9 *Body part metaphors*

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9.1 Introduction[1]

It is part of the human condition that people speak of what is happening in their minds by equating it with something familiar in the physical world. Although emotions are cognitive appraisals they are felt physically, and languages the world over tend to express them through body part metaphors. Body part metaphors (BPMs) can also serve as a useful way of expressing non-emotional cognitive states or processes such as believing, remembering, agreeing, etc. and of referring to temperamental qualities such as timid or lazy. They are widely used in the Oceanic-speaking world, as chapters 10 and 11 show.

The following are examples from a range of Oceanic languages.[2]

Adm:	Seimat	*patu ailan*	[head hard/strong] 'he is obstinate'
NNG:	Bukawa	*titaʔ gi-wing ai*	[belly.his it-accompany me] 'he loves me'
PT:	Kiriwina	*i-tutu vovo-gu*	[it-hammer body-my] 'I am excited'
MM:	Nakanai	*la hate-la mamasi*	[the liver-his salty] 'he is angry'
SES:	'Are'are	*rae hitari-a*	[liver strikes-it] 'understand'
NCV:	Mota	*lolo-bʷoŋ*	[insides-darkness] 'be ignorant, forget'
Mic:	Ifaluk[3]	*ye tewasi sexa-i*	[this be.torn belly-my] 'I am grief-stricken'

Particular feelings are expressed as a body part + a predicate, either verb, adjective or noun, specifying the nature of the feeling. The body part is inalienably possessed (§3.1.1). The BPM usually takes one of two syntactic shapes. In the first construction, the body part is subject of the clause and the modifying expression is the predicate. In the second, a compound is formed (e.g. Mota *lolo-bʷoŋ* above) which is then used as a predicate, and the affected person is typically the subject. Klamer (2001) finds both constructions in Central Malayo-Polynesian languages of eastern Indonesia, and it is reasonable to infer that they both occurred in Proto Central/Eastern Malayo-Polynesian, the shared ancestor of these languages and Oceanic, and were continued into POc.

Less often, the body part is object of a verb (e.g. 'Are'are *rae hitari-a* above). For purposes of comparison these expressions are generally given here in the way in which they are often included in wordlists, i.e. without grammatical elements.

[1] Particular thanks are due to Malcolm Ross for advice during preparation of this chapter. I have also benefitted from discussions with Paul Geraghty, Alan Jones and Ralph Lawton.

[2] Glosses given in square brackets are morpheme-by-morpheme glosses.

[3] Ifaluk is a Micronesian atoll whose speakers are closely related to those of Woleai. Its emotional domain has been described in detail by Lutz (1988).

In the examples of complex lexemes in this chapter and the following chapters, the same conventions are used as elsewhere. A monovalent (directly possessed) noun is shown with a final hyphen. Thus Takia *ilo-* 'insides' represents *ilo-g* 'my insides', *ilo-n* 'her/his/its insides' etc. In a few languages, e.g. Wayan Fijian, the possessor is marked by a prefix rather than a suffix, and the hyphen is thus initial rather than final. A transitive verb is also often shown with a final hyphen, indicating an object suffix, and verbs generally are sometimes shown with an initial hyphen, indicating a subject prefix. As a result, in a BPM a space between words is sometimes crucial. Thus in To'aba'ita *manata- ruarua* 'be undecided, of two minds' is a BPM in which *manata-* 'mind' + possessor suffix is the subject and *ruarua* 'be two' is the predicate, while *manata-ruarua* with the same meaning is a compound predicate.

The question to be explored here is whether expressions of this kind can be reconstructed for POc, and, if they can, what body-part nouns are implicated in these reconstructions. Reconstructions for specific terms for cognitive states, emotions and character attributes are found in chapters 10 and 11.

BPMs are one pattern for forming complex (polymorphemic) lexemes in Oceanic languages. Another widespread pattern is the serial verb construction.

9.2 Implicated body parts: POc **qate-* and **lalom*

Speakers of Oceanic languages typically identify emotions, temperamental qualities and some cognitive processes as emanating from either their liver, POc **qate-* (§3.7.6), or a quasi-body part, POc **lalo-/lalom* (vol.2:237), here translated as 'insides' or 'mind', although other body parts may be represented. Both are reconstructable at least as far back as PMP with both a literal and a metaphorical meaning.

9.2.1 POc **qate-*

A reading of the glosses in the following cognate set gives some idea of the breadth of the concept of POc **qate-* 'liver' in various Oceanic languages.

PAn **qaCay* 'liver' (ACD)

PMP **qatay* 'liver; seat of the emotions, inner self: core, mind, will, desire, feeling, intelligence, understanding; to want or wish; hollow of the palm of the hand or sole of the foot' (ACD)

POc **qate-* 'liver; seat of emotions and thoughts'

NNG:	Mbula	*kete-*	'liver; chest; place of (often uncontrolled) feelings, used in many BPMs describing emotional states'
NNG:	Gedaged	*ate-*	'heart (as will), the centre of one's being; loyalty'
NNG:	Bukawa	*ata?*	'belly, stomach (internal); seat of emotions'
PT:	Bwaidoga	*ase-*	'liver; seat of emotions'
PT:	Dobu	*ʔate-*	'liver, seat of emotion'
PT:	Motu	*ase*	'liver', used also in set phrase *ase kuro tauna* 'a white liver of a [= brave] man'
MM:	Nakanai	*hate-*	'liver, seat of emotion; solar plexus'
MM:	Tangga	*ete-*	'liver or solar plexus, the seat of the emotions'

SES:	Kwaio	*sae- ~ lae-*	‘liver’
SES:	Sa’a	*sae-*	‘heart, mind, liver, lungs, chest’
SES:	’Are’are	*rae-*	‘stomach, heart, liver, lungs, womb, mind, seat of affections, intention, will’
Mic:	Marshallese	*ac*	‘liver, spleen; seat of bravery’
Fij:	Bauan	*yate-*	‘the liver, considered as the seat of cowardice and courage’
Fij:	Wayan	*ate*	‘the liver, traditionally considered the locus of courage and fear’
Pn:	Rennellese	*ʔate*	‘liver’
Pn:	Tikopia	*ate*	‘liver; in man a seat of emotions in traditional belief’
Pn:	Maori	*ate*	‘liver; the seat of the affections; heart; emotion; spirit, high feeling’
Pn:	Hawaiian	*ake*	‘liver; to desire, yearn (the emotions and intelligence were thought to be centred in the body)’

Expressions based on **qate-* are numerous and include:

NNG:	Gitua	*ate mutu*	[liver broken] ‘surprised’
NNG:	Mutu	*ate i mot*	[liver it-broken] ‘surprised, shocked, heart-broken, taken aback’
		ate i zi	[liver it decreased] ‘rest, calm down’
		ate yabyab	[liver hurt] ‘longing for s.t. one cannot have’
NNG:	Bukawa	*ataʔ ŋade*	[liver -his hot] ‘angry’
PT:	Dobu	*ʔate-ʔeidaida*	[liver-crushed] ‘afraid; fear’
		ʔate-gu i pisali	[liver-my it-explode] ‘very angry’
PT:	Bwaidoga	*ase-bou*	[liver-dry] ‘courage, boldness’
		ase-ʔaulolo	[liver-in.pain] ‘be greatly affrighted/grieved/in anguish’
		ase-kolukolu	[liver-plucked] ‘alarm, terror’
PT:	Motu	*ase kuro*	[liver white] ‘brave’
MM:	Nakanai	*la-hate-la raga*	[the-liver-his leap] ‘he is startled’
		la hate-la mamasi	[lthe-liver-his salty] ‘he is angry’
SES:	Sa’a	*sae hiruʔa*	[liver busy/engaged] ‘preoccupied’
		sae asi	[liver throw.away] ‘forgive, neglect’
		sae tataʔala	[liver bad] ‘hate’
		sae rukeŋa	[liver joyful] ‘joy’
		sae ʔaelaŋa	[liver evil] ‘be evil-minded, greedy’
		sae maŋo	[liver finished] ‘mental satisfaction’
		sae huu	[liver sad] ‘grieve’
SES:	Kwaio	*lae-fou*	[liver-revealed] ‘brave, unashamed’
SES:	’Are’are	*rae riki*	[liver-sad] ‘be sad, sorry’
		rae hitari-a	[liver strikes-it] ‘understand’
Mic:	Marshallese	*eccelok acin*	[without liver] ‘he is not brave’
Fij:	Bauan	*yate dei*	[liver firm] ‘courageous’
		yate levu	[liver large] ‘cowardly’

Fij:	Wayan	*ate levu*	[liver large] ‘cowardly’
Pn:	Rennellese	*kai ʔate*	[eat liver] ‘talk badly about others, gossip’

It is worth noting here that while **qate*- emotion BPMs are numerous in Western Oceanic languages and Sa’a, and to a lesser degree in ’Are’are and Kwaio, they are scarce elsewhere. Motu, Marshallese and Bauan and Wayan Fijian reserve ‘liver’ for use in expressions of bravery and cowardice. François (2013:204) notes that reflexes of Proto Torres-Banks **vara* ‘liver’ are only used in daughter languages in expressions of awe and fear.[4] Although the liver is recorded as linked to emotion in four Polynesian languages, Rennellese, Tikopia, Maori and Hawaiian, compound terms containing a reflex of **qate*- have been found only in Rennellese (*kai ʔate* [eat liver] ‘talk badly about others, gossip’ and *hekaiʔki oku ʔate* [eat of one’s own liver] ‘be very angry’). Firth (1985) records that in Tikopia *ate* occurred only in ancient speech involving traumatic situations.

A number of languages have replaced their term for ‘liver’ in emotion and cognition BPMs with one for ‘belly’ or ‘heart’, terms that for our purposes here are regarded as equivalent. A Huon Gulf language, Yabem, uses *tɪtaʔ* ‘belly, bowels, stomach’ from *tɪ* ‘liver, lung’+ *taʔ* ‘excrement’, in its body part metaphors. While the Arosi dictionary glosses *sae* (from **qate*-) as ‘mind, heart, thought; only in phrases’, many relevant terms are instead compounded with *ahu* ‘belly, heart, mind, feelings’. Although Kwaio uses *lae* ~ *sae* for some emotions (*lae-fou* ‘brave, unashamed’, *lae-nia* ‘desire, like, love’), it uses *oga* ‘belly, mind’ for angry-type terms (*oga-lia* ‘be angry, sorry’). To’aba’ita uses *rake* ‘belly’ for expressions of anger, courage and fear. Lau also uses *rake* ‘stomach; heart, mind, seat of affections’ for expressions of anger: *rake aŋoaŋo* [belly hot] ‘be angry’, *rake ʔiri* [belly cut] ‘be violent, angry’, but extends it to other feelings: *rake diana* [belly good] ‘to be kind and generous’, *rake moumoula* [belly afraid] ‘timid, afraid’, *rake sasu* [belly smoking] ‘sulky’, *rake fanefane* [belly excited] ‘impetuous, in a hurry’. Other languages may equate ‘heart’ in this sense with ‘liver’ in some contexts. Two closely related North Coast languages Gedaged and Takia, apparently extend the meaning of *bube*-, a term for liver, to refer also to the heart as the seat of emotion.

9.2.2 POc **lalom*

The second term, POc **lalo*-, **lalom*, glossed ‘inside’ in volume 2 (p237), also occurs widely with the additional meaning ‘mind, seat of thoughts and emotions’. The form **lalo*- is the directly possessed (monovalent; §§3.1.1–2) form of the zero-valency noun **lalom*, and the latter is henceforth used in the text as a proxy for both forms. Dictionary glosses of reflexes of **lalom* refer to ‘mind’ in languages of North New Guinea, Papuan Tip, Southeast Solomonic, both North/Central and South Vanuatu, Micronesia and Fijian, and there are frequent examples of both emotional and non-emotional cognitive states in the metaphors collected.

[4] The Codrington-Palmer *Dictionary of Mota* notes that men ate the *varai* ‘liver’ of a corpse in order to get *mana* for courage and strength.

PMP **dalem* 'inside, interior; seat of emotions' (Blust 1993a: 'inside, interior')

PCEMP **dalәm* 'inside; mind, feelings' (Blust 2009b:66)[5]

POc *(N, N Loc) **lalo-*, **lalom* 'inside; seat of thoughts and emotions'

NNG:	Mutu	*lolo-*	'inside; metaphor for one's feelings, emotions, intentions'
NNG:	Gedaged	*ilon-*	'inside; seat of thought, will and emotions and therefore heart; mind, self, soul, contents of memory'
NNG:	Yabem	*(ŋa)lɪlɞm*	'inside; seat of emotions'
NNG:	Mbula	*lele-*	'insides; will; seat of emotions (mostly controlled)'
PT:	Motu	*lalo-*	'the inside; the mind'
		lalo-a	(VT) 'to think, remember'
PT:	Lala	*lalo-*	'the mind'
PT:	Muyuw	*nanon*	'mind, thoughts'
PT:	Kiriwina	*nano-*	'mind, intelligence'
MM:	Nakanai	*ilo-*	'inside'
SES:	Arosi	*raro-*	'the inside, inner part; the feelings, heart,mind, disposition'

PNCV **lolo-* 'inside; heart, seat of feelings and thoughts'

NCV:	Mota	*lolo-i*	'the inner part; the inward part of man, heart, affections'
NCV:	Nokuku	*lolo-n*	'in his heart'
NCV:	Lonwolwol	*lol*	'the seat of affections or feelings; the heart'
NCV:	Paamese	*ēn*	'inside, interior, middle; seat of some emotions, cognitive processes and body states'

PSV **leli-* 'heart, seat of feelings, insides'

SV:	Kwamera	*reri-*	'internal portion, insides, heart, mind, feeling, emotion'
SV:	Anejom	*lele-*	'heart, seat of emotions'

PMic **lalo-* 'seat of emotions, mind'

Mic:	Kiribati	*nano-*	'soul, conscience, hearts, will, desire, sentiment, opinion, conviction, disposition, inclination etc.'
Mic:	Mokilese	*lɔlɔ*	'inside'
Mic:	Woleaian	*raro*	'inside, mind, heart'

cf. also:

Fij:	Bauan	*loma-*	'inside: used in many compounds denoting temperamental qualities'

The following is a selection of terms containing reflexes of **lalo-* :

NNG:	Mutu	*lolo i taŋ*	[insides it weep] 'yearn for s.t.'
		lolo i sami	[insides it dirtied/ruined] 'be sad, lonely, downhearted, have pity'
		lolo i gur	[insides it placed] 'think about, concentrate on'

[5] Blust (2009:66) suggests that inclusion of 'mind' in reflexes of PMP **dalem* is an innovation of CEMP languages.

NNG:	Gedaged	*ilo-n gage*	[insides-his bare/enlarged] ‘rational, logical, intelligent, shrewd, astute’
		ilo-n daŋan	[insides-his entire] ‘wise, considerate, determined, energetic, forceful’
		ilo-n kebaze	[insides-his crosswise] ‘thwarted; astonished, at a loss, wondering’
NNG:	Yabem	*(ŋa) wapaʔ*	[(its)insides heavy] ‘grief-stricken’
NNG:	Mbula	*lele isāna*	[insides deteriorate] ‘feel sorry for s.o., compassionate’
		lele a^{m}bai	[insides good] ‘happy, contented, at peace; grateful; free from worry, care, anger or sorrow’
PT:	Motu	*lalo-haraga*	[insides-quick/easy] ‘eager’
		lalo-siahu	[insides-hot] ‘angry’
		lalo-hesiku	[insides-unwilling] ‘disheartened, fed up, weary of’
		lalo-auka	insides-firm] ‘self-restrained, fearless’
		lalo-haguhi	[insides-thinking.about] ‘anxious; consider’
		lalo-metau	[insides-heavy] ‘unwilling’
		lalo-tamona	[insides-in.unity] ‘agree’
PT:	Lala	*lalo nama*	[insides fat] ‘happy’
MM:	Nakanai	*ilo-buruko*	[inside-sad] ‘mournful, sad, disturbed’
		ilo-vilovi	[insides-greedy] ‘greedy’
		ilo-tavu	[insides-summon/grasp] ‘mindful’
NCV:	Mota	*lolo-anu*	[insides-irritated/annoyed] ‘ill-feeling’
		lolo-magarosa	[insides-pity] ‘merciful’
		lolo-wia	[insides-good] ‘good-hearted, kindly’
		lolo-malumlum	[insides-gentle] ‘soft-hearted, of easy temper’
		lolo-varuarua	[insides-in.two.directions] ‘doubtful, hesitating’
		lolo-gagara	[insides-bite/itchy] ‘angry, irritated’
		lolo-maran	[insides-daylight] ‘enlightened, intelligent; remember’
		lolo-b^{w}oŋ	[insides-darkness] ‘ignorant; forget’
		lolo-wono	[insides-blocked] ‘sad, sorrowful, melancholic’
NCV:	Paamese	*ēn mese*	[insides clear] ‘remember’
		ēn voboŋ	[insides in darkness] ‘ignorant; forget’
		ēn-von	[insides-blocked] ‘surprised, fall unconscious’
		ēn māhisi	[insides pity] ‘feel sorry for’
		ēn kās	[insides sweet] ‘happy’
NCV:	Araki	*lolo-koru*	[insides-dry/desiccated/burnt] ‘angry’
NCV:	Tamambo	*lolo-korukoru*	[insides-drying.out/dying] ‘cross, angry’
		lolo-jivo	[insides-go.down] ‘patient’
NCV:	Nokuku	*lolo-n oora*	[insides-its dark] ‘forget’
SV:	Kwamera	*reri-ragien*	[insides-??] ‘happy’
		reri-rarhi	[insides-??] ‘remember, recall’
Mic:	Kiribati	*nano-aŋa*	[insides-warm] ‘compassion, pity, sympathy (*aŋa* ‘to warm oneself at fire’)

		nano-puaka	[insides-bad] ‘resentment, bitterness, rancour, spite, ill-feeling’
		nano-ata	[insides-skull.of.dead] ‘to have foreboding, suspicion’
		nano-matoa	[insides-firm] ‘strong-willed, strong, constant, energetic’
		nano-kawa	[insides-miserable/pitied] ‘unhappy, sad, desolate, broken-hearted’
		nano-paraki	[insides-capsized/turned over] ‘dejected, discouraged, cast down’
		nano-mano	[insides-impervious, water-tight] ‘discreet, deep, sly, sullen’
		nano-mara	[insides-decomposing.fish] ‘disgusted, sick, discouraged’
Mic:	Woleaian	*raro-ilaŋi*	[insides-typhoon] ‘be worried, frightened, insecure’
		raro-mʷeiu	[insides-period.of.time] ‘feel sad, lonely’
Mic:	Mokilese	*lɔ-leid*	‘lonely, homesick’
		lɔ-mʷ	‘afraid, wary’
Mic:	Chuukese	*ɾɔɾīreɾ* (*ɾɔɾu-iɾeɾ*)	‘sorrow, concern, regret, unease, worry’
		ɾɔɾɔwɔ (*ɾɔɾu-wɔ̄*)	[insides-face] ‘feel spiteful, envious’
Fij:	Bauan	*loma-ðā*	[insides-bad] ‘evil-minded, malicious’
		lomaloma-rua	[insides-double] ‘be in two minds’
		loma qā	[insides shell-hard] ‘hard-minded, headstrong’
		loma kasa	[insides immobile] ‘have retentive memory’

It is worth noting from the above that few BPMs have been located from Meso-Melanesian languages and none from the Southeast Solomons. Gaps in the former may be due simply to lack of data, while in the latter, terms other than **lalom* reflexes are now used. Although Arosi has a reflex of **lalom*, its role in BPMs of emotion is filled by *ahu* or *hau* both forms glossed ‘belly, mind, feelings, particularly in compounds’.

9.3 Terms implicating other body parts

As well as varying their term for ‘liver’ by employing a broadly equivalent term such as ‘belly’ or ‘heart’, as in Yabem, Gedaged, Takia, Kwaio, Lau, Arosi and To’aba’ita and no doubt others, languages may also use other body part terms, particularly those for ‘mouth/voice’ and ‘face’, as these body parts play a significant role in expressing feeling. Takia (NNG) speakers, for instance, use *awa-* ‘mouth, voice’ (from POc **qawa* ‘mouth, opening’; §3.4.12.3) in BPMs meaning ‘agree’, ‘obey’ (follow s.o.’s mouth), ‘believe’, ‘accuse’, ‘promise’ and ‘answer’.

In Takia (Ross, pers. comm.) although the majority of terms to do with the emotions and the mind come from *ilo-* (from POc **lalo-*), smaller roles are played by *bube-* ‘liver’ (replacing *ate-*), *awa-* ‘mouth, voice’ and *nao-* ‘face’ (from POc **nako-*; §3.4.7).

NNG:	Takia	*ilo- wei*	[insides- many] ‘be in doubt’
		ilo- murua-	[insides- heavy-it] ‘be sad’
		bube- yai i-nani	[liver fire it-cook] ‘very angry’
		bube- sakar	[liver hard/firm/strong] ‘hard-hearted, stubborn’

awa- i-loŋ	[mouth it-follow] ‘obey, believe’
awa-uraru	[mouth-two]‘two-faced, hypocritical’
nao- i-didi	[face- it-swell] ‘be stony-faced, impassive’

In Kiriwina (PT; Lawton n.d.), BPMs that refer to a person’s feelings and inner states may come from the body (*vovo-*, from PWOc **popo-* ‘the complete skin’; §3.2.1), mind (*nano-*[6]), belly (*lopo-*), head (*daba-*) and eye (*mata-*, from POc **mata-*; §3.4.9.1). Thus:

PT:	Kiriwina	*i-tutu vovo-gu*	[it-hammers body-my] ‘I am excited’
		i-kubukubu nano-gu	[it-quivers mind-my] ‘I am astonished’
		i-yowa lopo-la	[it-flew belly-his] ‘He leapt in surprise’
		i-kapisi lopo-la	[it-feels pity belly-her] ‘She is sorry/mourns/ feels pity’
		i-minimani daba-la	[it-tough/strong head-his] ‘he is stubborn’
		i-gibu mati-la	[it-passive eye-his] ‘he sulks, is sullen’

Lawton lists numerous examples of near synonyms where only the body part is varied (e.g. *i−mama mati-la* [it-weary eye-his] vs *i-mama nona* [it-weary mind] and others where different contexts are appropriate (*iluva nona* [body happy through shared food] vs *i-bʷaina nona* [it-good mind] vs *i-mʷasila nona* [it-shy mind], all three loosely translated by ‘happy’. Many such metaphors are capable of varying interpretations and may require context of situation to be fully understood. By such means, Kiriwina speakers have hundreds of ways in which they can express mental states.

The adoption of other body part terms has evolved in various ways in daughter languages, muddying further a straightforward division between **qate-* and **lalom* BPMs. In Papuan Tip and Southeast Solomonic languages, specific terms for ‘mind’ serve as the base term for mental states. A number of Papuan Tip languages have largely replaced **lalo-* reflexes with reflexes of PPT **nua-*, reflecting POc **nuka-* ‘mind, thought’ (§10.3), in labelling their mental states while retaining their **qate-* reflexes.

PT:	Dobu	*nua-yai*	[mind/insides-hold.firmly] ‘remember’
		ʔate pisali	[liver explode] ‘very angry’
PT:	Kukuya	*nua vi-avini*	[mind/insides it-hold] ‘remember s.o., s.t.’
		nua-pania	[mind/insides-harden] ‘forget s.t.’
PT:	Bwaidoga	*nuwa aboda-na*	[mind/insides untidy/uncleared-it] ‘closed mind’
		ase kolukolu	[liver plucked] ‘alarm, terror’
		ate-vatu	[liver-strong] ‘being unmoved, bold, brave’

The two reflexes in combination may have originally meant feeling something ‘inside the liver’:

PT:	Dobu	*ʔate-nua-ʔoleʔole*	[liver-inside-pity] ‘compassion’
PT:	Kukuya	*ate-nuanuai*	[liver-inside-at] ‘have compassion, sympathy’

Some Malaitan languages of the southeast Solomons, (Lau, Kwaio and To’aba’ita) use reflexes of POc **manaca(m)* ‘think, understand, think about…’ (§10.3), glossed below as ‘mind’ as a base term for temperamental qualities and cognitive states. (Gela has *manaha* ‘to

[6] Although Kiriwina *nano-* ‘mind’ is not the expected reflex of POc **lalo-* ‘inside’, it may have been borrowed from a regular reflex of **lalo-* in another PT language in which *l > n.

know, understand, appreciate', but no compounds are listed.) 'Are'are speakers use it rather to describe behaviour.

SES:	Lau	*manata buro*	[mind rust] 'forget'
		manata ofu	[mind together/whole] 'have common sense'
		manata mamana	[mind true] 'believe'
SES:	Kwaio	*manata fana*	[mind hunt] 'think about, remember'
		manata dalia	[mind find] 'remember, recall'
		manata ʔafu	[mind complete] 'know all about'
		manata oli	[mind return] 'have second thoughts about'
SES:	To'aba'ita	*manata dora*	[mind not.know] 'forget s.t.'
		manata leqalā	[mind goodness] 'good thinking, wisdom'
		manata kuluqalā	[mind heavy] 'sadness'
SES:	'Are'are	*manata siani*	[behaviour good] 'behave correctly'
		manata ori	[behaviour returned/changed] 'correct oneself'

The term for mouth/voice seems to have evolved into voice/throat independently in different places, occurring in non-cognate form as a base term in Mapos Buang (NNG), some southeast Solomonic languages (Gela, Bugotu, Lau and To'aba'ita), the Vanikoro languages of Temotu, and Marshallese. This may have evolved from the belief that the mind resides in the throat or larynx, as described by Malinowski for Kiriwina.

Malinowski, describing Trobriand Island magic, writes:

> The mind, *nanola*, by which term intelligence, power of discrimination, capacity for learning magical formulae and all forms of non-manual skill are described, as well as moral qualities, resides somewhere in the larynx. The natives will always point to the organs of speech, where the *nanola* resides. ... The memory, however, the store of formulae and traditions, learned by heart, resides deeper, in the belly. A man will be said to have a good *nanola* when he can acquire many formulae, but though they enter through the larynx, naturally, as he learns them, repeating word for word, he has to stow them away in a bigger and more commodious receptacle; they sink right down to the bottom of his abdomen. (1922:408-409)

Senft, whose Trobriand fieldwork was carried out some seventy years after Malinowski, records a similar belief. His informant explained what happens when he whispers his magic formulae. As Senft translates it, "If I whisper magic, the magic(al formula) will go from the belly to my larynx and then I whisper magic. I speak (the) magic(al formula)." (1998:89). The larynx is thus recognised as the active agent or vehicle of the brain and mind.

That this belief is widespread is demonstrated by the following phrases recorded by Firth (1985) in his Tikopia dictionary:

> *te maanatu e fai i te manava, ki te atami* 'memory is produced in the belly by the mind'
>
> *te atami te taŋata ena i na manava, fenatu ki na ŋutu, muna rei* 'the thoughts of a person are there in his belly, come up to his mouth, and he speaks'

while a Woleaian term from Sohn & Tawerilmang's (1976) dictionary reinforces the same idea:

> *segali* (VT) 'remember it (in his stomach instead of his mind)'.[7]

Mapos Buang (NNG) has a term *kʷa-*, defined by Rambok & Hooley (2010) as 'neck, throat; mind, will; idea, thought', and reflecting POc **kʷa* 'say'. which occurs as a base in

[7] In our orthography *sexari*.

BPMs for emotions, including *kʷa-paya* ‘miserable, unhappy, sad’, *kʷa-pesivin* ‘sorry for/ compassionate’ and *kʷa-ketuin* ‘sorry, sad, depressed, miserable’ as well as for a number of temperamental qualities—*kʷa-srɛsk* ‘cunning’, *kʷa-veroq* ‘carefree’, *kʷa-tupin* ‘quick-witted’—and cognitive states (*kʷa luu* ‘doubtful’, *kʷa-seyohek* ‘confused’, *kʷa-virek(in)* ‘forget’.

The term for ‘throat’, found as a basis for emotion and cognition BPMs in Gela, Bugotu, Lau and To’aba’ita, reflects POc **liqoR* ‘neck, voice’. In Gela it appears to have become the generic base for all emotions while in Lau and To’aba’ita it may have referred to actual voice quality. It may also be simply a literal description of a physical state as in the Lau expression for ‘thirsty’, literally ‘dry throat’.

SES:	Gela	*lio padi*	[voice lacking] ‘confused, puzzled; ashamed’
		lio dika	[voice bad] ‘sad, sorry’
		lio papara	[hot voice] ‘keen, zealous’
		lio patu	[voice hard] ‘daring, brave’
		lio sakai	[voice one] ‘single-minded; faithful, loyal’
SES:	Bugotu	*lio sikei*	[voice one] ‘determined/resolute’
SES:	Lau	*lio rodoa*	[voice dark] ‘sad’
		lio sasu	[voice smoking/burning] ‘angry’
		lio mābe	[voice soft] ‘peaceable, quiet, meek’
		lio lalaŋa	[voice dry] ‘thirsty’
		ro si lio	[two of voice] ‘in two voices’
SES:	To’aba’ita	*lio dila*	[voice sliding] ‘be very sad, dejected, heartbroken’
		lio dora	[voice not.know] ‘forget s.t., forget to do s.t.’
		lio toqo	[voice learned/informed] ‘be knowledgeable, talented, gifted, wise’

The Vanikoro languages in the Temotu group also treat the neck or throat as the seat of emotions and feelings. Although terms for ‘throat’ are not cognate in the three languages quoted, semantic collocations are identical and morphosyntactic constructions largely correspond:

TM:	Vano	*warene gamitu i-tu*	[throat we it-blocked] ‘we are sorry/sad’
TM:	Tanema	*vasare gamuto i-to*	[throat we it-blocked] ‘we are sorry/sad’
TM:	Teanu	*awa kupa i-su*	[throat we it-blocked]] ‘we are sorry/sad’
		awa ene i-aka	[throat I it-blow] ‘I am angry’ (François 2009:120)

Marshallese, apparently alone among Micronesian languages, also uses ‘throat’ (*bōro*) as a base for temperamental qualities:

Mic:	Marshallese	*bōro jepel*	[throat diverging/separate] ‘disagree, non-co-operative’
		bōro kadu	[throat short] ‘short-tempered’
		bōro pejpej	[throat shallow] ‘fickle, unstable’
		bōro lap	[throat big] ‘wasteful, spendthrift’

François (2013:204) notes that Torres-Banks languages occasionally describe certain feelings using other body parts – such as the diaphragm (Proto Torres-Banks **mʷala*) for

surprise; the belly (**to^{m}b^{w}a*, from POc * *tob^{w}a-* 'belly, stomach'; §3.7.4) for desire; the liver (**vara*) for awe and fear, while the head (**b^{w}atu*, from POc **b^{w}atu(k)* 'head'; §3.4.2.2) refers to mind, intelligence: Mwotlap *ni-b^{w}ti na-wak* 'your head is open' , i.e. 'you're open-minded, you have a curious mind'.

In Proto Polynesian, POc **lalom* shifted its primary sense to 'under'. Its place was taken by PPn **loto*, both in the sense of 'inside' and, used with a modifying element, 'a particular kind of feeling, desire or disposition'.

Pn:	Tongan	*loto kovi*	'ill-disposed, disagreeable, malicious' (*kovi* 'bad, harmful, evil, wrong')
Pn:	Niuean	*loto kai*	'be greedy, selfish' (*kai* 'eat')
Pn:	Pukapukan	*loto kino*	'high-tempered, hard to calm down' (*kino* 'bad, awful')
Pn:	Samoan	*loto leaŋa*	'jealous, envious' (*leaŋa* 'bad, evil')
Pn:	Tokelauan	*loto-tele*	'brave, confident' (*tele* 'travel under sail')
Pn:	Hawaiian	*loko ʔino*	'merciless, cruel' (*ʔino* 'wicked, immoral, sinful')

As Gerber explains it in her exploration of Samoan emotion,

> The *loto* can perhaps best be described as a quasi-organ. When asked where their *loto* is, Samoans nearly always indicate their chests; in fact they are inclined to translate the word in English as 'heart'. They nevertheless recognise that the *loto* is not the same as the physical heart, *fatu*. In its function, the *loto* apparently serves as the origin of a number of feelings, desires and thoughts which arise inside a person. Some external circumstance will cause "something to happen" or "something to arise" in the *loto*. But Samoans believe that some things can simply grow in the *loto* for no apparent reason. (Gerber 1985:187).

For example,

Pn:	Samoan	*loto vāivai*	[*loto* weak/tired] 'timid'
		loto tele	[*loto* much] 'brave'
		loto malie	[*loto* sweet] 'cooperative, compliant'

Although Samoan has a nominalised verb, *laŋona* (from the verb 'to feel, perceive with the senses'), that groups together what we would refer to as feelings (anger, love) and sensations (pain), the more emotional *laŋona* can be distinguished by the fact that they are thought to occur in the *loto*, while physical sensations stem from the body (Gerber:187).

Polynesian languages have a way of identifying that a feeling is an enduring disposition rather than a transient emotion by substituting reflexes of PPn **aŋa* 'habit, custom, way of acting' for **loto*. Thus:

Pn:	Tongan	*loto fiemālie*	'contented, satisfied'
		aŋa fiemālie	'of a contented and easy-going disposition'.

This may lead to distinctions in meaning, as in

Pn:	Samoan	*loto leaŋa*	'jealous of, be envious of'
		aŋa leaŋa	'unkind, cruel'
		loto vāivai	'timid, afraid'
		aŋa vāivai	'gentle, mild-tempered'

9.4 The emotion/cognition continuum: **qate-* vs **lalom*

POc speakers wishing to express their feelings evidently had a choice between **qate-* and **lalom*, both reconstructed here with similar meanings. In this situation it is likely that they were used in subtly different ways. The two may be represented as lying at opposite ends of a continuum that spans emotions, temperamental qualities and non-emotional cognitive states, all involving some kind of mental processing but not all involving strong physical expression. For instance, there are feelings such as boredom and compassion and perplexity that may be described as both an emotion and a mental state, and if the continuum serves as a measure of physical expression these will be placed somewhere in the middle. It is apparent from the glosses given to the **qate-* reflexes above that **emotion** is emphasised rather than **mind** (mind is mentioned in the definition of the term only in SES languages). In contrast, the **lalom* reflexes refer to **mind** in all subgroups. Those Papuan Tip languages that use **nua-* 'mind/ insides' as a base for their cognitive states have used it to replace **lalom* reflexes while retaining their **qate-* reflexes. Closer examination of languages where we have reasonable amounts of data and where the relevant data is largely limited to BPMs using either 'liver/belly/ heart' or 'insides' may throw further light.

In his Gedaged (NNG) dictionary, Mager gives roughly equal space, numbering several dozen BPMs, to both those with *bube-* 'liver; heart as the seat of emotions, feelings, character', and those with *ilon-* (reflecting **lalom*) 'insides; seat of thought, will and emotions, and therefore in this sense the heart; mind, self, contents of memory'. Overwhelmingly, emotions accompanied by strong physical feeling (gleeful, distraught, discouraged, in turmoil etc.) and temperamental qualities (cowardly, proud, meek) are linked with *bube-*, while mental states and processes (comprehend, determine, reflect, decide etc.) occur with *ilon-*.

Takia, closely related to Gedaged, also divides the field between *bube-* 'liver; heart as the seat of emotions, feelings, character' and *ilo-* 'insides; seat of thought, will and emotions' (Bruce Waters, unpublished vocabulary). Although in broad terms *bube-* is used for emotions such as 'amazed, 'very angry, 'heart-felt satisfaction, and 'hard-hearted, it is found in fewer than 20 BPMs; *ilo-* with over 200 examples, has a far wider range, including 'desire', 'forget', 'forgive', 'tempt', 'worry', 'dislike', 'believe', 'agree', 'delight', 'be happy', 'afraid', 'confused', 'sad', 'relieved', 'confident' and so on, feelings that might be thought of mainly as states of mind rather than emotional states.

Bugenhagen (2001) has endeavoured to summarise the situation in another NNG language. In a comparison between the various body part terms employed in Mangap-Mbula, Bugenhagen (p95) writes that body image expressions containing *kete* 'liver, chest' (from **qate-*) never express pure cognition. He adds (p96) that "the preeminent emotional function of *kete-* is to express rash, impetuous responses which are not well thought through, and strong emotions like anger". In contrast, *lele* (from **lalom*) is rarely used to express any sort of physical sensation or experience. The examples he gives with *lele* (pp87–94) include more controlled emotions like feeling contented, sorry for someone, troubled about something, anxious, relieved, and a variety of cognitive functions like choosing, doubting, approving.

NNG:	Mangap	*kete imap*	[liver end] 'be astonished, have one's breath taken away'
		lele iurur	[insides be.putting] 'perplexed, not knowing what one wants to do'

	lele iᵐbol	[insides strong/firm] ‘not easily persuaded to do things’.

Very few Nakanai BPMs are found in Chowning’s (2014) data, but those few support the theory that in general **qate-* is favoured for impetuous, strong emotions while **lalom* is preferred for non-emotional cognitive concepts:

MM:	Nakanai	*la hate-la raga*	[the liver -his leap] ‘he is startled’
		la hate-la mamasi	[the liver -his stinging/burning/salty] ‘he is angry’
		ilo-buruko	[insides-sad] ‘mournful, sad, disturbed’
		ilo-vilovi	[insides-greedy] ‘greedy’
		ilo-tavu	[insides-summon/grasp] ‘mindful’

However, there are examples from Yabem that indicate that the choice between ‘belly, bowels, stomach’ or ‘insides’ is made on grounds that are more difficult to discern. Zahn & Streicher’s Yabem dictionary lists about two dozen BPMs based on *ŋalılɔ̃m* ‘inside; heart, as seat of emotions’ (from **lalom*) and over a hundred based on *têtaʔ* ‘belly, bowels, stomach’ whose meaning is perhaps better captured by ‘guts’. A striking property of these is that a dozen or so entries can be used with either base term, with little or no apparent change in meaning:

NNG:	Yabem	*tɪtaʔ lulu*	[guts.his twofold] ‘he is in doubt’
		ŋalılɔ̃m lulu	[his.insides-twofold] ‘he is in doubt’
		tɪtaʔ kekaʔ aɪ	[guts.his pulls me] ‘I feel compelled’
		ŋalılɔ̃m kekaʔ aɪ	[insides pull me] ‘I feel compelled’
		tɪtaʔ ŋawapaʔ	[guts.his heavy] ‘anxious, depressed, grieves, mourns’
		ŋalılɔ̃m ŋawapaʔ	[his.insides heavy] ‘heavy-hearted, full of sorrow, dispirited’
		tɪtaʔ ŋadani	[guts.his thicket] ‘disinclined, is uneasy, anxious, has misgivings, unwilling, uncooperative, ungrateful’
		ŋalılɔ̃m ŋadani	[his.insides thicket] ‘hard-hearted, inaccessible, reserved, taciturn’
		tɪtaʔ kɪtu malɔ̃	[guts.his it.stand peaceful] ‘contented, happy’
		ŋalılɔ̃m kɪtu malɔ̃	[his.insides it.stand peaceful] ‘appeased’.

Choice of term here evidently depends on finer points of personal interpretation of circumstances, unknown to those outside the situation. Perhaps for some emotions the speaker can choose whether to emphasise the physical nature of the feeling by using *têtaʔ* (e.g. ‘happy’) or indicate that other circumstances are involved by using *ŋalêlôm* (e.g. ‘appeased’).

Further insight is raised by McElhanon (1977) regarding the relative uses of ‘belly’ vs ‘insides’ in Selepet, a non-Austronesian language of the Huon Gulf whose expressions closely parallel those in this chapter. McElhanon writes:

> A working assumption is that the cognitive space allotted to the psychological function of any given body part is discrete. Therefore, if a lexicographer cites two or more body parts as

> constituting, for example, the 'seat of the emotions', it is possible that some basic and distinctive feature of the system has been overlooked. In the early stages of Selepet lexicography the analysts listed both the 'belly' and the 'inside' as representing the seat of the emotions. This was only superficially true because further investigation revealed that the former represents one's emotions in a sociological context and expresses such feelings as generosity, approval, desire, lust, jealousy, loneliness, pity, selfishness, and reconciliation. The latter reflects one's personal attitude or frame of mind and expresses feeling and attitudes such as diligence, faithfulness, tenacity, eagerness, anticipation, excitement, satisfaction, despair, anxiety and regret. Furthermore, it is used of one's emotions and attitudes about others only if they are members of one's immediate family. (McElhanon 1977:10)

The insights of Bugenhagen and McElhanon indicate that the distinction in meaning between 'belly/liver' and 'insides' may be very subtle, possibly varying from language to language, and difficult to identify even by those with a close familiarity with the language. Dictionary definitions do not provide enough scope for a researcher to identify such subtlties. Perhaps the best that can be claimed is that, in POc daughter languages, emotions accompanied by a strong physical sensation are more likely to be linked with **qate-* reflexes while non-emotional mental states tend to use reflexes of **lalom*. However, choice of term may be influenced by finer points of personal interpretation or other circumstances, unknown to those outside the situation. The question of POc usage can probably not be more clearly defined without detailed semantic analysis of a range of languages across the Oceanic region, far beyond the scope of the present study.

However, notwithstanding the above, **qate-* remains preeminently the source of bravery in its reflexes. The only qualities expressed by **qate*-based metaphors in Motu, Marshallese, and Bauan and Wayan Fijian, are those to do with bravery or its lack:

PT:	Motu	*ase kuro*	[liver white] 'brave'
Mic:	Marshallese	*eccelok acin*	[liver without] 'he is not brave'
Fij:	Bauan	*yate levu*	[liver big] 'coward'
		yate lialia	[liver foolish] 'courageous'
Fij:	Wayan	*ate levu*	[liver big] 'coward'.

9.5 The modifying terms

When used as a general expression of emotion, i.e. without additional contextual information, the modifying terms tend to cluster around a limited number of physical attributes, e.g. (be) 'good', 'bad', 'heavy', 'big', 'hot', 'hard' and so on, terms that metaphorically evoke the physical state of the experiencer when feeling happy, sad, angry and so on. Reflexes of POc **p$^{(w)}$atu* 'outer shell, skull' (§3.4.2.1), by extension, 'firm, strong, unyielding', are readily applied to qualities like 'stubborn' or 'brave'. More extreme emotions can be expressed more vividly—a Lau BPM meaning 'angry/violent' is *rake ʔiri* (*rake* 'heart, mind, seat of affections'; *ʔiri* 'to chop up; impale'), while Samoan *loto-momomo* 'grief-stricken' includes *momomo* 'smashed in pieces'. Others like Lau *lio rodoa* [voice dark] 'sad' and *lio mābe* [voice soft] 'peaceable, quiet, meek' literally describe voice quality. Expressions of sadness may include a verb meaning 'hang the head', e.g. Gela *lio ligi (lio* 'seat of emotions'; *ligi* 'descend'). The Lau BPM for 'envy/jealousy' is *ŋunu-ŋunu*, from *ŋunu* 'to murmur, whisper'. The Mota expression *lolo suwa-suwa* 'loathing, feeling of repulsion' includes *suwa* 'bow down and draw back'.

However, the biggest difficulty in capturing adequate translations of these metaphors is that modifying words with the same basic meaning are capable of varying English interpretations. Reflexes of POc **wai-waiR* 'watery' are found in Samoan *loto vāivai* 'timid, faint-hearted', while its Tokelauan cognate, *loto vāivai* is glossed 'discouraged, unhappy'. Mota *vara lava* and Bauan Fijian *yate levu* both have the literal meaning 'liver big' translatable as 'coward, cowardly' while Tongan *loto lahi* (*loto* big) is given the opposite interpretation, 'brave/bold/determined'. Bauan Fijian has two expressions that may be roughly translated as 'courageous': *yate dei* ('firm, unwavering liver') and *yate lialia* ('mad, foolish liver'), thus including additional components of meaning not present in the English term. Conversely, Yabem (NNG), Kiriwina (PT) and Mota (NCV) all use a verb translated as 'quiver' to express an emotion, but in Yabem the emotion is nervousness, anxiety (*ŋalılɔm ŋagogo* 'my inside quivers'), in Kiriwina the emotion is astonishment, (*i-kubukubu nano-gu* [it-quiver mind-my] 'my mind quivers'), and in Mota the emotion is shame, shyness (*ape-maragai* 'my heart quivers').

9.6 Conclusion

Although a mere two POc reconstructions are identified in the following chapters—**lalo- rua-rua* 'be of two minds, undecided, have doubt' (§10.8) and **qate- p$^{(w)}$atu* 'brave' (§11.3.2.1)—there is ample evidence across subgroups of particular feelings or thoughts being expressed by BPMs that share the same underlying metaphor. Expression of such concepts in this way is a well-established feature of Austronesian languages, apparently as far back as Proto Austronesian, as BPMs encoding emotions are found in Tsou (Huang 2000), which scholars agree is either part of a three-language first-order Austronesian subgroup or a first-order subgroup in its own right. Blust (ACD) has partially reconstructed several PMP terms *X *qatay*, where the BPMs are consistently translatable as 'afraid' (literally 'small liver'), 'brave, courageous, proud, arrogant' ('big liver'), 'angry, furious' ('burning liver'), 'full of malice' ('rotten liver'), 'resentful, offended' ('sick, hurt liver') and 'pure-hearted' ('white liver'). The modifying terms are not all cognate, but they share the same meaning. Klamer (2001) suggests that *eti* 'liver' (from PMP **qatay*) was the Kambera (CMP) term for 'seat of emotions', whilst the corresponding term in Buru (CMP) was *lale-* 'inside', cognate with POc **lalom*. It is thus reasonably certain that BPMs with both **qate-* and **lalom* were inherited into POc from an earlier Austronesian interstage.

Our inability to reconstruct more BPMs than are presented here can be attributed to several factors.

- the tendency inherent in us all, but perhaps particularly so among people with a strong rhetorical tradition, to continually rework the images contained in metaphors so that they remain vivid. Perhaps this is the reason that base terms other than **qate-* and **lalom* are often replaced by, for example, terms meaning 'mind', 'voice' or 'throat'.
- the tendency of daughter languages to divide up the **qate-*/**lalom* continuum in idiosyncratic ways.
- the fact that we are seeking to reconstruct ways in which POc speakers lexified their emotional spectrum by dictionary searches - that is, by looking first for equivalent terms for English words.

Expanding on the third point, qualifying words are capable of varying interpretations, as illustrated in §9.5 above. A Tokelauan speaker's expression *loto vāivai* may be translated in one place by 'weary', in another by 'discouraged, unhappy'. In other words, there is no precisely defined relationship that holds between a metaphor and its physical attribute. English translations may seize on one aspect of a word's meaning, but ignore other equally valid interpretations. The only instances where a one-to-one relationship may hold across languages is where a numerical modifier is used, as in the cognitive concepts 'to doubt' and 'to agree'. Here 'to doubt' is expressed literally as 'to be of two minds', and 'to agree' is 'to be of one mind' (§§10.8–9). Terms collected across the Oceanic-speaking world for these two expressions show remarkable uniformity of gloss: the English translation is semantically an exact fit.

Compound expressions for emotions, temperamental qualities and some cognitive states have only been recorded in a small number of the available dictionaries, and those listed are undoubtedly only a fraction of those in use. But dictionary translations are rarely adequate for the purposes of this chapter and chapters 10 and 11. Oceanic speakers may lexify the emotional spectrum in ways that differ significantly from an English speaker. For instance, a Kiribati term is *nano-mano*, defined by Sabatier (1971) as 'discreet, deep, sly, sullen' (*nano* 'inside, disposition etc.', *mano* 'impervious, water-tight'). To an English speaker these character traits are quite distinct in meaning, and although some shared element of meaning can be identified, there is no English term that encompasses them all. Consequently, it must be recognised that any comparison of dictionary terms with similar English glosses is a poor substitute for comprehensive discussion of such terms on a language-by-language basis.

White (1985:329) argues that "with a topic as complex, affectively charged, and socially significant as this (the linguistic expressions for personal characteristics or emotions), analysis of language quickly moves from the study of referential semantics to questions of inference and pragmatics".

And such matters are beyond dictionary definitions.

10 *Cognition*

MALCOLM ROSS AND MEREDITH OSMOND

10.1 Introduction

A cognition verb like 'know', 'think', 'understand' or 'remember' denotes a concept that speakers are aware of because it denotes an event within their own minds, but often has only indirect correlates in the perceived world. As a result, speakers of different languages classify cognitive events in rather different ways, requiring us first to gain some insight into how speakers of present-day Oceanic languages classify these events.

English cognition verbs tend to cover a range of events. The verb *think* has a considerable range of meanings:

1. *Don't talk to me—I'm thinking.* (cogitation)
2. *I think John stole the key.* (belief, opinion)
3. *I didn't think of it* ('I forgot it.')
4. *I thought I would go shopping* (intention)
5. *I keep thinking about poor Mary* ('I'm worried because she is ill' OR 'I'm saddened by her death' OR 'I would like to be with her')

To be sure, a native speaker disambiguates each meaning in context. The progressive aspect in the present tense (… *am thinking*) in (1) indicates that this is thinking in the sense of cogitation. The complement clause (… *I would go shopping*) in (4) points to intention.

There is probably no other language in the world with a verb whose range of meanings exactly corresponds to those of English *think* (not even close neighbours like French or German do), but many of our sources give English glosses consisting of a single cognition verb like 'think', leaving us ignorant of how the verb thus glossed is used.

To gain insight into how speakers of present-day Oceanic languages classify cognitive events, we have first tried to ensure that we compare like with like semantically. A list of semantic frames for cognition terms was drawn up. A semantic frame is a description of an event, relation, or entity and the participants involved in it.[1] Making the list was a two-step procedure. First, the FrameNet website[2] was consulted. It provides semantic frames for a very large number of English lexemes and, for example, distinguishes the various senses of English

[1] Semantic frames are part of Frame Semantics, a theory of meaning deriving from the work of Charles J. Fillmore (see especially Fillmore 1982, 1985, Croft & Cruse 2004:8–22 and *passim*.).

[2] https: //framenet. icsi. berkeley. edu/fndrupal/.

think. Second, frames were defined that reflect meanings found in dictionaries of Oceanic languages for cognitive states and activities. Semantic frame labels appear below in small capitals. Terms for each frame were found in dictionaries of four Oceanic languages: Nakanai (MM; Chowning 2014), To'aba'ita (SES; Lichtenberk 2008), Mwotlap (NCV; François 2012) and Wayan Fijian (Pawley & Sayaba 2003) and are tabulated in the sections on knowing (§10.2), thinking (§10.3) and remembering (§10.5). This constituted a check of the appropriateness of the list of frames and of their possible representation in POc. In the event, several cognition frames that were supported by dictionary glosses did not lead to the reconstruction either of forms or of metaphorical structures, and they are omitted here. These include 'not know, be ignorant' (often a simple verb), 'think about, long for', 'be on one's mind, have s.t. on one's mind', 'remember to do s.t.', 'forget to do s.t.', 'hope' and 'expect'.

A larger language sample would have been ideal, but identifying semantic frames requires sentence examples. These are absent from Chowning (2014), but the latter is the best available dictionary of a MM language. Because semantic frames are subject to borrowing by bilingual speakers, and NNG and PT languages have all been in contact with Papuan languages at various points in their histories, they are probably poor indicators of POc's frames and were therefore excluded from the sample, meaning that WOc could be appropriately represented only by a MM language.

There is a tendency for terms denoting abstractions to be metaphors that refer to less abstract concepts. Metaphors in turn are often encoded by complex lexemes; that is, lexemes made up of two or more simple lexemes. Complex lexemes include body-part metaphors (BPMs; ch.9), serial verb constructions (SVCs),[3] and compounds derived from either of these, and apparently these have long been productive lexeme-creating devices, as they are also present in Central Malayo-Polynesian and South Halmahera/West New Guinea languages and were apparently constructions of Proto Central/Eastern Malayo-Polynesian. We can be sure that complex lexemes with these structures occurred in POc.

Each section below discusses a single cognition frame or a set of related frames. Sections discussing further frames could be added, but these would not contain reconstructed forms. They would at best list the meanings of complex lexemes together with supporting data, and these are already well enough represented in the chapter.

10.2 Knowing

Verbs encoding three semantic frames denote knowledge in Oceanic languages:

- AWARE, e. g. 'I know that he is coming.'
- ACQUAINTED, e. g. 'I know him well.'
- EXPERT, e. g. 'I know how to plant yams.'

[3] Oceanic SVCs are described by Crowley (2002) and in the contributions to Bril & Ozanne-Rivierre (2004).

Their distribution across verbs in the four witness languages is shown in Table 22.[4] In Mwotlap, Wayan and To'aba'ita one verb is used for all three frames, but To'aba'ita also has dedicated EXPERT verbs. Nakanai has distinct verbs in each frame, but the AWARE verb *rovi* also occurs in the ACQUAINTED compound *rovi-lala*. The morpheme *-lala* is perhaps related (diachronically, at least) to *lalai* 'to try (to do s.t.)'. If so, it has a similar meaning to To'aba'ita *toʔo*, which means 'to try, test' in a number of compound verbs (§8.5) including apparently *θaitoʔoma-* 'know', but does not occur independently.

Table 22 Verbs of knowing in the four witness languages

	AWARE	ACQUAINTED	EXPERT
	'know (s.t. /that …)'	'know/recognise (s.o.)'	'know/learn (how to …)'
Nakanai	***rovi***	*mata-kilala* [look-(know)] ***rovi**-lala* [know-?]	*tahai, mari*
To'aba'ita	***θai-toʔoma-*** [(know)-?]		***θaitoʔoma-***, *filo-, filoŋani-, maʔalutani-* [eye-?], *dau-fīfirisi-* [? -thoroughly]
Mwotlap	*eɣlal*		
Wayan	*kilāti-*		

The glosses on the second line of Table 22 are intended to capture the fact that in certain contexts (e. g. in the presence of a perfective marker) ACQUAINTED and EXPERT verbs often have dynamic punctual senses, respectively 'recognise (s.o.)' and 'learn (how to …)'.

The POc 'know' verb with the most widely distributed reflexes is **kilala*. It appears to have had AWARE, ACQUAINTED and EXPERT senses, to judge from the more specific glosses in the cognate set below, but it is difficult to be certain. WOc glosses match the PMP gloss, ACQUAINTED. The trisyllabic form is unusual, and there is reasonable evidence for a transitive alternant **kila-i-* from which the third root syllable was deleted.

PMP **kilala*, 'know (a person), recognise, be acquainted with; feel, perceive' (ACD)
POc (VI) **kilala*, (VT) **kilala-i-*, **kila-i-* 'know'

Adm:	Mussau	*kile*	'know'
NNG:	Lukep (Pono)	*-kil-*	'recognise'
NNG:	Mangap	*-kilaala*	(VT) 'know well, recognise, be aware, understand'
NNG:	Manam	*-kilala*	'recognise'
NNG:	Bariai	*kilala*	(N) 'memorial, monument, mnemonic'
NNG:	Amara	*klele*	(VT) 'know'
NNG:	Aria	*-ile*	(VT) 'know (s.o.)'
MM:	Nakanai	*(mata)kilala*	'know, recognise (s.o.)
MM:	Madak	*kilem*	'know'

[4] Bolded verbs are identical across frames. Glosses in square brackets give senses of compound elements. Parentheses indicate that an element does not occur independently with this meaning, which is inferred either from occurrence in several compounds or from cognates in closely related languages.

MM:	Kubokota	*ɣila-ɣila*	‘know’
MM:	Lungga	*ɣi-ɣila-i*	‘know’
MM:	Nduke	*ɣi-ɣile-*	‘know’
MM:	Roviana	*ɣilani-*	‘know’ (*-n-* for †*-l-*)
MM:	Hoava	*ɣilali-*	‘know’
SES:	Birao	*hila-hila*	‘know’
SES:	Lengo	*ɣila-ɣila-*	‘know’
SES:	To’aba’ita	*ʔilala*	‘perform divination’
SES:	Arosi	*ʔirara*	‘know, understand, perceive’
SES:	Owa	*ɣirara*	‘know’
TM:	Natügu	*klʌ*	‘know’
NCV:	N Ambrym	*kela*	‘know’
NCV:	Paamese	*kilea*	‘know, know how to, be able to’
NCV:	Lewo	*kilia*	(VT) ‘know, understand’
NCV:	Mota	*ɣilala*	‘know, understand’
NCV:	Mwotlap	*eɣlal*	‘know’
NCV:	Sakao	*köl*	‘look for, find’
SV:	Sye	*okili*	‘know’
NCal:	Nemi	*hina*	‘know’
NCal:	Iaai	*xanā*	‘know’

PMic **kila, kila-a, kila-i-* ‘know’

Mic:	Kosraean	*(a)kile(n)*	(VT) ‘notice’
Mic:	Kiribati	*kinā*	‘recognise, know’
		kina-i	(VT) ‘recognise, know’
Mic:	Marshallese	*kile-y*	‘recognise, realise, distinguish, be familiar with, identify, notice, perceive’;
Mic:	Chuukese	*siɾe*	‘know how (to do s.t.), be skilled’,
		siɾe-e-	(VT) ‘know s.o.’
Fij:	Bauan	*kila[-]*	‘know, understand’

A number of languages have verbs that are formally similar to the reflexes above but have meanings that indicate that they more probably reflect POc **kilat* (VI) ‘be seen clearly, discerned, recognised’, (VT) ‘see clearly, discern, recognise’ (§8.2).

NCV:	Tolomako	*kile-*	‘see’,
NCV:	Araki	*kila*	‘watch, look (in a certain direction)’
NCV:	Atchin	*kila*	‘look round, down’
NCV:	Avava	*kil-kila*	‘look, open eyes’
Mic:	Ponapean	*kila(ŋ)*	‘see, discern, look at, observe, examine’
Mic:	Woleaian	*xle*	‘be clear, seen clearly, recognised’
Pn:	Rennellese	*kiga*	(VSt) ‘be clearly seen, in plain sight’

The Wayan verb *kilāti-* ‘know’, on the other hand, conflates a form reflecting **kilat* with the sense ‘know’.

From the glosses of the data below, POc **qataq, *qataq-i-* evidently meant ‘know, understand, realise (that)’, encoding AWARE. In a few languages the verb has the same form as the reflex of **qate-* ‘liver’ (§3.7.6). Despite the role played by **qate-* in bodypart metaphors,

particularly those expressing emotions (§9.2.1), however, the resemblance seems to have emerged by chance. Final **-q* is attested in Mutu and Namakir.

POc (VI) **qataq*, (VT) **qataq-i-* 'know, understand, realise (that)'

Adm:	Nyindrou	*ata(na)*	'come to know, realise, understand' (syntactically a verb, but the subject is encoded as a possessor suffix, e. g. *atana-k* 'I realise')
NNG:	Kilenge	*ota-i*	'know'
NNG:	Mutu	*wataɣ-i*	'know'
NNG:	Gitua	*wata*	'know'
NNG:	Bariai	*oata-i*	'know, learn'
NNG:	Kove	*ata-i*	'know'
NNG:	Mangseng	*ate*	'recognise, see that'
PT:	Iamalele	*ʔase(ta-i)*	'know, understand'
PT:	Dawawa	*kata-i*	'learn'
PT:	Tubetube	*kata-i*	'know'
PT:	Saliba	*kata-i*	'know'
PT:	Suau	*ʔata*	'know'
PT:	Misima	*ate(na)*	'know, understand'
PT:	Sudest	*ɣarei-ɣarei*	'know, understand'
MM:	Notsi	*ati*	'know'
MM:	Nehan	*ate, iate*	'know'
MM:	Halia	*atei*	'know'
MM:	Mono-Alu	*atae*	'know s.o.'
SES:	Longgu	*ðai-*	'know, understand, be accustomed (to doing); be able (to do)'
SES:	Marau Sound	*rae-*	'know'
SES:	Lau	*sai(toma), sai(tama)*	'know (s.t., s.o.)'
SES:	To'aba'ita	*θai(toʔoma-)*	'know'
SES:	'Are'are	*rai-*	'know, understand'
		rai hitari-	'know well' (*hitari-* (VT) 'split')
TM:	Asumboa	*kata*	'know'
NCV:	Namakir	*ʔataʔ*	'know'
NCV:	Nguna	*atae*	'know'
NCV:	Lelepa	*tae-*	'know'
NCV:	S Efate	*tae*	'know'
		(nroŋ)tae	'recognise by hearing'
		(mro)tae	'understand' (*mro* 'think')
		(le)tae	'realise, recognise, identify' (*le* 'look, see')

PMic **ata*, **ata-i-* 'know, understand'

Mic:	Ponapean	*ɛsɛ*	'know, understand (s.t.)'
Mic:	Kiribati	*ata-i*	(VI) 'know, have knowledge',
		ata-a	(VT) 'know (s.t.)';
Mic:	Kosraean	*etʌ*	'know, understand (s.t.)'

The first morpheme of PPn **qata-mai* ‘intelligent, expert, clever’ evidently reflected POc **qataq*.

PPn **qata-mai* ‘intelligent, expert, clever’ (POLLEX)

Pn:	Tongan	*ʔatamai*	‘intelligent, intelligence’
Pn:	Samoan	*atamai*	‘intelligent, clever’
Pn:	Anutan	*atamai*	‘mind, meaning’
Pn:	Tuvalu	*atamai*	‘skilful, able; skill, ability’
Pn:	Emae	*atamai*	‘wise, wisdom’
Pn:	Nukuoro	*adamai*	‘recollect/recall past events/persons’
Pn:	Pukapukan	*atamai*	‘wish, desire; intelligent, having common sense’
Pn:	W Futunan	*atamai*	‘right-minded, sane, clever’
Pn:	Tahitian	*atama*	‘wisdom, intelligence, wise, intelligent’
Pn:	Hawaiian	*akamai*	‘clever, expert’
Pn:	Māori	*atamai*	‘knowing, quick-witted; malicious’

POc evidently had another term with an EXPERT meaning, **taqu*, but it is reflected with reasonable certainty only in Anejom (SV) and in Polynesian languages, and two PPn terms are reconstructable: **tau* ‘skilful at, familiar with’ and **mātau* ‘know, understand, be experienced’. The latter has an apparent Banoni (MM) cognate, allowing the reconstruction of POc **ma-taqu* (**ma-* was a stative formative; §1.3.5.4).

PAn **Caqu* ‘know how, be able to, be skilled at’ (ACD)

PMP **taqu* ‘know how, be able to, be skilled at’ (ACD)

POc **taqu* ‘know how, be able to, be skilled at’

SV:	Anejom	*a-tou*	‘know, know how to, be able, understand, be certain, be sure’ (John Lynch, pers. comm.)

PPn **tau* ‘skilful at, familiar with’ (POLLEX)

Pn:	Tongan	*tau*	‘skill that one is accustomed to do’
Pn:	Tuvalu	*tau*	‘proper, necessary, possible, compulsory’
Pn:	Pukapukan	*tau*	‘to fit, look nice’
Pn:	Rarotongan	*tau*	‘be suitable, befit, able, to be possible’
Pn:	Sikaiana	*tau*	‘be fit or suitable’
Pn:	Takuu	*tau*	‘equal to a task’
Pn:	Tikopia	*tau*	‘be accustomed, used to, adapt, fit’
Pn:	W Futunan	*tau*	‘follow in the ways of, take after, learn from’
Pn:	Māori	*tau*	‘be able, be suitable’

cf. also:

NNG:	Manam	*to*	‘learn’

POc **ma-taqu* ‘know, understand, be experienced’ (also ‘right-hand’: §3.6.3)

MM:	Banoni	*matō*	‘know, be smart’
Fij:	Wayan	*mātau*	(VSt) ‘be familiar to s.o’. (subject the thing that is familiar), ‘accustomed to, used to’ (experi-

			encer marked by oblique case)
		matau	‘right-hand side’
Fij:	Bauan	*matau*	‘be right-handed’

PPn **mātau* ‘know, understand, be experienced’ (POLLEX)

Pn:	Tuvalu	*matau*	‘clever, experienced, right hand’
Pn:	Tongarevan	*mātau*	‘accustomed to, usual’
Pn:	Rarotongan	*mātau*	‘have knowledge of, be accustomed to, be in the habit of’
Pn:	Tuamotuan	*mātau*	‘understand’
Pn:	Māori	*mātau*	‘know, understand’

cf. also:

Fij:	Rotuman	*macau*	‘be expert, skilful’ (*-j-* for †*-t-* or †*-f-*)

It is well known that in many languages a perception verb may also mean ‘know, understand (s.t.)’ (Aikhenvald & Storch 2013, Evans & Wilkins 2000, Viberg 1984). English uses ‘I see’ to mean ‘I understand’, i.e. an AWARE sense. This semantic extension occurs occasionally in Oceanic languages. A few NNG languages use a reflex of POc **reki[-]*, **reqi[-]* ‘see, look, see s.t., look at s.t.’ (§8.2) also in the sense ‘know’:

NNG:	Mangap	*re*	‘see, look, experience; consider, think, be aware’
NNG:	Yabem	*liʔ*	‘see, look at s.t., know, have experience’
NNG:	Lamogai	*rik*	‘see, know’

A similar extension of meaning occurs with PPn **kite* ‘see, appear, know’ from POc *kita-i-* ‘see s.t.’, and Raga (NCV) *ilo* ‘know, perceive’ from POc **qilo* ‘be aware of, discern, see’ (§8.2). The transitive reflex of POc **qilo*, namely PPn **qilo-* (VI) ‘to know, be aware’, (VT) ‘know s.t.’, had been fully repurposed as a verb of knowing.

Reflexes of POc **roŋoR-* ‘hear s.t., listen to s.t.’[5] with the additional sense ‘know’ are sufficiently widespread to raise the possibility that this sense was already present in POc.

NNG:	Mutu	*-lōŋ*	‘know how to’
NNG:	Bing	*-luoŋ*	‘know’
NNG:	Takia	*-loŋ*	‘hear, listen, perceive, know’
NNG:	Gedaged	*-loŋ*	‘know, have knowledge of, be aware of, hear, learn, perceive, understand’
PT:	Wedau	*-nonori*	‘know’
PT:	E Mekeo	*loŋo*	‘know’
PT:	NW Mekeo	*oŋo*	‘know’
MM:	Nakanai	*lolo*	‘hear, understand, know’
MM:	Sursurunga	*a-loŋr-a*	‘hear; listen and understand’
MM:	Nehan	*loŋoro*	‘hear, understand’
SES:	Sa’a	*roŋo*	‘hear, listen, hear tidings of, understand’
NCV:	Lakon	*ruŋ*	‘hear, feel; obey, know’

[5] Reflexes of POc **roŋoR-* raise a number of formal challenges. These are discussed in §8.3.

Lexical replacement has evidently been frequent among verbs of knowing, and many reconstructions can be made of verbs that are reflected in just one subgroup. Some are listed here in the hope that their origins may eventually be identified.

Proto Willaumez **maci* 'know' (Goodenough 1997)

MM:	Bola	*mari*	'know'
MM:	Nakanai (Bileki)	*mari*	'know'
MM:	Nakanai (Maututu)	*masi*	'know'

Proto Papuan Tip **siba* 'know'

PT:	Bohutu	*siba*	'know'
PT:	Hula	*riba*	'know'
PT:	Balawaia	*riba*	'know'
PT:	Motu	*diba*	'know'

The verbs below reflect **sagova, *sagov-i-* 'know', reconstructable to a lower-order interstage within the Papuan Tip cluster.

PT:	Gumawana	*-yagoi-*	'understand s.t., know s.t. /s.o.'
PT:	Iduna	*-yakovi-*	'recognise s.o.'
PT:	Gapapaiwa	*-akova*	(VI) 'know, understand'
PT:	Anuki	*-akovi-*	'know'
PT:	Ubir	*-sagob*	'know'

All languages below reflect **b‹in›isi,* but Nokuku also reflects **bisi*, implying that **bisi* is the root and that **‹in›* reflects the POc nominalising infix, the resulting nominalisation having been reanalysed as a verb in these languages.

PNCV **bisi, *b‹in›isi* 'know'

NCV:	Raga	*binihi*	'think, consider'
NCV:	Nokuku	*pi-pinis*	'know'
		pisi-	'know, understand, be able',
NCV:	Tolomako	*pinisi-*	'know'
NCV:	Kiai	*pinisi*	(VI) 'be able to, know'
		pinisi-	(VT) 'know'

Interestingly, many Oceanic languages have distinct verbs for 'not know (s.t.), be ignorant of (s.t.)' and for 'not recognise (s.o.)', but none of the terms found is cognate with any of the others. Some terms are evidently monomorphemic, like Lou *tɔn* 'not know', Mangap *-kus* 'not recognise', Takia *-ŋaoŋ* 'not know', whilst others, like Balawaia *ɣita-lea* 'not recognise' (*ɣita* 'see' + *lea* 'miss') and Wayan *kila sēti-* 'not recognise' *(kila* 'know (s.t., s.o)' + *sēti-* 'do s.t. wrongly') are clearly serial verb constructions.

10.3 Thinking

Across languages verbs of thinking fall into two broad semantic frames:

- OPINE, e. g. 'I think/believe that he is coming.'
- COGITATE, e. g. 'I think of/about him/this a lot.'

Table 23 shows that in all four witness languages there is a verb (in bold) that embraces both frames, but in Nakanai, To'aba'ita and Wayan there are other verbs with somewhat more specialised meanings. None of this is surprising. English has *believe, surmise, guess, suspect* and *suppose* as OPINE verbs, and a number of COGITATE verbs: *cogitate on, consider, ponder, reflect on, contemplate* and others, each with a different shade of meaning. Dictionaries often do not encapsulate these shades of meaning well.

Table 23 Verbs of thinking in the four witness languages

	OPINE	COGITATE
	'think/believe (s.t. /that …)'	'think about/consider (s.t.)'
Nakanai	***gabu***, *ule, vei, kau*	***gabu***, *aliale, loho-tavu* [cogitate-towards], *ilo-tavu* [inside-towards], *hilo-tavu* [see-towards]
To'aba'ita	***manata***, *sore-*	***manata-i-***, *loloma, ono-toʔo-* [belly-(test)]
Mwotlap	***dem***	
Wayan	***nūmi-***	***nūmi-***, *lēŋa-i-*

OPINE verbs seem to occur less frequently in Oceanic discourse than they do in European languages, and there are at least two reasons for this.

First, OPINE verbs differ from AWARE verbs (§10.2) in that a complement clause of the latter is taken to be a fact, whereas the complement clause of an OPINE is not. *I know John is a teacher* entails the proposition *John is a teacher* as a fact, but *I think John is a teacher* doesn't guarantee the truth of the proposition. One result of this is that in English *I think* is often little more than a marker of possibility, i.e. 'perhaps'. The Tok Pisin term for 'perhaps' is *ating*, transparently reflecting English *I think*, and many Oceanic languages have a corresponding sentence adverb that is glossed in dictionaries 'perhaps, I think'; e. g., Mangseng (NNG) *ava*, Misima (PT) *tabam*, Muyuw (PT) *adók*, Tawala (PT) *nugote*, Ramoaaina (MM) *bi-gaŋ*, Sursurunga (MM) *gut*, Teop (MM) *aekas*, Kwaio (SES) *baleʔe*, Mwotlap (NCV) *so*. Of these, however, only the Tawala adverb has a derivational relationship to an OPINE verb (see below), and it seems that in Oceanic languages OPINE verbs typically do not have this bleached 'perhaps' function.

Second, OPINE is quite often expressed by a languages's default verb of saying, so that in Baluan (Adm), for example, it is sometimes difficult to tell whether the speaker intends the complement of *pʷa* to be spoken or simply thought (Dineke Schokkin, pers. comm.). Bugenhagen & Bugenhagen (2007) gloss the Mangap sentence

Nio	*aŋ-so*	*ina*	*aᵐbai*	*som*
I	I-say	that (DEM)	good	not

as both *I say that is not good* and *I think that is not good.* Thus the meaning of the example 'say/think' verbs listed below is something like 'formulate in words, either spoken or unspoken'.

Adm:	Baluan	*pʷa*	(VT) ‘say, express, think’
Adm:	Nyindrou	*añа*	‘think, say’
NNG:	Bariai	*oaŋga*	‘think, say’
NNG:	Kaulong	*vo*	‘talk, say, speak; suppose, intend’
NNG:	Mangap	*-so*	‘say, speak, communicate, talk, tell; think’
NNG:	Takia	*-bol*	‘say, talk, speak,’
PT:	Iamalele	*vo*	‘say, think’; quotative marker
MM:	Nakanai	*vei*	‘think, opine, talk, tell say’
MM:	Teop	*boha*	‘think, say’
SES:	Gela	*ne*	‘say, think’
SES:	To’aba’ita	*sore-*	‘say, think’
SES:	Kwaio	*ilia*	‘say, tell, think’

Hence OPINE verbs in Oceanic languages are centrally about mental activity, and it is not surprising that Table 23 shows them overlapping with COGITATE verbs. Indeed, no dedicated POc OPINE verb that is not also a speech verb is reconstructable.

Glosses of reflexes of POc **nonom* ‘think, remember; mind, thought’ point quite strongly to it being a COGITATE verb with a semantic focus on thinking about or remembering something. Its reconstruction, though, involves some *ad hoc* assumptions about the history of the apparent reflexes listed below. These display a somewhat abstract formal template *nVNV[N]*, where *N* is *n* or *m*, but *m* occurs no more than once in a reflex. The shape is that of POc **nonom* (V) ‘think’, (N) ‘mind, thought’, the expected reflex of PAn **nemnem* ‘think’ (ACD). However, Blust (ACD) notes Fordata (CMP) *nanaŋ* ‘remember, remember sadly’, with *-a-* twice for expected *-e-* (< PAn **-e-*). This suggests that there was an alternant of the form **nanam* as far back as PCEMP, perhaps ancestral to some of the forms listed below. Treating the forms below as a cognate set also assumes that the presence of three nasals led to metathesis in Seimat and Nehan (**nVnVm* > **nVmVn*), and to assimilation of point of articulation in Bariai, Babatana and Ririo (**nVnVm* > **nVnVn*).

The Wayan transitive verb *num-i-* (VT) ‘think of s.t.’ requires special mention. As Blust (1977a) shows, a POc intransitive verb of the form C_1V_1-$C_1V_1C_2$ often had a corresponding transitive of the form $C_1V_1C_2$-*i*. Thus POc **nonom* may have been paired with transitive **nom-i*, of which Wayan *num-i-* is the only reflex known to us. Alternatively, it may be a back-formation from intransitive **nanum*, reflected in Bauan *nanu*.

PAn **nemnem* ‘think’ (ACD)

POc **nonom, *nanam* ‘think about s.t., remember s.t.’, (N) ‘mind, thought’

Adm:	Seimat	*namena*	(VI) ‘remember’ (metathesis of nasals)
NNG:	Bariai	*nanan*	‘think, remember’
PT:	Kiriwinan	*nano*	‘mind’
MM:	Nehan	*namana*	‘think; think about s.t.’ (metathesis of nasals)
MM:	Babatana	*nanana*	(V) ‘think’; (N) ‘thought, mind’
MM:	Ririo	*(no)nono*	‘think’
MM:	Roviana	*nonoŋa*	‘remember, know’
NCV:	Mwotlap	*nonom*	‘opinion’
NCV:	SE Ambrym	*nɛnem-i-*	‘think, remember’
NCal:	Nêlêmwa	*nanam*	‘thought, think, reflect, believe’

Fij:	Wayan	*num-i-*	(VT) ‘think of s.t.’
Fij:	Bauan	*nanu*	(VI) ‘think, meditate, remember’
		nanum-a	(VT) ‘think of, meditate on, remember s.t.’

cf. also:

NNG:	Lukep-Pono	*nan(tut)*	‘remind’
NNG:	Poeng	*nan(guni)*	‘think, surmise’
MM:	Babatana	*nüni*	‘think’
MM:	Vaghua	*nanavu*	‘think’
MM:	Varisi	*nanao*	(V) ‘think, consider’, (N) ‘idea’

The two verbs discussed below, POc **drodrom* ‘think, worry; love, be sorry for, long for’ and POc **nuka* ‘think, feel’, are both COGITATE verbs, but both also have emotional overtones. Indeed, glosses in Oceanic dictionaries suggest that cogitation and worry or longing frequently go together.

Although its reflex is the Mwotlap default verb for thinking (Table 23), the NCV evidence, presented in some detail below, suggests that the POc verb was a COGITATE verb with an emotional overtone of ‘love, be sorry for, long for’, i.e. the SORRY semantic frame recognised in §11.4.3. Indeed, the emotion-related meanings are the only ones recorded for the Nakanai, Nokuku, Namakir, Nguna and S Efate reflexes, and they also figure in the Tamambo and Uripiv glosses. The expected POc reflex of PAn **demdem* is POc †**rodrom* (**-md-* > **-nd-* > *-dr-)*, but maintaining the consistency of reduplication is perhaps responsible for **drodrom*. Transitive **drom-i* arose via the template recognised by Blust (1977a).

PAn **demdem* ‘brood, hold a grudge, remember, keep still’ (ACD)

POc (VI) **drodrom*, (VT) **drom-i* ‘think, worry; love, be sorry for, long for’

NNG:	Mangseng	*(lemi-) rum*	‘think’ (*lemi-* ‘insides’)
		rum(oŋ)	(N) ‘thought’ (*-oŋ* NOMINALISER*)*
NNG:	Poeng	*roma*	‘think about’
MM:	Nakanai	*gogo*	‘be sorry for, be fond of, treat gently; be generous to’
MM:	Madak	*doma*	(V) ‘think’

PNCV **dodomi* ‘think about, love’ (Clark 2009)

Proto Torres-Banks **do-domi* ‘think, worry’ (François 2005)

NCV:	Dorig	*dum*	‘think, worry’
NCV:	Nume	*dudum*	‘think, worry’
NCV:	Mosina	*nunum*	‘think, worry’
NCV:	Mota	*nom*	‘think, have in mind’
		no-nom	‘think’
NCV:	Mwotlap	*dem*	‘think’
NCV:	Nokuku	*ʔomi*	‘love, have mercy on’
NCV:	Kiai	*komi-a*	(VT) ‘think of’
		komi-komi	‘thinking, thought’,
NCV:	Tamambo	*domi*	‘feel sad about, sorry’
		domi-domi	‘think’

NCV:	Sakao	*rem*	(VI) ‘think’
		röm	(VT) ‘think’
NCV:	NE Ambae	*domi*	‘think’
NCV:	Uripiv	*(o)r̃m-i*	‘think, worry, regret, have pity, show mercy’
NCV:	Ninde	*rur(uox)*	‘think’ (*uox* ‘follow’)
NCV:	Lonwolwol	*dɛmɛ*	‘think’
NCV:	Paamese	*demi*	‘think, believe; think about’
NCV:	Namakir	*do-dom*	‘love, feel emotion’
		do-do-	‘mind’
NCV:	Nguna	*do-domi-a*	‘love, be sorry for, feel for, miss’
NCV:	S Efate	*ⁿrom*	(V) ‘love’

Blust (ACD) reconstructs PAn **ajem* ‘heart, mind’. Reflexes are found in SE Solomonic languages, some of which reflect an unexpected initial **q-*.

PAn **ajem* ‘heart, mind’ (ACD)

POc (VI) **(q)ajom,* (VT) **(q)ajom-akin-i-* ‘think, understand’

SES:	Gela	*ado-ado*	‘think, understand’
SES:	Sa’a	*adom-aʔini*	**‘**think’
SES:	Arosi	*ʔado-ʔado*	‘think’
		ʔadom-aʔi	**‘**think’
SES:	Faghani	*kato-katom-aɣi*	**‘**think’

POc **nuka* ‘think, feel’ was also evidently a COGITATE verb, but with a sense of associated emotion—desire for its object. In some daughter languages the reflex of **nuka* is a verb, in others a monovalent body-part noun meaning ‘mind’, ‘thought’, ‘feeling’, or ‘desire’, and in yet others both a nominal and a verbal reflex occurs. When it occurs in complex lexemes, it is sometimes difficult to tell whether it is a verb or a noun, and a rule of thumb is adopted such that it is glossed as a verb ‘think’ unless there is clear evidence that it is a monovalent noun.

The reconstruction of **nuka* is a little problematic with regard to its medial **-k-*, and it is tempting to avoid irregularity by splitting the data into two formally similar cognate sets. However, the glosses imply quite strongly that this is a single set. The irregularity occurs in the Micronesian reflexes. Woleaian *nʉ-nʉwa-n* and Ifaluk *nu-nuwa-n* reflect either **nua* or **nuqa*, whereas Carolinian *lɨxɨ-lɨx* reflects **nuka.* The Adzera medial *-g-* and Tolai and Ramoaaina final *-k* reduce the choice to **nuqa* or **nuka*, but could reflect either (final **-q* is occasionally retained in New Ireland languages). Since **q* is lost in Micronesian languages and the reflexes of **-k-* in Chuukic languages like Woleaian and Ifaluk are known to be complex and not always regular (Jackson 1983:175–185), it makes sense to treat the Carolinian reflex as criterial and to reconstruct **nuka*. The MM and PT reflexes in which **-k-* is thus deemed to be lost are all regular.

POc **nuka* (V) ‘think, feel’, **nuka-* (N) ‘mind, thought’

NNG:	Adzera	*nugu-*	‘insides, heart, seat of emotions’
PT:	Gumawana	*nue*	(VT) ‘think of s.t.’ (*-nue* < **nuka-i-*)
		nuo-nuo-	(N) ‘thinking, thoughts about s.t.’
PT:	Iduna	*-nua-nua*	(VI) ‘think’

		-nua-nue-	(VT) ‘think (about s.t.)’ (*-nue* < **nuka-i-*)
		nua-nua	(N) ‘thought, desire, idea’
PT:	Bwaidoga	*nua-*	‘mind, insides’
PT:	Gapapaiwa	*nua*	‘feel, think’
		nua-nua	‘feelings, thoughts’
PT:	Kukuya	*nua-*	‘feelings, desire, thought’
		nua-nua-	‘knowledge, memory, desire’
PT:	Dobu	*nua-*	‘mind, desire, thought, will’
PT:	Molima	*nua-nua*	‘think’
PT:	Wedau	*nua-nua-*	(N) ‘chest; seat of the emotions’
PT:	Tawala	*nugo*	‘mind’
PT:	Bunama	*nua-nua*	(V) ‘think, want’; (N) ‘mind’
PT:	Saliba	*nua*	‘mind’
PT:	Muyuw	*nua-*	‘abdomen, belly; insides’
PT:	Sudest	*(re)nua(ŋa)*	(N) ‘thought, mind’
MM:	Kara	*nə-*	(N) ‘thought, idea’
MM:	Madak	*nua*	‘think’
MM:	Tolai	*nuk[-nuki]*	‘mind, heart, soul, seat of thoughts or ideas’
MM:	Ramoaaina	*nuk*	(VT) ‘think, remember’
		nu-nuk	(VI) ‘think’
Mic:	Carolinian	*lɨxɨ-lɨx*	‘believe, think’
Mic:	Woleaian	*nɯ-nɯa-n*	(VI) ‘to think, remember’
		nɯ-nɯa-n-	(VT) ‘remember s.t.’
Mic:	Ifaluk	*nu-nua-n*	(N) ‘thought, emotion’ (Lutz 1988)

The inherited core meaning of POc **manaca(m)* was evidently ‘tame (of animals), familiar to’ (of people). Its form—**ma-* + disyllabic root—indicates that it was originally a stative verb, but the glosses of the forms below suggest that it came also to be used of people in the senses ‘quiet, thoughtful, learned’, and then developed the meanings ‘know, understand, think about’ and was also used as an abstract noun. In a number of languages it became the base for a transitive verb. In some languages the original meaning has been lost, but the retention of ‘tame’ as one of its senses in Lau, ’Are’are, Sa’a, Arosi and Owa attests to something like this series of semantic developments. Reflexes vary in meaning between AWARE and COGITATE.

PAn **ma-Lajam* ‘tame, accustomed to’ (ACD)

PMP **ma-najam* ‘tame, accustomed to’

POc **ma-nacam* (VI) ‘tame, quiet, thoughtful, learned; know, understand, think about’; (N) ‘knowledge, understanding, thought, wisdom’

NNG:	Gedaged	*mana-n*	‘tame, docile (mostly of animals), peaceful, obedient, trained’ (for †*manaya-n*)
PT:	Motu	*manada*	‘even, smooth, gentle’
MM:	Ramoaaina	*manā(na)*	(VI) ‘know, understand’; (N) ‘knowledge, understanding, wisdom’
MM:	Nehan	*mahanama*	‘tame, unafraid’ (metathesis)
SES:	Gela	*manaha*	(VT) ‘know, understand, appreciate; wise, clever’

SES:	Lengo	*manaθa*	(N) ‘knowledge’
SES:	To’aba’ita	*manata*	(VI) ‘think’; (N) ‘thought, mind’
		manata-i-	(VT) ‘think of, about s.t., think (that…)’
		manatā	‘thought, idea’
SES:	Lau	*manata*	(V) ‘tame, quiet, civilised, sensible, understanding, think, thoughtful, careful’
		manata-	(N) ‘mind, will, understanding’
		manata-ŋa, manatā	(N) ‘thought’
SES:	Kwaio	*manata*	‘think, reason, know’
		manate-ʔe wane	‘a man’s mind’
SES:	’Are’are	*manata*	‘be tame (of birds and animals), behave oneself, wise, sensible, learned’
		manata-na	(N) ‘disposition, character, nature, custom, behaviour, conduct, knowledge, wisdom’
		manata-ʔini-	(VT) ‘know, be aware of, notice’
SES:	Sa’a	*manata*	(VI) ‘tamed, quiet, taught’
		manata-ŋa	(N) ‘wisdom, nature, knowledge’
SES:	Arosi	*manata*	‘tame, trained, gentle (of man or animal)’
		manata-si-	‘be tame towards’
		manata-na	(N) ‘custom, use’
SES:	Owa	*manata*	‘be tame; be familiar to’
		manata-si-	(VT) ‘know (s.o.)’
cf. also:			
MM:	Nehan	*manate*	‘know’ (*-t-* for †*-h-*)

10.4 True and believing to be true

In those Oceanic languages for which there are relevant data[6] believing something to be true usually differs lexically from OPINE (§10.3) and thus forms a separate semantic frame, here labelled BELIEVE. In most of these languages, the basic BELIEVE predicate is a complex form, either a derived verb or, less commonly, a BPM, involving a stative verb root meaning ‘true, real, genuine, correct, right’, a frame here labelled TRUE. The most widespread derivation is a TRUE verb preceded by the prefix that forms causative verbs, reflecting POc **pa[ka]-*. Verbs with this form are listed in Table 24.

From the examples in Table 24 it seems likely that there was a POc believe verb of the form **pa[ka]-* + true verb, but its form is uncertain. The glosses of **pa[ka]-* + true verbs in the table point to the likelihood that the basic meaning of POc **pa[ka]-* + true was ‘verify as true’, and that ‘believe (s.t.) to be true’ was a secondary meaning. Other derivations with a true root are listed in Table 25. The Takia lexeme is a BPM, and the Owa lexeme is a compound derived from a BPM. The Gela, Longgu, Sa’a and Pn forms are evidently compounds derived from SVCs.

[6] In a number of languages for which there are otherwise good data, including Nakanai and Mwotlap, two of our witness languages, BELIEVE terms are not recorded.

It follows from the material in Tables 21 and 22 that the term to be reconstructed is the stative verb for the true frame rather than a believe verb. In other words, this is an instance where the basic lexeme was a stative verb with the stimulus as subject: 'X is true' rather than 'I believe X'.

Table 24 BELIEVE verbs formed from the causative prefix + a TRUE verb

		BELIEVE	TRUE
		'believe (s.t.) to be true'	'true, real, genuine, correct, right'
PT:	Balawaia	*vaɣa-moɣoni* 'believe, agree, confirm'	*moɣoni*
MM:	Teop	*va-mana-mana* 'believe'	*mana*
MM:	Banoni	*va-cū* 'believe'	*cu*
MM:	Babatana	*va-tuna* 'believe'	*tuna*
MM:	Roviana	*va-hinokar-i-* 'believe; prove'	*hinokara-*
MM:	Maringe	*fa-tu-tuani* 'believe'	*tuani*
SES:	Bugotu	*va-utu-utuni* 'believe'	*utuni*
SES:	To'aba'ita	*faʔa-mamana* (VI) 'be truthful, reveal the truth' *faʔa-mamane-* (VT) 'believe, give credence to'	*mamana*
SES:	Arosi	*haʔa-momori* 'believe'	*momori*
Fij:	Bauan	*vaka-dina-dina* 'confirm, witness' *vaka-dina-t-* 'believe'	*dina*
Fij:	Wayan	*vaka-dū-ni-* ' 'believe; confirm truth or accuracy of s.t.'	*dū*
Pn:	Tongan	*faka-moʔoni* 'bear witness, prove, verify'	*moʔoni*
Pn:	Niuean	*faka-mooli* 'witness, tell truth, prove'	*mooli*
Pn:	Rennellese	*haka-māʔogi* 'verify as true'	*māʔogi*
Pn:	Maori	*ɸaka-pono* 'believe'	*pono* 'true; bountiful, abundant'

Table 25 Other BELIEVE lexemes formed with a TRUE verb

		BELIEVE	TRUE
		'believe (s.t.) to be true'	'true, real, genuine, correct, right'
NNG:	Takia	*ilo-* ***rumok*** (*ilo-* 'insides')	*rumok* 'truth'
SES:	Gela	*talu-**utuni*** (*talu* 'put')	*utuni*
SES:	Tolo	*t-**utuni-***	*utuni*
SES:	Longgu	*naʔi-**utuni*** (*naʔi* 'put')	*utuni* (borrowed from a Guadalcanal language)
SES:	Sa'a	*hī-**walaʔimoli*** (*hī* 'perceive')	*walaʔimoli*

SES:	Owa	*raro-ni-**m^{w}ora*** (*raro* 'insides')	*m^{w}ora*
Pn:	Samoan	*tali-**tonu*** (*tali* 'accept')	*tonu* 'correct'
Pn:	Tokelauan	*tali-**tonu*** (*tali* 'accept')	*tonu* 'correct'

The most widely reflected TRUE verb is POc **tuna* (sometimes **tutuna*) 'true, genuine, correct'.

POc **[tu]tuna* 'true, able to be believed, correct'

NNG:	Lukep (Pono)	*tun*	'correct'
PT:	Misima	*tuna(hot)*	'that's true; yes' (*hot* emphatic)
MM:	Patpatar	*tun*	'correct
		tu-tun	'true, faithful, responsible, real in form or appearance'
MM:	Ramoaaina	*(liŋ)ta-tuna*	'true; truth'
MM:	Tolai	*tuna*	'real, true, proper, correct'
MM:	Babatana	*tuna*	'true, real'
		tu-tuna	'true, just; truth'
		(va)tuna	'believe'
SES:	Arosi	*(hu)una*	'real, true, original'

cf. also:

Adm:	Lou	*tuɛna-*	'true' (origin of *-ɛ-* is unknown)
Fij:	Bauan	*dina*	'true; very' (*-i-* for †*-u-*)
		(vaka)dina-t-	'believe'

It is tempting to combine the set below with the set above. All the forms above could reflect putative **tuquna*, with regular loss of **-q-* and shortening of resulting **-uu-*. However, none of the forms below would be regular reflexes, as they fail to reflect either **-a* or **-na* as predicted by regular sound change. Either the formal similarity between **tuna* and **(t,d)uqu* is accidental, or they were associated at some point in their history by an unknown derivational process.

POc **(t,d)uqu* 'true, able to be believed'

Adm:	Nyindrou	*(ha)dru*	'true; very, really' (reflects **d-*)
NNG:	Dami	*tu-tuk*	'correct, innocent'
MM:	Banoni	*cu*	'true'
		(va)cū	'believe'
NCal:	Cèmuhî	*ju, jū*	'true' (reflects **d-*)
Fij:	Wayan	*dū*	'right, correct, genuine, real, true' (reflects **d-*)
		(vaka)dū-ni-	'believe'

Overlapping semantically with the TRUE frame is the STRAIGHT frame, as Oceanic verbs meaning 'straight' tend strongly also to have the metaphorical sense 'correct', a component of the TRUE frame. Some reflexes of POc **tonuq* 'straight, correct' have the additional sense 'true', and it seems possible that contamination by reflexes of **tuna* has occurred, resulting in forms that appear to reflect †**tunuq* rather than **tonuq*. On the strength of Nokuku *ta-tino* 'true' and Kiai *tu-*

tunu ‘good, straight, sweet’ below, all the NCV forms have been attributed to **tunuq*, but some may either reflect **tuna* above or a contamination of one form by the other.

POc **tonuq* ‘straight, correct’[7]

NNG:	Bam	*tun-tunu*	‘straight’
NNG:	Numbami	*tonowa*	‘straight’
PT:	Kukuya	*tunuɣa*	‘straight’
		tunu-tunuɣa	‘do right, be righteous’
PT:	Iduna	*tunu-tunuɣ(ina)*	‘straight (of objects, path), upright, honest’
PT:	Molima	*tunu-tunv(ina)*	‘straight, flat’
MM:	Laghu	*to-tonu*	‘straight’
NCV:	Nokuku	*ta-tino*	‘true’
NCV:	Kiai	*tu-tunu*	‘good, straight, sweet’
NCV:	Uripiv	*(were)tun*	‘tell truth’
NCV:	W Ambrym	*ten*	‘real’
NCV:	SE Ambrym	*(rei)tin*	‘true’
NCV:	Lonwolwol	*ten*	‘real’
		(fɪ)tɛn	‘true; truly’
NCV:	N Ambrym	*(fɛ)tn*	‘true; truly’
NCV:	Paamese	*tine*	‘true’
NCV:	Avava	*(ba)rīn*	‘true’

PPn **tonu* ‘straight, correct’ (POLLEX)

Pn:	Tongan	*tonu*	‘exact, correct, be right’
Pn:	Niuean	*tonu*	‘proper, right’
Pn:	Samoan	*tonu*	‘exact, correct, just’
Pn:	Tuvaluan	*tonu*	‘straight, correct’
Pn:	Mele-Fila	*tō-tonu*	‘right, correct’
Pn:	Tikopia	*tonu*	‘right, correct, true, exact’

cf. also:

NNG:	Mangap	*du-dūŋ*	‘real, correct, straight’
NNG:	Malai	*dunu(ŋa)*	‘straight’
SES:	Bugotu	*jino*	‘straight, right, righteous’ (*-i-* for †*-u-*)
NCV:	Mota	*nun*	‘true, truth’
SV:	Kwamera	*a-tuən*	verbal adjunct: implies straightening
Fij:	Bauan	*donu*	‘straight, correct, true’
Fij:	Wayan	*donu*	‘right, correct, true’

Several forms with initial **m-* meaning ‘true’ can be reconstructed. The reason is perhaps that each has its origins in a form with the PMP anticausative/stative prefix **ma-*. This is certainly true of reflexes of POc **ma-qoli* and **ma-qoni*, both ‘true, real’. Despite their formal

[7] In vol.2:212, **[t,d]onu(p)* ‘straight’ was reconstructed. The PT reflexes now show that the final consonant was **-q*. Reflexes of initial **t-* and **d-* both occur, and the latter are listed under ‘cf. also’. They give grounds for reconstructing a POc doublet **donuq* ‘straight, correct’. How it arose is unknown, but **d* was the least frequently occurring of all the POc obstruents, reflecting an earlier **nt* sequence.

and semantic similarity, they appear to have been separate POc terms. Their similarity has almost certainly led to crossovers in meaning and to conflation of the two terms, as apparently no language other than Anutan reflects both—and the gloss of Anutan *maori* 'indigenous, true, close of kin' suggests it is borrowed from an EPn language. No EPn language has a reflex of **ma-qoni*. PEPn **ma-qoni* acquired the additional sense 'native, indigenous', giving rise to the terms *Māori* and *Mōriori* for the Polynesian inhabitants of New Zealand and New Zealand's Chatham Islands respectively.

Perhaps the clearest indicator that the terms originally had slightly different meanings is the contrast in meaning between the PPn causatives PPn **faka-moqoli* 'assent (V)' and PPn **faka-maqoni* 'tell the truth, be honest'.

There is evidence that Gela, Lau and S Efate reflexes (shown under 'cf. also' below) of POc **ma-qoli* 'true, real' have been conflated with those of POc **maqurip* 'be alive, live, flourish' (§4.2.1.1). All three reflect POc **-r-* rather than **-l-*, and the Gela and Lau reflexes mean 'alive' as well as 'real'.

POc **ma-qoli* 'true, able to be believed'

MM:	Bola	*muɣoli*	'true'
SES:	'Are'are	*(wara-ʔi)mori*	'true' (*wara* 'speech')
SES:	Arosi	*mori* , *mo-mori*	'true'
		haʔa-momori	'believe'

PPn **maqoli* 'true, real' (POLLEX)

Pn:	Niuean	*mooli*	'true, sure'
Pn:	Anutan	*maori*	'indigenous, true, close of kin' (EPn loan?)
Pn:	Emae	*māri*	'true, indeed, truth'
Pn:	Ifira-Mele	*māori*	'true, real'
Pn:	Pileni	*maoli*	'true; tell the truth'
Pn:	Rennellese	*māʔogi*	'right, true, real; exist'
Pn:	Tikopia	*maori*	'true, truth; feel sure of'
Pn:	W Futunan	*mari*	'true, truth, indeed'

PEPn **maoli* 'true, genuine; native, indigenous'

Pn:	Rapanui	*maʔori*	'skilled, old'
Pn:	Hawaiian	*maoli*	'true, real, native, indigenous'
Pn:	Marquesan	*maoʔi*	'indigenous'
Pn:	Tahitian	*māohi*	'native, indigenous' (*-h-* unexpected)
Pn:	Tongarevan	*māori*	'local, aboriginal, traditional'
Pn:	Tuamotuan	*maori*	'indigenous'
Pn:	Rarotongan	*māori*	'of native origin, indigenous'
Pn:	Māori	*māori*	'indigenous, natural; mortal man as opposed to supernatural beings; fresh (of water)'
Pn:	Moriori	*mōri-ori*	'indigenous people of the Chatham Islands'

cf. also:

SES:	Gela	*mauri*	'living, real'
SES:	Lau	*mori*	'alive, real'
NCV:	S Efate	*mori*	'true'

POc **ma-qoni* ‘true, real’

MM:	Balawaia	*moɣoni*	‘true’

PPn **maqoni* ‘true, real’ (POLLEX)

Pn:	Tongan	*moʔoni*	‘true, genuine, real, intrinsic’
Pn:	Samoan	*moni*	‘true, speak truth’
		(faʔa)maoni	‘true, faithful’
Pn:	Anutan	*mooni*	‘true, as opposed to a lie’
Pn:	E Uvean	*moʔoni*	‘true, certain’
Pn:	Sikaiana	*māoni*	‘true, genuine’
Pn:	Takuu	*maoni*	‘true, real’
Pn:	Tokelauan	*moni*	‘true, sincere, honest’

PEMP **molaŋ* ‘true, real, genuine’ has just one known non-Oceanic reflex, Buli *molaŋ* ‘correct, real, genuine, true’ (ACD).

PEMP **molaŋ* ‘true, real, genuine’ (ACD)

POc **mola(ŋ)* ‘true, real, genuine’

NNG:	Lukep (Pono)	*mōl-mōl*	‘true’
MM:	Nakanai	*imo-imola*	‘talk that is true; the truth’ (*i-* unexplained)
SES:	Lau	*mola*	‘true, real, abundant’
SES:	Arosi	*mora*	‘original, true, real; customary’
SES:	Owa	*mʷora*	‘true, real’
Mic:	Marshallese	*mʷōl*	‘true’

The question mark against POc **moqi* below refers to its form. If Takia *mok* is indeed a reflex, then medial **-q-* should be reconstructed.

POc **moqi* ? ‘true’

NNG:	Takia	*mok*	‘true, real; very, truly’
NNG:	Dami	*mo-moi*	‘true’
NNG:	Manam	*moi-moi*	‘true’
PT:	Tawala	*moi-*	‘true’
SS:	Arosi	*moi*	‘true’[8]

A small number of forms meaning ‘true’, all Northwest or Southeast Solomonic, reflect a root **mana*. It is tempting to associate these with POc **mʷane* ‘straight, direct; flat, level’ (Vol. 2:213),[9] and this is probably the origin of Gela *mae-mane* ‘correct’ below. However, neither forms nor meaning otherwise support this association. It is possible that these forms are cognate with PPn **mana* ‘supernatural power’ (POLLEX) and reflect the term that Blust (ACD) reconstructs as POc **mana* ‘power in natural phenomena; thunder, storm wind’. However, the glosses below suggest (i) that **mana*/**ma-mana* was a homophone of Blust’s reconstruction, and (ii) that the Simbo and Lau reflexes below reflect a conflation of Blust’s POc **mana*

[8] In his dictionary of Arosi Fox (1978) takes *moi* ‘true’ to be an ‘abbreviated’ form of *mori* ‘true’ (under **maqurip* above), but this is not a regular phonological process in the language.

[9] In vol.2 this form was reconstructed as **mʷane-mʷane*, but the reduplication is not justified by the data.

'power…' and **mana* 'true'. Since all reflexes of the latter are located in the Solomons archipelago, it is difficult to know which interstage it should be attributed to.

MM:	Nehan	*mana*	'true'
MM:	Halia	*mana*	'true'
MM:	Teop	*mana*	'truth, meaning'
		(va)mana-mana	'believe'
MM:	Simbo	*mana*	'true; powerful, potent, effective; gracious; to grant, be favourable; power'
SES:	Ghari	*mana*	'truth, true, correct'
SES:	To'aba'ita	*ma-mana*	'true, real'
		faʔa-mamane-	'believe'
SES:	Lau	*ma-mana*	'efficacious; be true, come true, be fulfilled'
cf. also:			
SES:	Gela	*mae-mane*	'correct'

The set below deserves mention because of its frequent occurrence in Table 25. It is restricted to SES languages, and there seems to be no consistent semantic difference between forms with and without **-ni*.

PSES **utu, *utuni* 'true'

SES:	Bugotu	*[t]utuni*	'true'
		(va)utu-utuni	'believe'
SES:	Gela	*utu*	'true'
		utuni	'certainly, truly, right'
		(talu)utuni	'believe' (*talu* 'put')
SES:	Tolo	*utuni*	'true, correct'
		(t)utuni	'believe'
SES:	Longgu	*utuni*	'true' (borrowing)
		(naʔi)utuni	'believe' (*naʔi* 'put')
SES:	Arosi	*ū*	'true, real'
cf. also:			
SES:	Longgu	*uðua*	'true'

Finally, the small set below has a curious distribution. Reflexes of PMP **bener* occur in Western MP languages, but none are known in Oceanic outside Eastern Polynesian.

PMP **bener* 'true, righteous, honest' (ACD)

POc **bono(r)* 'true, correct'

PPn **pono* 'true, correct' (POLLEX)

Pn:	Maori	*pono*	'true; hospitable, bountiful; abundant; means, chattels, abundance'
		ɸaka-pono	'believe, admit as true'
Pn:	Marquesan	*pono*	'correct, proper, well done'
Pn:	Hawaiian	*pono*	'correct procedure, correctness'

10.5 Remembering

Probably all Oceanic languages have terms for MEMORISE ('commit s.t. to memory') and for RECALL ('remember s.t. /that…'), but these terms are usually complex lexemes, (§10.1). The glosses of their components are given henceforth in square brackets. Table 26 sets out terms for the two semantic frames in the four witness languages.

Table 26 Verbs of remembering in the four witness languages

	MEMORISE	RECALL
	'commit (s.t.) to memory'	'remember (s.t. /that …)'
Nakanai	*mata-toro* [look-strong]	*hilo-tavu* [see-towards]
To'aba'ita		*manata oli uri-* **[**think back about]
Mwotlap		*dem sas* [think find]
Wayan	*katoni-* 'put in box', *bolani-* 'put in basket'	*numi-lesu-ni-* [think-back-TR], *divi-* 'daydream, remember longingly'

The absence of MEMORISE lexemes in Mwotlap and To'aba'ita typifies their absence from many dictionaries. The data are so sparse that they will not be further considered here. The Wayan verbs are simple metaphors: *katoni-* is derived from *kato* 'container with lid' and *bolani-* from *bola* 'coconut leaf basket, container with lid'.

The default POc RECALL verb was apparently **nonom*, **nanam* 'think about s.t., remember s.t.', reconstructed in §10.3. It encoded both RECALL and COGITATE frames. The only simple RECALL verb in Table 26 is the Wayan verb *divi-* 'daydream, remember longingly', but this includes the additional sense of longing, quite common in RECALL verbs in Oceanic languages.

The remaining RECALL terms in Table 26 are complex lexemes, and three of them begin with the language's default COGITATE verb. In this they are typical of Oceanic RECALL terms outside Polynesia. It is possible that, for example, the 'think + find' sequence immediately below is of POc antiquity, but the data do not allow us to reconstruct the forms that occurred in this and other complex lexemes.

An effect of employing complex lexemes is that they may encode more specific meanings than English usually encodes with *remember*. Thus one sense of *remember*, as in 'He managed to remember the address', views remembering as finding a piece of information in one's memory after a search, encoded by a SVC 'think + find':

PT:	Dobu	*nua loba*	[think find] 'think and finally remember'
SES:	Kwaio	*manata dalia*	[think find] 'remember, recall'
NCV:	Mota	*nom suar*	[think find] 'think and find, recollect'
NCV:	Mwotlap	*dem sas*	[think find] 'remember'
NCV:	Paamese	*mudem sāli*	[think find. out] 'remember, discover'

These data imply the existence of a compound lexeme meaning 'search one's memory for s.t.', and examples occur, but sometimes with rather vague glosses. Here and below, languages around the Vitiaz Strait replace 'think' or 'mind' with 'eye', giving a BPM.

NNG:	Bariai	*i-mata nanan*	[S:3SG-eye pursue] ‘remember’
NNG:	Kove	*mata-ɣu i-nana*	[eye-my S:3SG-pursue] ‘remember’
SES:	Kwaio	*manata fana*	[think hunt] ‘think about, remember’
		lada ʔōfia	[dig. up look. for] ‘wander about, search for, try to remember’
NCV:	Mwotlap	*dem sɔsɔk*	[think look. for] ‘think hard in order to remember s.t.’
NCV:	Paamese	*mudem lēkati*	[think look. for] (VT) ‘try to remember’ (*lē-kati* [see-really] ‘look for’)

Remembering in the sense of casting one’s mind back, recalling and recollecting is often expressed by the sequence ‘think + go back’ or sometimes ‘think again’. Note below that Iduna has two syntactically different variants of the same expression. In one, *nua-* ‘mind’, a monovalent noun, is subject of the verb *-nauye-* ‘go back’. The other is a compound verb made up of the same morphemes.

NNG:	Mangap	*mata- i-miili*	[eye- S:3SG-go. back] ‘remember again’
PT:	Dobu	*nua-ila*	[mind go. back] ‘think of the past, reminisce’
PT:	Iduna	*nua- gi-nu-nauye-*	[mind- S:3SG-REDUP-go. back-] ‘remember, call to mind, think about’
		-nua-nua-nauye-	[think-think-go. back-] ‘remember, think about, consider, recall s.t.’
PT:	Tawala	*nugo-gae*	[think-go. up] ‘remember, recall’
MM:	Patpatar	*lik leh*	[think go. towards] ‘remember’
MM:	Tolai	*nuk-mule*	[mind again] ‘remember, recall to mind’
MM:	Nehan	*namana poluku*	[think again] ‘remember again, recall to mind’
MM:	Tinputz	*nat hah*	[know again] ‘remember’
SES:	Gela	*ganagana oli*	[think-go. back] ‘remember’
SES:	Tolo	*pada-visu-*	[think-go. back-] ‘remember’
SES:	To’aba’ita	*manata oli uri-*	[think go. back toward-] ‘think back to’
NCV:	Mota	*nom-kel*	[think back] ‘call to mind, remember’
NCV:	Mwotlap	*dēm lok*	[think again] ‘remember’
Fij:	Wayan	*numi-lesu-ni-*	[think-back-TR] ‘recall or think back on s.t.’

Remembering in the MEMORISE sense of holding something in one’s memory is expressed in a number of WOc languages by the sequence ‘think + hold’, or in Nehan by a simple ‘hold’ metaphor.

NNG:	Kove	*mata-xu vara*	[eye-my hold. tight] ‘I think of s.t., remember s.t’.
PT:	Gumawana	*nuo-kavata*	[think hold] (VI) ‘remember’
		nuo-kavate	[think hold] (VT) ‘remember s.t.. memorise s.t.’
PT:	Dobu	*nua-yai*	[think-hold. firmly] ‘remember’
PT:	Kukuya	*nua vi-avini*	[think S:3SG-hold] ‘remember s.o., s.t.’
MM:	Nehan	*saŋa dede*	[hold continually] ‘remember well’

Much the same concept is occasionally expressed by a ‘think + stay’ sequence:

PT:	Balawaia	*tuɣamaɣi-taɣo*	[think-sit.quietly] ‘remember, think of’
MM:	Patpatar	*lik kawase*	[think wait] ‘remember’

SES:	Lau	*manata tō*	[think stay] ‘remember’

In many Oceanic languages, serialisation and compounding have remained productive, and there are complex lexemes that appear to be quite localised:

NNG:	Mangap	*mata- i-ᵑgal*	[eye- S:3SG-pierce] ‘think of, remember’
NNG:	Tuam	*mata i-ᵑgal*	[eye S:3SG-pierce] ‘remember’
PT:	Gumawana	*nua-isi*	[think-break] ‘remember s.t.’
PT:	Iduna	*nua- -afole-*	[mind- -pierce] ‘remember, recall’
		ua- -ʔakakili-	[mind- -overbalance] ‘suddenly remember s.t.’
PT:	Tawala	*nugo-momota*	[think-pull. tight] ‘remember, hold in the heart’
MM:	Nakanai	*hilo-tavu*	[see-towards] ‘remember’
NCV:	Paamese	*mudem silati*	[think come. across. by. chance] ‘suddenly recall’

10.6 Forgetting

Like terms for RECALL, many terms for forgetting are complex lexemes, the first component of which is either the default COGITATE verb or the body-part noun that the language uses for ‘mind’. The second component is a verb, the meanings of which are in several instances quite widespread. There are dozens of combinations in the data. A geographically well distributed combination is ‘think/mind’ + ‘lose’.

Adm:	Nyindrou	*bale- mani*	[neck lose] ‘forget, lose’
NNG:	Bariai	*mata- sapian*	[eye lose] ‘forget’
PT:	Balawaia	*tuɣa-rekwa*	[think-lose] (VT) ‘forget’
MM:	Patpatar	*lik luben se*	[think lose] ‘forget’
NCV:	Lonwolwol	*nɔr̄ helalɛ*	[think lose] ‘forget’

Another is ‘think/mind’ + ‘short’, where ‘short’ is apparently used metaphorically for ‘lacking’. The two terms below are from the opposite geographic extremes of MM.

MM:	Poeng	*lau pogo*	[liver.my be.short] ‘forget’
MM:	Maringe	*ɣaðo kmoʔe*	[think be.short] ‘forget’

The existence of a verb meaning ‘not know’ in many Oceanic languages was noted in §10.2. It figures as the second component of the following lexemes.

NNG:	Takia	*ilo- -ŋaoŋ*	[inside- -not know] ‘forget’
PT:	Iamalele	*nua-fani*	[think-not.know] ‘forget’
		nua- -fani	[mind- -not.know] ‘forget’
MM:	Maringe	*ɣaðo iho*	[think not.know] ‘forget’
SES:	To’aba’ita	*lio-dorā*	[look-not.know]‘forget (about’).
SES:	Kwaio	*maa-bolosia*	[eye-not.know] ‘forget’

A number of complex lexemes glossed ‘forget’ have a verb meaning ‘leave, go away’ as one of their components, usually the second. However, some of these have glosses—‘abandon’, ‘leave behind’—that imply a conscious choice to forget.

Adm:	Baluan	*wot lilisek*	[go. away forget] ‘forget’
MM:	Nakanai	*tapa-taro*	[? -away] (VT) ‘forget, leave, behind, abandon’ (*tapa* apparently does not occur as a verb alone)
MM:	Maringe	*ɣaðo ɣosu*	[think leave. behind] ‘forget, leave behind; ignore; be unaware of’
NCV:	Mwotlap	*dem vɛtɛɣ*	[think leave] ‘forget, pardon, abandon, drop’
Fij:	Wayan	*numi-deini-*	[think-leave] ‘forget s.t., have s.t. slip one’s mind, be unable to remember s.t.’

Clark (2009:130) reconstructs a PNCV BPM **lolo- boŋi* [mind night] ‘forget’, and infers that one component or the other has been replaced in various languages. He may well be right, but a more conservative inference is that a complex lexeme ‘mind’ + ‘night’ was present in early EOc. The terms for ‘night’ reflect either POc **rodrom* ‘be dark, be night’ or POc **boŋi* ‘night’ (vol.2:295–298). In some languages this BPM also has the sense ‘be ignorant’ (§11.3.4.1).

SES:	Sa’a	*maa rodo*	[eye night] ‘be blind, forget’
SES:	Ulawa	*sae rorodo*	[liver night] ‘forget’
NCV:	Mota	*lolo-pʷoŋ*	[inside-night] ‘ignorant, stupid, unenlightened; forget’,
NCV:	Mwotlap	*lɔl-pʷoŋ*	[inside-night] (VT) ‘forget, ignorant’
NCV:	Nokuku	*lolo- ōra*	[inside- night] ‘forget, ignorant’
NCV:	SE Ambrym	*e- bovoŋ*	[? -night] ‘forget’[10]
NCV:	Port Sandwich	*na-lö- e-boŋ-boŋ-ini*	[ART-inside- it-REDUP-night-TR] ‘forget’
NCV:	Paamese	*ē- vo-boŋo*	[inside- night] ‘forget’
NCV:	Lewo	*sine- poni*	[guts- night] ‘forget’
NCV:	Lonwolwol	*lɔ- mʊ̄ buŋ-buŋ*	[inside-? night] ‘forget’

PPn **nimo* ‘vanish, forget’ perhaps reflects a metaphorical use of ‘vanish’ for ‘forget’.

PPn **nimo* ‘vanish, forget’ (POLLEX)

Pn:	Tongan	*(ma)nimo*	‘secret, underhand, surreptitious’
Pn:	Niuean	*nimo*	‘forget’
		nimo(pō)	‘forget completely’ (*pō* ‘dark’)
Pn:	Samoan	*ni-nimo*	‘completely forgotten’ (*nimo* ‘vanish, disappear’)
Pn:	Rennellese	*nimo*	‘forget, vanish’

PPn **ŋalo* uses the metaphor of a submerged (i. e. hidden) rock for ‘forgotten’.

POc **mʷaloq* ‘submerged rock or coral reef, coral head’ (vol.2:108)

PPn **ŋalo* ‘out of sight, disappeared, forgotten, lost’ (POLLEX)

Pn:	Tongan	*ŋalo*	(VSt) ‘be forgotten, sink, disappear from sight or memory’
Pn:	Niuean	*ŋalo*	‘be lost, absent’ (*faka-ŋalo-ŋalo* ‘try to forget’)
Pn:	E Futunan	*ŋalo*	‘forgotten’

[10] SE Ambrym *e-* is a monovalent noun used in a few complex lexemes and has no independent meaning.