dongolese Nubian, Rendille, Yoruba, Baruya (where the relevant term also means ‘ladder,’ and conveys the notion of “shooting short of a target”), Buin, Burarra, Kaluli, Kwoma, Kyaka, Meyah (which also has a formally redundant analyzable term, namely mebi efeni ‘ground/soil reflection’), Muna (also colexifying ‘island’), Ngaanyatjarra, Nunggubuyu, Rotokas, Sahu, Sko, Sentani, Tasmanian (all varieties except the Northern one), Waris, Kosarek Yale, Yir Yoront, Badaga, Basque, Chukchi, Greek, Ket, Khalkha (with
extension to many other related meanings), Laz, Nivkh (where the relevant term also means 'edge'), Sora, Welsh, Biloxi, Highland Chontal, Haida, San Mateo del Mar Huave, Lesser Antillean Creole French, Nez Perce, Pipil, Quileute, Xicotepec de Juárez Totonac, Yaqui, Central Yup’ik (also meaning 'village'), San Lucas Quiaviní Zapotec, Copainalá Zoque, Aguaruna, Aymara, Bororo, Carib, Cavineña, Cubeo, Embera, Huambisa, Miskito, Piro, Tsafiki, Rama, Bislama, Hawaiian, Bwe Karen, Lenakel (also colexifying 'homeland'), Malagasy, Samoan (by the analyzable terms ‘ele’ele, reduplicated from ‘ele “compact red soil or stone, rust” and palapala, reduplicated from pala ‘rotten’), Tetun (by the analyzable term rai-laran ‘earth-interior’), Vietnamese (where the relevant term also means ‘expensive’), and Yay. Lavukaleve has ararume, presumably containing araru ‘ground,’ and semianalyzable terms where one of the constituents is ‘land’ are found in Kaluli and Lenakel. Kyaka, Yir Yoront, Bezhta, Ket, Khalkha, Nivkh, Ineseño Chumash, Central Yup’ik, and Miskito furthermore colexify 'soil' with 'place' or 'site.'

Colexification with 'dirt' is attested in Baruya, Buin, Gurindji, Ngaanyatjarra, Nunggubuyu, Meyah, Tasmanian (Northeastern), Waris, Yir Yoront, Ineseño Chumash, Comanche, Oneida, Pipil, Tuscarrora, Wintu, San Lucas Quiaviní Zapotec, Jarawara, Hawaiian (also with 'rubbish,' 'silt,' and 'excrement'), Lenakel (the term contains tin ‘land’), Rotuman, Samoan, Tetun, and Bislama (22 languages). Moreover, there is a semianalyzable term where the identifiable constituent means ‘earth, dirt’ in Lakȟota.

Another recurring pattern is the association with 'dust,' occurring in eight of the sampled languages, Efik, Yoruba, Dadibi, Ngaanyatjarra, Northeastern and Southeastern Tasmanian, Oneida, Wintu, and Toba (evidenced by cognates from Old English and Gothic, one meaning ‘soil,” the other ‘dust,” Buck 1949: 18). Seven further sampled languages colexify ‘soil’ with ‘clay,’ namely Buli, Efik, Baruya, Bezhta, Japanese, Hupda (also colexifying ‘Tuyuca people’), and Bislama, and, similarly, in Koyraboro Senni, San Mateo del Mar Huave, and Samoan, the same term is used for both ‘soil’ and ‘mud.’ Bezhta and Cubeo colexify ‘soil’ with ‘field,’ and Lesser Antillean Creole French, San Lucas Quiaviní Zapotec, and Mandarin with ‘property, estate.’

In six sampled languages, Efik (by the same analyzable term mentioned above), Basque, Guarani, Macaguán, Imbabura Quechua, and Tetun, the term for ‘soil’ is also used for the ‘floor’ (e.g. of a house), and in another six, Buli, Efik, Rendille, Ngaanyatjarra, Tehuelche and Rotuman, ‘soil’ and ‘sand’ are colexified (the Buli term is semianalyzable, containing tain ‘stone, pebble,’ and the Tehuelche term also means ‘sand dune’). Kapingamarangi has the corresponding analyzable term gelegele luuli ‘sand black’ (compare also Tetun rai-metan ‘earth-black’). Oneida and Wintu colexify ‘soil’ also with ‘ashes;’ the relevant Wintu term bukul is related to buk ‘dark.’

There are also associations which move to more abstract spatial relations. For instance, the Efik term mentioned above, as well as an unanalyzable Hausa term also mean ‘bottom, below’ (see Heine and Kuteva 2002: 121 generally and Buck 1949: 18 for a parallel from Latin; note also that Emberra udáa has the adjectival meaning 'down' alongside nominal ‘soil, ground’), and also in Efik, as well as in Abzakh Adyghe and Bora, terms bearing an association with 'surface' in general occur: Abzakh Adyghe šag’-šes’a is analyzable as ‘earth-surface,’ and Bora iñuji hallu consists of iñu ‘earth’ suffixed with the classifier for
disc-like objects -ji and hallu ‘top, outside part.’ In Efik, Rendille, Abzakh Adyghe, Basque, Ineseño Chumash, Quileute, San Lucas Quiaviní Zapotec, Aguaruna, Carib, Guarani, Huambisa, and Ancash Quechua, as in other European languages, terms for ‘soil’ may also refer to the entire ‘world.’

Even more interesting are extensions into the temporal domain, that is, terms for ‘soil’ than can also refer to a ‘year’ and/or ‘time’ in general. Kyaka, Ket, Highland Chontal, Ineseño Chumash, and Ancash Quechua are languages in the sample with terms that behave like this, while Kyaka and Yir Yoront colexify ‘soil’ with ‘day’ (in fact, larr, the relevant Yie Yoront term has a very wide semantic range); Holmer (1966) also reports similar patterns of colexification for languages of Oceania. Kyaka furthermore colexifies “event, opportunity, chance” as well as ‘weather.’

Other associations are: Efik isōn colexifies ‘soil’ with “hatch or trap door,” umabu colexifies ‘soil’ with ‘mould,’ and n’im is also the name of a plant with flowers that eject a dusty substance when being touched. Toaripi mea colexifies ‘soil’ with ‘wind, weather’ inter alia, while Sahu tana’a unisi “dry, infertile soil on a ridge” is analyzable as ‘earth/ground/land shin/shin.bone.’ Kosarek Yale soko, dialectally used with the meaning ‘earth, soil’ also denotes a ‘special type of tie rod’ without dialectal restrictions. Abzakh Adyghe śʔə also means ‘to produce, to construct’ inter alia, and śʔə g°, a complex term of the redundant kind, can also refer to the ‘ground floor.’ Badaga parava means “bothered, concerned, troubled” and is also the name of a specific kind of soil, and Khalkha kərəsən - kərədesyn also means ‘crust, peel, rind.’ Welsh gweryd is also used as a term for ‘grave.’ The root -ir- yielding Tuscarora àwiır ‘soil’ can also refer to a “bit, grain, particle” and ‘small piece,’ Kaingang qa also means ‘louse, worm,’ and Piro tə̄ji-xi appears to be a diminutive of tə̄ji ‘fire, firewood.’ Rama colexifies ‘earth, ground’ with ‘going,’ Fijian with ‘cluster, shoal, swarm,’ and Bwe Karen ha also means ‘hole in the ground, pit’ inter alia. Lenakel nimitik ‘red or reddish soil’ might contain nimit ‘mud, swamp,’ Hawaiian lepo figuratively can also refer to ‘common people,’ Samoan ‘ele’ele (see above for morphological analysis) also means ‘blood’ and ‘menses’ in polite usage, while Tetun rai-metan ‘earth-black’ colexifies ‘fertilizer.’

55. The Spark
Representation: 54%
Motivated: 39.1%
Thereof Analyzable: 27.2% Thereof Colexifying: 13.1%
Thereof by Contiguity: 10.0% Thereof by Similarity: 23.1%
Recurrent associated meanings: fire, lightning, embers, flame, burst/explode, light, particle, sparkle, firefly, flower, star, grain

There are a number of lexico-semantic ties pertaining to the meaning ‘spark,’ but none of them is particularly frequent. Basque, Khalkha, Haida, and Tuscarora colexify ‘spark’ with ‘embers’ (Tuscarora in addition colexifies ‘candle,’ ‘flash of light,’ ‘light,’ ‘lamp,’ and ‘taper’). In three languages, the term for ‘spark’ is associated lexically with verbs meaning ‘to burst, explode.’ These are Nivkh (p’ryvr t’uyr ‘burst fire’), Nez Perce (tə̄x̌ələcərsə, containing
'explode' and Fijian ('idi ni buka 'burst/explode POSS fire/firewood'). The same word is used for 'spark' and 'flame' in four sampled languages, Abzakh Adyghe, San Mateo del Mar Huave, Bororo, and Chayahuita (the Abzakh Adyghe and Chayahuita terms in fact are complex containing the words for 'tongue' since this is a very frequent pattern in terms for 'flame' as described in section 22, it seems reasonable to assume that this is indeed the primary meaning in these languages). Tuscarora and Central Yup'ik have associations between 'spark' and 'light' (Central Yup'ik by the term kenurraq, which is perhaps analyzable as /keneq-raq/ 'fire-little.bit,' the meaning 'spark' is attested only for the dialect of Norton Sound, in other dialects it means 'light' or 'lamp'). Relatedly, in Khoekhoe, nanib ~ nanis is derived from the verb nani 'to twinkle, flicker, gleam, burn slowly,' and there is a semianalyzable term in Kaingang. Hawaiian and Rotuman have complex terms in which one constituent means 'particle:' huna-ahi 'particle/speck/crumb/grain-fire' (also denoting 'live cinder') and momoe ne rahi 'fine.particles ART.PL fire.' Also in two languages of the sample, an association with the meaning 'to sparkle' is found, by colexification in Bororo and by the term yantsáji /yáants-ji/ 'sparkle-ROSS' in Aguaruna. Contiguity-based associations by morphologically complex terms with 'fire' making reference to the fact that sparks are, in Cognitive Linguistics parlance, a figure emerging from a larger ground structure (the fire) are Kashaya òoho cuhṭuʔuʔ-kuhṭuʔ-kuhṭuʔ-w/ 'fire round.object-pieces.come.off.bigger.object-RED-ABS' and Wintu p’oh’ dil-ma ‘fire drop/fall/alight-??’ (this term itself is glossed as “Sparks are flying. He dropped the fire”). There is also at least one language which directly colexifies 'fire' with 'spark,' namely Chukchi; the association may also be present in Northeastern Tasmanian.

Recurrent metaphor-based associations are also found. Abzakh Adyghe, Badaga, Abipón, Bora, Ancash Quechua, and Lesser Antillean Creole French colexify 'spark' with 'lightning.' Berik has tokwa es, presumably analyzable as /tokwa ese/ 'fire flower' and Tetun ahi-fuhan, also analyzable as 'fire-flower.' In two sampled languages, the word for 'spark' contains that for 'star': Dadibi sia hó ‘fire star’ and Bislama sta blong faea ‘star ROSS fire.’ In Baruya, ‘spark’ is di’nyaala /dika-nyaala/ ‘fire-firefly,’ Bezhta directly colexifies the relevant meanings, while Huambisa has the semianalyzable term yantsari, for which compare yantsa ‘firefly.’ Miskito has pauta yuya ‘fire grain,’ and Hawaiian huna-ahi ‘particle/speck/crumb/grain-fire.’ Other metaphorical associations in which 'fire' acts as a contiguity anchor include: Yoruba owó-iná ‘hand-fire,’ Toaripí a-e, perhaps analyzable as ‘fire-taɪes,’ Ket bóɪdés, analyzable as /bo’k-dēs/ ‘fire-eye’ (note that Haida sráhild is derived from a verb meaning 'to glance'), Xicotepec de Juárez Totonac kosa mascut ‘jump/get.up fire.’ Semianalyzable terms in which 'fire' figures are found in Efik, Toaripi, Kosarek Yale, Carrier, San Lucas Quiaviní Zapotec, and Arabela.

Other unsystematic associations include the following: Muna wara, when used verbally, also means 'to drip, to drip,' and Yoruba ẹta also means 'splash' as well as 'root, tuber.' Ngaanyatjarra tii also means "healed tissue" as well as, by English influence, 'tea,' while Nunggubuyu -warwadawad- may be related to rax "burnt-out grassland or light bushland" and =wada- ‘to snap, to break suddenly.’ The second constituent in the Yir Yoront term thumliqlqi resembles lilq, which means ‘alone, by oneself’ (thum is 'fire').
Basque pindar also colloquially means “spunk, pep,” and txinpart is also used with the meaning ‘livewire.’ Khalkha cindara contains or is otherwise related to cindar, a respectful term for ‘remains, corpse’ and also means “white ashes on dying coals.” Coy also denotes ‘hot ashes,’ as well as, figuratively, “splendor, grandeur, glory; energy, spirit.” Welsh has tamaid o beth llgos ‘piece of something burning,’ and Blackfoot ipásststiti’mk’a ‘to throw a spark’ contains mi’k ‘red.’ The denotational range of the Itzaj term se’es covers also “sawdust, bit, small chip, crumb, confetti” as well as “finely cut, fine.” The Kiliwa term contains an element meaning ‘earth.’ Wappo pěšii also means “snap like burning wood,” and Copainalá Zoque colexifies ‘light thunder.’ Arabella also denotes ‘piece of lit coal,’ and Bororo beri is also used with the meanings ‘abundance’ and ‘arrogance,’ while Embera adytzúa colexifies ‘brilliant’ and ‘bright.’

56. The Spring

Motivated: 46.3%

Thereof Analyzable: 35.5% Thereof Colexifying: 12.0%

Thereof by Contiguity: 27.8% Thereof by Similarity: 12.6%

Recurrent associated meanings: water, river, hole, eye, come out, lake/pond, jump, head, puddle, boil, dig/dug, fetch water, headwaters

Motivated terms for ‘spring’ (or ‘well,’ which was accepted as a proxy) are frequently morphologically complex, with one of the constituents being ‘water.’ However, also for the meaning of the second constituent involved, there are a number of recurrent patterns. In twelve sampled languages, this is ‘hole,’ as in Bakueri ew̱ondí yá málíwá ‘hole of water.’ Alongside Bakueri, words with this structure are attested for Berik, Toaripi, Haida, Yuki, Bora, Bororo, Guarani, Hupda (where the word for ‘hole’ also means ‘house’), Maxakali, Rama, Yanomami (where an additional element meaning ‘point’ is present), and White Hmong (where there may be a further element meaning ‘issue forth’ present). In addition, Embera colexifies a general term for ‘hole, pit’ with ‘spring’ and in Hani, ‘village well’ is lolhovq, with lol being the classifier for rivers and hovq, meaning ‘to fetch water’ (for which association in turn compare Chukchi ajma-n ‘fetch.water-LOC’) as well as being a classifier for pits and holes (see also Buck 1949: 45 for this semantic connection in Indo-European, evidenced in Greek and Armenian). Somewhat similarly, Cubeo has jiácará-cobe, probably containing jiácu ‘be.aquatic’ and a classifier for hole-like objects. The second most frequent pattern is metaphorical in nature, with the second constituent being ‘eye,’ as in Meyah mei etji ‘water eye’ (see also § 6.2.3.1. for discussion of ‘eye’-metaphors). Other languages with such terms are Buli, Kyaka, Sahu, San Mateo del Mar Huave, Bislama, Fiji-an, and Tetun (note also Welsh llygad ffynnon ‘eye well/fountain’ and similar redundant terms in Khoekhoe, Muna, Ancash Quechua, and Hawaiian). Hausa, Dongolese Nubian, Burarra, Ancash Quechua, and Samoan colexify ‘eye’ with ‘spring;’ due to the pervasive-
ness of metaphors on the basis of ‘eye’ cross-linguistically (see Buck 1949: 44 for semantic development from ‘eye’ to ‘spring’ in Armenian), many of the languages have further meanings colexified. The association with ‘eye’ is also common in Semitic languages (e.g. Segert 1991: 1432). Another metaphorical pattern is constituted by the transfer from ‘head’ to ‘spring,’ as in Yanomamí uhē ‘liquid/river head.’ This association is also found in Mbum, Sora (where an additional element meaning ‘hill’ is present and the relevant term denotes a “spring of water on the hill”), Malagasy, and Tetun; Miskito colexifies ‘head of plant’ and ‘spring,’ and a semianalyzable term of this kind, colexifying ‘source’ (also in the sense of ‘source of information’) and ‘origin’ is also found in Basque; also note Yoruba ori-sun ‘head-spring.or.fountain.’ In four sampled languages, Mbum, Yoruba, Ancash Quechua, and Rotuman, terms for ‘spring’ are encountered which contain a verb meaning ‘to jump’ or to ‘spring,’ for instance Mbum hwíŋà-mbìì ‘spring.out water’ for a ‘fountain;’ the relevant Fijian term is reduplicated from a verb meaning ‘for water to spring up.’ Samoan colexifies verbal ‘jump, leap’ with ‘boil’ and nominal ‘spring, source’ (for the association with boiling, note that Central Yup’ik qalla-neq colexifies ‘spring’ with ‘eddy’ and is analyzable as ‘be.boiling-thing.that.results.from’ and that the Swahili term chemchemi is derived by re-duplication from the verb chemka ‘to boil’). Somewhat similarly, in eight sampled languages, One, Japanese, Nivkh, Sora, Kiowa, Bora, Chayahuita, and Takia (in Japanese and Bora, there are uncertainties as to the analysis), there are at times quite complex terms for ‘spring’ revolving around verbs meaning ‘to come out,’ ‘to go out,’ or ‘to exit,’ such as One fola suwe ‘water/river come.out;’ note also that in Kiliwa ʔmatcpam (mat is ‘earth’) might derive diachronically from *c-paa ‘come out.’ Buin colexifies ‘spring,’ ‘to emerge’ and other meanings directly, and Welsh tardiad is derived from tarddu “to spring, to sprout, to derive from, to issue.” In Biloxi, perhaps Cheyenne, Lakhota, and Tehuelche, constituents meaning ‘to dig (out)’ or ‘dug’ figure, e.g. in Lakhota one of the terms for ‘spring’ is mničapi /mni-čapi/ ‘water-dug’ (Cheyenne colexifies ‘spring with ‘water pump’ and ‘windmill’); Rotokas and Copainalá Zoque have semianalyzable terms with such structure.

Twelve sampled languages, Bakueri, Buli, Efik, Ngambay, Muna, Sko, Badaga, Kashaya, Pipil, Maxakalí (by the complex term kōnãkox, analyzable as /kōnã'ãg-kox/ ‘water-hole’), Bwe Karen, and Kapingamarangi directly colexify ‘spring’ or ‘well’ with ‘river, stream’ by contiguity (Ngambay also with ‘waves;’ the connection is evidenced by a cognate set between Latvian and Sanskrit in Indo-European, Buck 1949: 45). Buli, Wintu, Yuki, Cayapa, Kaingang, and Maxakalí colexify ‘spring’ with ‘pool, lake’ and/or ‘pond’ (again by the analyzable term already mentioned), Similarly, in Sko, the ‘spring’ is called pa-i ‘wa-ter/river-pool.’ In Basque, Oneida, Pipil, and Hawaiian, ‘spring, well’ is colexified with ‘puddle.’ Due to colexification of ‘water,’ ‘river,’ and ‘lake,’ the association with ‘lake’ is also found in Berik by an analyzable term, and there is a semianalyzable term in Quileute.

This brings the discussion back full circle to the frequent role of ‘water’ to act as contiguity anchor in complex terms, and the different patterns of colexifications of ‘water’ with different bodies of water (see also § 6.2.2.5.). Ngambay, Muna, Yir Yoront, Comanche, and Kashaya directly colexify ‘(spring) water’ and ‘spring’ (and sometimes also other bod-
ies of water, further, Ngambay also colexifies ‘waves’ and Badaga also ‘dale,’ ‘flat land’ and ‘riverside’).

Noni joo ‘spring’ consists of joo ‘water’ and the noun class prefix fi-, and Lavukaleve lafi ‘spring’ is connected to lafi ‘water.’ Bwe Karen has chi-bu ‘water-in.’ However, alongside those already mentioned, there are also a relatively large number of language-specific conceptualizations realized by morphologically complex terms on the basis of ‘water.’ These are: Noni joo yi caan ‘water REL small,’ Kaluli hon si ‘water-tip’ (compare the possible etymology of Ket tájlop = *taj-ūl-ʔqop ‘cold-water-tip’), Kyaka ipuaa renge ‘water source’ (with renge also having other readings), Meyah mei ofog ‘water round,’ Sahu ‘banyo ma utu’ ‘water POSS root,’ Abzakh Adyghe pso-ʔaq’e ‘water-foot/stem,’ Ket aqtul, analyzable as /aqta-ül/ ‘good-water,’ Carrier thaqekköt, containing tha ‘water’ and kêt ‘place,’ Oneida kahnékóni? /ka-hnek-Noʔ/ ‘NEUT.AGENT-liquid/liquor-be.in.water/cook.in.water-STAT,’ Pipil (Santo Domingo de Guzmán dialect) puni a-t ‘be.born water-ABS,’ Santiago Mexquititlan Otomí pothe /poho-dehe/ ‘well.up-water,’ Wintu popil-mem ‘summer-water/river’ (also denoting a “spring that dries in the winter”), Yuki pil-ʔuk ‘snow-water,’ Guarani y-vu ‘water swollen,’ Wayampi ɨapɨ/ɨɨ-apɨ ‘water/river-source,’ colexifying ‘valley’ and ‘dew,’ Bislama maot blong wota ‘mouth POSS water,’ and Hawaiian kumu wai ‘foundation/base water’ and wai ũ ‘swell water’ (meaning “gushing spring, overflowing water”). There are semianalyzable terms with ‘water’ in Kosarek Yale, Comanche, Quileute, Yana, Yuki, Bislama, and Kapingamarangi. Baruya and Kosarek Yale colexify ‘spring’ with ‘headwaters,’ and similarly, Sedang colexifies ‘upstream.’

Other associations include: the Khoekhoe termsǀaub andǀaus contain the rootǀau “trickle, purl, run/flow gently,” and Rendille wór also means ‘news.’ Anggor fe amonggo seems to contain amongo ‘sibling,’ Basque colexifies ‘well’ and ‘puddle,’ while Sahu goŋyoŋo contains onyoʔo ‘to draw water.’ Khalkha bulay also means “[h]aving white spots, partly white…,” and Welsh ffynhonnel is derived from ffynhonn ‘to well, to gush.’ Ineseno Chumash ‘aqmilimu’ is derived from the verb ‘aqmil- ‘to drink,’ while Itzaj colexifies ‘spring’ with ‘splash’ and Lake Miwok ʔóla is also a kinship term. The Pawnee term kicaahkatakus is analyzable as /kic-haahka-ta-kus/ ‘be.liquid-be.attached-suspended-be.sitting,’ Santiago Mexquititlan Otomí colexifies ‘spring’ with ‘black,’ and the Tuscarora term ucaʔuhstaʔkéhaʔ is based on the verb root -caʔuhst- ‘be cool.’ Guaraní ykuayvu also denotes an ‘underground watercourse.’ Hawaiian hāpuna colexifies ‘spring’ with ‘coral,’ ‘lime’ and other things, and māpuna “bubbling spring” with “froth, as of a rough sea” and “surging of emotions.” Mandarin colexifies ‘spring’ and ‘neck’ (the relevant lexical items were still distinct in Early Middle Chinese though), and Rotuman colexifies ‘water source’ with ‘medicine,’ ‘cask,’ and “stew or hash made of meat or fish.”

57. The Star

Representation: 97%
Motivated: 21.2%
Thereof Analyzable: 5.2%  Thereof Colexifying: 18.1%
Thereof by Contiguity: 2.7%  Thereof by Similarity: 19.2%
Recurrent associated meanings: planet, firefly, starfish, meteoroid, moon, constellation, blaze, shine/sparkle/blink, asterisk, badge of rank, dot/spot, fire

‘Star’ is a meaning expressed in many languages by an unanalyzable, monomorphemic word. Semantic associations by colexification are also relatively rare. Muna, Nunggubuyu, Rotokas, Toaripi, Tuscarora, Bororo, Wayampi, Yanomámi, Fijian (where the relevant term kalokalo also denotes the flower ‘aster,’ the English name of which incidentally itself goes back to the Ancient Greek word for ‘star;’ kalo itself is ‘pull bowstring, discharge gun’), and Sedang colexify ‘star’ with ‘planet’ (Sora and Toaripi also with ‘comet’ or ‘meteor;’ moreover, in Khoekhoe, the same term suffixed with different nominal designants yields the meanings ‘star’ and ‘comet’ respectively, while Bislama sta is glossed as “any heavenly body (e.g. moon, star, meteorite”). The second most common association, found in Buin, Muna (where the term kolipopo ~ ngkolipopo may be related to popo “evil spirit which looks like a flashlight attacking people”), One, Waris, Kosarek Yale, San Lucas Quiavini Zapotec, Bora, Cavineña, and Yanomámi, is colexification of ‘star’ with ‘firefly’ by a metaphorical transfer based on perceptual similarity; the relevant Yanomámi term is semianalyzable containing an element meaning ‘round fruit’ and also denotes an unidentified species of oruga.

Otherwise, there is scattered evidence for lexico-semantic ties between ‘star’ and the two large heavenly bodies, the ‘sun’ and the ‘moon.’ Burarra is the only language in the sample which colexifies ‘sun’ and ‘star’ (and concomitantly, a type of shellfish similar in appearance to a star, several species of sea urchin, and further meanings associated with ‘sun,’ such as ‘watch,’ see section 60), though note that Burarra also features an unrelated monomorphemic term for ‘star’ specifically. Semianalyzable terms for ‘star’ in which one constituent appears to be ‘sun’ are found in Maxakalí and White Hmong, and in addition, Hupda wæðhɔm’æh might be analyzable as /wæðhɔ-mæh/ ‘sun/moon-small,’ although this is not entirely straightforward. The source remarks that the words for ‘star’ are also based on a word for ‘sun, moon’ in languages of the neighboring Tucanoan family. Ties with ‘moon’ specifically also exist. Next to the case of Bislama already mentioned, Abipón is the only language in the sample colexifying the two by the term eergRaik, derived from eerg- ‘to burn, sparkle.’ In the two sampled Tupi-Guaraní languages, Guaraní and Wayampi, the word for ‘star’ is analyzable as ‘fire-moon’ (jasyrata /jasy-tata/ and yaɨ-tata respectively; Guaraní also has the variant yvagarata /yvaga-tata/ ‘sky-fire’), and in addition, there are a number of languages in the sample where a diachronic association may exist. These are suspiciously concentrated in Africa: the Buli word for ‘star,’ chinmarik, might contain chiik ‘moon’ and ngmari ‘take from’ (this analysis is marked as questionable in the source). Likewise the analysis of Efik ntani’foñ is dubious: it might be a complex term consisting of n’tan ‘earth, dust’ and o’foñ ‘moon.’ Koyraboro Senni is yet another African language with a term for ‘star’ that is apparently related, at least in a diachronic sense, to other lexical elements: handarey resembles both handi ‘day’ and handu ‘moon, month.’ For Dongolese Nubian wiss(i), Armbruster (1965) suggests an etymology connecting the term to a word for ‘moon’ plus a diminutive suffix; note also the similarity between Rendille yeyyehin ‘star’ and yéyyan ‘moon.’
Moreover, Carib, Tehuelche, and Wayampi use the same term for a ‘star’ and a ‘constellation of stars,’ and Toaripi, Sora, and Bislama employ a single term for both ‘star’ and ‘shooting star, meteor.’

Another class of terms for ‘star’ are those derived from verbs meaning ‘to shine,’ ‘to sparkle,’ ‘to blink’ etc. (see Buck 1949: 56 for the association with ‘shine’ in Sanskrit). As already mentioned, Abipón ergRa-ik is derived from a verb meaning ‘to sparkle’ and similarly, in Khoekhoe, the word for ‘star,’ lgami-ro-s, is analyzable as ‘blink-DIM-3SG.FEM’ (a variant is lhom-lgami-ro-s ‘sky-blink-DIM-3SG.FEM’). In Hani, the ‘star’ is called aqgeel alsiq or aqgeelsiq, with geel meaning ‘to shine’ and alsiq ‘fruit;’ sîq also acts as a classifier for round things, inter alia (for ‘fruit,’ compare Austin et al. 1976: 61, table 2 for evidence from Arbana and Waŋgañuru), and Piro katahiri apparently contains kata ‘shinging, blazing.’ Three sampled languages, Hausa, Basque, and Kildin Saami, colexify ‘star’ with ‘blaze,’ the Basque term also may refer to a ‘cataract,’ ‘asterisk’ (an association it shares with Lesser Antillean Creole French), ‘dream,’ and a ‘star’ in the sense of a celebrity as well as someone ‘dear, beloved.’

Other recurrent associations include: In four languages of Oceania, Buin, Lavukaleve, Rotokas, and Bislama, ‘star’ and ‘starfish’ are designated by the same term. In two sampled languages of Eurasia, Basque and Khalkha, ‘star’ is extended to ‘badge of rank’ (a pattern also found in English, German, and presumably other languages of the region). Kyaka and Oneida colexify ‘star’ with ‘dot’ and/or ‘spot’ (Oneida also with ‘print’).

Still other associations include: Buin kaipa may also refer to “anything star-shaped,” Gurindji kiki also to a type of ornament, while Meyah motîr is semianalyzable: it contains motî ‘night.’ One leila also denotes a river frog, Sko ha also means ‘bag’ and ‘walk,’ Kosarek Yale has a semianalyzable term containing an element meaning ‘sky, air,’ Waris pai is also an interjection (“my!”), Badaga mînu also means ‘fish, shellfish,’ Bezhta câ also ‘salt,’ and Kolyma Yukaghir jurgud’eja ~ jurgud’ejja, colexifying ‘awl,’ contains jurgu: ‘slot, hole’ (Tundra Yukaghir has payad’iid-ekau ‘drill-hole,’ Nikolaeva 2006: 340). Ineseño Chu’mash aqiwo also means ‘snail.’ The Haida term k’a7ihldaa is analyzable as /k’a-7ahlda/ ‘tiny.object-glance.at,’ Itzaj colexifies ‘star’ with ‘black,’ and the Kashaya term qha·mos·̓ contains mos ‘sour.’ The first element may be etymologically related to q’aʔa ‘nightlong’ or q’aʔaw ‘morning.’ Tuscarora u?nihs’reb also means ‘navel.’ Wintu λuyuq is related to λu ‘to stab’ and also denotes ‘porcupine, porcupine needles.’ Arabela rijia also means ‘earthquake,’ Chayahuita tayora probably contains the classifier -ra for ‘small things,’ and Lengu yoa also denotes a ‘pebble.’ Miskito karma also means ‘throat’ and ‘origin.’ Rama piup contains up ‘eye,’ and Yanomâmi kurikayari might be related to kurikaya, a term for a parrot species. Bwe Karen colexifies ‘star’ with ‘to run’ inter alia, and Rotuman sina also means ‘light, lamp’ inter alia (for this term the lexicographer remarks that it might be restricted with the meaning ‘star’ to a single fixed expression). The Yay term for ‘star,’ daaw’ dî, might contain daaw ‘to stir,’ and Vietnamese sau also means ‘how.’ Lesser Antillean Creole French étwal also means ‘destiny.’
The meaning 'steam' (for which 'vapor' was accepted as a proxy) is frequently associated with other dispersions of particles in the air, such as 'smoke,' 'cloud,' and 'fog.' 31 languages colexify 'steam' with 'smoke;' these are Buli, Efik, Koyraboro Senni, Burarra, Kwoma, Mali (the relevant term chulëski contains chulës 'liquid'), Ngaanyatjarra, Nunggubuyu, Sahu, Yir Yoront, Abzakh Adyghe, Upper Chehalis, San Mateo del Mar Huave, Central Yup’ik, Arabela, Bora, Carib, Cayapa (by the term ḳivijcha, perhaps containing ṱi ‘fire, flame, seed’ and ṱivjcha ‘difference in height), Guarani, Hupda, Lengua, Miskito, Ancash and Imbabura Quechua, Tehuelche, Tsafiki, Wayampi, Fijian, Lenakel, and Samoan. Morphologically complex terms are also found: in Highland Chontal, ‘steam’ is liguxís gajah /liguxís lajah/ ‘smoke water,’ and in Santiago Mexquititlan Otomi ḫipa is analyzable as /‘bifi-pa/ ‘smoke-heat.’ In Hawaiian, one term for ‘steam’ is uahi wai, where uahi ~ uwahi means ‘smoke, spray’ and wai ‘water, liquid’ (compare also the colexification of ‘steam’ with ‘spray from waves’ in Yir Yoront and with ‘spray’ generally in Fijian). Similarly, Lake Miwok sìmi'uti also means ‘for smoke to emerge.’

In addition, in two of the languages with terms colexifying ‘smoke’ with ‘steam,’ they are morphologically complex, and their internal structure suggests that ‘smoke’ is the dominant meaning. Efik nsu’i’käni contains suñ ‘soft gentle’ and ikañ ‘fire,’ and in Wayampi, atañ is analyzable as /ata-sí/ ‘fire-whiteness;’ moreover, the relevant Kwoma term is semianalyzable, with the identifiable constituent meaning ‘fire.’ However, the direction of mapping as revealed by the evidence from complex terms is not entirely unidirectional, as evidence from Tetun shows (see section 53).

Sixteen languages in the sample, namely Efik, Anggor, Burarra, Kyaka, Yir Yoront, Abzakh Adyghe, Greek, Khalkha, Welsh, Wintu, Arabela, Hupda, Lengua, Miskito, Hawaiian, and Rotuman colexify ‘steam’ with ‘fog, mist’ (see Buck 1949: 66 for the connection with ‘vapor’ in Indo-European), and five, Anggor, Arabela, Bora, Cayapa (by the analyzable term mentioned above), and Tsafiki colexify ‘steam’ with ‘cloud’ (note also the similarity between Koyraboro Senni duule ~ duula ‘cloud’ and dullu ‘smoke, steam’). Moreover, four sampled languages, Carib, Hupda, Ancash Quechua, and Fijian colexify ‘steam’ with ‘dust,’ and in Wintu, Ancash Quechua, and Hani, the same term is used for ‘steam’ and ‘gas’ (the relevant Wintu root xo also yields xo xo ‘lungs’). As is always the case with the associations pertaining to aerosols, it should be borne in mind that some sampled languages use the same term for not only two, but sometimes three or even four of these meanings (see also § 6.2.2.2.).

An association that is particular to the meaning ‘steam’ is that with ‘breath, exhalation,’ occurring by colexification in Bakueri, Efik, Buin (where the term also denotes the
‘windpipe, trachea’ as well as “Puffing, breathlessness; airiness”), Kosarek Yale, Bezhta, Khalkha, San Lucas Quiavini Zapotec, Ancash Quechua, Fijian, Hani, and Sedang (inter alia), and by the analyzable term *sddl-há-t’uy-ghň* ‘be.hot-breath-water-NOUN.POSTFIX’ in Kiowa. As in this language, analyzable terms for ‘steam’ frequently contain an element referring to ‘heat’ (and Efik, Yoruba, Itzáj, and Pawnee, by the analyzable term *awiriitu*7 /awirit-u7/ ‘be.hot-NOM,’ colexify the meanings directly, while Bislama colexifies ‘steam’ with “radiated heat from sea” more specifically). Santiago Mexquititlan Otomi has, as already mentioned above, *bipa*, analyzable as */bifi-pa/ ‘smoke-heat,’ Yanomámi has *u heõshi* ‘liquid hot,’ and Takia you *wanna-n san ur* ‘water hot-3SG its air’ (for the association with ‘air,’ note also Vietnamese *hoi nước* ‘air water’ and the colexification of these meanings in Bakueri and Ket alongside the colexification with ‘atmosphere’ in Khalkha). A semianalyzable term where one constituent can be identified to mean ‘hot’ is found in Rotuman. Completely unrelated patterns are the colexification of ‘steam’ with ‘smell, odor’ and/or ‘fragrance (from cooking),’ which is found in Ngambay, Burarra (here the relevant term -jinyja is related to the verb *jinyja* meaning ‘be standing, be vertical’ inter alia), Gurindji, Kwoma, Basque (where the term also denotes ‘perfume’ specifically), Bezhta, Tuscarora (by an analyzable term containing the roots -hsőri- ‘savor’ and -ur- ‘to cover’), and Yay. Colexification of ‘steam’ and ‘(to) sweat’ is found in Santiago Mexquitilan Otomi (by the analyzable term *xgni-dehe* ‘to sprinkle-water’) and White Hmong. As has emerged from the discussion so far, ‘water,’ associated by contiguity with ‘steam,’ frequently figures in analyzable terms. Another such term not yet mentioned is Santiago Mexquititlan Otomi *hge-dehe* ‘to fall-water,’ and semianalyzable terms where one of the constituents is ‘water’ are also found in Kiliwa and Sko alongside Japanese, where a term for ‘steam’ contains *yu* ‘hot water’ (see Goddard 2001 on the lexical distinction between hot and cold water in Japanese). Abipón has *l-apa-Ra*, analyzable as ‘POSS.INDEF/3SG-boil-ABSTR’ and colexifying ‘foam,’ Great Andamanese *bôag* has a verbal reading as ‘to boil,’ and a verb colexifying ‘to steam’ with ‘to boil’ is present in the relevant term in Oneida.

Other associations include: Efik *uye* also denotes “[a] good or bad influence supposed to be communicated by the heat or exhalation from the body of another,” and Muna *oho* also means ‘to feed’ as well as ‘close lid, cover.’ Kosarek Yale *iba* metaphorically also means ‘fury, passion.’ Abzakh *adyşe* -y’e- also means ‘to dry, to make dry’ and ‘path, street’ among many other things, Badaga *avì* also means ‘yawn, yawning,’ as well as ‘spirit, soul’ and related notions, Khalkha *ayur* metaphorically also means ‘anger,’ while Welsh *anwedd* also means ‘enormous’ and other things. Cahuilla *múulilis* is derived from the verb -múul- ‘to come out steaming, bubbling’ (similarly, Nez Perce *múy*n is derived from *múy*- ‘to rise as steam,’ and Chayahuita *tomontèrinso* from *tomoitèrin* ‘for steam to rise up’). Carrier *yentsel* ‘steam (over the ground after rain)’ contains *yem* ‘earth,’ Itzáj colexifies ‘scab’ inter alia, while Santiago Mexquititlan Otomi *h-ná* is analyzable as ‘IMPERSONAL.VOICE-speak.’ The term means ‘steam’ as well as ‘voice, language.’ Wintu *liv* also means ‘to extinguish fire, sprinkle water on hot rocks to make steam, throw water on fire’ and *x0s* also means ‘lungs’ (which is suggestive of an underlying association with ‘breath’), Chayahuita colexifies ‘steam’ with ‘airplane,’ Guaraní with ‘nose, beak, point,’ and Hani with ‘to cook by steaming.’ Bwe Karen *nu* also means ‘blood’ inter alia, Fijian *kuvu* also denotes “the
foam at the front of a swiftly moving canoe,” and Hawaiian māhū also several kinds of trees.

59. The Straw

Representation: 44%
Motivated: 70.0%
Thereof Analyzable: 26.2% Thereof Colexifying: 43.8%
Thereof by Contiguity: 53.3% Thereof by Similarity: 6.9%
Recurrent associated meanings: grass, dry, maize, chaff, stalk/cane, fodder, pasture/lawn, mat, kindling, hat

By far the most frequent association for ‘straw’ (or ‘hay’) is that with ‘grass, weed,’ either by colexification (sometimes with additional colexified meanings, see section 28), or by morphologically complex terms, which have, in the overwhelming majority of cases, an element meaning ‘dry’ as their second constituent. The association is also common in diachrony in Indo-European (Buck 1949: 520-521). Colexification is found in Buli, Ngambay, Abzakh Aytqhe, Badaga, Bezhta, Khalkha, Kildin Saami, Upper Chehalis (by the term s-smq=m-umš ‘CONTINUATIVE-prairie-place’), Cheyenne, Chickasaw, Highland Chontal, Itzaj, Kashaya, Kiowa, Nez Perce (also colexifying ‘lettuce’ in one of the relevant terms and ‘bits of straw to start fire’ and ‘kindling’ in the other, the latter association is shared with Ancash Quechua), Nuuchahnulth, Oneida, Pipil, Tuscarora, Yaqui, and Mandarin (22 sampled languages; Pipil colexifies ‘straw for hatching’ more specifically, and in Efik, ‘straw’ and a particular type of grass are colexified). Complex terms involving a term meaning ‘dry’ or ‘withered,’ as for instance in Yoruba koriko gbígbẹ ‘grass dry,’ are found also in Nivkh, San Mateo del Mar Huave, Fijian, Great Andamanese, Hawaiian, Samoan, and Tetun (Meyah has mofombrá efẹj ‘weed dry’). Variants are Kolyma Yukaghir jaqadač̐εd-ulego ‘horse-grass’ and Cheyenne mo’eévök̕ẹh̕a/ mo’e’é-höhk̕ẹh̕a/ ‘grass-hat’ (note that in Pawnee, ka’ihcu can refer to both ‘straw’ as well as a ‘straw hat’ or ‘straw basket’). One of the relevant Fijian terms kaunisilāmadā consists of kau ‘wood, stick’ the possessive marker ni, sila ‘maize-like plant, maize’ and madu ‘dry;’ a similar term is also found in Yoruba: iga agbado tabi bàbà ‘wood maize or guinea.corn,’ and Carrier has a semianalyzable term where one constituent means ‘wood’ or ‘stick.’ Further, there are also other languages in which ‘straw’ is lexically associated with ‘corn’ or ‘maize’: Wayampi awasi-i-e is analyzable as ‘maize-leaf/stalk-PAST’ (referring to ‘straw of maize’ specifically), Chayahuita has shi’shi’ shahuëtë pochin ninin-so’ ‘maize leather/bark like do/be-3SG.SUB,’ and Khoekhoe features a semianalyzable term with a constituent meaning ‘corn.’ Greek, Lake Miwok, and Embera colexify ‘straw’ with ‘chaff,’ and Khoekhoe, Muna, and Basque with ‘stalk’ and/or ‘cane’ (‘stalk of corn’ specifically in Khoekhoe). Similarly, Dongolese Nubian has hasémkášš(l) ‘refuse of reaped crop, straw,’ containing háš̄d ‘stumps of crops remaining after harvest, stubble’ and hášš(l) ‘refuse, waist (of vegetation).’ In Khalkha and Abipón, presumably by provenience contiguity, ‘straw’ and ‘mat’ are colexified. Aguaruna appears to colexify ‘straw’ with ‘layer of grass’ and ‘lawn,’ Cavanéha colexifies ‘pasture,’ and Embera phődrā, associated with another gender, also means ‘pasture, grassland.’ In Tetun, the association
is present due to colexification of ‘grass’ and ‘pasture’ by an analyzable term with the other constituent meaning ‘dry.’ Finally, Badaga, Sora, and Guaraní colexify ‘straw’ and ‘fodder.’

Other associations include: the plural form of Buli wuuk ‘grass, blade of grass, straw’ means ‘bushland, grassland, bush,’ and Abzakh Adyghe χα-п’е is analyzable as ‘mow-place’ and also denotes a ‘field after harvest.’ Blackfoot sol’stispimakssin is derived from sol’stispimu ‘to harvest’ and indeed also denotes a ‘harvest.’ Nez Perce peqes denotes, alongside ‘straw,’ the ‘Bunchgrass’ specifically as well as ‘wild wheat, wheat.’ Wappo π̤e̤haʔ also means ‘belt’ (presumably due to phonological collapse of Span. faja ‘strip, waistband’ with paja ‘straw’), and Wintu sunus also means ‘nest, lair.’ Another Wintu term, ḡιʔ, means inter alia ‘bed’ alongside ‘spread, hay.’ Central Yup’ik cupun ~ cup’un is analyzable as /cupe-n/ ‘blow-instrument’ and can also refer to ‘embers’ and a ‘rifle.’ Miskito rais mina is analyzable as ‘rice husk’ (mina in fact also denotes the ‘foot’ and by extension also the lower part of something), while waha, another Miskito term for ‘straw,’ colexifies ‘leaf.’ Ancash Quechua achu also means ‘splinter,’ Tsafiki yaja ‘straw for houses’ contains ya ‘house, roof,’ and Bwe Karen ṭu løkhwa contains ṭu “paddy, unhusked rice;” the language also has another semianalyzable term containing an element meaning “(on) the upper or outer surface of.”

60. The Sun

Representation in Dabase: 99%
Motivated: 51.8%
Thereof Analyzable: 5.8%
Thereof Colexifying: 46.0%
Thereof by Contiguity: 25.7%
Thereof by Similarity: 10.9%
Recurrent associated meanings: day, moon, clock, sunshine/sunlight, time, hot/heat, hour, sail, calendar, noon, weather, god, eye, burn, sunray/sunbeam, year, fire

The most frequent association between the ‘sun’ and other meanings is that with ‘day, daytime’ by contiguity. Colexification is found in as many as 37 languages, namely Hausa, Mbund, Rendille, Buin, Gurindji, Kyaka, Mali, Ngaanyatjarra, Sko, Toaripi, Japanese, Sora, Kildin Saami, Cahuilla, Ineseño Chumash, Comanche, Itzaj, Kiliwa, Lake Miwok, Pawnee, Quileute, Xicotepec de Juárez Tononac (by the complex term chi’chin’i /chi’chi-ni/ ‘warm-AGT’), Yana, Yaqui, San Lucas Quiaiví Zapotec, Copainalá Zoque, Lengua, Miskito, Rama, Tehuelche, Wichí, Fiji, Great Andamanese, Hawaiian, Manange, White Hmong, and Sedang. Similarly, Kyaka and Tasmanian (Southeastern and perhaps Middle-Eastern varieties) colexify ‘sun’ with ‘daylight.’

Frequently, ‘sun’ is also extended to convey other time-related concepts. Indeed, the very notion of ‘time (of day)’ is expressed by the same term as ‘sun’ in Ngambay (here also ‘moment’ is colexified), Buin, Burarra, Badaga, Cahuilla, Itzaj, and Tehuelche, and in Ngambay, Highland Chontal, and Cashinahua (here also colexifying ‘year,’ as in Wayampi, and ‘brilliance, strength of sun’), the relevant terms also mean ‘hour’ (note that none of these languages also colexify ‘day!’). Some languages, namely Burarra, Gurindji, Toaripi,
Upper Chehalis, Cheyenne, Comanche, Kashaya, Kiowa, Wappo, Wintu, Bora, Cubeo, Jarawara, Yanomámi, and Kapingamarangi, employ their word for ‘sun’ directly also to denote a ‘clock’ or ‘watch,’ and in Cheyenne and Wappo also ‘calendar’ (and there are many languages where ‘clock’ is expressed by a complex term involving ‘sun,’ see section 79). In Sko and Buli, ‘noon’ specifically is colexified with ‘sun,’ and Buli and Itzaj feature terms which can also convey the meaning ‘weather’ and/or ‘climate’ (Buli also colexifies ‘season’).

As an alternative to the colexification of ‘sun’ and ‘day,’ there are languages with analyzable terms for ‘sun’ on the basis of ‘day,’ most frequently in Southeast Asia and Oceania (Urban 2010). Sahu has wangere ma la'o ‘day possess eye,’ Yay taaj van’ ‘obstruct view day,’ and Fijian, alongside siga, which colexifies ‘day’ and ‘sun,’ also has the complex term mata-ni-siga ‘eye/face possess-day/sun.’ San Mateo del Mar Huave has teat niit ‘father day.’ The association with ‘eye’ is also found in Malagasy (masonando, analyzable as /màso-n-àndro/ ‘eye-GEN-day’), and a somewhat similar term is found in Vietnamese (mặt trời ‘face sky’); note also Tetun lori-matan ‘sun-eye’ for ‘disk of the sun’ specifically. Furthermore, there is evidence for a diachronic association between ‘day’ and ‘sun’ in Basque (compare eguzki ‘sun’ and egun ‘day’), and for a connection between ‘eye’ and ‘sun’ in Irish, where the present-day word for ‘sun’ is cognate with the inherited Indo-European word for ‘eye’ (Mallory and Adams 2006: 128). A Middle-Eastern Tasmanian term for ‘sun’ is recorded as pöganubren which resembles pöga(na) ‘man’ and nūb(e)ré(na) ‘eye.’ However, the simplex terms are not attested for the same language or dialect but for different ones, and thus it is unclear whether the mentioned term can be analyzed in this way or whether a diachronic connection between ‘eye’ and ‘sun’ should be recognized. A different recurrent pattern is colexification of ‘sun’ with ‘warm, warmth’ or ‘hot, heat,’ or complex terms exhibiting this association (see Buck 1949: 54 for the possibility of this connection in Irish). Xicotepec de Juárez Totonac chi’chiní was already mentioned. Similarly, Anggor has hëüfì-hamìndì ‘hot-bone/very,’ the Nunivak island dialect of Central Yup’ik has puqla-neq ‘warmth/heat-thing-results from’ (attested presently only in the Nunivak Island dialect, but recorded in the 19th century also for other dialects), and Abipón has m-pae-Ra ‘POSS.IND/3SG-hot-ABSTR.’ This term colexifies ‘sun’ with ‘heat (of the sun),’ and this pattern is also found utilizing monomorphemic terms in Buli, Miskito, Rama, and Hawaiian (among other meanings in this language). Relatedly, Dadibi and Japanese colexify ‘sun’ and ‘fire’ (the Japanese terms are different in prosody though; Dadibi sia in addition denotes the sensation of heat from fire or the sun), and in Lavukaleve and Ancash Quechua, the relevant terms have a verbal usage, in which they assume the meaning ‘to burn.’ In addition, Piro has the semianalyzable term tkatšì which appears to contain tšì ‘fire.’ Finally, many languages of the Americas use the same term for both ‘sun’ and ‘moon’ (and concomitant extensions typical for ‘moon,’ such as that to ‘month’ in some languages). Sometimes languages have complex terms for ‘moon’ based on ‘sun,’ see section 38. This phenomenon is encountered among the languages of the sample in Blackfoot, Carrier, Upper Chehalis, Cheyenne, Chickasaw, Lakhota, Nez Perce, Nuuchahnulth, Quileute, Tuscarora (according to older sources incorporated into the consulted source), Wappo, Wintu, Bora, Cayapa (here colexifying also ‘lowered, landed, fallen’), Cubeo, Hupda, and Macaguán (for further
associations due to the ‘moon’-reading, see section 38). In some of these languages, while the semantics of the colexifying term clearly allows reference to both heavenly bodies, there are complex terms to disambiguate, for instance Lakhota wi ‘sun, moon,’ ápí-wí ‘day-sun/moon,’ hąhépi-wí ‘night-sun/moon;’ the complex term for ‘sun’ of this structure in Cubeo can also be used to refer to a diurnal animal.

In ten sampled languages, Buli (also by the variant term wen-biri ‘sun-seed’), Dongolese Nubian, Baruya, Nganyatjarra, Rotokas, Waris, Basque, Lesser Antillean Creole French, Embera, and Bislama, ‘sun’ and ‘sunshine’ or ‘sunlight’ are colexified, and Dongolese Nubian and Nuuchahnulth colexify ‘sun’ with ‘sunray, sunbeam.’ Finally, Aguaruna étsa also is the name of a mythological hero and the god of hunters as well as the name of yellowish bird and fish species (note that Buli and Highland Chontal colexify ‘sun’ with ‘god,’ and that the same term in the former language is also a “religious concept denoting the ‘alter ego’ or ‘personal god’ of an individual”). Similarly, Bororo also uses its term for the ‘sun,’ meri, as a name for certain spirits. Hawaiian, Kapingamarangi, and Samoan colexify ‘sun’ with ‘sail’ (according to Elbert and Pukui 1986: 188, in the sense of ‘sun’ the relevant Hawaiian term lā goes back to Proto-Polynesian *la’a, and in the sense of ‘sail’ to *lau).

Other associations are: Buli wen colexifies ‘sun’ with ‘sky’ as well as ‘up, upwards,’ while Koyraboroenni weynow ~ weynow ~ woyna might contain woy ‘woman, female’ (which would then in all likelihood be motivated by mythological complexes; note also woynow ‘horrhoids’). Buin rua also means ‘door’ (accidentally, due to borrowing from English) as well as “Be reddish-yellow (the colour of the sun at dawn),” and Burarra marnnga is the only term in the sample which simultaneously denotes both ‘sun’ and ‘star’ (as well as a type of shellfish similar in appearance to a star and several types of se urchin; the language also has an unrelated monomorphemic term for ‘star’). Kwoma ya also means ‘decorations’ and ‘money’ among many other things, Nunggubuyu ajir is also used to refer to the ‘starfish,’ and Yir Yoront puny is said to also mean ‘payback pendant.’ Individual variants of Badaga oṭṭu ~ ottu ~ hottu can also mean ‘to adhere,’ ‘pod, vegetable waste,’ and act as a suffix “indicating numerical frequency.” Greek ἔδος also means ‘sunflower,’ Japanese taiyō also ‘ocean,’ Ket also ‘name,’ Cheyenne ešéhe also ‘compass,’ and Kiowa pwe is also used to convey the meaning ‘summer.’ The literal meaning of Nez Perce wiyeténèt is ‘the one that travels’ (to have terms for celestial bodies derived from a verb meaning ‘to travel’ is common in the American Northwest). Nuuchahnulth hupat also is used to refer to the ‘thimbleberry,’ and Wintu tulcuheres, which is at the same time the name of a mythological hero, might be, with additional information from a Wintu myth, analyzable as “the one who was beaten as a (potential) spouse,” compare tul ‘to beat a spouse.’ Central Yup’ik (Norton Sound dialect) macaq also means ‘to shine.’ Kaingang rã also means ‘near close,’ ‘below,’ and ‘to begin, be about to,’ Jarawara bahi also denotes ‘thunder’ and ‘lightning,’ whereas the Toba term i-cojadelec na is analyzable as ‘3-illuminate 3SG.’ Wayampi kwalaï also means ‘dry season,’ Bislama san also rarely is used with the meaning ‘son’ (due to collapse of Engl. sun and son), Hani naolma might contain ma, a classifier for big things, and Rotuman asa also means ‘reputation, honor’ inter alia.
61. The Swamp

Representation: 71%
Motivated: 42.0%
Thereof Analyzable: 25.3% Therof Colexifying: 16.9%
Thereof by Contiguity: 12.3% Thereof by Similarity: 3.7%

Recurrent associated meanings: pool/pond/lake, mud, water, puddle, dirt, wet/moist, clay, reservoir, damp, earth, meadow/grass, lagoon, pus

Terms for ‘swamp’ (‘fen,’ ‘marsh,’ ‘bog,’ ‘mire’) are frequently associated with ‘pond, pool,’ or ‘lake,’ either because languages do not distinguish lexically between the two and boundaries are somewhat fluid, or because ‘swamp’ is expressed by a complex term on the basis of one of these meanings. Colexification is found in Buli (where the meaning ‘lake, pond’ is rare), Ngambay, Gurindji (where the relevant term is also the name of a specific lake and denotes “something in ceremony” additionally), Kwoma (also colexifying ‘water-way, canal’ and ‘lagoon,’ which latter meaning is also colexified in Yanomámi, while in Tetun kolon ‘lagoon’ is in addition glossed as ‘saltwater swamp’ in parentheses), Basque, Ket, Chickasaw, Lesser Antillean Creole French, Pawnee (by a semianalyzable term containing an element meaning ‘to be a place’), Kaingang, Yanomámi (by the term wawëwawë, reduplicated from wawë ‘wide, empty’), and Hani (by a semianalyzable term containing an element meaning ‘sea, ocean’ and ‘to soak in water’). Similarly, Sedang colexifies “stagnant pond” more specifically. In the case that analyzable terms are found, the second constituent can mean ‘mud,’ as in Baruya ara’bunya /araka-bunya/ ‘mud-pond’ and also in Kyaka (there is also a variant term where additional constituents are present), ‘dirt’ as in Hawaiian ki’olepo ‘pool dirt,’ ‘wet’ as in Mandarin zhao3-ze2 ‘pond-watery.terrain/wet,’ ‘spoiled’ as in Meyah miren ebôha, which is apparently analyzable as /mëren obohã/ ‘lake spoiled,’ or ‘earth’ as in Khalkha cagerym yazar ‘pool/lake earth.’ In addition, Ngaanyatjarra yurungari consists of yuru ‘lake’ and -ngari, glossed as ‘those associated with,’ and in Ket, there are several terms for ‘swamp’ containing one for ‘lake’ inflected for plurality (see § 4.5.2.1. on the quasi-derivational function of the plural morpheme in Ket). A term for ‘swamp,’ yoka’ ~ ayoka’, that is apparently formed by adding ka ‘something’ to yohi ~ ayohi ~ ayohi ~ hayo’ha ~ ayo ~ aox ‘lake’ is found in Biloxi. There are also several languages in which ‘swamp’ or ‘marsh’ are colexified with ‘puddle,’ namely Muna, Basque, Khalkha (“mud puddle” more specifically), San Mateo del Mar Huave (the relevant term ndorrop yow is analyzable as ‘hole water’), the Cuisnahuat dialect of Pipil (by the analyzable term t’al-a-puní ‘ground-water-be.born,’ which also means ‘spring of water,’ compare Upper Chehalis métké ‘swamp’ and mé’l ‘spring’), Arabela, and Bora. A Chickasaw term for ‘swamp’ has the idiolectal meaning ‘puddle.’ Further, in Miskito, piahka tara is analyzable as ‘puddle big,’ and in Hawaiian ki’olepo as ‘pool/puddle dirt.’

Several of the associations arising in complex terms with ‘lake’ also occur in other configurations. Buli, Hausa, Yoruba, Kosarek Yale, Basque, Khalkha, Arabela, Hupda, Ancash Quechua, Hawaiian, and Lenakel directly colexify ‘swamp’ with ‘mud’ (‘[m]ud which is so deep as to be practically impassable’ in Hausa and ‘black mud’ specifically in Hupda), Baruya has ara’darya /araka-’darya/ ‘mud-area,’ Kyaka ipwu manduwua ‘water
mud' (this term also denotes 'watery mud' and 'slush'), and San Mateo del Mar n-ajndor iüt /na-ajndor iüt/ 'AGT-be.muddy-ground.' Further, Cubeo yaa-bu is derived from yaa 'mud, adobe' by means of the classifier -bu for hard and/or round objects, Kaingang has óré ki goj 'mud in water/river,' and Fijian vanua oruoru 'land muddy' (Fijian also has lòlòbo, reduplicated from lòbo 'to stick in the mud, to penetrate something'). Furthermore, Guaraní tuyu rapo and tuyu ruşa contain tuyu 'mud, adobe.' The relevant Khalkha term also colexifies 'clay;' so do the Buli and Ancash Quechua terms. Likewise, terms for 'swamp' in which the meaning 'earth' figures are not only attested in conjunction with 'lake': Efik has memmem isôñ 'soft earth/ground,' and in Embera, egoró-susúa contains egoró 'ground, earth' and susúa 'watering place;' a semianalyzable term including a constituent with the meaning 'earth' is also found in Bora. Alongside the association with 'dirt' by the overt term in Hawaiian, Buli, Kosarek Yale, and Rama colexify 'swamp' with 'dirt.' There are also many languages with complex terms for 'swamp' where one of the constituents means 'water,' some of which were already mentioned above. Kanuri has nji-bôné 'water-lie.down' and Kyaka ipwuwa manduwa 'water mud;' ipwuwa wara pete 'water watery.mud pool' and ipwuwa/ipya inju malu singi dokona 'water mud much usual.location there.' Ngaanyatjarra kapingarri (meaning “area where water runs, swampy area”) consists of kapi 'water' and -ngarri 'those associated with,' Abzakh Adyghe psə-čʔe=psə-λe is analyzable as 'water-source=water-DERIV,' Ket ulteyin as /ul-te-in/ 'water-lake-PL,' Sora duŋdam’d-a:lo:n as /duŋ-dam-d’a:-lo:n/ 'get.out.of-reflx-water-ground-N.SFX,' Haida xawtl’adaanggaa 'be swampy' contains xaw 'liquid' and daanggaa meaning 'have been discarded' inter alia, Kashaya q̱aʔuul is analyzable as /ahq’a-ʔuul/ ‘water-old’ (and also denotes “stagnant water generally), Nez Perce kusín wētes as /ku’s-in wētes/ ‘water/dew-with.land,’ Pipil (Cuisnahuat dialect) tał-a-xuuni as ‘ground-water-be.born,’ Wintu mem λat-i as ‘water/river wet/damp/moist/soak/drench-??,’ Yaqui ba’a jeelo as ‘water near,’ and Wichí inot-w’et as ‘water-place;' semianalyzable terms where one of the constituents can be identified to refer to 'water' are found in Blackfoot, Chickasaw, Comanche, Kashaya, Yuki, Cavinéña, and Piro.

Furthermore, ‘swamp’ is associated with ‘meadow’ and/or ‘grass’ by colexification in Badaga and Nez Perce (in Badaga also with ‘water channel’ and ‘upper part of a ridge’; somewhat similar is White Hmong hav iav ‘valley grassy meaning ‘wet lowland’). Lake Miwok colexifies ‘to be swampy’ with ‘to be damp,’ and in two sampled languages, Chukchi and Wintu, there are analyzable terms for ‘swamp’ in which the meaning ‘damp’ figures: ila-ŋen ‘damp-on.top’ and mem λat-i ‘water/river wet/damp/moist/soak/drench-??’ respectively (compare also Japanese shitchi, analyzable as /shitsu-chi/ ‘moist-place,’ Mandarin zhaos-zez ‘pond-watery.terrain/wet,’ and colexification of ‘swampy’ and ‘wet’ inter alia in Hawaiian). In two sampled languages, Central Yup’ik and Rama, a metaphorical association with ‘pus’ is found: in Central Yup’ik by the analyzable term imarrluk, consisting of imaq ‘contents, bullet, pus, ocean’ and the postbase (see § 4.4.2.) -rluk ‘one that has departed from its natural state,’ and in Rama by colexification (also with ‘dirt’). Finally, Badaga, Basque, and Khalkha, colexify ‘swamp’ with ‘reservoir.’

Other associations include: Buli biung is primarily the name for a “watering hole that dries up quickly,” and viak also means ‘valley.’ Hausa damba is also used with the
meaning “a trap in speech” inter alia, Ngambay bbar also means ‘sound, noise,’ and Swahili kinamasi also ‘slime.’ Berik colexifies ‘swamp’ with ‘delta,’ and Buin kapunuka is also an “insulting term for a woman.” Burarra mugurrmulmul is analyzable as ‘class.domestic-paperbark.tree’ and denotes a “swamp area” and “in a stand of small paperbark trees,” and the Kwoma term biira-biira she is analyzable as ‘open-red faeces/ash.’ Yir Yoront walq also means “hollow place, concave surface” and “main (deep) waterhole.” Badaga ole ~ hole also means ‘river’ and Basque istil also ‘waterhole.’ Khalkha sibar namuy also denotes ‘plaster, stucco,’ and taca also ‘broom’ and the ‘Golden Chain’ (Cytisus laburnum). Chickasaw okpachalhihi also means ‘mudhole.’ Welsh siglen is derived from sigl “a shaking, oscillation.” Itzaj k’il also means “closing, closed in place,” and the Tuscarora root -hnaw- occurring in uhnà•weh ‘morass, swamp’ also yields the meaning ‘current of water,’ in particular when occurring incorporated. Central Yup’ik (Yukon dialect) puglerneq is analyzable as /puge-ler-neq/ ‘come.to.surface-suddenly-thing.that.results,’ and for the Bristol Bay dialect term angayaq, compare angala- ‘to flutter, wobble.’ Tsafiki mudú appears to be analyzable as /mu-du/ ‘achiote-mountain,’ and Tehuelche colexifies ‘swamp’ with ‘skullcap’ or ‘wit’ (original gloss is ‘mollera’). Hawaiian pohō also means ‘sunken, sinking’ inter alia, nade also includes ‘rock, crevice’ in its denotational range, and nenelu also means ‘flabby fat’ or ‘soft,’ again among other meanings. Malagasy höraka also denotes a “wet rice field,” and Manange itso also a ‘rope.’ Samoan taufusi is also used to refer to a “patch of ground irrigated for the purpose of growing taro,” and pala also means ‘(be) rotten’ and ‘to decay, perish’ inter alia when used as a verb. Sedang long also means ‘to sing a lullaby, put a child to sleep, coax.’

62. The Tail

Representation: 95%
Motivated: 21.5%
Thereof Analyzable: 3.8% Thereof Colexifying: 17.7%
Thereof by Contiguity: 5.6% Thereof by Similarity: 14.9%
Recurrent associated meanings: end, penis, tailbone, buttocks, back, train of dress, tail of cloth, tail of coin, tailfeathers

While there are some morphologically complex terms for ‘tail’ in the languages of the sample, recurrent associations are almost exclusively realized by colexification. Most commonly, languages use their word for ‘tail’ also for ‘end’ in general (paralleled in the diachrony of Indo-European in Irish, Buck 1949: 209). This is found in twelve sampled languages, namely Buli (where the relevant term also is the name for the ‘fly-whisk’ inter alia), Yoruba (also colexifying ‘completion, conclusion’), Kwoma (colexifying “lower end” or “downhill side,” as well as “the lower of two entities” more specifically), Kosarek Yale, Abzakh Adyghe, Basque, Khalkha, Lesser Antillean Creole French, Maxakalí, Rama, Kapingamarangi, and Samoan, in which the relevant term also means ‘to finish’ as a verb inter alia. Similarly, Sedang colexifies ‘tail’ with “end of cord, loincloth,” and Efik ntari étak is analyzable as ‘feather end.of.body’ (this term denotes the tail of birds specifically, for tails of quadrupeds and fish, there is a separate monomorphemic term. It should
be noted that in a number of sampled languages, different unrelated terms are used for the tails of specific types of animals). Moreover, Samoan s'i'u ‘tip, extremity.’ More specific associations go in the same direction: Rendille, Basque, and Kolyma Yukaghir colexify ‘tail’ with ‘buttocks’ (furthermore, Ngaanyatjarra colexifies ‘tail of insects’ specifically with ‘bottom, buttocks,’ compare also Pipil (Cuisnahuat dialect) -kwitapil, which is derived from -kwita ‘excrement’ by means of the (frozen) diminutive suffix -pil). Moreover, in Khoekhoe, the same root yields the meanings ‘tail’ and ‘buttock,’ with different nominal designants distinguishing the two. In Rendille, Abzakh Adyghe, and Wichí, terms for ‘tail’ also may refer to the ‘back’ or ‘backside’ of something, and Greek and Hawaiian use the same term for ‘tail’ and ‘train of dress.’ Similarly, Hausa and Abzakh Adyghe colexify ‘tail’ with ‘tail of cloth’ (as well as “a small quantity of sour milk given free to a purchaser of butter” in the former language). The relevant Hausa term is also extended to ‘penis,’ a pattern also attested in Koyraboro Senin, Lavukaleve, and Cashinahua, and perhaps in Anggor, where this meaning is marked with a question mark in the consulted source (compare the cognacy of New Persian dum ‘tail’ with Old High German zumpfo ‘penis’ noted by Buck 1949: 210; this pattern seems to be widespread in languages of Europe generally, for instance, Latin penis originally had reference to the tail of animals). There also is a term for ‘tail’ where the identifiable constituent is that for ‘penis’ in Berik. Rotuman reu also denotes the ‘tail of a coin’ (and also the ‘foot of a bed’), and a term for ‘tail’ in Hausa is similarly used to refer to specific motifs on the back side of coins. Relevant terms in Cheyenne, Haida, Macaguán, and Yanomámi simultaneously denote ‘tail’ and ‘tailbone, coccyx’ (and the Yanomámi term also ‘stinger’), while Nez Perce and Wayampi colexify ‘tail’ with ‘tailfeathers.’ Other unsystematic associations include: Buli jiuk also denotes a “bird’s trap made of grass,” Dongolese Nubian colexifies ‘tail’ with ‘to wash’ and ‘to send,’ while Yoruba apa ọhin ohunkhun is analyzable as ‘part/arm back whatever.’ Baruya suya also means ‘urine,’ and for Kaluli waf ‘tail,’ compare wafe ‘worm.’ As a verb, Muna punđa also means ‘to jump,’ and lensi also ‘to untie, undo, loosen,’ while relevant Tasmanian terms in all varieties except the Northern one appear to denote any excrescence of the body: ‘wart,’ ‘scar,’ ‘wrinkle,’ and ‘tail.’ Sko pū is also the name of a furry mammal, and Yir Yoront colexifies ‘tail’ with “tail-end of spear.” The Abzakh Adyghe term q’eeps is analyzable as /q’e-(e)-ps(e)/ ‘branch/pointed.object-string’ and colexifies ‘strap’ and ‘handle,’ and another term in the same language can also refer to an ‘egg,’ a ‘seed,’ and other things. Badaga ba:lu also is used with reference to a ‘meteor,’ “slender means,” and “anything meager.” Basque bustan, colexifying ‘end’ and ‘but,’ also means ‘shoot, sprout,’ and isats also ‘broom’ and consequence, upshot.’ Chukchi kojgan also means ‘rump,’ whereas Greek ourá also means ‘queue.’ Welsh llaosgrn appears to contain llosg ‘burning,’ Cheyenne hehévé’dxe is also the name for a piece of meat, the ‘oxtail.’ San Mateo del Mar Huave wiił also means ‘vixen,’ and coy also denotes the ‘coney’ as well as a picture of drawing of any animal and ‘rheumatism.’ The Nuuchahnulth term nād’a also means ‘fluke,’ Santiago Mixquiquitlan Otomi ts’政务 also ‘nipple, teat,’ and Central Yup’ik (Norton Sound dialect) pamyuk ~ pamsuk also ‘tail of canoe’ and ‘chorus of song.’ Carib -antikili is analyzable as /-anti-(e)kili/ ‘behind-spin’ (compare the origin of German schwanz from sweifen ‘turn around,’ Buck 1949: 210). Guara-
ni tugudí may also refer to an ‘appendix’ and metaphorically to ‘family, offspring,’ Ancash Quechua chupa also is used to refer to a “person who is always behind someone else,” and Tehuelche t’er ~t’er also means ‘bristle.’ Fijian bui is also used for ‘grandmother’ and ‘old gossip,’ Hawaiian huelo also has the figurative meaning ‘inferior,’ and Bwe Karen kâ= mê is analyzable as ‘hind.part=knot/joint.’ Lenakel nipik- also denotes the ‘tail of a stingray’ and ‘stern of canoe or boat,’ and Manange imê also means ‘fin.’ Sedang ting also means ‘to sacrifice to the spirits,’ xo’i has similar other meanings, Tetun ikun is also used as a term for the youngest of somebody’s children, Vietnamese đuôi also means ‘to pursue,’ and Yay colexifies ‘tail’ with ‘head of rice.’

63. The Thorn

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<thead>
<tr>
<th>Representation: 72%</th>
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<tr>
<td>Motivated: 42.2%</td>
</tr>
<tr>
<td>Thereof Analyzable: 7.8%</td>
</tr>
<tr>
<td>Thereof Colexifying: 34.4%</td>
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<tr>
<td>Thereof by Contiguity: 8.0%</td>
</tr>
<tr>
<td>Thereof by Similarity: 18.4%</td>
</tr>
<tr>
<td>Recurrent associated meanings: needle/awl, splinter, quill, point, sharp, stinger, thorny plant, sticker, tooth, barb, beak, injection, penetrate/pierce, nail</td>
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</tbody>
</table>

Most frequent cross-linguistically is colexification of ‘needle’ or ‘awl’ and ‘thorn’ (or ‘spine,’ ‘prickle’), which may be either due to provenience contiguity or to perceptual similarity. This pattern is attested in Anggor, Baruya (in these languages colexifying also ‘injection,’ ‘give an injection, inject’ is also colexified in Samoan), Buin, Khalkha, Abipón, Bora, Chayahuita, and Yanomami (in the latter language, the relevant term also means ‘pin,’ Tehuelche xohnwe ~ xohn, furthermore, contains xol ~ xol ~ ?exol ‘to sew’ and colexifies ‘nail’ in addition, as does Bislama).

Otherwise, colexification with other sharp pointed objects is frequent. Kyaka, Muna, Nunggubuyu, Kolyma Yukaghir, Cheyenne, Wintu, and Tetun colexify ‘thorn’ with ‘splinter’ (Kyaka also with ‘excrecence’ generally), Kaluli, Kosarek Yale, Highland Chontal, Bororo, and Samoan with ‘stinger,’ and Kyaka, Kosarek Yale, and Lenga with ‘tooth’ (Kyaka also with “biting, erosive” and ‘food’ inter alia). Note also that Maxakalí xâpoxox presumably contains xap ‘stone, bead, seed’ and xox ‘tooth, sharp fragment.’ Hausa, Ngambay, Haida, Lesser Antillean Creole French, Central Yup’ik, and Yanomâmi colexify ‘thorn’ with ‘quill,’ Kyaka, Bororo, and Lenga with ‘beak,’ Cahuilla, Lake Miwok, Pawnee, and Wintu with ‘sticker,’ while the relevant terms in Kosarek Yale, Bororo, Guaraní, and Miskito are extended to refer to the ‘point’ of an object more generally, and Ancash Quechua also to ‘anything pointed.’ In addition, Yoruba colexifies ‘thorn’ with ‘bone,’ while Cayapa colexifies ‘thorn’ with ‘slim and acute bone’ more specifically.

Efik ñíkuk’m (containing km ‘to pierce’) is also used to refer to a ‘spine on a shell’ (alongside ‘patchwork’), Basque arantzka also means ‘spine of an animal,’ and Hausa k’aya also has the meaning ‘fishbone.’ Koyraboro Senni karji, Hawaiian kukū as well as Samoan tala also mean ‘barb’ (kukū also means ‘burr’ as well as ‘to hurt by a thorn’ and ‘to hit’ inter alia, and tala also ‘prong’ and ‘spur’), and Ngambay’s hay also is the term for a ‘particular kind of straw’ (alongside ‘paddle’). Ngaanyatjarra colexifies ‘spike’ (compare Samoan tuitui
‘thorn’ with tui ‘to stab, jab,’ ‘spike’). Kyaka and Guaraní colexify ‘horn,’ Rotuman kō colexifies ‘fork’ (a pattern shared with Samoan, kō also means ‘to stab, pierce,’ and the relevant Samoan term also has other meanings), and Bislama nil colexifies ‘cock’s spur.’ For Lake Miwok kíli, which means “to hook with the horns” as a verb, compare kílli ‘horn, antler;’ the Toba term le also means ‘tooth of a comb’ and ‘point of a lance.’ The semantic feature of ‘sharpness’ which in all likelihood underlies these patterns of colexification is made explicit in other languages by complex terms. Upper Chehalis ɬač-áx̣ nis analyzable as ‘sharp=edge’ (and indeed may also refer to a ‘sharp edge’), Chickasaw naa-haloppa’ as ‘something-be.sharp-NMLZ’ (note also that there is a semianalyzable term involving a constituent meaning ‘thing’ in Bwe Karen), and Hawaiian ‘oi’oi is repuplicated from ‘oi’ ‘sharp’ (this term may also be used to refer to a ‘superior person’ and assumes the meaning “to protrude, stick or jut out” in verbal usage). A semianalyzable term containing a lexical element with the meaning ‘sharp’ is also found in Pawnee, and Kyaka and One directly colexify these meanings. Relatedly, Rotokas and Xicotepec de Juárez have terms for ‘thorn’ derived from verbs meaning ‘to penetrate’ and ‘to pierce’ respectively; direct colexification of these meanings is found in Rotuman, and a semianalyzable term of this type is found in Efik. Another recurrent pattern is colexification of ‘thorn’ with a thorny plant, either with a particular one or generically. Thus Buli mung also denotes a thorn tree of the Acacia genus (alongside a kind of beetle), Basque colexifies ‘thorn’ with ‘hawthorn,’ for Kiowa seejä’t compare seejä ‘cactus, peyote,’ Tuscarora and Miskito colexify ‘thorn’ with ‘thistle,’ Tehuelche čo:ra ~ čo:r ~ čo:ra ~ čo:ra also denotes the Calafate shrub (Berberis microphylla), and Pawnee, Wintu, Bora, and Wayampi colexify ‘thorn’ with ‘thorny plant, thorny bush’ in general.

Other associations include: Muna kiri, as a verb, also means “to insert a thorn into something” as well as ‘to scrape off,’ and Ngaanyatjarra ngunyarrma also means ‘rasp.’ Kosarek Yale si also means ‘name,’ and alok, another Kosarek Yale term, also ‘for earth to slide off’ and ‘make hollow underneath something.’ Kolyma Yukaghir nono also means ‘handle,’ Cahuilla čuŋal also ‘jumping cactus,’ and Bororo oto also ‘peak, front.’ Cavineña acui-ja is analyzable as ‘tree-GEN,’ and Miskito colexifies ‘thorn’ with ‘twinge.’ A literal translation of the Rama term kú up (/ku up/) would be ‘bird’s.wing eye,’ and Tsafiki po is also used for trees of the Guadua genus. Fijian voto also means ‘root of a body hair’ and ‘a hundred voivoi leaves.’ Malagasy tislo also denotes the ‘needles’ of the pine tree, and Tetun aitarak also means “prickly, rough.”

64. The Thunder

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<th>Representation: 91%</th>
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<tr>
<td>Motivated: 41.5%</td>
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<td>Thereof Analyzable: 17.9%</td>
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<td>Thereof by Contiguity: 12%</td>
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<tr>
<td>Recurrent associated meanings: lightning, god/spirit, sky, roar, noise/sound, (thunder)bird, cry/wail, storm, cloud, gun, rain, electricity, voice</td>
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</table>
21 sampled languages, Buli, Ngambay, Rendille, Yoruba, Kwoma, Abzakh Adyghe, Japanese, Itzaj, Xicotepec de Juárez Totonac, Yana, Yaqi, Central Yup’ik, Abipón (by the analyzable term *kahag-Ran-Ra* ‘to.lighten-CAUS-ABSTR’), Arabela, Aymara, Hupda, Jarawara, Tehuelche, Bislama, Bwe Karen, Takia, and perhaps Middle-Eastern Tasmanian, directly colexify ‘thunder’ with ‘lightning, thunderbolt’ (compare the semantic shift from the latter to the former in Lithuanian, Buck 1949: 58). However, in contrast to the association with ‘lightning,’ complex terms for ‘thunder’ on the basis of ‘lightning’ are much rarer. San Mateo del Mar Huave *ajáy teat montec* is analyzable as ‘walk father thunderbolt,’ and Lavukaleve and Rama have semianalyzable terms for ‘thunder’ containing the respective term for ‘lightning.’

For ‘thunder’ specifically, a general recurrent pattern is seen in terms derived from terms denoting some kind of loud noise (see Buck 1949: 57 for details on similar evidence from Indo-European languages). Terms in many languages contain a verb meaning ‘to roar.’ Mbum has *ɓálà-mbàm* ‘roar-rain’ and *fómà-mbàm* ‘scolding-rain,’ Guaraní has *ara-kororõ* ‘sky-growling,’ and Manange *3mo putul njut-si,* involving the constituents *3mo* ‘sky,’ *putul* ‘dragon,’ and *njut* ‘roar.’ Khoekhoe, Buin, Nunggubuyu, and Sora directly colexify ‘thunder’ with ‘roar,’ ‘growl’ and/or ‘boom’ (Sora also ‘to shake’), and a semianalyzable term containing an element with that meaning is also found in Great Andamanese. Similar terms, in which, rather than ‘growl,’ more general terms for ‘noise’ or ‘sound’ figure as constituents are Katcha (*thimpidi*) *kafara* ‘(sky/rain) make.noise/cry,’ Meyah *moçoj ogün* ‘cloud noise,’ Japanese *kami-nar-i* ‘god-sound-INC,’ and Tetun *rai-tarutu* ‘earth-noise.’ In Santiago Mexquititlan Otomí, Copainalá Zoque, and Bororo, the meanings are colexified, and semianalyzable terms with a constituent meaning ‘noise’ are featured in Copainalá Zoque and Abipón. Another class of motivated terms relating to some sort of noise is that comparing the sound of ‘thunder’ to ‘wailing’ or ‘crying.’ Katcha has *thafära ma thimpido* ‘wailing GEN sky/rain,’ and Comanche *tomo-yaket* contains *tomo* ‘cloud, sky’ and *yaket* ‘cry.’ The Kiliwa term *?kwíy=hmii* has the same structure: it is analyzable as *DN-cloud=3+cry,* White Hmong has *xob quaj* ‘Xob cry’ and *xob nroo* ‘Xob moan,’ and the meanings are colexified in Yir Yoront. In Carrier, the word for ‘thunder,’ *tïtni tetni,* contains *tïtni,* the name for a “gigantic bird” in Carrier mythology and *tetni* ‘cry’ (it is likely that *tïtni* is the Carrier incarnation of the ‘thunderbird’). Similarly, Lakhota has *wakį́y̱othonipí,* literally ‘thunderbirds call.’ Colexification of ‘thunder’ with a (mythological thunder-)bird is also attested in Waris, Upper Chehalis, Haida, and Miskito. Kiliwa also has an alternative term: *ha?kw-?my=mar-kwíy* ‘voice=WH-DN-POS=image-cloud.’ Similarly, in Pawnee the ‘thunder’ is called *wakuhtakaahak,* this term is analyzable as *wakur-tahaahak* /voice-drop.down. Moreover, Bakweri *ndál lówa* is analyzable ‘gun god/sky’ and, paralleling this association, Lavukaleve and Rotokas terms colexify ‘gun’ and ‘thunder’ (compare the extension to ‘cannon’ in Romanian, Buck 1949: 58). In Efik *erituak’ enyön* is analyzable as /erituak’ en’yöñ/ ‘knocking/beating.of.drum sky.’ Still further, Hausa *aradu* also dialectally denotes “the wedge used in splitting palm wood,” and *tsawa* also is used to refer to a ‘loud rebuke’ or “the cracking of newly-burned pots for no apparent reason” inter alia, while *cida* is also the name of a spirit, again inter alia. In Buin, *kururu* is also used for a “rumbling noise” in general and is also the name for a “large wooden trumpet” and a
“large buzzing fly,” Bezhta has hasa qäłeyoł ‘sky:ERG shout:MASDAR,’ and the Basque term dunbots also may refer to a ‘din’ or ‘clamor.’ Cheyenne ma’heo’o énéstoohe contains elements meaning ‘god’ and ‘call.’ Ineseño Chumash ‘aśaqš’apš revolves around the verb šaqš’ap ‘to clap.’ The final element is unknown. The Wichí term pelhay y’ilphi contains the lexical elements pelhay ‘storm’ and y’il ‘sing’ (note that the same term in Embera yields the meanings ‘thunder’ and ‘storm, tempest’ when associated with different genders, and that ‘storm,’ ‘rainstorm,’ or ‘thunderstorm’ is colexified with ‘thunder’ in Ngambay, Rotokas, and Carib). A figurative Hawaiian term for ‘thunder’ is ‘u’ina pōhaku a Kāne, literally ‘cracking rocks of Kane’ (Kane being the principal Hawaiian god), with the element pōhaku also meaning ‘thunder’ by itself. Underlying this denomination, as well as pohā-ka’a ‘crack-turn’ (though note for the first element that pōhaku has a short form pōhā), is the belief that thunder was caused by the gods rolling around rocks in the sky. As the discussion so far shows, in complex terms, ‘cloud,’ ‘sky’ or ‘rain,’ as meanings contiguous to ‘thunder,’ frequently figure in complex terms for that meaning. Alongside the terms in Meyah, Comanche, and Kiliwa, One, too, has a term involving cloud: yemi piyale ‘cloud break’ (and note that Badaga idi can also mean ‘to break’ inter alia). Alongside Mbum and Katcha, ‘rain’ also figures in Yaqui yuku jimaa-ri ‘rain throw-RES,’ Buli ngmoruk ‘rain’ rarely assumes the meaning ‘lightning, thunder,’ and Hawaiian colexifies ‘thunder’ with “raindrops, fine rain, to rain gently” inter alia, while Noni has a semianalyzable term involving ‘rain,’ and Aguaruna ipamīt also denotes “to rain as a sign of death or an imminent attack” as well as ‘to reveal a message in dreams.’ Alongside Efik, Katcha, Bezhta, Guaraní, and Manange, ‘sky’ is also the meaning of one of the constituents of Hani aqq-jiq ‘sky-sift.’ An association with (a) god or a spirit is, next to Bakueri, and Cheyenne (where ‘battery’ is in addition colexified), also found in Japanese (ika-zu-chi ‘horrible-GEN-spirit;’ this term is archaic and the accuracy of the morphological analysis is questionable) and Yay (ya’ ray ‘spirit cry’). Further, in Nez Perce, where hinnét is also the name of the “spirit of a cloud that makes noise” (alongside the reading as ‘electric storm’) as well as in Yana, Biloxi, Cheyenne, Tuscarora, Wayampi, and Yanomámi, there are associations with some kind of god or spirit by colexification. In Chayahuita, the word for ‘thunder’ is also the name of the person who castigates the evil after their death.

Central Yup’ik and Hupda colexify ‘thunder’ with ‘electricity,’ which is in all likelihood a sideeffect of the fact that they also colexify ‘lightning’ using the same term; the association is much more frequent for ‘lightning,’ compare section 35.

Other associations include: for Anggor burihoai, compare buri ‘many things existing upright.’ Nimamindahoafi ~ nimamindindoafi contains hoafi ‘to talk,’ a literal translation provided by lexicographers is “above possessive ta [sic!].” Kyaka yungala also means ‘praying mantis,’ and Muna tondu also ‘to sink, drown.’ Rao gramvuvre appears to contain gra ‘sun,’ and Rotokas varake-oto, meaning ‘thunder’ as well as ‘thunderstorm,’ seems to be analyzable as ‘very.high-to.punch.’ Sentani ku also means ‘bracelet,’ and Blackfoot ksisstikomm contains ksisstikó ‘day.’ For Pawnee kirir, compare kirir (uur...) ‘to shake, tremble.’ Wintu t’um is also used with the meaning ‘coo.’ Copainalá Zoque colexifies ‘light thunder’ with ‘spark,’ and Jarawara bahi also denotes the ‘sun’ (and, departing from there, ‘clock, watch,’ see Dixon 2004: 71), whereas Rama dama yatangi contains dama ‘grandfa—
Fijian *kuru* also means ‘to pursue’ and ‘to jostle,’ Hawaiian *hekili* is metaphorically extended to also mean ‘passion, rage’ and also denotes a yam species. Samoan *fātītīli* contains *tīli* ‘to tremble.’ *Ta’a-līli* is fully analyzable: ‘be loose-tremble.’

65. The Tree

Representation: 97%
Motivated: 70.3%
Thereof Analyzable: 5.4% Thereof Colexifying: 65.3%
Thereof by Contiguity: 50.8% Thereof by Similarity: 0.9%

Recurrent associated meanings: wood, stick, plant, trunk/log/pole, shrub/bush, forest, branch, wooden artifact, thing, bone, splinter, canoe, gun/rifle

By far the most frequent lexico-semantic association is that with ‘wood’ (see also Buck 1949: 48 for this pattern in Indo-European). It is realized most frequently by colexification, in 83 languages of the sample, that is, in a little less than sixty per cent of sampled languages. This figure draws close to that arrived at in an earlier survey by Witkowski et al. (1981), who report that the pattern is found in two thirds of their sampled languages. In the present sample, colexification of ‘tree’ and ‘wood’ is found in Efik, Hausa, Khoekhoe, Koyraboro Senni, Ngambay, Swahili, Yoruba (also colexifying ‘fuel’), Berik, Buin, Burarra, Dadibi, Gurindji, Kwoma (where the relevant term may also refer to a “wooden beater,” “wood-carving,” and “slit-drum, hollow log drum”), Kyaka (the term also means “human, earthly, mortal” and ‘below, lower’), Mali, Ngaanyatjarra, Nunggubuyu, Meyah, Tasmanian (all varieties except the Northern one, for which data are lacking), Toaripi, Sahu, Sko, Waris, Kosarek Yale, Badaga, Japanese, Ket, Khalkha, Nivkh (colexifying ‘firewood’ and ‘wooden’ more specifically), Kildin Saami, Welsh, Kolyma Yukaghir, Biloxi, Cahuilla, Carrier, Upper Chehalis, Chickasaw, Highland Chontal, Ineseño Chumash, Comanche, San Mateo del Mar Huave, Itzaj, Kiowa, Lakhota, Nez Perce, Santiago Mexquititlan Otomí, Pawnee, Pipil, Xicotépec de Juárez Totonac, Wappo, Yana, San Lucas Quiavini Zapotec, Copainalá Zoque, Aguaruna, Bororo (by the term *iguru*, for which compare *igu* ‘rope’ and *ru* ‘fire’), Cashinahua, Cavineña, Cayapa, Embera (where the meanings are associated with different genders), Guaraní (where the relevant term can also refer to a ‘plank of wood’), Huambisa, Hupda, Jarawara, Kaingang, Macagúan, Miskito, Piro, Tsafiki, Wayampi, Wichí, Yanomámi, Fijian, Hawaiian, Bwe Karen, Lenakel, Malagasy, Mandarin, White Hmong, Rotuman, Samoan, Takia, Tetun, Yay, and Bislama. In addition, there are a few sampled languages in which ‘tree’ is expressed by a morphologically complex term involving a constituent meaning ‘wood.’ Lesser Antillean Creole French has *pié-bwa* ‘stem/foot-wood’ and Manange *ığıŋ*-tuy ‘wood-copse/trunk.’ Witkowski et al. (1981) propose that complex terms for ‘tree’ involving ‘wood’ can be seen as a quasi-evolutionary development, in which ‘wood’ is the more “salient” referent in small-scale societies which is first extended to ‘tree’ by colexification and then the ‘tree’-reading is singled out by complex terms as societal complexity increases. In the light of this hypothesis, it is interesting to note that a Creole language in the present sample features such a complex term, which would entail that, if their general scenario is correct and also applicable to Lesser Antillean Creole
French, the development must have occurred in a very short time span, given that the lexifier language French does not colexify ‘tree’ and ‘wood’ (another possibility would be that Lesser Antillean Creole French acquired this pattern through relexification). In addition, in Upper Chehalis, ƛ̓íšaƛ̓ 'a clump of trees, woods' is reduplicated from the root ƛ̓íš- ‘wood,’ in Cahuilla, kélawat ‘tree, wood’ is derived from the verb -kélaw- ‘to gather wood,’ and in Cubeo, ‘tree’ is jocu-cu, consisting of jocu ‘wood’ and the classifier for tree-like objects -cu.

Colecification of ‘tree’ with parts of trees also occurs. Mirroring the complex terms in Lesser Antillean Creole French and Manange, ‘tree’ and ‘trunk,’ ‘log,’ or ‘pole’ are colexified in 19 languages, namely Mbum, Kwoma, Ngaanyatjarra, Badaga, Chukchi, Ket, San Mateo del Mar Huave, Nivkh, Kiowa, Nez Perce, Oneida, Xicotépec de Juárez Totonac, San Lucas Quiaviní Zapotec, Aguaruna, Jarawara, Yanomámi, Hawaiian, and Kapingamarangi, ‘tree’ and ‘stick’ are in 34 languages (Efik, Khoekhoe, Ngambay, Noni, Burarra, Gurindji, Kwoma, Lavukaleve, Ngaanyatjarra, where “magic stick” is also colexified, Nunggubuyu, Yir Yoront, Chukchi, Ket, Khalkha, Kolyma Yukaghir, Biloxi, Blackfoot, Carrier, Upper Chehalis, Chickasaw, Comanche, Kiowa, Wappo, Yana, San Lucas Quiaviní Zapotec, Guaraní, Jarawara, Lengua, Maxakalí, Rama, Fijian, Hawaiian, Kapingamarangi, and Sedang), and ‘tree’ and ‘branch’ in Ngambay, Buin (colexifying ‘small tree’ and a particular tree species more precisely), Welsh, Blackfoot, and Kiliwa. Ngaanyatjarra and Hawaiian colexify ‘tree’ with ‘splinter,’ and Abipón is unique in colexifying ‘tree’ and ‘bark’ (as well as ‘rose bush’).

In Khoekhoe, Ngambay, Rendille, Ngaanyatjarra, Yir Yoront, Sora, San Mateo del Mar Huave, Kashaya, Kiowa, Nuuchahnulth, Quileute, Yaqui, Ancash and Imbabura Quechua, Fijian, Hawaiian, Rotuman, Samoan, Takia, Tetun, Yay (here the relevant term also means ‘older brother’), and Bislama, ‘tree’-terms are also used for ‘plant’ in general (though the Rendille term explicitly excludes ‘grass’ from its denotational range); similarly, Koyraboro Senni, Rendille, Kyaka, Nunggubuyu, Toaripi, Badaga, Lake Miwok, Nuuchahnulth, and Kapingamarangi also use terms for ‘tree’ for ‘shrub, bush.’

There are also six languages, namely Ngambay, Khalkha, Upper Chehalis, Nez Perce, Yaqui, and Hawaiian, in which ‘tree’ and a configuration of trees, that is, ‘forest,’ are colexified. Furthermore, Nunggubuyu and Lengua colexify ‘tree’ with ‘canoe,’ and in Hawaiian lāua also denotes the “canoe endpiece.” Maxakalí and Tsafiki colexify ‘tree’ and ‘bone,’ and in Kiliwa, t-łax-tay is analyzable as ‘onj-bone=be.large’ and also means ‘arm, limb.’

In Rendille, Ngaanyatjarra, and Yir Yoront, terms for ‘tree’ are also used for ‘thing’ in general. Similar parallelism is found in Ngaanyatjarra and Yanomámi: in both languages, relevant terms also refer to a wooden artifact in general (a pattern also occurring in Rotuman, while the relevant Tetun term, similarly, can refer to a ‘tool’ or ‘instrument’ generally when occurring in compounds), as well as to a ‘gun’ or ‘rifle’ respectively.

Other associations include: Hausa bishiyá is also the name of a “kind of metal helmet worn by warriors” inter alia, and Khoekhoe hɑi also means ‘marihuana’ in informal language. Ngambay kake also means ‘place,’ Rendille gęey also ‘dance, song,’ and Muna pughu is also used with the meaning ‘source, upholder.’ Ngaanyatjarra ngarna also means
“entrance to honey ants’ hole” and acts as a particle meaning “it’s only because, it’s only when” and as an adverb meaning ‘temporarily;’ purnu likewise functions as a conjunction. Sko rí also means ‘scales of fish.’ Yir Yoront yoq also denotes the ‘Rainbow Serpent’ and ‘cyclone,’ and yulh, a register-specific term, also means ‘tobacco.’ Badaga mora also denotes the “black-bark tree” specifically as well as a ‘winnow, winnowing fan,’ Basque zuhaitz can also refer to a ‘tree’ in Computer Science (this term is etymologically related to zur ‘wood.’ The other component is the name for the ‘oak;’ this etymology is similar to that proposed for an Indo-European term for ‘tree’). Japanese ki (due to borrowing from Chinese) also means ‘life-spirit’ and ‘intention,’ Khalkha modu(n) also denotes the ‘domino’ game, and Laz colexifies ‘tree’ with ‘milk’ (accidentally, due to phonemic merger in the dialect from which the data come). Dongolese Nubian göww(i) denotes the ‘black tree’ (Acacia Arabica) specifically and Upper Chehalis yámc the ‘Douglas Fir’ specifically, jō̃y in the latter language also means ‘pipestem,’ and Cheyenne hoohšësìse is more narrowly the name of the ‘Cottonwood tree’ (see Trager 1939 on this pattern). Nuuchahnulth laqaqas contains laq- ‘to grow.’ Tuscarora urêkèh also means ‘shaft of a cart,’ while Central Yup’ik napa as a verb means ‘to stand upright’ and uqvıı̃aqaq ~ uqvıı̃aq ~ uqvıı̃aq also denotes the ‘willow’ specifically and is said to contain the “deep root” uqvıı̃ ‘shelter.’ Cavineña colexifies ‘foam,’ and Guaraní yvyra contains yvy ‘earth.’ Jarawara awa is also used with the meaning ‘garden’ and in addition is the name of “a house made of boards in the sky where spirits are said to dwell.” Kaingang ka also means ‘mosquito,’ and Miskito dus is also used with the meaning ‘rheumatism.’ Rama kāat ~ kāat ~ ikāt also means ‘foot,’ and Wayampi wila also ‘bird, dance consecrated to birds.’ Bislama tri also means ‘three’ (due to collapse of Engl. tree and three), wud also ‘carving,’ and, archaically, ‘penis,’ and hed also ‘head’ and ‘bow of ship.’ Fijian kau also means ‘to carry’ inter alia, and Bwe Karen ɗo also means ‘head-louse’ inter alia. Hani colexifies ‘tree’ with stalk,’ Hawaiian lāʻau also may refer to a ‘club,’ ‘picture frame,’ ‘medicine’ and conveys the meaning of ‘hardness, firmness,’ and presumably from there on also may refer to a “lump or knot in flesh,’ ‘cramp,’ and ‘male erection.’ Samoan lāʻau also denotes an ‘apparatus’ and ‘machine.’ Rotuma ɗi colexifies ‘tree, plant’ with ‘stiff, rigid’ and other meanings, hū inter alia means ‘lower end,’ Takia ai also means ‘pelvis,’ and Tetun hun also ‘bottom, base’ and ‘beginning, origin.’

66. The Valley

Reprensation in Database: 77%
Motivated: 47.0%
Thereof Analyzable: 20.2% Thereof Colexifying: 27.8%
Thereof by Contiguity: 19.1% Thereof by Similarity: 6.4%
Recurrent associated meanings: gully/furrow/ditch/gorge/canal, plain/low land, river, flat/flat land, field/meadow/lawn, river bed, cave, clearing, mountain, open/opening, pampa, hole, prairie, stomach, water, bay, water course, descent

Motivated terms for ‘valley’ are mostly contiguity-based, although there is at least one clear recurrent pattern with metaphorical transfer realized by analyzable terms, namely
that of 'stomach' to 'valley': Khoekhoe has !goa-!nā-b ‘depression/ditch/gully-stomach/interior-3SG.MASC,’ Burarra mu-gochila ‘CLASS.DOMESTIC-abdomen’ (the term also means ‘depression in the ground generally’), and Miskito il byara ‘water abdomen.’

It is relatively rare to feature a term for 'valley' with a constituent meaning 'water' cross-linguistically. Wayampi has ḳapi ʔii-api/ ‘water/river source’ colexifying ‘spring’ and ‘dew,’ Hawaiian kaha-wai ‘place-water’ for both ‘river’ and ‘valley,’ Bwe Karen lô do ‘water flat.land,’ and Lenakel napinu, analyzable as /napin-nu/ ‘drain/gutter-water’ (a semianalyzable term is found in Yuki). There are several languages in the sample in which ‘valley’ is associated lexically with the body of water creating valleys in the first place, namely the ‘river.’ ‘River’ or ‘creek’ and ‘valley’ are colexified in Khalkha, Nez Perce, Bora, Huambisa, and Hawaiian. Badaga arsu assumes the meaning ‘river’ in toponyms (and otherwise also means ‘to jump,’ ‘to get cool,’ and ‘six’), and a semianalyzable term of this kind is found in Kwoma. Similarly, Dongolese Nubian, Abzakh Adyghe, and Rotuman colexify ‘watercourse.’ Colexification of ‘river’ and ‘valley’ is also found in Arabic (Wehr 1976: 1059). Furthermore, Central Yup’ik (Nunivak Island dialect) kuiγγaneq perhaps contains kuiγ ‘river’ and the postbase (see § 4.4.2.) -neq ‘area of,’ while the Lake Iliamna dialect has kuiγ-na-γγ ‘river-??-thing.like.’ Hani loxax contains the classifier for rivers loł and xaq ‘cut open’ (there is another term involving loł, lołov, with gov denoting a ‘thin emaciated person or animal’), One foli sila yarole yol appears to contain folia ‘water, river’ and yolu ‘fall,’ and Miskito awala bak plapi tasbay day ᵍn this contains awala ‘river,’ bak ‘through’ and taspu ‘land.’ Sentani, Abzakh Adyghe, Khalkha, Pawnee, Lenga, and Rotuman colexify ‘valley’ and ‘river’ bed (the Khalkha term is also rarely used with the meaning ‘large lake’ inter alia). As in Han, terms in many sampled languages betray an association to ‘open’ land of some sort. Bororo has boe-ia ‘thing-opening.’ Similarly, Cahuilla pånuwenik contains –pånuwen ‘‘to flare out, to spread out in the full,’’ and Kashaya ʔama kiyaqvali is perhaps analyzable as /ʔama kiya-qal/ ‘earth extend-wide.’ In Buli, Ineseño Chumash, San Mateo del Mar Huave (by the analyzable term najmiüci ñüti /na-ajmiüci ñüti/ ‘ACT-fall land’), Nez Perce, Santiago Mexquititlan Otomi, Copainalá Zoque, Arabela, Embera, Kaingang, and Fijian, ‘valley’ is colexified with ‘plain’ or ‘low ground, low land,’ in Khalkha (by a semianalyzable term containing a verb meaning ‘to blink, chop’), Chickasaw, Itzaj, Lake Miwok, and Pawnee (by a term literally translatable as “flat ground place”) with ‘clearing,’ and in Upper Chehalis, Chickasaw, and Nez Perce with ‘prairie,’ in Chickasaw with ‘desert,’ in Bezhta with ‘field’ and ‘village square,’ in Kolyma Yukaghir with ‘tundra,’ and in Arabela, Cashinahua, and Tehuelche with ‘pampa.’ Commonly, ‘valley’ is also colexified with ‘flat’ or ‘flat land,’ as in Badaga, Santiago Mexquititlan Otomi, Wintu, Embera, and Kaingang, or is expressed by complex terms featuring elements with this meaning, as in the Pawnee term just mentioned, Yaqui pa’a-la bwia ‘plain-ADJYZ land,’ and Bwe Karen lô do ‘water flat.land’ (a semianalyzable term with a constituent meaning ‘flat’ is furthermore found in Yuki), and in Basque, Bezhta, Lake Miwok, Nez Perce, Wappo, and Wintu, ‘valley’ is colexified with ‘field,’ ‘meadow’ or ‘lawn’ (see also § 6.3. and Buck 1949: 28 for this connection in Celtic and between cognates in Latvian and Ancient Greek). Analogously, Maxakalí hâpka-hit is analyzable as ‘field-remain.’ Five sampled languages colexify ‘valley’ with ‘cave.’ These are Ngambay (also with ‘rapidly’), Khalkha, Nivkh, Nez Perce, and Pipil.
Similarly, Buli, Kwoma and Nuuchahnulth colexify ‘hole’ (also “depression in ground” and ‘drains’ in Buli and “large hole or depression in the ground” more specifically in Kwoma). Note also that Blackfoot ssstikómm, which also denotes a ‘coulee,’ contains the verb ssstikii ‘be hollow’ (compare evidence from Ancient Greek reported in Buck 1949: 28 for this connection). Buli, Hausa, Baruya, Burarra, Kwoma, Kosarek Ya le, Badaga, Nivkh, Khalkha, Itzaj, Nez Perce, Oneida, Wappo, Bwe Karen, Fijian, Hani, Hawaiian, Lenakel, and Rotuman colexify ‘valley’ with ‘gully,’ ‘furrow,’ ‘ditch,’ ‘gorge,’ or ‘canal’ (compare the Khoekhoe term !goa-!nā-b ‘depression/ditch/gully-stomach/interior-3SG.MASC’ mentioned above).

Two languages, Hani and Samoan, have terms for ‘valley’ that might contain elements meaning ‘to separate’ or ‘be divided.’ In Efik, the relevant term has a constituent meaning ‘to descend, descent,’ and these meanings are colexified in Huambisa. There are also two languages in the sample which, by spatial contiguity, colexify ‘valley’ with ‘mountain,’ namely Buin and Tsafiki. Also, there are complex terms on the basis of ‘mountain’: Yoruba has ilẹ̀lù̀n òkè méjì ‘earth between mountain two,’ Carrier has dzéł-i-krez ‘mountains-rel-between,’ and Tetun foho-leet ‘mountain-space’ (compare the colexification of valley and “interval, space between” in Piro). In addition, a semianalyzable term where one of the constituents is ‘mountain’ is found in Kwoma and Sedang. Takia ilo- also means ‘inside, emotions’ and ‘bay,’ and the latter meaning is also colexified in Hawaiian, where the relevant term is restricted to place names, and the Central Yup’ik (Yukon dialect) term ilutak contains ilu “interior, area inside; inner feelings.”

Other associations include: Buli colexifies ‘valley’ with ‘swamp,’ Hausa kwari also means ‘quiver,’ and, in impolite usage, “an infant being.” The Katcha term thare (na)kidhan is analyzable as ‘moon middle,’ Kaluli gaqodo: may also refer to a ‘dip between ridges,’ and Kwoma tabtii waw, which can also refer to a “deep pit,” contains waw ‘deep.’ Kyaka anda, denoting an ‘open valley area,’” may also refer to a ‘hut’ or ‘house’ inter alia. Muna labhangga colexifies ‘vacancy, opening’ as well as “place where animals frequently pass through,” and soloñhangga ‘shallow valley’ appears to contain solo ‘current, flow’ and bhungga ‘boat, canoe.’ Sentani jaba might contain ja ‘to sink,’ while Kosarek Yale na’ob also means ‘pulse, pulse area’ and, register-specifically, ‘near.’ The Abzakh Adyghe term leg’ane contains leg ‘base’ and ne ‘eye.’ T’?a?e is analyzable as /t’e’-e/ ‘twice-sink.in.’ Badaga taggu also means “to stop, staunch, staunch, thin down the flow,” and “to lower oneself, humble oneself,” while Basque bailara colexifies “watered meadow” and also means ‘borough, quarter.’ Chickasaw kochchafofka’ is analyzable as /kochcha’aa-fokha’/ ‘outside-LOC-be.in-NMLZ,’ and yaakni’ hayaka’ is literally ‘earth way.off.somewhere’ and denotes an ‘open place’ in general. Haida colexifies ‘valley’ with ‘slough’ and “insides surface or area, insides” (note that ilutak, a term found in the Yukon dialect of Central Yup’ik, contains ilu ‘area inside’). The Kiliwa term ?+mat=xu?savwy is analyzable as ‘DN+earth/land=clean/clear’ (with xu?savwy being itself morphologically complex). Lesser Antillean Creole French valè also means ‘to swallow, drink’ inter alia (due to collapse of Fr. vallè with avaler?), while Pawnee huukiihaar is literally “enclosure on a surface.” San Lucas Quiavini Zapotec ba’i also means ‘really, actually’ inter alia (the reading as ‘valley’ is < Span. valle), and Guaraní yvytyrokái and yvytypa’û contain yvy ‘earth.’ Lengua mitmegyag

might be related to mitmeyi “to dig, to scratch up,” and Ancash Quechua raqra also means “crack, split.” Fijian gākilo seems to contain kilo “a low place, ravine, hollow in centre of whirlpool or water being stirred in a cup” (also meaning ‘low, hollow, depressed’ adjectival), and qiloqilo is reduplicated from qilo ‘hollow in tree where water stagnates.’ Hawaiian awaawa – awāwa ‘valley, gulch, ravine’ appears to be reduplicated from awa, meaning ‘harbor, cove’ and ‘channel, passage through reef.’ Kuawa, a poetic term for ‘valley’ in the same language also means ‘guava’ due to English influence, and Malagasy lohasaha is analyzable as ‘head-rice.field.’

67. The Volcano

Representation: 20.95%
Motivated: 52.67%
Thereof Analyzable: 97.97% Thereof Colexifying: 2.03%
Thereof by Contiguity: 70.92% Thereof by Similarity: 26.02%
Recurrent associated meanings: burn/fire, mountain/hill, earth/land, melt, explode

Frequently, complex terms for the ‘volcano’ are of the lexical type and minimally consist of elements meaning ‘mountain, hill’ and ‘fire, fiery’ or ‘burn,’ as in Buin menu oguai ‘mountain fire,’ and at times also further constituents, as in Nivkh t’uyr- kir t’a bal ‘fire-instrumental breathe mountain.’ Such terms are also found in Yoruba, Kyaka (which also has an alternative term where ‘lightning’ instead of ‘fire’ figures as one of the other elements alongside ‘mountain’), Basque, Khalkha, Welsh (where llosg means, alongside ‘burning,’ also “arson, inflammation, scald”), Xicotepec de Juárez Totonac, Guaraní, Miskito, and Samoan. Alternatively, in some languages also ‘land’ or ‘earth’ rather than ‘mountain’ is featured in complex terms as in Efik, where ayua obüt ikañ contains obüt ‘land’ and ikañ ‘fire,’ Guaraní yvy-rata ‘earth-fire’ (Guaraní also has tata-po ‘fire-hand,’ tata-sé ‘fire-come.out, and tata gue’elha, containing tata ‘fire’ and gue ‘to extinguish’), Bora, where tsâtsihyu iññu jêhévêne contains iññu ‘earth’ and jêhévêne ‘fire,’ Hawaiian ahi ‘ai honua ‘fire consume land,’ and Tetun rai-suut ‘earth-gap.’ Another complex term involving ‘fire’ is found in Baruya, which has wa’ni-dika ‘permanent-fire’ (this term indeed also denotes a “fire that has been burning for a long time”).

Moreover, in two sampled languages, Chickasaw and Chayahuita, terms for ‘volcano’ contain an element meaning ‘to melt’: tobaksi’ bila-‘coal melt-NMLZ’ (this term also denotes ‘lava’), and na’i s soquirin-so’ no pa’u quêrun pashí tênin-so’ ‘stone melt-3SG.SUB earth from ?? say-3SG.SUB’ respectively. Also in two sampled languages, relevant terms contain a constituent meaning ‘to explode’: Wintu p’huyuq p’uqar ‘mountain explode/erupt’ and Arabela iya taamu’ ‘earth explode.’

Other lexico-semantic associations are few: Itzaj has aj-noj witz ‘MASC-big mountain’ (this term is glossed also as ‘mountain itself’), and Hawaiian pele also means ‘eruption,’ ‘lava flow,’ and ‘soft, swollen, fat,’ and is also the name of a volcano goddess.

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7 Japanese has this pattern, too, but the consulted source does not mention the relevant term and hence this case is outside the present sample.
68. The Waterfall

Representation: 67%
Motivated: 52.0%
Thereof Analyzable: 38.4% Thereof Colexifying: 13.6%
Thereof by Contiguity: 31.5% Thereof by Similarity: 6.6%
Recurrent associated meanings: water, current/rapids/cataract, fall, cliff/precipice, river, jump, flow, down

English waterfall is a representative of the cross-linguistically most common structure of analyzable terms for the 'waterfall,' featuring constituents meaning 'water' and 'fall.' In the sample, they are found in Khoekhoe, Noni, Basque, Welsh (in addition, there is another term which directly colexifies 'waterfall' with 'flow, fall' in this language, and Wintu tek likewise colexifies 'waterfall' with 'flow,' next to 'extrude, be extruded' and 'press'), Chickasaw, San Mateo del Mar Huave, Itzaj (colexifying 'jet of water'), Kashaya, Santiago Mexquititlan Otomí, Yaqui, and Sáliba. Moreover, for Haida quuga, compare quugaa 'have fall.' The source notes: "quuga may in fact have originated as a nominalization of the static [verb quugaa] rather than the latter being derived from a noun." There are also many languages with terms with a similar structure, but where the semantics of the constituents is slightly divergent. Yoruba has ọṣọ ọmi 'pour.down water' (note in this context that Buin parukuna is derived from a verb meaning 'to spout, to pour'), Sora tusdar'an, containing 'ụ̀ọp - to collapse, drop down, pierce' and d'a: 'water,' Oneida tetwalsahta, analyzable as /te-w-a?saht-haʔ/ 'DUALIC-AGENT-DROP:CISLOCATIVE-HAB,' Pawnee kictakahak, literally "water to pass down," which is a verb meaning 'be a waterfall' as well as 'water to drip' and 'be a rapid' and contains elements meaning 'be liquid' and 'down,' Xicotepec de Juárez Totonal yuji xa, presumably /yuji xaʔ /move.down water,' Yana ba-r̥iʔma:n-xa 'spill/flow-place-water' (this term also denotes a particular site; note also that in Carrier there is a semianalyzable term for 'waterfall' containing a verb 'to flow' and compare also Cheyenne aŋóheheéọ'ye, which is analyzable as /aŋó-hee'o'tsé/ 'down-spill' and also means 'to pour down' when interpreted verbally), Takia has you i-skalik da 'water 3sg-pour.away ipf,' Tetun beetudak containing bee 'water' and tuda 'hurl, fling,' and Tuscarora has yuhtawʔe, containing -htaw- 'stream of water, current of water' and e: 'fall.' Chukchi has emlaratagym, containing eret- 'fall' (subject to vowel harmony), and Rama kátal talk 'fallen nose.'

As in Tuscarora, there are also terms in which 'river' rather than 'water' alongside 'fall' figures. These include Kapingamarangi monowai doo 'river fall' and White Hmong dej poob tsag 'river fall cliff.' Similarly, Yay has ram t tok taat 'water fall cliff' as well as taat ram 'water cliff,' where taat is "cliff over which water falls," "cliff which is the site of a waterfall" (a semianalyzable term including 'river' is found in Embera). In line with the Southeast Asian association with 'cliff' by overt terms, Bwe Karen colexifies 'waterfall' and 'steep cliff, precipice,' inter alia. Similar to the association with 'cliff' in the Southeast Asian languages is also Copainalá Zoque nálagmá-languy /na'-lagmá-languy/ 'water-precipice.'
In Yoruba, Hani, and Hawaiian, there are terms for ‘waterfall’ containing verbs referring to some sort of jumping motion: Yoruba has Ọ-takiti omi ‘NMLZ-to.somersault water,’ Hani (wulqvaq) coq-ceiv ‘(water) jump-break’ alongside wulqvaq coq-ciivq ‘water jump-pinich/choke,’ and Hawaiian wai-lele ‘water-jump/leap.’ Other complex terms for ‘waterfall’ with ‘water’ being one of the constituents include Meyah mei ofoská containing mei ‘water, river, sperm’ and presumably ofos ‘skin, mountain top,’ Sora taq’surdan /taq’sur-d’a:-n/ ‘rise-water-N.SFX,’ Guarani y-tororo ‘water-gush’ and y-tu, probably analyzable as ‘water-father,’ Piro ajrotoq /gijroto-giga/ ‘forehead-water,’ Wichí inot n’oyij ‘water way,’ and Great Andamanese ʔnal’archár, containing ʔna ‘fresh water’ and chār ‘spring of water.’

Semianalyzable terms for ‘waterfall’ on the basis of ‘water’ are found in Berik, Kyaka, One, Yir Yoront, Nivkh, Bislama, and Lenakel. In Kiowa, ‘waterfall’ is zout-syg n-goup ‘current-small-hit’ and in Ket it is qaxun /qa’-qūn/ ‘big-current.’ ‘Current,’ ‘rapids,’ or ‘cataract’ are colexified in Khoekhoe, Kwoma, Khalkha, Nivkh, Upper Chehalis, Itzaj, Pawnee, Qui-leute, Aguaruna, Bora, Chayahuila, Cebuo, Hupda, Miskito, Ancash Quechua, Yanomâmi, Tetun, and Hawaiian.

Other associations include: Ngambay kóró also means ‘storm’ and denotes a kind of snake, and Swahili maporomoko consists of the verb poromoko “to slide down in a mass” and the noun class prefix ma-. Kyaka jingi also means ‘flower, bloom.’ Muna kaspa is derived from the verb sapa ‘to splash,’ and Rotokas colexifies ‘waterfall’ and ‘steep slope’ as well as ‘stone face.’ Kosarek Yále modun ‘place of a waterfall’ also means “upper edge of a landslide.” The Bezhta term lśiy contains a verb meaning ‘to entangle’ and the past perfective participle suffix. Blackfoot ohpskonaka’si also means “to spurt/flow rapidly” as well as ‘geyser.’ Nez Perce tikem also means ‘dam’ and ‘fish bladder.’ Nuuchahnulth tuxʷ also can refer to the ‘Sproat Lake falls’ and “the falls on the Sarita river,” and Oneida tetwawašt̄aʔ also to the ‘Niagara falls’ specifically. Central Yup’ik qurrqagaq contains qurre- ‘to urinate; to spawn (of fish).’ Bora waapéwa colexifies ‘spout, stream’ and contains waapé- ‘to drip’ and the classifier -wa for table-like entities, and néewa bya contains néewa ‘stone’ and the classifier for three-dimensional objects -bya, while Miskito colexifies ‘waterfall’ with ‘rock, big pebble in the middle of river.’ Bwe Karen bla also means ‘to wash the face,’ and Samoan āfu also means ‘(to) sweat,’ ‘(be) heated,’ and ‘to wither.’

69. The Wave

Representation: 70%
Motivated: 19.8%
Thereof Analyzable: 17.5%   Thereof Colexifying: 2.3%
Thereof by Contiguity: 2.9%   Thereof by Similarity: 14.9%
Recurrent associated meanings: water, river, swell/swelling, sea, wave (techn.), skin/surface, stir, gust, surge

Motivated terms for the ‘wave’ (‘billow,’ ‘ripple,’ ‘breaker,’ ‘surf’) are relatively rare cross-linguistically. Where they occur, they are likely to be similarity-based. In many languages, terms feature verbs referring to the motion of the waves, a situation also found in Indo-European languages (Buck 1949: 40). Wayampi palanayaapiyapi is analyzable as /palan-y-
apidayapi/ 'sea-nmlz/reflex-to.surge,' and Abzakh Adyghe we-le as 'surge.up-foot.' Baruya mavajinaaka colexifies 'wave' with 'swirl,' Muna kaendo is derived from endo 'to shake' and lolabhata "calm waves without foam" might be related to lole 'to roll around.' Kosarek Yale mak kola'ebna contains mak 'water' and a verb meaning "to make stirring movements" (not necessarily of water, though), and Hawaiian nalu ~ nanu colexifies 'wave' and 'to stir' inter alia. Kyaka ipwua ~ ipya kaso kinyingi contains ipwua ~ ipya 'water' and kaso kolo 'up and down,' (with kaso kolo kinyingi glossed as 'wave movement'), Biloxi has ani' xoxo-nil/ ani' xoxo-nil/ 'water swing-caus,' Cheyenne -nê'sê'sevo contains nê'sê 'to wash' and sevo 'to flow,' a constituent of San Mateo del Mar Huave atepa-tepey is atepae 'to move by wind,' Santiago Mexquititlan Otomí muntsi is analyzable as /m-puntsi/ 'nmlz-to.relapse,' Yakí bawero'aktim as /bawe-roa-k-te-im/ 'sea-turn-Pfv-Intr-Pl,' Yaqui sawero'aktim as /bawe-roa-k-te-im/ 'sea-turn-Pfv-Intr-Pl,' Wintu le(·)w is connected to a root meaning 'vibrate, oscillate,' Bororo pobu amoju is analyzable as 'water agitation,' and Guaraní y-pu-â is analyzable as 'water-rise.up.' Abipón lilikatka contains ili(k)-'move-movement of water,' and finally, Dongolese Nubian ññi goes back to *áññi, containing àñ- 'to go.'

However, there is also a wealth of terms for 'wave' in the sample that make reference to the shape rather than the movement of waves, and these are frequently metaphorical in nature. Specifically, there are a lot of body-part metaphors (as already seen in the Abzakh Adyghe term mentioned above): Yir Yoront has yuwil-man 'sea-neck,' Carrier tha-tshi 'water-head,' and Bororo iagajaga and iagiri seem to contain ia' mouth.' Other metaphorical denominations include: Hausa rak'umi-ruwa contains rak'umi 'camel' and ruwa 'water' (rak'umi can also refer to the "blossom of locust-bean tree before it is fully out"), Kanuri kàdzi na'bi-bè is analyzable as 'spur of water-of,' Bezhta colexifies 'wave' with 'horse,' and Pawnee kicpirakus is analyzable as /kic-wiira-kus/ 'be.liquid-upright-be.sitting.' The Piro verb hawokhata 'to be turbulent, have waves' contains hawoka 'to blow,' and špurha contains špu 'edge.' Yay ram' foŋ is presumably analyzable as 'water roof,' and me' foŋ as 'mother roof.' Guarani also has y apeno containing y'water' and ape 'skin, surface,' and the latter two meanings are associated with 'wave' by direct colexification also in Welsh, while there is a semianalyzable term in Central Yup'ik.

As seen from the data discussed so far, frequently complex terms for 'wave' unsurprisingly contain a constituent meaning 'water.' Further terms of this structure are Kwoma uku veerevee 'water breeze/light.wind,' Bororo pobu-to 'water-inside,' and Guaraní y joapy 'water connected.' Rama albrin in si albrinima 'wave' means "waving, grinding" (si is 'water'). Semianalyzable terms with 'water' are found in Kwoma, Kosarek Yale, Cavinéña, and Guarani, while Ngambay directly colexifies 'wave' with 'water' as well as 'river' and 'well;' Sko and Lenakel have semianalyzable terms where one of the constituents can be identified to mean 'sea.'

Furthermore, Hawaiian 'ale rarely means 'gust' inter alia, and White Hmong has the analogous complex term nthwv dej 'gust water.' In Efik, the 'wave' is mbufut akpa 'swelling river,' for which compare Berik fo buk 'wave' with bukna 'to swell' (fo is 'water, river, lake'); Basque colexifies the meanings, and the association is also present in Tasmanian according to Plomley (1976: 380) and in Indo-European languages (evidenced for instance
in Latin and Ancient Greek, Buck 1949: 40). In Basque and Mandarin, the relevant terms can inter alia also refer to a ‘wave’ in the technical sense, e.g. a ‘radio wave.’

Other associations include: Rendille colexifies ‘wave’ with ‘storm’ on a lake or the sea, Swahili with “bulrush millet, eleusine,” and Kwoma uku waya also denotes a “decorative zigzag band on clay pots and other artefacts.” Kyaka pyakao puluyo luppyo pingu contains puluyo ‘upwards’ and luppyo ‘down, descending.’ Toaripi aroro also denotes ‘charcoal,’ probably by extension from there “the Frigate Bird; black with white breast,” as well as a ‘squid’ and the Mimosa pudica. Sahu moku also means ‘dizzy.’ Basque itsaski contains itsas ‘sea’ and also denotes ‘seafood,’ while olatu as a verb means ‘to tame, domesticate’ and ‘to beat, pound.’ Khalkha kyrkine, as a verb, also means ‘to growl, grunt, snarl,’ calgija contains the verb calgi ‘to splash’ and dolgija(n) is related to dolgi, meaning ‘to wave, undulate,’ but also “to be restless, tempestuous, irascible.” Welsh ton also means ‘lay-land’ and ‘broken.’ Blackfoot ohpai’kimsskaa may contain ohpai’piyi ‘to jump,’ Kashaya daluw also means “rub or spread something by hand,” Chickasaw bo’kalhchi ‘to come in waves’ also means “to be beaten (of eggs), to be splashed,” Lesser Antillean Creole French lanm also means ‘blade,’ Itzaj kukul is a verbal noun derived from kul ‘to roll,’ and Nuuchahnulth kʷax also means ‘spray.’ Central Yup’ik yuulraq also denotes a ‘thin flexible sheet of ice on ocean.’ Bora tyočóho also denotes the sound of water splashing against something, Cayapa sela is also the term for the ‘sky.’ Hani eeldaol, eeldaol bi, and eeldaol hhev contain daol, meaning ‘to exist, lead the way’ and ‘one line’ inter alia; eel is glossed as ‘to laugh, to smile,’ but occurs in many complex terms for water-related meanings. Quaintly, hhev in the last variant means ‘to wave one’s hand, to gesture.’ Fijian ua ‘wave, tide’ also denotes ‘veins, tendons’ and ‘muscles.’ Hawaiian nalu ~ nanu also inter alia means ‘to ponder, to reflect’ and ‘ale also ‘for tears to well in the eye.’ Malagasy aloba also means ‘jealousy,’ Rotuman volu also ‘eight,’ Samoan galu, as a verb, also ‘for the sea to be rough,’ and White Hmong twv also ‘to dare’ inter alia.

**70. The Wax**

<table>
<thead>
<tr>
<th>Representation</th>
<th>55%</th>
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<tbody>
<tr>
<td>Motivated: 45.7%</td>
<td></td>
</tr>
<tr>
<td>Thereof Analyzable: 24.5%</td>
<td>Thereof Colexifying: 21.2%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 15.2%</td>
<td>Thereof by Similarity: 25.5%</td>
</tr>
<tr>
<td>Recurrent associated meanings: candle, honey, bee, resin, fat/grease, faeces, tar, ear-wax, house</td>
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Many denominations for the ‘wax’ are metaphorical in nature cross-linguistically, with or without ‘bee’ acting as contiguity anchor. Most frequent, however, is a pattern of colexification by provenience contiguity, namely that with ‘candle,’ found in Khoekhoe, Dongolese Nubian, Muna, Greek, Khalkha (the relevant term is a borrowing from Chinese in this sense; it has also other indigenous meanings), Welsh, Highland Chontal, Itzaj, Xicotepec de Juárez Totonac, and Tetun (in the latter languages, from ‘candle’ extended also to ‘lamp’). Furthermore, Chayahuita has pa’nan, where pana is ‘side of the candle’ and -nan an instrumental suffix. Taken together, however, metaphor-based associations with substances
which are, like ‘wax,’ semi-solid, formable and/or have a similar texture to the target concept are more frequent. For instance, the Khoekhoe term exhibiting this pattern of colexification, \textit{tnaru}"-\textit{llnui-b}, is analyzable as ‘knead-fat/oil-3SG.MASC.’ In fact, ‘fat’ and ‘wax’ are colexified in Samoan (alongside “medicinal cream, wax”), and Imbabura Quechua \textit{mishki wira} is analyzable as ‘bee grease,’ while Abzakh Adyghe \textit{sef} may contain \textit{se} ‘fat’ and \textit{fo} ‘white.’ Further, Efik has \textit{a’dan u’töñ ‘oil grease ear’ (compare utön unam ‘glue’ “[s]o called from being supposed to be made of the ears of animals”), and there is a semianalyzable term where a constituent may mean ‘greasy’ in Hawaiian. In Tuscarora, Hawaiian, and Tetun, ‘wax’ and ‘resin’ are colexified (Tuscarora also colexifies ‘cement,’ ‘glue,’ ‘gum,’ ‘jelly,’ and ‘syrup’ by the same term, and Tetun also ‘candlenut’ and ‘to prune, clip’), while in Wintu the association is realized by the analyzable term \textit{hub-in ceki ‘bee-LOC pitch.resin.’} Similarly, Haida colexifies ‘wax’ with ‘pitch, tar’ (and also ‘chewing gum’), Tuscarora also colexifies ‘wax,’ ‘tar,’ and other meanings, and Kildin Saami has \textit{veazvušk-ārr’v} ‘wasp-tar.’ In Buin, ‘wax’ and ‘faeces’ (and also ‘fine powder’ generally) are colexified, and this association is mirrored by complex terms in Buli (\textit{si-beung ‘fill.up-faeces/droppings’}), Carib (\textit{wano weti ‘bee excrement’}), and Tsafiki (\textit{chiná pe ‘bee excrement; compare Cayapa chiñape, where the general term for ‘bee’ is, however, \textit{tanda}, and chiñilla is a term for a type of bee similar in appearance to a wasp). There are also many languages in which ‘wax’ is associated with ‘honey.’ Herein, Buli is the only language in which colexification (though Nunggubuyu has a broad term that may include reference to ‘wax’ as well, although not explicitly glossed so), while in other languages the association is realized formally by complex terms: Kanuri has \textit{kòmág₃n-mi ‘honey-son.of,’ Kiliwa \textit{mi?yaww}=\textit{smaq ‘honey=leaf,’ Guarani \textit{eiraity /eíra-ty/ ‘honey-urine/juice,’ Hupda \textit{ñeŋ ‘honey mass,’ Toba l-apa ‘honey 3SG.POSS-wasp.nest/honeycomb,’ and Great Andamanese \textit{āja-pij ‘honey-hair/feather,’ Miskito and Rama colexify ‘wax’ with ‘ear wax’ (Miskito also with ‘scab’ and ‘scabies’). Semianalyzable terms involving ‘honey’ are featured in Hausa (where ‘honey’ is colexified with ‘bee’), Guarani, and Hani. Moreover, two languages, Yaqui and Fijian, have terms with a metaphorical transfer from ‘house’ to ‘wax’: \textit{muumujo’ara ‘bee house’ and drega ni vale ni \textit{vī}, containing \textit{drega ‘gum} and \textit{vale ‘house’ respectively. Other complex terms with ‘bee’ are Chickasaw \textit{fohli bila- ‘bee/honey melt-NMLZ’ and Tetun \textit{bani-isin ‘bee-flesh,’ and semianalyzable terms with ‘bee’ are found in Hausa, Katcha and Huambisa (for the unknown element \textit{nujir in this language, compare \textit{nujin ‘egg’?).}\n
\textbf{Hausa} \textit{kaki} also means ‘mucus’ inter alia, Muna \textit{lili} also to “go or travel around,” and Basque \textit{zira} also ‘shoe polish.’ Noni \textit{kelay} is formed by adding the noun class prefix \textit{ke}-to \textit{lay}, which means ‘to seal, glue.’ Gurindji \textit{tarla} also denotes “wax” from the Spinifex plant, Badaga \textit{mekku} also means ‘cud,’ Lesser Antillean Creole \textit{Frensh si also “sour, having an acid taste’ inter alia, and Pipil (Cuineshaht dialect) \textit{chazpah is also the name of a game played with wax. Aguarruna \textit{dují ~ nují also means ‘nose, beak’ and ‘prow of canoe,’ Bororo \textit{boli} also denotes the bony scales of an alligator, and Sedang \textit{pet also means ‘to plant’ inter alia.}
71. The Whirlpool

Representation: 55%
Thereof Motivated: 50.1%
Thereof Analyzable: 43.1% Thereof Colexifying: 7.4%
Thereof by Contiguity: 29.2% Thereof by Similarity: 19.2%

Recurrent associated meanings: water, go around/spin/turn/twist, whirlwind, eye, vessel, current, sea

Most frequently, terms for ‘whirlpool’ (‘eddy,’ ‘vortex,’ ‘maelstrom’) are morphologically complex in the languages of the sample, containing terms for ‘water’ or specific bodies of water and verbs for motions such as ‘to go around,’ ‘to spin,’ ‘to turn,’ and ‘to twist,’ as in Koyraboro Senni hari-windi ‘water-go.around/go.in.circles.’ Other languages with terms with such a structure and varying water-related contiguity anchors are Bezhta, Ket (which also has the alternative term telyil /tel-kil/ ‘mammoth-spin,’ the analysis of which is unsure however according to lexicographers), Welsh, Ineseño Chumash, Haida, Kashaya, Kiliwa (xa?et swa-y-p=s+wa-y-p ‘water-subj INST.LONG+spiral.motion-ATT-PASS=INST.LONG+spiral.motion-ATT-PASS), Oneida, Yaqi, Guarani, Toba (where the element conveying the motion is ‘to return’ more specifically), Hawaiian, Malagasy (where the same remark as for Toba applies), White Hmong, Samoan, and Vietnamese (where an additional element meaning ‘current’ is present, compare Biloxi ani’xyu’hi kidu’nah’i ‘current turn.around’ and Haida juu rwiihlrahl, containing juu ‘current,’ rwiihl ‘to move spirally’ and rahl ‘to stir,’ this term also denotes a ‘crow’s nest at the back of head’). Similar terms of the derived type are encountered in Piro, Wayampi, and Hawaiian (by the term mimilo, which is formally a reduplication of milo ‘twist, whirl’ and also means ‘curly, kinky’ as well as ‘to roll, as to induce an abortion’). The relevant meanings are colexified directly in Kyaka (although the situation in this language is not entirely straightforward on the basis of the consulted source), Sora, and diachronically, such an association is also identifiable for a Kolyma Yukaghir term for ‘whirlpool.’

There are, however, also metaphor-based conceptualizations of ‘whirlpool.’ In four sampled languages, there are complex terms in which ‘eye’ is transferred to ‘whirlpool,’ with ‘water’ or bodies of water acting as a contiguity anchor: Kanuri has shim njî-bè ‘eye water.of,’ One has folà namma toma ‘water eye stone,’ San Mateo del Mar Huave oniiüng ndec ‘eye sea’ for a whirlpool in the sea specifically, and Takia you mala-n ‘water eye-3sg.’ In three of the languages in the sample, the source concept is a vessel: Nez Perce capa-hikayikdîyica ‘funnel-shaped whirlpool’ contains cepé ‘to shape with hand’ and a reduplicated version of hîkay ‘pot, cup, to make a cuplike shape,’ and in Bororo, the ‘whirlpool’ is aria-reu ‘pot-like.’ In addition, Hupda wôwô’y’ colexifies ‘whirlpool’ with a ‘basket type having hourglass shape’ and “gourd support (hourglass shape).” Basque (by the term zurrunbilo, perhaps related to zurrun ‘pole’ and bilo ‘down, fine hair’? This term also colexifies ‘bedlam,’ ‘confusion,’ ‘crowd,’ and “heavy downpour”), Cubeo, and Fijian colexify ‘whirlpool’ with ‘whirlwind.’ Since the Fijian term is morphologically complex and contains waiâ ‘water deep enough for a canoe at low tide,’ it appears that ‘whirlpool’ is the diachronically original referent of the term. The contrary situation holds in Santiago
Mexquititlan Otomí, where the ‘whirlpool’ is called xedi dehe ‘whirlwind water,’ and
the same is true of Abzakh Adyghe and Imbabura Quechua.

Other complex terms with ‘water’ include Toaripi ma elorielori oti containing ma
‘water’ and oti ‘place,’ Kildin Saami čąg-čullm ‘water-knot,’ Wintu mem kemuri, containing
mem ‘water, river’ and kem, referring to the ‘sound of water rushing or roaring’ and also
meaning ‘water turbulence,’ Bororo buto-bo, seemingly ‘rain-water,’ and Cavineña ena
cahuaitiya ‘water enrage.’ Semianalyzable terms where one of the constituents can be
identified to mean ‘water’ are found in Highland Chontal, Aymara, and Hani.

Still other associations include the following: Efik èsìk is derived from the verb ìk
‘to squirt;’ the term also denotes a ‘round thing drawing in towards the centre’ and a
‘round net or fishing pot,’ a pattern of colexification probably due to the fact that ìk also
means ‘to tie, draw together’ inter alia. Khoekhoe colexifies ‘whirlpool’ with ‘pot-hole’ in
river and ‘gravel pit’ inter alia, while Muna tehi tingkula is analyzable as ‘sea slope.down’
and also denotes the ocean itself when no land is in sight. Greek roufchta contains rouf
‘to suck in, absorb,’ Khalkha oil also can refer to a ‘tuft of hair,’ and Kolyma Yukaghir umujuruga ‘eddy in a river’ is analyzable as ‘river-hole.’ Tuscarora nekahtawkwānahé contains
-hgw- ‘stream of water, current of water’ and -kwa- ‘arc, curve.’ Cayapa colexifies
‘whirlpool’ with ‘grindstone,’ Cubeo jomeicobe is derived from jomeña ‘to agitate’ by means
of the classifying suffix -cobe for hole-like objects, and Guarani jepyvu contains jvu ‘spring.’

Piro ximlere apparently contains ximle ‘to boil,’ for which compare Central Yup’ik qall-neq,
colexifying ‘spring’ with ‘eddy’ and analyzable as ‘be boiling-thing.that.results.from.’ Ancash Quechua muyu also denotes a ‘rodeo’ or ‘walking around’ (Spanish gloss: ‘rodeo’). Samoaan auma also denotes a ‘breaker,’ and Tetun da-dula-k, analyzable as ‘DERIV-winnow/sift-DERIV,’ also means ‘to sieve for grain.’

72. The Airplane

Most frequently, complex terms for ‘airplane’ are derived from verbs meaning ‘to fly’ or
‘to fly around,’ with a variety of structural subtypes. Derivation proper is attested as the
word-formation device in Gurindji, Ket (where the relevant term also can refer to a heli-
copter; the same is true of a simplex term in Sko), Carrier, Kashaya, Nuuchahnulth,
Oneida, Pawnee, dialectal Central Yup’ik, Aguaruna, Guaraní, and Wichí, which has wiy’o-
taj ‘fly-AUG.’ In two languages, additional elements are present, namely Nez Perce
(weke’we?le? /we-ke’we?e’li/ ‘fly/run-move-AGT’) and Yanomami (isihami-yë-rewë ‘up.high-
fly-NSMz’), and in another two sampled languages, there are complex terms that are
somewhat akin to derivation with an element meaning ‘thing,’ namely Cheyenne
(ame’hahtôte, analyzable as /ame’há-hestótse/, ‘fly.along-thing’) and Hupda (wayd’ôte-teg
In two sampled languages, there is a metaphorical transfer from ‘house’ to ‘airplane’ with ‘fly’ acting as a contiguity anchor. These are Rotokas (papa-pa kepa ‘fly-through.air-deriv house/cabin/building’) and Kiliwa (ʔ-waʔ-kw-ʔ-hiw ‘dn-house=wh-dist-fly’). In Kashaya and Yanomámi, there are additional constituents in the relevant terms meaning ‘high’ (qalicathmuʔ/qali-hca-th-muʔ ‘high-fly-plural.act-around-abs’) and ʔishami-yé-rewē ‘up-high-fly-nmlz’); ‘high’ is also featured in Bora cádmé-eyi ‘be/become.high-belong.to-SCM.transport’ and Piro tenyapatə ‘high, tall, deep’ and ya ‘to go.’ In Santiago Mexquititlán Otomí, ‘metal’ is present as the meaning of the second constituent of the respective ‘airplane’-terms alongside ‘to fly’: nsani bojå ‘fly iron/car,’ while Bororo has meriri kodureu, containing meriri ‘metal’ alongside a verb meaning ‘to fly’ and White Hmong has dav hlao ‘hawk iron.’ Semianalyzable terms with ‘fly’ are featured in Basque, Khalkha (in varieties spoken in Inner Mongolia), Lakhota, and one on the basis of a verb meaning ‘to fly alone’ in Toba. It is also not uncommon to transfer ‘car,’ or more commonly ‘vehicle’ in general, to ‘airplane,’ similar to Santiago Mexquititlán Otomí: Kanuri has mààrà sámì-bè ‘vehicle sky-of,’ Khoekhoe ʰoa-ku-nis ‘air-wagon-3sg.fem,’ Yoruba ọkọ ðufufú ‘vehicle sky,’ Sora ruajy-saqada ‘sky-cart-,’ Cashinahua nai bapu ‘sky motor/motorized vehicle,’ Malagasy fiaramanìdina/fiàra-manìdina ‘vehicle fly,’ and Mandarin fei1-ji1 ‘fly-machine,’ for which compare Japanese hi-kō-ki ‘fly-machine’ and Vietnamese phi cő ‘fly machine’ and mûy bay ‘machine fly.’ In the Americas, there are three languages, Kashaya, Aguaruna, and Huambisa, which colexify ‘machine’ or ‘machine with motor’ in general with ‘airplane.’ In all instances, the relevant terms are borrowed from Spanish, from vapor in the case of Cashinahua (and note that Chayahuita huaporó, also a borrowing from Spanish, colexifies ‘steam’ with ‘airplane’) and from machina in the rest of the languages. Kashaya has the optional complex term ma·kina ca·dmuli, which is tentatively analyzable as /ma·kina hca-v Od-mul=li/ ‘machinery fly-along-around=instr.’ More frequent than associations with ‘car,’ ‘vehicle,’ or ‘machine’ is the transfer from ‘boat’ to ‘airplane,’ realized almost exclusively (with the exception of Khalkha which has a colexifying term that is indeed parallel to English vessel in being also capable of referring to a recepable or trough) by morphologically complex expressions, with either ‘sky’ as contiguity anchor, as in Hausa jirgi-n sama ‘boat/train-gen sky,’ or more frequently with ‘fly,’ ay in Rotuman ‘ahqi fere ‘ship fly’ and also in Muna, Sko, Meyah, Nivkh, Chicksaw (where ‘boat’ is colexified with ‘trough’), Cayapa, Fijian, and Hawaiian (‘canoe’ rather than ‘boat’ specifically in the case of Cayapa and Fijian), Rotuman, Samoa, and Yay, with ‘jump’ in Abzakh Adyghe q”ahλate /q”ahε-λετε ‘boat-jump,’ and with ‘air’ in Bwe Karen (ka6s-gali ‘ship-air’) and Hawaiian (moku-ea ‘ship-air’).

All of the second elements in the above terms recur in other configurations in other languages. Like Hausa, the meaning ‘sky’ figures in Ngaanyatjarra, where yilkaringkatja contains yilkari ‘sky’ and katja ‘son’ (this term also means ‘airline, air services’), and Lenga thlinga netin ‘movement sky.’ In Miskito, ‘airplane’ is pasara pali tauki ba ‘air jump travel dem,’ terms of the derived type involving the meaning ‘fly’ were already discussed above. In Guaraní, ‘wing’ and ‘airplane’ are colexified and there are further semianalyzable terms containing pepo ‘wing.’ Note also in this context Yir Yoront minh-puth lon ‘animal-wing with,’ but this is due to another metaphorical transfer pattern: minh-
*puth lon* in fact is the Yir Yoront term for 'bird' (compare section 6), and with this pattern of colexification, Yir Yoront is accompanied by Swahili, Toba, and Mali, where 'large bird' specifically is colexified with 'airplane.' Khoekhoe has *anis kunis* 'bird wagon,' Ngambay *yêel bô* 'bird big,' and One *tolla moa* is presumably analyzable as */tolla mo'a/* 'bird mother' (with 'mother' presumably conveying augmentative meaning, Matisoff 1992). Bakueri *mêlî mé ngoî ~ mêlî mé ngoî* contains *mêlî,* which denotes a species of bird, and *ngoî* 'fever, cold.' As for 'bird,' there is also a semianalyzable term in Guaraní.

There are also terms for the 'airplane' in which 'air' in fact is a constituent: alongside the terms already discussed, this is also the case in Welsh, where *awyrên* contains *awyr* 'air, sky' alongside a singulative suffix. Semianalyzable terms including elements with this meaning also occur in Greek (although *aeroplánon* is in fact borrowed from French, which is in turn a learned neologism based on the Ancient Greek root for 'air'), Lengua, and Manange (where 'air' and 'wind' are colexified).

Other more unusual patterns include: Cubeo *wuicû* contains the root *wui* also occurring in terms for 'propeller,' 'lungs,' and 'dry tuber' and a classifier for things that are round on the one side and plane on the other. Guaraní *kurusu veve* contains *kurusu* 'cross,' and Bislama *plen* (< Engl. *plane*) colexifies 'wood plane.'

73. The Ball

Representation: 74%
Motiveted: 31.7%

Thereof Analyzable: 12.5% Thereof Colexifying: 19.3%
Thereof by Contiguity: 15.5% Thereof by Similarity: 7.6%

Recurrent associated meanings: round, bullet, football, baseball, citrus, lump, play ball game, testicles, nut of dum-palm, bowl, kick, rubber

The most common of the few lexico-semantic associations with 'ball' (ignoring additional glosses such as 'sphere, spheroid') is that with 'round, round thing' (see Buck 1949: 907 for evidence from various Indo-European languages). It occurs either by morphologically complex terms, as in Meyah *môf oťa* 'wind round,' One *malwa tala ~ maula rala /malwa tala* /'citrus round.thing,' Nez Perce *kapapkâpap,* reduplicated from *kâpap* 'to be round,' and Lengua *aksak yakye* (*aksak* is 'thing' and *yakye* likely related to the verb *yakyei* 'to be round') and directly by colexification in Buin, Rotokas (where the relevant term *kororosisia* appears to contain *koro* 'fruit'), Khalkha (one of the relevant terms, *bombyrceg,* seems to be related to *bombyr* 'drum*'), Santiago Mexquititlan Otomí (where the relevant term also means 'wheel'), Quileute, Wintu (where the relevant term also means 'naked'), Embera, Hupda (where the relevant term also means 'fruit' and 'nut'), and Piro (where, similarly, the relevant term also denotes a 'large round fruit'). In addition, there are a number of languages in which the relevant term features a bound element conveying the meaning 'round thing'; these are Nuuchahnulth *hupk-im* 'roundish.thing-CHUNK.SHAPED.OBJECT* (which also means 'testicles,' as does Bislama *bol,* which goes back to Engl. *ball,* alongside 'sac' and ‘soft belly of coconut crab”) and Cubeo *yajui-du* 'game/sport-CLASS.ROUNDISH.OBJECT* (for this term, compare Cahuilla *qâwpiيث*), which is derived from
-qáwpi- ‘to play a ball game,’ such terms are also featured in Haida and Tuscarora, where it in addition colexifies ‘setting sun’) and Cayapa sapuca contains pucu ‘small round thing.’

However, various specific round things are colexified in many languages. In three languages of the Old World, Efik, Abzakh Adyghe, and Greek, ‘ball’ is colexified with ‘bullet’ (see Buck 1949: 907 on this extension in German; Adyghe also has terms colexifying ‘ball’ with ‘cannon’). In both Hausa and Katcha, the relevant terms also denote the ‘nut of the dum-palm’ which is apparently used as a ball (in Hausa, also the Polo ball specifically and hence the Polo game as well as horse-racing inter alia). Bakueri qumú also means ‘orange,’ and Buli gbéli is also the name of “the wooden cylinder of the buuri- or calabash fruit that are used by sheperds as a ‘ball,’ when they play their game of ‘hockey.’” Ngambay bbirí also means ‘parcel, container,’ and ékyád also means ‘placenta.’ The Yoruba term ṣú ‘ball, lump of anything’ (the association with ‘lump’ is shared with Samoan and Tetun, which has ai-kubu ‘tool-circle/lump’ and many Indo-European languages according to Buck 1949: 907-908) consists of the verb ṣu ‘to mould in a round form’ and the prefixal nominalizer i-. Kyaka konda is also the term for a ‘kind of yam;’ the term denotes an oval-shaped ball similar in shape to the fruit of the konda-yam specifically. Badaga sëndu also means ‘grass or straw ring,’ Basque bola also ‘skittle’ and ‘ball-bearing,’ and Khalkha bømbyg(e)n also ‘bomb’ and ‘pellet used for crossbows.’ Similarly, Welsh pêl also means ‘pellet’ and ‘pill.’ Cheyenne htōhténe ‘hohtsemo also denotes a ‘netted hoop,’ and Lake Miwok póloolo colexifies ‘ball’ with ‘dry oak ball’ as well as ‘baseball’ and ‘Ball Dance’ specifically. Hawaiian pāpō also denotes a ‘round mass,’ ‘cluster,’ or ‘bunch’ generally, pōkā’a (containing kā’a ‘to turn’) also means ‘coil,’ ‘roll,’ and ‘spool’ inter alia. The basic meaning of Lenakel nàwànte-pëmi- is ‘urinary bladder,’ which is reflected in the term’s morphological structure: it is analyzable as /nàwà-net-pëmi-/ ‘fruit-belly-urine’ (presumably inflated animal bladders are used as balls in games).

Otherwise, terms for ‘ball’ may contain verbs meaning ‘to roll’ or to ‘roll around’ (Efik, where the term also denotes the game played with the ball) or ‘to kick,’ as in Comanche naśu-pee’ ‘small native-american football,’ which is analyzable as /na-suh-pee/ /reflect-kick-fall; ‘kick’ is also the meaning Muna sepa ‘ball plaited from rattan’ assumes when used as a verb. By provenience contiguity, Rendille imbir also denotes an object made of rubber or plastic generally, while Bora máddkiini contains máddki ‘rubber’ and the classifier for small round objects -iu. In three languages of the New Guinea area, Buin, One, and Sko, there is a curious association between ‘ball’ and ‘citrus’: in Buin, ‘ball’ is colexified with a “kind of tree; a tree with spherical, lemon-like fruit about 10cm in diameter,” One malwa tala ~ maula rala is analyzable as /malwa rala/ ‘citrus round.thing,’ and Sko hangléée, which is a dvandva compound analyzable as /hang-lée/ ‘coconut-peanuts,’ colexifies the meanings. Muna, spoken in the same broader region provides a hint towards an explanation: golu lemo is glossed as ‘citrus fruit used as ball’ (golu ‘ball,’ lemo ‘citrus fruit’). Pawnee rariickirí also denotes the ‘baseball’ and the associated game specifically which is also the case in Lake Miwok and Hawaiian, just like Buli gbéli, Carib bal, and Bwe Karen boló also denote the ‘football’ specifically. Ngaanyatjarra purrpuurpa, borrowed from English football, also denotes the game of the same name as well as “football carnival,” (tjaputjapu likewise denotes both ‘ball’ and the game of football). Dongoese Nubian and Japanese
colexify 'ball' with 'bowl,' in Japanese due to phonological collapse of the English source words ball and bowl.

Other patterns include: Efik obön is also glossed as ‘musketo,’ Berik colexifies ‘ball’ with ‘forefinger,’ Mali vaideunggi is used to refer to something of tennis-ball size and is also the name of a tree species, while Rotokas colexifies ‘ball’ with ‘name’ and ‘letter.’ Greek mpálła also means ‘bale,’ and Japanese kyū also ‘nine.’ A literal rendering of Carrier nekhek would be ‘uses to be tossed about,’ and Comanche naímahpečé would be translated literally as ‘object thrown by hand.’ Kiowa colexifies ‘temple’ and Santiago Mexquitilan Otomi lobo ‘wolf’ (due to phonological collapse of Span. globo and lobo). Central Yup’ik (Nunivak Island dialect) yuqaq is analyzable as /yuq-(ng)uaq/ ‘person-imitation,’ and San Lucas Quiavini Zapotec pelo’t also means ‘ball game.’ Embera colexifies ‘ball’ with ‘whole’ and “surrounding district.” Miskito dans pulanka kun is analyzable as ‘dance play one.such.’ Imbabura Quechua muyu-ndin is analyzable as ‘seed-with,’ whereas Hani siilpuq might contain puq meaning ‘to swell’ inter alia (siil is ‘gold, yellow’). Rotuman poro also is the name of a bush inter alia, and the plural of Samoan polo also means ‘roller bearings.’ Finally, Vietnamese bông also means ‘shadow’ inter alia.

74. The Bed

Commonly, words for ‘bed’ contain verbs meaning ‘to sleep’ or ‘to lie’ (for which see Buck 1949: 480 in Indo-European), and they may be either of the derived or lexical type. Terms derived from ‘to sleep’ are found in Muna, Cahuilla, Chickasaw, Nez Perce, Central Yup’ik (Nunivak Island dialect, otherwise “sleeping bag, bedroom”), Cashinahua, Cavinéña, Ancash Quechua, Fijian, Rotuman, and Samoan (here, there is a more complex term:  ula-moe-ga ‘enter-sleep-NMLZ’). If terms are, however, of the lexical type, the second element may differ: it may simply be ‘thing,’ as in Mbum fe-nám ‘thing-sleep,’ ‘place,’ as in Yoruba ibásún, which is analyzable as /ibi-isún/ ‘place-sleep,’ as well as in Wichí (and note that Ngaanyatjarra, Abzakh Adyghe, Khalkha, and Fijian colexify ‘bed’ with ‘place,’ and Anggor inter alia with ‘place,’ ‘chair’ and ‘floor’), or it may be the name of some other piece of furniture, as in Dadibi pibo sai ‘sleep floor/table,’ and also in Kyaka, Rao, Toaripi, and, questionably, Japanese (it is in fact relatively frequent for terms for ‘bed’ to also denote another piece of furniture or furniture in general, this pattern is found in Noni, Anggor, Baruya, Burarra, Mali, One, Rotokas, Sahu, Badaga, Nuuchahnulth, Tuscarora, Lengua, Rama, Hawaiian, Rotuman, and Bislama). Otherwise, complex terms involving ‘tree’ or ‘wood’ alongside ‘sleep’ are also found: Buli has gadaok /goa-duok/ ‘sleep-wood,’ Kyaka luo palenge isa ‘sleep ?? tree/wood,’ Copinalá Zoque nuy /nu-cuy/ ‘sleep-wood/tree,’ Kaingang ka
krē ‘wood criciúma’ (criciúma is a type of Bamboo; the complex term also denotes a ‘field to beat beans’), and Maxakalí mip-xap, analyzable either as ‘wood-stone/bead/seed’ or ‘wood-weave/knit/sew’ (note also Yir Yoront yo-way ‘high branches of a tree, stretcher, bed,’ which is analyzable as ‘tree-high.up’ and Itzaj tus’bil-che’ ~ tus-che’ ‘wood pile, rack, bed,’ analyzable as ‘stack(ed)-wood’). Furthermore, the Bororo term boe enu pa contains both terms for ‘thing’ (boe) and ‘place’ (ba) alongside a verb meaning ‘to sleep’ (nu). In Nganyatjarra, Aymara, Bora, and Hawaiian, ‘(to) sleep, sleeping’ and ‘bed’ are directly colexified (in Hawaiian also other meanings are), in Aymara by the analyzable term iki-ña ‘dream-instr.’ In fact, Hawaiian colexifies ‘bed’ also with ‘dream,’ and relevant terms in Bora, Cashinahua, and Toba may or may not do the same, since the Spanish gloss ‘sueño’ is ambiguous between ‘sleep’ and ‘dream.’ Semianalyzable terms involving a verbs meanings ‘sleep’ or ‘go to sleep’ is found in Nez Perce, and one featuring a noun ‘sleep’ in Toba.

The other major association, that with verbs meaning ‘to lie’ or ‘to lie down,’ betrays the same mixture of derived and lexical terms. The derived variety is found in Efik (where the term also denotes a ‘camp’ and a ‘rendezvous’), Carrier, Upper Chehalis, Ineseño Chumash, Kiliwa, Lakhota, Wintu (based on a verb meaning ‘lie on ground’ more specifically), Yuki, Jarawara, Fijian (where the derivation base is glossed as ‘to lie in a place more specifically, and hence the derived term also has the more general meaning ‘location, place, position’), Malagasy, and Rotuman. For instance, Malagasy has fandomana, analyzable as /fa-àndry-ana/ ‘NMLZ-laying.down-NMLZ.’ In Cheyenne, ‘bed’ is seehestóse /sēeše-hestótse/ ‘lie-thing,’ in Haida it is tóy daan ‘lie place,’ colexifying ‘basking place’ and ‘rookery.’ In Tetun tobafatin, fatin is ‘place’ and toba can actually mean both ‘to lie down’ and ‘to sleep,’ and the same situation is encountered in Kwoma. Semianalyzable terms with ‘lie’/ ‘lie down’ occur in Biloxi and Lengua (where the identifiable root also means ‘to sit’). The Biloxi term in fact colexifies ‘bed’ with ‘mattress,’ and this pattern is also found in Buin, Abzakh Adyghe, Badaga, Upper Chehalis, Wintu, Tsafiki, and White Hmong, while Cubeo has paraíno, with the root paraí- also occurring in the term for ‘mattress’ and classifiers differentiating between the two referents. Similarly, Kiowa, Arabela, and Aymara colexify ‘bed’ and ‘quilt.’

Another recurrent association realized by complex terms is that with the meaning ‘to spread,’ ‘to spread out’ (a pattern also evidenced in Old Norse and Church Slavonic, Buck 1949: 480): Swahili kitanda contains the verb tanda ‘to spread, stretch’ and a noun class prefix, while Rotokas urua is derived from uru “spread something out to sleep or lay [sic] on;” Ineseño Chumash suwaskanímu’ is analyzable as /suwaskan-mu/ ‘to.spread.something.open-deriv,’ and Badaga hasike contains hasi ‘flat, to spread out’ (a similar pattern may be discernible etymologically in Koyraboro Senni). In contrast, an association exclusively realized by colexification is that with ‘(bed-)room,’ occurring in Nganyatjarra, Pawnee, Tuscarora and Guaraní, where the term in addition colexifies ‘nest,’ as is the case in Manage. Anggor, Baruya, Wintu, and Tsafiki colexify ‘bed’ with ‘ground’ or ‘floor’ (Wintu tieh also means ‘spread,’ ‘hay,’ and “hind legs of dead animals spread and dragging” and Lake Miwok waja also ‘base, bottom’ inter alia; compare also Kashaya cahi ‘bed’ and ca- ‘be sitting on ground, floor’?), while Nuuchahnulth čimiih is analyzable as /čim-iih/ ‘right/ready-on.the.floor/in.the.house,’ and Wintu pomippanas topi
contains pominpana ‘to lie on ground’ (for the association with ‘ground’ in Baltic, see Buck 1949: 480). Furthermore, Cashinahua and Piro colexify ‘bed’ with ‘hammock,’ and Dongolese Nubian with ‘bedclothing.’

Other associations include: Hausa gado inter alia also denotes the notions of ‘inheritance,’ ‘bargain,’ while Koyraboro Senni daari also denotes a ‘bed-roll’ and ‘bedding.’ Ngambay tuwa also denotes the ‘straw to make a mat with’ and other things, and Baruya minye can also refer to the “lower side of an ambush.” Muna koe “wooden or iron bed” also means ‘do not,’ while Ngaanyatjarra ngurrara can also mean ‘camp’ and ‘living area.’ Badaga mede also denotes ‘cane, bamboo,’ Chukchi ajkol also ‘skins to sleep on,’ Khalkha oru inter alia also ‘vacant place, vacancy’ and ‘trace,’ and Welsh gwely also ‘family.’ Lake Miwok káama also means ‘crib,’ and Nuuchahnnulth čim? is also “Chimihl, the name for the passage between Congreve Island and the shoreline of Barkley Sound.” Santiago Mexquititlan Otomi xifi also means ‘to explain,’ and Pawnee kusaahkus also means “be the site of a former dwelling, camp ..., be a campsite” and “be a field, playing field.” This term is in turn based on the term kusar, which is derived from kus ‘to be sitting, be living,’ and also denotes a ‘seat’ and ‘place’ generally as well as a station in a ceremony specifically. Tuscarora colexifies ‘bed’ with ‘position,’ ‘space,’ and ‘stage,’ and San Lucas Quiavín Zapotec ca’mm also means “iron cup filled with gunpowder and exploded like a firecracker.” Central Yup’ik aci ~ aciq also means ‘area below, area under,’ Abipón n-aad-Ra is analyzable as ‘poss.indet/3sg-bring-abstr,’ and the Arabela term maqua seems to be derived from maqua ‘footprint.’ Cayapa colexifies ‘bed’ with ‘mosquito net,’ Chayahuita pesara is analyzable as /pe’sa’-ra/ ‘palisade-class.small.things.’ Miskito krikri may also refer to ‘bunk’ and ‘tapest-try,’ while Sáliba jahaxoote contains jaha ‘feet.’ Toba colexifies ‘bed’ with ‘totora sedge raft,’ and Hani hhaaqzaa contains hhaaq ‘pillow’ and zaq, acting inter alia as the classifier for beds. Kapingamarangi hada also means “platform of outrigger boom,” while Bwe Karen lo fə-μi=fə-a is analyzable as ‘stone rest-when=rest-eat.’ Finally, Hawaiian moe inter alia means ‘to lie in wait, ambush’ as well as ‘to marry, sleep with,’ Sedang xōang also means “to solve a problem, to divide,” and Tetun kama also ‘cradle.’

75. The Belt

Representation: 86%
Motivated: 36.4%
Thereof Analyzable: 26.8% Thereof Cologelexifying: 9.3%
Thereof by Contiguity: 22.9% Thereof by Similarity: 0.3%
Recurrent associated meanings: tie/bind/wrap/fasten, waist, strap, leather/skin, circle/loop, belly/stomach, bandage, rope, thing, middle, body

Most commonly, terms for ‘belt’ ('sash,' ‘gird;’ ‘girdle,’ ‘waistband’) are derived from verbs meaning ‘to tie, bind, wrap, fasten,’ or contain an element meaning ‘waist,’ or both (note that in Indo-European, ‘belt’-terms are derived from the root *yōs- ‘gird,’ which may have originally been *yōu-s, an extension of *yeu- ‘bind,’ Buck 1949: 434). Pure derived terms, such as Efik a-bōp ‘nmlz-tie’ occur not only in this language, but also in Khoekhoe, Ineseño Chumash, Tuscarora, Central Yup’ik, Cashinahua (derived from a verb meaning ‘tie around
waist’ more specifically), Cubeo, and Toba. Muna and Hawaiian colexify nominal ‘belt’ with verbal ‘tie (around waist),’ and similarly, Bezhta has tic’iyo, a past participle of a verb meaning ‘to put on,’ Tuscarora yɛʔkwihreḥ contains the verb -yɛʔkwih- ‘to gird,’ and semianalyzable terms featuring constituents meaning ‘tie up’ and ‘tied’ occur in Upper Chehalis, Copainalá Zoque, and Hawaiian. There are also complex terms with more than one lexical element, where one of them is a verb meaning ‘to tie.’ Kiowa has tαn-p’i’-ga ‘gap-be.tied-noun.POSTSTIX,’ Nuuchahnulth lapwanin contains lap ‘tie about’ and im ‘thing’ (where lap in fact by itself means ‘to gird, belt, tie about’), Bororo has boe ekajejewu boe ‘thing’ and kajejewu ‘bind,’ and similarly, Kaingang vêsojhin ja is analyzable as ‘bind.oneself thing.’ Lengua has aptete niphlīt, with tete referring to “anything which is tied” and niphlīt to the ‘waist,’ Cubeo jαrióicãva is analyzable as /jαrióñʉ-cãva/ ‘tie-CLASS.CLOTH.RIBBON.LIKE’ and jαrió-me as /jαrióñʉ-me/ ‘tie-CLASS.LIKE.THREAD,’ and in Hawaiian, one of the words for ‘belt’ is kama ‘aha ‘tie string.’ More frequent, however, is the combination with ‘waist’ or ‘stomach,’ as in Abzakh Adyghe bə̄j-o-ra-px(e) ‘waist-INST-tie,’ which is also found in Mbum (where an additional element ‘cord’ is present), Sora, Upper Chehalis (where ‘waist’ is colexified with ‘middle,’ compare Fijian i vau ni tolo-na ‘DERIV tie POSS middle.part-POSS’); similar denominations are Malagasy fehikìbo, analyzable as /fèhy-kìbo/ ‘tying/knot-stomach’ and Tetun futu-kabun ‘bind-belly.’ Jarawara has makari tosi ‘cloth/clothing waist,’ and furthermore, Aguaruna and Yaqui feature a monomorphemic term colexifying ‘waist’ and ‘belt.’ Derived terms with the lexical basis meaning ‘waist,’ such as Abipón aut-Reki ‘waist-LOC,’ are also found in Basque and Aguaruna. Other complex terms where one of the constituents means ‘waist’ or ‘stomach’ occur in Buli (chiak gbain ‘waist leather’), Mbum (sàl tàk ‘waist-INST-tie,’ Kolomy Yukaghir (aŋdil-andi: ‘waist-bedding’), Yaqui (toma jisumiam, analyzable as /toma jisumia-im/ ‘belly package-prep’), Guaraní (ku’a-sâ ‘waist-rope’ and ku’a-kua-hu ‘waist-have.holes-AGT’), Miskito (maisa-wila ‘waist-ribbon’), Ancash Quechua (tsiqla watu ‘waist strap’), and Vietnamese (dày lung ‘cord waist’). Semianalyzable terms with ‘waist’ occur in Bororo, Cayapa, Guaraní, Huambisa, Sáliba, and Wayampi, and the Ineseño Chumash term tiwošokun contains the verb tiwošok- ‘to wrap around the waist’ and is literally translated as “something wrapped around the waist;” Copainalá Zoque has a semianalyzable term where the identifiable constituent means ‘belt.’

Alongside the Buli term mentioned above, the meaning ‘leather’ or ‘skin’ also figures in Bora ocąji-milhe ‘cow/tapir-cl.skin/leather,’ Rama bipuk /bip-uk/ ‘cow-skin’ as well as in Efik, where ‘leather’ is colexified with many artifacts made from leather, among them ‘belt’ (the relevant term also has other meanings). Ngaanyatjarra, Lesser Antillean Creole French, Itzaj, Wintu, Cayapa, Macaguán, Sáliba, Rotuman, Samoan, and Bislama colexify ‘belt’ with ‘strap’ (see Buck 1949: 434 for evidence from Romanian), and three languages of the sample, Khalkha, Carib, and Hawaiian, colexify ‘belt’ with ‘circle’ and/or ‘loop’ (among other meanings by a number of terms in Hawaiian). Tetun faixa is also used with the meanings ‘bandage,’ ‘lane on highway,’ and ‘track of record,’ and Samoan fusi also denotes a ‘bundle’ or ‘bandage’ as well as “championship, final.” Meyah mārfé efaqá is analyzable as ‘cord body,’ and Arabela cajimocuacue as /cajinio-cuaqueya/ ‘middle-body.’

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8 Original gloss is ‘package.’
Other associations include: Hausa 'damara' is also the name of a "geometrical figure consisting of two interlaced triangles" and, dialectally, "[a] coloured glass bangle." Noni kecaw appears to be derived from caw 'select/choose' by the noun class prefix ke-, Dongolese Nubian gâ also means to 'coquet, flirt, mince, be spoiled' (Armbruster 1960: 131 relates the senses by way of the "underlying common notion" 'embrace'). Yoruba òjá also denotes a 'head-tie,' Anggor titapuri has the meaning 'bracelet' and might also be capable of referring to the 'belt,' and a literal translation of Dadibi kibu wali seems to be 'pig wind.' Muna bhida also means 'shroud.' Yir Yoront maq colexifies 'belt' with 'bottom, lowest part,' and monporm is the Yir Yoront term for both 'possum, fur of possum' as well as a belt made from possum fur. Japanese obi is a nominalization based on a verb meaning 'to wear,' and Welsh gwregys also may refer to a 'truss,' and bad, an obsolete term, also means 'plague.' Biloxi a'skido'ni contains a verb meaning 'to wrap,' Cahuilla tépaqal is derived from a verb meaning 'to tighten a belt,' while in Comanche, kohinekii ~ kohineekii has been extended to also denote a 'G-string.' Kashaya pha'satii appears to contain the instrumental prefix pha- 'by wrapping' and šat- 'to hit hard and hurt.' Lake Miwok mitúpponi is analyzable as /míttu-pponi/ 'count-AGT.' Tuscarora ye?nwhë?du?narhu?sth? contains -(i)nhëht?- 'rawhide strip' and -u?narhu- 'hook.' Wappo pëha? also means 'straw' (presumably due to the collapse of Span. paja 'straw' with faja 'strip, waistband'), whereas Wintu lakum contains lak "get caught, trip, hook; embrace, pinch," and laq çopi is used for rattlesnake skin that is worn as a belt specifically (and is indeed analyzable as 'rattlesnake skin'). Bororo aie-wora appears to be derived from wora 'leg' and also may refer to a 'Bororo tanga.' Lengua yukma tama is analyzable as 'skin.skirt string,' and Fijian i oro as 'DERIV clasp.' Hani juqzaaq appears to contain juq 'loose' (also meaning 'to throw') and zaqq, acting inter alia as a classifier for bundles. As a verb, Kapingamarangi duu means 'to stand' and 'to stop,' and Lenakel katovɨ t is derived by the instrument nominalizer k- from the verb atovɨ "to put on clothing by wrapping it around self." Rotuman fali, as a verb, also means "to thresh with a belt or strap." Bislama strap also denotes a 'seat belt' and 'fan belt' inter alia, and Yay features semianalyzable terms involving a constituent meaning 'man.'

6.2.2.76. The Boat

Representation: 70%
Motivated: 33.1%
Thereof Analyzable: 10.7% Thereof Colexifying: 23.3%
Thereof by Contiguity: 7.1% Thereof by Similarity: 6.9%
Recurrent associated meanings: canoe, water, trough, raft, vessel, collamon, airplane, vehicle, fire

Motivated terms for 'boat' (which is not distinguished here from 'ship') are relatively rare. Quite common are patterns of colexification that are somewhat similar to that of English vessel, that is, terms that denote both a receptable and container (for goods or other things) and a means of transportation. This situation is encountered in Basque and Central Yup'ik (and in Ancient Greek and Sanskrit, Buck 1949: 730); the Basque term also denotes a 'case,' 'sheath,' 'carton,' or 'pot,' and the Yup'ik term also a 'tray' specifically. Further-
more, Hausa, Mbum, Khalkha, Chickasaw, Pipil, and Tuscarora colexify ‘boat’ with ‘trough.’

The relevant Hausa term *jirgi* is also unique in being also applicable to a railway train (the two relevant Hausa terms have still further meanings). Further, Khoekhoe *kqab* is also the name of an ‘elongated bowl,’ *Gurindji* *karti* and and *Yir Yorong* *pinarr* are also used as the name of the ‘coalamon,’ an indigenous Australian carrying vessel, as well as, in *Yir Yorong*, for a ‘deep wooden oval dish.’ *Badaga* *teppa* also denotes a “temple pond” as well as an “artificial tank.” *Wappo* *khey* also denotes a ‘cradle basket,’ and *Embera* also a ‘chest,’ while *Fijian* *waqa* inter alia can also refer to a ‘box, case, container’ generally.

Complex terms for ‘boat’ are of a variety of structural types, and most often make reference in some way to ‘water.’ *Kanuri* has *mààrá njî-bè* ‘vehicle water-of,’ *Yoruba* *ọ kì-ọju-omi* ‘vehicle-eye-water’ (alongside *ọ kì-kekere* ‘vehicle little’), and ‘boat’ and ‘vehicle’ generally (as well as ‘conveyance’) are colexified in *Quileute*. *Kaluli* has *ho:n ko:su* ‘water airplane’ (this term denotes a modern-type boat introduced in the colonial era; note also that ‘airplane’ and ‘boat’ are colexified in Khalkha, which features a very general term for any kind of vehicle), *Blackfoot* *aahkioohsa’tsis* /*yaahkioohsi-a’tsis*/ ‘travel.on.water/travel.by.boat-INSTR,’ *Cheyenne* *amøehestsestöte* , containing the prefix *am* - ‘along by water’ and *hestöte* ‘thing,’ *Chickasaw* *okakaíttno*IPA/, analyzable as /oka’-okakaíttnanhôwa-/ ‘water-walk-NMLZ,’ *Comanche* *pawobi/, analyzable as /paa-wôbî/ ‘water-board’ (in the Kwahere dialect, there is an additional constituent meaning ‘horse’), *Santiago Mexquititlan Otomí* *bojä dehe* ‘iron/car water,’ and *Piro* *gonu yapachro* containing *gonu* ‘water’ and ya ‘go.’ There is a semianalyzable term in *Guaraní*. Moreover, there are two languages of South America with complex terms where one of the constituents is ‘fire’: *Bora* has *ciújúwa-m* ‘fire-SCM.transport and *Wayampi* *tata-l-ena* ‘fire-of-place,’ which colexifies ‘fireplace.’ In both cases, the terms denote a ‘steamboat’ specifically.

*Santiago Mexquititlan Otomí* has *motsa dehe* ‘canoe water,’ and generic terms for ‘boat’ are colexified with ‘canoe’ in *Buli, Hausa, Mbumb, Noni, Muna, Tasmanian* (all varieties expect the North-Eastern one), *Biloxi, Carrier, Cheyenne, Ineseño Chumash, Comanche, Haida, San Mateo del Mar Huave, Kiowa, Lakhot, Nez Perce, Tuscarora, Yaqui, Abipón, Guaraní, Sáliba, Toba, Wayampi, and Fijian, and with ‘raft’ in *Buli, Dadibi, Badaga,* and *Yuki.*

Other associations include: *Hausa* *komi* also denotes the “beds of an irrigated farm,” while *Dongolese* *Nubian* *kìb* is also used with the meaning ‘shuttle in weaving,’ *Lavukaleve* *fela’koe* also means ‘village.’ *Muna* *kapula*, a Loanword from *Bahasa Indonesia,* also means ‘leader, chief,’ and indigenously also ‘to sit on something raised,’ while *bhangka* is also the name of a constellation and means “inner part of belly.” *Abzakh Adyghe* *q°ʔəḥ*e contains *he* ‘to carry away.’ *Welsh* *cwich* also means ‘beehive.’ *Kiowa* kâ‘bout contains kâ‘ ‘to swim, to go by boat,’ and *Oneida* *kahwey’d* is also the term for the ‘black ash.’ *Pawnee* *rakuuhuurura* is analyzable as /rak-huuuhuur-u/ ‘tree/wood-floating-NOM.’ *Chayahuitta* *panca nansha marë pa’térin-so* is (semi-)analyzable as ‘big ?? sea leave-3SG.SUR.’ *Toba Illicta* ~ *Illocta* ~ *Illicota* is derived from *illigot* ~ *illogot* ‘rows,’ while *Wayampi* *ia* is also the name of an ant species. *Fijian* *velovelolo* is also the name of a string figure, *Hani* *loq* also means ‘to rinse a container with water’ and acts inter alia as a classifier for irrigated fields, *Bwe Karen* *khîlî* is
also the name of a month, Hawaiian *moku* also means ‘island’ inter alia, while Kapingamangeri *waga badili* (containing *waga* ‘canoe’) also means ‘grasshopper.’

77. *The Car*

Representation: 66%
Motivated: 41.9%
Thereof Analyzable: 27.8%    Thereof Colexifying: 15.2%
Thereof by Contiguity: 18.5%  Thereof by Similarity: 10.2%
Recurrent associated meanings: vehicle, cart/carriage, machine, roll, self, run, thing, train, motor vehicle, canoe, sled, twist, fire, house, ride, land

A very interesting pattern in terms for ‘car’ is that some of them contain elements meaning ‘move’ and ‘self’ (which is in some of the relevant languages conveyed by a reflexive marker). This is ultimately the literal meaning of the Graeco-Roman hybrid compound *automobile*, the constituents of which have just this semantics. This denomination also recurs in other languages alongside Greek, where it is (at best) semianalyzable in the modern language, for instance in Carrier *tigerh-nehk̑es* ‘proceed-by.itself,’ and also in Nez Perce, while Kashaya has the somewhat similar *yuʔkul q’ayamiʔ*, analyzable as /yuʔkul ʰq’ay-amʔ/, containing *yuʔkul* ‘self’ and ʰq’ay ‘run,’ and the literal translation of Lakhota *iyéčįįjįγke*, according to the consulted source, is “it runs by itself” (for the element ‘run,’ compare also Ngambay *né kąyn ngoru* ‘thing run fast,’ Samoan *ta’a-vale* ‘run,freely-bad/of.no.use/ordinary,’ and Kiliwa *(?)waʔ-kw-sʔ-hin* ‘(DN=)house=WH-IRR-DN+run’). Tehuelche has the similar term *wawere:nk* /waw-ʔere:-n-k/ ‘sole-walk-NMLZ-MASC,’ which can also refer to a ‘bachelor’ (there are further variants of this term). The presence of this pattern in many languages of the Americas almost suggests calquing, although, obviously, this would presuppose knowledge of the meaning of the constituents. Whether indeed these terms were calqued under European influence (perhaps mediated by missionaries?), coined independently, or a mixture of both remains an open question. Further, somewhat similar is the Fijian term *qiqi toso* ‘roll/vehicle move.of.itself,’ and a term containing a verb meaning ‘to roll’ is also featured in Chickasaw (*itti’ chanaa palhki* ‘wood roll be.fast’), while the association with ‘rolling’ is by direct colexification in Hawaiian (among other meanings); compare also the Ngambay term with a constituent ‘speed’ mentioned above as well as Cheyenne *ameohe-hestōše* ‘go.by.quickly-thing.’ Central Yup’ik *akag-cuun* ‘roll-device.for’ (this term colexifies ‘wheel’ and ‘axle,’ there are other dialectal variants), and Hupda *papšd-teg* ‘roll-thing.’

Cheyenne also has the alternative term *am-áhoʰi-hestōše* ‘along-by.heat-thing,’ and, somewhat similarly, there are two languages in the sample, Bora and Wichí, in which relevant terms feature an element meaning ‘fire’ (*cúújúwa-mi* ‘fire-SCM.transport’ and *wej itoj* ‘end fire’ respectively). In two sampled languages, terms for ‘car’ make reference to the loud noise it produces: Mali has *araun’ga mētći*, analyzable as /araun-ka mēt-ki’/ ‘sound-M.SG in=3F.SG’ (this term may also refer to a motorcycle), and Acoma *t̓s̓ərət̓s̓ə*, analyzable as /t̓s̓ərət̓səʔ/ ‘be.roaring-INSTR.’ In Efik and Kiliwa, there is a metaphorical transfer from ‘house’ to ‘car:’ the relevant terms in these languages are *ufōk enaŋ makara* ‘house cow
European’ and (?)\text{wa}\text{-}kw-s-\text{hin} ‘(DN)\text{house}=WH-IRR-DN+run,’ as already mentioned. Tuscarora has uʔθ̣eʔhč̣e, containing the root -(i)\text{θ}(e)r- ‘to ride,’ and a similar term, containing the root -ʔsle- ‘drag, ride, drive, trick someone’ is found in the related language Oneida. Central Yup'ik \text{nu}n\text{a}-\text{cu}n\text{cu}n, is analyzable as ‘land-over-device.associated.with,’ and Piro tęxiyapätęro contains tęxi ‘earth, land’ and ya ‘to go.’ Guaraní \text{mba}-\text{jer}e is analyzable as ‘thing-twist’ (there is a further semianalyzable term with \text{mba}-e), while ‘to twist’ is inter alia colexified with ‘car’ in Hawaiian.

There are also associations with other vehicles: Swahili, Abzakh Adyghe, Basque, Japanese, Khalkha, Bora, Kaingang, Malagasý, and Samoan colexify ‘car’ with ‘cart’ or ‘carriage’ (Bora by the analyzable term \text{ji}ch-\text{e}-\text{mi} ‘come.as.shore-belong.to-SCM.transport;’ it cannot be excluded that there is an error in the source), Comanche, Pawnee and Wintu with ‘train’ (Pawnee and Wintu have borrowed English \text{car} or the plural form \text{cars}), Upper Chehalis colexifies ‘canoe’ (while Kwoma has \text{ga}ba \text{vey} ‘whiteman/ghost canoe’), and Kildin Saami, Ineseño Chumash, Kashaya, Lake Miwok, and Wappo colexify ‘car’ specifically with ‘machine’ generally (all have borrowed the respective terms from contact languages which in turn ultimately go back to Latin \text{machina}; Kashaya also has optional complex terms on the basis of this term). Moreover, in two sampled languages spoken at high latitude, an association with ‘sled’ is found, in Central Yup’ik by colexification, and in Ket by the analyzable term \text{ý} \text{suul} ‘iron sled.’ Moreover, Koyraboro Senni, Rendillé, Swahili, Japanese, Ket, Khalkha, Oneida, Tuscarora, Hupda, Lenakel, White Hmong, and Bislama colexify ‘car’ with ‘(wheeled) vehicle’ in general, and Koyraboro Senni and Ngaanyatjarrara with ‘motor vehicle’ (otherwise, the presentation does not differentiate between ‘car,’ ‘truck,’ ‘bus’ etc.). Similarly, Koyraboro Senni \text{m}o\text{obil}-\text{i}z\text{e} is analyzable as ‘vehicle-child,’ Yoruba \text{ó}kó \text{ayó} as ‘vehicle fanciful-manner,’ and Fijian \text{qiqi} \text{t}o\text{s}o, as already mentioned above, as ‘roll/vehicle move.of.itself.’

Other associations include: Buli \text{la}q\text{ri} also means ‘to give way,’ ‘to avoid,’ and other things, while Kyaka \text{kar}o also means ‘dirt’ and ‘grime’ inter alia (the meaning ‘car’ is due to borrowing from Tok Pisin). Muna \text{mi}nt\text{oro}, an obsolete term, is related to n\text{to}r\text{or} ‘to turn, rotate.’ Ngaanyatjarrara \text{y}ur\text{tu} also inter alia means ‘empty’ and ‘hollow tree,’ the common denominator of the meanings probably being that a car is “hollow” in the sense that it provides space for sitting in. Sahu \text{ot}o also means ‘to cut,’ Basque \text{auto} also ‘edict, judicial decree’ and ‘mystery play, religious play,’ and Khalkha colexifies ‘rook in chess’ inter alia. Welsh \text{car} also means ‘trap.’ Blackfoot it\text{i}t\text{á}k\text{pi}p\text{a} also contains sap ‘inside’ and q\text{pii} ‘to sit.’ Upper Chehalis x\text{iy}ú\text{y}a\text{s} is derived from x\text{iy}- ‘to cut off;’ the term might be a loan translation from Chinook Jargon. Comanche naʔbukwà\text{w}aʔ is analyzable as /n\text{a}-p\text{u}k\text{u}-\text{w}a\text{w}/ ‘\text{re}\text{fl}x\text{-horse-horn.sound},’ while Pawnee has kir\text{ir}-\text{ra}w\text{is} \text{/k}ir\text{ir}-\text{r}a\text{w}\text{is} ‘anus-smoke’ and variants of this term. Santiago Mexquititlan Otomí colexifies ‘car’ with ‘tool’ and ‘iron.’ Wintu p\text{u}l\text{a}ru\text{m}u\text{es}, a term found in the Trinity County dialect, contains p\text{u}l\text{a} ‘to blow’ (literal translation provided in the source is “puffing one”). Yuki lulu\text{ma}d is possibly literally ‘oil puller.’ Mandarin colexifies ‘car’ with ‘chariot,’ White Hmong h\text{v}o also means ‘short’ (in the sense of ‘vehicle’ it is a borrowing from Lao), and Bislama tr\text{a}k (presumably due to collapse of Engl. \text{truck} with \text{track}) also means “footprint, spoor, track” and is also the name of a wheeled children’s toy.
78. The Chair

Representation: 84%
Motivated: 53.0%
Thereof Analyzable: 40.6% Thereof Colexifying: 12.8%
Thereof by Contiguity: 38.5% Thereof by Similarity: 10.3%
Recurrent associated meanings: sit/sit down, furniture, wood/tree, place, thing, buttocks/bottom, saddle, throne, situation, floor, dwell

Clearly, the most frequent association as realized by morphologically complex terms is that with verbs meaning ‘to sit’ or ‘to sit down’ (as in Indo-European, Buck 1949: 482). The association is by derivation in Efik (i-tie ‘NMLZ-sit;’ this term inter alia also means ‘situation,’ which is also colexified in Kapingamarangi, or ‘state’ figuratively), Burarra (where ‘to sit on’ is colexified with ‘put one’s weight on, tread on, step on’), Gurindji, Mali (colexifying also ‘meeting’ and “sitting of parliament”), Chukchi, Sora, Blackfoot, Cahuilla, Upper Chehalis, Chickasaw (where the relevant term colexifies ‘toilet’), Ineseño Chumash, Kashaya, Nez Perce, Nuuchahnulth, Yuki, Central Yup’ik, Abipón, Bora, Carib, Cashinahua, Guarani, Miskito, Imbabura Quechua, Tehuelche, Toba, Yanomami, Fijian, and Samoan, while Hawaiian directly colexifies verbal ‘to sit’ with ‘chair’ inter alia. When terms contain a second lexical element, this is often ‘wood’ or ‘tree,’ as in Baruya namwaalimo-yita /namwaaliamo-yita/ ‘for-sitting-wood.’ This pattern is also found in Ngambay, Kyaka (where ‘sitting’ is colexified with ‘living’), Yir Yoront (here the term contains more constituents: yo-penpn pam nhin±nḥ ‘wood-flat person/body sit.down+REL’), Ket, Kiowa, Lakota, and Copainalá Zoque (other terms involving a constituent meaning ‘wood,’ but not ‘sit,’ are Swahili’s kiti, consisting of a noun class prefix and mti ‘tree’ and Itzaj’s k’an-che’, which is perhaps analyzable as ‘support-wood.’ Note also the similarity between Yoruba àga ‘chair’ and agà ‘tree’). Otherwise, ‘thing’ figures as the second constituent alongside ‘sit’ or ‘sit down,’ as in Katcha nimo ma th-andane ‘thing gen ??-sit,’ also in Mbum, Ngambay, Dadinbi, and Bororo (‘thing’ is also the meaning of the identifiable constituent of the Lenakel word for ‘chair’). In still other languages, ‘buttocks,’ ‘bottom’ or the like is attested as the meanings of the second constituents, as in Cheyenne tâxe’êscêéstôtse, which is analyzable as /tâxe-’esê-e-héstôtse/ ‘upon-buttocks-sit-thing.’ Similar terms are found in Pawnee and Bwe Karen (in addition, Toaripi has kirí posa ‘buttocks platform,’ and Tuscarora utheçhrâhkweh contains roots meaning ‘buttocks’ and ‘to collect’). Furthermore, Khoekhoe has hné-âïho-s ‘sit.down-front.bench-3SG.FEM,’ Wintu kenxã-s-pom ‘sit-??-land/ground/floor’ (compare colexification of ‘chair’ and ‘floor’ in Anggor), Piro tuplapiyê contains tuplata ‘sit down, be seated’ and pi ‘rod,’ Bwe Karen has lo fêñá ‘stone sit,’ and White Hmong rojzaum contains roj ‘article of furniture’ and zaum ‘sit.’ Semianalyzable terms with ‘sit’ or ‘sit down’ are furthermore featured in Upper Chehalis, Central Yup’ik, and Lengua (where ‘sit’ and ‘lie’ are colexified).

In Embera, Hawaiian, and Samoan (in both Polynesian languages, ‘to sit’ is colexified with ‘to dwell’ inter alia), ‘chair’ is colexified with ‘saddle’ among other meanings (given the morphological structure, this also seems to be the meaning of Miskito aras nila pila ‘horse back down’), while in Noni, Anggor, Basque, Khalkha, Nivkh, Nez Perce, the
Santo Domingo de Guzmán dialect of Pipil, Quileute, Tuscarora, Wappo, Aguaruna, Aymara, Bororo, Cashinahua, Embera, Huambisa, Hupda, Kaingang, Lengua, Piro, and Yanomámi, terms meaning ‘chair’ may also refer to any piece of furniture in general or denote another specific piece of furniture (other than ‘stool,’ which is disregarded here), such as a ‘bench’ or a ‘couch.’ Words for ‘chair’ also have the general meaning of ‘place (of something)’ in Efik, Anggor, Ineseño Chumash, and Bororo. Burarra and Aguaruna colexify ‘chair’ with ‘throne’ (compare the origin of ‘throne’ from an Ancient Greek word for ‘chair’ more generally, Buck 1949: 481).

Other associations include: Buli zukpaglik contains zuk ‘head’ and kpagli ‘to rest one’s head.’ The original meaning of the term was ‘headrest’ rather than ‘chair,’ a situation which is mirrored by synchronic colexification in Rendille. Mali achut ngēthathengbēt is derived from a verb meaning ‘to lean back.’ Sko has fū-jēng ‘post.of.house/corner-place’ (though also note fū “bottom of a four-legged animal”). Bezhta qō also means ‘anvil,’ and Welsh cadair also ‘cradle’ and ‘udder.’ The Biloxi term ya’xoxonni’kō also means ‘to swing.’ Oneida anitskwahlíkhwai is analyzable as /an-itskw-hl-hkw-wa/ ‘sextl-seat/part.of.body.one.sits.on-set.on.top.of/place.on-instr-??.’ Tuscarora uʔθkwéhseh also denotes a “cutting block” as well as a “round block of wood, piece of a log.” Yaqui banko also denotes the ‘bank,’ and Aguaruna ekeíntai ‘set on top’ and the instrument nominalizer -tai. Guarani apyka contains apy ‘extreme point, deposit,’ and Huambisa ekentei possibly eken ‘room, bedroom.’ Ancash Quechua silla (c Span. silla) may also refer to a ‘frame’ or ‘harness’ (original Spanish gloss is ‘montura’), Wichí to-wēj-w’ēt is analyzable as ‘poss.under-queue-place,’ and Yanomámi colexifies ‘desk, console.’ Kapingamarangi lohongo also means ‘situation, status’ and ‘office.’ White Hmong tog also means ‘block,’ and Rotuman nofo’a also ‘chief.’ Sedang tâng also means ‘to look for,’ White Hmong tog also ‘to sink’ and “half-way point,” Bislama jea (c Engl. chair) also means ‘ticket, seat in a plane’ as well as ‘to eat.’

79. The Clock

There are a wealth of terms of different types for the ‘clock’ (or ‘watch,’ which is accepted as a proxy for this concept) that make reference in some way to the ‘sun’ (compare Latin sōlārium, derived from sōl ‘sun,’ Buck 1949: 1002). Burarra, Gurindji, Toaripi, Upper Chehalis (with a vowel change), Cheyenne, Comanche, Kashaya, Kiowa, Wappo, Wintu, Bora, Cubeo, Jarawara, Yanomámi, and Kapingamarangi directly colexify ‘sun’ with ‘clock’ (in some languages, as discussed in section 60, also with ‘moon’ and sometimes also ‘month,’ in Burarra, as discussed in section 57 and § 6.2.2.1., also with ‘star’ among other meanings, in Kiowa also with ‘summer,’ in Wappo also with ‘calendar,’ and in Jarawara also with
'thunder' and 'lightning,' see Dixon 2004: 71 for the history of this association). In New Guinea, associations with 'eye' are attested in Kaluli (of-a:-si 'sun-gen-eye') and Meyah (mówa eitéij 'sun eye'). In two languages of South America, Aguaruna and Wayampi, the words contain constituents meaning 'sun' and 'to imitate' or 'imitation,' while in Yuki and Cashinahua (where 'sun' is colexified with 'hour,' for other associations with 'hour' see below), the second element is a verb meaning 'to watch.'

There are also other complex terms of the lexical type where one constituent is 'sun.' In Wichí, tokafwala is derived from fwalá 'sun, day,' Baruya nyíhaanga is literally 'sun-go,' Rotokas has ravireo vetaveta-pa 'sun count-deriv,' Biloxi has iná’do’hí-~ iná’do”ho’ni’, containing iná’ ‘sun’ and do’ ‘to look at, see,’ in Carrier, sa-dá́ ‘sun-heart’ is ‘watch’ and sa-dá́-tco ‘sun-heart-aug’ is ‘clock,’ Chicakasaw has hashí’ kanallì isht iňhà-‘sun/moon move.to.a.new.location with know-nmlz,’ Pawnee sakãhã’iúrus is analyzable as /sakuur-kãiır-huš/ ‘be.a.day/sun-put.in/on-nfv,’ Arabela has panànu shànaçátuá ‘sun measure,’ and Huambisa etsa nu̇kumkumà ‘sun drawing;’ Yanomámi has a redundant complex term involving mothóka ~ motóka ‘sun, clock’ and mì́’see,’ the literal translation of which is ‘that which serves to see the sun.’ The notion of measuring time, as in Arabela, also plays a role in the conceptualization of ‘clock’ in a number of other languages. In Japanese, ‘time’ is the other meaning figuring in complex terms of the lexical type: to-kei is analyzable as ‘time-measure.’ This is the only language with this particular configuration, though there are others which betray an association with ‘time,’ as is discussed further below. When ‘day’ rather than ‘sun’ is the meaning of the contiguous constituent, it is more frequent to have terms with the meaning ‘count, measure’ as the second constituent, as in Hupda wág tæ̃ʔkéy ‘day measure.nmlz’ (thus precisely parallel to Old English dæg-mǣl, Buck 1949: 1003), and also in Upper Chehalis, Lake Miwok, Pawnee, and Quileute, where an additional element meaning ‘thing’ is present. Furthermore, Kiliwa has maat=kw-p-c-ʔ-wir-u?, which is analyzable as /REFLX=WH-MP-INST/MOUTH-DN+measure-OBL/’an easier palpable literal translation offered by the lexicographer is “it measures itself.” Other terms in which ‘day’ figures are Guaraní araírú ~ araírú /āra-irù/ ‘time/day/sky-companion’ and Malagasy famantaranànàdro, analyzable as /fa-fànatra-ana-àndro/ ‘nmlz-known-nmlz-day.’ In Toaripi and Comanche, ‘clock’ is colexified with ‘day’ (and also with ‘sun,’ compare section 60), and Blackfoot has a term derived from a verb meaning ‘be day,’ Yoruba, Burarra, Khalkha, Hani, Samoan, Bislama, and Sedang colexify ‘clock’ with ‘time’ or ‘time of day’ specifically (Muna dhamu also means ‘be time for something’ when used as a verb as well as ‘tonic made of medicinal herbs’) and an analyzable terms with ‘time’ is featured, alongside Japanese as already discussed above, in Piro (hohi himata-tśaro ‘time know-??’); moreover, there are semianalyzable terms in Khoekhoe and Haida, with the other element diachronically related to a verb meaning ‘to see.’

Frequently, ‘clock’ is colexified with ‘hour’ (see Buck 1949: 1002 for Indo-European evidence, e.g. from Middle High German). This occurs in Buli, Hausa (also with ‘good luck’ inter alia), Dongolese Nubian, Swahili, Berik, Muna, Abzakh Adyghe, Bezhta, Khalkha, Laz, Kildin Saami, Santiago Mexquitlan Otomí, Central Yup’ik, Chayahuita, Tehuelche, Hani, Bwe Karen, Samoan, and Sedang (colexifying also other meanings). In addition, Basque has ordu-lari ‘hour-agt,’ Ket ę́sà Broadcast ‘watch’ is the plural form of čas ‘hour’
Lexico-Semantic Associations

(As with Russian časy), Oneida kahwistaʔéktaʔ is analyzable as /ka-hwistaʔek-hť-haʔ/ ‘NEUT. AGENT-be. the. time. or. hour-CAUS-HAB.’ The Hausa and Khalkha terms for ‘clock’ have very broad semantic latitude, and may refer also to temporal concepts such as ‘season’ and ‘age.’ In four languages of the Old World, Yoruba, Khalkha, Sora, and Mandarin, ‘clock’ is colexified with ‘bell’ (common in Celtic and from this source, Germanic, but also Latvian, Buck 1949: 1003-1004); Sora also colexifies ‘gong.’ In Efik, the word ‘clock’ contains mi’a ‘to strike’ and reflexive markers, and similarly, in Tuscarora, kawenëpterês contains -wënt- ‘iron’ and -(j)ëtëk- ‘to strike.’

Other associations are: Buli bang also means ‘bracelet, wristlet,’ and Hausa sa’a inter alia also ‘good luck’ and “a propitious time.” Nez Perce liklînes is analyzable as /liklî-`nes/ ‘go.around-INSTR.’ Toba lhuaxashi contains hua ‘forearm, hand,’ Tehuelche colexifies ‘clock’ with ‘alarm clock,’ Fijian kaloko also denotes a ‘very large kava, or roll of sinnet’ (the meaning ‘clock, watch’ is due to borrowing from English). Kapingamarangi laa also means ‘sail,’ Mandarin bia3 is elliptical for shou3-bia3 ‘hand-meter,’ and is hence also used for other measuring instruments. Samoan uati, as a verb, also means ‘to watch someone,’ and Bislama klok, rarely, also may refer to the ‘flamboyant, flame tree,’ “because its leaves close up at night.”

80. The Glasses

Recurrent associated meanings: eye, glass, mirror, see/look, metal, cover, imitation, put/set

Motivated terms for ‘glasses’ are, perhaps unsurprisingly, clearly more often analyzable than colexifying, and, even less surprisingly, these terms with very few exceptions have one constituent meaning ‘eye’ by contiguity. As for the second constituent ‘glass’ is common, as in Muna mata tonde ‘eye glass.’ Such terms are also found in Efik, Yoruba (where an additional constituent meaning ‘vision’ is present), Kyaka, Ngaanyatjarra, Yir Yoront, Cubeo (additionally suffixed with the classifier -ru for roundish threedimensional objects), Miskito, Hawaiian, and Yay. Furthermore, Hausa, Sedang, and Vietnamese directly colexify ‘glasses’ with ‘glass,’ Welsh has gwydr-au ‘glass-PL,’ and White Hmong tsom-iv ‘look-glass.’ Also common are terms based on a metaphorical comparison with a particular object made of glass, namely the ‘mirror.’ This is the case in Yoruba, Kyaka, Ngaanyatjarra, Hawaiian, Yay, so that these languages fall both in the categories exhibiting an association with ‘glass’ as well as ‘mirror.’ languages in which complex terms for ‘glasses’ are found involving constituents meaning ‘eye’ and ‘mirror,’ without colexification of ‘glass’ and ‘mirror,’ are Buli, Koyraboro Senni, Mbum, Abzakh Adyghe, Badaga (where the ‘mirror’-word also means ‘lens’), Santiago Mexquititan Otomi, Mandarin, and Rotuman. In the latter language, for instance, ‘glasses’ are called maf tiro ‘eye mirror.’ Further, Hausa, Bislama, and White Hmong directly colexifies ‘glasses’ and ‘mirror’ (and Hausa, as noted
above, also colexifies the substance ‘glass,’ while the Bislama term colexifies ‘glasses’ and ‘mirror’ and may also refer to other objects entirely or partially made of glass). Things get somewhat more complicated when one notes that some languages, in particular ones in which ‘glass’ is an item of acculturation, colexify ‘glass’ with ‘metal.’ Yir Yoront and Cubeo are of this type, and therefore, relevant complex terms for ‘glasses’ also betray a lexico-semantic association with ‘thing.’ In Acoma and Central Yup’ik, glasses are conceived of as an ‘imitation’ of the eye (Yup’ik has a dedicated postbase with this meaning). Here, ‘glasses’ are called /hùwana’ani-zihi/ ‘eye-imitation’ and /ìnguak ~ ínguak /ìi-(ng)uaq/ ‘eye-imitation’ respectively. In two languages of the Americas, terms make reference to the fact that one ‘puts’ or ‘sets’ glasses onto the eye: Kashaya /huʔuydetteʔti/ contains /huʔu/ ‘eye’ and /detteʔ/ ‘to put,’ and in Kiliwa, ‘glasses’ are nyʔ-yuy-l+t+papu-uʔ? POSS-DN+eye-ILL=OBJ+set-OBL, literally, according to the lexicographer, “things one sets on one’s eyes.” Terms which directly make reference to the fact that glasses are used to aid seeing are surprisingly few. Chickasaw has /ishkin ishpisa’ ~ ishkinshpisa’/ which is analyzable as /ishkin isht pisa-’/ ‘eye with see-NMLZ;’ a similar term is only found in Upper Chehalis and Wintu (where there is a further term containing an element ‘eye’ and ‘to catch fish in a net, hold out a net to catch fish’). Hausa features a derived term from a verb meaning ‘to look,’ Fijian has /mata-ilolo/ ‘eye-look.at.reflection-RED,’ and Rotokas /osireipava sisiro/ contains /osirei/ ‘eye’ and /siser/ ‘inspect, stare, look intently.’ Pawnee, Kaingang, and Yanomámi feature terms for ‘glasses’ involving constituents meaning ‘eye’ and ‘to cover,’ Pawnee, for instance, has /kirik-taarkuuku-’u/ ‘eye-covering-NOM.’ A very similar term is found in Yanomámi, and Kaingang has /kanʔ kri tàv/ ‘eye above cover.’ Other complex terms with one constituent meaning ‘eye’ are Noni /ɛji-ɛbala/ ‘6-eye foreign,’ Anggor /hèmboar/ ‘water eye,’ Baruya /kwaari’mat/ ‘plastic-eye,’ Ngaanyatjarra /kurungkatja/ which contains /kuru/ ‘eye’ and /katja/ ‘son’ and also means ‘eye ointment,’ Bezhta /häydä/ which is grammatically the plural of /hày/ ‘eye’ (and hence, can also refer to the ‘eyes’), Nivkh /njaj-ajis/ ‘eye-gold’ (the term is used to refer to a small piece of metal which is put on the eye of the deceased, and has presumably been extended to cover ‘glasses’ later from there on), Kolyma Yukaghir /shoʒ-ad-ajbi/ ‘eye-shadow,’ Comanche /pui tsą̱n’ikaʔ/ ‘eye underewear’ (but compare tsąʔatsitstu/ ‘to inspect’?), Bora /hàiíííjí/ ‘eye-cover,’ Guarani /tesa-joa(py)/ ‘eye-together’ and /tesa-irí/ ‘eye-companion,’ Hupda /kwýg-teł/ ‘eye-immerse.NMLZ,’ Piro /tsutsa-yhalu/ ‘clutch/pinch/grip-eye,’ Wayampi /ca-palitu/ ‘eye-sparkling,’ Wichí /tø-telhú-hi-s, containing telhú/ ‘eyes’ and the locative suffix -hi ‘in,’ and Malagasy /sòlo-màso/ which is analyzable as /sòlo-màso/ ‘ substitute-eye.’ Finally, Upper Chehalis, Tuscarora, Toba, and Samoan directly colexify ‘eye’ with ‘glasses,’ and semianalyzable terms are found in Kemtuiik, Cahuilla, Piro, Yanomámi, and Hani.

Other associations are few: Hausa /madubi/ is also used to express the affections of parents to their child as well as to refer to a sorcerer. Ngaanyatjarra /winta/ (Engl window)
also means ‘window.’ Carrier nakëtšelya is the plural form of nakëtšel ‘monocle,’ and Tetun ôkulu also means ‘binoculars’ and ‘telescope.’

81. The House

Representation: 97%
Motivated: 29.7%
Thereof Analyzable: 3.0%  Thereof Colexifying: 26.4%
Thereof by Contiguity: 13.0%  Thereof by Similarity: 7.7%

Recurrent associated meanings: village, nest, room, family/lineage, roof, household, shelter, place, receptacle, company, canvas cover, tepee, tepee cover, post, land

The most frequent association for ‘house’ (or ‘building’ generally, often also denoting ‘home,’ an association which is ignored here, just like cases when terms denote a specific type of house) is, by configurational contiguity, that with ‘village’ or more generally a group of houses, occurring exclusively by colexification in Katcha, Ngambay (which colexifies also ‘country’), Kwoma, Mali, Ngaanyatjarra, Yir Yoront, Badaga (colexifying “isolated settlement” more precisely, as well as ‘young’), Nuuchahnulth, the Cuisnahuat dialect of Pipil, Cashinahua, Jarawara, Miskito, Wayampi, and Bwe Karen (compare the cognacy of Ancient Greek οἶκος, οἰκία ‘house’ with Latin vīcus ‘group of houses, village’ and other evidence from Indo-European reported in Buck 1949: 458). By meronymy, some languages use the same word for ‘house’ and ‘room.’ These are Hausa, Badaga, Bezhta, Comanche, San Lucas Quiavini Zapotec, Aymara, and Bwe Karen. Also by meronymy, Burarra, Arabela, Cubeo, Jarawara, and Tsafiki colexify ‘house’ with ‘roof’ (this pattern is common in a group of Indo-European terms, Buck 1949: 458; Burarra also colexifies ‘lid’). Presumably, this is also the motivation for colexification of ‘house’ with ‘post’ in Yanomámi (compare also Miskito playa bila ‘post space,’ which quite literally also denotes the ‘space between two posts’). By functional similarity, Hausa, Khoekhoe, Kyaka, Muna, Badaga, Wintu, and Lenakel colexify ‘house’ with ‘nest’ (Muna also with ‘web’), the Khoekhoe term oms is derived from the verb om- ‘to build, construct,’ compare Proto-Indo-European *domo- ~ *domu, from *dem ‘build,’ Buck 1949: 458). Nunggubuyu, Waris, Basque, and Haida colexify ‘shelter’ (Nunggubuyu “stringybark shelter or dwelling” specifically), and Pawnee and Tehuelche ‘canvas cover.’ Ket injus contains qu ᵐ ‘tent,’ Wintu colexifies these meanings (compare Slavic evidence reported in Buck 1949: 459), and Nez Perce cóqoy also means ‘teepee top, smoke hole’ (‘teepee cover’ is also the meaning of the relevant Pawnee term, and Comanche and Kiowa colexifies ‘house’ with ‘teepee’ directly; compare the cognacy of some Indo-European terms for ‘house’ with ‘hide,’ which go back to a root meaning ‘to cover,’ Buck 1949: 458). A pattern apparently particularly common in the Old World is metaphorical extension to ‘family’ or ‘lineage,’ found in the sample in Buli, Rendille, Abzakh Adyghe, Badaga, Basque, and Wintu, while Nuuchahnulth maʔas similarly also means ‘tribe’ (compare further the cognacy of the Ancient Greek and Latin terms mentioned above with Old Persian viθ- ‘royal court, palace, family,’ Buck 1949: 458). Similarly, Rendille, Kwoma, Badaga, and Lesser Antillean Creole French colexify ‘house’ with ‘household,’ and Central Yup’ik ena’, Bororo eda ~ jeta, Jarawara tabori/taboro, Miskito wulu,
and Wayampi \textit{ena} are also used with the general meaning ‘place’ (the Jarawara and Wayampi terms also mean ‘land’), and Badaga \textit{mane} also with the meaning ‘ground.’ Basque and Greek colexify ‘house’ with ‘company, firm’ (the Haida term is glossed as ‘establishment,’ but it is unclear whether this actually refers to an enterprise). Lakhota \textit{thí} also means ‘to live, dwell’ in verbal usage, while in Wintu, \textit{bos} is derived from \textit{bOh} “live, reside, remain, keep; stay, be in a sitting position, sit, dwell, stay” by means of the generic aspect suffix -\textit{s}. \textit{Bos} also means ‘afterbirth’ and ‘navel’ inter alia. Relevant Dongolese Nubian and Khalkha terms colexify ‘house’ with ‘receptable’ generally.

Other associations include: Efik \textit{u’fök} is derived from \textit{fok} ‘to spread a covering over, to cover, disguise,’ Hausa \textit{daki} is inter alia also used as a term for a year when counting the age of a horse, and Swahili \textit{nyumba} contains \textit{umba} ‘to create.’ Kwoma \textit{aka} also means ‘cave,’ and \textit{akama} also ‘social role’ and ‘home region.’ Kyaka \textit{anda} also denotes an ‘open valley area’ as well as ‘adobe’ inter alia, Rotokas colexifies ‘cabin,’ Kosarek Yale \textit{ae} also means ‘region,’ Yir Yoront \textit{njolt} also ‘wall’ of a house as seen from inside, Basque \textit{etxe} also “lodging, shelter” and “frame, body” in the technical sense, and Nivkh \textit{tyf} also means ‘quarters.’ Acoma \textit{kača}, when interpreted verbally, means ‘it is tall,’ Blackfoot colexifies ‘house’ with ‘lodge,’ and Ineseño Chumash \textit{ma’m}, a rare word for ‘house,’ is also used adpositionally with the meaning ‘inside of.’ Lesser Antillean Creole French \textit{kai} also means ‘fishscales’ inter alia, Tuscarora \textit{unę́hseh} also is used with the meanings ‘cage’ and ‘umbrella,’ Yana \textit{-sa} also means ‘upward,’ and Hupda \textit{moy} also ‘comb, brush.’ Bororo colexifies ‘house’ with ‘palm leaf’ (similarly, Jarawara \textit{yobe} is also the name of a palm species, and since Jarawara colexifies ‘house’ with ‘roof, thatch’ this may be the chain of associations that is also responsible for the association in Bororo), Emberra with ‘inn,’ and Hupda with ‘burrow’ and ‘brush.’ The Maxakalí term \textit{mĩ-tut} is analyzable as ‘wood-mother’ or ‘wood-woven.net’ (compare Cashinahua \textit{jive} ‘house, village, community’ and \textit{ji} ‘tree, wood). Wayampi \textit{-aka} as a verb means ‘to cut with axe,’ and \textit{Iktã} also means ‘site of waterloving creatures’ (‘Gîte des monstres aquaphiles’). Hani \textit{laqhyul} contains \textit{hyul}, meaning ‘inside, domestic’ (alongside ‘to be extremely comfortable’), Lenakel \textit{nimwa} also denotes the ‘placent, afterbirth,’ a ‘cocoon,’ and a ‘handle,’ while Hawaiian \textit{hale} also means ‘institution’ as well as ‘host, hospitable person.’ Finally, Bislama \textit{haos} also denotes the ‘bridge of a ship’ or the ‘cabin,’ as of a truck, and Sedang colexifies ‘house’ and ‘rainy season.’

82. The Key

Representation: 68%
Motivated: 37.0%
Thereof Analyzable: 33.0% Thereof Colexifying: 5.3%
Thereof by Contiguity: 33.5% Thereof by Similarity: 3.3%
Recurrent associated meanings: open/close, lock/keyhole, lock/unlock, door, house, tap

A common association for the ‘key,’ which is predominantly realized by morphologically complex expressions, is that with terms meaning either ‘open’ or ‘close.’ It comes in a variety of structural guises. Terms may be of the derived kind, as in Chukchi \textit{ine-nwentet-}
icyan ‘ANTIPASS-open-INST,’ occurring also in Khoekhoe, Hausa, Swahili (by prefixation of a noun class marker), Burarra, Welsh (where the relevant term also means ‘opening’ and ‘act of opening’), Blackfoot, Chickasaw, Central Yup’ik (Nunivak island dialect), Cashinhua, Guaraní, Piro, and Fijian (straightforward evidence for this patterns from Indo-European is only found in Celtic, Buck 1949: 469). Terms of the lexical type include Yoruba i-si-ka ‘NMlz-open-thing’ (this term is not usual), Biloxi tii ‘tapa xo’ni’ /ti i’-dupaxi’-o’ni’ /‘house INSTR-open-door-make-CAUS,’ and the analogous Kiliwa and Arabela terms wa=+kap-u? ‘house=3-open-obl.’ and tiootu riataja ‘door opener.’ In Comanche, there is an additional constituent making reference to a pointed object present, Maxakalí has pipkup mõhãm-yinn-in ‘metal.object ??-shut-can,’ and Tehuelche golk’o komwe, gonkerenwe, gonomk’enwe, and gonko’ kašomk’enwe, all of which feature a term for ‘door,’ golk’o ~ gonk’o, and the instrument nominalizer –we alongside verbs meaning ‘loosen,’ ‘shut,’ ‘open’ and ‘see’ (a semianalyzable term with ‘loosen’ is also featured in Nez Perce). Hawaiian, due to the flexibility of its lexemes with respect to the syntactic slot they may occupy, colexifies ‘key’ with ‘to open’ inter alia. Further, Oneida has a term for ‘key,’ atenhotukwátha?, derived from a complex verb meaning ‘to shut or close a door’ specifically. Semianalyzable terms involving either ‘open’ or ‘close, shut’ occur in Khoekhoe and Cheyenne, and note also the similarity between Laz nkula ‘key’ and nkol ‘close.’ A related pattern is that when constituents mean ‘lock’ or ‘unlock’ rather than the more general ‘open’ and ‘close,’ in fact, Rotokas combines all those meanings in its term for ‘key’: tupa karu-pa ‘close/lock open/unlock-DERIV.’ Efik features a derived term (u-kpähäre ‘NMlz-unlock’), so do Khoekhoe (in which ‘open’ is also colexified with ‘unlock’), Haida, and Piro; in Pawnee and Yuki, the term is of the lexical type (rakcaarakikuku /rak-caarakikuk-hus/ ‘tree/wood-unlock-IPFV’ and piš piš-ul ‘door lock-INST’). Furthermore, Upper Chehalis has s-áil-iyq ‘CONTINUATIVE-lock.up=house.’ Semianalyzable terms involving a verb meaning ‘to lock’ are found in Kildin Saami, Hani (the other element means ‘similar, true to life’ when occurring on its own), and Yay. In a number of languages, ‘key’ is colexified with its counterpart, the ‘lock’ or ‘keyhole.’ This is the case in Hausa (where the relevant term is also dialectally used as the title of the principle advisor of the Emir inter alia), Nez Perce (by the term wečɛ̂k’ɛs, containing we- ‘hit’ and ɛɛ? “be trapped, be blocked in, be stranded, be struck, be immovable,” colexifying ‘hammer’ additionally), Wappo, Wintu, dialectally in Central Yup’ik, and in Abipón. Similarly, Sko long also means ‘hole, cave.’

As the discussion of terms with ‘open’ and ‘close, shut’ has shown, in many languages ‘door’ provides an additional contiguity anchor. Other terms with a constituent meaning ‘door’ are Abipón l-aham-kate ‘POSS.INDER/3SG-door-INST,’ Bororo baiporo epa ‘door instrument,’ and Toba lemaqte ñi lasom, containing emec ‘spoon’ and lasom ‘door.’ In addition, complex terms involving a constituent meaning ‘lock’ are found in Miskito (ki mita ‘lock hand’), Hani (zovdul; zov is ‘lock’ and dul can refer to a variety of longish objects, among them ‘thigh’ and ‘pen’), Malagasy (fanalahidy, analyzable as /fanàla-hidy/ ‘instrument.to.take.out-lock’), as well as Yoruba (ọọg daddagodo ‘child padlock’) and Manange (Itahita-tama ‘lock mother’). Extension of kinship semantics to the pair ‘key’ and ‘lock’ is also found in Latvian (Buck 1949: 469), compare also Matisoff (1992), who shows that it is widespread in Southeast Asia.
Furthermore, a Ngaanyatjarra avoidance register term alongside other meanings colexifies ‘key’ with ‘knife,’ and Basque and Santiago Mexquititlan Otomí colexify ‘key’ with ‘tap’ among other meanings (the latter language also has an optional complex term with bojä ‘iron’).

Other associations include: Muna kunsì also means ‘button,’ “have a commercial partnership,” and ‘plot, to conspire.’ The Abzakh Adyghe term ʔ°əčʔə-bze is analyzable as /ʔ°ə-n<RELAT>-strap/ ‘abstract<RELAT>-strap.’ Japanese kagi also means ‘hook’ (though the respective readings are distinguished in writing). Khalkha tyäki-gyr is analyzable as ‘push-INSTR’ and also may refer to any “long-handled implement used to push snow, manure, etc.” Nez Perce Wähokažìs contains we- ‘with an implement’ and hol ‘to loosen,’ and Nuuchahnulth Liqyk is analyzable as /Liq’-yak/ ‘untie-tool.’ Tuscarora uhsëwåreh also means ‘fork,’ ‘nail’ (on this origin for words for ‘key’ in Indo-European see Buck 1949: 468) and ‘needle,’ and Copainalá Zoque wi’tœquıy contains wi’tu ‘to turn, be locked with key.’ Huambisa yawìi is also used to refer to ‘safety pins,’ whereas Miskito warbaika, analyzable as /warb-aia-ka/ ‘turn-INF-DERIV’ also means ‘tongs.’ Fijian kí also means ‘to do’ (the meaning ‘key’ is due to borrowing from English), Malagasy colexifies ‘needle of pine tree,’ Rotuman kí also means ‘sepal’ inter alia, while Sedang khíaäng also means ‘drill’ and ‘brace.’ Bislama ki (< Engl. key) also means ‘gear’ and ‘spanner,’ as well as ‘key’ in the music-related sense and denotes the ‘pegheads’ of a guitar.

83. The Knife

<table>
<thead>
<tr>
<th>Representation: 94%</th>
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<tbody>
<tr>
<td>Motivated: 20.9%</td>
</tr>
<tr>
<td>Thereof Analyzable: 18.7%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 14.6%</td>
</tr>
<tr>
<td>Recurrent associated meanings: machete, cutting implement, cut, iron/metal/steel, sword, bamboo, razor, to skin, fish</td>
</tr>
</tbody>
</table>

As with other artifacts, terms derived from a verb denoting the principal activity that can be performed with that artifact, in this case ‘to cut,’ are also frequent for the meaning ‘knife’ (see also Buck 1949: 558 for Indo-European), but clearly not as frequent as with other artifacts, presumably due to the fact that knives are frequently indigenous tools and were present before the era of colonization. Derived terms are nevertheless found in Chickasaw, Kashaya, Abipón (where ‘to cut’ is colexified with ‘to shine’), Bora, and Ancash Quechua. Fijian has a derived term from a verb meaning ‘to cut with knife’ specifically, Khoekhoe has an obsolete term of this kind, and the association is recoverable etymologically for Dongolese Nubian, Kolyma Yukaghir, and Kiowa. Furthermore, San Mateo del Mar nicojhay onij contains acooch ‘cut’ and onij ‘meat’ (the language also has another term, nitajcjuy cuet containing ataag ‘disembowel’ and cuet ‘fish,’ for which compare Yir Yoront ngartiynn containing ngart ‘fish’ and ye ‘cut, slice’). In contrast, Toba ṭıpetaanaxaxat contains the verb petec, meaning ‘to cut hair’ specifically (this term colexifies both ‘scissors’ and ‘razor,’ which latter association is shared by Nez Perce and Tuscarora). The meanings ‘knife’ and ‘cut’ are colexified in Bwe Karen and Samoan (here, by a polite term), and syn-
chronically semianalyzable terms of this kind are found in Kolyma Yukaghir, Kaingang, and Wayampi. Badaga, Sora, Cahuilla, Lake Miwok, Nez Perce, and Mandarin colexify ‘knife’ with ‘sword.’ Colexification with other cutting implements (such as a ‘sickle,’ a ‘dagger,’ or an ‘axe’), or general terms for any sort of bladed tool is also found in other languages, namely Badaga, Khalkha, Lake Miwok, Nez Perce, Oneida, Rama, Toba, and Samoan. More specifically, Meyah, Sko, Basque, Cubeo, Hupda, and Jarawara colexify ‘machete,’ and four languages of South America also have complex terms on the basis of ‘machete’: Bora nihtswi-wu ‘machete-DIM’ (in fact, the word for ‘machete’ is derived form a verb meaning ‘to cut’), Cavineña cuchiرو caca ‘machete small,’ Chayahuita cosera’hua ~ cosoro’hua, probably containing cosoro ‘machete for cutting grass’ and a classifier suffix, and Yanomami sipara si ‘machete cover.’ Six sampled languages, Baruya, Cahuilla, Kiliwa, Central Yup’ik, Kaingang, and Lengua colexify ‘knife’ with the material ‘iron’ or ‘metal’ and/or ‘steel’ (Baruya also with ‘plastic’), while Cubeo has tâu-ve ‘glass/metal-CLASS.SLIM.SLENDER.FLAT.OBJECT’ and Toba laicaua layi ‘metal/iron edge.’ Four languages of broader Oceania, Kwoma, Lavukaleve, Lenakel, and Samoan (by a polite term) colexify, by provenience contiguity, ‘knife’ with ‘bamboo’ (Lenakel also with ‘backbone’ inter alia, and Samoan also with ‘fishing rod’). In Kiliwa, the word for ‘knife’ is derived from a verb meaning ‘to skin’ (nay=+ruw ‘child/small=INST/mouth+to.skin’), and Hawaiian colexifies these meanings alongside ‘flint’ and ‘to stand on edge.’

Other associations include: Khoekhoe ǂnamib ~ ǂnamis ‘simple hand-made knife’ is related to ǂnami, a root occurring in the Damara dialect and meaning ‘to chip, chop off’ inter alia. Koyraboro Senni huri also dialectally means ‘seek, look for,’ while zaama dialectally is also a particle meaning ‘because.’ Ngambay kiya also means ‘to hide,’ ‘to place, set.’ The Burarra term anqajarra contains jarra ‘to slice off,’ while Dadibi ge hwa contains ge, meaning ‘nut, egg’ or ‘small object’ in general. Gnaanyjarra kummaru is an avoidance register term for ‘Sunday, week, jumper,’ ‘key,’ and ‘knife.’ Rotokas visi-paa is analyzable as /visi/ ‘poke/hit- DERIV.’ Toaripi colexifies ‘tying, lashing material’ inter alia, and Badaga su:ri also means ‘sharp, pointed’ in an adjectival sense. Japanese hō-chō is analyzable as ‘kitchen-man.’ Haida q’it’uhl la:aw contains the instrumental prefix q’it- ‘cut with knife’ and presumably uhl ‘shape.’ Itzaj lomik contains lom ‘to stab,’ and also denotes a ‘stab,’ ‘stake,’ or ‘nail.’ The Kashaya term qahca also means ‘missile’ and ‘clitoris.’ Nuuchahnulth šak-ya:k is analyzable as /Yak’-yak/ ‘whittle-tool,’ and Wintu çebet ‘stone knife’ is related to çeb- ‘sharp, knifelike, plane, whittle.’ The Arabela term cushiishi contains cushi ‘pig’ (perhaps folk etymology of Span. cuchillo?). Maxakalí mikax also means ‘rock, stone,’ Bislama naef also ‘blade’ specifically, and Rotuman colexifies ‘knife’ with ‘to circumcise’ inter alia. Samoan has fa’aola fanua ‘save/savior land/field’ for ‘adze, axe, knife’ (the term is restricted to polite usage), and Sedang rokong is also used with the meaning ‘mouth, language, word.’
84. *The Ladder*

**Representation:** 78%
**Motivated:** 52.9%
**Thereof Analyzable:** 33.3%
**Thereof Colexifying:** 20.0%
**Thereof by Contiguity:** 24.2%
**Thereof by Similarity:** 25.4%

Recurrent associated meanings: stairs/staircase, climb/ascend, step, bridge, wood/tree, foot, scale, road/path, leg, hole, thing, sky, walk, lean

Frequently, terms for this meaning are of the derived kind, the derivation base being verbs meaning ‘to climb,’ ‘go up,’ or ‘ascend,’ as in Rotokas *iipa-pa* ‘climb/go.upward-deriv.’ Alongside semianalyzable terms in Ineseño Chumash, Hani, and Kapingamarangi, this is realized by derived terms also in Yoruba, Muna, Sora, Blackfoot, Upper Chehalis, Carrier, Cheyenne, Chickasaw, Killwa, Nez Perce, Wintu, Central Yup’ik (colexifying “neck opening of parka”), Aguaruna, Bora, Chayahuita, Guaraní, Fijian, and Rotuman. There are also terms with an additional element bearing lexical meaning. Mbum has *fê-hêhâ* ‘thing-climb’ (a similar term with ‘thing’ is also featured in Hupda), Khoekhoe has *lapa-halb* ‘climb/ascend-stick/tree’ for a traditional type of ladder. Somewhat differently, Carrier has *u kêwe-tera-i-thi* ‘on.it-getting-up-road’ (complex terms with ‘path’ are also Lengua *amai letin* /amai netin/ ‘path sky/above,’ which colexifies ‘ladder’ with ‘dam’ as well as Hawaiian *ala-pii* ‘path-climb,’ which denotes ‘ladder’ as well as ‘step,’ while the association is realized by colexification, also with ‘door’ and ‘gate,’ in Haida). Moreover, Piro has *hatšo-pi-xe* ‘ascend-rod-pole,’ and similarly, Blackfoot has *ihtásokamisâoo-p* /iht-á-sok-wamis-oo-o-p/ ‘INSTR-DUR-above-??-go-21.NOM.’ This term, like the Hawaiian one, colexifies ‘ladder’ with ‘step,’ and this is indeed a very frequent association in the languages of the sample, and some of the terms derived from ‘to climb’ above exhibit this pattern as well. It is also found in Dongolese Nubian, Kaluli, Lavukaleve, One (here also with the meaning “horizontal brace of a pangal bed”), Sahu, Toaripi, Khalkha (also with ‘footboard’ and ‘pedal’), Upper Chehalis, Arabela, Cayapa, Bislama, Fijian, and Sedang, which also colexifies ‘stem’ (the original meaning of Japanese *hashigo* is also ‘step’ diachronically). Similarly, Kaingang has a term for ‘ladder’ derived from a verb meaning ‘to step.’ A semianalyzable term for ‘ladder’ where one of the constituents means ‘step’ is found in Wayampi, and one where it means ‘to step on, set foot on’ in Kwoma. Another common pattern of colexification is that with ‘stairs’ and/or ‘staircase,’ found in Efik, Dongolese Nubian, Yoruba, Berik, Muna, Rotokas, Sentani, Toaripi, Basque, Khalkha, Blackfoot, Upper Chehalis, Chickasaw (which also colexifies ‘fire escape’ specifically), Comanche, Nez Perce, Pawnee, Central Yup’ik (colexifying also ‘rung’), Embera, Jarawara, Maxakalí, Hani, Hawaiian, Kapingamarangi, Manange, Rotuman, Bislama, Fijian, Manange, and Mandarin.

Furthermore, Basque has *esku-eskailera* ‘hand-stairs,’ and Khalkha *giški-gyr* ‘step-bridge,’ ‘bridge’ (or specific types of bridges) and ‘ladder’ are furthermore colexified in Carib (which also colexifies ‘harbor’), Lengua, Toba, Yanomámi (where the relevant term *ihiraki* is derived form *ihirâ* ‘to construct a frame’ by means of suffixation of the quantal classifier -ki, for which see § 4.4.1.1.), Hawaiian (‘plank bridge’ more specifically, and also colexifying ‘trestle’), and Sedang. Five sampled languages have complex terms in which
one of the constituents means ‘foot’: Efik *udik’uküt* /u-dik’hi-uküt’/ ‘NMLZ-tread.upon-foot/leg,’ Abzakh Adyghe *keywen* /λ(e)-ye-we-n/ ‘foot.UPWARD.MOTION-stomp-have.INTENTION.to,’ Kiowa *qan-t’out-’rida* containing *qan* ‘foot’ and *’rida* ‘pole’ (compare also *qan-t’out* ‘to climb up steps’), Miskito *minanangka*, containing *mina* ‘foot’ and *mang* ‘to put’ (there is a further semianalyzable term with *mang* in this language), and Bwe Karen *kha-bog* ‘foot/leg-handle/holder.’ Further complex terms involving ‘wood’ or ‘tree’ are Biloxi *a’na* *l’ét’a* ~ *a’na* *l’ét’a’/’a’na* *l’ét’a* ‘wood instr-go,’ Tuscarora *uręʔnáhrareh*, consisting alongside grammatical material of the verb- *ahra* -‘be a hole’ and the incorporate -*rę*- ‘tree, log’ (compare colexification of ‘hole’ and ‘ladder’ inter alia in Hawaiian), Maxakali *mip-ku’in* ‘wood-slashes/stripes,’ and Ket *bulanđoks* /bül-aj-d-ôks/ ‘leg.PL-POSs-wood’ (for the association with ‘leg’ compare also Efik *udüri-uküt* ‘top-leg’). Note also that the Cashahuita term is derived from a verb meaning ‘to climb’ by a classifier for wood-related items, and that there are semianalyzable term with ‘wood’ in Basque and Aguaruna.

Efik *è-beri* is derived from *beri* ‘to lean,’ and a term where the meaning ‘leaning’ figures is also found in Pawnee (an optional complex term with a verb meaning ‘to lean up’ is also found in Haida on the basis of the term colexifying ‘door,’ ‘gate,’ and ‘ladder’ mentioned above). Alongside Lengua *amai letin* ‘path sky/above,’ which was already mentioned above, Kiliwa also has a term betraying an association with sky: *?-mai?=t-h-?+paa-y-u?* is analyzable as ‘DN-sky/heaven=SUBJ-3-DN+depart-ATT-OBL.’ Dadibi *tögebili* may be analyzable as /tögeb-bili-bó/ ‘edgeposts-walk,’ and Abipón *n-acaR-haR-late* as ‘POSS.INDEF/3SG-walk-the.one.who-LOC.’ This term also means ‘shoe’ (compare section 91). Finally, Itzaj, Embera, Fijian, and Hawaiian colexify ‘ladder’ with ‘scale,’ and Rotuman colexifies ‘ladder’ also with ‘stave, staff’ and also music written in this notation, and Hawaiian with ‘scale’ in music.

Other associations include: Buli *tili* colexifies ‘ladder’ with “the clay connection between two ancestral shrines.” Hausa *tsani* also denotes an ‘intermediary’ inter alia, and Kanuri *kùràngá* also means ‘monkey.’ Ngambay *ddi* is also used to refer to “something difficult,” and *mbata* colexifies ‘stool.’ Yoruba *åkàbà* contains bà ‘perch on, alight’ and the nominalizer á-. Baruya *kwaaka* also means ‘soil, earth, dirt, clay, ground, land, country’ as well as “shooting short of a target,” while Gurindji *tankuj* also may refer to a ‘useful thing.’ Kwoma *akatoko* (containing aka ‘house’) is also used with the meaning ‘escalator,’ and *piitiishey* also means ‘scaffolding.’ Muna *lawa* also means to “answer back, respond” as a verb, and for *pulangku* ~ *polangku*, which compare *lanjku*, which means a part of a loom, but also means “social rank, level.” Ngaanyakarra *lata* also means ‘letter’ (due to collapse of Engl. *ladder* and *letter*). Kosarek Yale *modobak* is derived from the verb *modob* ‘walk or climb using footholds’ and colexifies ‘foothold’ as well as ‘pole with notches.’ Badaga *sopana* is also the name of a “log in which steps have been cut,” Khalkha *šatu(n)* also means “phase, stratum, level,” and Welsh *ysgol* also means ‘school.’ Oneida *yelathastákhwa?* is analyzable as /ye-lathast-hkw-ha?/ ‘TEM.INDEF.SG.AGENT-get.something.UP-INSTR-HAB,’ Central Yup’ik *akeq* colexifies ‘ladder’ with ‘barb’ and ‘rung,’ and Bora features also a term on the basis of a verb meaning ‘to descend’ rather than ‘to ascend’ as reported above: *nìntyé-wáähyo* is analyzable as ‘descend-CL.layered.things.’ Cashinahua *tapaiti* is derived from *tapa* ‘floor’ by means of the instrumental suffix -*tì.* Jarawara *ki-kísima* is analyzable as ‘RED-come.down.’
Toba piaxalate ~ napiaxalate also means ‘pulpit,’ and the Tsafiki term teranca appears to contain terano ‘to dance’ and ca ‘in front of.’ Bislama step also conveys the meanings ‘terrace on cliff’ and ‘gait, pace,’ while Hawaiian haka also means ‘platform, shelf’ inter alia, and Manange 2li also ‘face.’

85. The Mirror
Representation: 77%
Motivated: 51.3%
Thereof Analyzable: 34.5% Thereof Colexifying: 16.8%
Thereof by Contiguity: 24.5% Thereof by Similarity: 5.3%
Recurrent associated meanings: glass/type of glass, see, look/inspect, shadow, window, reflect/reflection, water, face, eyeglasses, eye, bright/brighten, thing

As for virtually all artifacts, terms making reference to the purpose they serve abound. In this case, this means that very frequently, terms make reference to seeing, looking (see Buck 1949: 454 for Indo-European), or reflecting. Derived terms on the basis of verbs meaning ‘to see’ frequently also contain a reflexive marker (as did a Sanskrit term, Buck 1949: 454), as in Chickasaw aailipisa, analyzable as /aa-ili-pisa-/ ‘LOC-REFLX-SEE-NMLZ.’ There are also derived terms in Mali (where the meaning of the derivation base is ‘see past’ more precisely), Upper Chehalis, Comanche, Kashaya, and Nez Perce. In lexical terms, ‘shadow’ is often the meaning of the additional lexical element (an association likewise reported for Indo-European by Buck 1949: 454), as in Mbum dıkó-tèm ‘see-shadow,’ and also in Japanese and Pawnee (associations with ‘shadow’ also occur in other configurations, by direct colexification in Lavukaleve, here also with ‘spirit,’ Rama, also with ‘picture,’ as well as Sedang, and by the analyzable Chukchi term wiilyitenjen containing wiil ‘shadow’ and yite ‘watch’ and Samoan fa’a-ata ‘CAUS-shadow/image’). Otherwise, Efik has u-kur-isü ‘NMLZ-see-face,’ and Yir Yongor kowlewkwarrhh and kowlewkerr(w)lh contain kowlew ‘face’ and karr ‘see, look at’ and furthermore colexify ‘mirror’ with ‘photograph.’ Biloxi o’do’hono’ re-volves around the root do ‘to look at, see,’ Cheyenne anmèomáhtéstöse contains anmèom ‘to see in reflection’ and hestöse ‘thing’ (and indeed also means ‘reflection’), and semianalyzable terms with ‘see’ occur in Buli, Hausa, Tehuelche, and Great Andamanese. Terms derived from verbs meaning ‘to look’ or ‘inspect’ are found in Kanuri, Rotokas, Kiowa, Oneida and Fijian, where the derivation base means ‘to look at, as a reflection in water or in a mirror’ specifically. Rotuman colexifies ‘mirror’ with “to watch closely, gaze at” directly, Furthermore, Yoruba has à-wò-jiijì ‘NMLZ-look/shadow/reflection,’ Nivkh un’yir-nyus ‘star-place.to.look,’ and Carrier pë-na-tse-n-de-nel’én is analyzable as ‘wherewith-repeatedly-??-rotundity-at-one’s-own-look,’ with the element glossed as ‘rotundity’ referring to the ‘face’ (other complex terms more or less tightly connected with ‘face’ other than those already mentioned are Itzaj eetz’-ich ‘face-make’ (‘face’ in the sense of ‘grimace,’ though), Cashinahua beisikiti, presumably analyzable as /beisikiki-ti/ ‘look.at.other.person’s-face-INSTR’ and Cubeo jiva-ru ‘face-CLASS.ROUNDISH.OBJECT). Terms derived from verbs meaning ‘to reflect’ or nouns meaning ‘reflection’ are found in the Nunivak Island dialect of Central Yup’ik, where the relevant term tarenrirun is analyzable
as /tarenriur-(u)n/ ‘look.at.one’s.reflection-device.for,’ Malagasy (fi-tàratra ‘NMLZ-light.beam/reflection’), and also in Haida and Tetun, while Kashaya ?ama puṭam contains ?ama ‘thing’ and ṭaṭm ‘to reflect,’ Wintu ?ililoqma can also refer to ‘anything that reflects; something shiny.’

A pattern that is also widespread in the languages of the world is colexification of ‘mirror’ with ‘glass’ or types of glass, such as colexification of ‘mirror’ with ‘pane of glass’ specifically in Swahili. Such associations occur also in Hausa, Yoruba, Burarra, Kyaka, Muna, Ngaanyatjarra, Abzakh Adyghe, Bezhta, Upper Chehalis, Highland Chontal, Itzaj, Pawnee, Tuscarora, Great Andamanese, Fijian, Hawaiian (also colexifying ‘clear, transparent, obvious’ and ‘cool’ among other meanings), Bwe Karen, Malagasy, Sedang, White Hmong, Rotuman, Takia, Yay, and Bislama (note that according to Buck 1949: 454, this pattern within Indo-European “seems to be peculiar to English”). White Hmong, in addition, has tsom-iav ‘look-glass.’ Due to this general pattern of colexification, Hausa, Bislama, and White Hmong also colexify ‘mirror’ with ‘eyeglasses.’ Furthermore, Upper Chehalis, Kashaya, Kiowa, Pawnee, Tuscarora, Wintu (by the term kenwi·na, containing ken meaning inter alia ‘in, be in, put in’ and presumably wi ‘male;’ there is a reconstructed root *wi meaning ‘person’ more generally), and Fijian colexify ‘mirror’ with ‘window,’ and there are other similar scattered patterns of colexification, such as for instance that with ‘telescope,’ ‘binoculars,’ ‘thermometer,’ and ‘barometer’ in Bislama, which also colexifies ‘car window’ specifically.

Another rather unrelated pattern is the association between ‘mirror’ and ‘water,’ due to the reflecting properties of water. This association, in the form of a pathway of semantic extension under circumstances of acculturation, is hinted to by the fact that Tuscarora awé·kyeh, meaning ‘glass,’ ‘window,’ and ‘mirror,’ also means ‘liquid.’ Fijian also directly colexifies ‘mirror’ with ‘water’ by the analyzable term i ililo ‘DERIV look.at.reflection-RED,’ Santiago Mexquititlan Otomí colexifies ‘mirror’ with ‘river,’ Noni has me ɛ joo ‘1SG in water’ (the term also denotes a ‘riddle’), Anggor hoe-himbo ‘water-ear,’ Toaripi ma ove ‘water picture’ (lexicographer’s comment: “before glass or metal mirrors were available, reflections in water served as a mirror”), and Kiliwa xa?=ny?=yuwe-l=st-p=saw-u?= ‘water=POSS-DN+eye-ILL=OBJ-MP+see-DIR-OBJ.’ In Buin, tinura is a term for ‘water collected in trees’ that is used as a mirror, and Berik has a semianalyzable term. The association with ‘eye’ as found in Kiliwa is also present in Ket (deskanejroks /děš-kajej-r-oks/ ‘eye-??-poss-wood’), and semianalyzable terms where one of the constituents is ‘eye’ are featured in Waris (where this term is archaic) and Badaga. Finally, Kashaya has ?ama pit’am, containing ?ama ‘thing’ and -ṭaṭ ‘bright, light enough to see by;’ and similarly, Yanomâmi has wurara-rimi ‘brighten.up-NMLZ’

Other associations include: Hausa madubi and soka also mean ‘sorcerer’ and ‘wizard,’ Muna paeasa assumes the meaning of “follow the example” when used verbally, and Basque isplu also means ‘white spot, white patch.’ Khalkha tol(ın) is also used with the meanings ‘metal plate’ and ‘dictionary, vocabulary,’ and Welsh drych also means ‘sight.’ Blackfoot ṣapia’tsis contains sap ‘in, within’ and the instrument nominalizer -aṭsis, Kiliwa x?al-ha?=u?= is analyzable as ‘CAUS=3=SEEK-OBL,’ Nuuchahnulth pihyaksata as /pih-yak-sata/ ‘observe/study/examine-tool-at.or.on.the.forehead,’ while Santiago Mexquititlan
Otomí *híe* also means ‘to put on’ and San Lucas Quiavini Zapotec *gyigwían* also ‘very beautiful girl.’ Piro *haníha-pi* is analyzable as ‘shade.eyes-rod,’ and Wichí *to-pyak-hi* as ‘POSS.INDEF-image-LOC.in,’ while Hawaiian *aniani* appears to be reduplicated from *ani*, one of the meanings of which is ‘for a hand to pass over a surface.’

86. The Needle

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<thead>
<tr>
<th>Representation: 90%</th>
<th>Motivated: 35.8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thereof Analyzable: 14.5%</td>
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</tr>
<tr>
<td>Thereof by Contiguity: 12.2%</td>
<td>Thereof by Similarity: 11.0%</td>
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</tbody>
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Recurrent associated meanings: injection/syringe, sew, pin, thorn, nail, hand of clock, thread/string, bone, cloth, fork, net shuttle, pierce, thing

For ‘needle’ (or ‘awl’), the most frequent association is unsurprisingly that with ‘to sew’ (see also Buck 1949: 412), by terms of the derived type for in Central Yup’ik (which has, for instance, *mingqun* /mingqe-uu/ ‘sew-device.for’), Upper Chehalis, Chickasaw, Kiliwa, Arabela, Fijian (where *ula* not only means ‘to sew’ but also ‘to pierce, let blood, vaccinate,’ for this compare Nuuchahnulth *qačak* /qač-ak/ ‘pierce/puncture-tool’), and Malagasy. Terms of the lexical kind have ‘thing’ as the meaning of the additional constituent in Koyraboro Senni *taa-haa* ‘sew-thing’ (which is a substitute term for a monomorphemic term for ‘needle’ that must not be uttered at night), ‘cloth’ in Comanche *wana tsakhuna?/wana tsahku-nu-t/ ‘cloth sew-NMLZ,’ and ‘bone’ in Kapingamarangi *iwi due mee* ‘bone sew thing’ (semianalyzable terms containing verbs meaning ‘to sew’ are attested in Nuuchahnulth, Miskito, and Tehuelche, and there is one containing ‘thing’ in Dadibi). Both associations just mentioned are also found in different configurations. Buli has *garupein/garuk-pein/ *cloth-arrow,’ Yir Yoront *mipkallnh*, containing *mip* ‘cloth’ and *kal*, meaning inter alia ‘spear, poke, pierce, cut,’ Rotuman *sui susuag ha’u/sui susuga ha’u/ ‘bone sewing clothes,’ and a semianalyzable term where the identifiable constituent can be identified to mean ‘veil’ is found in Greek. Wappo and Yuki exhibit the association with ‘bone’ by colexification. In Upper Chehalis and Rama, ‘needle’ and ‘thread’ are colexified (in Rama ‘silk grass needle’ more specifically), while Lengua has *sokyi-tama* ‘carry-string’ and Piro *tsa-pu* ‘thread-ENTITY.’ Similarly, Hawaiian colexifies ‘needle’ with verbal ‘to thread beads’ and ‘to string pierced objects.’ Presumably by provenience contiguity, Anggor, Baruya, Buin, Khalkha, Abipón, Bora, Chayahuita, Tehuelche, and Yanomámi colexify ‘needle’ with ‘thorn’ (Yanomámi also with ‘porcupine quill’), and Hupda has *mâc-ut* ‘metal-thorn.’ Samoan colexifies ‘needle’ with ‘sting’ (see Buck 1949: 412 for cognates evidencing this association by semantic shift in Indo-European). There are also patterns of colexification due to semantic extension. Basque, Khalkha, Lesser Antillean Creole French, and Tetun colexify ‘needle’ with ‘hand of clock,’ and Koyraboro Senni, N̓gambay, Noni, Rendille, Sahwili, Anggor, Baruya, Bezhta, Khalkha, and Cubeo with ‘injection, syringe.’ Kwoma, Rotokas, Oneida, Tuscarora, Miskito, Tehuelche, and Hawaiian colexify ‘needle’ with ‘nail’ (Oneida also with ‘wire,’ and Tuscarora, Miskito, and Hawaiian also with many other objects made of metal, in Tuscarora for example ‘auger,’ ‘fork’ – this pattern of colexification is shared.
with Nez Perce and Nuuchahnulth – ‘key,’ ‘pitchfork’ and “dwarf pike”), and Xicotepec de Juárez Totonac líxtocan is analyzable as /lɪ-xtoká-n/ ‘INSTR-to.nail-INSTR.’ Koyraboro Senni, Rotokas, Basque, Ket, Kiowa, Oneida, Cayapa, Hawaiian, and White Hmong colexify ‘pin,’ and San Mateo del Mar Huave and Nez Perce colexify ‘needle’ with ‘net shuttle.’

Other associations include: Ngambay énemé also denotes a “kind of drill to make a hole with,” and suwu also means “boil leaves rapidly in water, cook meat.” Kyaka wamyali ~ wamayi also means ‘skewer.’ Basque orratz is also used with the meanings ‘needle of grammophone,’ ‘compass,’ and ‘switch,’ while the denotational range of the Ket term in also includes ‘fingernail’ and ‘claw.’ Khalkha zegyn ~ zegyy also means ‘East, oriental, left,’ and Japanese hari also means ‘beam,’ with the terms being prosodically different. Biloxi a’sadúkí contains the word for ‘pine tree,’ whereas Cheyenne vé’ho’é-škó’o’o’heštōse is analyzable as /vé’ho’é-škó’o’o’heštōse/ ‘whiteman-toothpick.’ San Mateo del Mar Huave colexifies ‘needle’ with ‘snake, worm,’ Itzaj puutz’ also means ‘enemy,’ and Kiliwa t-x-PA? P-U? is analyzable as ‘OBJ-caus-possess.round.object-MP-OBL.’ Wintu čwp also denotes the concept ‘dagger’ and anything with a sharp point in general. The Yaqui term jì’ikiam is analyzable as /jì’ik-ia-im/ ‘weave-NMLZ-PL.’ Abipón n-icir-en-kate (variant form nícirenRat) is analyzable as ‘poss.indef/3sg-unite-vol-instr,’ and Bororo akigu iĉira as ‘thread palm.fibre.’ Hawaiian pahele, also denoting a ‘snare, noose’ or ‘trap’ as well as ‘deceit, treachery,’ seems to be derived from hele, meaning ‘to tie, bind, lash, snare, noose’ inter alia. Another Hawaiian varies somewhat in form depending on the variety of Hawaiian; that spoken on the island of Hawai’i, hānai, also means ‘foster child, stepchild’ inter alia. Finally, Manange 4tʰe also means ‘to hear,’ Mandarin zhent, going back to distinct Early Middle Chinese terms (Pulleyblank 1991: 401), also “true, exactly,” and Yay colexifies ‘needle’ with ‘gold.’

87. The Paper

Representation: 84%
Motivated: 59.6%

Thereof Analyzable: 13.2% Thereof Colexifying: 46.8%
Thereof by Contiguity: 48.0% Thereof by Similarity: 5.2%

Recurrent associated meanings: letter/book/document, write/draw, leaf, talk/speak, playing card, cloth, map, mail, role, cardboard, banknote, skin, wrap/wrapping

The most frequent association is, by contiguity, colexification with ‘letter,’ ‘book,’ or another type of document and sometimes also ‘page.’ It is found in Buli, Efik, Hausa, Koyraboro Senni (colexifying also ‘amulet, talisman’), Mbum, Noni, Dongolese Nubian, Rendille, Yoruba, Buin, Burarra, Kwoma, Yir Yoront, Abzakh Adyghe, Badaga, Basque, Ket, Biloxi, Cahuilla, Upper Chehalis, Cheyenne, Chickasaw, Highland Chontal, Comanche, Haida, San Mateo del Mar Huave, Itzaj, Kashaya, Lake Miwok, Lesser Antillean Creole French, Nez Perce, Oneida, Santiago Mexquititlan Otomí, Pawnee, Pipil, Tuscarora, Central Yup’ik, San Lucas Quiavíní Zapotec, Abipón, Aguaruna, Bora, Bororo, Cashinahua, Cavinéña, Cayapa, Chayahuita, Guaraní, Huambisa, Hupda, Kaingang (where vénh ra seems to contain vénh ‘small plants’), Macaguán, Maxakalí, Miskito, Piro, Rama, Sáliba, Wayampi,
Yanomámi, Bislama, Hani, Malagasy, White Hmong, and Samoan. The relationship between ‘letter’ and ‘paper’ is marked by gender alternation in Embera, and that between ‘sheet, piece of paper’ and ‘book, letter’ in Khoekhoe by alternation of nominal designants. More specifically, Greek, Hawaiian, and Samoan colexify ‘paper’ with ‘playing card’ (Samoan also with ‘banknote’ and ‘ticket’), Greek and Haida with ‘map,’ Nez Perce and Central Yup’ik with ‘mail’ (the Nez Perce term also denotes the ‘Bible’ specifically), Basque and Itzaj with ‘role,’ Abzakh Adyghe and Samoan with ‘banknote,’ and Cashinahua and Rotuman with ‘cardboard.’

Otherwise, complex terms of the derived type from a verb meaning ‘to write’ or ‘to draw’ occur in Efik (ñ-wet ‘NMLZ-write/mark/paint;’ this term also denotes a ‘printing, inscription’ and ‘form,’ ‘impression,’ ‘representation,’ ‘reflection,’ and ‘shadow’), Sora (id’oljn ‘writing-N.SFX’), Arabela (naajo-jiu ‘writing-CLASS.GROUND;’ this term also denotes a ‘scribe’ and a table used to write on), Abipón (elerk-a ‘writing/letter-PL’), and Yanomámi. Indeed, the Abzakh Adyghe and Oneida terms colexifying ‘paper’ with ‘letter’ and ‘book’ are also of this type (the Chukchi, Cheyenne and Yanomámi colexifying terms are semianalyzable). The Yanomámi term colexifies ‘paper’ with ‘pen.’ Moreover, Tsafiki has pilá quidó ‘writing/book skin/bark’ (note also the colexification of ‘skin,’ ‘hide,’ and ‘paper’ in Buli and the origins of Indo-European words for ‘paper,’ Buck 1949: 1289), and Chickasaw holisso also means ‘to be written’ in verbal usage. Kwoma, Rotokas, Bezhta, Hupda, and Piro colexify ‘paper’ with ‘leaf’ (Kwoma with “dry banana leaves” specifically), as did Sanskrit (Buck 1949: 1289); note also Kaluli mofos, containing fos ‘leaf’ and perhaps mo: “base of tree stump or trunk,” “basis or reason for utterance.” In two languages of Eastern North America, there are complex terms for ‘paper’ where one of the constituents means ‘cloth:’ Lakhota mniȟúha-khakháka ‘cloth-rustle’ and Pawnee raawihaakaraaˀiit, which is analyzable as /raawir-taakaar-raaˀiit/ ‘cloth-white-telling.’ Moreover, Nuuchahnulth colexifies ‘cloth’ with ‘paper;’ the relevant term is qicaaˀ, analyzable as /qic-aˀ·ɬ/ ‘mark/paint/tattoo-on.a.fabriclike.surface.’ The Pawnee term, betraying an association with uttering words, has a parallel in Nez Perce (tríile-s ‘speak-AGT’) and in Abipón, where there is a word for ‘paper’ (as well as ‘word’) derived from a verb meaning ‘to talk’ (see also Buck 1949: 1003 for this association in Ancient Greek). Baruya colexifies ‘paper’ with ‘wrapping,’ and, analogously, Kiowa mätʃtɭ-mǎ ‘sheet of paper’ is analyzable as ‘wrap-NOUN.POSTFIX.’ Bororo bapera also denotes leaves from the stomach of ruminants; Kiliwa txpha may also perhaps refer to a “part of the ruminant digestive system called ‘the book’ (Sp. el libro), or related to sheepskin parchment,” and similarly, Lake Miwok pápel also denotes “an internal organ attached to the stomach of animals which opens like a book when one cleans it.” Since the Lake Miwok term is a borrowing from Spanish and the Kiliwa gloss refers to Spanish, it seems likely that this is a pattern copied from (local) Spanish.

Other associations include: Bakueri liwawé also means ‘wing,’ Buli gband also ‘gambling,’ and Rendille khaddáb also ‘scab.’ Burarra (-)dirrja colexifies ‘paper’ with ‘track, footprints,’ and Kyaka pepa may also refer to ‘stationery’ or ‘tissue.’ Yir Yoront waqrr also denotes the bark of the tea tree or melaleuca, and Japanese kami also denotes the ‘hair’ and ‘God,’ with the individual meanings distinguished in writing. Biloxi akítseyi contains the word for ‘spotted, striped,’ and the Carrier term estesľes also means ‘fur.’ Pipil amat is
also the name of the amate, a species of fig tree, Central Yup’ik igaq also means ‘mark, symbol’ and ‘letter of alphabet,’ and Bora waajácuháámi is analyzable as /waajácu-ʔa:mɨ/ ‘study/know/understand-SCM.leaf.’ Rotuman pepa also means ‘pepper’ (< Engl. paper and pepper respectively).

**Lexico-Semantic Associations**

**88. The Pen**

<table>
<thead>
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<th>Representation: 66%</th>
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<td>Motivated: 51.6%</td>
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<td>Thereof by Similarity: 3.4%</td>
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Recurrent associated meanings: write, stick, feather, paper, wood/tree, crayon, ink, rod, chalk, paint, brush, typewriter, thing, poke, bone

Terms for ‘pen’ frequently contain verbs meaning ‘to write,’ which may in turn themselves have experienced semantic extension from ‘to scratch,’ ‘to mark,’ or like meanings which are not discussed separately here (the association between ‘pen’ and ‘writing’ is quite rare in the diachrony of Indo-European, mentioned only for Sanskrit by Buck 1949: 1290). Derived terms, such as Blackfoot /ihtá:sínaakio’p/ ‘INSTR-DUR-write:??-21.NOM’ are featured in Rotokas, Upper Chehalis, Chickasaw, Kashaya, Lake Miwok, Nez Perce (colexifying ‘seal’), Oneida, Quileute, Xicotepec de Juárez Totonac, Tuscarora, Yuki, Central Yup’ik, Aguaruna, Arabela, Bora, Carib, Cashinahua, Cubeo, Guaraní, Kaingang, Piro, Imbambura Quechua, Toba, and Yanomámi. Variants of this pattern are found in Haida, where the derivation base of a relevant term (colexifying ‘chalk’ and ‘crayon,’ a pattern of colexification shared with Piro, and with Lesser Antillean Creole French in the case of ‘crayon’) means ‘to write a letter’ specifically. Cheyenne and Mbhum have analyzable terms of the lexical type where the second constituent means ‘thing.’ Otherwise, ‘wood’ or ‘tree’ is a frequent meaning for the second constituent, as in Pawnee raktariihkaruukus, analyzable as /rak-rariihkaraˀhus/ ‘tree/wood-write-IPFV.’ Such terms are also found in Ngambay (where ‘tree, wood’ is colexified with ‘stick’ inter alia), Kiowa (colexifying ‘writing table’), Maxakallí, Tsafiki (in the latter two languages, ‘tree’ is colexified with ‘bone’), and Yir Yoront, where the relevant term yoqlatkalninh contains yoq ‘tree, stick, wood,’ lat ‘paper’ and kal, meaning ‘spear, pierce, poke, cut’ inter alia (the association with ‘poke’ may be an Australian pattern, compare Gurindji turrp-turrp-kaji ‘poke-red-agent’). In addition, Comanche has parubboʔ/paa-tubooʔʔ/ ‘water-write-NMLZ’ for an ‘ink pen’ specifically, and Abzakh Adyghe shera-txe ‘with.head/upper.side-write.’ In Hani, there is a semianalyzable term also denoting a ‘writing brush’ (a meaning also associated with ‘pen’ in Mandarin) with the identifiable constituent meaning ‘to write’ and ‘to rot, decay’ (the other one, dul, means ‘similar, true to life’ when occurring on its own.)

Sora idol’kappan contains ‘kappa: ‘wing’ alongside idol: ‘write,’ and Khoekhoe xoa’lam-mi is analyzable as ‘scrape/write-feather-3SG.MASC.’ Both point to a pattern particularly common in the Old World (as also evidenced by its frequency in Indo-European, Buck 1949: 1290): since quills were once commonly used as a writing instrument, Basque, Nivkh, and Kildin Saami colexify ‘pen’ with ‘feather’ and/or ‘quill’ (the Basque term hegyats
also means ‘fin’ and ‘eaves’ and may be related diachronically to *hatz* ‘finger;’ by another term Basque also colexifies ‘snowflake’), while Efik has *ntañwet* /*ntañ’-ñwet*/ ‘feather-paper’ and Hawaiian *hulu kākau* ‘feather write.’

In turn, ‘paper’ (which potentially colexifies certain types of documents inter alia, cf. section 87) is of course by functional contiguity frequently associated with ‘pen,’ as already seen in the Yir Yoront and Efik terms mentioned above. ‘Paper’ and ‘pen’ are colexified in Yanomámi (similarly, Huambisa colexifies ‘pen’ with ‘booklet’). Furthermore, Bororo has *bapera atugo epa* ‘paper writing instrument,’ Biloxi *akătxyi* /*akătxyi’ o* ‘paper make,’ Carrier *testles-tcen* ‘paper-stick,’ and Miskito *ulb-aia dusä* ‘write-INF stick’ (compare also Baruya *pikariyita* /*pikaryya* ‘carving-stick,’ colexification of ‘log, rafter 2x4, a limb, a young tree, a smaller log, any piece of wood that is like a stick’ with ‘pencil’ in Wintu, and the fact that the Bora term is derived from a verb meaning to ‘write’ by a classifier for small sticks). Rather than ‘stick,’ the second element is ‘rod’ in Piro and *imbabura* Quechua; due to colexification with ‘tree, wood’ and ‘stick,’ this association is also present in Ngambay. Another complex term of the lexical type where one of the constituents is ‘write’ is Santiago Mexquititlan Otomi *xini t’ot’i* containing *x* ‘hair’ and *t’i* ‘to write.’ White Hmong has *cwj-mem* ‘stick-ink,’ a derived term from a base meaning ‘ink’ is also found in Central Yup’ik (*ingeg-cuun* ‘ink-device for’), and a term where one of the constituents is ‘ink’ is featured in Yay. Rotokas and Aguaruna colexify ‘pen’ with ‘typewriter’ (Aguaruna also with ‘booklet,’ ‘notebook’), and Bislama and Takia with ‘paint,’ in both cases due to collapse of English source words *pen* and *paint*.

Other associations include: Hausa *alkalami* also can refer to ‘a digit in arithmetic’ inter alia, Muna *kora* denotes a fibre rib of the sugar palm which is used as a pencil, Khalkha has *yzyg*—which is also a variant of *yzyg ~ ysyg* ‘writing, letter.’ Welsh *pin* also means ‘bobbin,’ and Japanese *fude* is analyzable as /fumiti/ ‘text-hand.’ Nivkh colexifies ‘pen’ and ‘pointed drill.’ Hawaiian *peni* (< Engl. *pen*) has fallen together with English *penny*, which was also borrowed, and Rotuman *pene* indigenously also means “to emit an odour.”

89. *The Rope*

Representation: 86%
Motivated: 55.5%
Thereof Analyzable: 5.1% Thereof Colexifying: 50.4%
Thereof by Contiguity: 5.1% Thereof by Similarity: 32.4%
Recurrent associated meanings: thread/string/cord/twine, vine/climbing plant, tie, line, lasso, strap, fishing line, badge of rank, cable, belt, bundle of rice, thong, whip, umbilical cord

The typical structure for many artifact terms - derived terms from the associated action that can be performed with the artefact - is relatively rarely found for this meaning. Muna *ka-tapi* is analyzable as ‘nstw-tie/tether,’ and such derived terms are otherwise only found in Khalkha (where the derivative also means ‘hitching post’ and ‘training a horse for a race’), Chickasaw, Central Yup’ik, and Tehuelche (see Buck 1949: 550 for evidence from Lithuanian as well as from cognates meaning ‘cord, band’ and ‘bind’ respectively in San-
skrit and Greek). Kyaka, Khalkha, and Wintu terms directly colexifies ‘rope’ and ‘to tie’ (and there are sometimes redundant complex terms on the basis of the relevant root). More frequently, namely in 20 languages (Ngambay, Baruya, Buin, Kwoma, Kyaka, Mali, Rotokas, Sahu, Kosarek Yale, Sora, Wintu, Bora, Chayahuite, Hupda, Tsafiki, Wayampi, Fijian, Sedang, Takia, and Bislama), is colexification with (a specific kind of) ‘vine’ or ‘climbing plant’ generally, either by perceptual similarity or, more likely, by provenience contiguity (see Laycock 1970: 1160 for New Guinea specifically). Very frequent is colexification with ‘thread,’ ‘string,’ ‘cord,’ and/or ‘twine,’ found in Buli, Hausa, Katcha, Khoe-hoe, Mbum, Ngambay, Rendille, Yoruba, Berik, Burarra, Gurindji, Kaluli, Kyaka, Lavukaleve, Muna, Rotokas, Kosarek Yale, Yir Yoront, Abzakh Agyhe (inter alia), Badaga, Basque, Bezhta, Chukchi, Khalkha, Kildin Saami, Sora, Cheyenne, Chickasaw, Ineseño Chumash, Haida, Kashaya, Lesser Antillean Creole French, Pawnee, Pipil, Quileute, Tuscarora, Wintu, Yuki, Central Yup’ik, San Lucas Quiaviní Zapotec, Copainalá Zoque, Arabela, Aymara, Bororo, Cashinahua, Cavineña, Hupda, Jarawara, Lengua, Piro, Tsafiki, Yanomami, Bislama, Hani, Hawaiian, Bwe Karen, Manange, Samoan, Sedang, Takia, Tetun, and Yay (see Buck 1949: 550 for scattered Indo-European evidence). Somewhat similarly, Central Yup’ik has qip’aapak/qip’aq-rpak/ ‘thick hand-twisted thread large.’ Many languages of Mesoamerica and adjacent areas colexify ‘rope’ with ‘lasso.’ This is the case in Itzaj, San Mateo del Mar Huave, Xicotepec de Juárez Totonac, Copainalá Zoque, and Cubeo. The relevant Xicotepec de Juárez Totonac term tasiuj is derived from sihuí ‘to bend,’ and the Wintu term contains a verb meaning ‘to swing a rope or lasso.’ In Rotokas, ‘rope’ is iroiro, which appears to be reduplicated from iro ‘belt,’ and similarly Bororo has kogu-ia ‘belt-opening;’ Kolyma Yukaghir colexifies ‘belt’ with ‘rope.’ Buli, Hausa (among other meanings), and Bislama colexify ‘rope’ with ‘badge of rank’ (Ngambay also with ‘rank,’ alongside ‘trap’), Khoe-hoe, Ngambay, Mali, Bezhta, and Cashinahua with ‘fishing line’ (Khoe-hoe also with ‘pore’), Carrier, Haida, Pawnee, Cubeo, Jarawara, and Hawaiian with ‘line’ more generally, Buli, Embera, and Hani with ‘cable,’ Pawnee and Hawaiian with ‘thong,’ and Kaluli, Chukchi, Cavineña, Jarawara, and Hawaiian with ‘strap.’ Muna kalolai ‘rope for lowering things’ is derived from lola ‘umbilical cord, to lower with a rope,’ and Central Yup’ik colexifies ‘rope’ with ‘umbilical cord.’ Embera hiknian also means ‘whip, lash’ when used with masculine gender and ‘reed, cane’ with neuter gender, and similarly, Hawaiian kaula also means ‘whiplash,’ alongside ‘arc of circle’ and “chain, as used by surveyors and engineers.” Koyraboro Senni colexifies ‘rope’ with ‘bundle of rice’ inter alia, and Muna kakoo is derived from koo ‘bundle of rice.’

Other associations include: Hausa tuke, meaning ‘rope, thick string’ in the dialect of Kano, otherwise means “twist together all of the material, e.g. as in making rope” inter alia. Ngambay gdil also means ‘to arrange, reconcile,’ and Swahili kamba also ‘shrimp, prawn.’ Buin kuuku is also a female name. The Burarra term murndurn also means “group, work party, clan or tribe,” and Kyaka puu also means ‘bandage’ among many other things, while pungi also means ‘liver.’ Ngaanytjarra pururruru also denotes a ‘hair string’ (presumably used as a rope) and ‘wool,’ while One apa colexifies ‘rope’ with ‘rattan.’ Rotokas korori seems to be analyzable as ‘fruit-twist something,’ and Sko à also means ‘clear, shiny.’ Toaripi horou also means ‘intestines,’ Kosarek Yale heing also ‘eye,’ and Badaga agga ~ hagga
also ‘plow’ and ‘connection.’ The Basque term soka is also used with the meanings ‘halyard’ and ‘dress,’ and Khalka ujayasu also means ‘knot,’ while degesy(n) is also an obsolete unit of measurement. Sora luadom also denotes “fibrous bark” as well as a specific type of string “with knots to indicate payments made to creditors.” Chickasaw colexifies ‘rope’ with ‘yarn’ and ‘leash,’ and Lesser Antillean Creole French with ‘chord, note’ (presumably due to phonological collapse of French corde and accord). Kiliwa t+ha?q=h-t+nyat-tay-u ‘lead rope’ is analyzable as ‘OBJ+mouth-ABL/ALL=3-??+pull-FREQ-PL,’ Nuuchahnulth colexifies ‘rope’ with ‘in line,’ whereas in the Santo Domingo de Guzmán dialect of Pipil, kwerp(n) is also ‘a measure of land.’ Tuscarora uhs·reh also means ‘wick’ and ‘wire,’ Wintu čək also ‘ropelike root(s),’ and paλi also ‘grapevine branches.’ Central Yup’ik qεεk means ‘skin rind, scab’ and in the Norton Sound-Unaliq dialect also ‘rope.’ Copainalá Zoque colexifies ‘vein,’ and Bora wáábya-u is analyzable as ‘hammock-CL.round.’ Guaraní sâ also means ‘slavery,’ as well as, verbally, ‘to be fastened with a rope.’ Piro tsa also means ‘fiber,’ Wayampi yû also denotes a tree species, Fijian dali also ‘ten cuttle fish tied together,’ Bwe Karen -blî also ‘nest,’ Kapingamarangi hali also “to leak, to flow, to ooze,” Manange ‘to leak, to flow, to ooze,’ and Bislama rop also ‘tape of cassette.’

90. The Scissors

Representation: 71%
Motivated: 28.6%
Thereof Analyzable: 24.8%  Thereof Colexifying: 4.3%
Thereof by Contiguity: 19.3%  Thereof by Similarity: 7.9%
Recurrent associated meanings: cut, knife, tongs, cloth, razor, clip, pinch

Words for ‘scissors’ (or ‘shears’) are often derived from verbs meaning ‘to cut’ generally or more specific types of cutting, such as Blackfoot sisóyatsis /sisayi-a’tsis/ ‘cut.into.strips-INST’ or Sedang kon, which is derived by the nominalizing infix <on> from kon ‘cut hair’ (see Buck 1949: 560 for the situation in Indo-European). Such terms are also attested in Chickasaw, Pawnee, Yaqui, Abipón, Ancash Quechua, Toba (where the term colexifies ‘knife’ and ‘razor,’ as is the case in Buli), Wayampi, Yanomámi, and Samoan, while there is a semianalyzable term in Bezhta. The Comanche, Kiowa, and Miskito terms feature an additional constituent meaning ‘cloth’ (e.g., Comanche wana koo? ‘cloth cutter;’ this term is archaic), and Muna colexifies the verbal reading ‘to cut’ (alongside “cross to the other side”) and the nominal one as ‘scissors’ directly. There are also languages which have a specific verb meaning ‘to cut with scissors’ (Biloxi, Arabela, Central Yup’ik), with the noun derived from it. Efik ufainkpo contains fai ‘clip, cut with scissors’ and nko ‘thing,’ and similarly, Fijian has i koti ‘DERIV clip/shear.’ In two sampled languages, Japanese and Central Yup’ik (Nunivak island dialect), terms are derived from a verb meaning ‘to pinch’ rather than ‘to cut’: hasami i ‘pinch-VR’ (colexifying ‘scissors of lobster’) and nunutek /nunur-(u)n/ ‘pinch-device.for’ (this term is formally dual). Similarly, the Arabela term tuquetaja is derived by instrument nominalization (-taja) from tuqenu ‘to pince bare.’ A semianalyzable term involving a verb meaning ‘to pinch’ is found in Quileute. Otherwise, it is frequent cross-linguistically to have complex terms for ‘scissors’ based on other arti-
facts with similar function and an additional element indicating the differentia specifica, which is in this case often the presence of the holes serving as handles for the fingers. The source artifact is most commonly ‘knife’: Sko tanglílong contains tang, which is a general term for blades and hence also can refer to a ‘knife,’ and long ‘key, hole’ (there is a word li meaning ‘cross-pole for roof or floor’ inter alia), Cheyenne has hótâxová-mota ‘crosscut-knife,’ and Central Yup’ik nuussicuak /nuussig-cuar/ ‘knife-little.one;’ the Yanomámi term for ‘scissors’ is that for ‘knife,’ amended by the quantal classifier -k (see § 4.4.1), and there is a semianalyzable term featuring a constituent meaning ‘knife, sickle’ in Oneida, and a redundant term with a constituent meaning ‘knife’ is present in Mandarin Chinese (note also Tundra Yukaghir aŋńoje, literally ‘knife with a mouth,’ Nikolaeva 2006: 106). Toba, as mentioned above, colexifies ‘scissors’ with ‘knife’ directly, and similarly, Buli poning (related to poni ‘to shave, cut hair’) also denotes a small knife for shaving. The cross-linguistic situation is thus exactly parallel to that within Indo-European: most frequent are terms derived from ‘cut,’ with the second most association being that with ‘knife’ (some Indo-European words for ‘scissors,’ notably in Celtic and Slavic, are formally the plural of or derived from words for ‘knife,’ Buck 1949: 560). Similarly, the handles are also used as the conceptualization source in Rotokas, which has kaporo, containing kapor ‘space between objects, (mountain) passage.’ Ket has a term making reference to both ‘knife’ as well as another perceptually similar artifact, ‘tongs’: atapul do’n /atap-ul do’n/ ‘tongs-handle knife.’ An association with ‘tongs’ or ‘pliers’ is also realized by the complex Kapingamarangi term di kabi-kabi ‘ART fire.tongs-RED;’ kabi also has the additional meaning ‘to hold something between two other things.’ Furthermore, ‘scissors’ and ‘tongs’ are colexified in Yir Yoront, Khalkha, and Hawaiian (here, also with other implements similar in function).

Other associations include: Yir Yoront thaminhwaw contains mín ‘animal,’ and Badaga katri kołu contains kołu, meaning inter alia ‘stick’ and ‘skewer.’ Chukchi weŋktuney contains wey ‘yarn.’ Kildin Saami rüuv’t also means ‘iron and trap.’ Haida has a term based on a verb meaning ‘make go (apart) into two pieces’ prefixed with a verbal classifier for tongs or scissors. Nez Perce kapé kakiwaka’s is analyzable as /cepé-kē-kiw-??/ ‘by.pressure-with.teeth-take-??,’ and Nuuchahnulth xap yak as ‘straddle-tool.’ As a verb, Wintu pip also means ‘to squeeze’ as of long objects, as well as ‘scissors-like leg movements.’ Bora majchowa appears to be derived from majcho ‘food, eat’ (there is another term featuring an element meaning ‘house’ and ‘triangular frame’); perhaps there are errors in lemmatization in the consulted source. Caverina tishira is also a term for wood that sustains the roof of houses (accidentally, if tishira < Span. tijera), and Hupda helybah is analyzable as ‘shear-flat.thing.’ Tehuelche ?epernw is derived from ?ep’er ~ ?ep’ere ‘to crop,’ and there is a semianalyzable term featuring a constituent with this meaning in Toba. Bislama sisis (= Engl. scissors) also means ‘close friend’ and, verbally, “to stick closely to someone, to hug sexual partner,” while Vietnamese kéo also means ‘to pull.’
91. The Shoe

Representation: 81%
Motivated: 29.4%
Thereof Analyzable: 20%  Thereof Colexifying: 9.4%
Thereof by Contiguity: 21.0% Thereof by Similarity: 1.1%
Recurrent associated meanings: foot, put on/wear, sandal, footprint, moccasin, skin, walk

Most common among the lexico-semantic associations for ‘shoe’ (‘boot,’ ‘footwear’) is that with ‘foot’ (found also by derivation in Ancient Greek and by compounding in Welsh, Buck 1949: 428). Among terms betraying this association, a particularly frequent subtype is constituted by complex terms where the second constituent is a verb meaning ‘to put on’ or ‘wear,’ such as Kaluli gib-a sagaslansen ‘foot-?? put.on.’ Such terms are also found in Laz, Haida, Yuki, Miskito, and Bwe Karen; similarly, Samoan has se’e-vae ‘slide/slip-foot/leg.’ In Australia, it is particularly common to colexify ‘shoe’ with ‘foot’ directly. This is found in Gurindji, Ngaanyatjarra, Yir Yoront, dialectally in Basque (which otherwise has a derived term), as well as by a prefix in Comanche (Ngaanyatjarra, Yir Yoront, and Comanche also colexify ‘footprint,’ and Comanche also ‘trail,’ while Yir Yoront has an additional complex term containing elements meaning ‘human’ and ‘go in’). Otherwise, the secondary associations are manifold. Efik has ik’pa-uköt’ ‘leather-foot/leg,’ Ngambay né-gol ‘thing-foot/footprint,’ Pawnee asuuru’, analyzable as /as-hur-u’/ ‘foot-place-NOM’ (originally denoting the ‘moccassin’ specifically, now ‘shoe’ generally; this type of autohyponymy is synchronically still present in Cheyenne, Nez Perce, and Yana, while in Bula, Hausa, Rendille, Sko, Toaripi, Hani, Hawaiian, Rotuman, and Samoan, relevant terms also mean ‘sandal’), Bora tūhapāj /tūhaā-pa:h/ ‘foot-SCM.hole,’ Bororo bure tadawu ‘foot which.is.under’ (note that Greek and Sanskrit terms for ‘shoe’ is derived from a verb meaning ‘to bind under,’ ‘to tie under,’ Buck 1949: 428), Cashinahua bin tae ‘rubber foot,’ Guarani py-ao ‘foot-clothes,’ Kaingang pên né ‘foot container,’ Maxakalí pata-xah ‘foot-cover/skin/bark’ (the Tuscarora term, non-transparent today, might have been made up of elements meaning ‘foot’ and ‘cover’ originally, and a compound featuring elements with these meanings is attested in Persian and is etymologically recoverable for Welsh, Buck 1949: 428), Yanomâmi mamikiti:tioma contains mami ‘foot’ and titiha-ɨ ~ titihi-ɨ ‘put in,’ and Kapingamarangi has hii wae ‘package/bind legs.’ The Mali term alôcharachi is derived from lêchar ‘foot,’ and Chukchi jeyat is grammatically the plural of the word for ‘foot.’ Furthermore, Kyaka has kimbu suu, with kimbu meaning ‘foot, leg’ and suu being a loanword from Tok Pisin, that is, however, also a native lexical item meaning ‘drain, trench’ inter alia. Semianalyzable terms where the identifiable constituent is ‘foot’ or ‘foot, leg’ are found in Kemtuik, Sentani, Sko, Carrier, Upper Chehalis, Wappo, and Guarani. Less frequent associations are that with ‘skin’ (which is one of the meanings colexified in one of the constituents of the Maxakalí term mentioned above), found in Meyah, which has mei ofos ‘pig coastal skin,’ and occurring in Ngambay by colexification, and that with ‘to walk’ in Abipón (ni-acar-har-late ‘poss.indef/3SG-walk-the.one.who-LOC;’ this term colexifies ‘ladder’). Badaga colexifies ‘walk on, step on’ and other meanings with ‘shoe.’ Furthermore, Yana nikiwuwna might contain the root ni-, meaning ‘for a male to walk.’
Other unique associations include: Hausa takalmi is also used metaphorically with the meaning ‘provisions for a journey,’ Muna kolo ‘wooden shoe’ (in this sense a loanword from Bahasa Indonesia ultimately going back to Dutch klomp) also indigenously means ‘sour’ and ‘to carry someone on the back,’ and Nganyayatjarra tjina may, alongside ‘foot,’ ‘footprint,’ and ‘shoe,’ also refer to ‘claws, talons,’ ‘tracks’ and means ‘on foot’ adverbially. Rotokas kuroea is also the name of a species of vine with “leathery appearance,” and Basque zapata is also used with the meanings ‘threshold,’ ‘chassis,’ ‘frame,’ ‘buttress’ and “thin wooden fence.” Bezhta haladco is made up of the word for ‘leg’ and the esseive case marker. The San Mateo del Mar Huave term socol napiüc appears to contain socol ‘corner,’ and Nez Perce colexifies ‘shoe’ with ‘horseshoe.’ Cubeo curaido consists of curai ‘ground’ and -do, the classifier for hole-like objects. Guarani colexifies ‘shoe’ with ‘sock,’ Fijian vāvā also denotes the rungs of a ladder, Hani seiqnaov ‘shoes, sandals’ might be related to seiq, meaning inter alia ‘hoof’ and ‘bamboo stick on which to roll cotton in preparation for spinning it,’ Hawaiian kā-ma’a is analyzable as ‘CAUS-bind,’ Takia su also means ‘breast, udder, milk’ (due to collapse of an inherited term with Engl. shoe), and Yay colexifies ‘shoe’ with ‘to put out of the mouth.’

92. The Street

The most frequent association for this meaning (additional glosses such as ‘way,’ ‘trail’ etc. are disregarded in the following discussion) is a metaphorical abstraction, namely to ‘manner,’ ‘method,’ or ‘system.’ Eleven languages in the sample, Koyraboro Senni, Ngambay, Rendille (where the term also means “right thing to do,” “good way (of behaving)”)), Kwoma, Basque, Greek, Guarani, Rotuman, Samoan, Tetun, and Bislama feature this pattern of colexification. Similarly, the Burarra term is also used with reference to the ‘way of living,’ and the Kyaka term also means ‘category.’ In two areas of the world, New Guinea and the American Northwest, ‘street’ is colexified with ‘door’ and/or ‘doorway’ in some languages. This pattern is attested in Dadibi, Kaluli, Upper Chehalis, Haida, and Nuuchahnulth. Three sampled languages, Efik, Chickasaw, and Fijian have complex terms for street where one of the constituents has a meaning akin to ‘between,’ for instance Chickasaw has okla-ittintakla ‘town-between’ and Fijian saqata ni koro ‘interval POSS village.’ Indeed, associations with ‘town’ or ‘settlement’ are themselves relatively frequent. Badaga, Basque, and Ancash Quechua colexify these meanings (and Kildin Saami colexifies ‘street’ with ‘place in town’), Tuscarora has yuta?nakhre?k, analyzable as /yu-ta’n- kahre(w)-ʔ/ ‘3SG.NEUT.PATIENT-settlement-be.an.opening-STAT’ (compare Muna kabhornka, derived from bhonkga ‘to crack, smash, for a road to open’). The relevant Buin term also is the name of a particular village. In four sampled languages, Chukchi, Abipón, Aguaruna, and Guarani,
words for 'street' derived from verbs meaning 'to go' or 'to walk' are found (evidenced diachronically in Baltic, Buck 1949: 721); the relevant Guaraní term also means 'pedestrian' and 'concubine.' As an example of such a derived term, Chukchi təlan /tale-n/ 'go-LOC' may serve; note also that the Bora term ullējito is derived from ullēje 'to travel' by means of the classifier -jito for lines or roads. Moreover, Rotuman colexifies 'street' and 'to go, come' directly.

Khoekhoe and Piro colexify 'street' with 'footprint,' and similarly, Central Yup’ik has tumyarak /tuma-yarak/ 'footprint/track/trail-device.for.' Buli, Ngambay, Basque, Greek, and Rotuman colexify 'street' with 'journey,' while Khalkha, Hani, and Mandarin colexify it with 'market' (and similarly, Yoruba with “public thoroughfare”), and Wayampi (alongside other meanings) and Hawaiian with ‘waterway’ (for which compare the association between 'way, trail' with 'river' reported in section 47). Similarly, Hausa colexifies ‘channel.’ Finally, Rotuman and Bislama colexify 'street' with 'fare, freight,' and Hausa and perhaps Tasmanian (Plomley 1976: 408) colexify 'Milky Way' (Hausa also 'beehive' inter alia).

Other associations include: Buli siuk also means ‘permission, right’ inter alia, and Efik ań'wa, denoting a 'principal street,' is analyzable as /a-ńwañ’a/ ‘NMLZ-widen’ (compare the derivation of a word for 'street' from 'wide' in Ancient Greek, Buck 1949: 720). Swahili barabara also means “proper, as it should be,” Buin colexifies 'street' with 'access,' and another Buin term, rootu, is the outcome of borrowing of both Tok Pisin lotu, meaning ‘church, worship, church service’ and English road, and consequently has both readings.

Kwoma nobo also means “illegitimate; born out of wedlock,” Lavukaleve lake also means ‘fire,’ and Muna sala is also used with the meanings ‘sort’ and ‘thing,’ alongside ‘trousers’ and other meanings. Toaripi oti-haro is analyzable as ‘place-head/chief,’ Rotokas colexifies ‘road, path, way’ with ‘line,’ and Yir Yoront yelq also denotes groups of animate beings, such as a flock of animals or school of fish. Badaga keri also denotes the ‘frontyard’ and “work-space in front of houses” and is “an appropriate measure of land area.” Basque bide also can refer to the ‘platform’ at a train station inter alia, kale also to the ‘eye of a needle,’ again next to other meanings. Greek drómos can also refer to a ‘distance,’ as well as ‘speed’ and a ‘race.’ Japanese tō-i is analyzable as ‘pass-NR.’ Khalkha yudumzi(n) ~ yudamzi seems to be related to yudum “passage, thoroughfare, hallway, corridor,” zegeli is identical segmentally to one of the variants of zegeli ~ zegele ‘debt, loan,’ and Sora taygoran ~ taygoran also means ‘occasion.’ Biloxi nētkohi ~ natkohi ~ nītkohi ~ nūtkohi ~ nūtkohi contains nē ‘to stand,’ and kohi ~ kuhí ~ ku’hi ~ kuhi ‘up, high.’ Comanche kawonokat is said to literally mean “wolf separate camp.” Haida colexifies 'street' with 'ladder,' and Kashaya hīda contains ĭda ‘extend, stretch.’ Aguaruna jīnta also means ‘faculty, specialty’ and ‘terrain,’ Bora huwa might contain huwi ‘tube,’ Bororo colexifies ‘railway’ and ‘trace of cobra,’ and Chayahuita pa’térinsono’ is derived from pa’térin ‘to weave.’ Guarani tape colexifies 'street' with ‘art’ and ‘religion,’ while the Miskito term yabal also means ‘mouth, tongue, way of speaking’ and bila also ‘mouth, opening,’ ‘center, inner part, space’ as well as ‘word’ and ‘language.’ Fijian sala also inter alia means ‘to climb or creep upon,’ and Bwe Karen kl also ‘to fix on’ inter alia. Kapingamarangi ala also means ‘responsibility’ inter alia, and Lenakel suatu also ‘course of ship’ and the ‘traditional exchange links between individuals or de-
scent groups.” Malagasy arabè is analyzable as /àraka-bè/ ‘following-big/much.’ Rotuman colexifies ‘meaning,’ ‘condition,’ and other things. Sedang tròang also means ‘sentence,’ Vietnamese dường also ‘sugar,’ and Yay ran also ‘to see.’

93. The Table

Terms for ‘table’ derived from verbs meaning ‘to eat,’ such as Carrier ukwez-etul ‘on.it-eat’ are found in Chickasaw, Kiliwa, Lake Miwok (where the term colexifies ‘food, groceries’), Nez Perce (where the term colexifies ‘restaurant, inn’ and ‘kitchen,’ the former pattern is also attested in the Norton Sound -Upaliq dialect of Central Yup’ik), Wintu, Central Yup’ik (again, only in the Norton Sound - Upaliq dialect), Abipón, Arabela (where the term is derived by an agentive nominalizer and the resulting term hence can also refer to an ‘eater, one who eats,’ as is the case in Guarani), Guarani (where the term also means ‘refectory,’ ‘dinner guest,’ and ‘tablecloth’), and Yanomamí. A semianalyzable term is present in Upper Chehalis, and similar complex terms of the lexical type are found in Biloxi, where aʔdito-ni ~ adito-’ contains ti ‘to eat’ and o ‘to make, do,’ Blackfoot (iitásooyo’p /iit-á-iso-ooyi-o’p/ ‘LOC-DUR-on.a.horizontal.surface-eat-21.NOM’), Cheyenne (táxeméshe-héstöte/ táx-méshe-héstöte/ upon-eat-thing’), Haida (qa ta daan ‘INDEF.PRONOUN eat place), Kiowa (p’á ‘eat-board’), and Yana (moomi?=aun /ma-ri?maun(à)/ ‘eat-place’). Moreover, Yir Yoront has yo-penpn may pay+n ‘wood-flat food eat+NOUN.THEME.FORMATIVE’ for ‘dining table’ specifically, and indeed, complex terms based on ‘food’ rather than ‘eat’ are also relatively frequent (and terms betraying this connection dominate in Indo-European, Buck 1949: 483). Thus, Kyaka has nenge rate ‘food bench/shelf,’ Kashaya ʔacaʔ ʔama bumucid=tol ‘people food eat=on,’ and Wintu ba’s top-i ‘food used.for-NOMINAL.STEM.FORMANT,’ but a particularly frequent combination, especially in North America, is with verbs meaning ‘to put,’ ‘to place on,’ as in Oneida atekwahálkkwa?, which is analyzable as /ate-khw-hel-hkw-à/ ‘sreflx-food-set.on.top.of/place.on-instr-hab.’ Such terms are also found in Tuscarora and Yuki, and, somewhat similarly, Pawnee has rakaraaraaruukita’iti’ /rakaraara-huuukita-iti’/ ‘dishes-place-on.top.of-in.a.line-nom,’ Hawaiian pa=kau ‘dish-put,’ and pap=kau=kau ‘flat.surface RED-put’ (though note that peka, which also has still other meanings, can also refer to a ‘table’ itself’), Cashinahua tsaun-ti ‘put-instr,’ and Yuki also has the alternative term haway turk-ul ‘food dish-instr.’ There is a semianalyzable term where the identifiable constituent means ‘food’ in Huambia, and the association is present also in Abipón due to colexification of verbal ‘eat’ and nominal ‘food.’ In fact, in Lake Miwok and Yanomamí, which feature derived terms from ‘eat,’ ‘table’ is itself colexified directly with ‘food.’ In Cubeo, twaiva is derived from twa ‘to serve food’ by means of the classifier -va for broad and flat objects, while Ket la‘m also itself means ‘flat’ as an adjective. Alongside
this and the Yir Yoront term already mentioned above, an association between ‘table’ and ‘flat surface,’ among other meanings, is found by colexification in Hawaiian and possibly in Samoan, where ʻalaulau is ‘table’ and ʻalau both ‘leaf’ as well as a classifier for flat or thin objects. A similar association to that in Yir Yoront and Kiowa, where the relevant terms contain constituents meaning ‘wood’ and ‘board,’ is found in Bororo, which has irá /i-ra/ ‘tree-bone.’ Baruya, Dadibi, Toaripi, and Hawaiian colexify ‘table’ with ‘floor,’ and finally, it is not uncommon for ‘table’ to be colexified with other pieces of furniture, which happens in Noni, Baruya, Burarra, One, Rotokas (by the term koara ua, putatively analyzable as ‘put.together narrow.object’), Toaripi, Basque, Ket, Khalkha, Welsh, Wintu, Bororo, Cashinahua, Embera (also with ‘saddle’), Hawaiian, and White Hmong, in which case the common semantic denominator seems to be that pieces of furniture are typically human-made raised surfaces. Similarly, Ket, Welsh, Inesano Chumash, and Bororo colexify ‘table’ (also) with ‘board.’

Other associations are: One simpa also means ‘bridge,’ and Khalkha sirege(n) colexifies ‘table’ with ‘throne’ as well as ‘altar’ and ‘feast, banquet.’ Welsh tabl also means ‘tablet.’ Nez Perce tíméwers is analyzable as /tímé-ne-wes/ ‘write-loc,’ and Wintu pantiapsiblei ‘table, desk’ contains panti ‘on top, on’ and ‘top used for.’ Guarani arikapa is a neologism containing ári ‘on top’ and pa ‘everything.’ Hani lobliefi contains liefi, meaning ‘wide’ and also acting as a classifier for ‘chairs’ and ‘tables.’ Hawaiian papa means ‘flat surface’ generally, and therefore colexifies ‘table’ with notions such as ‘reef,’ ‘layer,’ and others, while pūne’e, meaning also ‘movable couch’ and rarely ‘pew,’ appears to be related to ne’e, which means ‘moving along little by little or by fits and starts, to step’ inter alia. The Sedang term korbang also means ‘blackboard,’ and Yay soj means ‘to scrape’ in verbal usage.

94. The Toilet

Representation: 50%
Motivated: 54.4%
Thereof Analyzable: 49.3% Thereof Colexifying: 6.8%
Thereof by Contiguity: 46.1% Thereof by Similarity: 2.4%
Recurrent associated meanings: faeces, house, bathroom, place, bush/forest, hole, small, bathe/bath, outside, room, relieve, water, wash

The most common association for ‘toilet’ (or ‘latrine’) is by functional contiguity with ‘faeces’ or ‘defecate.’ Within terms betraying that association, the most dominant subpattern are terms of the lexical type with ‘house’ being the additional constituent, as in Dongolese Nubian ŭn̄iŋkâ / ŭn̄-ŋ-kâ/ ‘excrement-gen-house.’ Such terms are also found in Anggor, Baruya, Dadibi, Kaluli, Kwoma, Kyaka (with an additional constituent meaning ‘origin’), Rotokas, Comanche, Kashaya, Santiago Mexquititlan Otomi, Pawnee (with an additional constituent meaning ‘to be going’), Wappo (which also has mahkīvema chāya, containing an element meaning ‘exit’ alongside ‘house’), and Yay, some of them denoting an ‘outdoor toilet’ specifically. Note also that the Bora term namēja is derived from name ‘excrement’ by the classifier -ja for houses, as well as Kiowa srītsoue-tou ‘urine-house’
for ‘urinal.’ Otherwise, ‘place’ is the meaning of the second constituent in Kwoma she pii eem ‘faeces defecate place,’ Japanese ben-jo ‘faeces-place,’ and Ket horoks baŋ /ho’q-d-oks baŋ ‘excrement-POSS-stick place,’ Hawaiian wahi ho’o-pau pilikia ‘place CAUS-finish trouble’ (which also has ki’o-na ‘excrete-NMLZ,’ colexifying ‘dung heap, dump’), while Greek directly colexifies ‘place’ and ‘toilet’ (as well as ‘role’ and ‘party’). Other terms of the lexical type with ‘faeces’ are Ngambay buwá-sín ‘hole-faeces’ (compare Kyaka yuwwuali anda ~ iwali anda ‘deep.narrow.hole/pit house,’ and the colexification of ‘hole’ with ‘toilet’ in Hawaiian, among other meanings), Hupda yà-ìteg ‘faeces-thing,’ and Hani xiqduq, with xiq meaning ‘faeces’ and duq meaning ‘to dig,’ but also functioning as a classifier for pools of water and the sound of drums or thunder. Derived terms also occur, namely in Central Yup’ik, Aguaraná, Bora (as mentioned above), Wichí, and perhaps in the Cuisnahuat dialect of Pipil; semianalyzable terms are found in Chukchi, Nez Perce, and Guarani. Similarly, Yoruba ibi-igbònsé is analyzable as ‘place-relieve,’ and Gurindji has warlp-kuji ‘relieve.self-agent.’

Complex terms where one of the constituents means ‘house’ are also found with second constituents other than ‘faeces:’ Bislama has smol-haus ‘small-house,’ which is paralleled in Khoekhoe and Samoan, Abzakh Adyghe has psa-wone ‘water-house’ (for the association with water, compare also Koyraboro Senni hari-mun-doo ‘water-pour-place’), Welsh té bach ‘corner/hook house,’ Cheyenne o’éhmé-mahéo ‘eliminate-house’ and too’hamé-mahéo ‘bathe house,’ Santiago Mexquititlan Otomi analogously ngau nsahu ‘house bath’ (Carib moreover has a derived term from ‘bath’), Samoan fale-es ‘house-other,’ fale-ui ‘house-go.along,’ and fale-vao ‘house-bush/forest’ (note also the colexification of ‘toilet’ with ‘bush/weed’ or ‘forest’ in Ngambay and Lenakel), and Yay raar’ pay rok ‘house go outside’ for an ‘outdoor toilet’ specifically (note also the colexification of ‘toilet’ with ‘outside’ in Aguaraná); further, Hausa bañ’dak is a contraction of bañ’ daki ‘back house.’

Semianalyzable terms where one of the constituents is ‘house’ are found in Rotuman and Samoan. Japanese keshō-shitsu is questionably analyzable as ‘mascara-room,’ and Vietnamese phòng vế sinh as ‘room protect life.’

Moreover, terms involving a verb meaning ‘to wash’ are found in Japanese and Bororo. Finally, ‘toilet’ and ‘bathroom’ more generally are colexified in Buli, Khoekhoe, Swahili (alongside ‘prayer mat’), Cheyenne, Kashaya, Aguaraná, Bororo, Hawaiian, and Tetun.

Other associations include: Hausa colexifies ‘toilet’ and ‘cesspit,’ and another term also denotes the “[d]oubling of a consonant, and the sign over a written consonant to indicate the doubling” as well as “a kind of European-made silk material.” Swahili choo is related to oga ‘to wash body.’ Chickasaw aamoiniili ~ aambinii ‘clothes’ is analyzable as /aa-on-biniili/-LOC-APPL-sit.down-NMLZ/ and also means ‘chair.’ San Lucas Quiavíní Zapotec ta’ tsó.hosta’ na’my is analyzable as ‘bowl of bathroom,’ and Toba noqoxoqoi is related to alopo ‘clothes.’ Rotuman fa’u inter alia also means ‘back’ (note also that Buli banjirí borrowed from Hausa bañ’ gida ‘behind the house’).
The Train

95. The Train

Representation: 41%
Motivated: 52.2%
Thereof Analyzable: 45.6% Thereof Colexifying: 6.7%
Thereof by Contiguity: 10.0% Thereof by Similarity: 38.9%

Recurrent associated meanings: wagon/vehicle/car, fire, iron/metal/steel, boat/ship, smoke, land/ground, run, road/path, carry

It is common for motivated terms for ‘train’ to be of the lexical type, with one of the constituents meaning ‘wagon,’ ‘car,’ or ‘vehicle’ generally. The semantics of the second constituent varies considerably, but not without limits. Terms with ‘fire’ or ‘fiery’ being the second constituent are found in Abzakh Adyghe (мең эк /маң э-к/ ‘fire wagon’), Khalkha, Kashaya, Lake Miwok, Hawaiian, Mandarin, and Vietnamese; note also Nez Perce ṭa-ta-hínt /Ta-ľa-hínt/ ‘fire-thing.with’ and ‘Yay rуά ‘boat fire.’ There are also languages where ‘smoke’ or ‘steam’ is the meaning of the second constituent, as in Swahili gari (la) moshi ‘car (of) smoke,’ and also in Japanese (for a ‘steam locomotive’ specifically), Blackfoot and Chayahuita; note also that Wichí wapulh is a loanword from Spanish vapor ‘steam.’ Kanuri has mààrí cídí-bè ‘vehicle ground-of.’ Two Oceanic languages, spoken on small islands, showcase, similar to the situation in Yay just mentioned, a metaphorical transfer from ‘ship’ to ‘train,’ with the differentia specifica indicated by a term for ‘land’ or ‘ground’: Rotuman ‘аха’ la’ ufa contains ‘аха’ ‘ship’ and ufa ‘land,’ and Fijian sitima ni vanua is analyzable as ‘steamer POSS land,’ while Hausa colexifies ‘train’ with ‘boat’ (and ‘through,’ see section 76 on this pattern). White Hmong has a complex term where ‘iron’ is one of the other constituents alongside ‘wagon’: tsheb naqaj hlau ‘vehicle rail iron;’ other complex terms on the basis of ‘iron’ are Cheyenne ma’aata-meo’ /ma’aata-meo/ ‘iron-road,’ Khoekhoe ǂnū-kun-s ‘black-wagon-3SG.FEM,’ Japanese den-sha ‘electric-car,’ and Oneida tsyo-šlehtá-kat, analysable as /s-yо-ʔsleht-ʔkaht/ ‘REPEETITIVE-NEUT.PATIENT-vehicle-move.fast.’ Moreover, a semianalyzable term with ‘wagon’ is found in Blackfoot and with ‘bullock cart’ in Bwe Karen, while Comanche, Pawnee, and Wintu colexify ‘train’ with ‘car’ directly.

Other associations include: Buli girigar is also an onomatopoetic word that “imitates a low rumbling noise” generally. Khoekhoe lnu-rutnas contains the verb lnu-ru ‘to shake, agitate,’ and Gurindji turralangarna contains ngarna ‘denizen.’ The morphological analysis of Carrier yekenekhēs lênedizī remains unclear, but the “literal” translation offered by the source for yekenekhēs is “land on it (being heavy) moves on,” and lênedizī contains elements meaning “attached together” (lē), “in a line” (ti) and “being several” (ne). Kiowa ḏuŋ-ja-ga is analysable as ‘go.along-NOUN.POSTFIX,’ while Lesser Antillean Creole
French *twen* (= Eng. *tren* ‘train’) also means ‘attendants’ as well as ‘noise, trouble.’ Samoan *nofoa afi* is analyzable as ‘*sit-suffix* (fire/engine)’ and colexifies ‘chair, seat’ and ‘saddle.’

96. The Weapon

| Representation: | 51% |
| Motivated: | 50.9% |
| Thereof Analyzable: | 38.7% |
| Thereof Colexifying: | 14.2% |
| Thereof by Contiguity: | 34.7% |
| Thereof by Similarity: | 0.9% |

Recurrent associated meanings: tool, thing, rifle/gun, war, fight, sharp, army, bow, wound/to wound, defend, hurt, kill, throw, soldier, use, battle

Terms for ‘weapon’ are sometimes derived from verbs meaning ‘to fight,’ as in Xicotepec de Juárez Totonac *lītālān* /lī-talā-/ ‘*instr-fight-instr*’ (and also in Sanskrit, Buck 1949: 1384). Such terms are also found in Kashaya, Miskito, and Malagasy, while Rotokas *upo purapara* contains *upo* ‘strike, slap, fight, murder’ and *pura* ‘make, do, create,’” Yoruba has *ohun-ijá* ‘thing-fight,’ Samoan *mea-tau* ‘thing-fight,’ and there is a semianalyzable term in Blackfoot. There are also terms based on verbs with similar but different semantics. Chickasaw has *isshottopachi* /isht hottopa-chi/ ‘with hurt-*caus-nmlz*,’ Hawaiian *mea hō'eha* ‘thing hurt,’ and a semianalyzable term containing a verb meaning ‘to aim, hurt’ is found in Yanomámi. The Carib term *owotopo* is derived from *owo* ‘kill,’ and Hawaiian has *mea pepehi kanaka* ‘thing beat/kill man.’ Laz *o-loč-aše* is analyzable as ‘*deriv-throw/shoot-deriv*’ (similar derivation is found in Sanskrit for a term probably originally denoting missile weapons, Buck 1949: 1384), and Hupda *d'ap-b'uy-teg* perhaps as ‘flesh-throw-thing.’

Hausa colexifies ‘weapon’ with ‘wound inflicted by a metal weapon,’ and Nuuchahnulth *saʔačakʷ* is analyzable as ‘wound/strike.with.weapon-tool.’ More frequent than any of these associations, however, are terms where one of the constituents is ‘war,’ as in Kildin Saami *tuarr-viešš* ‘war-thing.’ Precisely parallel terms are found in Efik, Katcha, Noni, Yoruba (where ‘war’ is colexified with ‘army’ and ‘battle’ inter alia), Hawaiian (where the same remarks as for Yoruba apply), and Takia. Similarly, Carrier has *pē-netsepah* ‘where-with-to.war’ (alongside *pē-nezniṯu* ‘wherewith-to.be.cuirassed’). A literal translation of *Bora līneri metёмéméine* is “that with which we guard (defend) ourselves,” and a Toba term for ‘weapon’ is derived from a verb meaning ‘to defend.’ A frequent pattern of colexification is that with (metal) ‘tool,’ found in Yoruba (by the analyzable term *ohun-i-lo* ‘thing-*nmlz*-use,’ for which compare Tuscarora *véčtha,* which is based on the root -ačT- ‘to use’), Badaga (where the relevant term also means ‘door-bolt,’ among other specific tools), Khalkha, Sora, Welsh, Highland Chontal, Lesser Antillean Creole French, and Central Yup’ik; this pattern is also common in Indo-European (Buck 1949: 1383-1384). Analogously, Japanese has *hei-ki* ‘soldier-tool’ (for the association with ‘soldier,’ note also Khalkha *cerig yn zemseg* containing *cerig* ‘warrior, soldier, army’ and *zemseg* ‘ornaments,’ Mandarin *wu3-qi4* ‘military/valiant-utensil/apppliance/apparatus,’ and Vietnamese *vũ khí* ‘martial tool.’ Similarly, Guaraní *rairô rembiporu* is analyzable as /rairo tembiporu/ ‘very.sharp instrument,’ and San Mateo del Mar Huave colexifies ‘weapon’ with ‘iron’ and ‘prison.’ Similarly to the situation in Guaraní, Toaripi has *mare etau* ‘sharp thing,’ and Cheyenne *heškóvanéþo*
contains 'heškóv 'sharp' and ôhëö'o 'thing;' the tentative literal translation offered is "sharp-by-hand(thing)" and is marked as unsure in the source. Still more frequent, however, is colexification with a particular type of 'weapon' (autohyponymy). This is found with 'rifle' or 'gun' in Greek, Highland Chontal, San Mateo del Mar Huave, Xicotepec de Juárez Tononac, Yaqui, and Miskito (there are also two languages with complex terms on the basis of 'rifle': Chayahuita has irapa inapita pochin ninín-so ‘rifle these like do/be-3SG.SUB’ and White Hmong the dvandva compound riam phon ‘knife gun’), with 'bow' in Kyaka and Bororo, with 'sword' in Badaga, with 'slingshot' in Cheyenne, with 'machete' and, by a different term, with 'lance,' in Chayahuita.

Other associations include: Hausa makami is derived from kama ‘to catch,’ and indeed can also refer to a ‘catcher.’ The Muna term ewanga ~ iwanga contains ewa ‘martial arts, to attack, oppose,’ while sandata also means ‘to supply, prepare’ and ‘supplies’ (the meaning ‘weapon’ is due to borrowing of Bahasa Indonesia senjata). Welsh erfyn also means ‘to beg, to pray,’ and the Abzakh Adyghe terms contains the word for ‘hand,’ as does the Haida term. Kiowa mën-pà-tò ‘is analyzable as ‘hand-against-hold.’ Bora lliñàja ‘hunting weapons’ might contain lliña ‘punishment’ and may indeed also refer to ‘hunting,’ there is a further derived term containing an element with that meaning. Santiago Mexquititlan Otomí bojà ‘hunting weapons’ might contain boej ‘thing’ and perhaps iga ‘splint.’ Cayapa colexifies ‘shadow, soul, reflection’ (presumably due to collapse of Span. alma 'soul' and arma ‘weapon’), Guaraní pojoapy contains apy ‘deposit, extreme point,’ Huambisa mantai mani ‘warrior,’ and Jarawara tahi/tahi also means ‘killer,’ ‘hunter,’ ‘silver,’ and is also the name of a song about a particular spirit. Piro has a semianalyzable term with one constituent meaning ‘man, person,’ and Toba n’ataxaqui colexifies ‘ammunition pocket’ and ‘spell.’ Yanomámi shëmotima contains shë ‘to hit,’ and Hawaiian mea make, also meaning ‘corpse,’ is analyzable as ‘thing die.’

97. The Window

Terms for window are derived from verbs meaning ‘to see,’ as in Cubeo jäköbe, presumably analyzable as /jäño-cobe/ 'sight-CLASS.HOLE.LIKE.OBJECT,' in seven sampled languages, alongside Cubeo also in Muna, Sora, Upper Chehalis, Comanche, Kiowa, and Arabela, where the derivation mechanism is agentive nominalization and the resulting term hence can also refer to ‘one who sees.’ Furthermore, terms with ‘see’ of the lexical type are found in Khoekhoe (mü-huí-dao-s ‘see-peep.through.opening-door-3SG.FEM’), Kiliwa (?+wa=?+t+p+saw-tay-a? ‘DN+house=SUBJ-MP+see-DIR-FREQ-OBL’), and Pawnee (uka’aatawiiriku ~ ukaatawiiriku /uka’aata-wi-iirk-hus/ ‘shadow-??-see-IPFV’). The latter term colexifies ‘window’ with ‘glass’ in general and with ‘mirror’ in particular. Colexification with ‘glass’ is also found

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(sometimes by analyzable terms) in Upper Chehalis, Oneida, Fijian (by the analyzable term i ilo-ilo ‘DERIV look at. reflection-RED), and Tuscarora; Nuuchahnulth has pikhqism, which is reduplicated from pikhqisim ‘glass, pane of glass,’ Hawaiian has puka-aniani ‘opening/door-glass/mirror/transparent,’ and Yay tu’ ciayr ‘door mirror/glass.’ Colexification with ‘mirror’ (again, sometimes by analyzable terms) is attested in Upper Chehalis, Casaya, Kiowa, Pawnee, Tuscarora, Wintu (here the relevant term contains elements meaning ‘in, be in, put in’ inter alia and ‘male person’ which is related to a more general reconstructed root ‘person’), and Fijian (by the analyzable term mentioned above). Associations with ‘door,’ as seen in the Yay term just mentioned, is, however, more frequent. It is realized by colexification in Itzaj, Cashinahua, Bororo, Jarawara, Hupda, Miskito, Fijian, Hawaiian, and Sedang, which colexifies also other meanings. Morphologically complex terms with ‘door’ are exclusively of the lexical type in the languages of the sample. There are a variety of subtypes. Commonly, ‘small’ or ‘little’ is the meaning of the second constituent in such terms, as in Toaripi utape seika ‘door small,’ and also in Biloxi, Kiliwa (where a third constituent ‘house’ is also featured), Abipón, Bororo, and Malagasy. Some of these terms can also be interpreted compositionally and hence also refer to a small door. Note also Chickasaw okkisoshi’ /okkisa’-oshi’/ ‘door-son’ (and that the Ancient Greek word for ‘window’ is a diminutive of that for ‘door,’ Buck 1949: 470). Furthermore, Rotokas has kiuvu ratao /kiuvu rataoa/ ‘wind door,’ for which compare also Kanuri kàsàm-ràm ‘breeze-place.of,’ Yoruba ọjù-afọ ‘eye-wind,’ which precisely mirrors the etymology of English window, and Hawaiian puka makani ‘opening wind’ (this term also means ‘opening for ventilation’ and ‘anus;’ compare also the connection of Spanish ventana with Latin ventus ‘wind,’ Buck 1949: 470). Khoekhoe has mā-hui-dao-s ‘see-peek.through.opening-door-3SG.FEM,’ Abzakh Adyghe sheh(n)-y’-pse ‘head/upper.part-RELAT/open-??/end-door’ (lexicographers note that the term is non-transparent nowadays), and Rotuman nu’suar mutu ‘door cut.across/sever/cut.off.’ In Greek, paráthuro is derived from thūra ‘door,’ and a semianalyzable term containing a morpheme meaning ‘door’ is featured in Yuki. Some of the terms colexifying ‘window’ with ‘door’ are morphologically complex, having constituents meaning ‘house’ and ‘opening’ or ‘hole.’ This is true of Itzaj (jol-naj ‘hole-house’), Tuscarora (yunghsårarq /yu-nehs-aahrq-e/ ‘3SG,NEUT, PATIENT-house-be.a.hole-stat’), Bororo (wai-poro ‘house-opening’), and Hawaiian (puka hale ‘opening house,’ which also means ‘door’). Kwoma has a term with an identical structure (aka sisitiwey ‘house hole’), but uses it only for ‘window,’ not for ‘door.’ Associations between ‘window’ and ‘hole, opening’ are also found in other configurations, however (just as in Indo-European languages, Buck 1949: 470). Koyraboro Semni has funtarey ‘pierce.hole-area.outside.’ This term is at the same time a loanword from French fenêtre that is “vaguely intelligible” as a Koyraboro Semni compound according to the consulted source (that is, presumably, it has been folk-etymologized), Kolyma Yukaghir poriq-šeča ‘light entrance’ and poriq-sōjnubod-anjil ‘light-enter-hole’ (recall also that the means of derivation in the Cubeo term mentioned earlier is a classifier for hole-like objects, and note also that Hupda mayó is etymologically probably may-no ‘house-mouth’), and Nuuchahnulth kuukuusim contains kuh “opening” and the lexical suffix -sim at an opening.’ Furthermore, Kaingang has kanê nor ‘eye opening,’ Burarra, Cashinahua, Manange, and Sedang directly colexify ‘hole, opening’ with ‘window,’ and the Buli term also denotes
other kinds of openings in human-built structures. A semianalyzable term with this structure is furthermore found in Yay, and in Hani, caqbyu contains the classifier for holes, byu, with caq glossed as ‘to guess, conjure up,’ ‘to have something break’ inter alia. There are also terms in other languages which, as in Kolyma Yukaghir, betray an association with ‘light’ or ‘brightness’: Baruya yirítna /yirite-tinna/ ‘daylight-eye,’ Chukchi qeryas-?on ‘light-one.who.has,’ Cheyenne vô’náhenhestôse, containing vô’n ‘light’ and hestôse ‘thing,’ Chickasaw aahashtali’ - /aahashtali/ ‘LOC-be.bright-NMLZ,’ Haida radagaats’a?u /radagaas-ts’a-?u/ ‘be.daylight-inside-INSSTR,’ Lakhota ožãžgalepi, the literal meaning of which is ‘light frame’ according to the consulted source, Central Yup’ik (Nunivak island dialect) tanqiu /tanqik-(u)n/ ‘brightness-device.for’ for a “seal-gut skylight window,” and Miskito ingni dimaika ‘light entrance’ are of this kind (see Buck 1949: 470 for similar Germanic evidence; for the association with ‘day,’ note also that there is a semianalyzable term with a constituent meaning ‘day’ in Blackfoot). Moreover, Santiago Mexquititlan Otomi neki xi hho contains neki ‘seem’ and hho ‘good’ and also means ‘clear, bright.’ As seen in the Yoruba and Baruya terms already mentioned, metaphorical transfer from ‘eye’ to ‘window’ is another recurrent association. It is also attested in Mbum (njá̱k yár ‘verge/entrance eye’ and yár pāk ‘eye house’) and Kaingang (kanẽ nor ‘eye opening’), and there is a semianalyzable term in Jarawara (see Buck 1949: 470 for further evidence for this connection in Germanic, Slavic and Indo-Aryan). As has also become clear already from the discussion so far, ‘house’ is a frequent constituent in terms for ‘window’ as well. Alongside the terms already mentioned, terms containing an element meaning ‘house’ are also found in Carrier (tadînṭaz, containing ta ‘house’ and ṭaz ‘gashing, slashing’) and Bora (jaatu páhoo-wnéé /jaá-tu páhoo-wa néé-ne/ ‘house-ABL complete-CL.empty.space seem-CL.inan’).

Other associations include: Hausa taga also means ‘to begin, attempt,’ and sagata, which means ‘crossbeam’ inter alia, assumes the meaning ‘window’ in the dialects of Sokoto and Zaria. Dongolese Nubian šibbāg also means ‘lattice,’ and the Mali term manaingimi also means ‘torch, flashlight.’ Ngaanyatjarra winta is also used with the meaning ‘glasses,’ while Badaga halaganni also means “lookout, watchtower, observation point.” In Ket qoqpul “small window made of ice in the winter dugout,” the sequence qo may go back etymologically to qо ‘ice.’ Oneida ñwǐseʔ also means ‘ice’ (and ‘glass’). Central Yup’ik egedeq - legaleq contains ega- ‘to cook by boiling,’ an association that is natural given that the term has been extended to ‘window’ from its original meaning “smokehole of a traditional Yup’ik house.” Cayapa juucapa appears to contain capa ‘point,’ Fijian has the obsolescing term i kasivi bale ‘DERIV to.spit drop’ (with i kasivi meaning ‘spittle’), and Samoan (o le) fa’a-malamalama is analyzable as ‘REL ART CAUS-blaze.up.’ Finally, the Yay term paak? taajf is analyzable as ‘mouth different.’

98. The Adam’s Apple
Representation: 47%
Motivated: 53.4%
Thereof Analyzable: 37.0% Thereof Colexifying: 20.0%
Thereof by Contiguity: 22.9% Thereof by Similarity: 28.5%
Recurrent associated meanings: throat/neck, larynx, windpipe, apple, bone, protrude/protuberance, fruit, trachea, goiter, knot

By contiguity, the most frequent association for the ‘Adam’s apple’ is that with either ‘throat’ or ‘(front part of) neck.’ Buli, Burarra, Dadibi, Kaluli, Muna, Wintu, Yuki, Fijian, and Hawaiian directly colexify ‘Adam’s Apple’ with one of these meanings. There are many semianalyzable terms featuring one of the abovementioned meanings (namely in Bakueri, Rendille, Biloxi, Upper Chehalis, Comanche, and Macaguan). Fully analyzable complex terms with ‘throat’ include Khoekhoe dom-!khom-s ‘throat-bundle-3SG.FEM’ (Khoekhoe also has domo-ro-s ‘throat-DIM-3SG.FEM), Yoruba kókó-ófun ‘wen/knob/excrescence-throat,’ Comanche pia kuitsi? / pia kuitsij/ ‘big throat,’ Toaripi kõvõre luka ‘neck.front/larynx stomach,’ Haida qagan skuj ‘throat bone,’ Lesser Antillean Creole French zo gêj ‘bone throat’ (compare also Wappo lěkiš čičič-wêhma, which is perhaps analyzable as ‘swallow bone-protection’), and Pawnee raruacpaca, analyzable as /raruus-paca/ ‘throat bump,’ while Guarani colexifies ‘throat’ and ‘Adam’s Apple’ by the analyzable term jyrvyikandu / jyrvyv-kandu/ ‘throat-protuberance.’ Similarly, Samoan has pona-ua ‘knot/node/protuberance-neck,’ Ineseño Chumash šqyokonî ‘throat-wart’ (alongside ṑoko’ê-kytâ ‘throat-wart’), Fijian loki ni domo ‘fold.lengthwise.or.crosswise POSS neck/voice/sound,’ and Hawaiian kani-ʔī ‘hard-neck’ (which however, can refer to the ‘neck’ itself inter alia; another Hawaiian term, pūāt, probably goes back to *pu’u āt ‘protruberance neck’). Recurrent associated meanings: throat/neck, larynx, windpipe, apple, bone, protrude/protuberance, fruit, trachea, goiter, knot

Semianalyzable terms are found in One, Yir Yoront, Nivkh, Yana, Toba, and Yay.

Lavukaleve colexifies ‘Adam’s Apple’ with ‘fruit,’ Sedang has plai plê ‘fruit/seed/pellet armspan,’ and a semianalyzable term with ‘fruit’ is attested in Lenakel. Khoekhoe, Dongolese Nubian, Burarra, Muna, Badaga, Khalkha, Aguaruna, Arabela, Carib, Cashinahua, Fijian, and Hani colexify ‘Adam’s Apple’ with ‘larynx’ (Upper Chehalis has a semianalyzable term with this being the meaning of the identifiable constituent), Kyaka, Wintu, and Carib with ‘windpipe,’ and Chayahuita with ‘esophagus.’ Miskito won krukmaya consists of krukmaya ‘goiter’ and the classifier won, and Wayampi colexifies the relevant
meanings directly. Kyaka colexifies 'Adam’s apple’ with ‘trachea,’ and Wintu holhol is reduplicated from hol ‘pipe, tube, trachea’ (also meaning ‘light, bright, shine’).

Other associations include: Dongolese Nubian gọ also means ‘dune,’ though in this meaning it is borrowed from Sudanian Arabic. Dadibi dogoni also denotes the ‘sound of voice,’ and the Kwoma term noku pipoy appears to be analyzable as ‘sago.palm strike down.’ Abzakh Adyghe q°mbaq’ay, colexifying ‘glottis,’ contains either q° ‘skeleton’ or (q°) ‘pointed object,’ the epenthetic element -m-, and b(e), which occurs in a number of complex terms referring to the human body. Badaga gattigallu is analyzable as /gat’-kal/ ‘cartilage-stone,’ and Cheyenne -nêhpo’oo’tse as /-nêhpo’ohe-hestôtse/ ‘locked-thing’ (the literal translation given in the source is ‘valve/thing that closes’). The Chickasaw term inonkopoolo’ is perhaps analyzable as /inonka/ ‘pointed,’ or /‘voice be.ruined-nmlz.’ Piro swayipla appears to contain swa ‘orifice,’ Toba colexifies ‘Adam’s apple’ with ‘gill,’ and the Yanomami term krukupi is also used to refer to the ‘hyoid bone of the Araguato monkey.’ Fijian i tagi-tagj is analyzable as ‘DERIV make.sound-RED,’ Hani kaoqciivq might be related to ciivq, meaning ‘to choke, pinch’ and ‘genealogy,’ alongside acting as a classifier for ‘joints,’ for instance on the fingers or on bamboo. Samoan colexifies ‘Adam’s apple’ with ‘eyes of a snake or eel’ and ‘uvula.’

99. The Ankle

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<tr>
<th>Representation: 86%</th>
<th>Motivated: 46.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thereof Analyzable: 41.7%</td>
<td>Thereof Colexifying: 6.4%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 13.5%</td>
<td>Thereof by Similarity: 29.2%</td>
</tr>
<tr>
<td>Recurrent associated meanings: foot/leg, joint/wrist, eye, neck/throat, knot, bone, egg, heel, (Achille’s) tendon, stone/pebble, seed</td>
<td></td>
</tr>
</tbody>
</table>

Motivated terms for ‘ankle’ are overwhelmingly morphologically complex, with ‘foot’ and/or ‘leg’ being the meaning of one of the elements. Mostly, the semantics of the second element is such that it denotes a small roundish object, thus constituting a metaphorical transfer. However, this is not always so clear, and in fact the most frequent subtypes attested in the sampled languages do not adhere to this pattern.

In thirteen sampled languages, Swahili, One, Toaripi, Badaga, Lake Miwok, Kaingang, Miskito, Wayampi, Hawaiian, Kapingamarangi, Mandarin, White Hmong, and Bislama, ‘joint’ or ‘wrist’ is the meaning of the second constituent (the Hawaiian term colexifies ‘hele,’ as does a simplex Badaga term). For one, One has teu tampla ‘foot/leg joint;’ Welsh, Cahulla, Haida, Wintu, Rama, and Tehuelche colexify ‘wrist’ or ‘joint’ with ‘ankle,’ Rama also colexifies ‘knuckle’ specifically. The next most frequent subtype is that where the meaning of the second constituent is ‘neck’ and/or ‘throat,’ as in Sahu rou ma camala ‘foot/leg ross neck,’ clear cases of which are found in nine sampled languages, alongside Sahu in Efik, Yoruba, Sko, Abzakh Adyghe (where ‘neck’ is colexified with ‘top’), Japanese, Itzaj, White Hmong, Vietnamese, and possibly Bakueri, though this is unclear (the Sko term stands out in that here not ‘neck,’ but ‘neck bones’ specifically is the meaning of the constituent, perhaps providing a clue to the underlying perceived similarity responsible
for this strategy in general). There are also associations with ‘bone’ in other languages: Santiago Mexquititlan Otomí has bots’undo’yo wa, containing ndo’yo ‘bone’ and wa ‘foot,’ Rotokas and Cubeo have terms with a similar structure and Cubeo also others, in which the motivation is constituted by classifiers; Copainalá Zoque has a semianalyzable term where the identifiable constituent is bone.’

A more clearly metaphorically motivated pattern of transfer from one (“salient”) body-part to another (less “salient”) one is constituted by complex terms where the meaning of the second constituent is ‘eye,’ as in Koyraboro Senni ććee-mońe ‘foot-eye.’ Such terms are also found in Hausan, Kanuri, Anggor, Kwoma, Kyaka, Kosarek Yale, Pipil, and Hani. Moreover, Piro yhale-xi is analyzable as ‘eye-fruit/seeds/own’ (the term colexifies, in addition, ‘leaf bud’ and ‘belt buckle’), and Sedang directly colexifies ‘ankle’ with ‘eye’ inter alia. Again, one term stands out, namely that in Kosarek Yale, where an additional constituent meaning ‘fruit,’ ‘seed,’ and ‘egg’ inter alia (see § 6.4.3.13.3. for this pattern of colexification) is present. A semianalyzable term with ‘fruit,’ colexifying ‘kidney,’ ‘side of ankle’ and ‘earlobe,’ is also found in Lenakel, and an association between ‘ankle’ and ‘egg’ is also revealed by the Chayahuita term ca’yo-pira ‘egg-pile’ and is also present in Bwe Karen, which has -khafi di, containing -kha ‘leg, foot’ and di ‘egg, testicle.’ Common are also complex terms with ‘foot’ and/or ‘leg’ being the meaning of one constituent, and ‘knot’ that of the other, as in Badaga ćanų kacu ‘knot/joints leg.’ Such terms (with or without colexification with ‘joint’) are also attested for Pawnee, Tsafiki, and Tetun, direct colexification is attested in Tehuelche, and a semianalyzable term with one constituent meaning ‘knot’ or ‘joint’ is found in Rotuman. Further, Dongolese Nubian has össiŋkugǔndi ~ össiŋkumándi /össi-ŋ-kugǔnd(i)/ ‘foot-GEN-elbow,’ Aymara has kayu moqo ‘foot pebble,’ and Arabela colexifies ‘ankle’ and ‘stone, rock.’ Further complex terms with one of the constituents being ‘foot’ or ‘leg,’ many of them reconcilable with the general tendency of metaphorical transfer of small roundish objects, are Yoruba kókosè, analyzable either as /kókó-esè/ ‘edible.tuber-leg’ or /kókó-esè/ ‘knot.in.tree/knob/excruciation-leg.’ Skolàngoncé, presumably analyzable as /làng-óe/ ‘foot-yam,’ Abzakh Adyghe leč’en /lä(e)-č’en/ ‘foot-osicle/lump’ (a semianalyzable term containing an element which can refer to a ‘lump’ inter alia is found in Rotuman), Biloxi spońi’ ~ i spońi’ ~ iŋksponi’ ~ sponitu’ ~ i spońitu’ ~ iŋksponitu’ /asi-po-ni’/ ‘feet-wrap.up.in.bundle-CAUS,’ Chickasaw iyjimosak /iyyi’ im-osak/ ‘foot DAT-hickory.nut’ (the analysis is marked as questionable in the source), Highland Chontal galgoxac gahmis /galgoxac lahmis/ ‘shelled.corn leg,’ Kashaya q’ama p’i’kō ‘foot ball,’ Imbabura Quechua chaki muku ‘foot nude,’ Wayampi piyālā /pi-yu-ʔā/ ‘foot-spine-maintain.upright-position’ (this term colexifies ‘claw of bird of prey’), Bwe Karen -kha-dé ‘-foot-narrowest.part,’ Samoan tapu-va’e ‘forbidden-leg/foot’ (colexifying ‘Pig’s trotters’), Takia ye-n ndu-n ‘leg-3SG nose-3SG,’ Tetun ain-liras ‘foot/leg-wing/fin,’ and Yay ho’byay tin ‘adam’s.apple foot.’ Semianalyzable terms of this kind are found in Mbum, Kaluli, Kemtui, Ngaanyatjarra, Rotokas, Sentani, Yir Yoront, Badağa, Carrier, Kiliwa, Kiowa, Oneida, San Lucas Quiaviní Zapotec, Guaraní, and Hani. Aguaruna colexifies ‘ankle’ and ‘tendon,’ and Yir Yoront colexifies ‘Achilles’s tendon’ specifically (Guaraní, in addition, has a semianalyzable term for the ‘ankle’ where the meaning of the identifiable constituent is ‘Achille’s tendon’).
Other associations include: Khoekhoe ǀgoros also denotes the ‘fetlock joint of animals,’ and Rendille, presumably due to homonymy, colexifies the “self, human ego.” Ngaanyatjarra warungantjil(pa) also denotes a “solid log that continues burning a long time” and the ‘Australian Hobby’ (a species of falcon). Rotokas ariost also means ‘kapiok seed.’ Khalkha šaγa(n) ~ siγa(n) ~ siγai may be related to šaγa- ~ siγa- ‘to hit with fist, drive a nail or peg in.’ Welsh swm also means ‘fetlock’ and ‘a good number.’ Ineseño Chumash šow colexifies ‘ankle’ with ‘tobacco,’ while Lesser Antillean Creole French chiiv also means ‘plug, peg’ and ‘pin.’ Central Yup’ik cingilleq is derived from cingiq ‘shoelace’ by means of the postbase (see § 4.4.2) -lleq ‘former.’ Bora lleebo might be related to a verb meaning ‘to listen, obey,’ Cayapa nemüüjiuca contains juca ‘small round thing,’ while Macuguán peatá appears to be derived from atá ‘hard’ by prefixation of a possessive marker. The Jarawara term rabi also means ‘pencil’ due to Portuguese influence, while Ancash Quechua utsu putu is analyzable as ‘garlic container’ and indeed also denotes a vessel in which garlic is stored and which is similar in appearance to the ankle. Toba nqonacamo appears to contain qona ‘toe, claw,’ and Malagasy kitro kêly is analyzable as ‘hoof small.’

100. The Beard

Representation: 92%  
Motivated: 51.8%  
Thereof Analyzable: 33.5%  
Thereof Colexifying: 19.9%  
Thereof by Contiguity: 27.5%  
Thereof by Similarity: 15.9%  
Recurrent associated meanings: hair, chin, mouth, whiskers, fur, feather, jaw, lip, antenna, beard of grain, face, corn silk, barbel, wool

The most frequently associated meaning for ‘beard’ (without differentiating between ‘beard,’ ‘mustache,’ ‘goatee,’ etc.) is, unsurprisingly, ‘hair.’ Kosarek Yale, Tasmanian (Northeastern), Nivkh, Bororo, and Ancash Quechua colexify ‘hair’ and ‘beard’ directly; otherwise, the association is realized by complex terms, the other element having a variety of meanings in the languages of the world. Most frequently, in Mali, Toaripi (for ‘mustache’ specifically), Sora, Cheyenne, Kiliwa, Nuuchahnulth (with the element referring to ‘mouth’ being a lexical affix), Pawnee (where ‘be hairy’ is colexified with ‘be furry, fuzzy’), Pipil, Wintu, Copainalá Zoque, Lenakel, Malagasy, and Tetun, the second constituent makes reference to the ‘mouth,’ as in Tetun nunun-rahun ‘mouth/lip-body.hair,’ which also denotes a ‘goatee’ specifically (the constituent means ‘hairy’ rather than ‘hair’ in the case of Cheyenne; this situation is recoverable etymologically in Cahuilla, compare also Hani meiyqmoq with meiyqbaq ‘mouth, snout’ and aqmooq ‘horse, pubic hair’). There are, however, also complex terms of the lexical type with ‘mouth’ where the second element has a meaning other than ‘hair’: Khoekhoe has hû-ams ‘wrinkle-mouth,’ Ngambay mbay-tâ ‘lord-mouth/lips,’ Abzakh Adyghe šače /zeče/ ‘mouth-end,’ Cashinahua kex-ni ‘mouth/lip/edge-forest,’ Hupda na-cúq ‘mouth-hummingbird,’ and Takia awa-n dabi-n ‘mouth-3sg root-3sg’ (it is possible that clearly metaphor-based terms as in the latter two languages are due to dense beards being an item of “acculturation” so to speak - growth of bodily hair being less pronounced for instance among the indigenous population of the Amer-
icas when compared with Europeans). In Buin and Yir Yoront, there are semianalyzable terms for ‘beard’ featuring a constituent with the meaning ‘mouth.’

Also very common are terms of the analyzable type with the constituents meaning ‘hair’ and ‘chin,’ as in Berik ðele safa ‘chin hair/fur/feather.’ Such terms are also attested in Efik, Dadibi, Kwoma, Meyah, Toaripi, Lakhota, Rama, Toba, Wayampi, Great Andamanese, and Bwe Karen. Other complex terms on the basis of ‘chin’ are Katcha musá mo buruge ~ musá mo böröye ‘wool gen chin’ (similarly, the association with ‘wool’ is present due to colexification with ‘hair’ in the Toba term mentioned above), Waris keu-ta ‘chin-small.object,’ and Bora perhaps újca-he ‘chin/beard-cl.oblong,’ but segmentation is unsure. ‘Chin’ and ‘beard’ are directly colexified in Dongolese Nubian (also with ‘whiskers,’ a pattern of colexification also attested in Baruya, Nunggubuyu, Rotokas, Western Tasmanian, Carrier, Chickasaw, Ineseño Chumash, Haida, Kiowa, Lake Miwok, Pawnee, Xicotepec de Juárez Tononac, Wappo, Wintu, Central Yup’ik, San Lucas Quiavini Zapotec, Bislama, where it is archaic, and Hani, where ‘chin whiskers’ more specifically is colexified), Gurindji, Ngaanyatjarra, Northeastern, Middle Eastern, and Western Tasmanian, Badaga, Embera, Fijian, Rotuman, and Tetun; a semianalyzable term where the identifiable constituent is ‘chin’ is featured in Chukchi and Middle Eastern Tasmanian (the association is common in Indo-European, Buck 1949: 205). Kwoma and Rama colexify ‘chin’ with ‘jaw,’ and therefore their terms for ‘beard’ also feature an association with ‘jaw’ more specifically. Complex terms with ‘jaw’ alone and ‘hair,’ such as Yaqui chao boa-m ‘jaw body.hair-pl.,’ are also found in Yoruba, Sko, and Chickasaw. Miskito colexifies ‘beard’ with ‘jaw’ (perhaps a compound with ‘jaw’ is present in Ancient Greek, Buck 1949: 205). Baruya has maryaata /marya-mijata/ ‘lip-hair,’ and terms with such structure are also found in Ngambay, Abipón, Piro (where the constituent making reference to the lips means ‘rounded lips’ more precisely), and Tetun, as already noted above, while Cashinahua has, as also already noted above, kex-ni ‘mouth/lip/edge-forest.’ Jarawara has noki baki kon/noko bako kone ‘face hair’ for ‘beard on side of face,’ and terms with such structure (without a semantic restriction mentioned like that in Jarawara) occur also in Nuuchahnulth (with the ‘face’ component expressed by a lexical affix) and Wintu (where ‘face’ and ‘eye’ are colexified). Other complex terms where one of the constituents is ‘hair’ are Kiowa sęį̂n-p’ḁ̄-ga ‘mucus.of.nose-body,hair-noun.postfix’ and Hawaiian hulu weuweu ‘body,hair grass/bushy’ for “[d]owny feathers or beard, fuzz.” A semianalyzable term is found in Japanese.

Now, the above discussion does not take into account the lexical differentiation made in many languages between ‘hair of the head,’ ‘body hair,’ and potentially even more fine-grained distinctions. Since ‘body hair’ is frequently colexified with ‘fur of animal’ and/or ‘feathers,’ a number of languages betray associations also with these meanings. With ‘fur,’ this is the case by colexification in Kosarek Yale and Ancash Quechua and by analyzable terms in Berik, Kwoma, Meyah, Toaripi, Chickasaw, Kiliwa, Lakhota, Nuuchahnulth, Pawnee, Wintu, Toba, Bwe Karen, Lenakel, and Tetun. In two sampled languages, Kolyma Yukaghir and Kashaya, it is specifically ‘fur’ rather than the ‘hair’ which is the constituent of complex terms. Note also Tehuelche ʔasč’ex ~ ač’ex ~ ʔačx ~ ʔačex ~ ʔasčex ~ ač’ex ~ ačex ‘in-hair/fur,’ which colexifies ‘beard’ with ‘eyebrow’ and ‘eyelash.’ ‘Beard’ is associated by analyzable terms with ‘feather’ in Efik, Berik, Kwoma, Meyah, Toaripi,
Chickasaw, Toba, Bwe Karen, Hawaiian, Lenakel, and by colexification in Kosarek Yale and Bororo (sometimes also with further meanings, cf. section 21).

Furthermore, Xicotepec de Juarez Tononac, Arabela, Cavineña, and Piro colexify ‘beard’ with ‘antenna of insect,’ Basque, Khalkha, and Nez Perce with ‘beard of grain,’ Basque and Hawaiian with ‘barbel,’ and Kiowa and Piro with ‘corn silk’ specifically.

Other associations include: Hausa gemu also denotes the concepts ‘corbel’ and ‘superior person,’ while Koyraboro Senni kaabe ~ kaabu is also the name of a spice and a tree species. Gurindji jika is also the term for the ‘brush-tailed rat kangaroo’ and ornaments made from its tail. Kwoma colexifies beard with “shell and feather decoration glued on the jaw of certain ceremonial sculptures carved in the form of heads,” and Muna has samba ~ kasamba for “beard (on chin and cheeks),” which is borrowed from Indonesian; indigenously, samba also denotes a kind of girdle inter alia. Khalkha ziber also means ‘fins of fish’ (the meaning ‘beard’ is register-specific), Nivkh colexifies ‘beard’ with ‘vegetation,’ ‘feeler,’ and ‘tentacle’ (the term is very short, so homonymy is a possibility). Cahuilla támas is also used to refer to a bearded person. Santiago Mexquititlan Otomí colexifies ‘beard’ and ‘flour,’ while Guarani tendyva contains tendy ‘saliva.’ Ancash Quechua supra is also metonymically capable of referring to a ‘Spaniard.’ Fijian kumi also denotes ‘Tongan cloth,’ Kapingamarangi tuu lala seems to be analyzable as ‘cut at down,’ while Rotuman kumkumu also denotes a species of crab. Bislama mustas (< Engl. mustache) is also the name for the ‘goatfish.’

101. The Bladder
Representation: 59%
Motivated: 67.2%
Thereof Analyzable: 47.3% Thereof Crolexifying: 19.9%
Thereof by Contiguity: 31.6% Thereof by Similarity: 22.4%
Recurrent associated meanings: urine/urinate, container, bag, balloon, place, blister, gall bladder, bubble, belly/stomach, sack, house, goiter, eye, inflate

Unsurprisingly, terms for the ‘bladder’ frequently contain an element meaning either ‘urine’ or ‘to urinate.’ ‘Urine’ / ‘urinate’ and ‘bladder’ are colexified directly in Anggor, Ngaanyatjarra, Tuscarora, Aguaruna, Huambisa, Yanomámi, and Bislama. Derived terms, such as Ineseño Chumash šoxšol, derived from oxšol ‘to urinate,’ are also found in Bakueri, Hausa, Upper Chehalis, Abipón, Bora, Chayahuita, Cubeo, and Toba. In terms of the lexical type, ‘container’ is most frequently the meaning of the second constituent, as in Ket dvsol /d̪əs-øɬ/ ‘urine-container,’ and also in Chickasaw, Kashaya, Kiliwa, Nuuchahnulth, Bororo, Carib, Kaingang, and Ancash Quechua. Similarly, the Toba term is derived by a classifier for receptables. A specific container, namely ‘sack,’ is also attested as the meaning of the second constituent, as in Mbum f̲ɪ-ʃà ‘sack-urine.’ Such a term is also found in Ket, and ‘sack’ and ‘bladder’ are colexified directly in Nez Perce inter alia. Very similarly, Yoruba has ọpo-ìtọ ‘bag-urine,’ and so do Carrier and Kiowa, while the association is realized by colexification in Piro and Hawaiian (furthermore, Tuscarora has an optional complex term of this kind on the basis of its term colexifying ‘bladder’ and ‘urine’).
Semianalyzable terms where the identifiable constituent means ‘sack’ or ‘bag’ are found in Highland Chontal and Samoan. Terms with ‘house’ (which is a kind of container of sorts as well), such as Embera súa-dé ‘urine-house,’ are also attested in Mbum and Miskito (in the latter language, there are also alternative terms where ‘house’ is replaced by ‘womb’ and ‘urine’ by ‘liquid’ as a constituent). More generally, ‘place’ is the meaning of the second constituent in Arabela shaaca quiquio ‘urine place,’ as well as in Lake Miwok, Miskito, and Great Andamanese. Rama ngústi úp is analyzable as /ngústi up/ ‘pissing eye,’ while Kyaka has puu renge ‘urine eye’ (both puu and renge have other meanings). Other complex terms where ‘urine’ is a constituent are Buli sinsam-liuuk ‘urine-passage/hole/path,’ Efik u-tök ikim ‘NMLZ-to.void urine,’ Katcha nimo misör /nimo m-kisör/ ‘thing ??-urine,’ Cheyenne xaeño-o’tse, analyzable as /xae-no-o’ohnts/ ‘urinate-depart,’ Oneida -nhadhô-kwaʔ, containing the roots -nsh- ‘urine’ and -l- ‘be in or on,’ Pipil (Cuisnahuat dialect) -axix-xekun ‘-urine-bottle.gourd,’ Yuki as’-pis’ ‘urine-from,’ San Lucas Quiaviní Zapotec gui’dy xqui’ix /gui’ihd yxqui’ix/ ‘skin urine,’ Tehuelche t’ep’enlaśken, containing t’ep ~ t’ep ~ t’ep’ ~ t’ep’ ~ t’ep’ ‘urine, urinate’ and -aśk’en ‘interior,’ and Hawaiian pu’u-mimi ‘proterubance-urine.’ Semianalyzable terms are found in Bakueri, Kaluli, Chukchi, Biloxi, and Guaraní. Wintu p’u’veles and p’u’vles contain p’u’l ‘to blow,’ the former colexifying ‘bologna, meat in casings, sausages’ (note also Fijian i uvu-uvu ‘DERIV blow.with.mouth-red’).

Basque, Embera, and Macaguán colexify ‘bladder’ with ‘blister,’ Ngambay and Hawaiian with ‘goiter’ (Ngambay also with ‘evacuate’ and ‘gall bladder,’ it shares the latter association with Ngaanyatjarra and Yir Yoront, and Hawaiian also colexifies ‘womb’ among other meanings), while Pawnee and Cavineña have terms derived from verbs meaning ‘to inflate’ (paaruris, analyzable as /waarur-his/ ‘inflate-perf’ and cujacuja, reduplicated from cuja ‘to inflate’ respectively; both terms colexify, as do Lesser Antillean Creole French and Samoan, ‘balloon’). ‘Bladder’ and ‘stomach’ are colexified in Nuuchahnulth and Hawaiian, and similarly, Lenakel has nouanetp’ami- /noua-netp-nami- ‘fruit-belly-urine-,’ which colexifies also ‘ball.’ Finally, Itzaj, Cayapa, and Hani colexify ‘bladder’ with ‘bubble’ (Cayapa colexifies ‘animal bladder’ more specifically, also with ‘foam’).

Other associations include: Buin kou is a general term for the internal organs such as ‘guts,’ including the bladder. Kwoma mokugwey appears to contain moku ‘semen,’ and Chukchi payqewac’en contains payal ‘float.’ Greek kýstis also means ‘cyst,’ and Khalkha dabusang ~ dabasay ~ dabasay ~ dabisay is also used to refer to the ‘lower part of the abdomen’ and ‘the pubic region.’ San Mateo del Mar Huave mìgeparan seems to contain the verb aep ‘to catch.’ Itzaj b’ijijag also means ‘innertube,’ while Nez Perce colexifies ‘bladder’ with ‘shell’ and ‘coffin.’ Xicotepac de Juárez Totonac a’nhìa tąqu’i xčаn appears to be analyzable as ‘where get.up water,’ and Central Yup’ik nakacuk might contain the postbase (cf. § 4.4.2.) -cuk ‘unpleasing, bad one.’ The Aymara term llaq’allachi ~ yaq’allachi may contain yaq’a ‘excrement,’ while Guaraní týryru also means ‘urinal.’ Hawaiian ko’ana also is used with the meaning ‘dregs, sediment.’


102. The Blood

Representation: 98%
Motivated: 15.4%
Thereof Analyzable: 2.4%  Thereof Colexifying: 13.0%
Thereof by Contiguity: 7.4% Thereof by Similarity: 1.5%
Recurrent associated meanings: red, resin, race/kinship, menses/menstruate,
foetus, body liquid, liquid

Terms for 'blood' are not frequently motivated. The most frequent association (ignoring ambiguous terms with respect to word class which can hence also mean 'to bleed'), occurring in nine sampled languages, is that with the color 'red,' by colexification in One, Toaripi ("blood red" more specifically), Wintu (colexifying also "arse"), Aymara, Rama, and Hawaiian, and by complex terms in Abipón and Bora (n-aog-Ra 'POSS.INDER/3SG-red/yellow-CAUS' and tujpa-cyo /tujpa-cyo/ 'red-CL.pointed' respectively). Yanomamí iyéiyé ~ iyéiyé ~ iyéiyé is reduplicated from iyé, which means 'bloody,' 'blood-colored,' and 'red.' The association with 'red' is also found in Sanskrit (Buck 1949: 206). A semianalyzable term is furthermore found in Yana, and the association is etymologically recoverable also in Dongolese Nubian. Colexification with 'resin, sap' is found in Kwoma, Cubeo, Maxakalí, Fijian, and Hawaiian (note also Sko hi 'blood' and hi 'sap' and the colexification of 'blood' with "red sap of certain trees" specifically in Jarawara). 'Blood' and 'body liquid' generally are colexified in Kyaka and Hawaiian (in Kyaka, the term also denotes 'lymph' and 'serum,' and, presumably by homonymy also means "song, singsang, chant"), and, still more generally, 'blood' and 'liquid' are in Bororo (among other meanings), Maxakalí, and Hawaiian. In Wayampi, tııcę contains tıı 'juice, liquid,' and the other element is said to etymologically have the meaning 'true, genuine.' Another Wayampi term, tuwi, also means 'dry.' Furthermore, 'blood' is colexified with 'menses' or 'to menstruate' in Dongolese Nubian, Lake Miwok, and Samoan (where the relevant term is reduplicated from 'ele 'red soil' and also denotes the 'earth' and the 'dirt'), with 'race' or 'kinship' in Basque, Lesser Antillean Creole French (inter alia), Itzaj, Ancash Quechua, and Rotuman, and with 'foetus' in Efik and Tetun.

Other unique associations in the languages of the sample include: Efik iyip is also used with the meaning 'murder, bloodshed,' and Hausa jini is also the name of a children's game. Kwoma is unique in using the same term, pi, for 'blood' and 'milk' inter alia, and Muna reč also means to "have a communal garden." Waris tóvól ~ nihtól also means 'skin,' and Kosarek Yale eneng also 'pus.' Abzakh Adyghe la also means 'be lying, suspended, situated' inter alia, and Haida ray is also used with the meaning 'kidney of salmonid.' For utkwàre ~ irtkwareh, a Tuscarora term for 'blood,' the lexicographer remarks that the underlying root -tkwar- ~ -tkwær- might be an old compound of -tkw- 'stomach' and -r- 'to be in.' Central Yup'iik qayuq also means 'soup, broth,' and Copainalá Zoque napín probably contains na 'water.' Toba ltago'q also means 'one's own son.' Bwe Karen colexifies 'to steam' inter alia and by another term also 'nest,' and Hawaiian koko also means 'rainbow-hued' inter alia.
103. The Bone

Representation: 99%
Motivated: 21.7%
Thereof Analyzable: 0.7% Thereof Colexifying: 20.3%
Thereof by Contiguity: 6.1% Thereof by Similarity: 11.0%
Recurrent associated meanings: skeleton, stalk/fibre, seed, strength, awl/needle, hard/hardness, leg, tree, horn, fishbone, shell, dry, corpse

Like 'blood,' 'bone' is a meaning for which few lexical associations are found cross-linguistically. The most frequent one, by configurational contiguity, is that with 'skeleton,' occurring by colexification in Khalkha, Tuscarora, Bororo, Cashinahua, Embera, Guarani, Huambisa, Tehuelche, and Rotuman. Further, Abzakh Adyghe has qə-ма-she 'skeleton-

RELAT/EPEN-upper.part/??.' Khalkha inter alia colexifies 'bone' with 'corpse,' and Hawaiian with 'carcass,' as of chicken. In Wappo and Bororo, relevant terms also mean 'hard' or 'hardness' (note also Rotokas kerua, presumably containing keru 'harden like bone' and a classifier for narrow objects and Sentani bo 'bone' and bobo 'hard'). Cheyenne and Lengua colexify 'bone' with 'leg' (note also the cognacy of German bein 'leg' and English bone as well as a further association of this kind in Greek noted by Buck 1949: 207; perhaps this pattern is motivated by the fact that the thigh bone is the largest bone in the human body?). Wappo and Yuki, presumably by functional contiguity, use the same word for 'bone' and 'awl' or 'needle.'

There are also a number of metaphor-driven associations, although these are not very frequent as well. Baruya, Ngaanyatjarra, Toaripi, Sahu, Sora, Arabela, Lengua, Maxakali, and Yanomami colexify 'bone' with 'stalk' or 'fibre' (Yanomami also with 'cotton' and 'animal fur'). This pattern is also found in Indo-European as evidenced by cognates in Baltic, Greek, and Latin (Buck 1949: 207). Maxakali and Tsafiki colexify 'bone' with 'tree' (as well as 'stick' or 'pole' in Tsafiki), Yir Yoront, Basque, Khalkha, and Wintu (among other meanings in the latter two languages) with 'seed' (this pattern is also attested in Indo-European, Buck 1949: 207), Highland Chontal and Itzaj with 'horn' (the latter language also with 'employment'), and Buli and Basque with 'fishbone.' San Lucas Quiavini Zapotec za'aht also denotes the 'shell,' e.g. of a turtle (alongside a rattle used in a particular dance), and Hawaiian iwi also colexifies 'bone' with 'shell,' among other meanings. In Ngambay, Baruya, Kwoma, and Waris, relevant terms also mean 'strong' or 'strength,' see Alkhenvald (2008: 579) for brief discussion of this association in Manambu suggesting areal convergence. In Anggor, hamindi is also glossed as 'very,' which suggests that it is used as an intensifier. Finally Guarani kâ also means 'dry' (and 'pit of fruit'), and Burarra (-)jorla, meaning 'bone' in the Gun-nartpa dialect, generally also means 'dry' (as well as 'sunbaked' and 'no water').

Other associations include: Efik ọk’po also denotes a kind of yam, the fruit of a particular tree, a creeping vine, and 'bird lime.' The Burarra term -mama also denotes the 'frame of a structure' and a 'coin' as opposed to paper money. Dadibi dili also means 'singing.' Gurindji kuyuwarh contains kuyu 'meat,' whereas the Kwoma term hapu also means 'bone of the upper arm' specifically and then by extension
also ‘upper arm.’ The Ngaanyatjarra term tarrka also means ‘bare area’ as well as ‘skinny’ in an adjectival sense. Greek kókkalo also may refer to ‘ivory on the piano key’ and ‘shoe-horn,’ and Ket a’t also means ‘soon.’ As a verb, Kiowa t’gi’m means ‘to break.’ Lake Miwok kulum also means ‘cemetery,’ and Macaguán -chit also ‘shinbone.’ Hani saqyyuq and saqyq may be related to saq, meaning ‘muscle, meat’ inter alia, Bwe Karen khwi is also the name of a sand lizard, the Kapingamarangi term iwi also means ‘upper ridge pole’ as well as ‘crease’ and ‘sharp edge,’ and the cognate Samoan iwi also means ‘limb.’ Rotuman colexifies ‘bone’ with “projecting spike ... on the fins of certain fish” inter alia, Takia tatu also means ‘spine,’ while Tetun ruin also means ‘rough,’ and Sedang koxiang may or may not contain koxi ‘egg.’ Yay dok2 colexifies ‘flower’ and ku also means “pair, even (of numbers).”

104. The Brain

Frequently, motivated terms for the ‘brain’ are morphologically complex and contain a constituent meaning ‘head’ (see Buck 1949: 215 for similar evidence from Indo-European). As for the semantics of the second constituent, ‘marrow’ is well attested. For instance, Kaingang has krĩ kujo ‘head marrow,’ as do Koyraboro Senni, Berik, and Kiliwa. ‘Brain’ and ‘marrow’ are, however, also frequently directly colexified. This is the case in Yoruba, Burrarra, Kyaka, Yir Yoront, Chickasaw, Central Yup’ik, Arabela, Bororo, Ancash Quechua, Toba, Yanomami (where heoshipë ~ heyõshipë appears to contain heõshi ‘hot’ and the quantal classifier pë, for which see § 4.4.1.1.), Hawaiian (alongside other meanings), Lenakel, White Hmong, and Yay, while Bwe Karen i, colexifying ‘to give,’ is said to appear to be an alternant of i “soft centre (of a plant or tree), marrow (of a bone), etc.” Furthermore, Great Andamanese has a derived term from a root colexifying ‘marrow’ and ‘pus’ (the association with ‘marrow’ is not at all unknown, see e.g. Buck 1949: 215 and Jónhannesson 1949: 88 for for Indo-European, Matisoff 1978: 233 for Southeast Asian, and Wilkins 1996 for Australian evidence; note in this context also the quote from Aristotle mentioned by Buck 1949: 215: “for many think the brain is really marrow”). Great Andamanese, in fact, colexifies ‘pus’ and ‘marrow,’ and an association with ‘pus’ is also found for ‘brain’ by colexification in Ket and Lake Miwok and by the analyzable terms wi-dõ ‘pus-head’ in Ngambay and lat mabiara ‘head pus’ in Miskito (note also Kiliwa ?ly=xtla?piii ‘head=??=puss,’ with ‘puss’ a mistake for ‘pus’?). Basque has burmuin, presumably analyzable as /buru-muin/ ‘head-pith/bud/shoot/sprout’ (note that there is a complex term on the basis of muin meaning ‘marrow’), and ‘brain’ and “pithy core of any tree” are colexified in Nuuchahnulth (alongside ‘heart’ and ‘spinal cord’). Other analyzable terms with ‘head’ being one constituent are Buli zupuuk /zuk-puuk/ ‘head-foam,’ One sila silla ‘head leaf,’ Abzakh Adyghe shek-opse, containing she ‘head,’ k’e ‘space, middle,’ and either -ps(e) ‘thread, string’ or pse ‘soul, life
principle’ (there is also a variant with a different third element with unknown semantics), Kolyma Yukaghir jon-qodo ‘head-lying,’ Santiago Mexquititlan Otomi ŋä-xumo /ŋä-ximo/ ‘head-calabash,’ Pawnee paks-kiraar-u’ ‘head-liquid-nom,’ Chayahuita motoro /moto’-ro/ ‘head-class.pile,’ Cubeo jipo-jia ‘head-class.river.like.object,’ Jarawara tati afone/tati afone ‘head soft.core,’ Rama kóŋ kás ‘head meat,’ Tehuelche čeʔter ṭašken, containing čeʔter ~ čeʔter ~ čeʔter ‘head’ and -ašken ‘interior,’ Malagasy atïdôha, analyzable as /āty-n-lôha/ ‘liver/center-gen-head,’ and Rotuman ūat par-paru ‘head red-mix-or.knead.with.hands.’ Further, in both Greek and Welsh, terms for ‘brain’ are (etymologically) connected to ‘head,’ amended by a prefix meaning ‘in’ (Buck 1949: 215). Semianalyzable terms where the identifiable constituent is ‘head’ are found in Kaluli, Carrier, Haida, the Cuisnahuat dialect of Pipil, Carib, and Cavinéha.

Another class of terms for ‘brain’ bears associations to cognitive processes. Efik, Laz, Lesser Antillean Creole French, Nuuchahnulth, San Lucas Quiavini Zapotec, and White Hmong colexify ‘brain’ with ‘mind’ or like meanings, Guaraní colexifies ‘brain’ with ‘understanding, judgment’ and ‘talent’ and Basque with ‘intelligence,’ while Kashaya hoʔto contains -ʔto ‘to think’ and Miskito won sinska contains sins ‘intelligence.’ A further language where the word for ‘brain’ appears to be related to cognitive abilities is Toba, but the precise structure remains unclear.

Further, Ket and Lake Miwok colexify ‘brain’ with ‘semen.’ An association restricted in the languages of the sample to the Barbacoan languages Cayapa and Tsafiki is that with ‘faeces’ (mishpe /mishu-pe/ ‘head-excrement’ and fu-pe ‘hair-excrement’ respectively).

Other associations include: Anggor efu is glossed also as “bee (sweat),” and Mali genaing also means ‘phlegm, mucus,’ while the Meyah term oföita also means ‘pulp.’ Sahu nyiniali appears to be derived by reduplication from nyiali ‘canarium tree.’ Badaga mučle also means ‘skull,’ Ket doŋ also ‘three,’ and Khalkha tariki(n) ~ taraki(n) also ‘occiput.’ The Nez Perce term yexyeš-les is analyzable as ‘tan-instr.’ The underlying verb means more specifically “to put in a solution of brain as a step in tanning hide.” Cashinahua mapu also means ‘ashes,’ ‘soap,’ the ‘‘head’ of an axe,’ and is also used with reference to that part of a rudder where it is held. Guaraní apy-tu’u appears to be analyzable as ‘extreme.point-softness,’ and Ancash Quechua tuqsu ~ toqsu can also mean ‘stupid.’ Kapingamarangi ngogo also means ‘egg’ and ‘zero,’ Sedang ngoa might contain ngo ‘mountain,’ and Tetun kakutak is derived from the nominalizing circumfix ka-…k from the verb kuta ‘to smear.’

105. The Breast
Representation: 98%
Motivated: 57.8%
Thereof Analyzable: 5.2% Thereof Colexifying: 53%
Thereof by Contiguity: 32.5% Thereof by Similarity: 5.6%
Recurrent associated meanings: milk, udder/teat, nipple/teat, suck, chest, heart, mammary gland, Burton’s legless lizard, bay
The most common association for the 'breast' is that with '(mother’s) milk,' occurring in as many as 49 sampled languages without clear areal tendencies, though the virtual absence of the pattern in Eurasia is notable. The relevant languages are Ngambay, Noni, Yoruba, Anggor, Baruya, Buin, Burarra, Gurindji, Kyaka, Lavukaleve, Ngaanyatjarra, Nunggubuyu, Toaripi (colexifying also ‘scrotum’ and denoting a particular breast-shaped shellfish), Sahu, Kosarek Yale, Basque, Kolyma Yukaghir, Carrier, Upper Chehalis, Cheyenne, Haida, Kiowa (colexifying also ‘to flow, melt’), Lake Miwok, Nez Perce, Nuuchahnuht, Oneida, Santiago Mexquititlan Otomi, Quileute, Xicotepec de Juárez Totonac, Wappo, Wintu, Yuki, Central Yup’ik (Yukon and Norton Sound dialects), San Lucas Quiavini Zapotec, Aguaruna, Aymara, Cashinahua, Huambisa, Kaingang, Macaguán, Bislama, Hani, Hawaiian, Lenakel, White Hmong, Rotuman, Samoan, Takia, and Tetun; Hausa colexifies 'breast' with 'sour milk' specifically, in Swahili, the association is realized by noun class alternation, and in Kashaya și’do is also the archaic term for ‘milk,’ while nowadays molokko, a loanword from Russian, is used.

The Haida term tl’tn-7u colexifying ‘breast’ and ‘milk’ is analyzable as ‘suck-INST,’ and so is the relevant Kolyma Yukaghir term. A derived term is also found in Rotokas, Sora (here, the term can dialectally also refer to the ‘mother’ herself), Upper Chehalis, and Tetun (and a semianalyzable one in Chukchi), while Muna, Basque, Itzaj, Lesser Antillean Creole French, Pawnee, Kapingamarangi, Samoan, and Bislama have terms directly colexifying nominal ‘milk’ with verbal ‘to suck,’ sometimes among other meanings. In Fijian sucu is ‘to be born, suck the breast, birth, milk,’ with milk also expressed by wainisucu (wai ‘water’), and ‘breast’ is sucuna (-na is a possessive marker). The Nez Perce and Lavukaleve terms colexifying ‘milk’ and ‘breast’ at the same time also colexify ‘nipple’ and/or ‘teat’ (see Buck 1949: 248 for Indo-European evidence), and this is a pattern also found in Khoekhoe (here with ‘nipple of man’ specifically), Dongolese Nubian, Swahili, Yoruba, Northeastern Tasmanian, Badaga, Basque, Khalkha, Kolyma Yukaghir, Ineseño Chumash, Haida, San Mateo del Mar Huave, Itzaj, Lake Miwok, Nuuchahnuht, Pawnee, Pipil, Wintu, Aguaruna, Arabela, Aymara, Bora, Carinhea, Chayahuita, Embera (where the meanings are associated with different genders), Guaraní, Lengua, Miskito, Ancash Quechua, Toba, Yanimamá, Hawaiian, and Sedang, which colexifies also ‘to pound, to beat’ (34 languages). Hausa and Kwoma colexify ‘mammary gland.’

Moreover, Cubeo opebo ‘breast’ might contain ope ‘nipple,’ but this cannot be determined with certainty on the basis of the consulted source. In many sampled languages, terms for ‘breast’ are also capable of referring to the homologous structure in animals, namely the ‘udder’ or ‘teat.’ This is found in Efik, Hausa, Khoekhoe, Dongolese Nubian, Yoruba, Kyaka, Toaripi, Badaga, Japanese (only in a term restricted to child language), Khalkha, Sora, Kildin Saami, Haida, San Mateo del Mar Huave, Itzaj, Lake Miwok, Nez Perce, Nuuchahnuht, Pawnee, Wintu, Yaqui, Aguaruna, Arabela, Aymara, Bora, Carinhea, Chayahuita, Embera (where the meanings are associated with different genders), Guaraní, Hupda, Lengua, Miskito, Pipil, Ancash and Imbabura Quechua, Toba, Yanimamá, Hawaiian, Malagasy, Mandarin, White Hmong, Rotuman, Takia, and Yak (44 languages). Hawaiian and Mandarin have optional complex terms on the basis of a term colexifying ‘milk’ and
‘breast’ that exhibit this pattern: pu'u-wai 'protuberance-milk/breast' (which also colexifies 'wet, moist') and ru3-fang2 'milk/breast/drink-room' respectively.

Moreover, like English and other European languages, fifteen sampled languages, Sentani, Badaga, Greek, Khalkha, Welsh, Blackfoot, Cahuilla, Nuuchahnulth, Wappo, Bora, Embera (with gender differentiating between the meanings), Rama, Fijian, and Vietnamese, colexify ‘breast’ with ‘chest’ (Badaga also with ‘arm’), and four sampled languages, Katcha, Highland Chontal, Kaingang, and Great Andamanese with ‘heart’ (Kolyma Yukaghir also with ‘soul’ and ‘breath’).

Further, in Burarra and Nunggubuyu, relevant terms for ‘breast’ and ‘milk’ are also used to refer to a species of lizard (Burton’s legless lizard, *Lialis burtonis*), and in Basque and Greek, relevant terms can also refer to a ‘bay.’ Both associations are likely areal.

Other associations include: Efik ẹba’ is derived from iba’ meaning ‘two’ among other things. Hausa nono also denotes “the fins below the head of a fish” as well as “a cluster of fruit,” and mama is a “title and position among female girls” and also means “throwing pestle into the air each stroke when pounding.” Dongolese Nubian ɛrti has a homonym (?) meaning ‘dirt, dirty,’ Rendille nàhas also means ‘pump, waterpipe,’ Yoruba omú also denotes the “instrument used in weaving to divide the woof,” and Muna titi also means ‘stalactite’ inter alia. Sentani nima also means ‘ripe,’ and Badaga bosi also denotes the “act of fondling breasts” as well as “tumbler, glass” in the Kunde dialect, and mai can also refer to a “deep location.” Abzakh Adyghe şa also means ‘to throw, hurl,’ Basque gotlo can also refer to the ‘stomach, guts’ and bular also means ‘courage’ inter alia. Japanese chichi also means ‘father’ (the meanings being distinct in writing). Khalkha cegezi(n) also may refer to the “memory as a faculty,” and elige, figuratively, also means ‘liver,’ ‘belly,’ and “blood relatives,” while Welsh bron is extended to ‘breast of hill.’ Lesser Antillean Creole French sen also means ‘holy’ and ‘sane’ inter alia, and Lake Miwok këlé also ‘to be slicing meat.’ Nuuchahnulth ?inma also denotes “Nob Point, where white powder seems to run out of a breast-shaped rock,” and Pawnee colexifies ‘breast’ with ‘body, corpse’ inter alia. Wintu ?Em can also mean “hold pectorally, carry something in the arms, embrace.” Copainalá Zoque cucpac contains pac ‘bone,’ and ru’tzi also denotes the “toothing of a stamp mill,” while Bororo colexifies ‘breast’ with ‘bud/shoot of plants’ and Wayampi with ‘stamen’ of a flower. Macaguán -apichipar ~ -atbichipar contains -chipár ‘finger,’ Miskito lama also means ‘present, benefit’ and ‘presence, proximity.’ Piro sta colexifies ‘front,’ and there is also a verb -sta- ‘to cut, tear, break.’ Bislama titi and susu also mean ‘unweaned,’” as said of a child, and the former term also means ‘to practice fellatio,’ while Fijian sere also means ‘to sit and sing’ and ‘to unloose, untie.’ Hani aqqul also means ‘sweet,’ Hawaiian ū also ‘moist, soaked’ and ‘to drip, drizzle, ooze’ inter alia, and waiu also denotes a ‘wet-nurse.’ Kapingamarangi uu also means ‘to absorb’ inter alia. Finally, Rotuman susu also means ‘to sew,’ Samoan mau, a polite term for ‘woman’s breast,’ also ‘to keep, retain’ and ‘to live, dwell’ inter alia, and Takia su also ‘shoe’ (with the additional sense < Engl. shoe).
106. The Buttocks

Representation: 84%
Motivated: 55.4%
Thereof Analyzable: 17.5% Thereof Colexifying: 37.4%
Thereof by Contiguity: 22.4% Thereof by Similarity: 17.9%
Recurent associated meanings: bottom/base, back/behind, hip/haunch, anus, rump, end, tail, seat, cheek, faeces, stern of boat, thigh, hole, reason, root, sit

The most frequent association for the ‘buttocks’ is that with ‘bottom,’ occurring in 26 sampled languages (and also in English). There is a grammaticization path said to be particulary common in African languages from ‘buttocks’ to ‘down’ (Heine and Kuteva 2002: 63); however, it is hard to impossible to tease apart these cases from those where relevant terms are glossed as ‘bottom’ as a slightly euphemistic alternative for ‘buttocks’ themselves. All cases are reported here in spite of the fact that some may be spurious, though it is notable that in many cases the extension is said to be explicitly to ‘bottom of a vessel,’ so that there are clearly also genuine cases. The association with ‘bottom’ or ‘base’ is attested by colexification in Buli, Efik, Hausa, Rendille, Buin, Burarra, Kwoma, Mali, Muna, Ngaanyatjarra, Kosarek Yale, Badaga (by an archaic term), Basque, Sora, Lesser Antillean Creole French, San Lucas Quiaviní Zapotec, Aymara, Carib, Guarani, Ancash Quechua (where the relevant term is also an insult), Great Andamanese, Kapingamarangi, Lenakel, Malagasy, Rotuman, and Bislama. Tetun has kidun-tahan ‘bottom-flap,’ and Meyah oṣkú ofoğú ‘bottom flesh’ (a semianalyzable term with ‘flesh’ is also found in Kyaka). Note also Kosarek Yale di kumkum ‘faeces neck/base’ and dibomaak ‘faeces-front.end/lower.part/bottom;’ semianalyzable terms with ‘bottom’ are furthermore found in Sko (where the putative constituent means “bottom of a four-legged animal” more specifically), Waris, and Wappo. Another cross-linguistic association related to a grammaticization path (Heine and Kuteva 2002: 62) is that with ‘behind.’ Here, the same cautionary remarks made above for ‘bottom’ apply. ‘Back’ and/or ‘behind’ or ‘hinder part’ are colexified in Buli, Ngambay, Dongolese Nubian, Rendille, Badaga, Basque, Sora, Oneida, Carib, Huambisa, Rama, Fijian, Hawaiian (where the relevant term bears other related meanings as well), and Rotuman. Moreover, Chickasaw has im-gšaka’ ‘DAT-back,’ and Nuuchahnulth ?amasʔakšǐ, analyzable as /ʔam-as-’akšǐ/ ‘in.the.centre-approach-behind’ (a complex term featuring an element meaning ‘behind’ may have been present in Middle-Eastern Tasmanian). Somewhat similarly, ‘buttocks’ betrays an association with ‘end’ by colexification in Efik, Dongolese Nubian, Basque, San Lucas Quiaviní Zapotec, and Jarawara, while Abzakh Adyghe has ēent’st’ /ē’e-n-t’(e)-ʔ’(e)/ ‘end-RELAT/EPEN-poke.out-peak’ and Kosarek Yale the aforementioned term di-bomaak ‘faeces-front.end/lower.part/bottom.’

There are also contiguity-based associations with adjacent parts of the body: Dongolese Nubian, Rotokas, Toaripi, Badaga, Sora, Cheyenne, Lakhota, Pipil, Aguaruna, Bora, Jarawara, Hawaiian (the relevant term ‘okole may be derived from kole ‘raw, inflamed, red,’ there is another Hawaiian term with a similar structure containing kole), and Bislama colexify ‘buttocks’ with ‘anus,’ and Baruya features a complex term with the constituents
‘anus’ and ‘hill.’ ‘Buttocks’ is colexified with ‘hip’ or ‘haunch’ in Dongolese Nubian, Kwoma, Kosarek Yale, Japanese, Kildin Saami (by the analyzable term čuarr-piell ‘pelvic-half’), Welsh, Upper Chehalis (by a term containing a constituent meaning ‘elbow;’ the gloss ‘hips’ is put in parentheses in the source), Yuki, Central Yup’ik (Nunivak Island dialect), Cashinahua, Piro, Hawaiian, Bwe Karen (where the relevant term contains -ká ‘hind part’), and Sedang, in which latter the relevant term kotei is also the name of a gray bird. Japanese further has the analyzable term den-bu ‘hip-part,’ Bororo etawu oto ‘hip point,’ and Mandarin pi4-gu ‘fart-upper.thigh/hip/member.’ Mandarin is not the only language betraying an association with ‘thigh’: Ngambay and Kildin Saami (by the same analyzable term just mentioned) colexify ‘thigh’ with ‘buttocks,’ and Chickasaw has iyyobi' ishto-ka' ‘thigh be.big-NMLZ.’

Toaripi, Kosarek Yale, Khalkha, Biloxi, Cheyenne, Kiowa, Lesser Antillean Creole French, Pawnee, Embera (by the term ândáuboregéa, analyzable as /ândáu-booregéa/ ‘rear/hind-fat’), Miskito, Wayampi, and Fijian colexify ‘buttocks’ with ‘rump.’ There is also one association with another body-part that seems metaphorical in nature, namely that with ‘cheek.’ Basque and Pawnee colexifies these meanings, while Japanese has bhaga-no koro ‘cheek-ross buttock,’ Kashaya sili qa'a ‘rear jowls,’ and Wichí towejch’alus contains wej ‘queue’ and ch’alu ‘cheek.’

As discussed above, Kosarek Yale has a complex term where one constituent is ‘faeces;’ this association is also found by colexification in Takia and by overt terms also in Bora (námehéyu /name-héyu/ ‘faeces-cl.hole’), Jarawara (joto-hoti ‘faeces-hole’), and Lenakel nɨmwa-nisii- ‘covering-excrement:-‘ for the association with ‘hole,’ note also Kolyma Yukaghir nɪrɛd-ajil ‘bad-hole.’

There are also metaphorical extensions of ‘buttocks,’ sometimes to more abstract meanings: Yoruba and Mali colexify it with ‘reason,’ Hausa and Yoruba with ‘root’ (Hausa also with ‘foundation’), and Haída, Guaraní, Miskito, and Hawaiian with ‘stern of boat.’ Moreover, Rendillé, Basque, and Kolyma Yukaghir colexify ‘buttocks’ with ‘tail,’ while Rama has tükakás, analyzable as /tuk-kás/ ‘tail/end meat,’ White Hmong pob-tw ‘ball-tail,’ and in Khoekhoe, the same root is used with alternating nominal designants to convey the two meanings. Similarly, Ngaanyatjarra colexifies ‘tail of insect’ specifically. Finally, Buli, Basque, Rama, Samoan, and Yay colexifies ‘buttocks’ with ‘seat’ (Samoan also with ‘dwell-ing, residence’ and ‘station;’ the meaning ‘buttocks’ is polite). Similarly, Yuki and Samoan feature terms derived from verbs meaning ‘to sit.’

Other associations include: Buli colexifies ‘buttocks’ also with ‘outside, outer surface,’ as said of pots, and, by a different term, with ‘descendants,’ in particular ‘grandchildren.’ Ngambay bagiri also denotes a ‘sieve, type of basket to remove husk from sesame, millet and gourd seeds.’ Yoruba colexifies ‘buttocks’ with ‘waist.’ Buin koku also means ‘valley’ and ‘point of a banana rope,’ while Muna koro also denotes a type of rooster, and One you also means ‘call.’ Abzakh Adyghe ēment’āt’ also means ‘kidneys’ and Badaga künde also ‘olive’ inter alia. Sora colexifies ‘buttocks’ with ‘rectum,’ and Chickasaw ishkish is also used to refer to the sexual organs in general. The Haída term ruda is also used with the meanings “the outside part of certain body parts,” “that part of an island nearest to other land” and “side of house.” Kiliwa ?uuw-h-pa? is analyzable as ‘vagina-3-set.round.object.down.’ The Kiowa root lei- in lei-dî ‘buttocks’ also means ‘calf’ when used
with the noun postfix -p. Oneida ohnáʔtshaʔ also means ‘small stool,’ Tuscarora uhnh-neh and Guaraní toyta also ‘trunk’ (San Lucas Quiavini Zapotec colexifies ‘trunk of car’ specifically), and the Wintu term werem tah contains tah ‘nearby.’ Miskito pnata also means ‘croup.’ Great Andamanese ardama appears to contain dama ‘lean’ – in contrast, Hani daoqmeil seems to contain meil, meaning ‘fat, obese’ inter alia. Hawaiian lemu is also used with the meaning ‘slow-moving, sluggish, lagging,’ and o’kole is also the name of a sea creature. Rotuman muri also means ‘young, not having reached maturity.’

107. The Calf

| Representation: 79% |
| Motivated: 43.4% |
| Thereof Analyzable: 34.0% |
| Thereof Colexifying: 10.5% |
| Thereof by Contiguity: 13.0% |
| Thereof by Similarity: 28.5% |
| Recurrent associated meanings: leg/foot, belly/stomach, muscle, shin, egg, knee, pregnancy, cheek, scrotum, fruit, flesh |

Motivated terms for the ‘calf’ are more often morphologically complex than colexifying, and more often driven by metaphor than by metonymy. In most languages with complex terms, one of the constituents means either ‘leg’ and/or ‘foot.’ In ten sampled languages, ‘belly’ or ‘stomach’ is the meaning of the second constituent, as in Wichí tot-kolo-ts’e ‘POSS.INDET-leg-paunch.’ Such terms are also attested in Efik, Sko, Toba, Malagasy, Mandarin, White Hmong, and Tetun. In addition Welsh colexifies ‘calf’ with ‘belly, womb’ and by another term with ‘belly, stomach’ (and has additional redundant complex terms), and Cashinahua has bipustu, where pustu is ‘stomach’ and bi ‘mosquito’ and ‘anteater,’ alongside bi-tuxtu, where tuxtu is ‘rounding.’ In Pawnee, furthermore, ‘calf’ is kaac-karaar-u7 ‘gray-belly-NOM.’ Compare Sadovsky (1973) for discussion of this association and Matisoff (2004: 358) for further examples; Sadovsky also demonstrates a widespread association of ‘fish’ or more specifically ‘fish roe’ with the ‘leg’ and the ‘calf of the leg’ in Eurasia more specifically.

Similarly, Wayampi has timá-puluʔa ‘leg-be.pregnant,’ and this metaphorical transfer is realized by colexification with ‘visibly pregnant’ in Ngaanyatjarra, where the latter meaning is register-specific. Swahili has shavu la mguu ‘cheek of leg,’ and Hawaiian colexifies ‘calf’ with ‘cheek’ directly, alongside other meanings such as a container made from a long gourd. Biloxi has yupkê-’i’ti ‘leg-egg.’ An analyzable term of the lexical kind is also found in Haida, and one of the derived kind in Burarra. In Takia, the ‘calf’ is ge-n labè-n ‘leg-3SG scrotum-3SG,’ while Hawaiian colexifies ‘calf’ and ‘scrotum’ (among other meanings). Yaqui has woktomam /wokim-tomam/ ‘feet-muscles;’ such a term (with ‘leg’ rather than ‘feet’) is also featured in Kashaya (here, ḥap’et curiously colexifies ‘muscle’ with ‘mussel,’ in particular Mytilus californianus), while Khalkha, Cheyenne and Tehuelche colexify ‘calf’ with ‘muscle’ generally; moreover, Badaga monṇe kanḍa is analyzable as ‘lower muscle.’ There are also many other complex terms where one of the constituents is ‘foot’ and/or ‘leg’: Yoruba has iṣu-ẹṣẹ ‘yam-leg,’ Basque zango-sagar ‘leg-apple,’ Upper Chehalis sáwít'yq contains ḥaw- ‘behind’ and =iyq ‘foot/leg,’ Chickasaw has iyiyintakaalṭi, analyze-
ble as /iyyi' im-takaali-/ ‘leg DAT-be.hung.up.on-NMLZ,’ San Mateo del Mar Huave mi-pemb oleajaran ‘AL.POSS-water,pitcher/gourd foot/leg,’ Kiliwa miy=ha? ‘leg-face’ (marked with a question mark in the consulted source), Lesser Antillean Creole French gwat janm ‘grater leg,’ Santiago Mexquititlan Otomí dot’üwa, questionably analyzable as /tot'i-wa/ ‘fold/bend-foot/leg,’ Yana za?pgul-gadu /za?pgul-gadu/ ‘full/be.filled-leg,’ Carib -isai-punu ‘-leg-chair,’ Guaraní tetyma ro’o /tetyma to’o/ ‘leg flesh’ (for which compare Kwoma hapa omu ‘bone flesh/seed/fruit,’ for which in turn compare Bwe Karen kha-ɗɛ-θɛ ‘leg-narrowest.part-fruit’), Rama kät-arig ‘foot-shit,’ Wayampi tɨmãkuʔa ‘leg-middle,’ Fijian temo ni yava ‘thick.part.of.limb POSS leg,’ Rotuman parpar ne là /parpara ne là/ ‘soft ART.PL foot/leg,’ Samoan ate-vae ‘liver-foot/leg,’ Vietnamese bộp chân ‘shaft leg,’ and Yay ṭaaay1 ka1 (raay4) ‘goiter leg (mark).’ Finally, Comanche has taʔwiitsa, seemingly analyzable as /ta-wiitsa/ ‘foot-leg,’ there is a semianalyzable term where the identifiable constituent means ‘leg’ in Bakueri, where it means ‘back side of leg’ specifically in Catawba, and a semianalyzable term involving a lexical affix for ‘foot, toe, leg from knee down’ in Upper Chehalis.

Greek, Quileute, Cubeo, Miskito, and Ñimba Quechua colexify ‘leg’ with ‘calf’ directly (and Hani with ‘lower leg below knee’ more specifically), while the referent of the relevant Pipil term varies semantically between ‘leg’ in the Cuisnahuat dialect and ‘calf of leg’ in the Santo Domingo de Guzmán dialect. Semianalyzable terms are furthermore found in Bakueri, Bula, Mbam, Anggor (the meaning of the entire term is considered uncertain by lexicographers; the unknown element is mbosɨmundɨ, compare mbusɨmondɨ ‘middle sibling, thorax of spider’?), Kemeit, Nganya, Sentani, Abzakh Adyghe, Badaga, Sora, Chickasaw, Highland Chontal, Oneida, Embera, and Lenakel.

Further, Badaga, Chickasaw, and Sedang colexify ‘calf’ with ‘shin’ (Sedang also with ‘to pick vegetables,’ ‘to transplant rice’); analogously, Japanese has fukura-hagi ‘swell-shin,’ and Great Andamanese has abchâltadama containing abchâlta ‘shin’ and dama ‘lean’ and tâl’ârdama containing tâ ‘bone’ alongside the element meaning ‘lean.’ A semianalyzable term with ‘shin’ is also found in Carrier. Finally, Kosarek Yale and Badaga colexify ‘calf’ with ‘knee,’ Aguaruna with ‘hollow of the knee,’ and Yir Yoront has nhal-kar ‘back/inside.of.knee-like.’

Other associations include: Hausa sha ra’ba is analyzable as ‘drink dew’ (with ra’ba however also meaning ‘to crouch near something’ inter alia). The whole term can also refer to a “metal ornamental point to a sword or knife sheath.” The Khoekhoe root lkhoe yields the meanings ‘calf (muscle)’ and “meat of shank, knuckle” depending on the nominal designant suffixed. Muna lambi, as a verb, means ‘to hang,’ and Kosarek Yale buding is also the name of a tree frog species and a variety of taro. Basque (Lower Navarrese dialect) aztai also means ‘heel,’ and Kolyma Yukaghir činšade containing činšo ‘leg muscles’ may also refer to the ‘back part of boots.’ The Kiowa root tei- in tei-p ‘calf’ also yields the meaning ‘buttocks’ when used with the noun postfix -dl, and Wintu ḋubur may be related to Öy ‘to sprawl, stretch.’ Xicotepex de Juárez Totonac i’xchāpata’kāt contains cha’pē ‘pole,’ and Central Yup’ik nakacunaŋ consists of nakacuk ‘bladder’ and the postbase (see § 4.4.2.) -naŋ ‘one like,’ while Copainalá Zoque po’c po’c ‘knot, trunk of tree, blain.’ Chayahuita pa’o ~ pa’hwe also means ‘butt of a gun,’ and Yanomámi shiäpi also means
‘thick part of an axe that doesn’t cut.’ For Ancash Quechua *pinkuullu*, compare *pinkullu* ‘slim flute.’ Tetun *kloor* may also refer to a ‘hamstring, hock,’ ‘footstring,’ or a ‘trace.’

108. The Cheek

Representation: 93%
Motivated: 26.3%
Thereof Analyzable: 10.2%  Thereof Colexifying: 16.5%
Thereof by Contiguity: 20.3%  Thereof by Similarity: 4.2%
Recurrent associated meanings: face, jaw, mouth, cover, temple, chin, buttocks, edge, meat/flesh

‘Cheek’ (ignoring additional glosses like ‘side of face’) is often colexified with ‘jaw,’ namely in Buli, Yoruba, Gurindji, Yir Yoront (by the term *wal-kur* ‘cheek/temple-slashing.sword’), Welsh, Lesser Antillean Creole French, Wintu, Abipón, Miskito, Kapingamarangi (by the term *gau wae*, which is seemingly analyzable as ‘side foot/leg’), and Manange (see Buck 1949: 220-221 for the strong diachronic ties between terms for ‘cheek,’ ‘jaw’ and ‘chin’ in Indo-European). In Basque there is dialectal variation of the meaning of *baraila*, meaning ‘jaw’ alongside ‘revelry, fray’ in the Biscay dialect and ‘cheek’ in the Zuberoan dialect; further, for Hani *baqba*, compare *baqxoq* ‘jaw.’ Common are also associations with ‘face’ (and sometimes due to further colexification also with ‘front’), by colexification in Northeastern Tasmanian, Abzakh Adyghe (by the analyzable terms *nek°ʔəṡ°e*, containing *ne* ‘mouth’ and *š°e* ‘skin’ and *nek°ashe*, containing *ne* ‘mouth’ and *šhe* ‘upper part’), Chickasaw, Lesser Antillean Creole French (where also ‘figure, form’ and other meanings are colexified), Nez Perce, Wintu, Carib, Hop, Ancash Quechua, Tehuelche, and Sedang. In addition, Abzakh Adyghe has *nepaš°e* /nape-š°e/ ‘face-skin’ (a semianalyzable term with ‘skin’ is found also in One), Kiowa has *tou-παq′γυτ* ‘face-in.the.middle.of,’ Guarani *tova-yke* ‘face-side,’ Imbabura Quechua *ñawi chičhu* ‘face pregnant,’ and Rama *mnjut kás* ~ *ųmnjut kás*, containing *ŋuţ* ‘face’ and *kás* ‘meat.’ A term with identical structure is found in Maxakali, and for Carrier, the source remarks: “the Carrier for cheek seems to mean face-profile, or nearly so” [sic!]. Semianalyzable terms for ‘cheek’ where the identifiable constituent is ‘face’ are furthermore found in Xicotepec de Juárez Totonac, Yana, and Tsafiki. Alongside the Abzakh Adyghe term just mentioned, there are also associations between ‘cheek’ and ‘mouth’ in other languages (in diachrony, Romance terms for ‘mouth,’ such as Spanish *boca*, go back to Latin *bucca* ‘cheek,’ see also Buck 1949: 221 on the cognacy of Germanic terms for ‘cheek’ with Avestan ‘mouth’): they are colexified in Burarra (also with ‘lips;’ the term has broad reference to the ‘mouth area’ in general), and analyzable terms are found in Mbam (*fà-hàù* ‘sack-mouth;’ similarly, ‘bag’ and ‘cheek’ are colexified in Ngambay), Sora (*kub-mâb-tam-an* ‘unite/be.covered-??-mouth-N.SFX; similarly, Efik has a derived term from a verb meaning ‘to cover’ and Rotuman colexifies ‘cheek’ and ‘(to) cover’ inter alia), and Kiliwa (*yuw=ha?=kw-cas* ‘eye-mouth=WH-??,’ with *yuw=ha?* meaning ‘face;’ there is a semianalyzable term where the identifiable constituent means ‘eye’ in Abzakh Adyghe). Dialectally, the meaning of Yana *bal(la)* varies between ‘cheek’ and ‘mouth.’ Semianalyzable terms with ‘mouth’ are
also featured in Baruya and Kiliwa. Dongolese Nubian and Yir Yoront colexify 'cheek' with 'temple' (Yir Yoront alongside 'ear' and 'sleep'), and Burarra and perhaps Abipón with 'chin.' Basque and Pawnee colexify 'cheek' with 'buttocks,' Katcha colexifies 'cheek' with 'edge,' and Copainalá Zoque has aca-pac 'edge-bone' (an element meaning 'bone' is also etymologically recoverable in the Ket term for 'cheek').

Other associations include: Lavukaleve hou is also used with the meaning 'smoke,' while Muna bhaga also means 'molar tooth' (there is a semianalyzable term containing an element meaning 'tooth' in Berik; compare also Nunggubuyu ramara 'cheek' and ra: 'tooth'). Toaripi heva also means 'gill.' Sko dêbi appears to be analyzable as /œ-bi:/ 'penis-shell/floor' and also means 'testicle,' while Tuscarora unhii̊weh also means 'areola of nipple.' Arabela sacomara 'cheek pouch' appears to consist of saco 'hollow fruit' and mara 'swamp.' Jarawara abate/ebete also means 'tongue,' and Tehuelche q'ape-n-k'en is analyzable as 'be.red-??-loc.' Fijian balu also denotes the 'sides of the head of a club,' while Hani baqba may be related to baq 'direction,' 'thin' and ba 'light in color, white.' Hawaiian colexifies 'cheek' and 'calf of leg,' papālina ~ pāpālina is perhaps analyzable as /papa-lina/ 'flat.surface-soft' (both papā and pāpā exist as well, but do not have meanings standing in any obvious relationship with 'cheek'), and Bwe Karen -ɓọ also means 'packet, parcel' and "creeper with a bitter shoot."

109. The Chin
Representation: 90%
Motivated: 44.2%
Thereof Analyzable: 12.8% Thereof Colexifying: 33.0%
Thereof by Contiguity: 40.5% Thereof by Similarity: 3.8%
Recurrent associated meanings: jaw, beard, mouth, lower/below, bone/skeleton, cheek

'Chin' is very commonly colexified with '(lower) jaw' cross-linguistically (see Buck 1949: 220-221 for the strong diachronic ties between terms for 'cheek,' 'jaw,' and 'chin' in Indo-European). This is found in as many as 44 languages, namely Yoruba, Baruya (by the analyzable term maanaginya /maanga-yaginya/ 'mouth-bone'), Kaluli, Kwoma (by the term teekibi, perhaps containing teeki 'to string, tense' and bi 'point'), Kyaka, Lavukaleve, Mali, One, Rotokas, Southeastern Tasmanian, Toaripi, Kosarek Yale, Abzakh Adyghe (by the analyzable term ęe-pq 'mouth-skeleton'), Greek, Japanese, Ket (by a semianalyzable term containing its pronunciation 'tooth,' an element with that meaning is also found in the Berik, Embera and Kaingang terms), Khalkha, Nivkh, Welsh, Kolyma Yukaghir, Blackfoot, Upper Chehalis, Cheyenne, idiolectally in Chickasaw, Itzaj, Kiliwa (by a semianalyzable term containing ha? 'mouth'), Nez Perce, Nuuchahnulth (by the analyzable term hiinii̊xaksut /hiinii̊xaiʔ-xaksut/ 'lower/below-at.the.mouth/at.the.lips' which also denotes the 'lower lip'), Pipil (by the analyzable term -ten-tsika-w 'mouth-ant-poss'), Arabela, Aymara, Cashinahuia, Embera (where the meanings are associated with different genders), Guaraní, Jarawara, Macaguán (by a semianalyzable term containing -buk 'heel'), Rama (by a semianalyzable term containing an element meaning 'tree, foot' and colexifying 'grater'), Tehuelche, Yanomamí, Mandarin, White Hmong, Samoan (by the analyzable term 'au-vae
‘CLASS long or narrow things-foot/leg’ which also means ‘foot of hill), Takia (by the analyzable term *awa-n to-n* ‘mouth-3SG arm-3SG’), Tetun, and Yay; a semianalyzable term is found in Mandarin. Complex terms for ‘chin’ on the basis of ‘jaw’ are Biloxi *yatka’ psu’ti’ ~ *iyatka’ psu’ti’ ~ *nyatka’ psu’ti’ /yatka’ pû’tsa/ ‘jaw sharp,’ Cayapa *tejmashtmutu* /tejmashi-mutu/ ‘jaw-corner,’ and Chayahuíta *huin cohuiratë* ‘child/prow jaw.’ Associations with ‘beard’ are also quite common, also in Indo-European (Buck 1949: 224). ‘Beard’ and ‘chin’ are colexified in Dongolese Nubian (which also colexifies ‘whiskers’), Gurindji, Ngaanyatjarra, Tasmanian (Northeastern, Middle Eastern, and Western), Badaga, Embera, Fijian, Rotuman, and Tetun. Further, Kanuri has *njìtì-rám* ‘beard-place.of,’ in Swahili, the term for ‘chin’ consists of that for ‘beard’ and a noun class prefix, and semianalyzable terms are found in Buli and Sentani (note that Ancient Greek had a term literally translated by Buck 1949: 224 as ‘that which has a beard on it’ and Russian one literally meaning ‘what is under the beard,’ there is a semianalyzable term where the identifiable constituent means ‘under’ inter alia in Wintu). Bora has *újcawa*, with the same root possibly also occurring in the word for ‘beard,’ but segmentation is uncertain. As already seen in some of the above terms, there are also associations between ‘chin’ and ‘mouth:’ Burarra has a general term referring to the mouth area in general, including the ‘chin,’ and complex terms are found in Baruya (*maanaginya* /maanga-yaginya/ ‘mouth-bone’), Sora (*dañykal’tam– ñanagyultam–*, containing *dañay–* meaning ‘obstruction, bar’ inter alia and *tam ‘mouth’), Kiowa (*beidl-’eį’m ‘lip/mouth-bone’), Nuuchahnulth (*hiiniilaksut* /hiiniilka-laksut/ ‘lower/below-at.the.mouth/at.the.lips’), Pipil (*ten-tsika-w ‘mouth-ant-ross’), Lengua (*konng atang ‘below mouth’), and Mandarin (*xia4*, with *xia4* meaning ‘down, lower’ and *ba referring to the ‘mouth’). Semianalyzable terms are found in Nunggubuyu and Kiliwa. For the associations with ‘bone’ above, note also that Carrier has a semianalyzable term where the identifiable constituent bears that meaning. Finally, Burarra and perhaps Abipón colexify ‘chin’ with ‘cheek.’ Other associations include: Dadibi *penani* also means ‘adultery, fornication,’ One *sesu also to squish,* Kosarek Yale colexifies ‘chin’ with “wattle of an agama,” and Basque *kokots* also means ‘snout,’ ‘calyx,’ and ‘mesh.’ Carrier *-yêta contains ta ‘surface,’ Central Yup’ik *tamu ~ tamlgu tamu- ‘to chew once,’ and Jarawara *enekiri/enekiri* also means ‘gill.’ Macagúan *pipumachipla* also can refer to the ‘forehead,’ Toba *laq’ also is glossed as Spanish ‘pera,’ which is either ‘pear,’ ‘bulb,’ or ‘signal horn’ in English, while Wayampi *eni-wa* is analyzable as ‘saliva-eater.’ Fijian *kum* also denotes ‘Tongan cloth,’ and Bwe Karen *kh* also means ‘to be bitter’ inter alia. Hawaiian *iuwe* inter alia also denotes the “curved notch cut on the outer side of a post below the base of a tenon.” Rotuman *kumkumu* also denotes a species of crab, and Tetun also means ‘ambush’ and “notch in wooden columns of buildings for the positioning of beams.”

6.2.2.110. The Eyeball

Representation: 36%
Motivated: 86.9%
Thereof Analyzable: 81%  Thereof Colexifying: 7.5%
Thereof by Contiguity: 17.5%  Thereof by Similarity: 65.4%
Recurrent associated meanings: eye, seed, egg, pupil, child, fruit, grain, stone, ball, round object

Terms for ‘eyeball’ are overwhelmingly morphologically complex in the languages of the sample, and are often metaphor-based. Typically and obviously, ‘eye’ is one of the constituents, and the second one in metaphor-driven terms typically denotes a small round object. Ngaanyatjarra has kura yurniny(pá) ‘eye seed/grain,’ and terms with an association with ‘seed’ are also featured in Buli, Efik (where ‘seed’ is mpa’síp ~ mpkà-síp /mp’kò-síp/ ‘thing-be.small’), Kwoma, Muna, Sahu, Kosarek Yale, Sora, Itzaj, Lesser Antillean Creole French, Wintu, Guaraní (though note that ta’yì ‘seed’ is a diminutive of ta’y ‘son, clot’), Miskito, Bwe Karen, and Sedang, while Yay features a semianalyzable term where the identifiable constituent is ‘seed.’ Kosarek Yale wana colexifies ‘seed’ with ‘eye,’ ‘heart,’ ‘egg,’ ‘fruit,’ and ‘child’ (compare § 6.2.3.1.), and, by virtue of this, the term for ‘eyeball’ hêìng wana also betrays an association with these meanings. An association with ‘egg’ is also found in a number of other sampled languages, as in Toba l’-ai l-’co’uë ‘3SG.POSS-eye 3SG.POSS-egg,’ and also in Efik, Koyraboro Senni, Mbum, Yoruba, Sora, Wintu, Fijian, Kapingamarangi, and Lenakel. Wappo has huçí-lél /huçí-lél/ ‘eye-stone’ (which also denotes ‘hailstone’), and analogous complex terms without the additional colexified meaning exist in Koyraboro Senni and Kashaya (in Koyraboro Senni, the constituent meaning ‘stone,’ however, is said to assume the meaning ‘egg’ in compounds as well). Similarly, Kosarek Yale, Kwoma, and Miskito colexify ‘seed’ and ‘fruit,’ and therefore, in these languages, ‘fruit’ is (also) the source concept for the metaphorical transfer; the same situation obtains in Tetun. Further, Piro colexifies ‘large round fruit’ with ‘ball,’ and analogously to English eyelid, ‘ball’ is the meaning of the second constituent in Lake Miwok (süt polóló ‘eye ball’), in Kiliwa, and, by virtue of the language’s pattern of colexification, in Piro. Similarly, Basque has begi-globo ‘eye-globe.’ Katcha has bìba-mˈo ‘child ??-eye,’ and such terms are also found in Kosarek Yale, by virtue of the large semantic range of the constituent wana as discussed above, Welsh (colexifying ‘boy, son’ specifically rather than ‘child’ generally; this term is marked as being obsolete), Samoan, and, because of the internal structure of the term for ‘seed’ discussed above, also in Guaraní. A semianalyzable term with ‘child’ is featured in Yay, and similarly, Carrier has tšûtɛn-pɛ̆-šta ‘child-wherewith-seat.’ This pattern is likely intertwined with the association between the ‘eyeball’ and the ‘pupil’ (see also section 130); ‘eyeball’ and ‘pupil’ are colexified (sometimes by analyzable terms discussed elsewhere in this paragraph) in Hausa, Katcha, Yoruba, Welsh, Wintu (where the relevant term also denotes the ‘iris’ at the same time), and Guaraní.

Complex terms with ‘round object’ alongside ‘eye’ are featured in Chickasaw (ishkin lobo ‘eye round.and.firm.object) and Oneida, and Blackfoot has ohkomapinissin /ohkom-apini-hsiN/ ‘be.round-eye-NMLZ.’ There is a complex term with ‘white’ in Kaingang (kané kupri ‘eye white’). Other complex terms of the lexical type with ‘eye’ being one of the constituents are Hausa k’wayar ido ‘grain eye’ (this association is also present in Ngaanyatjarra, as noted above, as well as Lesser Antillean Creole French. Similarly, Hani miavneev ‘eyeball, eye’ is derived from miav ‘eye’ by means of neev, the classifier for beans and grains), Mbum má-yàr ‘mother-eye,’ Ngambay dô-kêm ‘head/on-eye,’ Kosarek Yale
being ngei ‘eye ground/basis,’ Sora ‘ran-ra’-mad-an ‘gold-eye-N.SFX’ (glossed in the source as ‘gem of the eye’ and marked with a question mark), Welsh canwyll y llwyd ‘candle DET eye,’ Cheyenne meno-wéxané, containing mené ‘berry’ and éxané ‘eye’ (gloss in the source: “globular (that is, berry).shaped-eye”), Lesser Antillean Creole French koko zié ‘coconut eye,’ Jarawara noki noko korone ‘nakedness eye,’ Samoan ‘roi-mata ‘tuber/corm-eye,’ and Bislama mabol blong ae and pi blong ae ‘marble POSS eye.’ Moreover, ‘eye’ and ‘eyeball’ are colexified directly in Buli, Koyraboro Senni, Toaripi, Yir Yoront, Laz, Nivkh, Jarawara, and Hani. In this case, the ‘eye’ as a physical object is probably the colexified meaning more precisely; semianalyzable terms for the ‘eyeball’ on the basis of ‘eye’ are found in Koyraboro Senni (where the second constituent is diachronically relatable to a word meaning ‘belly’), Yir Yoront (where the second constituent diachronically goes back to a word meaning ‘belly’), and Bislama.

Other associations are few in number: the Burarra term munbarra consists of the noun class prefix mun- and barra ‘rear end,’ Greek colexifies ‘bulb’ with ‘eyeball,’ and Nuuchahnulth ḥiskc̓im contains the verb root ḥisk- ‘for the eyes to flash white.’ San Lucas Quiavini Zapotec bāa’ah is also used with the meaning ‘iris of the eye,’ and Piro tskata also means ‘cliff’ or ‘bank.’ Hawaiian pipi also denotes the ‘Hawaiian Pearl Oyster’ inter alia, and for önohi, compare nohi ‘bright-colored, vivid’ and the ‘similitude’ prefix ö-. This term also means ‘center, setting (as of a ring),’ and pona also means ‘socket,’ among other meanings.

111. The Eyebrow

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<tr>
<th>Representation: 92%</th>
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<tbody>
<tr>
<td>Motivated: 44.6%</td>
</tr>
<tr>
<td>Thereof Analyzable: 35.3%</td>
</tr>
<tr>
<td>Thereof Colexifying: 9.3%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 15.7%</td>
</tr>
<tr>
<td>Thereof by Similarity: 9.8%</td>
</tr>
</tbody>
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Recurrent associated meanings: eye, hair, eyelash, fur, feather, forehead, edge/fringe, wool, bone, brow of hill, eyeridge, joint

Motivated terms for ‘eyebrow’ are overwhelmingly of the lexical type, with ‘eye’ typically being one of the constituents. Unsurprisingly, the meaning of the other constituent is often ‘(body) hair,’ as in Highland Chontal libimi gahu /libimi lahu/ ‘body.hair eye.’ Such terms are also found in Kanuri, Koyraboro Senni, Ngambay, Berik, Dadibi, Kwoma, Toaripi, Badaga, Sora, Chickasaw, San Mateo del Mar Huave, Itzaj, Yuki, Cayapa, Jarawara, Miskito, Piro, Ancash Quechua, Rama, Bislama, Lenakel, White Hmong, and Yay. This pattern is also found in Tsafiki ca’c’á chidé fu ’eye tree/bone body.hair/fur/feather.’ In fact, an association with ‘bone’ is also attested in Ket and Pawnee (Pawnee, for instance, has kirikisu’ /kirik-kiis-u/ ‘eye-bone-NOM’). The Pawnee term also denotes the ‘superciliary ridge, supraorbital bone,’ and this may be the explanation for the association in the other languages as well (for instance, ca’c’á chidé may be the term for the ‘ciliary’ in Tsafiki). Similarly, One has namnaalo palla ‘eyeridge body.hair’ (Buin directly colexifies ‘eyebrow’ and ‘eyeridge’ inter alia), Hawaiian has ka’eku’e-maka ’joint/elbow/wristbone/knuckle-eye,’ and Tetun matan-fukan ’eye-knot/joint/knuckle.’ There are also complex terms where the constituents are ‘eye’ and ‘fur’ (although it cannot be excluded that, by colexification of ‘fur’ and ‘body
hair,’ these in fact could be subsumed under terms associated with ‘(body) hair’). Terms betraying an association with fur, either because this is the single meaning of the constituent as in Kolyma Yukaghir ayd’on-puqulbe: ‘eye-fur,’ or more frequently because ‘fur’ is colexified with ‘body hair’ are found in Buli, Badaga, Berik, Kwoma, Chickasaw, Kashaya, Rama, Tsafiki, Wayampi, Lenakel, Samoan, and Yay. In many of these languages, the relevant constituent also colexifies ‘feather.’ This association is present in Buli, Berik, Kwoma, Chickasaw, Highland Chontal, Rama, Tsafiki, Bislama, Lenakel, Yay, while Hani has miav-hao ‘eye-feather.’ Moreover, in Sora and Samoan, there is also an association with ‘wool’ due to colexifying structures in constituents of complex terms. Furthermore, Hupda has kawag-paw ‘eye-edge,’ and, similarly, Cubeo ča-me ‘fringe-class.lke.thread,’ while Abzakh Adyghe directly colexifies ‘eyebrow’ and ‘edge.’ Colexification of ‘eyebrow’ with edges of specific objects is attested for Hausa and with ‘edge of mountain’ (as well as ‘projection in cliff’) in Khoekhoe (compare the parallel association between ‘eyebrow’ and ‘mountain’ evidenced by cognates in Irish, Latvian, and Albanian, Buck 1949: 220). Other complex terms where one of the constituents is ‘eye’ are: Efik nditan-enun, seemingly analyzable as ‘stupidity-eye,’ Anggor himboari-siri ‘eye-root/clan/origin,’ Badaga kanmë eme ‘eye lid/lash,’ Basque betgain /begi-gain/ ‘eye-above’ (this may be calqued, given that French sourcil and Spanish ceja go back to Latin super-cilium ‘above-eyelid’), Lake Miwok sít lîmme ‘eye brush,’ Lakhoti ištúhe /štá-hé/ ‘eye-mountain,’ Arabela namija-qui ‘eye-class.cloth,’ Hupda kawag b’ok cú’h containing kawag ‘eye’ and b’ok ‘skin,’ Samoan tuā-mata ‘beyond/across-eye,’ and Takia mala-n ddawe-n ‘eye-3sg handle-3sg.’ There are semianalyzable terms in many languages: Bakueri, Koyraboro Senni, Kemtuik, Lavukaleve, Kosarek Yel, Abzakh Adyghe, Bezhta, Blackfoot, Carrier, Chickasaw, Lake Miwok, Nez Perce, Santiago Mexquititlan Otomí, Pipil (Santo Domingo de Guzmán dialect), Nicotepac de Juárez Totonac, Tuscarora, Wappo, Yana, Aymara, Bora, Macaguán, Hawaiian, Malagasy, Manang, Rotuman, and Sedang.

Several of the terms mentioned so far colexify ‘eyebrow’ with ‘eyelash’ (and there is semantic shift between these two meanings in Indo-European, Buck 1949: 219). This is the case in Buli, Koyraboro Senni, Berik, Kwoma, Kyaka, Sora, Chickasaw, Itzaj, Kashaya, Lake Miwok, Cayapa, Imbabura Quechua, Tehuelche, Bislama, Lenakel, Hani, Manange, White Hmong, and Yay. Furthermore, this pattern of colexification occurs in Burarra, Nganyatjarra, Nunggubuyu, Tasmanian (Middle-East and Southeast), Cheyenne, perhaps in Highland Chontal, Pipil, and Chayahuita by terms with no internal morphological structure.

However, there are also terms with constituents meaning ‘hair’ where the second element is not ‘eye.’ Thus, alongside a semianalyzable term in Cahuilla, Kyaka has lemaksi-sa emanji ~ lemaksi-si yamanji ‘eyelid-loc body.hair/fur,’ San Lucas Quiaiví Zapotec ayíich lahig ~ ayíich cyílahq /ayíich cyílahg/ ‘hair eyebrow.ridge,’ Tehuelche kaščex ~ kaščex, containing -aš ‘in, inside’ and čex ~ čex ~ čex ‘body hair, wool’ (alongside the similar term ?aščex ~ ačex ~ ?ačx ~ ?ačx ~ ?aščex ~ ačex ~ ačex, which also means ‘beard’), and Yanomámi wëyomahishi kōi ‘superciliary.arch body.hair.’ The Embera and Wayampi terms betray an association with ‘forehead: dráthu-kára ‘forehead-body.hair’ and apikà-l-a ‘forehead-of-hair’ respectively, while ‘forehead’ and ‘eyebrow’ are colexified in Rama and
Sedang (see Buck 1949: 219 on diachronic connections in Indo-European). Complex terms where one of the constituents is ‘forehead’ are also found in Comanche (kaʔibuhu ~ kaʔibuhu, analyzable as /kaʔi-pahu/ ‘forehead-fuzz’) and Kiliwa (miʔ-kw-m-puul=ny+miʔ ‘forehead=OBJ-??-hat=poss+forehead’) alongside semianalyzable terms in Biloxi and Carib. Imbabura Quechua has ñawi ñlma ‘face wool,’ and a semianalyzable term where the identifiable constituent means ‘face, eye’ is found in Yana, and one where it means ‘face, forehead’ in Upper Chehalis.

Other associations include: Rotokas uvu keru seems to contain uvu ‘sense something, hear’ and keru ‘harden like bone,’ while Sko ləbi is also used with the meaning ‘temple.’ Welsh ael also means ‘aisle’ and ‘litter.’ Cheyenne wʰenəse is related to a verb meaning ‘be singed,’ and Haida sk’yaayi ~ sk’yah ~ sk’y@ is also used with the meaning ‘the first step down into a housepit.’ Arabela susque, containing -que ‘cloth,’ also means ‘cloth with moths,’ and the relevant Cubeo term also denotes the ‘tilde’ in typography. Guaraní tyytu appears to contain tyyv, which can mean either ‘younger brother’ and ‘grave,’ or ‘ty’ urine.’ Fijian vacu is also used to refer to “the place of insertion of the legs of a crab into its shell” and means ‘to punch with the fist’ as a verb, Kapingamarangi himada contains mada ‘to look, see,’ and Vietnamese mày is also the personal pronoun for the second person singular. Finally, Lesser Antillean Creole French sousi also means “care, solicitude, anxiety.”

112. The Eyelash

As with the ‘eyebrow’ discussed in section 111 terms of the lexical type, with constituents meaning ‘eye’ and ‘(body) hair’ are frequent for the ‘eyelash’ as well. Terms such as Hupda kwag pǎt ‘eye hair’ are found in Bakueri, Efik, Koyraboro Senni, Berik, Dadibi (gedu pāde nisi ‘eye near/almost hair,’ as opposed to gedu nisi ‘eyebrow’), Kwoma, Muna, Meyah, Toaripi, Kosarek Yale, Abzakh Adyghe (with an additional element present: neήzac /ne-bz(e)-c(e)/ ‘eye-horn-hair/feur/feather/wool’), Basque, Japanese, Ket, Sora, Carrier, Chickasaw, Highland Chontal, Itzaj, Kiowa, Pawnee (kiriktaacpickiic, the relevant term, contains kirik ‘eye,’ raac ‘pubic hair,’ and kii’ac ‘long;’ it also denotes the ‘persimmon’), Santiago Mexquititlan Otomi, San Lucas Quiavini Zapotec, Aguaruna, Bororo, Cavineña (yatuka cuatsa tsaru, containing yatuka ‘eye,’ tsaru ‘hair’ and presumably e-cuatsa ‘mouth’), Cayapa, Cubeo, Emberá (dau-i-kára ‘eye-border-body.hair’), Maxakalí, Piro, Rama, Tsafiki, Wayampi, Yanomámi, Bislama, Great Andamanese, Hani, Lenakel, Malagasy, White Hmong, Sedang, Tetun (where the term is figuratively also used with the meaning “opportunity, chance”), and Yap. Very similar metaphor-driven terms are found in Lavukaleve (lemi oha ‘eye leaf’), Samoan (lau-mata ‘leaf eye’), and Fijian (bebekanimata /bekabeka-ni-mata/ ‘coconut.leaves-poss.eye;’ for this term, note also that ‘eyelash’ and “cocoa husk
are colexified in Rotokas). The association with ‘leaf’ is also present in Chickasaw, due to colexification of ‘body hair,’ ‘fur,’ and ‘feather.’ Note also Lake Miwok sít limme ‘eye brush’ and Bora hâlluli /hâlluu-l/li/ ‘eye-CL.brush.’ Katcha has mitiri m-iye ‘eyebrow ??-eye,’ Arabela namijia susuque ‘eye eyebrow,’ and Vietnamese lông mi ‘body hair eyebrow’ (an optional complex term of this kind is also found in Cheyenne, where ‘eyebrow’ and ‘eyelash’ are colexified). Other complex terms of the lexical type where ‘eye’ is a constituent are Mbun tî-yâr ‘coming.out-from-eye,’ Anggor, curiously, himboari yapisendi ‘eye lid,’ Badaga kàŋna hođe ‘eye bush/thicket/wood,’ Greek mátoklado, which is perhaps analyzable as /mât-o-klado/ ‘eye-STEM.FORMATIVE-branch,’ Kolyma Yukaghir aŋ’d-šepil ‘eye-door’ (denoting the ‘upper eyelash’ and ‘upper eyelid’ specifically), Cahuilla puščávay /-puš-čávay-a/-‘eye-fall-??,’ Kashaya huṭu pitem?, analyzable as /huṭuuy pitem?/ ‘eye droop.of.eyes,’ Jarawara noki masiri/noko masiri ‘eye grass/bird.species,’ Miskito won nakra taya ‘body.p.eyelid eye skin’ (this term also denotes the ‘eyelid’), and Wichí tottefvis, containing tef ‘eyes’ and wis ‘lairvae.’ There are terms with ‘fur’ as the second element alongside ‘eye’ (which is frequently colexified with ‘hair’) in Buli, Berik, Kwoma, Kyaka, Meyah, Muna, Toaripi, Kosarek Yale, which also colexifies ‘beard,’ Abzakh Adyghe, Chickasaw, Kashaya, Lesser Antillean Creole French, Huambisa, Lenakel, Samoan, Tetun, and Yay, while Welsh has blew yr amrant ‘hair/fur GEN eyelid’). In Buli, ‘hair’ and ‘feather’ are colexified. This is also the case in Berik, Kwoma, Meyah, Muna, Toaripi, Kosarek Yale, Abzakh Adyghe, Chickasaw, Huambisa, Tsafiki, Bislama, Lenakel, Samoan, Sedang, Tetun, and Yay, so that the relevant terms in these languages also bear an association with ‘feather;’ Hani has miav-hao ‘eye-feather’ for ‘eyebrow’ and ‘eyelash,’ without colexification of ‘hair and feather.’ Imbabura Quechua ũwi milma is analyzable as ‘face wool,’ and due to colexification with ‘hair’ and/or ‘fur,’ the association with ‘wool’ is also present in Abzakh Adyghe, Basque, Sora, Huambisa, and Samoan. There are semianalyzable terms involving a constituent ‘eye’ in Khoekhoe, Koyraboro Senni, Kosarek Yale, Bezhta, Khalkha, Blackfoot, Upper Chehalis, Chickasaw, Ineseño Chumash, Comanche, Haida (colexifying "ray of the sun shining through clouds"), Kiliwa, Lakhota, Tuscarora, Wappo, Wintu, Yana (where ‘eye’ and ‘face’ are colexified, the reference of the term is considered dubious), Copináal Zoque, Kaingang, Manange, and Takia.

As already seen in some of the terms just mentioned, associations between ‘eyelash’ and ‘eyelid’ are also common. They are colexified in Swahili, Gurindji, Badaga, Kolyma Yukaghir (‘upper eyelash’ and ‘upper eyelid’ specifically), Upper Chehalis, Santiago Mexquititlan Otomi, Cavineña (by analyzable terms containing ‘eye’ and ‘hair’ in both aforementioned languages), Miskito, and Hawaiian (by the term lihilihi, the reduplication base of which means ‘edge,’ colexifying also ‘lace,’ ‘to crochet,’ and denoting a variety of sweet yam). Similar to the Welsh term already mentioned but without colexification of ‘hair’ with ‘fur,’ terms containing elements meaning ‘hair’ and ‘eyelid’ are also attested in Yoruba and Kyaka. Similarly, Embera has dauíkará which appears to be analyzable as /dauí-ikaráa/ ‘eyelid-beard,’ and Guaraní has tope-a ‘eyelid-fruit.’ San Lucas Quiaviní Zapotec has yilch bàa‘ah ‘hair eyebrow’ (this term also denotes a card game), Tehuelche kaščex ~ kaščex, containing -aš‘in, inside’ and čex ~ čex ~ čex ‘body hair, wool’ (there also is the similar term šaščex ~ ačex ~ ṭačex ~ ʔačex ~ ʔaščex ~ ačex ~ ače which also means
‘beard’), and semianalyzable terms with ‘hair’ are in addition present in Aguaruna, Carib, and Lengua. Several of the terms mentioned so far colexify ‘eyelash’ with ‘eyebrow’ (see Buck 1949: 219-220 for Indo-European evidence for this association). This is the case in Buli, Koyraboro Senni, Berik, Kwoma, Kyaka, Sora, Chickasaw, Itzaj, Kashaya, Lake Miwok, Cayapa, Imbabura Quechua, Tehuelche, Bislama, Lenakel, Hani, Manange, White Hmong, and Yay. Furthermore, the association is in addition found by unanalyzable terms in Burarra, Ngaanyatjarra, Nunggubuyu, Tasmanian (Middle-eastern and Southeastern), Cheyenne, Pipil, and Chayahuita, and it may be present in Highland Chontal, where the terms differ only in one segment which may be a typographical error.

Given that there are many languages without colexification of ‘eyebrow’ and ‘eyelash,’ which, however, still express both meanings with complex terms on the basis of ‘eye,’ it is interesting how ‘eyebrow’ and ‘eyelash’ are differentiated. One solution, adopted in Toaripi, is to use the lexical differentiation between different types of hair present in the language: ofae ve mehe ‘eye ross hair’ is ‘eyelash,’ while ovo-tui ‘eye-hair.of.head’ is ‘eyebrow.’ Another option, present for instance in Badaga, is to have a metaphor-driven term for one of the meanings: kanu hoe ‘eye bush/thicket/wood’ is ‘eyelash,’ and kanu mailu ‘eye hair/fur’ is ‘eyebrow.’ Yet another one, present for instance in Basque, is to have a constituent neither meaning ‘hair’ nor being metaphorically related to it: betile /begi-ile/ ‘eye hair’ is ‘eyelash,’ and betgain /begi-gain/ ‘eye-above’ is ‘eyebrow.’ Moreover, Samoan has fulu-mata ‘fur/wool/feather-eye’ for ‘eyelash,’ and fulufulumata, with the word for ‘fur, wool, feather’ reduplicated, for ‘eyebrow.’ Finally, terms for both meanings may feature constituents meaning ‘eye’ and ‘hair,’ but one of them, typically ‘eyebrow,’ has another additional constituent. Thus, San Mateo del Mar Huave has miyed oniuuguaran ‘body.hair.eye’ for ‘eyelash,’ and miyed opech oniuuguaran for ‘eyebrow.’

Other associations include: Mali sachong angēt kēseng is analyzable as ‘vision its those.particular.long.ones,’ while Oneida o’nekųhtala? also means ‘strawberry top.’ The Norton Sound dialect of Central Yup’ik has qelemqaw · qelemqasq, containing a verb root meaning ‘to close eyes,’ while the Arabella term maque-teja is analyzable as ‘sleep/dream-instr.’ Rotuman lekleki also denotes a kind of tree.

113. The Eyelid

Representation: 71%
Motivated: 73.7%
Thereof Analyzable: 68.9% Thereof Colexifying: 5.3%
Thereof by Contiguity: 29.4% Thereof by Similarity: 20.8%
Recurrent associated meanings: eye, skin, peel/rind/shell, bark, leather/hide, eyelash, cover/lid, husk, lip, edge, surface, hair, scale, eyebrow, on, door/entrance, roof

Most frequently, motivated terms for ‘eyelid’ in the languages of the sample are analyzable and of the lexical type, consisting of elements meaning ‘eye’ and ‘skin,’ as in Yir Yoront mel-pertn ‘eye-skin.’ Such terms are (sometimes with additional meanings colexified with ‘skin’ to be discussed below) also attested in Efik, Hausa, Mbum, Ngambay, Dongolese Nubian, Berik, Kwoma, Sahu, Basque, Ket, Sora, Biloxi, Cheyenne, Kashaya, Kiowa, Lesser
Antillean Creole French, Pawnee, Pipil (Santo Domingo de Guzmán dialect), Yuki, San Lucas Quiaavin Zapotec, Copainalá Zoque, Aguaruna, Bororo, Carib, Cayapa, Hupíla, Maxakalí, Miskito, Piro, Imbabura Quechua, Rama, Tsafiki, Wichí, Great Andamanese, Hani, Malagasy, Mandarin, White Hmong, Takia, Tetun, and Yay; Cubeo has a term derived from ‘eye’ by means of a classifier for coverings, shells, skin, etc., which however, also has a lexical counterpart of the same phonological form. Due to colexification with ‘bark’ in many languages (section 135), the Efik, Kwoma, Sahu, Basque, Biloxi, Pipil, Copainalá Zoque, Bororo, Cayapa, Cubeo, Maxakalí, Piro, and Tsafiki terms for ‘eyelid’ also betrays an association with this meaning, and due to colexification with ‘leather,’ this meaning is associated in Dongolese Nubian, Sora, Lesser Antillean Creole French, Pipil, Copainalá Zoque, Cavineña, Miskito (which also colexifies ‘feather’), Piro, Tsafiki, Wichí, and Wichí. However, for ‘bark,’ there are also terms where it is genuinely ‘bark’ rather than ‘skin’ which figures as a constituent of the term: Abzakh Adyghe has na-ş° e ‘eye-bark/shell,’ and such terms, without colexification of ‘skin,’ are also found in San Mateo del Mar Huave and Sedang, and by direct colexification in Guaraní. Further, the Efik, Basque, Sahu, Itzaj, and Sedang terms also betray an association with ‘husk,’ and the Efik and Biloxi terms also with ‘scale.’ The association with ‘rind,’ ‘peel,’ and/or ‘shell’ is also present due to colexification with ‘skin’ and/or ‘bark’ in Efik, Basque, Itzaj, Lesser Antillean Creole French, Pawnee, Copainalá Zoque, Cayapa, Cubeo, Maxakalí, Piro, Tsafiki, and Hani, while in Bora, the term for ‘eyelid,’ ḥ̣alumíhó, is derived from ḥ̣allu ‘eye’ by the classifier -ṃɨ for hard shells and Hawaiian has kaupoi-maka, with maka meaning ‘eye’ and kaupoi ‘shell on back of crab or turtle’ as well as ‘kneepan,’ among other meanings.

Hawaiian also has another term for the ‘eyelid,’ ‘ūpo’i maka ‘cover/lid eye,’ and such terms (with ‘cover’ either being nominal or verbal) are also found among the languages of the sample in Dongolese Nubian, Sora, Welsh, Haida, Lesser Antillean Creole French, and Yana; the connection to a verb meaning ‘to cover’ is also etymologically detectable in Ineseño Chumash, and Piro colexifies ‘lid’ with ‘surface’ in general, for which compare Haida xang 7un /xang 7mana/ ‘eye top/surface.’ Chayahuita has ya’pira yonsan ‘eye edge.’ An analogous term is found in Yanomami, and Hawaiian has lihilii, reduplicated from lihi ‘edge,’ which colexifies also ‘lace,’ ‘to crochet,’ and denotes a variety of sweet yam. Kiliwa has yuw=ha?=hiiy ‘eye=mouth=edge/border,’ with yuw=ha? meaning ‘face’ and ha?=hiiy ‘lip.’ Similarly, Kosarek Yale has heing ham ‘eye lip,’ a term with such structure is also found in Wappo, while Cashinahua directly colexifies ‘eyelid’ with ‘lip.’ Ngambay has mb-kem ‘head/on-eye,’ Nikv njay-t’xy ‘eye-on,’ Buli num-gbong ‘eye/platform-roof’ and Beshta höys láaq’e ‘eye/gen roof.’ Curiously, One has namna palla ‘eye body/hair,’ and such a term is also found in Santiago Mexquititlan Otomi, where it colexifies ‘eyelid’ with ‘eyelash,’ as well as in Cavineña. Colexification of ‘eyelash’ and ‘eyelid’ is furthermore found in Swahili, Gurindji, Badaga, Kolyma Yukaghir (by the term and‘a-šepil’ ‘eye door,’ denoting ‘upper eyelash’ and ‘upper eyelid’ specifically; Dongolese Nubian also has a term where the second constituent next to ‘eye’ is ‘door’), Upper Chehalis, Santiago Mexquititlan Otomí, Cavineña, Miskito, and Hawaiian (by the term lihilii mentioned above).
Other complex terms for the ‘eyelid’ on the basis of ‘eye’ are Efik mfut-ënyn ‘shade eye,’ Kanuri fôrtà shîm-bê ‘root eye-of,’ Kildin Saami čall’m-rûmtas ‘eye-brim,’ Blackfoot ootokiádpînphîs, perhaps containing ootoki‘skull’ and aapini ‘eye,’ Cahuilla pušyúmuvëʔ, literally ‘eye hat,’ Upper Chehalis ƛûkʷašîn-s t mûs ‘above/top=ridge=?? indef.art eye/eyeglasses’ for ‘upper eyelid’ specifically, Kiliwa yuw=nat-u=kw-waa ‘eye=top/atop-obl=wh-sit,’ Chayahuita ya’pira sha’shatë’ ‘eye corner.of.mouth,’ Embera dau-í, apparently analyzable as ‘eye-wing,’ Toba l’ai lapo te ‘upper eyelid,’ containing ‘l’ai ‘eye’ and apo ‘poncho,’ l’ai’te lqa ‘lower eyelid,’ containing l’ai’te ‘eye’ and lqa ‘chin,’ and Fijian daku-daku-nimata ‘back-red-poss-eye’ for the ‘upper eyelid’ and dreke-ni-mata ‘hollow/cavity-poss-eye’ for the ‘eye socket’ and ‘lower eyelid,’ Lenakel nouanhal-nimr ‘egg-eye-‘, and Manange 2mi-2pʰ ‘eye-up.’ Finally, Tetun has matan-kukun ‘eye-nail/claw,’ and due to colexification with ‘skin,’ the association with ‘fingernail’ is also found in Biloxi. Semianalyzable terms where the identifiable constituent is ‘eye’ are found in Bakueri, Yoruba, Toaripi, Waris, Sora (for the ‘lower eyelid’ specifically), Carrier, Upper Chehalis, Highland Chontal, Comanche, Santiago Mexquititlan Otomí, Xicotepec de Juárez Totonac, Wappo, Cavinéña, Hani, and Rotuman.

Furthermore, the Oneida term okahkwiloʔkta? likely revolves around the verb root -kahkwiloʔ- ‘to blink,’ and similarly, Khalkha anisxa may be related to the verb aniski- ‘to blink eyes repeatedly.’

Other associations include: Muna bhangkoa also means ‘eye socket’ and, verbally, “to roll up something broad but thin.” Zobki, a Khalkha term for ‘eyelid,’ also means ‘corner of the eye’ (compare zobkis ‘corner’). Ineseno Chumash ixtma’y also means “to have a film or cloud in the eye, cataract” and Guaraní colexifies ‘eyelid’ with ‘petal.’

114. The Finger

| Representation: 96% |
| Motivated: 59.6% |
| Thereof Analyzable: 22.1% | Thereof Colexifying: 37.5% |
| Thereof by Contiguity: 20.5% | Thereof by Similarity: 34.7% |
| Recurrent associated meanings: hand, toe, arm, claw/paw/forefoot, child/son, branch out, little, fingernail, branch, fruit, fork, hoof, head, neck |

‘Finger’ and ‘hand’ are often not distinguished lexically (Brown 2005a), and this is also true of many sampled languages, namely Ngambay, Burarra, Kyaka, Ngaanyatjarra, Nunggubuyu, Tasmanian (Western, Middle-Eastern and Southeastern), Yir Yoront, Abzakh Adyghe, Cahuilla, Upper Chehalis, Cheyenne, Kashaya, Kiliwa, Nez Perce (where the narrow interpretation ‘finger’ is restricted to compounds), Oneida, Wintu, Yana, Arabela, Cavinéña, Chayahuita, Jarawara, Great Andamanese, and Hawaiian. In a subset of these languages, the same term is also used for the ‘arm’ as a whole. This is the case in Ngambay, Kyaka, Ngaanyatjarra, Cahuilla, Kiliwa, and Hawaiian, where the relevant term also means ‘sleeve’ and ‘five.’ However, it is very often also the case that there are complex terms for ‘finger,’ often metaphor-driven, where one of the constituents is ‘hand,’ which is sometimes colexified with ‘arm’ generally (Brown 2005b). None of these metaphor-driven pat-
terns is overwhelmingly frequent, but they do recur on a global scale with some strength. The most common meaning of the second constituent in complex terms is ‘child,’ as in Katcha *bibala ma nizo* ‘child gen hand.’ Such terms are also found in Koyraboro Senni, Mbum, Gurindji, Chickasaw, Itzaj, Pipil, and Maxakalí (in Chickasaw and Pipil with ‘son’ specifically rather than ‘child’ generally). Perhaps relatedly, in Yana, *teldyaun(na)* is also a kinship term for ‘man’s younger brother’ and ‘woman’s younger sister.’ A word meaning ‘small’ or ‘little’ also figures in some languages, for instance in Miskito *mita sirpi* ‘hand little.’ Similar terms are found in Carib, Piro, and Samoan. In Mali, the word for ‘finger’ is derived from that for ‘hand’ by means of a masculine noun class prefix, which is associated with smallness (Stebbins 2005), and Yir Yoront, which colexifies ‘finger’ and ‘hand,’ has the optional complex term *yor-mart* ‘hand/finger-little/tiny’ to single out the ‘finger’-reading. In the Piro term, the second constituent conveying ‘smallness’ has also a reading ‘fruit’ (the association between diminutive semantics and ‘fruit’ is also reported by Matisoff 1992). Similarly, Lenakan has *noua-nelm-* ‘fruit-hand/arm-,’ and Tetun *liman-fuan* ‘arm/hand-fruit/heart.’ In the Carib term, the constituent *sikili* is glossed more precisely as ‘little end,’ and similarly, Kapingamarangi has *madaalima /mada-lima* ‘end-hand/arm.’ Hawaiian *manunama,* colexifying ‘finger’ with ‘claws, rays, forks’ inter alia, is reduplicated from *mana* ‘branch,’ Malagasy has *rantsantana,* analyzable as /rantansa-tanana/ ‘branch-hand,’ and ‘branch’ and ‘finger’ are colexified directly in Aguaruna. Relatively, Nuuchahnulth has *caattacksuk /ca-caq-nuk*-im/ ‘red-branch.out-in.or.at.the.hand,’ and similar terms highlighting that the fingers protrude from the hand are featured in Kaluli and Yay (*dagisasa* ‘hand/paw things.that.separate’ and *niapj fuun* ‘to.come.apart hand’ respectively) alongside a reduplicated term with the meaning ‘branch, branch out’ in Hawaiian. Similarly, Tehuelche and Hawaiian colexify ‘finger’ with ‘fork.’ Pawnee has *iks-kie-‘u* ‘hand-neck-nom,’ and Bororo *era-ko* ‘hand-neck.’ Other complex terms where one of the constituents is ‘hand’ and/or ‘arm’ are Noni *kpwan ebo* ‘to.mark hand,’ Baruya *ajawinya /ata-jawinya/ ‘hand-fish’ (also denoting the ‘thumb’ specifically; note that in other languages such as Khoekhoe, ‘thumb’ is explicitly not included in the extensional range of the ‘finger’-word), Muna has *wuna-no lima* ‘flower-poss hand/arm,’ Sko *no-kang-kan* ‘arm/hand-tusk/eat-red,’ Abzakh Adyghe *te-pe* ‘hand-tip’ (compare possible connections to this meaning in Ancient Greek as well as cognates between Baltic and Germanic suggestive of the association, Buck 1949: 240), Bora *mehojtiswa /me-hojtsil-gwa/ 1PL-hand-scm.2d.straight,’ Cubeo *amu-yo* ‘hand/arm-class.large.cylindrical.slim,and.acute.object,’ Cayapa *tyamishu /tyaapa-mishu/ ‘hand-head,’ a term with identical structure in Tsafiki, Kaingang *nigé fé* ‘hand leaf’ and *nigé jufé* ‘hand long.things,’ and Bwe Karen *cu-yò ‘arm/hand-point.at’ (note also that Rotokas *piroo* also means “point towards something with finger or object;” this association is probably also at the heart of Latin *digitus,* Buck 1949: 240). Furthermore, Yanomamic *imi-hena* is analyzable as ‘carry.in.hand.leaf,’ Semianalyzable terms are featured in Katcha, Dadibi, One, Sentani, Abzakh Adyghe, Biloxi, Carrier, San Mateo del Mar Huave, and Wappo.

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9 To this list of metaphorical denominations one can add, from outside the sample, Dene Sųłiné’s *denelatthahé* ‘person’s hand-awl’ for ‘finger’ and *deneláchéhh* ‘person’s hand-duck’ for thumb (Rice to appear).
Furthermore, Ngaanyatjarra, Yir Yoront, Basque, Upper Chehalis, Cheyenne, Lengua, Rama, Hawaiian, and Rotuman colexify ‘finger’ with the homologous structures in animals, namely ‘claw,’ ‘paw,’ or ‘forefoot.’ Similarly, in the Nunivak Island dialect of Central Yup’ik, *ipi̠k* ~ *ipi̠* may also be used with reference to the “limb of quadruped or insect.” Kwoma colexifies ‘finger’ with ‘person’ (as well as, by extension, ‘twenty’ and other meanings), and the Hooper Bay and Chevik dialect of Central Yup’ik has *cuaraq* ~ *cuaraq* ~ *yuaraq* containing *cuk* ~ *yuk* ‘person.’ Basque *behatz*, containing *hatz* ‘finger,’ also means ‘hoof,’ ‘vestige, trace, mark’ and other things, (‘hoof’ is also colexified in Lengua), while the Buli and San Lucas Quiaviní Zapotec terms are also traditional units of measurement. Hausa, Dadibi, and Basque colexify ‘finger’ with ‘fingernail’ (Hausa also with “[d]ermatoid cyst under upper eyelid of horse”).

In addition, when simplex terms for ‘finger’ do exist (sometimes exhibiting other patterns of colexification as well), they can often at the same time be used with reference to the ‘toe’ (also in some Indo-European languages, Buck 1949: 240-241), with disambiguating complex terms in some languages. This is true of Buli, Efik, Rendille, Swahili, Yoruba, Kwoma, Lavukaleve, Rotokas, Northeastern Tasmanian, Toaripi, Sahu, Waris, Badaga, Bezhta, Japanese, Ket, Khalkha, Welsh, Blackfoot, Cheyenne, Ineseño Chumash, Haida, Tuscarora, Central Yup’ik, San Lucas Quiaviní Zapotec, Copainalá Zoque, Aymara, Cayapa, Huambisa, Lengua, Macaguán, Fijian, Hawaiian, Lenakel, Rotuman, Sedang, Takia, and White Hmong. An interesting generalization emerges, namely, that terms betraying an association between ‘finger’ and ‘hand’ and those colexifying ‘finger’ and ‘toe’ are mutually exclusive in the languages of the sample. That is, there is no language in the sample in which all three meanings are colexified (although one language may feature several terms for ‘finger,’ one of which features one association and another one the other). This thus appears to be a strongly dispreferred pattern cross-linguistically.

Other associations include: Berik bola colexifies ‘forefinger’ with ‘ball,’ Kyaka kingi also may refer to “name, title, rank, reputation,” and Ngaanyatjarra *mara* also means ‘five.’ Chukchi *ralylyon* contains *ylyon* ‘skin,’ Welsh *bys* colexifies ‘hand of clock,’ and Cheyenne *moeško* ‘ring.’ Tuscarora *uhsúʔkweh* may also be used to refer to a ‘rake,’ a ‘thimble’ or a ‘herring tooth.’ The bound term *wa* in Yana is also a general prefix for long objects, while Jarawara yehe/yehe may also refer to the ‘self.’ Rama *isüluk up* contains *up* ‘eye, something round’ and presumably *uk* meaning ‘skin, coat, rind’ inter alia. *Ehethaki*, a Yanomámi term for ‘finger,’ consists of *ehetha* ‘wrist’ and the quantal classifier *ki* (for which see § 4.4.1). Rotuman *kuku* also means ‘wall of house,’ and Lesser Antillean Creole French *dwet* also means ‘upright, straight, direct’ and, by extension, ‘righteous.’

115. The Fingernail

Representation: 95%
Motivated: 69.2%
Thereof Analyzable: 12.8% Thereof Colexifying: 56.1%
Thereof by Contiguity: 1.3% Thereof by Similarity: 46.4%
Recurrent associated meanings: claw/talon, toenail, hoof, finger, hand, shell, arm, skin, paw, bark, horn
'Fingernail' is very frequently colexified with 'claw' and/or 'talon' (see Buck 1949: 245 on Polish). This is the case in as many as 67 sampled languages, namely Bakueri, Buli, Efik, Hausa, Khoekhoe, Noni, Dongolese Nubian, Rendille, Swahili, Anggor, Buin, Burarra, Gurindji, Mali, Ngaanyatjarra, Toaripi, Waris, Yir Yoront, Badaga, Basque, Bezhta, Greek, Japanese, Ket, Khalkha, Laz, Kildin Saami, Welsh, Kolyma Yukaghir, Acoma, Upper Chehalis, Cheyenne, Highland Chontal, Ineseño Chumash, Haida, Itzaj, Lake Miwok, Lakota, Lesser Antillean Creole French, Kiowa, Oneida, Pipil, Xicotépec de Juárez Totonac, Tuscarora, Wintu, Yaqui, Yuki, Central Yup’ik, San Lucas Quiavini Zapotec, Copainalá Zoque, Aguaruna, Aymara, Carib, Cashinahua, Cayapa, Cubeo, Guarani, Huambisa, Miskito, Piro, Ancash Quechua, Wayampi, Yuki, Central Yup’ik, San Lucas Quiavini Zapotec, Acoma, Upper Chehalis, Cheyenne, Highland Chontal, Ineseño Chumash, Haida, Itzaj, Lake Miwok, Lakota, Lesser Antillean Creole French, Kiowa, Oneida, Pipil, Xicotépec de Juárez Totonac, Tuscarora, Wintu, Yaqui, Yuki, Central Yup’ik, San Lucas Quiavini Zapotec, Copainalá Zoque, Aguaruna, Aymara, Carib, Cashinahua, Cayapa, Cubeo, Guarani, Huambisa, Miskito, Piro, Ancash Quechua, Wayampi, Yuki, Central Yup’ik, San Lucas Quiavini Zapotec, Acoma, Upper Chehalis, Cheyenne, Highland Chontal, Ineseño Chumash, Haida, Itzaj, Lake Miwok, Lakota, Lesser Antillean Creole French, Kiowa, Oneida, Pipil, Xicotépec de Juárez Totonac, Tuscarora, Wintu, Yaqui, Yuki, Central Yup’ik, San Lucas Quiavini Zapotec, Copainalá Zoque, Aguaruna, Aymara, Carib, Cashinahua, Cayapa, Cubeo, Guarani, Huambisa, Miskito, Piro, Ancash Quechua, Wayampi, Fijian, Hawaiian, Malagasy, Rotuman, and Tetun (in Rotuman, by a semianalyzable term containing ‘hand,’ there are other such terms in Upper Chehalis and Hani). Complex terms betraying this association are found in Wappo meʔč̓úš, containing meʔ ‘hand, by hand’ and č̓úš, also occurring in pheʔč̓úš ‘claw, hoof, toenail,’ and in Great Andamanese ongkoro-bôdoh ‘finger/hand-claw.’ There is a semianalyzable term in Baruya. In a subset of these languages, Efik, Dongolese Nubian, Toaripi, Greek, Kildin Saami, Biloxi, Cheyenne, San Lucas Quiavini Zapotec, Aymara, Arabela, Guarani, Miskito, Ancash Quechua, Fijian, Hawaiian, Rotuman and Tetun, ‘hoof’ is in addition colexified; this is also the case in Muna and Basque. Furthermore, Buli, Guarani, and Miskito colexify ‘paw’ and ‘fingernail’ in addition.

Biloxi and Rama colexify ‘fingernail’ with ‘bark,’ and a complex term is found in Jarawara (yehe atari ‘finger/hand skin/bark/peel’). Biloxi also colexifies ‘fingernail’ with ‘horn’ (also ‘scales of fish’), and Abzakh Adyghe has ʔebzane /ʔe-bž(e)-ne/ ‘hand-horn-part/unit’ (this association is also found Avestan and Ancient Greek, Buck 1949: 245). Unsurprisingly, the complex terms so far mentioned are not the only ones where one of the constituents is ‘hand’ or ‘finger’ (or ‘arm’). One has meu alo ‘arm egg-shell,’ Toaripi mai haro ‘hand/arm head/shell,’ Sko nöbi /nö-bî/ ‘arm/hand-shell,’ Hupda cób bók ‘finger-skin/shell,’ Bislama sel fingga ‘shell finger,’ Samoan atagi lima ‘shell arm,’ and Yir Yoront colexifies ‘fingernail’ with various kinds of shell directly (note also that Hausa k’umba also denotes the ‘shell of a mussel’ inter alia). For the association with ‘skin,’ note also that Biloxi and Rama colexify ‘fingernail’ and ‘skin,’ as well as the complex terms tofwefwot’oj, containing fwefw ‘finger’ and t’oj ‘skin, hide’ in Wichí and imi-si ‘carry.in.hand-cover/skin’ in Yanomámi. There is a semianalyzable term involving a constituent ‘skin’ in Chukchi, and a semianalyzable one with a constituent meaning ‘skin, bark’ in Guarani. Other complex terms are Kwoma tapa bi ‘arm/hand point,’ Blackfoot awoʔtaanookitsu /awoʔtaan-mookitsis/ ‘shield-finger/toe,’ Tsafiki tehué /tede-hué/ ‘hand-fast,’ Manange ḱja-ziŋ ‘hand-wood,’ and Mandarin zhi3-jia1 ‘finger-armor.’ Hausa, Dadibi, and Basque directly colexify ‘finger’ and ‘fingernail,’ and semianalyzable terms involving either ‘finger,’ ‘hand,’ and/or ‘arm’ are furthermore attested in Mbum, Dadibi, Kwoma, Carrier, Chickasaw, Copainalá Zoque, Cayapa, Maxakali, and Rotuman.

Finally, as is the case with ‘finger’ and ‘toe’ (compare section 114), ‘fingernail’ and ‘toenail’ are often colexified, at times with the possibility of disambiguating complex terms. Terms explicitly glossed as also capable of referring to the ‘toenail’ are found in Bilu, Efik, Khoekhoe, Rendille, Anggor, Buin, Gurindji, Kaluli, Kyaka, Lavukaleve,
Ngaanyatjarra, Nunggubuyu, Rotokas, Tasmanian (Northeastern, Middle-Eastern, and Southeastern), Sahu, Waris, Basque, Chukchi, Ket, Kildin Saami, Sora, Biloxi, Blackfoot, Upper Chehalis, Cheyenne, Highland Chontal, Itzaj, Oneida, Wintu, Central Yup’ik, Cayapa, Embera, Piro, Bislama, Fijian, Hawaiian, Lenakel, Rotuman, and Tetun.

Other associations include: Nunggubuyu yara also means ‘to smell, detect, sense something,’ while Muna konisi also denotes a kind of crab. Ngaanyatjarra miltji also denotes the “spines of thorny devil” and means ‘rake.’ The Kosarek Yale term aluk also is used as the name of a variety of banana, and Yir Yoront yorwel also means ‘spoon.’ Greek níchi is also used figuratively with the meaning ‘clutches,’ and Ket colexifies ‘fingernail’ also with ‘needle, pin.’ Cahulla sólul is presumably related to the verb -sálok- ‘to scratch,’ the Nuuchahnulth term č̓ač̓a contains the verb č̓a-, meaning ‘to get split lengthwise,’ while Wintu kah also means ‘wind, blow.’ Wayampi pânč contains ţ än ‘to bend’ and also denotes ‘vaned feathers,’ Fijian kuku is also the name for a kind of mussel, while Bwe Karen ðə́mi is also the name of a shell fish species. The Kapingamarangi term madaniha consists of niha ‘tooth’ and the augmentative prefix mada-, and Tetun kukun colexifies ‘fingernail’ with ‘pincer of crab.’

116. The Guts

<table>
<thead>
<tr>
<th>Representation: 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivated: 47.7%</td>
</tr>
<tr>
<td>Thereof Analyzable: 13.0%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 3.9%</td>
</tr>
<tr>
<td>Recurrent associated meanings: innards/bowels/entrails, belly/stomach, faeces, inside(s), rope/string/line, sausage, heart, womb, catgut, child/son, inner tube of tire, end</td>
</tr>
</tbody>
</table>

Many sampled languages have terms referring to the ‘innards’ or ‘entrails’ or ‘bowel(s)’ generally, including the ‘guts’ or ‘small/large intestine.’ These are Buli, Efik, Khoekhoe, Mbum, Ngambay, Dongolese Nubian, Yoruba, Buin (the term includes also the ‘bladder’ in its semantic range), Kyaka, Lavukaleve, Muna, Nunggubuyu, Sentani, Kosarek Yale, Yir Yoront, Badaga (where the relevant term is also capable of referring to the ‘liver’ specifically), Greek, Khalkha, Welsh, Ineseño Chumash, Haida, Lakhota, Lesser Antillean Creole French, Nez Perce, Pawnee, Tuscarora, Central Yup’ik, Abipón, Aguaruna, Arabela, Cashinahua, Embera, Toba, Fijian, Bislama, Bwe Karen, Hawaiian, Rotuman, and Samoan; in the latter two languages, the term is also a jocular designation for a ‘child’ or ‘son’ specifically. ‘Guts’ and ‘inside(s)’ are colexified in Kaluli, Kwoma, Abzakh Adyghe, Yuki, Jarawara, Lenga, Lenakel, and Sedang, while Embera colexifies it with ‘innermost,’ and Japanese has nai-zō ‘inner-organ.’

As for other associations with body-parts, Badaga, Abipón, and Hawaiian colexify ‘guts’ with ‘heart’ (among other meanings in some languages, see section 117); ‘heart’ is in quotation marks in the Badaga source, suggesting a figurative rather than literal usage, and the same may be true of Hawaiian. Sahu, Badaga, and Sedang colexify ‘guts’ with ‘womb’ (the latter language also with “inner edge of bamboo or of kōmea square strip of rattan”).
In some sampled languages, there is a metaphorical transfer realized by analyzable terms of the lexical type from 'line' or 'rope' to 'guts.' For instance, Hupda has tok tɨ́t 'stomach string/vine,' and in Toaripi, 'rope' and 'intestines' are colexified. Also attested in this class of terms is to have 'faeces' rather than 'belly' or 'stomach' as the second element, as in Cayapa pe-shilli 'excrement-line.' Such terms are also attested in San Mateo del Mar Huave and Tsafiki. Nuuchahnulth ɬiyup contains ɬis 'in line, rope,' and a semianalyzable term involving a constituent meaning 'thread, string' is found in Highland Chontal.

Khoekhoe, Mbum, Kwoma, Ngaanyatjarra, Southeastern and Western Tasmanian, Badaga, Basque, Khalkha, Cheyenne, Kiliwa, Lake Miwok, Guaraní, and Miskito directly colexify '(part of the) guts' with 'stomach' and/or 'belly' (Badaga also with "something that came from the stomach"). Burarra more specifically colexifies 'stomach' with 'part of intestines.' Katcha has em(a) aidhi /ema aidihi/ 'object stomach,' Meyah otkonón uñesá 'stomach child,' Carib uwempe sikilipo containing uwempe 'belly' and sikili 'little parts,' and Toba la'ilishic, presumably analyzable as /l-ual-shi-c/ '3SG.Poss-stomach-CLASS.PLACE.OF.PROVENIENCE-MASC' and l-uel l-ec '3SG.Poss-stomach 3SG.Poss-content.' Furthermore, in Swahili, the term for 'guts' consists of that for 'stomach' and a noun class prefix, in Embera, the relevant meanings are expressed by the same term with alternating genders, and semianalyzable terms where the identifiable constituent means 'belly' and/or 'stomach' exist in Sko and Bora. Ngambay, Baruya, Tasmanian (all varieties), Haida and Jarawara colexify 'guts' with 'faeces' directly (Baruya also with 'flatulence'), Kosarek Yale has disidik, where di is 'faeces' and sidik can mean 'rest, leftover,' 'genuine, true,' as well as 'to straighten, sprout, grow quickly,' Bororo has pe-guru 'excrement-liquid,' Cubeo cura-me 'faeces-CLASS.LIKE.THREAD,' Piro hîška-pi 'excrement-rod,' and in Yanomâmi, shî-pî consists of shî 'faeces' and a quantal classifier (see § 4.4.1.1.). Semianalyzable terms where the identifiable constituent means 'faeces' are attested in Berik, Kashaya, Pipil, Sáliba, and Lenakel, and ones where it means 'to defecate' in Abzakh Adyghe and Chayahuita.

Abzakh Adyghe also has the term ēt'ay /ē-t'ay(e)/ 'end-loop,' and Kolyma Yukaghir jîmgid-ičo 'turn-end.' Presumably by provenience contiguity, Bezhta, Nez Perce, Tuscarrora, Manage, and Rotuman colexify 'guts' with 'sausage' (the association was present in Latin by formation of a diminutive, Buck 1949: 1086), and, by metaphor, Buli and Hausa colexify 'guts' with 'inner tube of tire' (Hausa also with 'works,' e.g. as of a clock), and Basque and Lesser Antillean Creole French with 'catgut' (Basque also with a 'medicinal probe').

Other associations include: Khoekhoe hāib also means 'interior' and 'diarrhoea.' Yoruba oriêkọ contains èkọ 'head,' Dadibi haliga also means 'umbilical cord,' and Kwoma sugu is also the name of a 'digging stick.' Muna ghule also means 'snake, worm' and ngallungallu also denotes a "rattan nose-ring for cows or buffaloes." Ngaanyatjarra jûni colexifies 'guts' and 'stomach' with 'front of person,' the "hollow of anything concave," the 'round part of fruit,' and is conceived of as the seat of emotions (which is also the case in Hawaiian), while Nunggubuyu -han'aj also denotes a "minnow, small fish (used as bait)." Another Nunggubuyu term, -n'u-, also means 'to eat,' while Waris ungul 'large intestine' appears to contain ung 'anus.' Basque golko also means 'bosom, breast' as well as 'bay,
gulf,’ Japanese chō also means ‘butterfly’ (it is in both readings borrowed from Chinese, but goes back to different etyma), and Khalkha gedesyn(n) is also the name of the ‘loop for o/u in Khalkha script;’ this term may be derived from gede ‘nape of neck, occiput.’ Sora onlaidan ~ onlaidan contains l’oji ‘testicle.’ Welsh perfed also means ‘middle,’ and pot also ‘navel.’ Central Yup’ik cakunlluat contains the postbase (see § 4.4.2) -nglluk ‘not too good,’ and imanq imaq ‘contents, bullet, pus, ocean’ and perhaps the postbase -naq ‘one like.’ Arabela mana-ca is analyzable as ‘mud-class.fruit,’ ‘Jarawara tori/toro also means ‘streambed,’ Wayampi ike also ‘side’ and ‘older sister,’ Fijian wāwā also ‘tired out,’ and Bwe Karen -bwi also for beverages “to be potent, strong.”

117. The Heart

Terms for ‘heart’ are sometimes lexically connected to other internal organs of the body on the one hand, and are, on the other hand, associated with emotional states and cognitive abilities more generally in many languages.

By colexification, there are three languages, Ngambay, Guarani, and Yanomami, where ‘heart’ can also refer to the ‘kidney’ (and in Yanomami to a spherical object in general), and in four, Buin, Burarra (by the analyzable term mun-molma ‘class.domestic-warmth’), Kwoma, and Yay, ‘heart’ and ‘lungs’ are colexified respectively (and there are other languages in which the latter meanings are expressed by morphologically complex terms on the basis of ‘heart,’ see section 122). Colexification with ‘liver’ is a little more frequent, occurring in Ngambay, Kwoma, Sahu, and San Lucas Quiaviní Zapotec, while in Yay, tuaŋ denotes the internal organs ‘heart’ and ‘lungs’ and sometimes includes the ‘liver’ (note also that terms similar in shape to Nunggubuyu andhiri ‘heart’ are found in neighboring languages with the meaning ‘liver’). Moreover, in Khoekhoe there is a very general term for ‘offals,’ including ‘lungs, liver, kidney’ and ‘heart’ that can also refer to the ‘belly’ or ‘stomach.’

In addition, there is one language, Mbum, where ‘heart’ is làù wårke ‘liver male.’ More frequent is an association with the ‘stomach’ cross-linguistically. Ngambay, Abzakh Adyghe, Badaga, Laz, San Mateo del Mar Huave, Itzaj (by the term pusik'al, analyzable as /puus-ik’-al/ ‘dusting-wind-class.’ for this, note also Cubeo üme-du ‘wind-class.roundish.threedimensional.object’ and that the association is present in Tariana according to Aikhenvald 2003: 128), Santiago Mexquititlan Otomí, Yuki, Arabela, and Guarani colexify the meanings, in which case the respective terms appear to be more vague in their reference, referring to the internal part of the trunk more generally. Similarly, Piro
clexifies 'pit of the stomach' more specifically, and furthermore, a semianalyzable term featuring a constituent meaning 'stomach, belly' as well as 'front of body' exists in Yir Yoront. Badaga, Abipón, and Hawaiian colexify 'guts' with 'heart' (Badaga also with 'dysentery,' 'womb,' and other meanings; note though that 'heart' is in quotation marks in the Badaga source, which suggests a figurative rather than literal usage, and the same may be true of Hawaiian), Katcha, Highland Chontal, Kaingang, and Great Andamanese with 'breast,' and Badaga and Welsh with 'womb,' although this reading is obsolete in Welsh. Moreover, Kwoma colexifies 'heart' with the "upper half of torso," and Sahu with 'chest.' For the associations with 'wind' in Itzaj and Cubeo just mentioned, note also that in some languages there is a connection with 'breath' or 'breathe:' Kolyma Yukaghir, Wintu, and Rotokas colexify these meanings (Wintu also 'to rest, be restored, revive'), and Rotokas has vowu isi 'breathe/want CLASS.ROUND.OBJECT.'

On the other hand, the heart is often conceived of as the seat of emotions or the soul. Yoruba, Lavukaleve, Sahu, Badaga, Kolyima Yukaghir, Yaqui, San Lucas Quiavini Zapotec, Guaraní, Hupda, Rama, Tsafiki, and Bwe Karen colexify 'heart' with 'soul' and/or 'spirit' (Yaqui also with 'ghost'), and in as many as 33 sampled languages, 'heart' is lexically associated with cognitive abilities, such as 'feeling,' 'thinking,' or is considered the seat of emotions more generally. This is the case by colexification in Noni, Buin, Burarra, Kyaka, Lavukaleve, Muna, Sahu (where the relevant term also means "to tell a story"), Waris, Badaga, Khalkha, Haida, Nuuchahnulth (where the relevant term also means 'brain' and 'spinal cord'), Xicotepetl de Juárez Totonac, Guaraní, Tehuelche, Tsafiki, Hani, Bwe Karen, Hawaiian, Lenakel, Mandarin, Rotuman, and Sedang, and by complex terms in Buli (sukiri "sikiri /sui-kiri/ 'mind-root/reason'), Upper Chehalis (s-qwâlm 'CONTINUATIVE-think'), and Abipón (n-ee-et-Ra-nat-Ra 'POSS.INDEF/3SG-feel-COGNITIVE.ACTIVITY-ABSTR-??-ABSTR'). There is a semianalyzable term where the identifiable constituent also means 'middle' in Buin. In four languages of the Old World, Efik, Badaga, Khalkha, Welsh, and also in Lesser Antillean Creole French, associations with 'courage,' 'boldness' and other meanings are found (see Buck 1949: 251 for Indo-European), and in three languages, Waris, Bora, and Ancash Quechua, the heart is lexically associated with 'love.' In Basque, it is also a term of endearment (glossed as 'darling'). Alongside Rotokas, Khoekhoe has ngaob-Ý ngaos-Ý 'want/desire-3SG.MASC' ~ 'want/desire-3SG.FEM,' and such associations are found by colexification in Muna, Bwe Karen, and Rotuman, and a semianalyzable term with an element meaning 'to breathe' as well as 'to want, desire' exists in Rotokas. Note also that in Kiowa, where 'heart' is tōin, there is also a verbal prefix tōin- "referring to desire." Moreover, Yoruba, Badaga, and Guaraní colexify 'heart' also with 'conscience.' Other associations with cognitive and emotional states are: Buli kpa-ziiim 'occuput-blood' means 'heartbeat' and 'anxiety, fear' and in restricted contexts also 'heart,' Hausa zućiyya also means "to get into a temper," "quick temper," whereas Ngambay wùr, in contrast, also means 'patience.'

The heart is also at times (in Sora, Nuuchahnulth, Tuscarora, Central Yup’ik, where the relevant term however is especially used for the heart of fish, and Bwe Karen) lexically connected with words for 'life' (in Sora also with 'intimacy' and 'friendship'). This is particularly frequent in North America, where the connection is typically realized by morphologically complex terms (Nuuchahnulth, Tuscarora, and Central Yup’ik). For in-
stance, a dialectal Central Yup’ik word for the ‘heart’ is unguvan /unguva-(u)n/ ‘be.alive-device.for.’ The association occurs by colexification in Sora and Bwe Karen.

The ‘heart’ is also sometimes (namely in Khoekhoe, Yir Yoront, Basque, Kiliwa, Pawnee, and Bislama) extended to mean ‘heart in cards,’ likely under European influence. Frequently, the heart is also extended to mean ‘center, middle’ or ‘core’ (see Buck 1949: 251 on Indo-European and Heine and Kuteva 2002: 171 for a perspective from grammaticalization). This is the case in Abzakh A’dygeh, Basque, Welsh (where the same term also means ‘navel’), Kolyma Yukaghir, Ineseño Chumash, Itzaj, Lesser Antillean Creole French, Tuscarora, San Lucas Quiaviní Zapotec, Arabela, Bora, Lengua, Ancash Quechua, Mandarin, and Samoan, while in Buin, there is a semianalyzable term for ‘heart’ where the identifiable constituent is ‘middle’ (or ‘to know, think of, reflect on’). Similarly, ‘heart’ is colexified with ‘inside’ or ‘interior’ in Ngambay, Northeastern Tasmanian, Basque, Maxakalí, Ancash Quechua, Malagasy and Rotuman, while the San Mateo del Mar Huave term mentioned above is analyzable as omears-aran ‘inside-INAL.POSS.’ Shape-based similarity, as well as similarity in the position of the two with respect to the larger structure they occur in is also responsible for associations between the heart and the meanings ‘seed’ or ‘pit’ in Sentani, Kosarek Yale, Nez Perce, and Samoan; note also that Hupda hã́wɨg is probably from *haŋ-wɨg ‘breath-seed.’ However, ‘fruit’ itself is also colexified with ‘heart’ in Muna and Tetun (in Muna also with ‘banyan tree’), and in Kosarek Yale in fact all three meanings can be expressed by a single term (as well as ‘flower-stalk,’ ‘egg,’ and figuratively ‘child’). Further, Dadibi has a complex term for ‘heart’ involving du ‘hill, mount, fruit.’ In Ineseño Chumash, Nez Perce, Nuuchahnulth and Fijian, respective terms also can be used to refer to the ‘pith’ or ‘center’ of trees (the relevant Fijian term also denotes the breadfruit tree and its fruit).

Other associations include: the relevant Dongolese Nubian term is also used as a reflexive pronoun. Lavukaleve vuvul is also used to refer to a ‘young coconut,’ and Kosarek Yale wangka also in dancing songs to the “seed of sweet potato” specifically as well as, without restrictions as to register, to the “cocoons of a spider species.” Abzakh A’dygeh gə is extended to ‘surrounding,’ and, from there on, to ‘surface, territory.’ Kolyma Yukaghir šubedə colexifies “middle part of a fish trap, middle part of a boot” (this term is connected to a root meaning ‘to run’). Cheyenne hêsta is also the name of the ‘heart,’ a constellation of stars. Haida obsoletely colexifies ‘heart’ with ‘throat,’ while the relevant Wappo term contains an element meaning ‘stone.’ Aguaruna anentá is derived from ánen ~ áneg ‘love song’ by means of the instrument nominalizer -tai, and Bororo bapo ~ wapo also denotes a ‘rattle.’ The Chayahuita term nino-pi is analyzable as ‘beehive-CLASS.FRUIT.BODY.OR.BACK,’ while Jarawara makawari appears to contain maka ‘snake, jungle monster’ and varı ‘tree.’ Ancash Quechua puywan ~ puywaq is derived from puyway ‘for the heart to beat.’ Imabura Quechua tulpa rumi is analyzable as ‘hearth stone,’ whereas the Sáliba term omádi also means ‘animal.’ Wayampi tulu-akã appears to be analyzable as ‘big-head,’ Great Andamanese ôtkâtkâbara contains bana ‘globular,’ Bislama colexifies ‘hat, helmet’ (due to phonological collapse of English heart and hat) and Hawaiian pu’u-wai is literally ‘protuberance-water’ and colexifies “a heart-shaped locket as of gold … or silver,” “small suckers on a taro plant,” and has other figurative usages. Hani neesiq colexifies ‘heart’ with ‘soy bean’
(siq is a classifier for round objects), Kapingamarangi manawa also carries the meanings `predisposition’ as well as to “come up from the surface (from diving),” Mandarin xin (reflecting early middle Chinese sim and sin respectively) also means ‘new,’ and Sedang ihiam also denotes the “inside works of a machine” inter alia, and nuih also the “pole in roof of house.”

118. The Jaw

Representation in Database: 79%
Motivated: 57.6%
Thereof Analyzable: 20.4% Thereof Colexifying: 37.3%
Thereof by Contiguity: 50.1% Thereof by Similarity: 4.1%

Recurrent associated meanings: chin, cheek, mouth, tooth, bone/skeleton, palate, gums

‘Jaw’ (sometimes ‘lower jaw’ specifically) is colexified with ‘chin’ in many languages in the sample (see also Buck 1949: 220 for relations between ‘jaw,’ ‘chin,’ and ‘cheek’ as well as, more rarely, ‘beard’ in Indo-European), namely in Yoruba, Baruya (by the analyzable term maanaqinya /maanga-yaginya/ ‘mouth-bone’), Kaluli, Kwoma (by the term teekibi, perhaps containing teeki ‘to string, tense’ and bi ‘point’), Kyaka, Lavukaleve, Mali, One, Southeastern Tasmanian, Toaripi, Kosarek Yale (where the relevant term colexifies “wattle of an agama”), Abzakh Adyghe (by the analyzable term žepq /že-pq(ı) ‘mouth-skeleton’), Greek, Japanese, Ket (by a semianalyzable term containing it ‘tooth; such a term is also found in Embera), Khalkha, Nivkh, Welsh, Kolyma Yukaghir, Blackfoot, Upper Chehalis, Cheyenne, Chickasaw, Itzaj, Kiliwa (by a term containing yu=wha? ‘face,’ which is literally ‘eye=mouth’), Nez Perce, Nuu-chah-nulth (by the analyzable term hiinixaksu /hiiniia-xaksu/ ‘lower/below-at.the.mouth/at.the.lips,’ colexifying also ‘lower lip’), Pipil (by the analyzable term -tien-tsica-w ‘mouth-ant-poss’), Arabela, Aymara, Cashinahua, Embera (where the meanings are associated with different genders), Guaraní, Jarawara, Macaguán (by a semianalyzable term containing -bukan ‘heel’), Rama (by a semianalyzable term containing an element meaning ‘tree’ and colexifying ‘grater’), Tehuelche, Yanomami, Mandarin, White Hmong, Samoan (by the analyzable term au-vae ‘class,long.or.narrow.things-foot/leg,’ colexifying also ‘foot of hill’), Takia (by the analyzable term a:n to-n ‘mouth-3sg arm-3sg’), Tetun, and Yay. Moreover, Katcha has ku:ba mo buru:ye ‘bone gen chin,’ Waris keu-mul ‘chin-edge,’ Carib -ekusali yepo ‘chin poss,’ Cubeo yedu-cii ‘chin/jaw-class.round.on.one.side.and.plain.on.the.other,’ and Hawaiian papa ‘auva: ‘flat.surface chin’ for ‘lower jaw’ specifically.

Alongside the complex or semianalyzable terms containing an element meaning ‘mouth,’ this association is also present in San Mateo del Mar Huave mi-machat ombeayar, analyzable as al-poss-machete mouth,’ and the situation in Baruya, with elements meaning ‘mouth’ and ‘bone,’ is precisely mirrored in San Lucas Quiaviri Zapotec and Bororo. Semianalyzable terms with an element meaning ‘mouth’ are alongside Kiliwa also found in Sora, Santiago Mexquititlan Otomi, and Xicotepec de Juárez Totonoac. In Sora, moreover, t’odan ~ t’odan ~ t’udan ‘jaw’ is colexified with ‘mouth of animal or vessel’ more specifically, and Muna ghongki can also refer to the “inner part of the mouth.”
‘bone’ is, alongside the languages mentioned so far, also found in Tsafiki (te’fún chide ‘tooth bone;’ this term colexifies ‘gums,’ as is the case in Upper Chehalis) and Wichí, which has toch’ay lhile, containing ch’a ‘cheek’ and lhile ‘bone.’ A term with such structure is also found in Kiliwa, and there is a semianalyzable term in Carrier. As for ‘tooth’ as a constituent, Hawaiian has papa niho ‘flat.surface tooth,’ colexifying “row of teeth, set of teeth” as well as “bridge for false teeth,” and as mentioned above, there are semianalyzable terms in Ket and Embera. Moreover, Ngambay and Wappo colexify ‘jaw’ with ‘molar tooth’ (and diachronic development from ‘jaw’ to ‘back tooth’ is attested in Romanian, Buck 1949: 221), and further analyzable terms of the lexical type for ‘jaw’ involving a constituent meaning ‘tooth’ are found in Hupda (tag-cá ‘tooth-box,’ for which compare Spanish quijada, derived historically from Latin capsa, capsus ‘box,’ Buck 1949: 221), and Fijian (kau-ni-bati ‘stick/wood/tree-POSS-tooth’). Cubeo has a derived term.

The Kiliwa and Wichí association with ‘cheek’ is mirrored in Buli, Yoruba, Gurindji, Yir Yoront, Welsh, Lesser Antillean Creole French, Wintu, Abipón, Miskito, Kapingamarangi (by the analyzable term gau wae ‘side foot/leg’), and Manage by colexification, and in Yir Yoront by the term wal-kur ‘cheek/temple-slicing.sword.’ Furthermore, Rendille gi’dámme is grammatically the plural of gi’dám ‘cheek,’ and in Basque, the meaning of baraila varies dialectally between ‘jaw’ and ‘cheek’ (it can also assume the meaning ‘revelry, fray’), and for Hani baaxoq ‘jaw’ (perhaps related to xoq ‘lock’), compare baaxba ‘cheek.’

Finally, Dongolese Nubian and Nez Perce colexify ‘jaw’ with ‘palate’ (the relevant Dongolese Nubian term is also the name of a village).

Other associations include: Efik mbañ colexifies ‘jaw’ with ‘gill of fish’ as well as, figuratively, “[l]oud, impertinent talking.” Hausa ma-ku鲁 is analyzable as ‘loc-finish.’ This term is primarily applied with reference to fish, and also colexifies “top, inside, of a cooking-pot” and other vessels. Noni kediew consists of dieu ‘word, language, noise, sound’ and the noun class marker ke-. One sesu also means ‘to squish.’ Yir Yoront thamanwalq contains man ‘throat, neck’ and walq ‘hollow place,’ while Central Yup’ik agluqquq is analyzable as /agluq-quq/ ‘center.beam.of.a.structure-one.that.is.’ Miskito colexifies ‘jaw’ with ‘beard,’ Toba with ‘operculum,’ and Hawaiian with ‘cheekbone’ as well as “to talk a lot, jabber” and culture-specific instruments. Lenakel kauqa also means ‘corner,’ Tetun hasan also means ‘ambush,’ as well as “notch in wooden columns of buildings for the positioning of beams.”

119. *The Kidneys*

<table>
<thead>
<tr>
<th>Representation: 84%</th>
<th>Motivated: 24.6%</th>
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</thead>
<tbody>
<tr>
<td>Thereof Analyzable: 17.1%</td>
<td>Thereof Colexifying: 7.5%</td>
</tr>
<tr>
<td>Thereof by Contiguity: 2.3%</td>
<td>Thereof by Similarity: 13.5%</td>
</tr>
<tr>
<td>Recurrent associated meanings: back/behind, heart, seed, fruit, liver, bean, testicle, stone, fat, urine/urinate</td>
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The ‘kidneys’ are often named by terms making reference to their particular shape. Common are comparisons with fruits of similar shape, either by colexification or by morpho-
logical complexity. In Ngambay, *mùnjù* also means ‘bean’ (a pattern of colexification shared with Kiowa, where it can also refer to a ‘pea,’ and mirrored by the complex Chaya-huita term *maquira-pi* ‘bean-class:fruit:body:or:back’), in Mbum, *ánjòkò hàì* consists of *án-jòkò* ‘peanut’ and hàì ‘flesh,’ and in One, *wasou tala* contains *wasou* ‘betel nut’ and *tala* which either means ‘seed’ or ‘round thing’ more generally. In Kapingamarangi, the word for ‘kidney,’ *ibu mimi*, contains *ibu* ‘coconut shell’ (which also means ‘cup,’ presumably by functional contiguity) and *mimi* ‘urine.’ In Yuki, *poho ṭ~pohoṭ* ‘kidney’ may be identical with *pohut ~ po´hoṭ* ‘oak galls’ and in Wappo, spoken in the vicinity and perhaps genealogically related, *ʔáwe* also may refer to potatoes or “any variety of food bulbs and corms.” Fijian *ivi* is also the name of the native chestnut tree, and Nunggubuyu *wudu* is also the name of a tree with kidney-shaped nuts.

Frequent are also associations with ‘fruit.’ Kwoma has *magiir wuwu siik* ‘back swell.up fruit/seed,’ Toaripi *kō uti fare* ‘back bone fruit,’ Hawaiian *kōnāhua*, perhaps containing *kōnā* ‘hard’ and hua, meaning ‘fruit,’ ‘seed,’ and ‘egg’ inter alia. (This term colexifies ‘grease’ and ‘fat,’ for this, compare Samoan *fatu-ga’o* ‘heart/seed-fat/lard’), Tetun *fuansorin* ‘heart/fruit-side,’ and semianalyzable terms are found in Piro (where the relevant term also means ‘seed’ and acts as a diminutive marker; in Koyraboro Senni, there is a dialectal variant which is identically structurally with a verb meaning ‘to sow, plant, raise’), Bwe Karen (where ‘fruit’ and ‘round object are colexified’) and Lenakel (where this term colexifies ‘side of ankle’ and ‘earlobe’); in Yay, the word for kidney, *maak2 yaaw1*, includes the classifier for fruits, *maak2* and in Hani, *hhoqsq* contains the classifier for round things *sq* (*hhoq* means ‘to wear clothes, be covered’ inter alia). As for ‘seed,’ Kwoma has *magiir wuwu siik* ‘back swell.up fruit/seed,’ One *wasou tala* ‘betel.nut seed/round.thing,’ Jarawara *siro noki/noko ~ kasiro noki/noko* ‘frog/tree.species eye/face/seed/color’ (note that there is a semianalyzable term with the identifiable constituent meaning ‘eye’ in Kildin Saami), Hawaiian *kōnāhua*, perhaps containing *kōnā* ‘hard’ and hua, meaning ‘fruit,’ ‘seed,’ and ‘egg,’ and Samoan *fatu-ga’o* ‘heart/seed-fat/lard’ (the constituents glossed as ‘seed’ have still other meanings in some languages).

Takia colexifies ‘kidney’ with ‘stone,’ Wichí has a derived term, Rama has *ngaling kālap*, containing *ngaling ‘stone’ and up ‘eye,’ and Kyaka has a term where the identifiable constituent means ‘hard’ and ‘pebble’ alongside other things. As evidenced by the One and Bwe Karen cases, at times ‘round object’ in general is associated with ‘kidney.’ This is also the case in Lengua, where a semianalyzable term exists with the identifiable constituent meaning ‘to be round.’ A term which also appears to make reference to the shape of the kidney by way of metaphor is found in Arabella, where *cajiniajajau* appears to contain *cajinia*, the word for a sitting person or a baby that is old enough to sit and the classifier -jajau for round objects. On a more abstract level, terms for the kidneys making reference to their shape are found in Abzakh Adyghe, which has *čent’ča* /č(e)-n-t(e)-ʔ(e)/ ‘end:EPEN-poke.out/bend-pointed’ and Pawnee, where *spiruusu* probably contains underlying as- ‘foot,’ *piruu* ‘crooked’ and the nominal suffix -u’.

There are also languages in which the kidneys are conceptualized via their position in the body. This is found in two languages of New Guinea, Kwoma and Toaripi, as
seen above. In four languages in the sample, Hausa, Koyraboro Senni, Muna, and Abzakh Adyghe, ‘back’ and ‘kidney’ are associated by colexification (‘lower part of the back’ in particular in Muna). In Tetun, which has several words for the kidney, *fuansorin*, consisting of *fuan* ‘heart, fruit’ and *sorin* ‘side,’ is encountered. The Tetun example provides the transition of the discussion to connections between the ‘kidneys’ and other internal organs of the body. Most frequent are indeed those with the ‘heart,’ occurring in six sample languages, namely Ngambay, Guaraní, Yanomámi (where the relevant term may also be used to refer to other spherical objects) by colexification, and in Tetun, Samoan, and Imbabura Quechua (*yana shungu* ‘black heart’) by analyzable terms. Three languages, Badaga, Kiowa, and Ancash Quechua, colexify ‘kidney’ and ‘liver’ (Badaga also ‘lungs’ and ‘larynx,’ and Kiowa has several complex terms for both meanings available for disambiguation), and in Yanomámi, *amoyõri* also denotes the ‘gall bladder.’ A body-part metaphor is found in Khalkha and Rotuman, where ‘kidney’ and ‘testicle’ are colexified, while in Ancash Quechua, the ‘kidney’ is also called *ruta-n* ‘egg/testicle-3sc’ (see Jóhannesson 1949: 107 for Indo-European parallels). In Khoekhoe, *!nāb* is a semantically very general term that can be used to refer to ‘offals’ generally, including virtually all internal organs of the trunk.

Less frequent are terms for the kidney in which their function plays a role. Already mentioned was Kapingamarangi *ibu mimi* containing *mimi* ‘urine;’ in Sedang, *bong núm* appears to be analyzable as /bông núm/ ‘white urinate,’ and there is a semianalyzable term featuring an element meaning ‘urine’ in Toba.

Other associations include: Buli *yiimi* also means ‘to live on others, be greedy;’ the Efik term *ek’put* is also used inter alia to refer to “the tassels on the neck of a goat,” and Hausa *k’oda* is also a verb meaning “[r]epair and sharpen the edge of a tool by beating.” The Burarra term *gurday* is lexically connected to *gu-day* ‘friendship,’ and Dadibi *ene nave* appears to contain *ene* ‘arrow, rattan.’ Meyah *ofómuf* appears to contain *ofóm*, which can mean ‘ripe’ or ‘root.’ Sahu *gogolatila* might contain *gogo* ‘body hair, fur, feather,’ and Sko *hàng* also means ‘end of intestine.’ Yir Yoront *man-nerp* is analyzable as ‘neck-spirit.child,’ and *mortworrqworr* contains *mort* ‘pile’ and *worrqo* ‘big.’ Kolyma Yukaghir *mumul* also means ‘fist,’ while the Cahuilla term *pipiviskun* is etymologizable as /pipivis-kunil/ ‘vomit-sack.’ Killwa *snqap* contains *pap* ‘bundle.’ The Yaqui term *sikupuriam* contains *siiku* ‘navel,’ while San Lucas Quiavini Zapotec *x şuẽ’ts* also means ‘gizzard.’ Cavineña *epecaca* appears to be analyzable as /e-pere-caca/ ‘INAL.POSS-rib-small,’ and Cubeo *joed* shares the root *joed* with a term denoting a tree species and an ‘axe,’ with different classifiers differentiating between the meanings. Hawaiian *pu’u-p’a* is analyzable as ‘mound-firm.’ The term also means ‘virgin, virginity’ and is used figuratively to refer to emotions. Mandarin *yao* also means ‘hip,’ Rotuman *iffi* also “in bunches or clusters,” and Yay *yaaw* also ‘monster, ogre.’
120. The Lip

Representation: 94%
Motivated: 47.4%
Thereof Analyzable: 23.5%      Thereof Colexifying: 24.6%
Thereof by Contiguity: 16.1%    Thereof by Similarity: 8.9%
Recurrent associated meanings: mouth, edge, skin, beak, peel/rind/shell, bark, snout, female genitalia, entrance/door, language, cover, leather/hide, leaf

When words for the 'lips' are analyzable, the most frequent pattern is that the respective words consist of those for 'mouth' and 'skin' (with 'skin' at times having related meanings), as in San Lucas Quiavíní Zapotec gui'dy ru'uh /gui'ihdy ru'uh/ 'skin mouth.' This is found in nineteen of the sampled languages, next to San Lucas Quiavíní Zapotec in Buli (where an additional element meaning 'leaf' is present; the whole term also can refer to the "notch of a flute"), Efik, Mbum, Anggor, Kwoma, One, Toaripi, Yei, Sora, Highland Chontal, Kashaya, lakhota, Xicotepec de Juárez Totonac, Cavinéña, Cayapa, Kaingang, Maxakalí (where 'skin' colexifies 'cover,' compare also Yana sob?liyaual(la) /sab?li-yauwal(la)/ 'cover-NMLZ-mouth'), and Yay, and thus occurs everywhere except Eurasia (the pattern is also etymologically detectable for Nunggubuyu); there is also an optional compound in Bislama of this type to disambiguate a term meaning both 'lip' and 'mouth' and semianalyzable terms are found in Sko, Haida, and Xicotepec de Juárez Totonac. Rama has sik iik 'tooth skin' (the language features also another semianalyzable term where the identifiable constituent is 'skin'). Since 'skin' is lexically associated with several related meanings (see discussion in section 135), there are also secondary associations in many of the abovementioned terms. This is the case with 'bark' in Efik, Kwoma, Toaripi, Xicotepec de Juárez Totonac, Kaingang, and Maxakalí, with 'rind,' 'peel,' or 'shell' in Efik, Lakhota, Xicotepec de Juárez Totonac, Cayapa, Kaingang, Maxakalí, and Rama, with 'leather' in Sora and Cavinéña, and with 'cover' in Lakhota. There is a semianalyzable term with the identifiable constituent colexifying 'skin' with 'bark' and 'covering' in Sko.

There is also a wealth of complex terms in other languages where an element meaning 'mouth' is present, but the other constituent does not mean 'skin': one relatively frequent variant of the complex terms of the 'mouth-skin' type is to have 'mouth-edge,' which is for instance found in Kiliwa (ha?hiyi 'lips,' ha? 'mouth' hiiy 'edge, border;' this term is itself glossed as 'border,' the language also has the term ha?nat-u?=kw+waa 'mouth-top/atop-obl-wih-sit' for the 'upper lip' specifically) as well as in Toaripi, Sora, and Fijian. When an association with 'edge' occurs, however, this is more frequent by colexification, which is found in sixteen languages, namely Ngambay, Rendille, Muna (also colexifying 'side'), Sahu, Basque (also colexifying 'corner'), Welsh, Itzaj, Bora, Bororo, Carib (where 'upper lip' is the colexified meaning more specifically), Cashinahua, Chayahuita, Embera, Guaraní, Miskito, Piro, Yanomámi, and Malagasy; furthermore, Yanomámi has kasik, consisting of kasi 'edge' and the quantal classifier ki (see § 4.4.1.1.). In two languages, Buli and Samoan, terms for 'lip' are found which consist of the respective words for 'mouth' and 'leaf;' Hausa also has an association by colexification with 'leaf bud.' Further complex terms involving a constituent meaning 'mouth' are Efik mfut inu'a 'shade mouth,'
Kanuri kâ-ci-bè ‘stick-mouth-of,’ Khoekhoe nino a’dago ‘mouth above’ for the ‘upper lip’ specifically, San Mateo del Mar Huave apal ombeayaran ‘lid mouth,’ Pawnee haaka-huukita-haahiri’, analyzable as ‘mouth-on.top-LOC,’ also for the ‘upper lip’ specifically, Yaqui tenberia, analyzeable as /teeni-be’eri-a/ ‘mouth-exceed-NMLZ,’ Copainalá Zoque aysis /ayança-sis/ ‘mouth-flesh,’ Arabela rupaa-que ‘mouth-CLASS.CLOTH,’ Cubeo jiye-tarabu ‘lip/mouth-CLASS.CIRCULAR,’ Kapingamarangi malau ngudu ‘two.things.joined.together mouth,’ and Lenakel has nivhivhi-nhul ‘end/tip-mouth’ for the ‘upper lip’ and netpi-nhul-‘belly-mouth-‘ for the ‘lower lip.’ In Ngambay, Swahili, Burarra (where there is a very general term referring to the entire mouth area, including ‘cheek’ and ‘chin’), Kyaka, Acoma, Cheyenne, Comanche, Itzaj, Nez Perce, Nuuchahnulth, Oneida, Wintu, Bororo, Huambisa, Imbabura Quechua, Bislama, and Tetun, ‘lip’ and ‘mouth’ are directly colexified (Sahu colexifies ‘lip’ with ‘the outside of the mouth,’ and Nez Perce also with ‘mouth of river’ and ‘cave;’ this association is frequent in Indo-European, Buck 1949: 229-230). Semianalyzable terms where one constituent is ‘mouth’ are found in Katcha, Khoekhoe, Abzakh Adyghe, Japanese, Kolyma Yukaghir, Biloxi, Chickasaw, Wappo, Aguaruna, Hupda, and Rotuman. Mostly due to colexification with ‘mouth,’ the ‘lips’ are also associated with ‘language,’ which is the case in Wintu, Imbabura Quechua, and Hawaiian; the only language including a term which colexifies ‘lip’ and ‘language,’ but not ‘mouth’ is Hawaiian.

In Swahili, Kyaka, Carrier, Central Yup’ik, Jarawara, Yanomámi, and Takia, ‘lip’ is colexified with ‘beak’ (see also section 5; in Kyaka with ‘wide beak,’ in Central Yup’ik with ‘upper or lower part of a snout or beak’ and in Takia with ‘pointing lips’ more specifically). The Pipil and Jarawara terms colexify ‘lip’ with ‘snout’ (in Jarawara alongside ‘fruit’ and ‘mass, hunk, lump, whole’), while in Acoma, ‘upper lip’ more specifically is colexified with ‘snout’ and conversely, in Central Yup’ik ‘upper part of snout’ is colexified with ‘beak.’ In four languages, Ngambay, Burarra, Kyaka, and Macaguán, the word for ‘lip’ is extended to also mean ‘entrance’ or ‘door;’ however only in Macaguán does the respective term not also denote the ‘mouth’ at the same time, a meaning for which this metaphorical extension is more common (see section 124 and § 6.2.3.2.). In four of the sampled languages, Nganyaṭjarra, Lake Miwok, Bislama, and Hawaiian, there are extensions to the female genitalia (as in Latin; in Hawaiian among other meanings colexified). Rarer metaphorical extensions are found in Nivkh, where qerrluq also means ‘bay,’ in Central Yup’ik, where qerrluq may refer to ‘stones around a firepit,’ and in Cashinahua, where kebichi (given as kebixi in the Spanish-Cashinahua section of the consulted source) may also be used with the meaning ‘eyelid.’ Finally, in five of the sampled languages, ‘upper lip’ and ‘lower lip’ are expressed by different lexical items. These languages are Toba, Lenakel, Dadibi, Lavukaleve, and Katcha.

Still other associations are: Efik dum’baru colexifies “[f]irst young leaf buds of any tree,” “[g]erminating of seeds,” and “[f]irst coming through of a tooth.” Kyaka kambu also means ‘vote, voice’ (likely due to Kyaka colexifying ‘lip’ with ‘mouth’). Meyah ofjíj ofóo contains ofóó which can mean either ‘egg,’ ‘meaning,’ or ‘dust,’ and Waris muemb-ta appears to be analyzable as ‘saliva-small.object.’ Itzaj chi’ is also the name of a tree, while Nez Perce tüs’killiku’ sipéewn ‘upper lip’ is analyzable as ‘uppermost twist-PTCP.’ Central Yup’ik qerrluq also means ‘stones around a firepit,’ and Wayampi eme also ‘kerf in flute,’
‘fabric edge of hammock rope,’ and ‘shore.’ Hani meiqil contains jil, which inter alia means ‘to finish something’ (and for meiq, compare meiqdāq ‘mouth, snout’?). Hawaiian lehe can also mean ‘stretched’ or ‘loose’ and also denotes a deep-sea fish.

121. The Liver

Representation: 93%
Motivated: 13.4%
Thereof Analyzable: 1.5% Thereof Colexifying: 11.9%
Thereof by Contiguity: 0.0% Thereof by Similarity: 4.7%
Recurrent associated meanings: soul, heart, lungs, core.center/middle, belly/stomach, kidney, chest

There are relatively few lexico-semantic associations concerning the ‘liver;’ the ones that are attested link it mostly to other internal organs of the body. In five sampled languages, Ngambay, Kwoma, Sahu, San Lucas Quiaviní Zapotec, and Yay, colexification of ‘liver’ and ‘heart’ is found, in Imbabura Quechua, the ‘liver’ and the ‘kidneys’ are called yana shunga ‘black heart’ (in Irish, ‘liver’ is a compound of terms meaning ‘heavy’ and ‘heart,’ Buck 1949: 252). In Sahu, the simplex katere has rather broad reference, including, alongside ‘liver,’ ‘chest,’ ‘heart,’ and ‘soul’ (‘chest’ and ‘liver’ are also colexified in Efik). To single out the meaning ‘liver,’ katere ma bibiwisi may be used; bibiwisi is a reduplicated version of biwisi ‘banana flower,’ which has a reddish color similar to that of the liver. Other languages (Badaga, Kiowa, and Imbabura Quechua) colexify ‘liver’ and ‘kidney,’ and in still others, (Kwoma, Badaga, Laz, Cahuilla, and Yay), ‘liver’ and ‘lungs’ may be referred to by the same lexical item (this association may also be present in Anggor, though marked as dubious in the source). In the case of three languages, Ngambay, Khalkha, and Yanomami, terms for ‘liver’ also include meanings such as ‘belly,’ ‘tummy,’ or ‘stomach.’ In Khoekhoe, there is a term covering internal organs (‘lungs,’ ‘heart,’ ‘liver,’ and ‘kidneys’) which is also capable of referring to the ‘stomach.’

Relatedly, in Central Yup’ik, tenguk also means ‘solar plexus,’ and in Badaga, tfaulu also denotes the ‘entrails’ and ‘intestines.’ In four languages of the Americas, Highland Chontal, Wappo, San Lucas Quiaviní Zapotec, and Yanomami, the words for ‘liver’ also have a more abstract reading of ‘core,’ ‘center,’ or ‘middle,’ and Efik eset inter alia also denotes the ‘inside, interior’ of something (Bowden 1992: 36, as cited by Heine and Kuteva 2002: 199, reports a grammaticalization path ‘liver’ > ‘in’ in a number of Oceanic languages).

The liver is also the seat of emotions or the soul in a number of languages (or more appropriately put, conceived of this way in the associated cultures). This is noted for the African languages Efik and Noni, and is also found in New Guinea in Kwoma, Meyah (see examples in § 4.5.1.4.1.), Sahu, Sko, and Toariipi, as well as in White Hmong in Southeast Asia. In addition, in Fijian, ‘courage’ and ‘cowardice’ are associated with the ‘liver,’ Hawaiian ake is ambiguous between the nominal reading ‘liver’ and a verbal reading that has to do with desiring or yearning for something; optionally, ake-pa’a ‘liver-firm’ may be used to single out the nominal reading specifically, while in Embera, the sequence dadyi in
"dadyithãrí 'liver' occurs in many expressions having to do with human beings, their souls and their spirit.

Other associations include: Hausa hanta is also used figuratively for “one’s dearest possession,” Koyraboro Senni tasa also denotes a ‘metal bowl’ and means ‘to push’ as a verb, while Ngambay wär also means ‘patience.’ Baruya colexifies ‘sorrow,’ and Kyaka pungi also means ‘rope.’ One wala is also used with the meaning ‘side,’ Meyah odou also means ‘front,’ and Sahu katera also ‘chest.’ Sko pung is also the name of a large bamboo species and also means ‘to butcher, cut up meat.’ Kosarek Yale bubu also means “carrying or bearing part, point of support.” Abzakh Adyghe s°ʔə also means ‘good, useful’ (though it occurs with the meaning ‘liver’ only in a redundant complex term). Badaga cuttage ~sutta ge also denotes the ‘larynx,’ and Basque gibel also means ‘listlessness, lethargy.’ Khalkha elige figurally also denotes the ‘breast’ and ‘blood relatives.’ The Sora term s’garen is also used to denote “pulp of fruits, pith, kernels etc.,” and Welsh iau also means ‘yoke’ and ‘Thursday.’ Highland Chontal kada is also glossed as ‘center of being,’ Pipil (Cuisnahuat dialect) -el-tapach is analyzable as ‘-inside-shell,’ and Maxakali xupkän-dy might contain xup ‘to suck, sip, hang down.’ Hani caoq also inter alia means ‘to contain, to be present inside,’ ‘a frightening place where spirits live,’ and acts as a classifier for clumps or clusters of things. Mandarin gant also means ‘dry’ (in both readings reflecting Early Middle Chinese kan, Pulleyblank 1991: 102), and Rotuman äfe also ‘thousand’ inter alia. Takia ate- is also used with the meanings ‘palm of hand’ and ‘plain among hills,’ and White Hmong siab also means ‘high, tall.’ Lesser Antillean Creole French fwa also means ‘time, turn, occasion’ and ‘faith.’

122. The Lungs

Recurrent associated meanings: liver, light, heart, foam, chest, float, air
Guaraní has nê’â vevûí ‘heart light’ (though vevûí alone can refer to the ‘lungs,’ too), and Ancash and Imbabura Quechua a term literally translatable as ‘white heart’ (yurak shunqu and yurak shungu respectively). Furthermore, there is a semianalyzable term with the identifiable constituent meaning ‘heart, breast’ in Kaingang. Moreover, in Khoekhoe, there is a general term for ‘offals’ which can refer to virtually all internal organs of the trunk, while there are other lexical items for each one specifically.

Almost all other recurrent lexico-semantic associations already occur in the terms mentioned so far, making reference both to the light weight and the spongy structure of the lungs that sets them apart from other internal organs of the body. Alongside Guaraní and Hawaiian, terms where their light weight is used for denomination are Yir Yoront ngerr-lo’t ‘belly-light.in.weight/hollow’ (the source notes that this term is “[g]iven fairly consistently also for ‘heart’”), Welsh ysgyfaint /ysgafn-aint/ ‘light-ABSTR,’ Chickasaw jshoppayá, analyzable as /im-shoppaya/- ‘DAT-be.light-NMLZ,’ Arbërela pa namaca ‘our light,’ and ‘lungs’ and ‘(be) light’ or ‘something light’ are colexified also in Nuuchahnulth, Bora, and Samoan (note in addition the similarity between Tsafiki que’fō ‘lungs’ and que’fûn ‘light’). This association is also recoverable etymologically in German (and Germanic more broadly, Kluge 2002). Kluge has it that “die Lungen werden als ‘die Leichten’ bezeichnet, weil Lungen von Schlachttieren als einzige Innereien auf dem Wasser schwimmen” / “the lungs are called ‘the light ones’ because lungs of animals for slaughter as the only innards float on water,” see also Jóhanneson (1949: 105) for Indo-European more broadly. The ‘lungs’ are colexified with ‘foam’ in Buin, Kaluli, and Toaripi, and a complex term is, alongside Fijian, found in Chayahuita sa’poro’ (/sa’po’-ro’) ‘foam-CLASS.PILE.’ Similarly, Guaraní colexifies ‘lungs’ with ‘be foamy, sudsy,’ Jarawara has hasa-bori ‘make.bubbles-container,’ and Wintu loso denotes both ‘lungs’ and ‘foamy crest on waves.’ Consistent with Kluge’s explanation, Nuuchahnulth also colexifies ‘to float’ and Central Yup’ik has pugtaun /pugta-(u)n/ ‘float-device.for;’ this term colexifies ‘lungs’ with ‘float’ (in the sense of ‘raft’) as well as ‘buoy’ and ‘life-vest.’ Similar to the association with ‘wind’ in Hawaiian mentioned earlier, the fact that the lungs are used for breathing is mirrored by associations with ‘air’ in Oneida (yewelalikkhwaʔ, analyzable as /ye-wel-l-hkw-aʔ/ ‘FEM.INDEF.SG.AGENT-air/wind-be.in-INST-HAB’) and Wichí, which has a very similar term; likewise, the meanings ‘lung’ and ‘breath’ are connected diachronically in Greek. Tasmanian (Middle-Eastern, Southeastern, and Western) and Lesser Antillean Creole French colexify ‘lungs’ with ‘chest.’ There are also associations with ‘meat’ and/or ‘flesh,’ however, only by semianalyzable terms, namely in Mbum, Abzakh Adyghe, and the Norton Sound - Upaliq dialect of Central Yup’ik.

Other associations include: Hausa hahu is also the name of a lung-related disease of horses (and has still further meanings). Koyraboro Senni kumbu also dialectally denotes a ‘type of hoe,’ and Baruya pawajikawai – pawajikawaolo contains pawajika ‘spleen.’ Buin turupa also means ‘saliva’ (compare the association between ‘foam’ and ‘saliva’ described in section 24; Buin is among the languages colexifying ‘lungs’ with ‘foam’). Dadibi ogwa bai, also meaning ‘spirit,’ is analyzable as ‘son baby,’ Muna ghau also denotes “overgrown tu-bers/maize.” Sahu ʻabaʻabula appears to be reduplicated from ʻabula, meaning “(wall made of) midribs of sago palm fonds.” Badaga cuttage ~ suṭṭage also is used for ‘kidney,’ and Haida
hlguca also denotes a ‘fish’s swim bladder.’ Itzaj boj also means ‘to knock’ inter alia. The Kiliwa term x-?kwiy-waa-u? is semianalyzable as ‘CAUS-DN+??-sit-OBL’ (compare -kwiy ‘cloud’), and Kiowa k’ahyoudl is related to k’ae ‘skin’ and -houdl ‘intensive.’ Wintu xo’s ‘fog, steam, lungs’ yields xo’o ‘lungs.’ Copinalá Zoque se’u also means ‘to have a sore throat.’ Cayapa jenana might contain nana ‘balsa’ (notably, a particularly light kind of wood), and Cubeo vuibo consists of vu ‘tuber’ and the classifier for round or hard objects -bo. Guaraní tajgyue also means ‘tendon, vein, nerve, muscle’ and ‘strength,’ Kaingang je kânhvo also means ‘joy,’ while the Rama term ikungkungma appears to be based on kung ‘louse, whit, air root.’ Toba colexifies ‘lung’ with ‘tears,’ Wayampi tulueviy contains tu ‘big,’ and Yanomámi hereki ~ herêki ~ heremopi contains here ‘wet’ and a quantal classifier (see § 4.4.1.1.). Finally, Hani povq also means ‘to get soft’ and ‘to be empty, used up,’ Bwe Karen thë’o also means ‘to weed,’ and Rotuman ma’ma’a is reduplicated from ma’a, which means, inter alia, ‘light in color.’

123. The Milk

Representation: 91%
Motivated: 54.7%
Thereof Analyzable: 23.9% Thereof Colexifying: 30.8%
Thereof by Contiguity: 48.9% Thereof by Similarity: 2.4%

Recurrent associated meanings: breast, water/liquid/ juice, udder/teat, nipple/teat, suck, resin, semen, pap, Burton’s legless lizard, cow

There is one cross-linguistically dominant association in terms for ‘milk’ that is unsurprising, namely that with ‘breast.’ This is frequently realized by analyzable terms (40 languages), in which case ‘milk’ is canonically literally ‘breast water’ (e.g. Sentani nimbu) or, more generally ‘breast liquid’ (e.g. Bororo nokuro kuru) or ‘breast juice’ (e.g. Kaluli bo ib /bô lb/). Such terms are also found in Efik, Muna, Waris, Ket, Kiliwa, Kiowa, Pawnee, Cavinéña, Embera, Guaraní, Hupda, Jarawara, Lengua, Miskito, Piro, Tsafiki, Wayampí, Yanomámi, Great Andamanese, Hani (where qquq colexifies ‘sweet’ and indeed likely also contains qul ‘sweet’), Bwe Karen, and Malagasy; Buli and Kapingamarangi have semianalyzable terms where the identifiable constituent means ‘breast.’ In languages with systems of nominal classification, as already seen in § 4.4.1, the respective terms typically involve a classifier affix, as is the case in Arabela (where ‘breast’ and ‘teat’ are colexified), Bora, and Chayahuita; similarly, in Swahili, the same root yields both meanings depending on noun class assignment. Variants of the morphologically complex terms mentioned above are Meyah mënq ofôd ‘breast flood’ and San Mateo del Mar Huave aonts mijiwaran ‘excrete breast,’ and there are semianalyzable terms with ‘water’ or ‘juice’ in Cayapa, Rama, and Great Andamanese.

A further variant are terms in which the consituent meaning ‘breast’ is replaced by a verbal element meaning ‘to suck,’ such as in Chickasaw pishokchi’, which is analyzable as /pishi okchi/ ‘suck juice/liquid.’ The same pattern is also found in Rotokas (roroo ovi ‘develop,breasts/breastfeed/suckle CLASS.LIQUID’) and Tetun (susu-been ‘suck-liquid’); however, Tetun also has a term of the derived type, namely susu-n ‘suck-singulative,’ and in-
deed, derived terms with a similar structure are found in more sampled languages, namely in Khoekhoe, Kolyma Yukaghir, and Haida, and in Bislama and Samoan, susu is ambiguous as to part of speech and means ‘milk’ in nominal and ‘to suck’ in verbal usage. Similarly, Pawnee colexifies ‘breast’ with ‘to suck,’ and hence the relevant complex term for ‘milk’ also betrays an association with the latter meaning. Fijian sucu colexifies ‘to be born, to suck the breast’ with ‘birth, milk’ (there is a optional complex term with wai ‘liquid’ on the basis of sucu); the association with sucking is also attested weakly in Indo-European, the evidence being an Albanian word for ‘cheese’ containing a root attested in Sanskrit with the meaning ‘suck’ (Buck 1949: 385).

Colecification of ‘milk’ and ‘breast’ is even more frequent, meaning effectively that forty-nine languages have a single term to cover both ‘milk’ and ‘(female) breast;’ these are Ngambay, Noni, Yoruba, Anggor, Baruya, Buin, Burarra, Gurindji, Kyaka, Lavukaleve, Ngaanyatjarra, Nunggubuyu, Toaripi (colexifying also ‘scrotum’ and denoting a particular breast-shaped shellfish), Sahu, Kosarek Yale, Basque, Kolyma Yukaghir, Carrier, Upper Chehalis, Cheyenne, Haida, Kiowa (colexifying also ‘to flow, melt’), Lake Miwok, Nez Perce, Nuuchahnulth, Oneida, Santiago Mexquititlan Otomí, Quileute, Xicotepec de Juárez Totonac, Wappo, Wintu, Yuki, Central Yup’ik (Yukon and Norton Sound dialects), San Lucas Quiavini Zapotec, Aguaruna, Aymara, Cashinahua, Huambisa, Kaingang, Macaguán, Bislama, Hani, Hawaiian (here there is the term wai-ā ‘water-breast’ which however can refer to ‘breast’ itself), Lenakel, White Hmong, Rotuman, Samoan, Takia, and Tetun. Biloxi may be another case of colexification. Here the source gives wa’k tasi’/wak tasi’/ ‘cow female.breasts’ as the term for milk (for which compare Maxakalí mūnilytut yōktat hep contains mūnilytut ‘cow’ and hep ‘liquid’), which suggests that this in fact refers to milk as a foodstuff and in fact tasi’ alone can refer to both ‘milk’ and ‘breast.’ Hausa, by another term, colexifies ‘breast’ and ‘sour milk’ inter alia. For Kashaya, it is noted that šiʔdo ‘breast’ is also the old term for milk (for which there is now molokko, a loan from Russian). Interesting in this context is the case of Wintu, which features a single term for both referents but also has another term, wuh, which denotes both ‘cattle’ and ‘milk,’ and this kind of provenience contiguity may have come into being analogously.

Associations with ‘breast,’ either by analyzability or colexification, are common all over the world, with the notable exception of Eurasia, in which the association is only found in Basque and Ket; it is also not reported by Buck (1949: 385) for Indo-European. Redundant (or seemingly redundant) terms are also common, such as Yir Yoront thaynpolgor ‘breast-milk,’ although such formations may either be motivated by the introduction of cow’s milk as a foodstuff and serve to distinguish mother’s milk from it or to single out readings of the simplex for ‘milk’ if this is itself colexifying, for instance with other liquids. For instance, Kwoma pi ranges semantically over ‘blood,’ ‘sap,’ and ‘milk,’ and this may motivate the presence of muku pi (muku is ‘breast’).

Further patterns of colexification, such as that with ‘blood’ and ‘resin’ in Kwoma (the association with ‘resin’ is also found in Sora and Ineseño Chumash) already mentioned above include that with ‘milky-looking pus’ in Kyaka, that with ‘soup’ in Rotokas, that with ‘milky juice’ and ‘latex’ in Basque, that with ‘juice’ in Sora and Ineseño Chumash,
that with ‘semen’ in San Lucas Quiavini Zapotec and Bislama, and that with ‘pap’ in Yoruba and Tuscarora.

A further pattern of colexification, encountered in Yoruba, Basque, Kolyma Yukaghir, Lavukaleve, Ineseño Chumash, Haida, Lake Miwok, Nuuchahnulth, Wintu, Aguaruna, Aymara, is that with ‘nipple, teat,’ and it is likely due to the colexification with ‘breast’ and ‘nipple’ by spatial contiguity rather than a genuine association, although Nez Perce and Ineseño Chumash colexify ‘milk’ with ‘nipple’ while having a separate term ‘for breast.’ In Cubeo, the ‘milk’-word opeco appears to be derived by unknown means from ope ‘nipple,’ though this remains somewhat unclear. The association with ‘nipple, teat’ is realized by analyzable terms in Arabela, Cavinéña, Embera, Miskito, Wayampi, and Malagasy.

‘Milk’ is also colexified with ‘udder, teat’ in Hausa, Yoruba, Kyaka, Toaripi, Haida, Lake Miwok, Nez Perce, Nuuchahnulth, Tuscarora, Wintu, Aguaruna, Aymara, White Hmong, Rotuman, and Takia (which also colexifies ‘to squeeze’), and associated with these meanings due to ‘udder, teat’ being a secondary meaning of ‘breast’ by analyzable terms in Efik, Arabela, Cavinéña, Embera, Miskito, Wayampi, Yanomâmi, and Malagasy.

Both Burarra and Nunggubuyu extend their respective terms for ‘breast, milk’ to also denote “Burton’s legless lizard,” a species of lizard native to Australia and New Guinea.

Still other associations include: Hausa madara is also the name of a “kind of native-made cloth,” “English salt in loose form,” “[t]he unboiled juice of certain fruits or of sugar-cane,” “[u]nadulcated musc scent,” as well as “[p]ure silver.” Koyraboro Senni waa also means ‘to defecate, shit,’ and Yoruba ṣomú is also the name of an “instrument used in weaving to divide the woof.” Muna susu ‘canned milk’ (borrowed in this sense from Bahasa Indonesia) is also the name of a large shellfish inter alia. Cheyenne nénéhe also means ‘bottle’ (this term is register-specific). Lesser Antillean Creole French let also means ‘letter, character,’ Nuuchahnulth ṭinna also denotes “Nob Point, where white powder seems to run out of a breast-shaped rock,” Wintu ṭem also means “hold pectorally, carry something in the arms, embrace,” Bislama titi and susu also mean ‘unweaned,’ Hawaiian waii also is the term for a ‘wet nurse’ and kea also means ‘white, clear’ inter alia. Rotuman susu also means ‘to sew.’

124. The Mouth

Representation: 97%
Motivated: 48.8%
Thereof Analyzable: 5.9% Thereof Colexifying: 42.9%
Thereof by Contiguity: 15.3% Thereof by Similarity: 6.6%
Recurrent associated meanings: opening, word/language/speech, beak, lip, edge/tip, door/entrance, muzzle/snout, estuary, tooth, hole, blade, riverbank, barrel of gun/muzzle of gun

Ngambay, Swahili, Burarra, Kyaka, Acoma, Cheyenne, Comanche, Itzaj, Nez Perce, Nuuchahnulth, Oneida, Wintu, Bororo, Huambisa, Imbabura Quechua, Bislama, and Tetun colexify ‘mouth’ with ‘lip’ (a common association by semantic shift in Indo-European,
Buck 1949: 228); furthermore, Aguirre Licht (1999: 99) mentions í-tã́e ‘lip-intersection’ for Embera, but it is not entirely clear whether this term has lexical status, and Cubeo has a single root occurring in terms for both ‘lip’ and ‘mouth,’ with classifiers differentiating between the two.

Baruya, Gurindji, and Cahuilla colexify ‘mouth’ with ‘tooth’ or ‘teeth,’ and Jarawara has inohoti/inohoti, consisting of ini/ino ‘tooth’ and hoti/hoto-ne ‘hole’ (compare also Kosarek Yale sikaan ‘mouth’ and si ‘tooth, thorn, point, name’). In fact, similar terms are found in other languages of South America: Maxakalí has yí-yox ‘speak-hole’ and Tsafiki fiqí foró ‘language opening/hole’ (though note also that Lesser Antillean Creole French colexifies ‘mouth’ with ‘hole’ among other meanings directly). Furthermore, an element meaning ‘tooth’ may be diachronically detectable in the word for ‘mouth’ in Nunggubuyu. Similarly, ‘mouth’ is colexified with ‘language,’ ‘word’ and/or ‘speech’ in Efik, Hausa, Ngambay, Rendille, Muna, Ngaanyatjarra, Khalkha, San Mateo del Mar Huave, Kiliwa, Wintu, Arabela, Bora, Chayahuaita, Guarani, Miskito, Ancash and Imbabura Quechua, Yanomami, and Sedang, which also colexifies ‘knife’ (and Baruya colexifies ‘angry speech, anger’ more specifically), and in Tasmanian (Middle-Eastern, Southeastern, and Western) terms for ‘mouth’ are clearly related to those for ‘language, utterance, speak,’ though the precise relationship is not recoverable. Consistent with the South American pattern in complex terms just mentioned, the Cubeo term for ‘mouth’ is differentiated from ‘lip,’ with which it shares its root, by a classifier for entities having to do with language.

There are, however, also many metaphor-driven extensions of ‘mouth’ to other meanings. Buli, Khoekhoe, Laz, Sora, Lesser Antillean Creole French, Itzaj, Yanomami, and Mandarin colexify ‘mouth’ with ‘muzzle’ or ‘snout’ (a common pattern in Indo-European, Buck 1949: 228), Buli, Efik, Khoekhoe, Ngambay, Swahili, Baruya, Kyaka (colexifying ‘wide beak’ specifically), Toaripi, Abzakh Adyghe, Nivkh, Kashaya (where haʔbo is analyzable as /ʔahaʔbo/ ‘mouth-enlarge/swell.up’ and means both ‘protrusion of the mouth’ and ‘external mouth’), Yaqui, Hupda, Fijiian, Malagasy, Rotuman, Samoan, and Tetun with ‘beak’ (in Kyaka ‘wide beak’ specifically; similarly, Yir Yoront colexifies “bottom of bird’s beak” inter alia), and Buli, Hausa, Kanuri, Khoekhoe, Koyraboro Senni, Baruya, Basque, Upper Chehalis, Itzaj, Santiago Mexquititlan Otomi, Pipil, San Lucas Quiaviní Zapotec, Arabela, and Bororo colexify ‘mouth’ with ‘edge’ and/or ‘tip.’ Similarly, Welsh colexifies ‘mouth’ with ‘end’ (and also with ‘top’ and ‘head’).

Efik, Khoekhoe, Toaripi, Abzakh Adyghe, Upper Chehalis, Nez Perce, and Mandarin colexify ‘mouth’ with ‘estuary’ (compare the derivational relationship between Latin ās ‘mouth’ and āstium ‘door, entrance, river-mouth,’ as well as a cognates of ās in Old Prussian and Old Norse meaning ‘river-mouth’ according to Buck 1949: 228, and section 20 for evidence for this connection from the present sample), Nez Perce also colexifies ‘mouth of cave.’ Similarly, Efik inua also denotes an ‘inlet, gap,’ Lavukaleve leu also a “passage, channel in reef for a canoe to go,” and Buli and Tetun colexify ‘mouth’ with ‘riverbank.’

Buli, Efik, Hausa, Noni, Burarra, Kyaka, Ngaanyatjarra, Rotokas, Basque, Lengua, and Mandarin colexify ‘mouth’ with ‘door’ and/or ‘entrance’ (compare the Latin evidence quoted from Buck above). Dongolese Nubian, Rendille, and Basque colexify ‘mouth’ with
‘blade,’ and more specifically, Buin colexifies ‘cutting edge of blade,’ while Lake Miwok and Hawaiian colexify ‘barrel of gun’ or ‘muzzle of gun.’

Furthermore, ‘mouth’ is extended to ‘opening’ in general (but often of bottles or other vessels in particular) in Efik, Hausa, Khoekhoe, Ngambay, Dongolese Nubian, Yoruba, Kyaka, Muna, Ngaanyatjarra, Rotokas, Toaripi, Abzakh Adyghe, Basque, Khalkha, Sora, Welsh, Lesser Antillean Creole French, San Lucas Quiaviní Zapotec, Bororo (also with ‘curve’), Lenga, Miskito, Toba, Yanomámi, Bislama, Hawaiian, Lenakel, Mandarin, Rotuman, and Takia.

Other associations include: Buli ndai has additional readings as ‘advice,’ ‘command,’ ‘oath,’ and others, while takabi means ‘sherd, piece of clay vessel’ and is a vulgar and insulting term for ‘mouth.’ Efik inua, similarly, colexifies ‘mouth’ with ‘report’ and ‘boasting’ inter alia. Hausa baka also means ‘bow’ and ‘catch of lock,’ again inter alia, and baki is glossed also as “conclusion, maturity.” Koyraboro Senni mee ~ miñe also means ‘loose’ inter alia and Ngambay colexifies ‘suck’ and ‘embrace,’ again among other meanings. Kyaka kambu also means ‘vote, voice.’ The Rotokas term gisipo also means ‘talk, words,’ while akuta also means ‘to open one’s mouth, to shout’ as a verb. Abzakh Adyghe ðə also means ‘to speak,’ ‘beg’ as well as ‘to listen, understand’ and other things, Basque aho also means “articulation, diction” among other meanings, while Laz p’ici also means ‘face, front side’ and similarly, San Lucas Quiaviní Zapotec ru’uh also ‘in front of’ inter alia. Abzakh Adyghe že also means ‘to grill, fry’ and ‘to wait’ and perhaps ‘knee’ and ‘physical deformation,’ Ket qo also ‘ice’ and ‘ten,’ while Khalkha ana(n) is also used as a unit for counting persons in census or as food-consumers. Sora t’odan ~ t’odan ~ t’udan may also refer to the ‘jaw’ (though from the source it is not clear whether the term assumes this meaning on its own or only in compounds). Haida colexifies ‘mouth’ with ‘to feed,’ and the relevant Itzaj term also denotes a tree species. Lakhota ʔ also means ‘to arrive at a place away from here,’ and Santiago Mexquititlan Otomí also ‘to love.’ Abipón n-aag-Rat is analyzable as ‘POSS.IND/3SG-bite-CAUS,’ the association with ‘bite’ (as well as ‘lick’) is also recoverable for Nunggubuyu. Pawnee haaka’u also means ‘drum,’ while Yana bal(la) is also used dialectally with the meaning ‘cheek’ (an association evidenced by semantic shift in Indo-European, Buck 1949: 228). Kaingang jêkky appears to be analyzable as ‘eat-cut/smell.’ Miskito colexifies ‘mouth’ with ‘space, center,’ ‘road,’ ‘mandate,’ ‘message,’ ‘will,’ and ‘quarter,’ Wayampi yulu also denotes the mouthpiece of a flute, and Wichí colexifies ‘mouth’ with ‘hunger.’ Bislama maot also means ‘vagina’ in informal use and has a further meaning related to the preparation of Kava. Kapingamarangi nuaju also means ‘to melt’ as a verb. Hawaiian colexifies ‘mouth’ with ‘talky person,’ ‘neck of dress,’ ‘to carry on back,’ ‘load carried on back,’ among still other meanings. Rotuman nju also can refer to a ‘spokesperson’ and “the most easily pierced in the three ‘eyes’ of a coconut-shell” inter alia.
125. The Phlegm

Representation: 49%
Motivated: 51.3%
Thereof Analyzable: 12.2%  Thereof Polysemous: 39.1%
Thereof by Contiguity: 6.6% Thereof by Similarity: 15.0%
Recurrent associated meanings: saliva/spittle, cold/flu, snot, cough, pus, resin, semen, throat

Eight sampled languages, Hausa, Noni, Kyaka, Ngaanyatjarra, Jarawara, Miskito, Tehuelche, and Toba colexify ‘phlegm’ (or ‘sputum’) with ‘flu’ or ‘cold,’ while the same lexical item in Embera yields the two meanings depending on gender. Fifteen languages, Khoekhoe, Ngambay, Berik, Badaga, Khalkha, Haída, Quileute, Aguaruna, Arabela, Cashinahua, Cavineña, Cubeo, Guarani, Huambisa, Ancash Quechua, Hani, and Hawaiian, with ‘saliva, spittle’ (Khalkha also with ‘tears’), and in Embera, again gender is used as a device to differentiate the meanings. Hausa, Ngaanyatjarra, Badaga, Basque, Itzaj, Pawnee, Tuscarora, Embera, Tehuelche, and Fijian colexify ‘snot.’ Kaluli and Wintu colexify ‘phlegm’ with ‘cough,’ Muna with “cough up and spit out phlegm.” Toba has a term for ‘phlegm’ derived from ‘to cough,’ Bislama has doti blong kof ‘rubbish/pus POSS cough/cold’ (compare colexification of ‘phlegm’ and ‘pus’ in Badaga and Wintu), Samoan fatu-tale is analyzable as ‘heart-cough,’ and a semianalyzable term where the identifiable constituent is a verb meaning ‘to cough up’ is found in Kashaya. Chayahuita has iro ipirin-so’ cough/flu spit.out-3SG.SUB.’ Furthermore, a semianalyzable term involving a constituent meaning ‘nose’ is found in Yir Yoront. Pawnee kitutkuutu” is analyzable as /kitut-kuu-at-u’/ ‘throat-rotten-NOM,’ and Lesser Antillean Creole French has the (suspiciously long) term sistans épé ki ka sôti an nê əbēn gôj ‘substance thick REL PROG get.out in nose or throat;’ there is a semianalyzable term containing an element meaning ‘neck, throat’ in Highland Chontal. San Lucas Quiaviní Zapotec colexifies ‘phlegm’ with ‘semen,’ and in Burarra, gungulol ‘phlegm’ is derived from gulol ‘semen, rotten.’ Hawaiian hākolo also denotes ‘sticky sap from trees’ (there is also another term, male, which has other seemingly unrelated meanings such as ‘to marry’ and also denotes a fish species), and in Toba, ‘phlegm’ and ‘resin’ generally are colexified.

Other associations include: Hausa kaki colexifies ‘phlegm’ with ‘beeswax’ among other meanings, and majina also means ‘to blow the nose’ inter alia when used verbally. Ngambay wenren also means ‘vomit,’ while Kwoma ukwa siik contains siik ‘fruit.’ Mali genaing also means ‘cerebrum,’ and Kosarek Yale sikna also ‘dirt, bits of dirt.’ Nivkh čjevčjεvja mif is analyzable as ‘be.wet soil.’ Lake Miwok ke’kαti also has the verbal readings of “to cough up phlegm” and for phlegm “to come up in itself in the process of clearing one’s throat,” Carib kowe also denotes the ‘round-worm,’ and Rama siri seems to consist of the elements s' and ri, which both make reference to ‘water.’ Muna ngallangalla also means ‘phloem.’ In Hani, zaoppeiv is ‘phlegm, spittle;’ both zaop and peiv have meanings on their own that do not seem to bear a semantic relationship to either ‘phlegm’ or ‘spittle,’ the closest among the meanings of peiv is ‘to have a sickness or disease that continues, to have
a relapse of sickness’ and its function as a classifier for dewdrops. Finally, Lenakel noua-nelpwa is analyzable as ‘fruit-fat/grease.’

126. The Navel

Representation: 91%
Motivated: 28.1%
Thereof Analyzable: 8.3% Thereof Colexifying: 20.5%
Thereof by Contiguity: 17.2% Thereof by Similarity: 5.5%
Recurrent associated meanings: umbilical cord, center, placenta/afterbirth, belly/stomach, family/relatives, cause/origin

The most common lexico-semantic association for this meaning is that with ‘umbilical cord.’ It is realized by colexification in Buli (where the term also colexifies ‘stalk of calabash’ inter alia), Kwoma, Lavukaleve (where the term also means ‘moonshell’), Meyah, Rotokas, Toaripi, Sahu, Sko (the relevant term is köengri, for which compare köeng ‘tooth’), Waris, Kosarek Yale, Yir Yoront, Khalkha, Cheyenne, Ineseño Chumash, Haida (where the term also colexifies “mouth of sea urchin”), Nuuchahnulth, Quileute, Yana, San Lucas Quiavini Zapotec, Aymara, Carib, Bislama, Hawaiian, Lenakel, Manange, and Rotuman. In Cubeo, the same root suffixed with different classifiers yields the meanings ‘navel,’ ‘umbilical cord,’ and ‘liiana’ respectively. Miskito has tukta awa ‘child ribbon,’ suggesting that ‘navel’ and ‘umbilical cord’ are also colexified here. Furthermore, there is an analyzable term in Kashaya (ʔohqomo /ʔohqo-ʔimo/ ‘umbilical.cord-hole’), and a semianalyzable term in Bwe Karen; in San Lucas Quiavini Zapotec, the relevant term also may refer to a “hole in a container of liquid or a small dam that can be closed with a plug or stopper.” ‘Navel’ is colexified with ‘stomach’ in Basque, and dialectally, the meaning of Kyaka kumu varies between ‘abdomen’ and ‘navel’ (the term also denotes a kind of tree), and complex terms betraying this association are featured in Toaripi (ēre lalave ‘belly corner’), Abzakh Adyghe (nabepc’ey, containing nabe ‘belly, stomach’ and pc’e ‘false’), and Cayapa (ajbundyu, presumably analyzable as /ajca-bundyu/ ‘abdomen-knot’). Kwoma, Waris, Cheyenne, and Wintu colexify ‘navel’ with ‘placenta’ or ‘afterbirth,’ and Kyaka has reme lyolo ‘placenta end.’

Moreover, seven sampled languages, Hausa, Kyaka (by the term mumbi renge, which appears to contain mumbi ‘kind of reed’ and renge, meaning ‘source, origin, reason’ alongside other things, for which compare Efik i’buüt nsia, analyzable as /i’buüt nsi’a/ ‘head/top/cause/origin bowels’), Khalkha, Welsh, Guaraní, Hawaiian, and Malagasy extend terms for ‘navel’ to the abstract, namely to ‘center’ or like meanings (see Buck 1949: 248 for Indo-European data; Welsh in addition also colexifies ‘heart’). Hausa, furthermore, also colexifies “central supporting pillar of a ceiling” and ‘birthplace’ inter alia, and Sedang, similarly, denotes the “center of chúa tò’u weaving pattern” inter alia, and Yay duua also means ‘center of flower.’ Finally, in Khalkha, Wintu, and Hawaiian, relevant terms can also refer to the ‘family’ or ‘relatives.’

Other associations include: Buli siuk also means ‘street, road’ inter alia. Khoekhoe sunis is presumably related to suni ‘to joint, cut meat at joint,’ (similarly, Wintu naq might
be related to 逯k meaning ‘cut off’ inter alia; 逯q also means ‘to pity, care for, feel sentiment, empathy towards’), and Hausa 逯bi is also the name for a small metal spoon as well as for ‘umbilical hernia.’ Buin 逯uqe also denotes the “anal vent in fish,” Burarra 逯rcha also the tuber of the water lily Nymphaeaceae violacea, and Kaluli 逯nduf contains 逯on ‘water.’ Kwoma 逯awaba also means ‘stem of plant’ and ‘trunk of tree,’ ‘carcass,’ as well as “neck of a slitdrum.” Ngaanyatjarra 逯yuŋṯirŋ(pa) also means “spinning through the air very fast (of spear),” while Nunggubuyu 逯ala also means ‘honey’ and ‘(clear) sky.’ The Southeastern Tasmanian term 逯uŋŋa is also the name of the ‘triton shell,’ while Badaga collexifies ‘navel’ with ‘umbilical rupture,’ Khalkha with ‘isthmus’ inter alia, and Welsh with ‘nave of wheel’ and ‘boss of shield.’ Chickasaw 逯t̓iitionalb̓iʃ ~ 逯t̓iitionalbīʃ may contain 逯t̓i ‘mouth,’ and Itzaj 逯t̓uŋ also denotes the ‘gizzard of birds.’ Kiowa 逯’eıp’ out may contain 逯’eı ‘vulva,’ while Pipil – yuk also means ‘bell clapper’ in the dialect of Santo Domingo de Guzmán, and Tuscarora 逯′nišŋeřeh also means ‘star, planet.’ Wintu 逯bos, derived from 逯b̓os live, reside, remain, keep; stay, be in a sitting position, sit, dwell, stay,’ also means ‘home, camp,’ and Central Yugu’ik 逯laȼciq is perhaps analyzable as /qalla-(u)ciq/ ‘be.boiling-condition.of.possessor.with.respect.to,’ with the presence of the postbase (see § 4.4.2.) not being entirely clear. Chayahuita 逯mër appears to be analyzable as /ĩmér-in-ra/ ‘smell-CLASS.SMALL.THINGS,’ and Kaingang 逯ŋ-nin as ‘twist-tuber/potato.’ Rama has a semianalyzable term containing an element meaning ‘eye,’ and Tehuelche 逯et’ is also one of the variants of 逯et’ ~ 逯et’ ~ 逯et’e ‘to eat something.’ For Fijian 逯ivivivoc ic compare vico, the name of a variety of wild sugar cane. Kapingamarangi 逯bi d is also used with the meaning ‘end’ and ‘piece,’ and Mandarin 逯qi2 also means ‘to ride’ (reflecting different Early Middle Chinese etyma, Pulleyblank 1991: 246). Finally, Rotuman 逯puf also denotes a “shallow fire-hole for open fire, fire-place.”

127. The Neck

Representation: 96%
Motivated: 39.9%
Thereof Analyzable: 2.9% Thereof Colexifying: 36.9%
Thereof by Contiguity: 30.3% Thereof by Similarity: 4.7%
Recurrent associated meanings: throat, nape, voice, collar, neck of vessel, top, behind,
Adam’s Apple, top, rain, swallow, head

Many sampled languages collexify ‘neck’ with ‘throat’ (see also Buck 1949: 231-232 for Indo-European data). This is the case in Efik, Berik, Burarra (also with ‘larynx’), Gurindji, Ngaanyatjarra (where the relevant term denotes the front of the neck specifically), Muna, Sentani, Toaipiri, Yir Yoront (where the relevant term may also refer to the “upper chest area,” “mid-trunk area,” and has metaphorical uses), Greek, Kildin Saami, Welsh, Highland Chontal, San Mateo del Mar Huave, Itzaj, Kiliwa, Kiowa, Wintu, Yaqui, Yuki, San Lucas Quiavivi Zapotec, Copainalá Zoque, Embera, Lengua, Ancash Quechua, Tehuelche, Tsafiki, Hawaiian (by the formally redundant term kani-‘i̱i ‘hard-neck’), Bwe Karen, Mandarin, White Hmong, Rotuman, and Tetun (the relevant Rotuman term also means “to squeak, to chirp” as a verb). In some of these languages, namely Burarra, Gurindji, and Muna, ‘voice’
is in addition colexified. This is also the case, without colexification of ‘throat,’ in Katcha, Koyraboro Senni, Ngambay (which colexifies also ‘melody’), Rotokas, Aymara, and Cayapa. Abipón, Aguaruna, Arabela, Aymara, Piro, Ancash Quechua, Tehuelche, Toba, Wayampi, and Hani colexify ‘neck’ with ‘nape’ (Xicotepel de Juárez Totenac furthermore with ‘nape of animal’ in particular), and in Cubeo the meanings are expressed using the same root suffixed with different classifiers. This pattern is also attested in Indo-European (Buck 1949: 231-232). Haida in specific contexts colexifies ‘neck’ with ‘head,’ while Rama has a term betraying this association by a complex term (kingkat /kin-kát/ ‘head/top-tree/foot’). Yuki and Hawaiian colexify ‘neck’ with ‘Adam’s Apple’ (alongside ‘throat,’ note also that Wappo hóch is glossed as “front of the neck, area of the Adam’s apple’). Rotokas kopa iro is analyzable as ‘swallow/ingest belt’ and colexifies ‘windpipe,’ ‘trachea,’ and ‘esophagus,’ while Tehuelche colexifies ‘neck’ and ‘to swallow’ (alongside other meanings) directly.

Basque, Bezhta, Haida, Tuscarora, San Lucas Quiavini Zapotec, Bislama, Hawaiian, and Malagasy colexify ‘neck’ with ‘collar’ (and Greek with “neckline of garment” and Hawaiian also with “neck of a shirt or dress,” see also Buck 1949: 232 for this association in Latin and Middle High German; it may also be present in Armenian), Buli, Muna, Abzakh Adyghe, Badaga, and Basque with ‘neck of vessel’ (often in particular of a bottle), and Abzakh Adyghe and Bororo with ‘top’ in general (note also the Rama term mentioned above and that Embera nrɨ(nrɨɨ) also means ‘neck’ and中含有nrɨ’ also contains nrɨ’ ‘above’). The relevant Ngambay and Ngaanyatjarra terms can also assume the meaning ‘behind.’ Kyaka colexifies ‘neck’ with ‘stem,’ Kosarek Yale with “lower part of tree trunk,” and Yanomami has ora-hitho ‘upper.extremity-petiole’ (compare also the formally redundant Pipil term kech-kuyu ‘neck-plant/stem;’ the simplex kech occurs only in compound); moreover, Carrier tscîlten contains tce n ‘stick.’ Finally, presumably accidentally, Kapingamarangi and Samoan colexify ‘neck’ with ‘rain.’

Other associations include: Efik itoñ is inter alia also used to refer to a “connecting part,” Hausa wuya also means ‘ford’ in the dialect of Sokoto, and Koyraboro Senni jinde ~ jinda also ‘prow of boat.’ Ngambay gu also means ‘chest,’ and ngandara is also an ideophone meaning “with a hoarse voice.” Buin ou also means ‘carry on shoulders,’ and is the name of “a form of binding for sago thatch” inter alia, while Burarra jawa, as a verb, means ‘to bleed, exude fluid.’ Muna dodo-ha is analyzable as ‘cut.off-loc,’ the basis for the association being that the neck is the “spot where animals are cut.” Abzakh Adyghe lac’ is analyzable as /l(e)-c’(e)/ ‘flesh-body.related,’ and pse also means ‘door,’ ‘to knead, kneading,’ and ‘to creep.’ Basque lepo can also refer to the ‘shoulder’ and ‘back.’ Laz ali also is used with reference to any sort of constriction, and Sora ‘sajkan also means ‘fathom.’ Cashinahua texu is also used with the meaning ‘handle of a stool.’ Cavineña erumu also means ‘landmark’ and ‘district’ (original Spanish gloss is ‘coto’), Kaingang nunh also means ‘to pass over to another path,’ and Wayampi alipi also means ‘grape of fruit.’ Fijian domo, as a verb, means ‘to desire, lust after.’ Presumably by homonymy given the shortness in terms of segments, Lenakel rou also means “[c]hase (in order to catch).” Mandarin jing also means ‘spring, well’ (due to phonological collapse of erstwhile distinct etyma, Pulleyblank 1991: 159), and Lesser Antillean Creole French kou also ‘to strike, hit’ among other meanings.
128. The Nipple

Representation: 64%  
Motivated: 74.2%  
Thereof Analyzable: 58.2%  
Thereof Colexifying: 17.2%  
Thereof by Contiguity: 25.7%  
Thereof by Similarity: 26.8%

Recurrent associated meanings: breast, point/tip/end, milk, udder, eye, head, face, suck, mouth, button, nose, seed, front

Unsurprisingly, the most common association for this meaning is that with 'breast' (and sometimes also 'teat,' an association disregarded in the following). It occurs by colexification in Dongolese Nubian (where the relevant term ɛ́rt(ɪ) also means 'dirt, dirty'), Swahili, Yoruba, Lavukaleve, Northeastern Tasmanian, Basque (with optional complex terms of the major types discussed below), Khalkha, Kolyma Yukaghir, Ineseño Chumash, Nuuchahnulth, Wintu, and Sedang, which colexifies also “to pound, to beat.” By far more frequent, however, are complex terms of the lexical type betraying this association. Within this class of terms, the most frequent meaning of the second element is ‘tip,’ ‘end,’ or ‘point,’ as in Kaluli bó sí/bó sí-tí/‘breast tip.’ Terms with such structure are also attested in Buli, Rendille, Baruya, Kyaka, Ket, Biloxi (dubiously), Chickasaw, Haida, Kashaya, Kiowa, Lakhota, Lesser Antillean Creole French, Carib, Guaraní (where an additional diminutive suffix is present), Jarawara, Miskito, Wichí, Lenakel, and Rotuman; a variant of this pattern is found in Kapingamarangi, which has mada-lili ‘end-seize.’ In addition, the association is realized formally by colexification in Hawaiian, and Rotuman colexifies ‘end’ with ‘nose,’ which is why its term also bears an association with this meaning; Ngaanyatjarra colexifies ‘nose’ and ‘nipple’ directly, with secondary associations to ‘beak’ etc. typical for terms for ‘nose.’ Terms like Yir Yoront thayn-mel ‘breast-eye’ are also frequent, occurring also in Badaga (where the term denotes the ‘areola’ rather than the ‘nipple’ itself), Kiliwa (where in one variant, an additional constituent meaning ‘ball’ is present), Bislama, Fijian, Samoan, Takia, and Tetun, while ‘nipple’ and ‘eye’ are colexified directly in Burarra and Hawaiian (with typical other secondary associations for ‘eye,’ compare § 6.2.3.1.). Furthermore, Jarawara has yohari noki/yohari noko, where yohari is ‘breast’ and noki/noko colexifies ‘eye’ and ‘seed’ inter alia. ‘Seed,’ ‘nut,’ ‘kernel,’ and ‘nipple’ are colexified in Gurindji. Burarra also has the alternative term dombu angaliny ‘developed nipple’ containing dombu ‘mudskipper’ (a type of amphibious fish with protruding eyes) and galiny ‘eye.’ Due to colexification with ‘eye,’ there are also associations with ‘face’ by complex terms in Toaripi, Jarawara, Fijian, Hawaiian and Samoan, and by colexification in Ngaanyatjarra.

There are further common body-part metaphors realized by complex terms with ‘breast’ acting as the contiguity anchor. Copainalá Zoque, for instance, has tzu‘tzi-pocac ‘breast-head;’ such terms are also featured in Kosarek Yane (where ‘head’ is colexified with ‘front,’ compare for this Toaripi omopa kō ‘front/facce breast/udder/milk’ and kō opa ‘breast/udder/milk front/face’), Itzaj, Yaqui, Hupda, Ancash Quechua, Toba, Malagasy, and Mandarin, which also has the variant nai3-tou2 ‘milk-head.’ Efik colexifies ‘nipple’ with ‘mouth’ (and the term also has other secondary associations due to the meaning ‘mouth,’ cf. section 124 and § 6.2.3.2.), Buli has biisi noai ‘breast mouth/tip,’ Wappo huy-nán ‘breast-
mouth,' and Yay paak' nen3 ‘mouth breast,’ and there is a semianalyzable term in Guaraní. Japanese has chichi-kubi ‘breast-neck.’ Other complex terms with ‘breast’ include Katcha bibala ma thonogo ‘child GEN breast,’ Mbum nják-pâm ‘entrance/verge-breadst,’ Dadibi bono si ame ‘rope two woman.bread’ for ‘man’s breast nipple’ specifically, One nimna sola ‘breast flower,’ Sora aj’o-men /ə-jo-meːn/ ‘ross-unripe.fruit-breast-N.SFX,’ Cheyenne he’e-vone ‘female-breast,’ Kiliwa ny+mayu-p+?uwn ‘ross+breast=mp+ball/knot,’ Pawnee iit-paca ‘breast/suck-be.a.bump,’ Hani aqqul quisq, derived from aqqul ‘breast, milk, sweet’ by partial reduplication and the classifier for round things siq, Manange 3ŋjokro 2p+uŋ ‘breast egg,’ Tetun susun-lahat ‘breast-shrimp.net’ (though note that laho ‘mouse, rat, muscle’ has a variant laha), and White Hmong txiv-mis ‘fruit-breast.’ There are semianalyzable terms in Guaraní and Great Andamanese, and Yanomámi has suhe u ka ‘breast liquid opening,’ with suhe u meaning ‘milk.’ This, in fact, is another natural major association for the ‘nipple,’ as already seen in terms from Kyaka, Hani, and Mandarin. ‘Nipple’ and ‘milk’ are colexified in Yoruba, Lavukaleve, Basque, Kolyma Yukaghir, Ineseño Chumash, Nez Perce, Nuuchahnulth, and Wintu, while Santiago Mexquititlan Otomí has do-'ba ‘stone-milk’ and Central Yup’ik emulek /emuk-lek/ ‘milk-one.having;’ the association is also present due to colexification of ‘milk’ and ‘breast’ in analyzable terms in Kyaka, Toaripi, Kosarek Yale, Kiowa, Fijian, Lenakel, Rotuman, Samoan, Tetun, and Bislama.

Further, Khoekhoe, Yoruba, Khalkha, Nez Perce, and Wintu colexify ‘nipple’ with ‘udder’ (Khoekhoe with ‘nipple of man’ specifically), and the association is realized by analyzable terms due to colexification of ‘udder’ with ‘breast’ in Kyaka, Toaripi, Lesser Antillean Creole French, Toban, and Rotuman. There may be further cases of this association, namely those in which terms for ‘nipple’ are glossed also as ‘teat’ or ‘teta’ in Spanish; these are not taken into account here because without further evidence it is not clear whether this gloss is merely a near-synonym for ‘nipple.’ Badaga and Khalkha colexify ‘nipple’ with ‘button’ alongside other meanings, among them ‘bullet’ in Khalkha. Kolyma Yukaghir ibišic; colexifying ‘nipple’ with ‘breast’ and ‘milk,’ is derived from a verb meaning ‘to suck’ (compare the Pawnee term just mentioned above). The association is present due to colexification of ‘milk’ and ‘breast’ in analyzable terms in Kyaka, Toaripi, Kosarek Yale, Kiowa, Fijian, Lenakel, Rotuman, Samoan, Tetun, and Bislama, and a semianalyzable term of this kind is found in Buin.

Other associations include: Kanuri nzムbдрм contains elements meaning ‘place of’ and ‘birth,’ Kosarek Yale selkedek is the name for a species of raspberry, and is used with the meaning ‘nipple’ in dancing songs. Badaga mazu is also a unit of measurement. Greek rýga also means ‘grape’ and thlí also ‘papilla,’ while Cheyenne he’enénestôsê /he’e-nénhestôsê/ is analyzable as ‘female-nurse-thing.’ Nuuchahnulth ‘imma also denotes ‘Nob Point, where white powder seems to run out of a breast-shaped rock,’ while Oneida ohnnísyaqá has been extended to also denote ‘baby bottle.’ Santiago Mexquititlan Otomí ts'uy also means ‘tail.’ The Wintu root ßEm also bears the meaning “hold pectorally, carry something in the arms, embrace.” Embera húi, associated with different genders, can also mean ‘cavity, hollow,’ and ‘chest,’ Piro gikatu also means ‘stalk,’ and Wayampi colexifies ‘nipple’ with ‘stamen.’ Finally, Hawaiian ômaka inter alia also means ‘building, beginning, source’ and ‘foreskin.’
129. The Nostril

Representation: 70%
Motivated: 78.7%
Thereof Analyzable: 76.8% Thereof Polysemous: 2.9%
Thereof by Contiguity: 57.1% Thereof by Similarity: 9.9%
Recurrent associated meanings: nose, hole/opening, mouth, burrow, cave, track, eye, house

Terms for ‘nostril’ are overwhelmingly complex, consisting of the respective terms for ‘nose’ (ignoring secondary meanings such as ‘beak’ etc. in the ensuing discussion) and ‘hole’ or ‘opening,’ as in Laz čxindı xuntula ‘nose hole.’ Terms with this structure are also found in Buli, Efik, Hausa, Kanuri, Khoekhoe, Mbum, Swahili, Yoruba, Anggor, Berik, Gurindji, Kwoma (where the relevant term also means “hole bored in nasal septum”), Lavukaleve, Malı, Muna, One, Sentani, Toaripi (where ‘opening’ is colexified with ‘mouth,’ compare also Takia qdu-n awa-n ‘nose-3SG mouth-3SG;’ terms betraying an association with ‘mouth’ are also featured in Lesser Antillean Creole French, Pawnee, and Malagasy), Basque, Japanese, Ket, Welsh, Kolyma Yukaghir, Biloxi (where the meaning of the other constituent next to ‘nose’ is more precisely “natural orifice in the human body”), Upper Chehalis, Chickasaw, Highland Chontal, Haida, Itzaj, Kashaya, Kiliwa (for the ‘inner nostril,’ there is the term phiʔ=kw-sʔ=han ‘nose=WH-INST/LONG-DN+rise.slightly’ for ‘outer nostril’), Kiowa, Lake Miwok, Lesser Antillean Creole French, Nez Perce, Oneida, Santiago Mexican Creole, Pawnee, Wintu, Yaqi, Bora (where segmentation is uncertain), Bororo, Carib, Guaraní, Hopwa (where ‘hole’ is colexified with ‘house,’ for which compare Rama nγi-ri ‘house-wet’), Jarawara, Miskito, Piro (where ‘hole’ is colexified with ‘anus’), Imbabura Quechua, Tobá, Tasfiki, Yanomámi, Bislama (where ‘hole’ is colexified with ‘earth oven, cooking pit’), Fijian (where ‘hole’ is, as in Wintu and Sko, colexified with ‘cave,’ compare also Aguaruna nuhí waa-ŋ-ii ‘nose cave-ROSS-3ROSS’), Hani, Hawaiian (where ‘hole’ is colexified with ‘door’ and other meanings, and the complex term can also refer to a “hole in pearl-shell Shank’), Manange, Mandarin, White Hmong, Rotuman, Tetun, Vietnamese, and Yad. Semianalyzable terms containing an element meaning ‘hole’ are found in Upper Chehalis, Cayapa, and Wayampi, and one featuring a classifier for holes in Arabela. In Buli, Khoekhoe, Kwoma, and Tobá, ‘hole’ is colexified with ‘burrow,’ and hence their complex terms for ‘nostril’ also betray an association with this meaning. Further variants of the pattern are Badaga sivilu tolle ‘breath hole.for.nosering.or.earring,’ and San Mateo del Mar Huave miwirij oxing, containing wirij ‘hole’ and oxing ‘point.’ Similarly to the situation in Piro, in Chukchi, the relevant term may be connected etymologically to ‘anus,’ which may itself have born the general meaning ‘hole’ at an earlier stage in the language’s development. Baruuya has sıduta /sınna-tuta/ ‘nose-track,’ and a term with this structure is also attested in Kyaka. Katcha has se mo mbora ‘eye GEN nose,’ and a term with identical structure is found in Bislama; the pattern is also etymologically detectable in Tuscarora. Moreover, Swahili has mwawni wa pua ‘bamboo of nose,’ Meyah osım efesı ‘nose interior,’ Nivkh vix kiat ‘nose fall/come.out,’ Pipil (Santo Domingo de Guzmán dialect) -bentanah-yak ‘-window-nose,’ Chayahuita nitëana, analyzable as /nitë-ana/ ‘nose-
CLASS.AROUND, 'Wichí tonhespe', containing nhes 'nose' and a locative suffix meaning 'on,' and Great Andamanese ighōronga ārjāg, containing ighōronga 'nose' and jāg 'chink, gap.'

Ngambay, Yir Yoront and Embera colexify 'nose' and 'nostril' directly (Yir Yoront also “nose-like protrusions at the fronts of animals;” there is a redundant complex term with 'hole' for 'nostril' specifically), in Cubeo, the same root yields the meanings 'nose' and 'nostril' (and “'nose of an airplane") depending on the classifier suffixed, and semianalyzable terms where the identifiable constituent is 'nose' are found in Bezhta, Upper Chehalis, and Cavinëña.

Other associations include: Sko loelóng appears to contain long 'hole, cave' and, curiously, loe 'ear.' Welsh ffroen also means 'muzzle of gun.' Central Yup'ik curlu ~ curluq also means 'sinus' and 'head of pike fish,' and paciguaq, another Central Yup'ik term for the concept, is analyzable as /pacik-(ng)uaq/ 'gill-imitation.'

130. The Pupil

Representation: 48%
Motivated: 75.4%
Thereof Analyzable: 65.7% Thereof Colexifying: 9.6%
Thereof by Contiguity: 27.4% Thereof by Similarity: 40.1%

Recurrent associated meanings: eye, black, eyeball, child/son/daughter, seed/grain, iris, small, egg, person, spot

The ‘pupil’ is a meaning expressed frequently by metaphor-driven complex terms (Tagliavini 1949, Brown and Witkowski 1981), with ‘eye’ acting as the contiguity anchor. Of these, the association with 'child' or more specifically, 'son' or 'daughter' is most frequent, due to the small reflection of oneself in the interlocutor’s eye (see Urban forthcoming for discussion of the probable cultural underpinnings). For instance, Berik has nue tan, presumably analyzable as /nue tane/ ‘eye child/niece/nephew.’ Such terms are also found in Katcha, Mbum, Kaingang, Toba, and Tetun, while Basque colexifies ‘pupil’ with ‘child, doll,’ and Greek with ‘girl, daughter, virgin.’ Moreover, there is a semianalyzable term in Yay, and Sedang has kón ngái, where kón is ‘gibbon, spider monkey,’ but note kon ‘child.’ There are also other associations with human beings, namely in Muna (ka-mie-mie-no mata 'DIM-person-DIM-POSS eye,' Kolyma Yukaghir (and’ya-šorona 'eye-man'), Blackfoot (by colexification), Fijian (valolololo turaga ‘reflection/image chief’), and Hawaiian (ki'i ‘onohi ‘image/doll eyeball;’ ki'i also has some other meanings). Buin tuutuu, reduplicated from tuu meaning ’water’ inter alia, is also an epithet for (plumb) children. Buli has num-buli, where num is ’eye’ and buli can refer to a ‘kid, young goat,’ but also to the Buli language inter alia. Otherwise, 'seed' or 'grain' is common as the source concept, as in Copainalá Zoque witambuj /witam-pujj/ ‘eye-seed/pit.’ Such terms are also found in Hausa, Kyaka (where 'seed' is colexified with ‘egg’ and other meanings, which is also the case in Wintu; compare Yoruba eyiŋjá /ey-in-ojú/ ‘egg-eye,’ Ancash Quechua (where the term colexifies 'iris,' as is the case in Khoekhoe, Rendille, Baruya, Wintu, and Cubeo), Guarani (though note that ta'yi ‘seed’ is a diminutive of ta'y ‘son, clot,’) and Tsafiki; Biloxi has tütći’ ‘su’süpi’ /tütći’ ‘su süpi/ ‘eye seed black.’ In fact, ‘black’ is the major non-metaphorical association for the
meaning ‘pupil.’ Complex terms such as Sora gajar-‘mad-an ‘eye-black-N.SFX’ (here, the analysis is tentative; the first constituent may also be gajar- ‘to turn, to reel,’ ‘to contain a hole’), are featured in Dadibi, San Mateo del Mar Huave, Kiowa, Nez Perce, Aguaruna, Piro, Rama, and Great Andamanese, while Upper Chehalis has a complex term involving a root meaning ‘black’ and a lexical affix meaning ‘ridge, basket, trap’ (incidentally, a term with the same lexical affix also based on the root for ‘white’). Lenakel has nouanhalnakānim-i r-apin ‘eyeball-?? NMLZ-black/dark,’ and furthermore, Rendille has dādyō /daa-y-to/ ‘black-thing’ and Hani miavneen neev-nav ‘eye/eyeball red-black.’ There is a semianalyzable term where the identifiable constituent means ‘black’ in Khoekhoe. Another recurrent non-metaphorical association is that with ‘smallness,’ as betrayed in Kolyma Yukaghir jukud-ajd’a ‘small-eye,’ also found in Highland Chontal (where the putative constituent galninuh, glossed as ‘little one’ more precisely is borrowed from Span. niño and the term hence very likely a loan translation), San Mateo del Mar Huave, Cavineña, and Samoan. There are also many unique metaphor-driven conceptualizations of the ‘pupil,’ realized by complex terms with ‘eye’ acting as the contiguity anchor in the languages of the sample. Dongolese Nubian has míssi-y-géde ‘eye-gen-circle/rim,’ Kwoma miyi noku sobo ‘eye sago.palm pale’ (sobo also has many other meanings), Abzakh Adyghe nek° /ne-k’(e)/ ‘eye-middle,’ Badaga (kan) mañj ‘(eye) gem,’ Welsh canwyll y llygad ‘candle DET eye,’ Itzaj tz’u ich ‘center/heart eye,’ Kashaya hu’u šihta, /hu’uy šihta/ ‘eye bird,’ Tuscarora yučsināhku’ ukāhrakw, containing the roots -čisňkw- ‘comma, speck, spot,’ -ur- ‘to cover,’ and -kah(r)- ‘eye’ (for the association with ‘spot,’ compare collexification of ‘spot,’ ‘fawn,’ and ‘pupil’ in Wintu), Aguaruna jii winchāji, containing jii ‘eye’ and winchā ‘luminous,’ Arabela namijia nunetejōjua ‘eye that.that.causes.to.sparkle,’ Miskito nakra yula ‘eye companion’ (with yula also having other meanings), Yanomámi mamo išiší ‘eye coal/soot,’ and Bislama ston blong ae ‘stone POSS eye.’ There are semianalyzable terms with ‘eye’ being the meaning of the identifiable constituent in Efik, Khoekhoe, Carrier, Upper Chehalis, Highland Chontal, Cayapa, Bwe Karen, and Sedang.

‘Pupil’ is collexified with ‘eyeball,’ where relevant by a motivated term as discussed elsewhere in this paragraph, in Hausa, Katcha, Yoruba, Welsh, Wintu, and Guarani; compare again Lenakel nouanhalnakānim-i r-apin ‘eyeball-?? NMLZ-black/dark’ as well as Hawaiian has ‘ñohei maka ‘eyeball eye.’

Other associations include: Khoekhoe ãutšiɡares, which also means ‘lens of eye,’ contains ãu ‘congealed, solidified,’ and Kwoma gwadiimay is also the ‘generic term for spider.’ Ngaanyatjarra tiruny(pa) also denotes “wild onion, onion grass.” Ineseño Chumash xutaš is also the name of the fruit of the coffeeberry (as well as ‘evening star, Venus’ and “Earth mother”); similarly, Haida hldaandaraay contains hldaan ‘blue huckleberry.’ Central Yup’ik takviw ~ takviwan is analyzeable as /taku-vi-(u)n/ ‘check.fishtrap.or.fishnet-??-device.for.’ Hawaiian kiri ‘ñohei can also be used to refer to a ‘beloved person.’ Rotuman rito also denotes the “young leaves (of coconut or other palm) just as they are coming out at the top of the trunk (in the centre).”
131. The Pus

Representation: 79%
Motivated: 23.4%
Thereof Analyzable: 5.6%    Thereof Colexifying: 17.8%
Thereof by Contiguity: 6.9% Thereof by Similarity: 9.5%

Recurrent associated meanings: infected/infection, rot/rotten, wound/sore, semen, dirt/dirty, boil, phlegm, resin, snot, brain, blood, water/liquid

Cheyenne, Comanche, San Lucas Quiavini Zapotec, Ancash Quechua, Wayampi, and Yanomami colexify, by provenience contiguity, 'pus' with 'infect, (be) infected, infection;' Yanomami also has the complex term niyo-niyo u-pë 'infect-RED liquid-PL.HETEROGONOUS.' Alongside Santiago Mexquititlan Otomi, which directly colexifies 'pus' and 'wound,' there are also several languages which have complex terms for 'pus' with 'wound' or 'sore' acting as contiguity anchor. Highland Chontal has lija ga wi /lijlabi la wi/ 'lime.water.from.cooking.corn wound,' San Mateo del Mar Huave aonts najloc ~ aonts necoy 'excrete wound' (note also that there is a semianalyzable term with a constituent meaning 'excrement' in Saliba and that this association is etymologically recoverable in Dongolese Nubian), Kashaya maʔaṭ ho·ṭ, analyzable as /maʔa h ṭ ho·ṭ/ 'sore rot,' and Tetun kanek-been 'wound-liquid.' Moreover, there is a semianalyzable term where the identifiable constituent means 'sore, wound' in One. Alternatively, Tetun also has been-tasak 'liquid-septic,' and an association with 'water' is also found in Sora: 'gurde' pus, juice, sap' contains d'a- 'water' and either g'ur- 'to ripen' or gu:r-, a variant of gor- "to cut vertically soft things" (for this term, note that Mali colexifies 'pus' with "white sap from the breadfruit tree" in particular). There is a semianalyzable term with 'water' as the meaning of the identifiable constituent in Sko, and one in Abzakh Adyghe which colexifies 'pus' with 'lymph.' The association with 'rot, (something) rotten' in Kashaya is not unique: Gurindji, Ngaanyatjarra, Santiago Mexquititlan Otomi, and Tuscarora colexify these meanings, and Tetun has raan-kroek 'blood-rotten' alongside raan-mutin 'blood-white.' This, in turn, is not the only association with 'blood,' which is colexified with 'pus' in Kosarek Yale.

There are also other associations with body fluids and soft body parts, which are more frequent cross-linguistically. Baruya and Manange colexify 'pus' with 'snot' (this may also be the case in Cayapa, where the terms are however not quite identical), Ket, Lake Miwok, Carib, and Yay with 'semen' (Yay with 'pus running from the flesh' specifically), and Ket and Lake Miwok colexify 'pus' with 'brain.' Badaga and Wintu colexify 'pus' with 'phlegm.'

Furthermore, Sahu and Abzakh Adyghe colexify 'pus' with 'boil,' Hawaiian has pala-hēhē 'yellow-boil' (pala can also assume the meaning 'rotten' when speaking about taro corms inter alia), and there is a semianalyzable term containing an element meaning 'abscess' in Kaingang, Ngaanyatjarra, Rama, and Bislama colexify 'pus' with 'dirt(y)' (in Swahili, the term for 'pus' is a loanword from Arabic originally meaning 'dirt, filth'). Piro colexifies 'pus' with 'resin' and 'rainbow,' and the former association is also present in Sora.
Other associations include: Bakueri *iidi* also denotes “a bunch of oil-palm nuts.” Hausa *d*īwa is also the name of a red grass species, and dialectally assumes the meaning ‘anus,’ while *muqunya* is also the feminine form of *muqa* ‘evil.’ Muna *taghiraq* ‘pus from acne’ also means ‘soft meat inside an old coconut’ (compare *taghi* ‘belly, stomach’?), Ket *do’y* also means ‘three,’ Khalkha *idege(n)* also “food, nourishment, provisions,” ‘kernel of nut,’ and ‘tannin,’ and for Khalkha *a*γeri and *agesyn* compare *a* ~ *age* ‘fault, roughness, uneveness.’ Sora *tuledan* colexifies ‘pus’ with ‘gum,’ and Pipil *temal* is derived from a verb meaning ‘fill.’ The Tuscarora root *-atkeht-six* also yields the meaning ‘leather wood.’ Central Yup’ik *imaq* means ‘content’ and also ‘bullet’ and ‘ocean.’ Wayampi appears to colexify ‘pus’ with ‘street’ inter alia, Great Andamanese *mûn* also denotes ‘marrow,’ Fijian *nana* is also an ‘affectionate word for mother,’ while Hani *biool* also means ‘to fly.’ Bwe Karen *mî* also means “be full of pus” and ‘be ripe’ inter alia, Sedang *hê* also ‘saliva,’ and Lesser Antillean Creole French *matie* also ‘matter, material’ and ‘topic.’

132. The Rib

**Representation:** 90%

**Motivated:** 33.6%

**Thereof Analyzable:** 23.1%

**Thereof Polysemous:** 12.0%

**Thereof by Contiguity:** 27.4%

**Thereof by Similarity:** 4.5%

**Recurrent associated meanings:** side/flank, bone, chest/thorax/ribcage, fence

By far the most common structure in motivated terms for ‘rib’ in the languages of the sample is for them to be analyzable of the lexical type, with constituents meaning ‘bone’ and ‘side’ or ‘flank,’ as for instance in Kildin Saami *jërkh-t-taxt* ‘flank-bone’ (both are common associations in Indo-European, Buck 1949: 208). Such terms are also featured in Efik, Kanuri, Koyraboro Senni, Mbum, Yoruba, Sahu, Miskito (which also has the alternative term *tnya mina* ‘side dent’), Tsafiki, Wichí, Hawaiian (where the relevant term also means ‘spareribs’ and ‘wife,’ because of the biblical motive of Eve having been created from Adam’s ribs), Malagasy, Rotuman, Takia, Tetun, and Yay. There are also, alternatively, some languages with complex terms involving ‘bone,’ but not ‘side.’ These are One (*nenki amna*, with *amna* meaning ‘bone’ and *nenki* also occurring in *moru nenki* ‘vertical thatch braces;’ similarly, Ineseño Chumash colexifies ‘rib’ with “verticals of house frame,” Anggor *ŋeremb* is also glossed as “frame of mbisu” and *kwansatha* in the Piro term for ‘rib’ *kwansathau* means also ‘ribs of roof;’ this association is paralleled in Indo-European, Buck 1949: 208), Badaga (*nenjiwu /nenju-ikwa* ‘chest-bone’), Ket (*ulat /ul-a’d* ‘straight-bone’), Kolyma Yukaghir (*nugod’d-amun* ‘thigh-bone,’ colexifying ‘thigh’), Kapingamarangi (*ivi di wogowoga ‘bone ART ribcage’), Manange, which has (*goyte*) *1kře 2noře* ‘(under.waist) hips bone,’ and Samoan (*ivi ‘aso’aso ‘bone variety.of.yam’). Semianalyzable terms with ‘bone’ as the identifiable constituent are attested in Efik, Sora, the Cuisnahuat dialect of Pipil, Copainalá Zoque, and Guaraní.

Conversely, there are also languages where the relevant terms betray an association with ‘side,’ but not with ‘bone.’ Kyaka, Ngaanyatjarra, Sko, Basque, Greek, Khalkha, Nivkh, Bororo, Bislama (by a rare term), and Hani directly colexify ‘rib’ with ‘side (of
body’ (Basque also with ‘hulk’ and ‘point of view, viewpoint’ and Khalkha also with ‘wing’ and “spur of a mountain between two valleys”), Chukchi has ɣə to-lqə ‘side-material for,’ Piro kwansatha-pu ‘side-shape of bean or banana,’ and there is a semianalyzable term in Gurindji.

Moreover, Buli, Ngambay, Buin, Rotokas, Kiliwa, Xicotepec de Juárez Totonac, Bororo (by a semianalyzable term containing the constituent ‘tree’ and colexifying ‘trunk’), Fijian, and Mandarin colexify ‘rib’ with ‘chest’ and/or ‘thorax, ribcage’ (Ngambay also with ‘basket’ and ‘measles’), while in Cubeo, the same root yields both meanings depending on the suffixed classifier, Bora has mijowa, perhaps analyzable as /mɪjco-gwa/ ‘chest-sc.m.2d.straight,’ and the association is also present in the Badaga and Kapingamarangi terms mentioned above. Finally, Lavukaleve colexifies ‘rib’ with ‘fence,’ and analogously, Muna has karakara, with the apparent reduplication base kara meaning ‘yard, yard fence.’

Other associations include: Hausa hak’ark’ari also means ‘pneumonia,’ Kaluli sidif ~ tidif appears to contain sì ~ ti ‘tip,’ and Meyah osrój also means ‘fiancée, boyfriend, girlfriend.’ Yir Yoront pawrmel contains mel ‘eye,’ while one constituent of the Abzakh Adyghe term cafe is ce ‘fiber, blade.’ Khalkha xabirγa(n), apparently derived from xabir- ~ xabira ‘to whet, grind, rub, touch lightly in passing, for animals to stand close to one another,’ also means ‘wing,’ xabisu(n), which seems to be derived from xabi ‘vicinity, neighborhood,’ also means ‘womb, uterus,’ and Welsh asen also ‘she-ass.’ Central Yup’ik (Yukon, Lake Iliamna and Nunivak Island dialects) inarun is analyzable as /inar-te-(u)n/ ‘lying.down-act.on.one.so.as.to.cause.it-device for.’ Arabela riúquicua ~ riúquicua is analyzable as /riúQUINU-cua/ ‘bend.something.to.form.a.receptable-CLASS.MODULE.’ Cayapa vi’chi might consist of vi ‘chaquira’ and chi ‘tree, wood,’ and Rama palká contains kát ‘tree, stick.’ Fijian sarisari also denotes the “ribs” of a boat, while waqawaqa, denoting both ‘ribcage’ and ‘rib,’ is reduplicated from waqa, meaning ‘box, container’ inter alia. Bwe Karen -we is glossed inter alia as ‘shore, bank, waterside’ in the Bwe Karen-English section of the consulted source, while Lenakel nakau also means ‘midrib of coconut’ and ‘side of mountain.’

133. The Saliva

Representation: 82%
Motivated: 34.3%
Thereof Analyzable: 18.0%  Thereof Colexifying: 16.4%
Thereof by Contiguity: 11.3%  Thereof by Similarity: 16.2%
Recurrent associated meanings: water/liquid/ juice, phlegm/sputum, mouth, foam, spit, synovial, soup

Terms for ‘saliva’ (‘spittle,’ ‘drool,’ ‘slaver’) of the analyzable lexical type in which one constituent means ‘mouth’ (possibly with associated extensions, cf section 124 and § 6.2.3.2.) and the other ‘water,’ ‘juice,’ or ‘liquid’ more generally are relatively frequent. For instance, Yuki has nan-uk ‘mouth-water,’ and such terms are further found in Koyraboro Senni, Ngambay, Kyaka, Abzakh Adyghe, Upper Chehalis, Chickasaw, Itzaj, Kiliwa, Wappo, Jarawara, Maxakali, Miskito, and Lenakel. San Mateo del Mar Huave has aunts ombeayaran
‘excrete mouth,’ and semianalyzable words with the identifiable constituent meaning ‘mouth’ are attested in Nunggubuyu and Cashinahua. Furthermore, Kosarek Yale sulu-mak appears to be analyzable as ‘strong-water,’ Chayahuita has iro-i ‘cough/flu-class.liquid,’ Tsafiki pi’pi’ appears to be reduplicated from pi ‘water, liquid, juice,’ Yanomámi has kahu u ‘cover liquid,’ Hawaiian waie wai ‘slime/phlegm water,’ and Bwe Karen bỳà-chì ‘person-water.’ In Khoekhoe, a term for ‘saliva of animals, dribble’ dialectally also has the meaning ‘water,’ and likewise, one for ‘foam, saliva’ means ‘water’ in the Northern dialect of Ngaanyatjarra. There is a derived term in Great Andamanese, and semianalyzable terms are found in Kosarek Yale, Ket, Bororo, Piro, Rama (the relevant constituent meaning ‘wet’ rather than ‘water’), and Tetun (‘juice’ is colexified with ‘water’ or ‘liquid’ in a few of the above mentioned languages, and a semianalyzable term with a constituent meaning ‘juice’ specifically is found in Wayampi). In Itzaj, k’a’ in k’a’ chi’ ‘saliva’ colexifies ‘liquid’ with ‘juice’ and ‘soup,’ while Khalkha and silisy(n) seems to be derived from sily(n) ‘soup, buillon, broth’ (Khalkha has another term, nilbusu(n) ~ nilmusu(n), which also can refer to ‘tears’).

Otherwise, two languages of the sample, Sahuan and Ineseño Chumash, colexify nominal ‘saliva’ with verbal ‘to spit,’ while in Khalkha and Fijian, there are terms for ‘saliva’ standing in a derivational relationship to a verb meaning ‘to spit;’ further, in Koyraboro Senni, Biloxi, Nuuchahnuatl, and Tehuelche, there is an apparent relationship of this kind, but the precise mechanism of word formation cannot be identified (anymore). Seventeen sampled languages, Khoekhoe, Ngambay, Berik, Badaga, Khalkha, Haida, Quileute, Aguaruna, Arabela, Cashinahua, Cavineña, Cubeo, Guarani, Huambisa, Ancash Quechua, Hani (the relevant term zaaqpeiv contains peiv, meaning inter alia ‘to have a continued sickness, to have a relapse of sickness’ and also functioning as a classifier for dew-drops; zaq also has otherwise apparently unrelated meanings), and Hawaiian, colexify ‘saliva’ and ‘phlegm,’ and in Embera, the same root associated with different genders yields both relevant meanings. Efik and Khoekhoe colexify ‘saliva’ with ‘synovia.’ Furthermore, there is a pattern of colexification, namely that with ‘foam,’ that is particularly frequent in Oceania. It is attested in Buin (which also colexifies ‘lungs’), Kwoma, Lavukaleve, Nganyatjarra (which colexifies also ‘soap powder’), Tasmanian (Western and Southeastern), Badaga, Lesser Antillean Creole French, Tsafiki, and Bislama.

Other associations include: Efik u’döt, derived from dör’a ‘be viscous, glutinous,’ is a general term for “any viscid animal secretion,” while Hausa colexifies ‘saliva’ with ‘day, today.’ Koyraboro Senni hatta also means to “gather spittle into throat before spitting” as well as ‘to clear one’s throat’ and ‘to miss target.’ Ngambay colexifies ‘saliva’ with ‘vomit;’ and Yoruba itó also means ‘small creek.’ Nunggubuyu n’çal is a term for ‘slimy substance’ generally, which can for instance also refer to decaying jellyfish on the beach, Rotokas vevega also means ‘slime’ and ‘semen,’ Sentani ki also ‘deed, act’ and ‘infant,’ and Yir Yoront colexifies “vapour spouted by sea-mammal, spray spouted by sea-mammal.” Badaga ecça ~ ecculu ~ enjala also means “impurity from contact with mouth” and ‘leftover food,’” and Basque listu also ‘to fray, unravel.’ The Blackfoot term sôopoyoyoikhaa contains sôopoyoyóïkhkaa ‘to drool,’ Kiowa fostûk’ynidl contains k’ynidl ‘to be wet,’ and Embera ìtúbù contains i’ ‘lip’ and òù ‘deep.’ Guarani tendy also means ‘flame, light,’ the Huambisa term
saawin contains saawi ‘clear, transparent,’ while Kaingang jã-ra appears to be analyzable as ‘tooth-jaw.’ Lengua emanang might contain ema ‘blood,’ and Great Andamanese ãkâraïj might contain raij ‘to shoot.’ Hawaiian ‘ae also means “sap wrung from seaweeds or leaves of plants such as taro” inter alia, and hā‘ae is also the name of “a variety of sweet potato from which bear [sic] was made.” Finally, Sedang hê also means ‘pus.’

134. The Scar

Representation: 78%  
Motivated: 33.2%  
Thereof Analyzable: 12.3%  
Colexifying: 21.7%  
Thereof by Contiguity: 14.7%  
Thereof by Similarity: 9.6%

Recurrent associated meanings: wound/sore, mark, cut, trace, sign, heal, footprint, scab, welt, birthmark, spot, place, lump/lumped, depression, scale, stain, shadow, old

Koyraboro Senni, Yoruba, Ngaanyatjarra, Nunggubuyu, Yir Yoront, Piro, Tehuelche, and Manange colexify, by provenience contiguity, ‘scar’ with ‘wound’ or ‘sore’ (Yir Yoront also with ‘bite of insect’). Alternatively, Sko has püe-lié, presumably analyzable as ‘wound-chop/cut.small.things,’ Kosarek Yale meneng kiklek ‘wound cautious,’ Basque zauri-marka ‘wound-mark,’ Japanese kizu-ato ‘wound-trace’ (this is quite a frequent colexification cross-linguistically: ‘scar’ and ‘trace’ are colexified in Efik, Yoruba, Muna, Abzakh Adyghe, Toba, and Hawaiian, and Lenakel has a semianalyzable term), Kildin Saami avv-sajj ‘wound-place,’ Hupda hım bığ ‘wound old’ (compare also Wayampi (l-)en-a ‘(dependance-)
place-PAST’), Bislama mak blong soa ‘mark/spot POSS sore’ and trak blong soa ‘track POSS sore,’ and Tetun, like Kildin Saami, kanek-fatin ‘wound-place.’ Semianalyzable terms with ‘wound’ or ‘sore’ are found in Ngambay, Berik, Kaluli, one, Piro, Sāliba, and Hani, in which latter there are other semianalyzable terms involving a constituent meaning ‘be hurt, ache, be ill.’ There are also a number of sampled languages in which ‘scar’ bears an association with the meaning ‘to cut, cut.’ This is found by colexification in Koyraboro Senni (Gao dialect), Hawaiian, and Samoan, Sko has, as mentioned above, püe-lié, ‘wound-chop/cut.small.things,’ Itzaj has kuuch xot'al tu'pal ‘place cut/chopped extinguished,’ Santiago Mexquititlan Otomí a derived term, Aguarruna tsupí-k-mau wakani ‘cut-ASP-NMLZ shadow’ (note also the colexification of ‘scar’ and ‘shadow,’ alongside ‘companion, spouse, friend’ in Cashinahua), and Kapingamarangi di lhongo me ne wele/tuu ‘DET position thing perf burned/cut.’ Baruya, Nuuchahnulth, and Bwe Karen colexify ‘scar’ with ‘heal(ed),’ Ket has binaaks containing bin ‘self’ and qol ‘heal,’ and Fijian i macamaca ‘DERIV dry/healed.’ Buli, Efik, Hausa, Yoruba, Yir Yoront, Basque, Greek, Khalkha, Toba, and Lesser Antillean Creole French colexify ‘scar’ with ‘mark’ (Yoruba also with ‘impression’; similarly, Samoan has mà-īla ‘COMPLETE-mark’), Yoruba, Greek, Highland Chontal, Lesser Antillean Creole French, and Yanomami with ‘sign,’ Buli, Efik, Guarani (among other meanings), and Toba colexify ‘scar’ with ‘footprint’ (furthermore, there is a semianalyzable term with a constituent with this meaning in Lenakel), Hausa and Basque with ‘spot,’ Tuscarora, Aguarruna and Hawaiian with ‘scab’ (Aguarruna also with ‘sterile,’ and Hawaiian also with ‘button, badge’ and ‘blunt, dull’ as well as ‘fish’), Upper Chehalis and Guarani with ‘lump(ed),’
Chayahuita and Hawaiian with ‘depression,’ Muna and Tuscarora with ‘scale,’ Khoekhoe, Noni, and Greek with ‘birthmark,’ Yoruba and Hawaiian with ‘stain,’ and Muna, Nunggubuyu, and Hawaiian with ‘welt.’ Finally Yanomámi has a semianalyzable term for ‘scar’ with the identifiable constituent meaning ‘skin,’ also meaning ‘cover’ more generally.

Other associations include: Efik colexifies ‘scar’ inter alia with ‘seam,’ ‘crack,’ ‘flaw,’ and ‘chink,’ and *inía* is also the name of “a disease covering the body with large sores.” Hausa *adabali* also denotes a “patch riveted on to a damaged sword,” and *kufai* also an “old site of house, compound, or even a town” inter alia. *Tabo,* another Hausa term, is also used to refer to a favor not paid back and an old fault that can be brought up against someone. Burarra *munjakarn* contains *munjak* “hard ground on the floodplains which have dried out,” and Kyaka *mumbwaa* colexifies ‘scar’ with ‘callus.’ Muna *bhili* also denotes “hanging roots, supporting roots,” and *ghana* also means ‘to not finish, not use up.’ *Pinda* is another Muna term with apparently unrelated additional meanings, among them “traditional plate made of bone.” Relevant Tasmanian terms in all varieties with the exception of the Northern (for which data are lacking) also mean ‘wart,’ ‘wrinkle,’ and ‘tail,’ and in Yir Yoront there is a semianalyzable term where the identifiable constituent means ‘mouth.’ Basque *orbain* also denotes a ‘pock.’ Greek *símadí* also means ‘target,’ as well as ‘omen, sign.’ Sora *dul’dulan* appears to be analyzable as /dul-dol-an/ ‘red-finish/bite-N.SFX,’ and *gag’garan* ~ *gal’galan* as /gag-gar-an/ ‘red-pierce/boar.a.hole-N.SFX;’ this term also denotes the “pits of small-pox” specifically. *Tar-pw-n* is analyzable as ‘white-stab-N.SFX,’ and *ponugon,* yet another Sora term, is related to ‘pugo’- “to be coloured, to be scarred, to be spotted, to be overcast with dust.” Blackfoot *isttsikakkssin* is derived from *isttsi* ‘pain, ache, hurt’ and perhaps *wakkii* ‘to heal.’ Wintu *t’aw* also means “grief, mourn, sad.” Central Yup’ik *qelengllak* also means ‘wrinkle’ and ‘kink,’ and *iiraq* also ‘parotid gland,’ ‘tonsil,’ and ‘side of neck.’ Copainalá Zoque colexifies ‘scar’ with ‘crab species,’ whereas Cubeo *toa-churi* is analyzable as ‘fire-class.scar.or.wound-like.object.’ Yanoámá *kano si* also means ‘rubbish’ and “abundant fruits which one collects several times from one place,” and *tusi ~ tusitusi* also means “covered anew with vegetation.” Bwe Karen *gābrōthā* contains *tha* ‘up, rising.’ Figuratively, Hawaiian *ālina* also means ‘low, disgraced, dishonored,’ and *li na* also means ‘soft’ and ‘sticky’ (there are also other apparently unrelated meanings). Malagasy *holatedra* also means ‘mushroom,’ Rotuman *patu* also “to hit (a person’s head) with the back of the fingernail,” while Yay *pan’ piaw’ is analyzable as ‘become to.sear.’ Lesser Antillian Creole French *mak* also means ‘stamp’ and ‘mole’ inter alia.

135. The Skin
Representation: 97%
Motivated: 73.4%
Thereof Analyzable: 3.1%
Thereof Colexifying: 70.0%
Thereof by Contiguity: 20.0%
Thereof by Similarity: 26.0%
Recurrent associated meanings: leather/hide, bark, rind/peel, shell, surface/covering, husk/chaff, scale, body, crust, clothing/cloth, complexion, pod, fingernail, scab, flesh, race, kin/family, rubber tire.

Many sampled languages colexify 'skin' with other types of outer covering of living things, often with colexification of more than one additional sense. Many languages colexify 'skin' with 'bark' (and there are many other languages in which 'bark' is expressed by a complex term on the basis of 'skin,' compare section 3; this association is only weakly attested in Indo-European, namely in Germanic, according to Buck 1949: 201). The relevant languages are Bakueri, Efik, Yoruba, Anggor, Buin, Burarra, Gurindji, Kwoma, Kyaka, Lavukaleve (colexifying 'bark of coconut tree' specifically), Mali, Muna, Ngaanyatjarra, Nunggubuyu, Sahu, Sko, Sentani (alongside a particular palm tree in its entirety), Southeastern and Western Tasmanian, Toaripi, Kosarek Yalé, Basque, Bezhta, Biloxi, Chickasaw, Ineseño Chumash, Comanche, Haida, Pipil, Xicotepec de Juárez Totonac (colexifying 'skin of a person's leg' specifically), Yaqui, Copainalá Zoque, Abipón, Bororo, Carib, Cashinahua, Cayapa, Guarani, Hupda, Jarawara, Kaingang, Maxakalí, Piro, Ancash Quechua, Tsafiki, Wayampi, Yanomámi, Bislama, Fijian, Hawaiian, Bwe Karen, Lenakel, Malagasy, White Hmong, Rotuman, and Samoan. Moreover, Cahuilla colexifies 'bark' with 'skin of animals.'

Bakueri, Yoruba, Baruya, Kyaka, Mali, Muna, Ngaanyatjarra, Basque, Khalkhia, Nivkh, Welsh, Chickasaw, Haida, Lake Miwok, Lakhotisa, Lesser Antillean Creole French, Oneida, Pawnee, Pipil, Wintu, Central Yup'ik, San Lucas Quiavini Zapotec, Bororo, Embera, Guarani, Jarawara, Kaingang, Rama, Yanomámi, Bislama, Fijian, Hawaiian, Rotuman, and Tuten colexify 'skin' with 'rind' and/or 'peel,' and Efik, Yoruba, Muna, Nivkh, Cahuilla, Chickasaw, Ineseño Chumash, Lake Miwok, Lakhotisa, Pawnee, Pipil, Xicotepec de Juárez Totonac, Yuki, Copainalá Zoque, Bororo, Cashinahua, Cayapa, Embera, Guarani, Hupda, Kaingang, Maxakalí, Ancash Quechua, Sáliba, Tsafiki, Yanomámi, and Bwe Karen colexify 'skin' with 'shell' of various objects, e.g. a nut or crustacean. Bakueri, Efik, Yoruba, Baruya, Muna, Rotokas, Sahu, Khalkhia, Nivkh, Embera, and Bislama colexify 'skin' with 'husk' and/or 'chaff' (see also Buck 1949: 201 for this association in diachrony in Indo-European), Efik, Nivkh, Biloxi, Lake Miwok, Wintu, Guarani, Jarawara, and Bwe Karen with 'scale' (see also Buck 1949: 201 for this association in diachrony in Celtic), Kyaka, Muna, Basque, and Rotuman with 'crust,' Efik, Yoruba, and Nivkh with 'pod,' Efik and Central Yup'ik with 'scab,' Anggor, Sko, Kiowa, and Yanomámi with 'clothing' or 'cloth,' and Highland Chontal and Aymara with 'flesh' (Highland Chontal also with 'pulp').

Still more generally, terms for 'skin' are extended to 'surface' or 'covering' in general in Kwoma, Sko, Abzakh Adygehe, Basque, Nivkh, Comanche, Haida (also with 'surface of waves'), Lake Miwok, Lakhotia (colexifying also 'envelope' and 'wrapping' specifically), Nuuchahnulth, Cubeo, Guarani, Jarawara, Lengua, Maxakalí, Piro, Wayampi, Yanomámi, Bislama, Hawaiian, Kapingamarangi, Bwe Karen, and Lenakel (and 'cover' is the ultimate source of many Indo-European terms for 'skin,' Buck 1949: 200-201).

Still more generally, terms for 'skin' are extended to 'surface' or 'covering' in general in Kwoma, Sko, Abzakh Adygehe, Basque, Nivkh, Comanche, Haida (also with 'surface of waves'), Lake Miwok, Lakhotia (colexifying also 'envelope' and 'wrapping' specifically), Nuuchahnulth, Cubeo, Guarani, Jarawara, Lengua, Maxakalí, Piro, Wayampi, Yanomámi, Bislama, Hawaiian, Kapingamarangi, Bwe Karen, and Lenakel (and 'cover' is the ultimate source of many Indo-European terms for 'skin,' Buck 1949: 200-201).
and Khalkha with ‘race.’ By metaphorical extension, Miskito and Samoan colexify ‘skin’ with ‘kin, family.’ Oneida colexifies ‘skin’ with ‘rubber’ (by a term probably containing an element meaning ‘piece of cloth, rag’), and similarly, San Lucas Quiaviní Zapotec gu’i’hdy ~ gyi’i’hdy also denotes ‘plastic,’ while Rotuman and Samoan colexify ‘skin’ with ‘(rubber) tire’

Another major association is, by provenience contiguity, that with ‘leather’ and/or ‘hide’ and sometimes also ‘pelt’ (see also Buck 1949: 200 for ample Indo-European evidence). This is found exclusively by colexification in the languages of the sample and is attested in Buni, Efik, Khoekhoe, Koyraboro Senni, Noni, Dongolese Nubian, Swahili, Yoruba, Kyaka, Muna, Sentani, Abzakh Adyghe, Badaga, Basque, Chukchi, Greek, Khalkha, Sora, Blackfoot, Upper Chehalis, and San Mateo del Mar Huave, Kiowa, Lesser Antillean Creole French, Nuuchahnulth, Santiago Mexquititlan Otomi (by the term xifni, analyzable as /xi-fani/ ‘body.hair-horse’), Pawnee, Pipil, Quileute, Xicotepex de Juárez Totonac, Tuscarora, Wappo, Yana, Yaqui, Central Yup’ik, San Lucas Quiaviní Zapotec, Copainalá Zoque, Abipón, Aguaruna, Arabela, Bora, Bororo, Carib, Cashinahua, Cavineña, Chayahuita, Embera, Guarani, Huambisa, Jarawara, Kaingang, Lengua, Miskito, Piro, Acanh and Imbabura Quechua, Sáliba, Tehuelche (colexifying ‘ostrich leather’ more specifically), Toba, Tsafiki, Yanomámi, Hawaiian, Bwe Karen, Malagasy, Manange, White Hmong, Rotuman, Samoan, Sedang, and Tetun.

Other associations include: Buni gbain also means ‘drumhead’ and gbang also means ‘paper’ and denotes also several objects made of paper; it can also refer to ‘gambling.’ Efik ik’pa inter alia also means ‘whip,’ ‘stripe,’ and ‘surface,’ e.g. of water lying still. Hausa fata also means ‘to wish well, well-wishing’ and “blow the nose and project mucus into or upon something.” Ngambay colexifies ‘skin’ and ‘shoe,’ Burarra -maliyarra ‘skin’ and “wrapper, outer case” (this term may be related to mala ‘clan’), Muna kuli also means to “have a simple meal without side dish,” Ngaanyatjarra miri also to “get a shock, be shocked” and pangki (Northern dialect) also ‘orange.’ One tapi also means ‘thin,’ and Meyah olos is also used with the meaning ‘mountain top.’ Waris tóvòl ~ nìhtòv also means ‘blood,’ Abzakh Adyghe s’e also ‘appearance, color’ and šhe inter alia also ‘head, top,’ Badaga teču, similarly to One, also ‘skinny,’ Basque azal also ‘sheet,’ ‘case,’ as well as ‘rascal,’ Nivkh hatx also ‘envelope,’ ‘film,’ and ‘fur,’ and Biloxi ah’ ~ áhe’ ~ he also means ‘fingernails, toenails’ (Rama also colexifies ‘nail’), ‘horn,’ and ‘hoof.’ Kiowa colexifies ‘membrane’ and ‘cloth, mat,’ Wintu čop also means ‘acorn’ and la’ also ‘tendon’ and ‘string, stretch.’ Copainalá Zoque naca is also used with the meaning ‘sole.’ Hup’da b’sk also means ‘dish, plate, food,’ and Maxakali xax also to “seek, hunt, long for.” Miskito taya also means ‘feather,’ Piro mta also ‘mat,’ and Rama uk also ‘coat’ and ‘nail.’ Toba l’oc may colexify ‘skin, body’ with ‘cloud,’ though l in the body-part terms is a 3rd person singular possessive prefix, and it is unclear whether the similarity with l’oc ‘cloud,’ with the consonontal onset apparently belonging to the root, is merely accidental. Wayampi pi also means ‘to finish’ inter alia. Bwe Karen (-)kó can also mean “to swell as the result of the presence of pus or fluid under the skin’ and ‘mountain,’ and phe also “to scratch, claw, maul.” Hawaiian ‘ili also means ‘area, land section’ and ‘alululu, formally reduplicated from ‘alu meaning inter alia ‘sag, flabby’ and ‘depression, gully,’ has many meanings, among them ‘foetus,’ while Lenakel
nivig- may also refer to the ‘cover of a book.’ Samoan pa’u also means ‘belt of machine’ and ‘foreskin,’ and White Hmong tawv also means ‘hard.’

136. The Snot

Representation: 75%
Motivated: 37.4%
Thereof Analyzable: 15.8% Thereof Colexifying: 21.6%
Thereof by Contiguity: 15.0% Thereof by Similarity: 14.3%
Recurrent associated meanings: nose, cold/flu, phlegm/mucus, blow nose, runny nose, water, pus, faeces

Two sampled languages, San Mateo del Mar Huave and Kashaya, have complex terms of the lexical type for this meaning with the constituents meaning ‘nose’ and ‘excrete, faeces.’ Furthermore, there are semianalyzable terms where the identifiable constituent is ‘faeces’ in Cayapa and Lenakel. The Cayapa term just mentioned colexifies ‘snot’ with ‘flu’ (its shape is quijpe, compare also quiipe ‘pus?’), and this or colexification with ‘cold’ or ‘have a cold’ is also found in Hausa (dialectally), Buin, Ngaanyatjarra, Yir Yoront (by a semianalyzable term also containing ‘nose’), Wintu, Arabela, Bora, Embera, Hupda, and Miskito. Sahu has ma s’i’dangtu ‘ross have.a.cold,’ and Chayahuita ıro ńitēn quēran pipirinso’, containing ıro ‘cough, flu,’ ńitē ‘nose,’ and pipirin ‘to come out.’ There is a semianalyzable term containing an element meaning ‘flu’ in Piro. In four sampled languages, Abzakh Adivxe, Itzaj (where the term means ‘clear mucus’ specifically), Kiowa, and Tetun, ‘water’ or ‘liquid’ rather than ‘faeces’ is the meaning of the second constituent, for instance Kiowa mā’-t’ọq ‘nose-water’ (a similar situation is etymologically recoverable in Tuscarora). A semianalyzable term with ‘water’ as the identifiable constituent is found in Mbum. Alongside the term with this structure which is used for ‘watery snot,’ Abzakh Adyghe also has pe-sän ‘nose-pus’ for ‘slimy snot,’ and ‘snot’ and ‘pus’ are colexified in Baruya and Manange. ‘Snot’ and ‘phlegm, mucus’ are colexified in Hausa, Ngaanyatjarra, Badaga, Basque (also with ‘gum, resin,’ and ‘wick’), Itzaj, Pawnee, Tuscarora, Embera, Tehuelche, and Fijian.

Upper Chehalis has s-tā=q’s ‘continuative-thick(of liquid)=nose/point,’ Kiliwa phiʔ=chilq ‘nose=boil/eruption/pustule,’ Bororo eno bori ‘nose wax,’ Carib enata aikulu, containing enata ‘nose’ and aiku ‘juice,’ Embera ká-mor ‘nose—internal.substances.or.organs.of.body,’ Rama táik sîri ‘nose slime,’ Yanomámi hushihushihı (compare hushi ‘nose’), Bislama bata nus ‘butter nose,’ and Samoan isu-pē ‘nose-dead.’ Japanese has a term colexifying ‘nose’ and ‘snot’ directly, as does Bislama, which also has the optional redundant term doti blong nus ‘rubbish/pus Ross nose.’ Furthermore, there are semianalyzable terms with the identifiable meaning ‘nose’ in Highland Chontal, San Mateo del Mar Huave, Kashaya, Kiliwa, Pipil, and Rotuman. Finally, Hausa, Khoekhoe, Koyraboro Senni, Sora, Wintu, and Kapingamarangi have terms that are either ambiguous between nominal ‘snot’ and verbal ‘to blow the nose’ (Hausa, Koyraboro Senni, Wintu, Kapingamarangi), or derived from verbs with that meaning (Khoekhoe, Sora). Similarly,
the Acoma term is derived from a verb meaning ‘to have a runny nose,’ and ‘snot’ and ‘runny nose’ are colexified directly in Waris, Cheyenne, Rotuman, and Tetun.

Other associations include: Efik mkpö is also a variant form of ñkpö ‘thing, utensil, event, cause,’ Hausa majina also means ‘face,’ Buin kina colexifies ‘coconut sprout’ and ‘kina’ (the currency of Papua New Guinea), Burarra an-gulol is analyzable as ‘CLASS.MASCULINE-semen/rotten,’ and Sko löri might contain loe ‘ear.’ Bezhta xìda also means ‘dew,’ and Japanese hana, with different prosodic structure, also means ‘flower.’ Carrier nèninthàslo contains ni ‘nose/tr’ and hwàtes ‘mud.’ Chickasaw colexifies ‘snot’ with “growth on a turkey’s beak,” while Pawnee pirus also means ‘be crooked, bent.’ Aguaruna bìshuk(u) is also the name of a species of edible mushroom, while Cubeo cõenó also denotes the concept ‘tar,’ Ancash Quechua puqru also means ‘abscess,’ and Wayampi amí also ‘deceased.’ Hani aqbeil beilgaol ‘liquid nasal discharge’ contains gaol, meaning ‘clean water’ inter alia, and aqbeil beilniul ‘dense or solid nasal discharge’ contains niul, meaning ‘green’ inter alia. Bwe Karen ñêkhaì might contain khì ‘a variety of edible wild fern’ plus a prefix for body parts. Mandarin ti4 also means ‘to cry,’ ‘tear,’ or ‘dripping’ (reflecting the same Early Middle Chinese etymon, Pulleyblank 1991: 305).

137. The Semen

Representation: 45%
Motivated: 46.7%
Thereof Analyzable: 26.8% Thereof Colexifying: 21.5%
Thereof by Contiguity: 9.8% Thereof by Similarity: 18.4%
Recurrent associated meanings: water/juice, seed, penis, pus, child, candle, egg, testicle, white, brain, resin, milk, urine

Quite frequently, terms for ‘semen’ are complex of the lexical type, with one constituent meaning ‘penis.’ As for the second element, ‘water,’ ‘liquid,’ and/or ‘juice’ is most common, as in Kosarek ‘Yale kede mak ‘penis water/juice.’ Such terms are also found in Kyaka, Muna, Cayapa, Yanomâmi (where ‘penis’ is colexified with ‘seed’), and Tetun. Meyah and Hawaiian directly colexify ‘water, juice’ (Hawaiian also “liquids discharged from the body” generally and Meyah also ‘river,’ compare section 47 for this pattern) with ‘semen,’ Mbum has mbù gùn ‘water child,’ Rotokas ruve ovi ‘slimy CLASS.LIQUID,’ which also means ‘slime,’ Guaraní kuimba’è rykue /kuimba’è tykue/ ‘man juice,’ and Bislama has waet-wota ‘white-water’ (for the association with ‘white,’ compare also Kiliwa ?l-sap ‘DN-ILL-white’ and Hawaian keakea, with the reduplication base kea ‘white’). Nez Perce has simqè-heqs /simqè-heqs/ ‘penis-pus,’ and ‘semen’ is colexified with ‘pus’ in Ket, Lake Miwok (which also has a complex redundant term), Carib, and Ya. In Ket and Lake Miwok, ‘brain’ is furthermore colexified. Toaripi has fe-oro ‘penis-lime,’ and semianalyzable terms where the identifiable constituent is ‘penis’ are found in Kaluli, One, and Yir Yoront.

Khoekhoe colexifies ‘semen’ with ‘urine’ by an archaic term. Similarly, Tuscarora has u?nìhèsùkrik?, analyzable as /u?-?nìhès-ukr-i/?/ ’NOUN.PREFIX-egg/testicle-rubbish-NOUN.SUFFIX,’ with the stem -ñhèsùk- also yielding a?ñhèsùkù’khì ‘foul or disgusting urine, a slovenly or slatternly person so filthy as to emit an odor of urine.” Associations
with ‘egg’ are also found in other languages: Rama has yáat aríra ‘testicle/egg string/fold’ (‘testicle’ and ‘semen’ are colexified in Guaraní), and Kiowa directly colexifies ‘egg’ with ‘semen,’ as well as with ‘child’ (there is also a redundant complex term on the basis of this term with the additional constituent meaning ‘white’). This latter association with ‘child’ is also found in Wintu, Wayampi, and Hawaiian, and, as already noted above, Mbum has mbìì gùn ‘water child;’ compare also Guaraní ta’yi /ta’y-i/ ‘son/clot-DIM.’ Miskito and Hawaiian colexify ‘semen’ with ‘sap, resin.’ In fact wai, the relevant Hawaiian term has very broad reference, including ‘liquid’ generally, but also ‘honey’ and any liquid discharged from the body inter alia.

Dongolese Nubian, Basque, Greek, Welsh, Wintu, Aymara, and Guaraní colexify ‘semen’ with ‘seed’ (the Basque term also means ‘breed’ and has a verbal reading ‘to raise, grow’ inter alia, and the Dongolese Nubian term contains an element meaning ‘to sow’), and San Lucas Quiavíní Zapotec and Bislama with ‘milk.’ Cubeo (by a term whose root suffixed with different classifiers yields ‘gasoline lamp,’ ‘lantern,’ and ‘battery’), Macaguán (by the term pitiócha, analyzable as /pe-itiót-ja/ ’3SG.POSS-enlighten-NMLZ’), and Sáliba colexify ‘semen’ with ‘candle.’

Other associations include: Hausa has zuwan kai for both ‘semen’ and ‘orgasm.’ Zuwa is glossed as ‘coming,’ and kai has extremely many meanings, among them ‘to come, arrive,’ and ‘head, top.’ Khoekhoe colexifies ‘semen’ with ‘egg of frog’ or ‘egg of fish.’ The Yoruba term àtọ contains tọ ‘to discharge liquid,’ while Burarra burpur also means ‘mould,’ and gu-lol gives rise to -gulol ‘rotten.’ Rotokas colexifies ‘semen’ with ‘spit.’ Ket dɔŋ is also the numeral ‘three,’ in Blackfoot, ‘semen’ is okayiim, literally “his wolf,” Lake Miwok póta also means ‘foam’ and ‘be gray, be cloudy’ (there is the optional complex term ñelá̂ni póta, literally ‘children foam,’ for ‘semen’), Nez Perce cép also means ‘arrow,’ ‘bullet,’ and ‘cannon ball.’ Wintu kur also means ‘to be born,’ ‘to bear a child,’ ‘to be fertile,’ and San Lucas Quiavíní Zapotec mo’c (< Span. mocó) also ‘phlegm.’ Arabela mashiquia also denotes ‘brushwood flowing downstream when the river is rising,’ and Carib apy tano contains apy ‘loin.’ Guarani kuimba’e rykwe contains kuimba’e ‘man,’ and Lenakel nipiknisí- appears to be analyzable as /nipik-nisí-/ ‘tail-excrement-’ (perhaps nipik- is also a colloquial designation for ‘penis,’ compare evidence in section 62 from other languages).

138. The Stomach
Representation: 97%
Motivated: 32.5%
Thereof Analyzable: 9.2% Thereof Colexifying: 23.6%
Thereof by Contiguity: 5.8% Thereof by Similarity: 4.7%
Recurrent associated meanings: guts/innards, womb, heart, eat/food, pregnancy, inside, crop, liver, feel/think, front, bag, middle, bladder, waist, faeces, chest, hypochondria, navel, diarrhoea, liquid/water, big

Khoekhoe, Mbum, Kwoma, Ngaanyatjarra, Southeastern and Western Tasmanian, Badaga, Basque, Khalkha, Laz, Cheyenne, Chickasaw, San Mateo del Mar Huave, Kiliwa, Lake Miwok, Nez Perce, Wappo, Guarani, Miskito, and Hawaiian colexify ‘stomach’ (or ‘belly,
abdomen) with ‘guts’ and/or ‘innards’ more generally (note also Pipil -tuxih ‘stomach’ in
the Cuisnahuat dialect and tuxih ‘intestines’ in the Santo Domingo de Guzmán dialect, that
Burarra -buka also denotes “part of intestines,” as well as the presence of this association
in Indo-European, mostly Slavic, Buck 1949: 254). The association is realized formally by
noun class alternation in Swahili and by gender alternation in Embera. Ngambay has kéy
bò sin ‘house big guts’ (note also the redundant Kyaka term anda-romba ‘house-
belly/stomach’), and Bororo has pegura kodobo-reu ‘guts type.of.basket-like,’ alongside a
term directly colexifying ‘faeces,’ as well as ‘rest, residue’ with ‘stomach.’ An association
with ‘faeces’ is also found in Tsafiki (hua pe-coló ‘big excrement-package’), and a
semianalyzable term with ‘faeces’ is also found in the related language Cayapa. Piro has
hitiška-mapa ‘excrement-bag/bladder’ (compare the colexification of ‘stomach’ and ‘blad-
der’ in Nuuchahnulth and Hawaiian), while Hawaiian and Rotuman colexify ‘stomach’ with
‘bag’ among other meanings; this association is also found in some Indo-European lan-
guages, in particular Celtic and Germanic (Buck 1949: 253). Katcha, Yoruba, Kwoma,
Toaripi, Badaga, Khalkha, Welsh, Carrier, Lesser Antillean Creole French, Nez Perce, Yaqui,
Bislama, Hawaiian, and Rotuman colexify ‘belly’ and/or ‘stomach’ with ‘womb’ (also very
common throughout Indo-European, Buck 1949: 252), and similarly, Buli, Rendille,
Ngaanyatjarra, and Bislama with ‘pregnancy’ and/or ‘be pregnant.’ ‘Stomach’ and ‘heart’
are colexified in Ngambay, Abzakh Adyghe, Badaga (where the gloss for ‘heart’ is in quo-
tation marks, suggesting that this usage may be figurative), Laz, San Mateo del Mar Huave
(by the analyzable term omeaats-aran ‘inside-INAL.POSS’), Itzaj (by the analyzable term
pusik’al /puus-ik’-al/ ‘dusting-wind-COLL’), Santiago Mexquicitian Otomi, Yuki, Arabela, and
Guaraní. Analogously, Kiowa has tεjn-čqy ‘heart-water’ (‘liquid’ and ‘stomach’ are
colexified in Bororo among other meanings, and there is a semianalyzable term featuring
a constituent meaning ‘water’ in Kashaya). A complex term for ‘stomach’ on the basis of
‘heart’ is also found in Breton (Buck 1949: 253). Ngambay, Khalkha, and Yanomámi colexify
‘stomach’ with ‘liver,’ and Malagasy has ambavafo, containing viava ‘mouth’ and fò ‘heart;
note that there is a diachronic connection between ‘stomach’ and ‘mouth’ in Greek. Buin
and Lesser Antillean Creole French colexify ‘chest’ (Buin ‘chest of man’ more specifically),
and Basque ‘bosom, breast’ alongside ‘gulf, bay.’ Basque also colexifies ‘belly, paunch’ with
‘navel,’ and in Kyaka, there is a term that varies dialectally between these meanings. In
Khoekhoe, there is a general term referring to internal organs of the trunk, including the
‘stomach.’
Abzakh Adyghe and Itzaj colexifies ‘stomach’ with ‘middle’ (Baruya less generally
with ‘middle of the body,’ Arabela similarly with ‘center,’ and Cashinahua with ‘thick part
in the center of something’), and Cavineña has e-care-nani ‘INAL.POSS-middle/waist-hole.’
The abstract notion ‘inside’ is colexified in Hausa, Dongolese Nubian, and Lake Miwok
(note also the derived term in San Mateo del Mar Huave just mentioned above). Mirroring
the Cavineña association with ‘waist,’ Cahuilla and Samoan ‘stomach’ with ‘waist’ directly.
Wintu colexifies ‘stomach’ with ‘wrinkles’ (and perhaps ‘honeycomb tripe’), and
there is a semianalyzable term where the identifiable constituent means ‘wrinkled’ in
Wayampi. Lake Miwok, Arabela (by a semianalyzable term containing the classifier -co for
receptables), Wayampi, Yanomámi, and Hawaiian colexify ‘crop,’ Ngaanyatjarra, Yir
Yoront, and Samoan ‘front (of person),’ and Basque and Bororo ‘hypochondria.’ Associations with ‘food’ or ‘eating’ are found in Oneida (-khwádhwaʔ, containing the roots -khw- ‘food’ and -l- ‘be in or on’), Kaingang (jên né ‘eat container’), Tehuelche (xaṭ’en ~ xaṭ’en, derived from xaṭ’e ‘to eat’ and colexifying ‘food.’ On the basis of this term, there is the redundant term xaṭ’en p’ate ‘stomach/food skin;’ a semianalyzable term with ‘skin’ as the identifiable constituent is found in Berik), and Hawaiian (pu’a ‘ai-ai ‘protuberance eat/food-red’). Furthermore, Yir Yoront has the respect vocabulary term maymay reduplicated from may ‘food.’ Finally, Aguaruna and Rotokas colexify ‘stomach’ with ‘diarrhea’ (Aguaruna also with ‘cholera’), and in Kwoma, Ngaanyatjarra and Badaga, the ‘stomach’ is also considered the seat of emotions.

Other associations include: Buli puuk also denotes a particular clay vessel, and, in addition, colexifies ‘flower, blossom’ and ‘foam, lather.’ Hausa ciki also denotes the strips of cloth in a garment, and “a children’s aquatic game.” Khoekhoe features a term with very broad reference to ‘innards’ and ‘offals,’ including alongside ‘heart’ and ‘liver’ also ‘lungs’ and ‘kidneys;’ it also means ‘interior’ generally. Rendille iiur also denotes the ‘character’ of a person. Baruya munya also means ‘above, high, top’ as well as ‘stone adze.’ Buin moo-noqu is analyzable as ‘dirt-like.’ The Dadibi term moni hamago contains moni ‘large,’ and Kyaka romba also denotes the “outer skin and fat layers over stomach.” Muna taghi is also used to refer to ‘lees’ or ‘sediment,’ and randa can also mean ‘bruised’ (also of fruits). Ngaanyatjarra tjuni also is used to refer to the “hollow of anything concave” and the “round part of a fruit,” while Nunggubuyu mulyu also denotes the ‘stomach lining.’ Rotokas kovapato appears to be derived from kova ‘growth,’ ‘to grow, mature.’ Toaripi luka is also the name of a tree with hard timber, and Yir Yoront pirrm may also mean ‘body cavity’ as well as ‘the interior of house.’ Abzakh Adyghe q’s also means ‘surface, territory,’ Badaga bevuru is also a verb meaning ‘to spread grain out, to sort out grains,’ and karu also means ‘dyentery’ and denotes “something that came from the stomach” inter alia. Basque urdail also means ‘rennet,’ Ket huij also ‘room,’ and Khalkha qedeš(n) is also the name for “the loop for o/u in Khalkha script” and may be derived from qede ‘back of neck, occiput.’ Haida k’iji also denotes the ‘swim bladder of fish.’ Welsh colexifies ‘calf,’ and Lesser Antillean Creole French vant also means ‘sale, auction.’ Tuscarora utkweh also means ‘gizzard’ and Central Yup’ik colexifies ‘gizzards.’ Arabela sara-ca appears to be analyzable as ‘uvula-class.fruit.’ Chayahuita anpohi-tê is analyzable as ‘pith-class.instrument.’ The relevant Cubeo term shares its root with terms for ‘sweet potato’ and ‘alcoholic beverage made from sweet potato,’ and Guaraní colexifies ‘stomach’ with ‘spirit, conscience.’ Lenakel tipweusa is also the name of a kind of breadfruit. Rotuman taga can also refer to a ‘pocket’ inter alia, while Samoan manava also means ‘smooth, soft side of a thing’ and, figuratively, ‘child.’ Sedang potok is also used to refer to the ‘abdomen’ of insects.
The Sweat

Representation: 75%
Motivated: 17.7%
Thereof Analyzable: 7.7%  Thereof Colexifying: 10.1%
Thereof by Contiguity: 11.4%  Thereof by Similarity: 3.2%
Recurrent associated meanings: heat/warmth, water/liquid/ juice, steam

The most common of the relatively few lexico-semantic associations for ‘sweat’ (or ‘perspiration’) is that with ‘heat/hot,’ ‘heated,’ or ‘warmth/warm’ (as it is in Indo-European, Buck 1949: 263-264). These meanings are colexified in Buli, Hausa (alongside other apparently unrelated meanings), Badaga, Ket, Abipón, Aguaruna, Huambisa, Miskito, Fijian, and Samoan. Semianalyzable terms where a constituent with this meaning is present are found in Kolyma Yukaghir and Ineseño Chumash, Oneida has the verb -ateʔtukhwāʔaʔ ‘to sweat’ revolving around the root -ʔtukhwal- ‘to be hot’ and Kiowa has snidl-ʔqy ‘be.hot-water.’ Unsurprisingly, Kiowa is not the only language to feature terms for ‘sweat’ related in some way to ‘water,’ ‘liquid,’ or even ‘juice.’ In fact, Toaripi has maea ma ma ‘body water red,’ Abzakh Adyghe pšënt’e ~ pšant’e contains elements meaning ‘water’ and ‘violent,’ Carrier has nê-tsi-n-thû ’??-head-EPEN-water,’ Santiago Mexquititlan Otomí nxa/ni-dehe/ ’sprinkle-water,’ which colexifies, like White Hmong, ‘steam,’ and Pawnee kicaʔasisu is analyzable as /kic-ka”as-his-u’/ ‘liquid-break.out-PERF-NOM,’ Lesser Antillean Creole French directly colexifies ‘sweat’ with ‘water’ (as well as ‘rain’), and semianalyzable terms containing an element ‘water’ and/or ‘liquid, juice’ are found in Piro and Tsafiki.

Other associations include: Hausa ji’bi can also refer to a “large quantity,” Kaluli hafɔf might be related to hafɔ: “deep breathing, panting, wheezing, asthma,” Kyakya pusi also means ‘cat’ due to borrowing from Tok Pisin, and Ngaanyatjarra parlulungu means ‘humidity, humid’ and in the Northern dialect also ‘sweat.’ Kosarek Yale whin ‘sweat, tiredness’ contains wih ‘ripe, big; tired.’ Yir Yoront hasorre-ninn ‘body-sweat.smell.’ Badaga uri ~ huri inter alia also means ‘to flare up,’ ‘to fry,’ ‘jealousy,’ and ‘venom.’ Basque izerdi also means ‘dampness’ and ‘work,’ while among the meanings colexified by Khalkha kołysy(n) ~ kołesy(n) is also ‘payment for work, hire, fees.’ Wintu kw also denotes ‘cooking stones’ and a river rock which is put into acorn soup when cooking. San Mateo del Mar Huave colexifies ‘sweat’ with ‘dermatitis,’ while Central Yup’ik uyurjak, a Hooper Bay and Chevak dialect term for ‘heavy sweat’ is analyzable as /uquq-yak/ ‘oil-thing.similar.to.’ Cashinahua dabixtun is also used to refer to ‘grease on the body of a newborn.’ Guarani ty’i appears to be analyzable as /ty-ai/ ‘urine-line.’ Sáliba aixito denotes also ‘hot, boiling water’ specifically, while Wayampi piliʔay is analyzable as /pili-ay/ ‘smell-bad.’ Bislama swe(-Engl. sweat) also means ‘to put a lot of effort into something,’ Kapingamarangi hee also ‘where,’ and Hawaiian hou also means ‘new, fresh’ and ‘to push, thrust’ inter alia. Samoan colexifies ‘sweat’ with ‘wither’ and ‘waterfall.’ Finally, Yay haan also means ‘promise.’
140. The Tear

Representation: 86%
Motivated: 41.6%
Thereof Analyzable: 37.8% Thereof Polysemous: 3.8%
Thereof by Contiguity: 34.2% Thereof by Similarity: 1.2%
Recurrent associated meanings: water/liquid/juice, eye, cry

Very frequently, terms for ‘tear’ are characterized by analyzability of the lexical type, with constituents meaning ‘eye’ (which sometimes colexifies further meanings such as ‘face’) and ‘water,’ ‘liquid’ and/or ‘juice,’ as in Itzaj k’a’ ich ‘juice/liquid eye.’ Such terms are featured in Buli, Mbem, Berik, Abzakhy Dyeshe, Badaga, Ket, Sora, Kolyma Yukaghir, Carrier (where additional constituents are present: nê-na-tsel-thû is analyzable as ‘human-eyes-anus-water’), Upper Chehalis, Chickasaw, Haida, San Mateo del Mar Huave, Kashaya, Kilwa, Lesser Antillean Creole French, Santiago Mexquititlan Otomi, Pawnee (in this language, the term is identical on the surface with that for ‘jelly, jam,’ but has a different underlying morphology), Pipil, Wintu, Yukù, Copainalá Zoque, Arabula (where the term is more precisely not of the lexical type, but derived by a classifier for liquids), Bororo, Embera, Guaraní, Huppa, Jarawara, Maxakali, Miskito, Rama, Tsafiki, Wayampi, Bislama, Fijian, Hawaiian, Lenakel, Malagasy, White Hmong, Sedang, Tetun, and Yay. The pattern is furthermore etymologically detectable in Yoruba. There are, however, also other complex involving a constituent meaning ‘eye’: Mbem has ët-yàr ‘at-eye,’ Toaripi ovo-roro ‘eye-rubbish,’ Yuki hul-kat ‘eye-wet,’ Rotuman sui ne mafa ‘bone GEN eye’ (the sui in this expression is thought to be a mere “doublet” of sui ‘bone’ by the lexicographer), and Bororo has an alternative term, which alongside constituents meaning ‘eye’ and ‘water,’ also features elements meaning ‘thing’ and ‘fire.’ Semianalyzable terms where the identifiable constituent is ‘eye’ are moreover present in Kanuri, Sentani, Yir Yoront, Highland Chontal, Kiowa, Xicotepec de Juárez Totonac, Tuscarora, Wintu, Kaingang, Sáliba, Hani, and Samoan.

Likewise, there are complex terms in some languages in which one constituent is ‘water,’ ‘liquid,’ or ‘juice,’ but the other one is not ‘eye.’ In this case, a verb meaning ‘to cry’ is the most frequent alternative. San Lucas Quiaviní Zapotec, for one, has myi’ihs riàà’n ‘water cries,’ and such terms are also found in Efik and Yuki, while Bora has mótyu ‘crying-CL.round’ and Chayahuita na’nëi, analogizable as /na’nërin-i/ ‘cry-CLASS.LIQUID.’ Alternatively, Dongolese Nubian has ômisse /ô-missee/ ‘cry-sprinkle,’ Koyraboro Senni, Ngambay, Buin, Upper Chehalis, and Aymara colexify the relevant meanings, and Kwoma has a semianalyzable term where the identifiable constituent is ‘cry.’

Other complex terms involving ‘water,’ ‘liquid,’ or ‘juice’ include Khoekhoe has ǀêgam-ro-s ‘water-DIM.-3SG.FEM’ and Wappo hu-méy ‘head-water.’ Ancash Quechua and Manange colexify the relevant meanings, and semianalyzable terms where the identifiable constituent means ‘water,’ ‘liquid,’ or ‘juice’ are present in Kosarek Yale, Cayapa, Kaingang, Yanomami, and Bwe Karen.

Other associations include: Hausa k’walla also means “repletion with fura” (a kind of dish), Koyraboro Senni heeni also means ‘to cry’ and “to make any loud or continuous
noise" in general (an association also attested in Indo-European, Buck 1949: 1130-1131), Rendille colexifies ‘tear’ with ‘seeds,’ Kyaka with ‘garden,’ and Basque negar also means “lamentable, deplorable” and “dripping.” Malko is also the name for a kind of small pear. Bezhta maq’o also means ‘loom.’ The Khalkha term nilbusu(n) ~ nilmusu(n) also may refer to ‘mucus’ or ‘spittle,’ Abipón -aci- also means ‘ashes’ and a root of the same shape also occurs in the term for ‘tongue.’ Carib -enakulu also means ‘dirt in eye.’ Cavinéña pammacaca contains caca ‘little,’ Toba colexifies ‘tears’ with ‘lung,’ and Lesser Antillean Creole French lam also means ‘spirit, soul,’ presumably because of phonological collapse of Fr. larme and l’âme. Finally, Hawaiian pūkai ‘lime bleach for hair, to bleach’ rarely assumes the meaning ‘salty tears,’ this term may be related to kai ‘sea.’

141. The Tendon

Very frequently, languages colexify ‘tendon’ with ‘vein’ and/or ‘artery’ cross-linguistically judging from the evidence of the sample. This is the case in Bakueri, Bull, Efik, Hausa, Dongolese Nubian, Yoruba, Baruya, Berik, Buin, Dadibi, Gurindji, Kyaka, Muna, Nganuyatjarra, Nunggubuyu, One, Toaripi, Sahu, Kosarek Yale, Yir Yoront, Chukchi, Khalkha, Nivkh, Sora, Itzaj, Highland Chontal, Haida (for younger speakers only), Lakhota, Itzaj, Xicotepec de Juárez Totonac, Tuscaraora, Arabela, Cashinahua, Cavinéña, Cayapa (by a semianalyzable term containing an element meaning ‘line,’ ‘line’ and ‘tendon’ are colexified in Japanese and Biloxi), Chahauhita, Guaraní, Lenguá, Miskito, Tehuelche, Toba, Yanomámi (by the analyzable term mathóyãhi /matha-yãhi/ ‘leg-flesh,’ compare Tetun na’an-ins ‘meat/flesh-flesh’ and note also that Kyaka and Toaripi have redundant complex terms with ‘flesh’ as the meaning of the additional constituent to single out the meaning ‘tendon,’ and that there is a semianalyzable term with the identifiable constituent meaning ‘muscle, meat’ in Haní, Bislama, Fijian, Great Andamanese, Hawaiian, Lenakel, Malagasy, White Hmong, Rotuman, Takia, and Yay. Moreover, Bora has a complex term for ‘tendon’ on the basis of ‘vein’ featuring, among other additional constituents, méjpi ‘body,’ Embera has hir’ükéngadroma, containing hir’ ‘foot’ and keggá ‘nerve, vein,’ and Samoan has uaua i so’oga ‘vein/artery/pulse loc joint.’ Furthermore, there is the term otsinuháyáta? ahslyye in Oneida, containing otsinuháyáhta? ‘vein’ and ahslyye ‘string, thread, yarn;’ however, the term for vein is itself semianalyzable, containing the root –nuhy- for ‘sinew.’

Many of the languages just mentioned, but also some others, colexify ‘tendon’ also with ‘nerve.’ This is the case in Bli, Hausa, Toaripi, Yir Yoront, Chukchi, Khalkha, Sora, Carrier, Ineseño Chumash, Itzaj, Lakhota, Nez Perce, Xicotepec de Juárez Totonac, Arabela, Aymara, Bororo, Cavinéña, Chahauhita, Guaraní, Miskito, Ancash Quechua, Tehuelche, Yanomámi (again by the analyzable term mathóyãhi /matha-yãhi/ ‘leg-flesh’), Hani, Ha-
waiian, and Rotuman (colexifying ‘large nerve’ specifically). Furthermore, Muna, Ngaanyatjarra, Biloxi, Upper Chehalis, Ineseño Chumash, Wappo, Guaraní, Jarawara, Lengua, Wichí, Yanomamí, Fijian, Hawaiian, Lenakel, Malagasy, and Tetun colexify ‘tendon’ with ‘muscle’ (Yanomami and Tetun more specifically with ‘muscular tissue’), Cheyenne, Haida, Itzaj, Lake Miwok, and Wappo with ‘gristle,’ and Aymara and Rotuman with ‘flexible thing’ and/or ‘elastic’ respectively (similarly, Ancash Quechua anku also means ‘hard, difficult to break by stretching’).

There is a further association, namely colexification with ‘root,’ which is found in Kwoma, One, Chickasaw, Ineseño Chumash, Pawnee, Jarawara, Lengua, Miskito, and Hawaiian (colexifying ‘small root, rootlet’ specifically). Gurindji colexifies ‘single root of tree’ specifically; furthermore, Kiliwa has a derived term, and there is a semianalyzable term where the identifiable constituent means ‘root’ in Highland Chontal. Khoekhoe, Tasmanian (Northeastern, Middle-Eastern, and Southeastern), Chukchi, Khalkha, Kolyma Yukaghir, Biloxi, Wintu, Yuki, Central Yup’ik, Lengua, and Bislama, by functional or convenience contiguity, colexify ‘tendon’ with ‘thread,’ ‘twine,’ and/or ‘fibre,’ Bislama also with ‘fishing line’ specifically. Finally, Upper Chehalis and Ineseño Chumash colexify ‘bowstring,’ Dongolese Nubian, Biloxi, Wintu, Copainalá Zoque, and Bislama ‘string’ more generally or ‘cord,’ and Japanese and Mandarin Chinese ‘sword’ (the association was borrowed along with the relevant term jian4 from Chinese into Japanese).

Other associations include: Hausa jijia also denotes a “tightening string of a drum,” and Baruya wina is also used to refer to “ridges on a shield” and “stringy fibres of wild yam.” Muna ue is also a unit of measurement inter alia. Ngaanyatjarra pulyku, in the Northern dialect, also denotes the “Pencil Yam.” Abzakh Adyghe le, only perhaps meaning ‘tendon,’ otherwise also means ‘be capable’ and ‘white, light.’ Basque zurda means ‘mane’ and ‘fishing-line’ inter alia, and in the dialect of Lapurdi also ‘tendon.’ Khalkha xujang also means ‘rheumatism, arthritis.’ Haida xay also means ‘warp,’ Itzaj jich also ‘tighten’ (another Itzaj term, xich’el, consists of a marker for inalienable possession as well as the root xich’, which can also mean ‘wiry, thin’), and Nuuchanulth fuktelt is also the name of a spirit. Xicotepetl de Juárez Totonac has a semianalyzable term containing an element meaning ‘bone.’ Tuscarora ungwyedeh also means ‘plantain,’ Wintu la also ‘skin’ and ‘stretch,’ and Copainalá Zoque nayat also ‘rope.’ Aguaruna wánus(e) also means ‘ankle bone,’ Guaraní tajywe also ‘strength’ and ‘lungs,’ and Jarawara kowisa-ri appears to be analyzable as ‘hurt-nmlz,’ while habi also colexifies ‘tuber,’ and, figuratively, ‘courage’ and ‘audacity.’ Imbabura Quechua colexifies ‘tendon’ with ‘vine.’ Bislama string also means ‘erection, to have an erection,’ and Fijian ua also ‘wave, tide.’ Figuratively, Hawaiian a’a also means ‘womb, offspring’ (similarly, Lenakel novanul-, containing nou- ‘mouth, opening,’ ‘fruit’ colexifies ‘genealogical line, family, descent-group’) as well as “to send greetings of love, joyous hospitality.” Hani saquq also denotes the ‘pulse of a vein.’ Finally, Sedang has tráng hún ‘road grow/sprout/bud,’ and Yay colexifies ‘tendon’ and ‘vein’ with “violin, fiddle.”
142. The Testicle

Representation: 84%
Motivated: 47.4%
Thereof Analyzable: 21.4% Thereof Colexifying: 26.0%
Thereof by Contiguity: 10.3% Thereof by Similarity: 11.9%
Recurrent associated meanings: egg, scrotum, seed, round, fruit, ball, child/offspring, stone, penis, genitals, kidney, nut, energy

The ‘testicles,’ when expressed by motivated terms, are most frequently associated lexically with small roundish objects by metaphorical transfer. The findings on the basis of the present sample are largely in line with the results arrived at by Brown and Witkowski (1981) and Buck’s (1949: 257) brief statement on Indo-European in particular, though some associations not present in Brown and Witkowski’s study are uncovered here.

A frequent transfer pattern is that from ‘seed’ to ‘testicle.’ Fijian has sore-ni-qala ‘seed-poss-scrotum,’ and derived terms, such as Chickasaw intalop /im-talop/ ‘dat-seed,’ are also featured in Ineseño Chumash, Arabela, and Hawaiian, One has amply tala ‘male-genitals seed/round.thing,’ while Welsh, San Mateo del Mar Huave, San Lucas Quiavini Zapotec, Guaraní, Toba, Hawaiian, and Kapingamarangi colexify ‘seed’ and ‘testicle’ directly (Kapingamarangi ‘seed of breadfruit’ and Welsh ‘pit of fruit’ more precisely; Toba also colexifies ‘bullet’), and there is a semianalyzable term in Kaingang. Like Kapingamarangi, an association with ‘nut’ and ‘walnut’ more particularly is present in Khalkha.

Moreover, White Hmong has noob-ques ‘seed-egg,’ and indeed, the association between ‘testicle’ and ‘egg’ is also common cross-linguistically. Sora, for one, has ‘arrc-kad-an ‘egg-male-genitals-n.sfx.’ An analyzable terms of the lexical type (with ‘scrotum’ acting as the contiguity anchor) is found in Dongolese Nubian, and derived terms are featured in Basque (where the ‘testicle’-word is the plural of that for ‘egg’), Blackfoot and Lenga, semianalyzable terms perhaps in Hupda, Macaguán, Lenakel, and Manage, and direct colexification occurs in Efik, Nganyatjarra, Carrier, Highland Chontal, Itzaj, Santiago Mexquititlan Otomí, Pawnee (with slight phonological deviations), the Cuisnahuat dialect of Pipil, Tuscarora, Bororo, Miskito, Piro, Ancash and Iambura Quechua, Rama, Tsafiki, Yanomámi, Bwe Karen, and Lenakel; the association is diachronically recoverable in Wayampi. Moreover, Berik has bol sui /bola sui/ ‘ball egg,’ and similar associations on the basis of ‘ball’ are found in Japanese (kin-tama ‘gold-ball’), Mandarin (gao1-wan2 ‘swamp/high/eminent/praise-globe/ball/lump’), and Vietnamese (hôn dái ‘ball genitals’), while ‘ball’ and ‘testicles’ are colexified in Nuuchahnulth and Bislama (compare the situation in English). Lenakel features a semianalyzable term where the identifiable constituent noua means ‘fruit,’ and associations with ‘fruit’ specifically are also found in Toaripi (kō fare ‘scrotum fruit,’ with kō also meaning ‘breast, milk’), Samean (faa-manava ‘fruit-belly’), and Tetun (lasan-fuan ‘penis-fruit/heart’). ‘Fruit’ and ‘testicle’ are colexified in Yir Yoront (also with ‘rolled string’), Cavinêia, Bislama, and Hawaiian. A term bearing an association with ‘stone’ is featured in Ineseño Chumash (is-xip ‘one’s.own-stone’), a similar term is featured in Oneida, the association is realized by colexification in Welsh, and a
semianalyzable term where the identifiable constituent bears the meaning ‘stone’ is featured in Santiago Mexquititlan Otomí (note also the redundant Kanuri term sísú tárwślám-bè ‘stone male.testicles-of’). ‘Testicle’ and ‘kidney’ are colexified in Khalkha and Rotuman. In fact, alongside the associations with specific smallish round objects discussed so far, there are also languages in which terms for ‘testicles’ make reference to ‘roundness’ directly, as already foreshadowed by the One term mentioned above. Rotokas has orikoroisi apparently containing roi ‘intercourse’ and the classifier isi for round objects, Basque has barrabil, containing bil ‘round,’ Nuuchahnulth hupkimf, which is presumably analyzable as /hup-qimf/ ‘roundish.thing-CHUNK.SHAPED.OBJECT,’ Wintu sw, which is is diachronically related to the word for ‘eyeball,’ Arabela, as alluded to above, has a term derived from ‘sap, juice’ by means of a classifier for round objects, Bislama raon-wan ‘round-one,’ Hani davqwhw wiw-siq ‘scrotum RED-CLASS.ROUND,’ and Vietnamese tinh hoàn ‘energy round.object’ (this association recurs in Bislama by colexification, where the relevant term is paoa, from English power). Hawaiian colexifies ‘testicles’ and ‘small round object’ directly, and Cayapa features a semianalyzable term with a constituent with precisely this meaning. As may have been noted from the discussion so far, ‘scrotum’ frequently acts as a contiguity anchor in complex terms of the lexical type. ‘Scrotum’ and ‘testicle’ are colexified furthermore in Buli, Koyraboro Senni, Swahili, Muna, Nunggubuyu, Aguaruna, Aymara, Cashinahua, Ancash Quechua, Bislama and Takia, and in Khoekhoe, the same root yields both ‘testicle’ and ‘scrotum,’ with different nominal designants disambiguating the referents. Another complex term involving a constituent meaning ‘penis,’ alongside the one in Tetun mentioned above, is Sko bèbi, perhaps /be-bi/ ‘penis-floor/shell,’ which colexifies ‘testicle’ with ‘cheek.’ Semianalyzable terms of this type are featured also in Kaluli, Sentani, Kosarek Yale, and Toba, while Tehuelche colexifies ‘penis’ and ‘testicle’ (for Sentani mu haka, where mu is ‘penis,’ compare maka-bo ‘run away’?). Finally, figuratively, ‘testicles’ may also be extended to “son under three years of age” in Great Andamanese and to ‘offspring’ in Hawaiian, while Guaraní has ta’yi /ta’-i/ ‘son/clot-DIM.’

Other associations include: Hausa gwaiwa also denotes “[f]he weight (clay or stone) at the end of the pole of an irrigation plant,” Ngambay gêm also ‘times,’ and Rendille jïlë also ‘burning coal.’ Anggor tìmoëfì may also be capable of referring to a ‘tree root,’ and Kwoma madii also to “women’s protruding labia.” Badaga òde ‘animal testicle’ also means ‘to break’ and “wood, thicket, bush,” while Greek òrchis also means ‘orchid.’ Kolyma Yukaghir önd’ëd-abut is analyzable as ‘male-container,’ while Upper Chehalis máčtæ also means ‘pear.’ Central Yup’ik inçu is also used with the meanings ‘nosebead’ and ‘mantle in gas lamp.’ Bora dömi-düho is analyzable as ‘pubis-CL.CHUNK,’ Tsafiki pi’poca might consist of pi ‘water, liquid, juice’ and poca ‘cane of guadúa bamboo,’ while Yanomámi aruku also denotes the ‘eggs and larvae of wasps and bees.’ Hawaiian hua also colexifies ‘tuber,’ ‘produce, yield,’ ‘ovum,’ as well as ‘word, figure,’ among other meanings, and the formally redundant reduplicate huahua also means ‘fruitful, productive, prolific, have many children, lay many eggs’ and is the name of a ‘vulgar gesture.’ Kowäi, another term in the same language, also means ‘fish eggs.’ Rotuman ififi can also be used with the meaning “in bunches or clusters.” Bislama bol (< Engl. bull) may also refer to ‘sac’ and the
“soft belly of coconut crab,” and fruit also to “any individually sold item taken out of a packet.”

143. The Tongue

Representation: 97%
Motivated: 20.6%
Thereof Analyzable: 3.1% Thereof Colexifying: 17.5%
Thereof by Contiguity: 11.2% Thereof by Similarity: 6.3%
Recurrent associated meanings: language/dialect/speech/word, blade, blade of oar, lick, trigger, foot of mollusk, mouth

‘Tongue’ is colexified with ‘language,’ ‘dialect,’ ‘speech,’ and/or ‘word’ in Hausa, Toaripi, Yir Yoront, Basque, Bezhta, Chukchi, Greek, Khalkha, Laz, Sora, Lesser Antillean Creole French, Quileute (here, the additional reading ‘language’ is rare), Cavineña, Embera, Rama, Bislama, and Hawaiian (this association is also common in Indo-European according to Buck 1949: 230, corroborating the commonness of the association in Eurasia detected in the sample, compare also Hilpert 2007), while Abzakh Adyghe has bzeq’/bze-g’a/ ‘language/area-surface,’ and Tasmanian (Northeastern) has a semianalyzable term where the identifiable constituent means both ‘mouth’ and ‘language’ (which are often colexified as well, compare section 124).

Otherwise, Wichí tok’ajlhech’e contains elements meaning ‘mouth’ and ‘egg,’ and semianalyzable terms where the identifiable constituent is ‘mouth’ are attested in Nunggubuyu, Northeastern Tasmanian, Kiliwa, Wappo, and Hupda (note also that Kashaya ha’tba is etymologizable as *ʔa-hiba ‘mouth-tail’). There is just one language to colexify ‘mouth’ with ‘tongue’ (as well as ‘manner of speaking’) directly, namely Miskito. Hausa, Basque, Fijian, and Malagasy colexify ‘tongue’ with ‘blade’ (similarly, Chukchi, Fijian, and Hawaiian with ‘blade of oar,’ and Nivkh and Arbela with ‘trigger’). Finally, Rama kiup ~ mukup contains up ‘eye,’ and Tsafliki ni’caca appears to be analyzable as /ni-ca’c’a/ ‘seed-eye.’ Haida and Nuuchahnulth colexify ‘tongue’ with ‘foot of (a certain) mollusk,’ and Wintu and Manange colexify ‘tongue’ and ‘to lick’ (compare associations between ‘tongue’ and ‘lick’ in Indo-European, Buck 1949: 230).

Other associations include: Hausa harshe also means ‘flame’ and “[e]xtremity of a whip; point of a sword, knife, or loin-cloth.” Ngambay ndôn also means ‘to hunt,’ Anggor tefii also “inside of pandanus fruit,” and Burarra njarl also denotes the ‘taste of fresh meat or seafood.’ Waris minde is also the name of a “pole with a hook for pulling fruit from a tree,” while Basque mihi also means ‘bit’ and ‘tap, flap’ inter alia. Basque mingain also means ‘masthead,’ Bezhta mic also ‘nettle,’ and Greek glôssa also denotes the ‘sole’ (Solea solea, compare German Seezunge). Ket ēj also means ‘river island’ and ‘pine,’ Khalkha kele(n) also ‘bell clapper,’ ‘tongue of buckle’ and “[a]nything resembling the tongue” generally, Japanese shita with different prosodic structure also ‘down, under,’ and Cheyenne vétanove also ‘tongue of wagon’ and ‘tongue of shoe.’ Haida t’aangal also means ‘barb of fishhook,’ and Itzaj ak’ also ‘vine.’ Xicotepec de Juárez Totonac s’ma’k’at also means ‘uvula.’ Central Yup’ik alungun is the name of a certain dog-feeding trough, and is derived from alunga’
‘home-made dog food’ but also has the meaning ‘tongue’ in the Kuskokwim and Bristol Bay dialects. The root -aci- around which the Abipón term for ‘tongue’ revolves also means ‘tear’ and ‘ashes,’ in Cubeo, an identical root to that found in the term for ‘tongue’ yields the meaning ‘bundle’ when suffixed with another classifier, and Jarawara abate also means ‘cheek.’ Piro nu may also be used with reference to a soft, fleshy object in general, while Wayampi apkũ also means ‘reed of a clarinette,’ and Yanomámi aka is also used to refer to the ‘proboscis of the dipteros,’ as well as to the ‘starter of an outboard engine.’ Bwe Karen colexifies ‘tongue’ with ‘to poison,’ Lenakel with ‘fish,’ and the Hawaiian term alelo ~ elelo inter alia also denotes “meat of the sea egg or sea urchin,” lelo also “yellowish, especially the hue imparted to a whaletooth pendant ... by smoking,” and Samoan laulaufaiva contains lau, meaning either ‘leaf’ or ‘flat and thin object’ generally, as well as faiva, which can mean ‘fishing party,’ ‘job,’ ‘skill,’ and ‘business’ inter alia.

144. The Tooth

<table>
<thead>
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<th>Representation: 98%</th>
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<tr>
<td>Motivated: 22.5%</td>
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<tr>
<td>Thereof Analyzable: 3.1%</td>
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<tr>
<td>Thereof by Contiguity: 4.1%</td>
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Recurrent associated meanings: beak, cog, mouth, bite, claw of crab, tip/point, horn, thorn, ivory, jaw, sharp, blade, seed/grain of corn

Contiguity-based associations for this meaning (additional glosses such as ‘tusk’ or ‘fang’ are not reported in the below discussion) are relatively rare, and most recurrent patterns are metaphor-based extensions. Baruya, Gurindji, and Cahuilla colexify ‘tooth’ with ‘mouth,’ while Aymara has laka ch’akha ‘mouth bone.’ Moreover, Central Yup’ik has kegguN /kegge-(u)n/ ‘bite-device for,’ such a derived term is also found in Kolyma Yukaghir, while Abzakh Adyghe and Hawaiian colexifyY nominal ‘tooth’ with verbal ‘to bite’ (Abzakh Adyghe also more specifically with ‘to gnaw,’ this association is also etymologically recoverable in Indo-European, Buck 1949: 231). Kyaka and Jarawara colexify ‘tooth’ with ‘sharp’ (and Maxakalí xox is also glossed as “sharp fragment”). Ngambay and Wappo colexify ‘jaw’ with ‘molar tooth’ specifically, and Hausa and Dongolese Nubian colexify ‘tooth’ with ‘ivory.’

Turning to metaphorical extensions, Baruya, Kyaka, Itzaj, Arabela, Bora, Cashinahua, Lengua, and Rama colexify ‘tooth’ with ‘beak’ (Kyaka colexifies ‘narrow beak’ more specifically; note also Embera kidha ‘tooth’ and kidá ‘beak,’ and compare section 5 for complex terms for ‘beak’ betraying this association), Basque, Greek, Khalkha, Welsh, Lesser Antillean Creole French, and Hawaiian with ‘cog,’ Kyaka, Chukchi, and Samoan with ‘horn’ (similarly, Takia fai colexifies ‘horn’ with “upper canine teeth” specifically, and also with ‘crocodile’), Toaripi, Bislama, and Hawaiian with ‘claw of crab,’ Kyaka, Kosarek Yale, and Lengua with ‘thorn,’ Lake Miwok and Jarawara with ‘blade,’ and Itzaj and Wintu with ‘seed’ or ‘grain of corn.’
Moreover, Toaripi, Kosarek Yale, and Jarawara extend ‘tooth’ to ‘tip, point’ in general (Toaripi also with ‘summit’ and ‘corner’), and Baruya, Burarra, and Fijian colexify ‘tooth’ with ‘edge.’

Other associations include: Efik edet also denotes a “gap in the edge of a tool” and “[t]he horns of a post between which a wall plate is laid.” With the nominal designant -s, Khoekhoe (Hailomm and Topnaar/Haonin dialects) apa-b assumes the meaning “empty ostrich shell” which is used as a vessel. Hausa hak’ori also means “rough surface,” as well as “[a]n embroidered edging of garments.” Ngambay ngange may also refer to a ‘limit, border.’ Anggor yahafi seems to contain yah ‘to say,’ and Buin kompe also denotes “the bony toothridge in the beak of a hornbill or other bird.” Kwoma pu also means ‘conch shell, conch shell trumpet.’ Kyaka nenge also means ‘food,’ and Muna wanka also means “put a wegde in wood” in verbal usage. Kosarek Yale colexifies ‘tooth’ with ‘name,’ Yir Yoront with ‘upwards,’ Abzakh Adyghe ce also means ‘feather, fur,’ ‘tooth,’ and ‘defense,’ and Basque hortz also means ‘prong,’ ‘pick’ and ‘hook,’ as well as ‘share.’ Greek colexifies ‘tooth’ with ‘tine’ and ‘bit sticking out,’ Japanese with ‘leaf’ (the meanings being distinct prosodically), and Khalkha with “the graph ... in old Khalkha script.” Haida ts’ing also means ‘pistle,’ Lakhota hi also ‘to arrive, reach, get here, to come,’ and Lesser Antillean Creole French dan also ‘prong.’ The Pawnee root aar also means ‘to become, to do,’ and Bororo o also ‘front.’ Aguaruna dái is also the name of a bird species. Miskito napa also means ‘harrow, rake,’ ‘needle of a sewing machine,’ ‘claw, fingernail,’ and denotes the “tooth” of a zip. Piro colexifies ‘barb’ and ‘fishhook,’ and for Tehuelche tor ~ toror ~ or ~ or, note the similarity with tor ~ tor or ‘nose, beak, point of knife;’ there is another similar sounding word meaning ‘perhaps.’ Toba colexifies ‘tooth’ with ‘placenta.’ Hani seq also means ‘to lead, guide, take along’ and ‘to marry a woman.’ Hawaiian colexifies ‘tooth’ with ‘beak of octopus,’ ‘nipper of an insect,’ ‘Aristotle’s lantern,’ ‘interlocking stones,’ and patterns on a mat or tapa. A Samoan term for ‘tooth’ can figuratively also refer to an ‘enemy,’ and another term colexifies ‘goods, supplies,’ ‘fortune, wealth,’ and ‘business.’ The meaning ‘tooth’ for this term is restricted to polite usage. Manage 1sa also means ‘land, soil, ground, mortar,’ while Sedang honéng appears to be derived from héng ‘to have a toothache’ by means of the nominalizing infix <ön>. Bislama colexifies ‘tooth’ with ‘sucker, shoot’ of a plant.

145. The Urine

Representation: 74%
Motivated: 12.0%
Thereof Analyzable: 5.7% Thereof Colexifying: 7.7%
Thereof by Contiguity: 0% Thereof by Similarity: 2.7%
Most Commonly Associated Meaning: bladder, faeces, water, semen, gall, dung

Ngänyatjarra, Tuscarora, Aguaruna, Huambisa, Yanomámi, and Bislama colexify ‘urine’ and ‘bladder’ (Anggor colexifies ‘bladder’ with ‘to urinate’ rather than ‘urine’), while Ngambay has kän-sín ‘bladder/gall.bladder-excrement.’ Dongolese Nubian and Copainalá Zoque colexify ‘urine’ with ‘faeces’ as well as ‘dung,’ which latter association is also found in Indo-European, particularly Celtic (Buck 1949: 274). The association is realized formally
by alternation of nominal designants in Khoekhoe. Similarly, the Kashaya term contains
an element meaning ‘to excrete,’ and there is a semianalyzable term for ‘urine’ featuring
an element meaning ‘faeces’ in Sko.

Namaayatjarra and Fijian colexify ‘urine’ with ‘gall’ (Namaayatjarra also with
‘gall bladder’). Hawaiian has *hana-wai* ‘work-water,’ which also colexifies ‘irrigation’ and
‘menstruation,’ Welsh *der* (o’r bedlen) ‘water (of bladder),’ and Kiowa *sn’-tsoue* ‘burst-
water’ (though the connection with the verb is somewhat unclear; the connection with
‘water,’ on the other hand, is also attested, though weakly, in Indo-European, evidenced by
cognates in Ancient Greek and Sanskrit with the respective meanings, Buck 1949: 273).

Semianalyzable terms with a constituent meaning ‘water’ or ‘liquid’ are found moreover
in Kiliwa, Cayapa, Rama, and Tsafiki; there are also redundant terms featuring a verb
meaning ‘to urinate’ as the second constituent. Tuscarora has the term *u’nhęhs’-kreh*,
underlyingly /u-?nhęhs-ukr-eh/ ‘NOUN.PREFIX-egg/testicle-rubbish/NOUN.SUFFIX,’ for “foul
or disgusting urine; a slovenly or slatternly person so filthy as to emit an odor of urine,”
the stem of which also yields the term for ‘semen.’ Khoekhoe colexifies ‘semen’ with
‘urine’ by an archaic term, and Kwoma has *moku sobo* ‘semen raw/unripe/pure’ (sobo
colexifies also other meanings).

Other associations include: Efik *i’kïm* can also refer to “[a]ny disease of the urinary
organs,” Hausa *k’ura*, meaning ‘urine’ and “drinking water in which nothing has been
admixed” in the dialect of Sokoto also means ‘dust,’ and *fisari* also to ‘humiliate a person
in public.’ Yoruba has l-t*ę* ‘NMLZ-discharge.liquid,’ Baruya *suya* also means ‘tail,’ and Buin iu
also ‘honey’ (the word is also a toponym for a mountain and a river). Burarra *darra*la
(which is also the name of a particular tree) might be related to *darrja* “be hot, as the sun
shines hot,” and Kyaka *puu* also denotes the “Calamus or lawyer vine” and a ‘thread, rope’
among other meanings. Yir Yoront *kachl* also means ‘gill of fish,’ Haida colexifies ‘stale
urine’ with ‘urine vessel, peepot’ and ‘amniotic fluid,’ and Pawnee *asuris* is also used with
reference to the ‘odor of urine.’ Central Yup’ik *teq’-aq* ~ *etquaq* might be analyzable as /teq-
quq/ ‘anus/bottom-one.like.’ Arabela *shaaca* also means ‘insipid, flavorless,’ Aymara has a
term for ‘fermented urine’ which in fact also means ‘fermented,’ while Bororo *iku-ru*
seems to be analyzable as ‘line-fire.’ Guarani *ty* also means ‘juice’ and ‘big pile of some-
thing,’ and Jarawara *yoka* also means ‘athlete’s foot.’ Ancash Quechua *ishpay* also means
‘trench of large trees on small plants,’ and *pichi* is also an indefinite pronoun. Toba *lte* also
denotes ‘impurities in water’ and ‘characteristic color, characteristic sign, mark.’ Bwe
Karen *fi* also means “to be small, little; younger” and ‘to dazzle,’ Fijian *mi* also “to run in a
small stream,” and Hawaiian *mi* also means ‘to dream’ inter alia. Finally, it should be noted
that Haida distinguishes lexically between ‘fresh urine’ and ‘stale urine,’ and Wappo be-
tween urine from males and females.

146. The Uvula

Representation: 27%
Motivated: 60.8%
Thereof Analyzable: 45.8% Thereof Colexifying: 15.0%
Thereof by Contiguity: 21.3% Thereof by Similarity: 38.8%
Recurrent associated meanings: tongue, throat, child/son, vagina/clitoris, tonsil, little, neck

The ‘uvula’ is frequently designated by complex terms of the lexical type constituting a metaphorical transfer from other body-parts or entities, with ‘tongue’ acting as the contiguity anchor. Among those, one pattern recurs cross-linguistically, namely that from ‘child’ or ‘son’ more specifically, as in Khalkha keyken kele /keyken kele(n)/ ‘child tongue.’ Such a term is also featured in Chickasaw, and the association is by colexification in Xicotepec de Juárez Totonac (the term also colexifies ‘brood of animals,’ ‘loop of a net,’ and ‘interest’). Note also Tetun nanarak-oan ‘palate-son.’ Other complex terms are Khoekhoe ǂkhari-nam-s ‘small-tongue-3SG.FEM,’ Badaga kiru nalgane ‘little tongue,’ Sora akantalajen /a’-kante:-laŋ-an/ ‘ross-branch-tongue-N.SFX,’ and ler’ajen /l'er-’laŋ-an/ ‘grow.in.size-tongue-N.SFX,’ Welsh tafod bach ‘tongue took/hinge’ and tafod-ig ‘tongue-DIM,’ Central Yup’ik alungutayaaq /alungun-taq-ya(g)aq/ ‘tongue-device.for-little,’ Guaraní ape-kì-guy ‘skin-tongue-behind’ (there is also the alternative term ape-kuàti ‘skin-squirrel’), Yanomámi akathamìki, consisting of aka ‘tongue,’ thami ‘internal part of body part’ and the quantal classifier (see § 4.4.1) ki (this term colexifies ‘velum’ and ‘gill’), Fijian yame-leka ‘tongue-short,’ Hani lalngavq, presumably /lalma-ngavq/ ‘tongue-get.stuck,’ and Yay lin’kay ‘tongue thing.’ Finally, Itzaj has ak’kal ‘tongue neck/throat’ alongside t’uy u-kal ‘vagina 3SG.POSS-neck/throat,’ and in fact, this is another major recurrent association. Terms involving constituents meaning ‘throat’ and ‘vagina’ or ‘clitoris’ more specifically are also found in Carrier and Kiowa, and the association is by colexification in Wintu. ‘Throat’ and ‘uvula’ are colexified in Muna and Tuscarora; there is a semianalyzable term involving ‘throat’ in San Mateo del Mar Huave. Nez Perce has múx-x-ës /múx-x-eis/ ‘swallow-INSTR,’ and there are semianalyzable terms betraying this association in Wintu and Piro. Finally, ‘uvula’ is colexified with ‘tonsil’ in Blackfoot, Badaga, and Lesser Antillean Creole French.

Other associations include: Hausa beli also denotes the “[a] small bud-like growth at the joints of corn-stalks,” and is the name of various diseases inter alia. Haki-n wuya, another Hausa term, is analyzable as ‘grass-GEN neck.’ There is also another semianalyzable term where the identifiable constituent means ‘neck’ which also denotes a ‘retropharyngeal abscess.’ Basque aho-gingil is analyzable as ‘mouth-lobe.’ Greek colexifies ‘uvula’ with ‘grapes,’ while Haida colexifies ‘uvula’ with ‘esophagus.’ Embera features a semianalyzable term involving a constituent meaning ‘way,’ and Samoan alelo is also a term for the “eyes of a snake or eel.”

147. The Vein

Representation: 80%
Motivated: 65.0%
Thereof Analyzable: 20.0% Thereof Colexifying: 46.8%
Thereof by Contiguity: 5.5% Thereof by Similarity: 17.9%
Recurrent associated meanings: tendon, nerve, blood, way/street, muscle, root, thread/string/fibre, pulse, gristle, line, lode, liana, rope, fishing line
The ‘vein’ is frequently colexified with ‘tendon, sinew’ (see also section 141). This is the case in Bakueri, Buli, Efik, Hausa, Dongolese Nubian, Yoruba, Baruya, Berik, Buin, Dadibi, Gurindji, Kyaka, Muna, Nganyaṭjarra, Nunggubuyu, One, Toariipi, Sahu, Kosarek Yale (marked with a question mark in the source), Yir Yoront, Chukchi, Khalkha, Nivkh, Sora, Highland Chontal, Haida (for younger speakers only), Lakhota, Itzaj, Xicotepec de Juárez Totonac, Tuscarora (colexifying ‘plantain’), Arabela, Cashinahua, Cavineña, Cayapa (by a semianalyzable term containing a constituent meaning ‘line’), Chayahuita, Guarani, Lenga, Miskito, Tchuelche, Toba, Yanomamí (by the analyzable term matə̆yə̆hì /matə̆h-ya-hì/ ‘leg-flesh’), Bislama, Fijiian, Great Andamanese, Hawaiian, Lenakel, Malagasy, White Hmong, Rotuman, Takia, and Yay. Furthermore, Abzakh Adyghe has λə̂ntfe, containing λə̂ ‘blood’ and fe which perhaps bears the meaning ‘tendon,’ Miskito tala wayka ‘blood ligament,’ and there are semianalyzable terms featuring an element meaning ‘blood’ in Haida, Oneida, and Hani. Due to the association with ‘tendon,’ ‘vein’ is also colexified with ‘gristle’ in Welsh, Highland Chontal, and Haida, and with ‘line’ in Buli, Dongolese Nubian, and Bislama.

In general, associations are quite similar to those for ‘tendon, sinew.’ Buli, Hausa, Swahili, Toariipi, Yir Yoront, Basque, Chukchi, Khalkha, Sora, Itzaj, Lakhota, Xicotepec de Juárez Totonac, Arabela, Cavineña, Chayahuita, Embera (associated with different genders), Guarani, Kaingang, Miskito, Tehuelche, Yanomami (again, by the analyzable term matə̆yə̆hì /matə̆h-ya-hì/ ‘leg-flesh’), Bislama, Fijiian, Great Andamanese, Hawaiian, Lenakel, and Rotuman colexify ‘vein’ with ‘nerve.’ Muna, Nganyaṭjarra, Waris, Welsh, Guarani, Lengua, Fijiian, Hawaiian, Lenakel, and Tetun colexify ‘vein’ with ‘muscle’ (and Yanomami with ‘muscular tissue’), and there might be a semianalyzable term on the basis of ‘muscle’ in Rama.

Rendille, One, Basque, Carib, Lenga, and Miskito colexify ‘vein’ with ‘root’ (similarly, Gurindji more specifically colexifies ‘single root of tree,’ and Hawaiian ‘small root, rootlet’); moreover, Kanuri has zdr bù-bè ‘root blood-of,’ and Bora bûkyemôho /bûkyee-môho/ ‘root-liana.’ Analogously, Copainalá Zoque colexifies ‘vein’ with ‘liana,’ and Tsafiki has d’sàn sîlì ‘blood liana/string.’

Chukchi, Kildin Saami, Lenga, and Bislama colexify ‘vein’ and ‘thread, string’ or ‘fibre,’ while Yaqui has ojo wii’i ‘blood thread.’

In fact, one difference between terms for ‘tendon’ and ‘vein’ is, as has emerged from the previous discussion, the frequent presence of ‘blood’ as a second constituent in complex terms for the latter acting as a contiguity anchor, as seen in Abzakh Adyge and Miskito for the association with ‘tendon,’ in Kanuri for the association with ‘root,’ and in Yaqui for the association with ‘thread.’ A major difference with respect to ‘tendon,’ in spite of the many similarities, is also the presence of a transfer from ‘way, street’ to ‘vein,’ also with ‘blood’ acting as a contiguity anchor, as in Huambisa numpa jinti ‘blood way.’ This pattern is common in South America among the sampled languages, occurring alongside Huambisa in Aguaruna, Cavineña, Toba, and Wichí, but also attested in Mbum, Kolyma Yukaghir, Chickasaw, Santiago Mexquititan Otomí, Malagasy, and Sedang. There are also some other complex metaphor-driven terms where one constituent is ‘blood.’ Hausa has iɡiɣar jinti ‘rope blood,’ Ket analogously sulaŋ /sül-аŋ/ ‘blood rope’ (‘vein’ and ‘rope’ are colexified in Copainalá Zoque), Japanese has kekkon, perhaps analyzable as /ketsu-kan/
‘blood-conduit,’ Biloxi haiti’ /hai-ti/ ‘blood-house,’ Kiliwa khwat=h+yuul ‘blood=3+flow,’ and Mandarin xue4-guan3 ‘blood-pipe.’ Semianalyzable terms are found in Pawnee (which colexifies ‘rubber’) and San Lucas Quiavini Zapotec.

Otherwise, Greek, Khalkha, and Embera colexify ‘vein’ with ‘lode’ (Greek figuratively also with ‘talent’), and Lavukaleve and Bislama with ‘fishing line.’ Khalkha, Nez Perce, and Samoan colexify ‘vein’ with ‘pulse,’ and Vietnamese has tinh mach ‘calm pulse.’

Other associations include: Buli jiin is also the name of a “tightening string of a drum,” Hausa majinaciya appears to contain majina ‘mucus, snot’ and also denotes a “weed with red fluid in it,” Rendille híy also means ‘sour milk’ and ‘relatives, kin,’ while Baruya wirila also denotes “ridges on a shield” and “stingy fibres of wild yam.” Dadibi kigibili is presumably analyzable as /kigi-bilibo/ ‘maggot-walk.’ Muna uę is also a unit of measurement inter alia, and Ngaanyatjarra pulyku (Northern dialect) also denotes the “Pencil Yam.” Badaga kudi also means ‘sprout, shoot’ and ‘penis’ inter alia, Basque zain also “core, gist, crux” inter alia, Khalkha sudal also ‘rings of a tree,’ and ‘ridge, stripe’ inter alia, xujang also “rheumatitis, arthritis,” Welsh gwythien also ‘seam,’ Ineseño Chumash also ‘bow-string,’ Kiowa k’in also ‘porcupine,’ ‘fire,’ and ‘to be heavy,’ Lake Miwok čikem also ‘to be striped,’ and Itzaj wich’el contains wich’, which can also mean ‘wiry, thin.’ Lesser Antillean Creole French venn also means ‘seam.’ Cubeo pü̃pume also means ‘spiderweb’ and the root pü̃p indeed yields the meaning ‘spider’ when suffixed with a different classifier. Guaraní tajygue also means ‘strength’ and ‘lungs,’ and Piro kotsa also ‘leaf’ and ‘child who is thin and underdeveloped.’ Bwe Karen colexifies ‘snake,’ Hawaiian a’a may figuratively also refer to ‘womb, offspring’ as well as “to send greetings of love, joyous hospitality; joy at greeting a loved one,” and Lenakel nouanul-, containing noua- ‘mouth, opening, fruit,’ may also refer to a “genealogical line” and a ‘family, descent-group.’ Tetun uat also is used with the meaning ‘rain of wood,’ Bislama string also means ‘erection, to have an erection,’ and Fijian ua is also used with the meaning ‘wave, tide.’ Finally, Yay colexifies ‘tendon’ and ‘vein’ with “violin, fiddle.”

148. The Womb

Thereof Analyzable: 48.6%  Thereof Colexifying: 23.3%
Thereof by Contiguity: 22.8%  Thereof by Similarity: 29.8%
Recurrent associated meanings: child/son/daughter/baby, stomach, house, placenta/afterbirth, pregnancy, bag, place, netbag, guts, embryo/foetus, nest, receptable, sit, heart, vagina/vulva, bladder, basket, palace, mother, give birth

Terms for ‘womb’ (or ‘uterus’) are frequently metaphor-driven, with ‘child,’ or more specifically ‘son’ or ‘daughter,’ acting as the contiguity anchor. Terms with ‘house’ as the source concept, as in Yaqui asoa-kari ‘daughter-house,’ are found in Mbum, Ngambay, Yoruba (where ‘embryo’ rather than ‘child’ is the contiguity anchor), San Mateo del Mar Huave (where ‘house’ is colexified with ‘nest,’ note also Berik tame gol ‘child nest,’ that Bezhta colexifies ‘womb’ with ‘nest’ alongside ‘bear,’ and that Cashinahua colexifies
'womb' with 'hole'), Cavineña, and White Hmong (see also Matisoff 2008: 176 for Tibeto-Burman specifically). Similarly, Japanese has *shi-kyū* 'child-palace' and Mandarin *zi3-gong1* 'house-made,' and Kyaka *romba anda* 'stomach house/nest' alongside *ingi anda* 'intestines house/nest' and *wane yakera petenge anda* 'child embryo sitting house/nest' (note that Kyaka *anda* also colexifies 'nest,' and hence this association is also present here). The association with 'stomach' and 'child' as contiguity anchor recurs in Baruya (*bwaraminya /bwaranya-munya/ 'baby-stomach') and Vietnamese (*dạ con* 'stomach child'); very similarly, Mbum has *gûn-ɓîl* 'child-abdomen' (see also Hilpert 2007 for this association). Furthermore, Dongolese Nubian has *kumätté-n-tu* 'vulva-GEN-stomach/interior' ('womb' and 'vagina' are colexified in Carib), Meyah *ojóna otkonú* 'married.woman stomach,' and Ket *āmd hūj*, which contains elements meaning 'mother' and 'stomach' (compare also complex terms in Indo-European with a constituent meaning 'mother' reported by Buck 1949: 255, as well as Bislama *basket blong mama* 'basket POSS mother/pregnant,' and, in turn with the Bislama term, compare Fijian *kato-ni-gone* 'basket/box-POSS-child' and the colexification of 'womb' and 'basket' in Lenakel). 'Womb' is colexified directly with 'stomach' and/or 'belly' in Katcha, Yoruba, Kwoma (colexifying also 'chest'), Toaripi, Badaga, Khalkha, Welsh, Carrier, Lesser Antillean Creole French, Nez Perce, Yaqui, Bislama (also with 'pregnancy' and 'be pregnant' in Bislama and one of the Khalkha terms), Hawaiian, and Rotuman (see also Buck 1949: 255 for evidence connecting 'womb' and 'stomach' in Indo-European). Moreover, Efik colexifies 'belly of animal' specifically (by a term that may be derived from a verb meaning 'to conceal'), and in Miskito the association is present, but rare.

Returning to complex terms with 'child,' the Kyaka association with the notion of 'sitting' is also present in Kiliwa (*mnyis=waa-u?* 'foetus=sit-OBL,' note that Mandarin and Khalkha colexify 'foetus' and 'womb' directly and compare the Yoruba term with a constituent meaning 'embryo' mentioned above). Khoekhoe has *hûlgau-s* 'sit-be.left.3SG.FEM.' In Badaga, a term for 'womb' is *kusu pae* 'baby bag.' Similar terms on the basis of 'bag' as the source concept are also found in Kiowa and Piro, while Swahili has *fuko la uzazi* 'bag of birth;' a term based on a verb meaning 'to give birth' is also featured in Hausa and Toba). Hawaiian colexifies 'womb' with 'bag,' and there is a semianalyzable term in Highland Chontal (relatedly, Kildin Saami *pûŋŋ* is probably a loanword from Norwegian *pung* 'bag'). An alternative Badaga term is *gabba pae* 'pregnancy/happy.event bag,' and 'womb' is colexified with 'pregnant, pregnancy' in Baruya, Khalkha, Bislama, and Rotuman. Piro has *whenewlu mapa*, containing *wheel* 'child' and *mapa*, which colexifies 'bag' and 'bladder;' 'bladder' specifically is colexified with 'womb' in Hawaiian. Sora has *darakkos'onan /darakkos:'con-an/ *'vessel/receptable-child-N.SFX.* Such terms are also found in Kashaya and Hawaiian, and the association is mirrored only somewhat differently in Toba (*l-co'o-oxo-qui* '3SG.POSS-give.birth-NMLZRECEPTABLE/ENCLOSED.SPACE'). A semianalyzable term where the identifiable constituent is 'receptable' is also found in Yanomámi. Moreover, Efik has *ēbēt ēyēn* 'place child,' and such terms are also found in Kanuri, Basque, Arabela, and Tetun.
There is also a wealth of complex terms with one constituent meaning ‘child,’ but the semantics of the other constituent being not among those discussed so far. Kolyma Yukaghir has *uon-könme* ‘child-friend,’ Chickasaw *oshaatoba*, analyzable as /oshi’ aa-toba-/ ‘son DAT-become-NMLZ’ and *oshat*tö, analyzable as /oshi’ ähtö-/ ‘son be.inside-NMLZ’ (this term is archaic), Haida *gíd dltt’ürsa*, containing *gid* ‘child’ and *t’üs* ‘be in contact,’ Lake Miwok *ʔelay sákúhni*, containing *ʔelay* ‘child’ and *sákúh* ‘stay, remain,’ Oneida *-wilalhkwa*, containing the roots *-wil* ‘baby’ and *-l* ‘be in or on,’ Santiago Mexquitítlán Otomi *nt’oxgáitsu*, which is analyzable as /nt’ots’i-bátsi/ ‘granary-child,’ Guaraní *memby-ruru* ‘son-swollen,’ Hupda *ták’h-yud* ‘child-clothes’ (marked with a question mark in the source), Kapingamarangi *mee dugu dama* ‘thing put baby,’ and Manange *ikola1tupak’ija*, containing *ikola* ‘child,’ *ŋtu* ‘stay,’ and *k’ja* ‘place.’ Furthermore, Laz, Upper Chehalis, and Lake Miwok have derived terms from ‘child,’ and Badaga and Welsh colexify ‘womb’ with ‘heart,’ with the additional meaning being obsolete in Welsh.

Associations exclusively realized by colexification in the languages of the sample are: Hausa, Khoekhoe, Ngaanyatjarra, Sko, Khalkha, and Cahuilla colexify ‘womb’ with ‘placenta’ or ‘afterbirth’ (Hausa also with ‘parents’ and ‘birthplace,’ and Khalkha also with ‘place to lie down, cave, den, lair’), Sahu, Badaga, and Sedang with ‘guts,’ and Buin, Burarra, Kwoma, and Takia with ‘netbag’ (Kwoma also with ‘hill’ and ‘mountain,’ inter alia).

Other associations include: Hausa *mahaifa* also means ‘parents,’ while Khoekhoe *lhás* also means ‘ravine, gorge’ and ‘gully,’ and Muna *tie* also “litter, time of giving birth (of animals).” Badaga *kuru* also means ‘heart’ (in quotation marks in the source), ‘dysentery,’ “something that came from the stomach” and other things, and Khalkha *xabisu*, apparently derived from *-xabi* ‘vicinity, neighborhood,’ also means ‘rib’ and ‘trimming or metal plates on the bottom of a coat or mail.’ Nez Perce *ʔilú* may also refer to the “side, the part over the ribs of animals,” and the Nuuchahnulth term *tičsýapi* is analyzable as /tič-sýi- api/ ‘alive-thing-stand’ and colexifies ‘life,’ ‘life principle’ and ‘childbirth.’ Pipil (Cuisnahuat dialect) *xinach* also means ‘ovary’ and ‘egg in chicken.’ Tuscarora *yeclihtstwa* contains ‘-nhlt-’ ‘to bury’ (this term is marked as being unclear in the consulted source), Lengua *tathnak* might contain *tathna* ‘navel,’ Miskito *plauya* may rarely also refer to the ‘bladder,’ and Great Andamanese *ńtərain* seems to be derived from *ńtərain* ‘gurjon tree’ (*Dipterocarpus* sp.). Hawaiian *pū’o* also means ‘mess of mats,’ *ʻōpū* also ‘tendon, vein, muscle’ (the meaning ‘womb’ is said to be figurative in the source), ‘crop of bird,’ and ‘disposition,’ and *pupu’u* “to double up, draw the limbs together,” hence ‘foetal position,’ and hence also ‘womb’ inter alia (this term may be derived from *pū’u* with the basic meaning ‘protuberance’). Sedang *klea* also denotes the “inner edge of bamboo or of *kōnea* square strip of rattan.” Samoan *fa’a-ʻautagata* is analyzable as ‘CAUS-be.shorthanded,’ and Sedang *xoa* also means ‘chest.’ Tetun *knotak* also can refer to the ‘waist.’
Appendix E

149. The Wrinkle

Representation: 48%
Motivated: 22.9%
Thereof Analyzable: 8.1%
Thereof Polysemous: 14.8%
Thereof by Contiguity: 4.6%
Thereof by Similarity: 15.5%

Recurrent associated meanings: crease/fold/pleat, ripple, skin, crumple, wither

Recurrent associations for this meaning are very few. There are some complex terms of the lexical type, where one of the constituents is ‘skin,’ with varying semantics of the second element. Abzakh Adyghe has š'e-λe-ř ‘skin/surface-be.located-SUFFIX’ which also denotes a ‘line’ generally, and Piro tšla-ha-nta ‘screen/grate/bars-skin’ for ‘fine wrinkles in skin (not from age).’ Furthermore, Koyraboro Senni has kuurukuruer, reduplicated from kuuruer ‘skin.’

Khoekhoe, Greek, Khalkha, Itzaj, Central Yup’ik, and Lesser Antillean Creole French colexify ‘wrinkle’ with ‘crease,’ ‘fold,’ and/or ‘pleat,’ Khoekhoe and Rotuman with ‘crumple,’ as of clothes, Greek, Welsh, Nunggubuyu, Bororo, and Fijian with ‘(have) ripple(s)’ (similarly, Hausa colexifies ‘wrinkle in water after long continuance’ as well as ‘emaciation,’ while in Fijian the meaning colexified is ‘wrinkle on brow’ more precisely). Kosarek Yale and Yay colexify ‘wrinkle(d)’ with ‘withered’ (Kosarek Yale also with ‘to become loose,’ said of the hide of a drum).

Other associations include: Efik ufrä also denotes a ‘leaping, jump,’ and figuratively, “wrinkling, corrugating” among other meanings. The root of the Khoekhoe term for ‘wrinkle,’ llai ~ lai~ lo~ lhö, also means ‘to shrivel of wet paper’ as a verb. Yoruba i-wanjjo ~ i-hunjjo is analyzable as ‘NMLZ-to.wrinkle.or.shrink,’ and Gurindji wanyjarng contains wanyja ‘wrinkled yam.’ Kwoma colexifies ‘root,’ while Kyaka moo can also refer to a mark or indentation in sand or metal. Nunggubuyu –narmanarma- also means ‘to be furrowed.’ Tasmanian terms in all varieties except the Northern for which data are lacking are said to also mean ‘watt,’ ‘scar,’ and ‘tail,’ and Basque zilmur is also used with the meanings “empty chestnut,” “ungrateful, thankless,” and “tight, mean, stingy.” Ket kuragbet contains kud ‘bend’ and bed ‘make.’ The Itzaj term otz’ tik may also be used to refer to ‘foam’ or ‘froth,’ Lesser Antillean Creole French pli also means ‘more, most,’ Nez Perce yuki’myukurum also ‘crumpled,’ while the Tuscarora root -brie- yields both terms meaning ‘wrinkle’ and ‘snail,’ depending on the noun suffix attached. Wintu colexifies ‘wrinkled’ with ‘stomach’ and perhaps ‘honeycomb tripe.’ Central Yup’ik imeqglug- is analyzable as /imeq-r'luk-/ ‘roll.up/fold.up-one.that.has.departed.from.its.natural.state-‘; qellengilluk also means ‘scar, kink,’ and qçu- also ‘to be loose’ and ‘to sag,’ Guarani chaṭ also means ‘bad’ and ‘ugly,’ Miskito colexifies ‘to wrinkle’ with ‘stomach’ and ‘foam,’ Wayampi kala also means ‘rough’ inter alia, Bwe Karen ōtru also ‘crumpled,’ Lenakel uikkulik is reduplicated from uilk ‘tough’ (as of meat and other food), and Hawaiian minomino is reduplicated from the base mino ‘dimple, depression, dent’ and also means ‘messed’ with reference to dresses.
150. The Dawn

Representation: 86%
Motivated: 51.0%
Thereof Analyzable: 33.8% Thereof Colexifying: 17.1%
Thereof by Contiguity: 30.7% Thereof by Similarity: 8.6%
Recurrent associated meanings: light/light up/bright, day, morning, sunrise, night, come/arrive, sun, twilight, clear, dusk, tomorrow, cock crow, dark, white/become white, morning prayer, greeting, eye, land, mouth

The most frequent association is, unsurprisingly, that with ‘day,’ occurring in a variety of subtypes. ‘Day’ or ‘(be) day’ and ‘dawn’ are colexified directly in Baruya, Wayampi, and Hawaiian. As for complex terms, ‘light,’ ‘light up,’ or ‘bright’ is the most common meaning of the second constituent (a meaning also commonly associated with ‘dawn’ in Indo-European according to Buck 1949: 993), as in Ket kûn /ka’n-t/ ‘bright-day’ or Carib emamí, derived from emami ‘be light.’ Analyzable terms of the lexical type as in Ket are also found in Bula, Bislama and Tetun, and derived terms similar to that in Carib also in Abipón, Bora, and Jarawara. There are also variants of this pattern: Ngambay has tâ lô ère ‘mouth time/day bright/lit up’ (with lô ère being a term for ‘day’ itself), Kyaka yuu nombalo ‘day first.light.of.day,’ dialectal Basque argi-haste ‘light-beginning,’ Khalkha síra gere ‘yellow light’ and gegegere, which is an inchoative verb derived from gegege(n) ~ gege(n) with the basic meaning ‘daylight, morning daylight,’ Itzaj sasak’tal /sas-kab’-tal/ ‘bright-world-come’ (and variants of this term, including jatzkatal /jätz-kab’-tal/ ‘whip-world-come’), Mandarin chen2-xi1 ‘morning-sunlight,’ Hani aq-bia bia ‘sky-bright/shining RED,’ White Hmong kaj-ntuq ‘bright-sky,’ Tetun rai-naroma ‘land-to.grow.light,’ and Vietnamese bình minh ‘flat bright.’ Moreover, Baruya, Buin, Badaga, Itzaj, Yana, Ancash Quechua, Hawaiian, and White Hmong colexify ‘dawn’ with ‘(day)light, bright’ directly (ignoring glosses like ‘first light of day’), and there are semianalyzable terms in Chukchi and Kaingang. The Itzaj association with an arrival by virtue of its term featuring a constituent meaning ‘to come’ is mirrored in Biloxi, which has na’ pi hu-di ‘day come-??,’ and such a term also is featured in Meyah. Similarly, Rotuman colexifies ‘dawn’ with ‘come, arrive’ directly, and Tsafiki has oránan /ora-nan/ ‘good-come.closer.’ Some languages have terms of the lexical type with a verb meaning ‘to clear’ or a noun ‘clearness’ as the second constituent, as in Bili vari-nyaantiri ‘day clearness/brightness’ and Muna rara kamentae ‘clear morning.’ Such a term is also found in Kiliwa, and Blackfoot and Aymara have semianalyzable terms with ‘to clear, clear’ as the meaning of the identifiable constituent (the Blackfoot term also denotes the ‘clearing of weather’). Similarly, Rama has sabitingi ngulaik containing sabitingi ‘clearing,’ and Bakueri colexifies ‘to dawn’ with ‘to clean;’ note also the redundant Guarani term ko’e-t ‘dawn-clear.’ Yir Yoront has larr-mel-nongnorr ‘day/place-eye-yesterday,’ and ‘dawn’ is colexified with ‘eye’ directly in Koyraboro Senni among other meanings. Mali has kuněnguněng, reduplicated from kunèngaga ‘sun, day,’ Miskito yu baiw-an ‘day sparkle-past.pst,pstcl,’ Wichí fwalal’ihlo, which contains fwalal ‘day, sun’ and the locative suffix -lo ‘in front of,’ and terms betraying an association with ‘sun’ without colexification of ‘day’ are Badaga ottu huțtu ~ hottu huțtu ‘sun be.born/rise,’ Maxakali màyôn xupep ‘sun arrive/leave’
and Manage Itinj-2p'ja ‘sun-rise,’ with a semianalyzable term in addition found in Aguaruna. There are also a number of other complex terms of the lexical type where one of the meanings is ‘day.’ Buli has vayok /vari-yok/ ‘day-night,’ Efik ñkpö-usen ‘event-day,’ Basque egun-senti ‘day-feel,’ Highland Chontal egaywayda lidine jouba, containing lidine ‘day’ and jouba ‘finish,’ Lesser Antillean Creole French pwen di jou ‘point/fist/hand of day,’ Itzaj chun-k’in ‘base/trunk/foot-day’ (which also means ‘daytime, daylight’), Tuscarora nyawé’tirt, containing -ëT- ‘day’ and -aiT- ‘stand’ (alongside another similar term), Cavineaña huecaca japada-ma ‘day far-NEG,’ and Hupda wág hi-yët ‘day factitive-lie.down.’ Moreover, there are semianalyzable terms making reference to the ‘day’ in Buli, Kaluli, Sahu, Welsh, Nez Perce, Chayahuita, Embera, Piro, and Hawaiian. For the association with ‘night’ in the Buli and Kiliwa terms mentioned above, compare Buli saliuk yok ‘morning nighttime’ (which can also refer to the ‘early morning’), Japanese yoake, analyzable as /yo-ake-Ø/ ‘night-end- NR,’ Cheyenne vóone-ohsé ‘all.night-go,’ Piro hoyetsño-kawa ‘night-period.of.time.following,’ and that there is a term for ‘dawn’ which is derived from that for ‘night’ in Imbabura Quechua that can also mean ‘early.’

There are some complex terms for ‘dawn’ where ‘land’ is the identifiable constituent: Pawnee has huraatkaruwispar, containing huraar ‘be land,’ ta- ‘suspended,’ iriwiw ‘across,’ and war ‘walk,’ and Tetun rai-mutin ‘land-white’ (compare also Burarra ngana gunangarlcha, containing ngana ‘mouth’ and ngarlcha ‘become white,’ Tehuelche ʔoren ṭašken, containing ṭore ~ ṭore ~ ṭore ‘be white’ and the locative nominalizer -k’en, as well as terms in various Romance languages going back to Latin albus ‘white,’ Buck 1949: 993), rai-mutin ‘land-abundant,’ and rai-naroma ‘land-to.grow.light.’

As already seen from various examples discussed so far, ‘dawn’ is associated with ‘morning’ in a number of sampled languages. Khalkha has a derived term, Buli saliuk yok ‘morning nighttime,’ Mbum rim-pèle ‘dark-morning,’ Swahili weupe wa aljiriri ‘witness of early.morning,’ Muna rara kamentae ‘clear morning,’ Cayapa dishquepenene ( /dishu-quepenene/), likewise analyzable as ‘dark morning’ (compare also the already mentioned Kiliwa tiy chip ‘dark/night clear/sweep’ and that there is a semianalyzable term with ‘dark’ being the meaning of the identifiable constituent in Upper Chehalis and one featuring a verb meaning ‘for darkness to disappear’ in Cashinahaua), Rama tamas aik ‘morning side’ and Fijian mataka lai lai ‘morning small’ (this term, however, also means ‘early morning’ itself), Hawaiian ‘ehu kakahiaka ‘dust morning,’ also figuratively denoting ‘youth’ and ‘a shower that clears quickly,’ and moku ka pawa ‘be.cut DET darkness.before.dawn,’ and Mandarin chen2-xi1 ‘morning sunlight.’ The meanings ‘dawn’ and ‘(early) morning’ are colexified in Buli (both by the term mentioned above and another one), Katcha, Yoruba, Muna, Badaga, Sora (by the term ‘dural ‘duralen ‘duralon, presumably containing dura- ‘get out of’ and the continuative marker -rot), Cahuilla, Lake Miwok, Bororo, Cayapa, Embera, Macaguán, Toba (by the term yo’oxoni ~ yí’oxoni, containing yi’ox ‘visible,’ and Fijian, and there are semianalyzable terms in Basque, Haida, Wintu, San Lucas Quiavini Zapotec, Huambisa, and Fijian.

Gurindji, Badaga, Basque, Wintu, Aguaruna, Embera, Maxakalí, Hani, and Tetun colexify ‘dawn’ with ‘sunrise’ (an association present in some Indo-European languages as
well, Buck 1949: 993), sometimes by analyzable terms discussed either here or in section 155.

Moreover, Sora colexifies ‘dawn’ with ‘cock-crow,’ and Kwoma, more explicitly, has *apocho no nedii* ‘cock crow time’; such an analyzable term is also featured in Piro. Hausa and Swahili colexify ‘dawn’ with ‘morning prayer,’ and Khoekhoe, Yoruba, Toaripi, and Samoan with ‘twilight’ (an association evidenced in Indo-European in various languages by a variety of structural types, Buck 1949: 993), Toaripi by a semianalyzable term containing an element meaning ‘weather,’ and Samoan by a term related to a verb meaning ‘blaze, flare up’ as said of a fire. Lake Miwok, Ancash Quechua, and Wayampi colexify ‘dawn’ with ‘tomorrow’ (Ancash Quechua also with ‘to wake up’ and Wayampi also with ‘the whole night through, until dawn’). Southeastern Tasmanian, Toaripi, and Aguaran colexify ‘dawn’ with ‘dusk,’ and in Efik and Buin, relevant terms are also greetings used in the morning. Similarly, Fijian *kida* also means “to go and salute a person on his arrival.”

Other associations include: Welsh *gwawr* also means ‘hue.’ Muna *hawo hawo rusa* is analyzable as ‘return.home-RED deer’ (since deer return to the woods at dawn), and *kowine* is also the name of a particular star or planet. Rotokas colexifies ‘dawn’ with ‘pink’ and Sentani *he-bo-* is analyzable as ‘hang-knock/strike-.’ Badaga *kari hakki jaama* is analyzable as ‘black bird time,’ Japanese *akebono* contains *ake* ‘rise,’ and Cheyenne *hosóvomaeothsê* and *hosóvománo’e* contain *hosó* ‘backward.’ Kiliwa (*tiy*)-x-u?-saw-y is analyzable as ‘(dark/night)-CAUS-obl.+see-att,’ while Wintu colexifies ‘dawn’ with “spreading.” Bororo has *baa aregoda* ‘village appear,’ Guaraní colexifies ‘dawn’ with ‘year,’ and Miskito has *la1ma pauan* ‘east reddened’ and *la1ma kahi1i bara,* likewise containing *la1ma* ‘east’ and *bara* ‘when.’ Hawaiian *'ia'o* also denotes the ‘silversides’ (a kind of small fish), the planet Jupiter as the morning star, and is a toponym for a site in West Maui, while *kai1o* also means ‘to enlighten.’ Lenakel colexifies ‘dawn’ and “a shine, something shining,” and Malagasy *mangirandratsy* is analyzable as /mangirana-râtsy/ ‘to.have.chinks.through.which.the.light.shines-bad.’ Samoan *vave-ao* is analyzable as ‘early-dayflare,’ and *tafo ata* as ‘be.visible LOC shadow.’

151. **The Day**

Representation: 94%
Motivated: 53.9%

<table>
<thead>
<tr>
<th>Thereof Analyzable: 4.5%</th>
<th>Thereof Colexifying: 49.4%</th>
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<tbody>
<tr>
<td>Thereof by Contiguity: 29.4%</td>
<td>Thereof by Similarity: 0%</td>
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Recurrent associated meanings: sun, daylight/light, time, date, weather, noon, world, dawn, place/site, night in counting, occasion, hot/heat, week, watch/clock, morning, soil, afternoon, rain, sky, cloud, life, epoch/era

‘Day’ is very frequently colexified with ‘sun’ in the languages of the sample. This association is found in Hausa, Mbum, Rendille, Buin, Gurindji, Kyaka, Mali, Ngaanyatjarra, Sko, Toaripi, Japanese, Sora, Kildin Saami, Cahuilla, Inéseno Chumash, Comanche, Itzaj, Kiliwa (where the relevant term also means ‘tawny, sun-colored’), Lake Miwok, Pawnee, Quileute, Xicotepec de Juárez Totonac, Yana, Yaqui, San Lucas Quiavini Zapotec, Copainalá Zoque,
Lengua, Miskito, Rama, Tehuelche, Wichí, Fijian, Great Andamanese, Hawaiian, Manange, White Hmong, and Sedang. Furthermore, Dadibi has *giliga-de* ‘sun-with’ (in some of the sampled languages, there is also an association with ‘moon’ by virtue of the fact of it being colexified with ‘sun,’ compare section 60), Bororo *meri-ji* ‘sun-det,’ and Tetun *loro-n* ‘sun-INAL.POSS,’ there are semianalyzable terms in Kwoma, Wappo, Kaingang, and Takia. By colexification of ‘sun’ and ‘watch, clock’ (compare section 79), the latter meaning is also colexified with ‘day’ in a small subset of these languages, namely Toaripi and Comanche. In Xicotepec de Juárez Totonac, the relevant term for ‘sun, day’ is derived from an element meaning ‘warm,’ while in Miskito and Hawaiian ‘sun, day’ is colexified with ‘hot, heat’ directly.

In Cahuilla, ‘time’ is colexified with ‘sun’ and ‘day’ in a single term, and the colexification of ‘day’ and ‘time’ alone is also attested in Efik, Ngambay, Kwoma, Kyaka (also with “event, opportunity, chance”), Meyah, Rotokas, Kosarek Yale, Yir Yoront, Sora, Carrier, Abipón, Aguaruna, Cavineña, Embera, Guaraní, Tehuelche, Great Andamanese, Lenakel, and Malagasy. Similarly, Yoruba, Basque, Khalkha, Highland Chontal, San Mateo del Mar Huave, Embera, Hawaiian, Samoan, and Tetun colexify ‘day’ with ‘date’ (San Mateo del Mar Huave also with ‘name’). Furthermore, Jarawara has *yama wehe* ‘thing/place/time light’ (on *yama*, see § 6.4.3.15.), and Ngambay, Kyaka, and Yir Yoront colexify ‘day’ with ‘place, site’ and related meanings, such as ‘soil’ specifically in the latter two languages. Perhaps remotely similarly, Cubeo, Piro, Hawaiian, and Rotuman colexify ‘day’ with ‘world’ (Piro also with “time sphere” and ‘expanse,’ and Hawaiian also with ‘to regain consciousness’ inter alia).

As already suggested by the Jarawara term just mentioned, another recurrent association is that with (‘day)light,’ occurring by an analyzable term next to Jarawara in Efik (*uwem-ëyu* ‘life-time/daylight;’ compare colexification of ‘day’ and ‘life’ in Cayapa), and by colexification in Baruya, Buin (in which the relevant term *rua* also has the meaning ‘door’ due to accidental homonymy arising from borrowing), Kwoma, Kyaka, Sahu, Sentani, Yir Yoront, Badaga, Ket, Lesser Antillean Creole French, Nuuchahnulth, Guaraní, Hupda, Kaingang, Miskito, Yoromami, Fijian, Hawaiian, Rotuman, and Samoan. The association is attested by semantic shift in Indo-European, as evidenced by cognates in Old Persian meaning ‘day’ and ‘light’ in Avestan, Greek, and Latin (Buck 1949: 991).

There are quite many cases in which ‘day,’ presumably more specifically in the sense of ‘daytime,’ is colexified with temporally contiguous phases of the day. Baruya, Wayampi, and Hawaiian colexify ‘day’ with ‘dawn’ (Yanomámi has *mi haru* ‘face to.dawn’ for ‘daylight,’ and Central Yup’ik has *erneq /erte-neq/ ‘dawn-thing,that.results.from’), Maxakali with ‘morning,’ (and Aymara with the later hours of the morning specifically), Efik, Ngaanyatjarra, Sko, Wintu, and Yuki with ‘noon,’ Yoruba and Ket with ‘afternoon’ specifically, and Meyah, Aguaruna, Cubeo, Guaraní, and Malagasy with ‘epoch, era.’ The Yana, Yanomámi and Samoan terms also mean ‘night,’ but this meaning only occurs in counting time.

Yoruba, Kyaka, Haida, Itzaj, Oneida, Embera, Lenakel, and Malagasy colexify ‘day’ with ‘weather’ (Haida also with ‘air,’ and Embera also with ‘atmosphere, climate’). Sentani and Bezhta colexify ‘day’ with ‘rain,’ Guaraní and Mandarin with ‘sky,’ and Hawaiian and
Samoan with ‘cloud.’ Kyaka, Sora, and Lenakel colexify ‘day’ with ‘occasion.’ Rotokas and Khalkha colexify ‘day’ with ‘week’ (Rotokas also with ‘garden, work’ and Khalkha also with ‘planet’).

Other associations include: Buli vari, as a verb, means ‘to seize, take by force,’ Hausa yini also denotes the “working part of the day” and the “withering of crops … during the daytime” inter alia. Ngambay colexifies ‘day’ with ‘hour,’ while Burarra ngorrngurra also means ‘sleep’ and is also the common name for the gecko inter alia (since geckos are held against the skin to soothe children so they fall asleep). Kyaka gii colexifies ‘day’ with ‘season’ and ‘smile.’ The Muna term gholeo also means ‘dry season’ as well as ‘to dry in the sun’ when used verbally, while Nunggubuyu arara also means ‘to draw, to write.’ Abzakh Adyghe mafe contains f(e) ‘clear, bright,’ while Bora cóójɨɨ́ also means ‘early,’ Wayampi kɔʔɛ́~kɔʔɛ́ also ‘the whole night through, until dawn’ and ‘tomorrow,’ Hani nao also ‘to choke,’ Bwe Karen mu also ‘plant’ inter alia, and ni also “woman’s lower garment, skirt.” Lenakel nian also means ‘when,’ and among the meanings of Hawaiian là are also ‘sail’ and ‘fin.’ Samoan colexifies ‘day’ with ‘celebration, party’ and ‘food for visitors.’

Most frequently, ‘dusk’ is associated lexically with ‘dark,’ ‘darkness,’ or ‘to be dark.’ By colexification, this is the case in Buli, Kosarek Yale, Khalkha (where one of the relevant terms colexifies ‘clouded’), Welsh, and Lengua. As for complex terms, there is an interesting parallel between Lesser Antillean Creole French (ti bwen ‘small dark’) and Fijian (buto-buto vaka-lalai ‘RED-dark DERIV-small). Other complex terms betraying the association with ‘dark, darkness’ are Efik èkìm ñk’pò usen’ubök ‘darkness thing/event morning,’ Basque ilunabar /ilun-nabar/ ‘darkness-gray,’ ilun-alde ‘darkness-side/region/area/proximity,’ and ilun-senti ‘darkness-feel,’ Upper Chehalis kwetskwe’xta’n, containing kwets ‘middle’ and kw’e’x ‘dark,’ Chickasaw okdhilisht ishtaya containing okdhilish ‘get dark’ and aya ‘go,’ Kiliwa tiiy nip ‘night/dark enter’ and n-nyaay-kw-tiiy ‘ON-sun/day=WH+dark/night,’ Guarani ka’aru-pyty ‘afternoon-darkness,’ Bwe Karen khi-la ‘be.dark-down,’ and Tetun rai-nakaras ‘land-darken.’ There are semianalyzable terms in Buin, Aymara, Jarawara, and Kaingang, and note also the similarity between Nez Perce siwëwit ‘dusk’ and siwët ‘dark,’ as well as that between Comanche tupisinawi ‘dusk’ and tupisibiy ‘dark color.’ As the above discussion already makes clear, there are also associations with ‘night’ in some languages, sometimes due to colexification of ‘night’ and ‘dark’ (compare section 153). Alongside the associations in the abovementioned languages, and alongside direct colexification of ‘dusk’ and ‘night’ in Hani (by a semianalyzable term containing aq ‘sky, heaven’), there are also many complex terms for the former where one of the constituents has the latter meaning. These are...
Welsh *brig y nos*, containing *brig* ‘top, summit’ and *nos* ‘night,’ Highland Chontal *dihuama libuguih* /dihuamna libuguih/ ‘walk night,’ Quileute *ʔawí-sh* ‘night-become,’ Bororo *boeço paru* ‘night beginning,’ and Chayahuita *tashi-rin* ‘night-CLASS.LARGE.AND.FLEXIBLE.’ There are semianalyzable terms in Baruya, Copainalá Zoque, Jarawara, Kaingang, and Tehuelche, and moreover, Biloxi has *pəspəsi* ~ *pəs ~ pəspi* which seems to be reduplicated from *psi ~ pəs ~ pəspi* ‘night.’ The latter term colexifies ‘dusk’ with ‘twilight,’ an association also occurring (sometimes by one of the analyzeable terms mentioned elsewhere in this chapter) in Efik, Khoekhoe, Rendille, Nunggubuyu, Toari pi (by a semianalyzable term featuring a constituent meaning ‘weather’ which also colexifies ‘early dawn;’ ‘dawn’ and ‘dusk’ are also not lexically distinguished in Southeastern Tasmanian and Aguaruna), Basque, Khalkha, Welsh, Wintu, and Hawaiian (by several terms, one of them being mō-lehu ‘QUAL/STAT-ashes/ash.colored’ which also means ‘tipsy’), while Badaga has *sande jama* ‘twilight time’ (alongside another semianalyzable term containing *jama*). There are associations with ‘(early) evening’ by colexification in Khoekhoe, Dongolese Nubian, Rendille, Upper Chehalis, and Quileute, and by analyzeable terms in Yoruba (*werewere al ẹ* ‘quick evening’), Central Yup’ik (*atuku-ar(aq)* ‘this.evening-little.piece.of’), and Samoan (*afiafi popogi* ‘afternoon/evening for.the.night.to.fall’), and by a semianalyzable term in Buin. In turn, Baruya, Kwoma, Nunggubuyu, Basque, and Bislama colexify ‘late afternoon’ with ‘evening,’ and, as in Samoan, there are complex terms in Kaluli (*ga:lo nudab /ga:lo nudab/ ‘afternoon taste’), Kwoma (*hogo ya yayi nedii* ‘late.afternoon sun ladder time’), and Guaraní (*ka’aru-ptyá* ‘afternoon-darkness’), as already mentioned. The Kwoma term just mentioned colexifies ‘dusk’ with ‘sunset,’ and this is also the case in Dongolese Nubian, Badaga, Basque, Bora, Huambisa, Ancash Quechua (‘sunset with red color’ specifically), and Tetun. Internal structure of the terms, if present, is discussed in section 156. However, many of them contain an element meaning ‘sun.’ Such terms for ‘dusk’ are Kwoma *hogo ya yayi nedii* ‘late.afternoon sun ladder time,’ Kyaka *neta anda penge dokopa* ‘sun house departure when’ and *neta anda penge gii* ‘sun house departure time,’ Kiliwa *nda-niya kwitli* ‘DN-sun/day-perf-dark/night,’ Wayampi *kwalai-d-ʔa-ό* ‘sun-35G-fall-35G-go’ (colexify ‘west’), Hawaiian *li’u-lā* ‘slow-sun/day,’ Sedang *poxiamdengan* ‘sun/day begin/commence,’ and Tetun *lora-teen* ‘sun-excrement,’ which also denotes a ‘species of moss.’ There are semianalyzable terms with an identifiable constituent meaning ‘sun’ in Kwoma, Cubeo and Huambisa.

Moreover, Kyaka has *yuu yasumi* ‘time last.light.of/day’ (and another semianalyzable term containing *yuu*) and Greek *likófōs /lek-o-fos/ ‘wolf-STEM.FORMATIVE-light.’ Interestingly, there are also three languages where terms for ‘dusk’ make reference to the fact that at dusk, it becomes hard to recognize the environment, and in particular other people. These languages are Muna (*dai wise* ‘bad face’), Rotokas (*vuri evei* ‘bad recognize’), and Sora (*erabmad’doja:l* /er-ab-mad-’doja-l-on/ ‘NEG-CAUS-recognize-relative-N.SFX’).

Although none of these meanings recurs exactly cross-linguistically, a number of the terms discussed above make reference to the fact that the sunset is a process by metaphorically using verbs of locomotion to convey the meaning, as in Chickasaw and Highland Chontal.
Other associations include: Buli legi also means ‘startled, shocked,’ Kyaka yuu kwaange dokopa contains yuu, meaning both ‘earth, ground’ and ‘day’ alongside still other meanings and dokopa ‘when.’ One oi ninkle is analyzable as ‘bed garden,’ and Abzakh Adyghe přepečěw’yě as /pšape-zećëwε/ ‘horizon-expand-time.’ The Yuki term hušám̡tik contains hušá ‘day before yesterday,’ and Cavineña jaca-pude is analyzable as ‘leave-to.color.’ Ancash Quechua qarwayllu appears to be related to qarway ‘to ripen, acquire color,’ while another Ancash Quechua term, tsara, also means ‘spine.’ Toba napali contains apal ‘be opaque.’ Tsafiki pipuhuaqueno contains queno ‘to do,’ and Great Andamanese ěrl̄ok̄itngar̄i ěr ‘place.’ Kapingamarangi heni also means to “move around within an area,” Hawaiian mōlelehu also ‘drowsy, sleepy,’ and līlā also means ‘mirage, hallucination.’

153. The Night

- Representation: 96%
- Motivated: 26.7%
- Thereof Analyzable: 7.0%
- Thereof Polysemous: 20.6%
- Thereof by Contiguity: 24.6%
- Thereof by Similarity: 0%
- Recurrent associated meanings: dark/get dark/darkness, evening, day in counting, black, sleep, thing

The most common association for ‘night’ is that with ‘dark,’ ‘get dark,’ and/or ‘darkness’ (present also in Indo-European evidenced by cognates in Sanskrit, Old Persian, and Ancient Greek, Buck 1949: 992). In the sample, the association is realized by colexification in Anggor, Berik, Buin, Kyaka (where the relevant term also denotes a kind of tree), Ngaanyatjarra (also with ‘night sky’), Rotokas, Sahu, Badaga, Carrier, Upper Chehalis, Chickasaw, Highland Chontal, Kiliwa, Kiowa, Lesser Antillean Creole French, Yana (marked as dubious in the source), Yuki, Kaingang, Maxakalí, Miskito, Piro, Hawaiian, and Samoan. Ngambay has lō-ndūl ‘time-black/dark,’ Burarra ana-munya ‘in-darkness,’ Dadibi hu-li-de ‘dark-who/with,’ Kyaka (yuuc) iminjingi dokopa ‘(earth) darkness when,’ Bororo boe čo ‘thing dark,’ Jarawara yama soki ‘thing be.black/dark’ (compare § 6.4.3.15.), and White Hmong tsau-snty ‘dark-sky,’ and derived terms, such as Ineseño Chumash s-axiyi’ ‘3SG/3SG.POSS.be.dark’ are found also in Nez Perce and Tuscarora; there is a semianalyzable term featuring a constituent meaning ‘dark, black’ in Lenakel. Furthermore, as for the association with ‘black’ in Ngambay and Jarawara, Buin, Kiowa, and Abipón colexify ‘night’ with ‘black.’

‘Night’ is colexified with ‘(end of) evening’ in Ngambay, Muna, Middle-Eastern and Southeastern Tasmanian, Abzakh Adyghe, Badaga, Welsh, Comanche, Lake Miwok, Wintu, Bwe Karen, and Yay (Yay also colexifies ‘late afternoon’), mirrored in a connection by the common Indo-European root for ‘night’ with ‘evening’ in Hittite (Buck 1949: 992). Two languages of Australia, Ngaanyatjarra and Nunggubuyu, by a typical example of actual/potential-polysemy (O’Grady 1960), colexify ‘night’ with ‘sleep’ (the relevant Nunggubuyu term also denotes the “ant lion larva”). Terms for ‘night’ are also used as a
unit of counting time (as ‘day’ is used in English) in Rendille, Buin, Nunggubuyu, Haida, Yana, Yanomámi, Hawaiian (where this usage is obsolete), and Samoan.

Other associations include: Buli yok also denotes a “rafter of a thatched house,” and Efik okun’ëyu ~ okun’oyu appears to contain ë’yu ‘sunshine, daylight.’ Ngambay til also means ‘shrub,’ Buin muu also ‘other,’ Muna alo also ‘dew, expose to dew,’ Ngaanyatjarra ngurra also ‘home, camp site, house, bed, bedroom,’ and Sko rangpang contains rang ‘sun.’ Toaripi faita is also the name of a type of red clay, and Yir Yoront larr-ngonggor is analyzable as ‘day/time-yesterday,’ Badaga colexifies ‘night’ with ‘twilight,’ and is used adjectival-ly with the meaning “shadowy, shade” (another relevant term also means ‘to be, exist,’ and yet another one ‘to cover, cover up’). Basque colexifies ‘night’ with ‘to cover, close, shut, veil,’ while Japanese yoru also means ‘to twist’ (the meanings are distinguished in writing). The Cahuilla term tükmiyat ~ tükmaat contains -tük- ‘to go to bed, stay overnight.’ Wintu cipi colexifies ‘night’ alongside ‘evening’ also with ‘late,’ and Huambisa suwe also means ‘throat, chasm’ (original Spanish gloss is ‘garganta’). Bwe Karen he also means ‘to wander about’ and ‘to be hot’ of food, and nc also denotes the spirit of a person. Hani aoqqivq also means ‘dusk’ (aoq is ‘sky, heaven’), Hawaiian pó also denotes the “realm of the gods,” “chaos, hell,” and ‘thick, dense,’ as said of flowers and fragrance. Kapingamarangi boo is also used with the meaning “feeling of foreboding” in compounds and also denotes a “woman who is pregnant for the first time.” Malagasy àlina is also a numeral for ‘ten thousand.’

154. The Noon

Representation: 81%  
Motivated: 65.8%  
Thereof Analyzable: 58.3% Thereof Colexifying: 9.2%  
Thereof by Contiguity: 51.7% Thereof by Similarity: 1.7%  
Recurrent associated meanings: day, middle, sun, half, time, lunch, straight/right, afternoon, center, top, head, midnight, light/daylight, sky, hour, south, heart

Terms for the ‘noon’ are frequently analyzable of the lexical type, with one constituent being either ‘day’ or ‘sun,’ linked to the concept by contiguity. In a frequent type of terms, ‘middle’ is the meaning of the second constituent, as in Nuuchahnulth ʔapwín ʔaas ‘middle day’ and Meyah mówa ot déis ‘sun stand middle.’ These are also very common in Indo-European (Buck 1949: 996). In the present sample, such terms are featured alongside Meyah and Nuuchahnulth in Efik, Hausa, Kanuri, Ngambay, Swahili, Kaluli, Sahu, Basque, Greek, Khalkha, Kildin Saami, Welsh, Blackfoot, Ineseño Chumash, Lake Miwok, Lakhota (where in addition a verb meaning ‘to pass by’ is present), Santiago Mexquititlan Otomí, Tuscarora, Central Yup’ik, Copainalá Zoque, Bora, Bororo (where in addition an element meaning ‘sky’ is present, compare also Cavineña barepatya /barepa-patya/ ‘sky-middle’), Cubeo, Maxakalí (where the term is more specifically analyzable mâyôn yäykote’ yûm /mâyôn yäykote yûm/ ‘sun in.the.middle.of sit/be.located’), Ancash Quechua, Bislama, White Hmong, and presumably Haida, although this is not ultimately clear from the consulted source. Similarly, Upper Chehalis has Pôtûtsök’il, containing constituents meaning
‘middle’ and ‘set up.’ Other similar terms, but without ‘day’ or ‘sun’ as contiguity anchor, are Buin *kugeniu-page* ‘part.of.roof-middle’ (compare Huambisa *tutupnirmai*), presumably /*tutupnik-matai/ ‘straight-ridge/crest’ and Malagasy *mitatào vovònana* (ny ândro) ‘put.on.top ridgepole (?? day),’ Cheyenne *-sétov-oéstá* ‘-middle-hang,’ and Nez Perce *piq-pe* ‘be.middle-LOC’ (for ‘at noon’). ‘Noon’ and ‘middle’ are colexified directly in Piro. In this language, as well as in Sahu and Welsh, ‘middle’ is colexified with ‘center’ (in Piro also with ‘part, interior’), and this association is mirrored in Mbum (*làú séséì* ‘liver/center sun’); moreover, Bislama has *medel-dei* ‘middle/center-day.’ In Lake Miwok and Khalkha, ‘middle’ is colexified with ‘half’ (as well as with ‘between’ in Lake Miwok, and with ‘midnight,’ ‘halfway, partly,’ and ‘mediocre, average’ in Khalkha), and the terms in these languages therefore also betray an association with this meaning. They are not alone: Nivkh has *muyv-n’lami* ‘day-half,’ a structure which is also found in Basque, Welsh, Kashaya (where in addition a verb meaning ‘to break into two’ is perhaps present, though the overall analysis of the term is unsure; note also that Nunggubuyu colexifies ‘dawn’ with ‘to be or become torn or split’), and Imbabura Quechua. This pattern is also common in Indo-European (Buck 1949: 996). Similarly, Ket *suran* possibly consists of constituents meaning ‘half’ and ‘daylight,’ and there are also terms in other languages making reference to ‘(day)light’ specifically rather than ‘day,’ namely Efik (*uwem-ëyu* ‘life-time/daylight’) and Manang (*1tʰoŋ-4sol* ‘light-bright; this term colexifies ‘noon’ with ‘afternoon’). Returning to terms with ‘sun’ or ‘day’ as contiguity anchor, in three sampled languages, Burarra, Toaripi, and Pawnee, there is an association with ‘top,’ either by terms containing elements with that meaning directly (Burarra and Toaripi; in the latter language, an additional element meaning ‘head’ is present), or by a verb meaning ‘to stand on top’ (Pawnee). Moreover, Yír Yoront has *par-thila* ‘head/top-hole:ERG/LOC.’ The association with ‘head’ is also borne out in Sora (*teybob’bọŋ /tey-‘bobo’-b’ọŋ-n’ / ‘carry.on.head-head-sun-N.SFX’), Bororo (*bara etaiadaia ~ brae etaia keje*, containing *bara ~ brae* ‘non-Indian’ and *aia* ‘middle of head,’ literally therefore “the time when the sun is on top of the head of the white people”), Lengua (*yitsikso ikhim /yitsiksik ikhim*/ ‘crown.of.head sun/day’), and Miskito (*won lal kat*, containing *lal ‘head’ and *kat* ‘until’). There are also complex terms, often featuring a constituent meaning ‘day,’ that make reference to the fact that noon is lunchtime, such as Kwoma *a yadii nedii* ‘eat day time.’ Beztha has *lọba ‘sun/mex* ‘noon.supper:gen time,’ Kashaya *ma ‘food’ and *me* ‘time,’ while Ngaanyatjarra, Chickasaw, Highland Chontal, Haida, and San Lucas Quiavín Zapotec colexify ‘noon’ with ‘lunch’ (see also Buck 1949: 996 for this association in Indo-European). For Huambisa etsa *tutupin* ‘sun straight,’ which was mentioned above, there are also parallels. Yoruba has *ọsàn-gangan* ‘afternoon-right,’ Yaqui *luula-katek-o* ‘straight-be.sitting-COND,’ Rama *kibing kíŋik* ‘straight day,’ and Tsafiki *yotú /yo-tu/ ‘sun-straight.’ Similarly, Berik has *gwer bolap*, containing *gwer ‘sun’ and *bolap ‘summit.’ Ngambay has *kàrè wùr énje* ‘sun/time/hour heart mother,’ and Takia *ad bikex ‘time.* There are also other complex terms with ‘sun’ or ‘day’ acting as the contiguity anchor. These are Yoruba *ağbede-meji qọ* ‘part-two day,’ Muna *ghole-gholeo* ‘red-day,’ Rotokas *ravireo vuuta* ‘sun eventuate,’ Toaripi *sare koko* ‘sun/day/narrow/contracted/restricted,’ Itzaj *chumuk’in /chû’m-Vk-k’in/* ‘begin-DERIV-sun/day,’ Kio-
wa k’hi-sa ‘day-aug,’ Yana baloorpa, containing the verb ba- ‘for the sun to move, be in position’ (‘sun is southward up the mountain’), Aguaruna étśa tajimai, a literal translation of which would be ‘the sun is between the two sides,’ Toba yi na’aq, perhaps ‘richness day’ (yi also has other meanings), Fijian sigalevu tutu /siga-levu tūtu/ ‘day/sun-big stand,’ Hawaiian kau ka lá i ka lola ‘place DET sun ACT DET brains,’ Hani aoq-nao naohhād ‘sky-day-daytime,’ Bwe Karen lostu chithā ‘sun be overhead,’ Malagasy antoandro be /aN-to-àndro-be/ ‘LOC-exact/true-day-big/much,’ Samoaan tū-tomu o le lá ‘stand-be.exact GEN DET sun’ and ao-auli ‘day-be.pure,’ as well as Tetun loro-aas ‘sun-high’ and loro-nattuto-n ‘sun-reach.its.peak.singular.’ There is moreover a derived term in Carib, and Sko and Buli directly colexify ‘sun’ with ‘noon,’ while Efik, Ngaanyatjarra, Sko, Wintu, and Yuki colexify ‘noon’ and ‘day.’ There are semianalyzable terms where the identifiable constituent is ‘sun’ in Comanche, Aguaruna, Huambisa, and Rama, and where it is ‘day’ in Khoekhoe, Chukchi, San Mateo del Mar Huave, and Great Andamanese. Otherwise, the Cuisnahnuat dialect of Pipil has wel-ocrh ‘before/well-hour’ and Cayapa catyu’ura /catya-ura/ ‘high hour’ (this term colexifies, as do Khalkha and Cahuilla, ‘midnight;’ furthermore, due to colexification of ‘sun’ with ‘time’ and ‘hour,’ these associations are also present in a complex Ngambay term with the other constituent meaning ‘middle’). Oneida colexifies ‘noon’ with ‘south’ (Wayampi has yane-alu-katu ‘our-south-good’), and Buli, Badaqa, and Manange with ‘(early) afternoon.’

Other associations include: Abzakh Adyghe has š(e)ǯaɣe, containing š(e) ‘to study, call out’ and ǯ(e) ‘time,’ Badaga colexifies ‘noon’ with ‘early morning’ and ‘off-hours’ generally, while Khalkha yde is inter alia also the name of a river. Cahuilla teklu-vel is analyzable as ‘stop-ABS,’ and máxel-ɨ is derived from the verb máxel ‘for the sun to be in the middle.’ The Upper Chehalis term c̓úqʷ=alm is analyzable as ‘set.up=erect.object,’ while Hupda hi-miʔ-g’et is analyzable as ‘FACTITIVE-under-stand.’

155. The Sunrise

Representation: 52%
Motivated: 65.6%
Thereof Analyzable: 52.3% Thereof Colexifying: 13.3%
Thereof by Contiguity: 16.5% Thereof by Similarity: 40.7%
Recurrent associated meanings: sun, come out/go out emerge, dawn, appear,
east, rise, light/daylight, day, sprout, arrive, split, be born, jump, burst out

Terms for the ‘sunrise’ are frequently morphologically complex and metaphor-based, with ‘sun’ (which sometimes is colexified with ‘day’) being the obvious contiguity anchor. Terms where the metaphor is based on notions such as ‘to come out, go out, emerge,’ such as Sora duŋ’jōpan /duŋ-jon-an/ ‘get.out.of-sun-N.SFX,’ are also found in Hausa, Burarra, Meyah, Kolyma Yukaghir, Biloxi, Chickasaw, Itzaj, Kashaya, Lake Miwok, Ancash Quechua, and Hawaiian. Similarly, Nez Perce has tńidhtitt /tiń-leht-it/ ‘sun/moon-out,’ Kaingang rã vỹ jur mü ha ‘sun TOP coming go now,’ and ‘sunrise’ is colexified with a verb meaning ‘to emerge, come out’ in Dongolese Nubian, Upper Chehalis and Rotuman; in the latter two languages the additional sense ‘burst out’ is present inter alia. Another common association is that with the meaning ‘to appear’ (which often also means ‘to rise’ in the sampled
languages), such as Chukchi *t̰rk-ìnini* ‘sun-appear.’ Such terms are also found in Khoekhoe, Muna (by colexification, also with ‘to come up,’ ‘to break open’), Khalkha, Cheyenne, Hawaiian, and Tetun. Tetun also has the alternative term *loron-mosu* ‘day-to-appear’ (there are semianalyzable terms containing an element meaning ‘day’ in Kyaka, Highland Chontal, Comanche, Chayahuita and Huambisa). The Tetun term colexifies ‘east,’ a pattern of colexification also found in Yoruba, Burarra, Kolyma Yukaghir, Nez Perce, and Bororo, in all cases by analyzable terms discussed elsewhere in this paragraph. Wintu has the term *puy t̰el-kawal,* seemingly analyzable as ‘east inside-dawn.’ Yana has *ʒaudułuọgoς*-i, which is, according to the source, “evidently from *ʒaudułuaxaʊς* ‘sun moves back out east-westward.’” ‘Arrive’ is also found in other languages which have complex terms of the lexical type as the meaning of the second constituent, as in Cubeo *avíi daino,* containing *avíi* ‘sun’ and *daino* ‘arrival.’ Such terms are also featured in Burarra, Kyaka (where an additional constituent meaning ‘uphill, upwards’ is present), and Maxakali (where ‘arrive’ is actually colexified with ‘leave’). Badaga has *ottu huτtu* ~ *hootu huτtu* ‘sun/time be.born/rise,’ and the ‘birth’-metaphor is also attested in San Mateo del Mar Huave, which has *ajnchep teatnút,* where *teatnút* is ‘sun’ and *ajnchep* ‘to be born, grow, bloom.’ Alternatively, there is the term *ajnstop teatnút,* with *ajnstop* meaning ‘grow, bloom.’ Similarly, Noni has *diuù s•an* ‘sun to sprout,’ and Khoekhoe *sore-s ǁhai-s* ‘sun-3SG.FEM sprout/rise-3SG.FEM;’ this association with ‘sprouting’ is also present in Hausa, where the verb meaning ‘to come out’ in the abovementioned term is colexified with ‘to germinate,’ as well as in Khalkha, also by colexification with another meaning, but in this case with ‘to appear.’

In several of the above discussed languages, such as Khoekhoe, the second constituent is alongside the primary meaning also glossed with ‘to rise’ when occurring in the context of sunrise. However, there are also some terms, such as Efik *utin asìakha* ‘sun rise,’ where the gloss of the complex term leaves it unclear whether the second constituent is only used in this context. Such cases are found also in Greek, Welsh, and Yuki. Genuine cases seem to be Nivkh *k’jiŋ myrф yr* ‘sun place. where.something.rises time,’ Fijian *ni cadra tía* ‘sky-bright/shining RED,’ Tetun *raí-naroma* ‘day-to-grow.light,’ while Cashinahua and Cayapa colexify ‘sunrise’ with ‘light’ or related meanings, and there is a semianalyzable term where the identifiable constituent is ‘bright’ in Sáliba. Yoruba has *ilà oòrun* ‘split sun,’ and an analogous term is found in Efik and Noni.

Other complex terms where one of the constituents is ‘sun’ are Kaluli *kowona:*of-α: ‘little.lizard sun-??,’ Ngaanyatjarra *tjirntukarrany*(pa), containing *tjirntu* ‘sun, day’ and *karra* ‘twilight’ (this term colexifies ‘sunrise’ with ‘sunset’), Toaripi *sare patai* ‘sun/day ascend,’ Nuuchahnulth *huja-skuqitq huqat* containing *kuq* ‘move away’ and *huq* ‘sun/moon,’ Wappo *hini č̓aḥw̓ilsə?* contains the word for ‘sun, moon, clock, calendar’ and a form of a verb meaning ‘to crawl out.’ Bororo has *meri ru-tu* ‘sun fire-departure.’ There are
semianalyzable terms where the identifiable constituent is ‘sun’ in Berik, Kaluli, Kyaka, Rotokas, Comanche, Guaraní, and Great Andamanese.

Gurindji, Badaga, Basque, Wintu, Aguaruna, Embera, Maxakalí, Hani, and Tetun colexify ‘sunrise’ with ‘dawn,’ Basque by the analyzable term egun-senti ‘day-feel,’ and Wintu by the analyzable term mentioned above.

Other associations include: Basque goiz-argi, also denoting the ‘light of dawn,’ is analyzable as ‘morning-light,’ and Upper Chehalis pē’tekxwoihwo contains the word for ‘night.’ Carrier haeaih en is literally translated “where it comes from.” Nuuchahnulth huupkʷistaʔat is analyzable as /hup-kʷisa-ʔaʔa/ ‘roundish.spherical.or.chunky.object-move.away.on.the.rocks,’ while Pawnee taʔa is analyzable as /ta-a/ ‘suspended-come,’ Central Yup’ik p’it’e also means ‘to take game’ in the Yukon dialect, while Cayapa dangueno also means ‘to shine.’ Similarly, Tsafiki chéino and cheyano are related by unknown means to chenu ‘illuminate.’

156. The Sunset
Representation: 55%
Motivated: 67.2%
Thereof Analyzable: 50.7% Thereof Colexifying: 17.7%
Thereof by Contiguity: 14.2% Thereof by Similarity: 45.1%
Recurrent associated meanings: sun, time, sink, enter, fall/drop, dusk, descend/go down/lower, day, disappear, die, west, twilight, dip, mountain, jump, sit down

As for ‘sunrise,’ of course, the meaning ‘sunset’ is expressed in many languages by complex terms where one of the constituents is ‘sun’ (which sometimes colexifies ‘day’). These are often metaphorical in nature. Among them, the most common subpattern is the association with terms meaning ‘to enter, entry,’ as in Khoekhoe sore-s lgå-s ‘sun-3SG.FEM enter/set-3SG.FEM.’ Such terms are also found in Ngambay, Yoruba, Comanche, Itzaj, and Cavineña, while in Nunggubuyu ‘to enter’ is colexified with ‘for the sun to set;’ the relevant term is in fact the reflexive of a verb meaning ‘to put into.’ Similarly, Rotokas has ravireo rokore, containing ravireo ‘sun’ and roko ‘die out, go into, penetrate into,’ Nez Perce tiňeynékt /tiň-leynék-k-t/ ‘sun/moon-into,’ and San Mateo del Mar Huave ajmel nüit ‘enter day’ (for the association with ‘day,’ compare Kyaka yuu kwualyamo, containing yuu ‘day, light’ and kwualy ‘wipe, brush away, spread, brush out’). Otherwise, associations with verbs meaning ‘to sink,’ as in Kolyma Yukaghir jel’od’ad-amly/ka ‘sun-sink,’ are common (this term colexifies ‘west,’ which is also the case in the Bororo and Tetun complex terms already mentioned; Samoan has tau-gagafo ‘go.a.little.towards.the.west,’ and there is a semianalyzable term in Wintu which is also glossed as ‘red sunset’ and ‘cloudy and sun-shine’). Such complex terms also occur in Itzaj, Fijian, and Hawai’ian, and the association is realized by colexification in Sora, Ineseño Chumash, Rotuman, and Samoan. Upper Chehalis sšušs contains šuš- ‘to dive’ and a lexical affix ‘face, eye, round object, dollar,’ Meyah has mówa esiri ‘sun fall,’ and complex terms featuring verbs meaning ‘to fall, fall in’ or ‘to drop’ are also found in Hausa, Badaga (where an additional constituent meaning ‘time’ is present), Biloxi, Chickasaw, Itzaj, Bororo (where ‘fall’ is colexified with ‘be born’),
Ancash Quechua (where ‘to pounce’ is colexified with ‘to hide’ and ‘to bud’), and Tetun; moreover, the association is realized by direct colexification in Rendille, where the relevant term also means ‘go down’ and ‘attack.’ Cheyenne has É-ta’ëhne ‘3SG-disappear.’ Complex terms based on a verb meaning ‘to disappear’ are also featured in Ngambay and Wappo, while Ineseño Chumash and Central Yup’ik colexify ‘sunset’ with ‘disappear,’ the former language also with ‘to sink.’ Wappo colexifies ‘to disappear’ with ‘to die,’ note that in Muna, soo is alongside other things a euphemistic expression for ‘to die.’ The Wappo association with ‘die’ is also mirrored in Katcha by colexification. Complex terms on the basis of meanings such as ‘to descend,’ ‘to go down,’ ‘to lower,’ such as Kwoma ya yei nedi ‘sun go.down time’ are found in Efik (alongside an element colexifying ‘daylight’ and ‘time’; the entire term colexifies ‘favor, privilege, opportunity’), Itzaj, Aguaruna, and Bislama (which also has san i draon, with draon meaning ‘to drown’ as well as ‘for the sun to set,’ inter alia); moreover, Buli and Rendille colexify the relevant meaning directly. Noni has diu u sele ‘sun to jump,’ and ‘sunset’ and ‘fly, jump’ are colexified in Lenakel. Wintu has sasun p’uyuq ñokiti harasin, containing saas ‘sun, moon,’ p’uyuq ‘mountain,’ har ‘move’ and asin ‘away,’ and a semianalyzable term containing a verb meaning ‘to move’ is attested in Yana (incidentally, ‘hill, mountain’ is among the meanings colexified with ‘for the sun to set’ in Rotuman). Kashaya has ha·da cahci ‘sun sit.down,’ and a term featuring a verb with the meaning ‘sit down’ alongside ‘sun’ is featured in Burarra as well. Greek and Welsh have terms containing elements meaning ‘sun’ and ‘set.’

‘Sunset’ and ‘dusk’ are colexified in Dongolese Nubian, Kwoma (by the analyzable term hogo ya yayi nedi ‘late.afternoon sun ladder time’), Badaga (by the analyzable term sande jama ‘twilight time’), Basque (by the analyzable terms ilun-alde ‘darkness-side/region/area/proximity/nearness’ which itself colexifies ‘twilight’ and ilunabar /ilun-nabar / ‘darkness-gray’), Bora, Huambisa, Ancash Quechua (colexifying ‘sunset’ with ‘red color’ specifically), and Tetun (by a semianalyzable term containing rai ‘land’), often also by analyzable terms discussed elsewhere in this paragraph, and Arabela has nio nininiu·niyani containing nininiu ‘to be dusk;’ note also the similarity between Xicotepec de Juárez Totonac smalanka’n ‘for the sun to set’ and smalanka’n ‘dusk’ and Miskito sáiwa ‘sunset’ and sáiwa ‘dusk.’ Efik colexifies ‘sunset’ with ‘evening,’ and Dongolese Nubian with ‘early evening’ specifically.

Other complex terms featuring a constituent meaning ‘sun’ are Kyaka netame anda pelyamo/penge containing neta ‘sun,’ anda ‘house’ and penge ‘arrival’ (there is another term featuring neta and anda as constituents the structure of which is not clear otherwise), Ngaanyatjarra tjirntukarrany(pa), containing tjirntu ‘sun, day’ and karra ‘twilight,’ Toaripi sare sukopai /sare sukopai/ ‘sun dip into’ (considered likely in the source; “[t]o the Elema, being a coastal people, the sun when setting seems to dip into the sea;” Kosarek Yale colexifies ‘to dip into water’ directly), Khalkha nara(n) singge-ky ‘sun absorb/set-??,’ Nivkh k’en uy yr ‘sun get.to mouth,’ Itzaj b’el k’in ‘sun go/travel/trip/going/exit,’ Lesser Antillean Creole French sõleî kouché ‘sun lie/sleep,’ Aguaruna tsawúut /etsá-wauté / ‘sun-open.mouth,’ Rama núnik ausam altuang containing núnik ‘sun’ and altuang ‘waiting,’ and Hani naolma xavq li qavq ‘sun stay.overnight go PAST.’ Further, there are semianalyzable terms where the identifiable constituent is ‘sun’ in Berik, Dadibi (where ‘sun’ and ‘fire’ are colexified),
Kaluli, Kyaka, Basque, Chukchi, Cubeo, Guarani, Huambisa, Maxakali, and Great Andamanese.

Other associations include: Ngaanyatjarra uses the same term for ‘sunset’ and ‘sunrise,’ Blackfoot isttahkapí also means ‘to crawl in, under,’ and otahkoonaksstoyi contains otahkoo ‘orange, yellow.’ Carrier na-e-aih en is analyzable as ‘to the ground-??-get when,’ whereas Upper Chehalis stápné contains táqa- cover/shade.’ Kwi’suntá ne, in contrast, contains kwi ‘get dark, night.’ Comanche tabéliká ~ tabélikaru also means ‘evening,’ while a literal translation of Kiliwa ruwp ?ii might be “shrouded from view.” Pawnee astaarukuikita contains as- ‘foot’ and huukita ‘be on top’ (“a metaphor, lit. the sun has its feet on (the horizon)”). Tuscarora colexifies ‘sunset’ with ‘starset,’ and Wintu has puyel hololbe, containing puyel ‘east hill’ and holol ‘sunshine, bright, light.’ Chayahuita i’hua-rayá is analyzable as ‘a short time ago-CLASS.FACE.EYE.OR.SEED.’

157. Man (Human Being)

Representation: 83%
Motivated: 35.1%
Thereof Analyzable: 8.9% Thereof Colexifying: 26.2%
Thereof by Contiguity: 7.2% Thereof by Similarity: 0.0%
Recurrent associated meanings: member of ethnic group, man, body, thing, owner/proprietor, mankind, woman, husband, earth/ground, child

Apart from use of the relevant terms as indefinite pronouns (‘somebody’), which is disregarded here, terms with reference to ‘human being, person’ are commonly colexified with ‘man’ in the sense of ‘male person’ specifically, a pattern familiar from e.g. English (see Buck 1949: 79-80 for discussion of the broader Indo-European context). Precisely because of this, it is difficult to assess the strength of this pattern cross-linguistically, since the gloss ‘man’ is in fact ambiguous. Therefore, only cases are reported in which the glosses give reason to believe that ‘male’ specifically is genuinely colexified. This is the case in Efik, Kwoma, Yir Yoront, Basque, Chickasaw, Highland Chontal, San Lucas Quiaivini Zapotec, Cashinahua, Wayampi, and Bislama, while in Khoekhoe the meanings ‘human being’ and ‘man, husband’ are formed by using the same root, but suffixed with different nominal designants. Moreover, Sentani has the dvandva compound do-mijé ‘man-woman,’ and Takia tamol-pein ~ tal-pein ‘man-woman’ (this type of compound is common in New Guinea in general; for a precise parallel in the term for ‘people’ in Kalam see Pawley 1993: 99). Such a term is also found in Xicotepec de Juárez Totonac. Furthermore, Kanuri has k-âm, containing the prefix k- and the plural form of ‘man,’ and Guarani has yvy-póra ‘earth-dweller’ (compare also Kaingang éprá ke ‘on ground make/say’ and Latin homo, related to humus ‘earth’).

Another common association is the colexification of ‘human, person’ with a member of one’s ethnic group in particular. This occurs in Koyraboro Senni, Burarra (by the term gugalíya, derived from galiya ~ jaliya ‘to hear’), Gurindji, Nunggubuyu, Yir Yoront, Nivkh, Cahuilla, Haida (also by the redundant terms xáaydlaa xáayydaray ‘people visible.world/home,’ which refers to the Canadian Haida specifically, and xáayda giits’aads
‘people servants’), Lake Miwok, Quileute, Wintu, Yuki, San Lucas Quiaviní Zapotec, Bororo, Guaraní, Hupda, Miskito, Piro, Tsafiki, Yanomámi, Hawaiian, and Samoan. Furthermore, Efik, Ngaanyatjarra, Sentani, Yir Yoront, Copainalá Zoque, and Miskito colexify ‘human being, person’ with ‘body’ (Miskito also with ‘flesh’), Yoruba, Badaga, and Hawaiian with ‘mankind’, Kwoma and Bislama with ‘husband’, and Ngambay, Bislama, and Hawaiian with ‘owner, proprietor.’ In Khoekhoe, the meanings ‘man’ and ‘husband’ are derived from the same root with different nominal designants (shift from ‘person, human being’ to ‘male’ and ‘husband’ is attested in Slavic according to Buck 1949: 80).

Kiowa has a general term ‘human, person’ identical segmentally to a verb meaning ‘be alive’ which takes additional suffixes depending on whether a man or a woman is referred to; a semianalyzable term probably featuring a constituent with that meaning is also found in Kiliwa and in Khalkha, where it colexifies ‘animal.’ Efik, Bororo, and Hawaiian colexify ‘human, person’ with ‘thing’ (Bororo also with ‘time’ and Hawaiian also with ‘to say’ inter alia), and in Swahili, the same root, associated with different prefixes, conveys these meanings. Koyraboro Senni ibuna’adamayze contains ‘child;’ the first constituent is borrowed from Arabic ‘ibn ‘aadam ‘son of Adam’ (Hausa ‘dan adan, which has a similar structure is, when used in the singular, often applied to a person who has done something wrong), and Sahu and Hawaiian colexify ‘person’ and ‘child’ inter alia. Moreover, there is a semianalyzable term featuring a constituent meaning ‘son, child’ inter alia in Hani.

Other associations include: the formally redundant Ngambay term kège lè dèw is analyzable as ‘think GEN person’ (dèw also means ‘soul;’ note that the Indo-European root giving rise to Engl. man etc. is, on one interpretation, connected with *men- ‘to think,’ Buck 1949: 80). Buin roi also means ‘gallbladder,’ and Berik angtane also ‘passenger’ specifically. Kwoma colexifies ‘human, person’ with ‘adult, mature,’ ‘front,’ ‘top,’ ‘finger, toe,’ and ‘twenty.’ Muna mie is also used with reference to ‘animals that build nests,’ while Ngaanyatjarra yarrangu can also refer to the ‘whole of something’ and the ‘appearance of something,’ and Sentani a also means ‘empty,’ as of things. Tasmanian (Middle-Eastern) kekána contains kána ‘language, utterance, speaking.’ The Chukchi term ʔorawetl‘an contains ʔoray ‘openly’ (the term is explained by Bogoraz 1922: 828 as quoted by Fortescue 2006: 269 as literally meaning ‘one who walks openly,’ which is used as a name for humans by malevolent spirits in Chukchi myth). Khalkha kymyn also means ‘personality’ and Lesser Antillean Creole French moun also means ‘world, universe.’ Blackfoot colexifies ‘person’ with ‘pupil,’ Itzaj kristiyaanoj, a loanword from Spanish, also denotes a ‘Christian’ specifically, and mak ~ maak, a native term, also means ‘top.’ Emberá êmberd means ‘person, personage’ with masculine gender and ‘people’ with feminine gender. Guaraní tekove contains teko ‘nature, character, being’ and colexifies ‘life’ and other meanings. Huambisa shuar also means ‘enemy,’ and Hupda hüp also ‘good, new,’ while Wayampi te-kɔ is analyzable as ‘NON.DETERMINATION-to.be.’ Fijian tamata can also refer to chicken still in their eggs, and Hawaiian kanaka also means ‘population,’ ‘pregnant,’ and ‘inhabited’ inter alia.
158. The Saturday

Representation: 59%
Motivated: 33.9%
Thereof Analyzable: 33.8% Thereof Polysemous: 0.2%
Thereof by Contiguity: 22.9% Thereof by Similarity: 4.5%

Recurrent associated meanings: day, six, week, Saturn, Sunday, small, work, prepare, younger sibling, unique

Terms for ‘Saturday’ are overwhelmingly complex and of the lexical type in the languages of the sample, with ‘day’ (which sometimes is colexified with ‘sun’) being the meaning of one of the constituents. Apart from semianalyzable terms in Basque, Chayahuita, Guaraní, Fijian, and Manange, most frequently, ‘six’ is the meaning of the other constituent, as in Sko bang nápânghi ‘day six’ (bang is not explicitly glossed in the source, but since it recurs in the names of all other days of the week, it seems safe to assume that its meaning is ‘day’). Such terms are also found in Ket, Chickasaw, Hani (where an additional constituent meaning ‘week’ is present; there is another semianalyzable term with this element), Hawaiian, Kapingamarangi, and Rotuman (where it is used by members of the Roman Catholic church). Similarly, Kaluli has dogofe-yâ (/dogofe:-ya/) ‘six-right here’ for ‘on Saturday,’ Mandarin xing1qi1-liu4 ‘week-six’ and lì3-bai4-liu4 ‘ritual-worship-six’ (there are also other complex terms featuring a constituent with the meaning ‘week’: Swahili has jumamosi ‘week first,’ Kashaya capasi me1, analysable as /capa si-w me1/ ‘week make-abs time,’ ‘Saturday’ in Oneida is derived from a term meaning ‘daylight, week,’ and ‘Saturday’ and ‘week’ are colexified directly in Central Yup’ik by the analysable term maqi-neq ‘steambath-thing.that.results.from’). Ngambay has ndo kâla misân ‘day work six,’ and Kiliwa ti’chat=msîrîpapaayp ‘work=six’ (note also the rare Hawaiian term lâ ho’omalolo ‘day cease.work’). In contrast, Vietnamese has ngày thứ bảy ‘day ordinal seven,’ the variation presumably due to differences in which day is the day of rest and prayer and differences in which day is taken to be the first of the week.

Japanese has do-yô ‘earth/Saturn-day’ and Welsh dydd Sadwrn ‘day Saturn.’ ‘Saturday’ is colexified with ‘Saturn’ in Badaga and Khalkha (see § 6.4.3.13.6. for the history of this pattern, as well as Buck 1949: 1007-1009 on the coexistence of the ‘ecclesiastical’ system and the ‘planetary’ system in Indo-European). Abzakh Adyghe and Basque have mefezaqº and egu-bakoitz respectively, both analysable as ‘day-unique.’

Rotokas has Topekakau voki ‘tobacco day’ (“comes from the old practice of paying wages with tobacco on Saturday;” compare also the fact that an Upper Chehalis term for ‘Saturday’ contains a word for ‘time’ and a verb meaning ‘to distribute,’ with the explanation in the source offered having recourse to the fact that on Saturday rations were distributed). A literal translation of Blackfoot to’ohtatóyîkisîsîkô according to the consulted source is “the day before the holy day,” that is, Sunday, Chickasaw Nittak Hollo’ Nakfish contains nittak ‘day’ and nakfish ‘younger sibling of the same sex,’ Tuscarora has awê?nakwit, literally ‘day alongside,’ Fijian Sîga Vakarau leka, containing sîga ‘day’ and leka ‘small,’ Samoan Aso To’ona’i ‘day collect.food.in.preparation.for.Sunday.meal’ (Lenakel has (nian taha) n-epinapine-aan / (nian taha) n-epinapina-aan/ ‘(day benefactive) NMLZ-prepare-
NMIZ, a term which is restricted to the speech of older Christians, and Rotuman (*teran*) *a'ita* /(*teran*) *a'ita* / ‘(day) prepare’; this term is used by Wesleyan Methodists. All the denominations just mentioned, starting with that in Blackfoot, make reference in some way to the fact that ‘Saturday’ is contiguous temporally to ‘Sunday,’ the most important day of the week. The Fijian association with ‘small’ is explained by the fact that the ‘Saturday’ is a “small” holiday when compared with the Sunday, and this interpretation is corroborated by terms such as Cheyenne *Tsêške*-ma’heöneööveva ‘little-Sunday,’ Kiowa dâ’h*šy*n-g*yh ‘Sunday-small-NOUN.POSTFIX,’ and the fact that Carrier has a semianalyzable term where the identifiable constituent is ‘small.’ Moreover, Biloxi has *noxwi* so’tka /*noxwi* di so’tka ‘da’/ ‘Sunday younger.brother,’ and there is a semianalyzable terms involving a word for ‘Sunday’ in Haida (‘Sunday’ in Haida is *s@ndii.* Haida also features the term *sandiigaa cajuu,* where *cajuu* is ‘small,’ and *sandiigaa* is also suspiciously similar to Engl. *Saturday.* The source notes that this term is “[s]aid to derive from the missionary habit of flying a small flag on Saturday and a big one on Sunday,” which suggests that this is a term of the Cheyenne and Kiowa type just mentioned) and Nez Perce (where the literal translation offered in the source is “toward Sundaying”). Moreover, Kyaka has *koro kuki* ‘period.of.time small’ (this term also denotes a ‘pause’).

Other associations include: Buli *Asibi* is also a name given to children born on a Saturday, and Badaga *cani~sani,* colexifying ‘Saturn,’ also means ‘bad omen, ill fate’ and similar things. Pawnee *Piiriku* contains *iirik* ‘to see,’ the literal translation and explanation given in the source being “seeing different ones (when people went into town on Saturdays to shop).”

159. The Virgin

Representation: 38%
Motivated: 53.3%

Thereof Analyzable: 53.0%
Thereof Coplexifying: 2.7%
Thereof by Contiguity: 36.0%
Thereof by Similarity: 7.1%

Recurrent associated meanings: girl/daughter, unmarried girl/woman, man, NEG, closed/shut, young, female/woman, husband

Terms for ‘virgin’ are in some languages of the sample analyzable, containing an element meaning ‘man’ or ‘husband’ and a negator alongside other morphemes. For one, Ngambay has *gère ngâw âxâng* ‘know man/husband NEG,’ and similar terms, with verbs meaning ‘to feel’ and ‘to see’ rather than ‘know’ respectively are found in Chickasaw and Bora. Kyaka has *wanakeme akali nyii range,* containing *wanake* ‘girl,’ *akali* ‘man, husband,’ *nyii* ‘take!’ and *range* ‘self, ego’ (alongside other semianalyzable terms featuring a constituent meaning ‘man, husband’); and Piro *makloji jeji metkatowa,* containing *makloji* ‘girl,’ *jeji* ‘man,’ and *metkatowa,* which seems to be related to *metkatu* ‘blind.’ Ngaanyatjarra *wati-kui ngurrpa* is analyzable as ‘man.of ignorant.’ Embera has *wêra awêarakirú,* containing *wêra* ‘woman’ and *awêarakirú,* an adjective meaning ‘new, virgin.’ Fijian *goneyalewa savasavā* is analyzable as ‘girl clean,’ and *dau lato* seems to contain *dau* ‘to commit adultery’ (lato is the name of a tree species).
There are derived terms from roots meaning ‘unmarried’ in Khoekhoe and Lenakel (‘virgin’ is colexified with ‘unmarried girl/woman’ in Kwoma, Kyaka, Nez Perce, Pawnee, Central Yup’ik and Lenakel). Samoan colexifies ‘female’ generally with ‘virgin,’ semianalyzable terms where the identifiable constituent is ‘woman’ are featured in Kwoma and Guaraní, and Tetun has feto-raan ‘woman-bleed,’ referring to menstruation. This is also the case in Upper Chehalis (máy̱sx̣aṃ contains máya- ‘enter’ and xam- ‘menstrual period’). A term referring to the physical rather than cultural aspects of virginity is also found in Yanomámi (ka kõmi ‘opening closed’). Yir Yoront and Hawaiian have similar terms of the lexical type, and Efik a derived term from a verb meaning ‘be closed.’ Haida and Miskito colexify ‘(be) virgin’ with ‘(be) young’ (Japanese has the term otome, questionably analyzable as /oto-me/ ‘young-woman’), while in Muna, Khalkha, Welsh, Nez Perce, Pawnee, Samoan, relevant terms can also refer to a ‘(teenage) girl,’ ‘daughter,’ and sometimes even ‘child’ more generally.

Other associations include: Noni wan wvu tfu contains wan ‘child’ and tfu ‘each,’ Baruya kwaiyagaala muja’ makes reference to the fact that it is forbidden to address a virgin in the male speech (yagaala) concerning marriage, and Burarra (-)yawuk also denotes a ‘childless girl or woman.’ The Muna term bungasa also means ‘untouched,’ as said e.g. of palm trees not yet tapped and kalambe, as a verb, is glossed as ‘become a girl,’ while Sahu mosolese also denotes the “the wife of a genealogically younger member of a hereditary group.” Kashaya cap’ya also means ‘celibate.’ Oneida yáh tha?tewa?alyéku contains the negative particle yáh and the lexical roots -a?al- ‘net, lace,’ and ya?k- “detach, sever, break, cut in two.” San Lucas Quiaviní Zapotec digáí is also a name for the ‘five centavo coin,’ Wintu loymes is derived from loy ‘put on front apron, become an adolescent girl,’ ‘virgin spirit, faery,’ while Chayahuita nanon miáchin contains nanon ‘girl’ and miáchin, which means ‘a bit, rather’ when following an adjective or adverb and ‘much’ otherwise. Great Andamanese ötlêkinga also means ‘poor,’ while Hawaiian pu’u-pa’a is analyzable as ‘mound-firm’ and also denotes the ‘kidneys’ and, figuratively, ‘emotions, affections.’

160. The Widow

Representation: 80%
Motivated: 32.1%
Thereof Analyzable: 26.9% Thereof Colexifying: 5.2%
Thereof by Contiguity: 22.3% Thereof by Similarity: 1.5%
Recurrent associated meanings: woman, husband, die/dead, orphan, unmarried, NEG, single, prostitute, lose, grieve/mourn, alone

Many of the motivated terms for this meaning are complex and of the lexical type, with one constituent being ‘woman,’ and the other indicating the differentia specifica. A common subtype is that making reference to the fact that a widow has ‘lost’ her husband, that is, that he has ‘died,’ as for instance Hawaiian wahine kāne make ‘woman husband die,’ Tsafiki puyamin sono, presumably containing puyano ‘to die’ and sono ‘woman,’ or Chickasaw ihoo hattak imilli-‘ woman man lose-NMLZ.” Such terms are also featured in Efik, Katcha, Lesser Antillean Creole French, and Samoan. This particular denomination strategy need
not always be realized by terms containing a lexical element meaning ‘woman’ next to derived terms in Carib and Manange, Kanuri has kám-bà ‘person/man-not,’ Itzaj ix-kimen-‘icham ‘FEM.NOUN.CLASS-dead-husband’ and ix-ma’-‘icham ‘FEM.NOUN.CLASS-NEG-husband,’ Kiliwa ?kuswa?̲=p-i?̲+hiw ‘husband=MP-DIST+fly,’ Lake Miwok mïw-helak ‘husband-lack,’ and Cavineña cahue-maju-que ‘husband-die-who.’ Similarly, Baruya has kwaimaaya’ /kwalaimaaya-da’ = kwalai-maaya-sa/ ‘man-without-she’ and Rotokas oira asava, containing asa ‘without.’ The association with ‘dying’ is also found in Japanese (mi-bō-jin ‘not.yet-die-person’), Cahuilla (múk-vel ‘get.sick.or.weak/die-ABS.NMLZ’), and there are semianalyzable term where the identifiable constituents are verbs meaning ‘to die’ in Piro and Lenakel.

An association present also a few times in Indo-European (Buck 1949: 131) is that with the meaning ‘alone’ (as is the case in Old Norse and some of its daughters, Buck 1949: 131): Pawnee has capaktihuks, literally ‘alone woman’ (which is also quite literally used for a woman who lives alone), Bororo aredu koadureudo ‘woman alone/widowed,’ Burarra colexifies the relevant meanings, and there are semianalyzable terms where the identifiable constituent is ‘alone’ in Blackfoot and Yanomâmi. In the latter language, the relevant term colexifies ‘widow’ with ‘deprived of a loved one or goods,’ ‘with empty hands,’ and ‘orphan’ colexification with ‘orphan,’ as in one case in Indo-European according to Buck (1949: 131), is also encountered in Rendille, inter alia in Abzakh Adyghe, Chickasaw, and Wintu, where the relevant term lolcit also may refer to anyone in mourning, a ‘survivor,’ and someone possessed by the ghost of the deceased husband or wife, and hence ‘cursed,’ indeed, it is related to the root lol ‘bereaved, ghost of dead spouse or divorced spouse; orphan(ed), phantom.’ Similarly, Rotokas has virakoiva, with the gender/number marker -va ‘feminine singular’ for ‘widow’ and virakoito with -to ‘masculine singular’ for ‘orphan,’ a case of grammatical alternation. Toaripi has ua lelesi ‘woman unmarried,’ denoting “a woman without a husband (for any reason)” (which is also said of the relevant term in Swahili) and ‘widow’ and ‘unmarried (woman)’ are colexified in Efik, Buin, and Fijian. Khoekhoe has loa-tara-s ‘grieve-woman-3SG.FEM,’ and Biloxi a’xti a’tcode’ /a’xti’a’-tcode’/ ‘woman mourn.’ There are also other complex terms with one constituent being ‘woman’: Mbum has wĩĩyi ‘woman celibate’ (this term also sometimes refers to a “prostitute or widow who accept young boys to sleep with,” ‘widow’ and ‘prostitute’ are also colexified in Efik) and wĩĩ kil ‘woman single’ (compare colexification of ‘single’ and ‘widow’ in Welsh), Kowma has mibiya mima, where mima is ‘woman’ and mibiya refers to the state of having been married before but not anymore, due to death of the spouse or divorce, Kyaka has enda waiya (petene) ‘woman chopped (living),’ enda mee peta-mo doko ‘woman empty sticking-assoc that’ (this term has the variant etenbo peta-mo ‘single sticking-assoc’), Kosarek Yale youwok kelabo /youwi-ok kelabo/ ‘sterile-just/alone women,’ Chukchi janrajaw /janra-neu/ ‘separate-woman’ (note that the root *weidh- ‘separate’ is the origin of some Indo-European terms for ‘widow,’ Buck 1949: 131), Nivkh tyrmu-umgu ‘lonely woman,’ Cheyenne otōxaxel’e perhaps literally ‘uncovered woman,’ San Mateo del Mar Huave lemben omal najtaj, seemingly containing omal ‘point’ alongside najtaj ‘woman,’ Santiago Mexquititlan Otomi ra-nxu ‘one-woman,’ Hani miqcyuq /almiq-cyuy/ ‘woman-poor,’ and White Hmong poj-ntsuan ‘woman-destitute.one.’ In addition, there are semianalyzable
terms with a constituent meaning ‘woman’ and/or ‘wife’ in Berik, Dadibi, Japanese, Highland Chontal, Cubeo, Miskito, and Great Andamanese.

Other associations include: Buli pokong is also the name of a particular tree and its fruit, Hausa bazawara ~ zawara also denotes “anything which has been used and is to be re-used” inter alia, while Noni kpwwc ḷkf is appears to contain ḷkf ‘late.’ Buin rarupere also means ‘banana garden,’ Burarra colexifies ‘widow’ with “divorced or lone person,” Meyah ḏna mesina ‘widower’ is analyzable as ‘male string:bag,’ and Nunggubuyu ṅayi also denotes “any close kin of dead person” generally. Muna kowalun ‘widow in mourning period’ is related to walu ‘to shroud’ and kowalu ‘shroud,’ since in Muna culture widows are wearing a white sarong over their heads in the 100 day mourning period they undergo. Ngaanyatjarra wanakaarla may be related to wana ‘digging stick’ (compare Dixon 2002: 99 for this association in Australian languages), Yir Yoront thum-kawn(l) appears to be analyzable as ‘fire-grandchild,’ and yoq-warry-pann is analyzable as ‘tree-fellow:younger:sibling.’ Abzakh Adyghe pxəž is analyzable as /pxə-ž/ ‘girl-old,’ and Badaga kunde colexifies ‘widow’ with ‘woman’ generally (though this is archaic), and munđe also means ‘bad woman, bad wife.’ Ineseño Chumash unitax contains ‘unitax-‘to leave behind,’ while Wappo kâ:hanchóya, containing ƙá: ‘person,’ also may refer to a “lone:person, person without friends or family, poor person.” Central Yup’ik aipânęq is analyzable as /aipaq-(ng)lite-neq/ ‘partner/mate/spouse-lack:thing:that.results:from.’ Huambisa colexifies ‘widow’ with ‘sister-in-law/brother-in-law,’ while Fijian dawai also denotes “one who has none to care for him and her,” and Malagasy mpitòndra tènu is literally ‘one who carries oneself.’