HORST H. LIEBNER

Indigenous concepts of orientation of South Sulawesian sailors

Spatial orientation is an essential part of intentional sea travel. In what modern nomenclature labels 'navigation', any directed movement on sea requires a precise system of points of reference for the space being moved in. It has long been noted that mastering 'the art and science of steering a course safely and efficiently over water' (Ammarell 1999:1) was an intrinsic necessity for the inhabitants of insular Southeast Asia and Oceania:

> To account for the Malayo-Polynesian migrations in the insular environment of Oceania, where islands are often separated from their nearest neighbours by long stretches of open water, the migrants would have had to possess a relatively complex culture, specifically one which included developed water craft and advanced navigational skills (Murdock 1968:92).

Accordingly, it can be assumed that the essential element in indigenous navigational practice, that is, a concept of spatial orientation, reflects 'an ancient tradition that for millennia supported the spread of the Austronesian-speaking peoples throughout virtually all of island Southeast Asia, Oceania, and even as far as Madagascar' (Ammarell 1999:3-8).

This article presents some initial results of ongoing research on concepts of orientation of some maritime-orientated ethnic groups of South Sulawesi. I will not discuss the technicalities of indigenous navigation, but focus on the underlying concepts and categories of spatial orientation. I approach this through an analysis of the expressions and terms used by contemporary 'traditional'[1] sailors and navigators to indicate a destination or direction. After

[1] The label 'traditional' should be understood as indicating contemporary seamen who rely on a tradition of seafaring which has been generated and is well embedded in a local context, including the use of specified language features as in the example of Biran sailor-traders.

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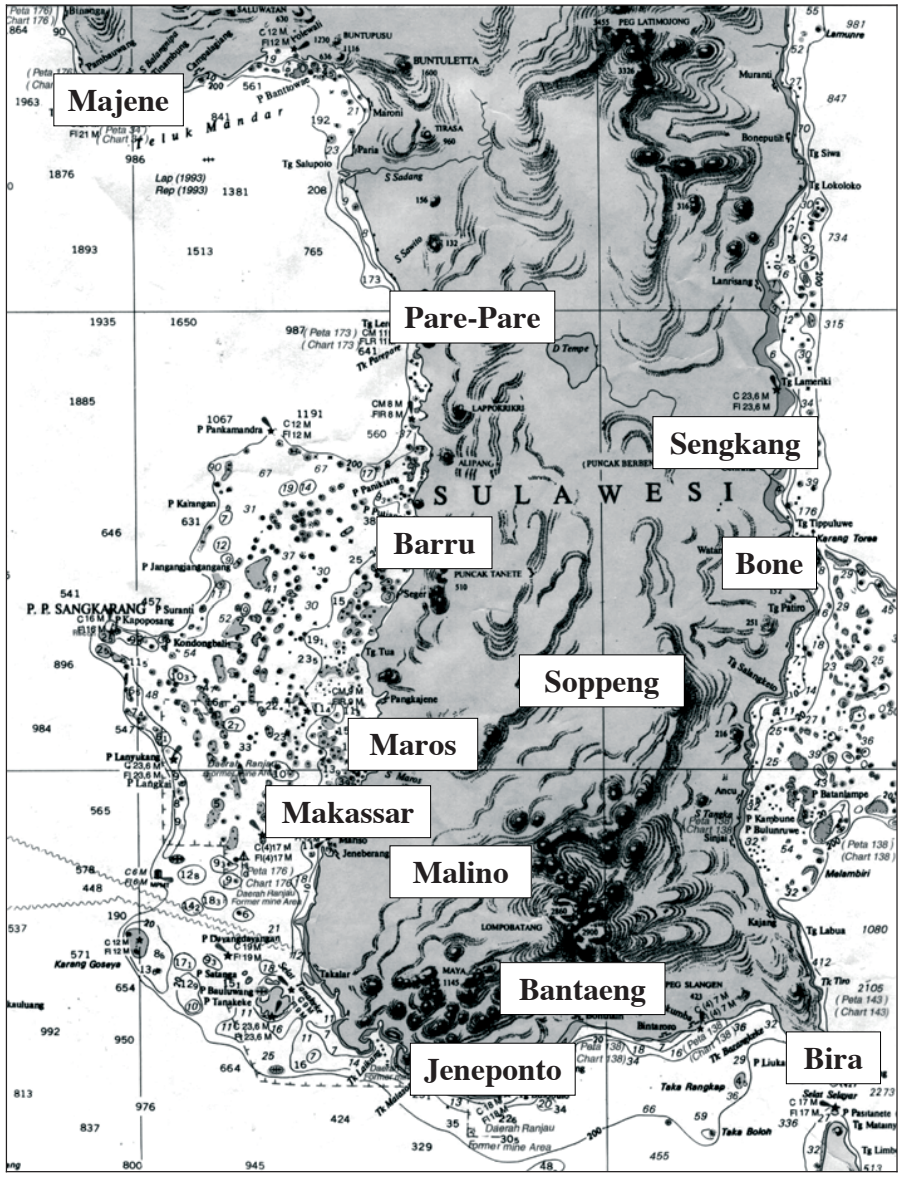


Map 1. Peninsula of South Sulawesi, INC 111

outlining the problem and giving examples of spatial terminology used by South Sulawesian fishermen, sailors, and inter-island traders, in the second section I explain in detail the directional terms employed by the sailor-traders of Bira as an example of the complexity and sophistication of these patterns. The third and fourth sections place the discussion in the wider context of migration and settlement of insular Southeast Asia.

In most Austronesian languages, particularly spoken and informal language, 'words' are a slippery concept. I therefore make no attempt to indicate linguistic details such as word classes and cases. All words crucial to the discussion here, be they verbs, prepositions, or locationals, I refer to simply as 'directionals'. However, I feel it necessary to introduce some typographical conventions. I distinguish between ordinary non-English words (in italics) and directionals (in underlined italics); for ordinary words I put translations between angle brackets, for 'abstract' glosses of directionals I use small caps. Language names are abbreviated using capitals; a list of languages and abbreviations is provided at the end of the article. For directions based on western compass readings, I use standard English abbreviations (for example, SE for southeast, WNW for west-northwest). The glottal stop [/], a very common phoneme in Sulawesian languages, is written here as /q/.

The problem

In their local languages as well as in informal Indonesian (IND), people living in South Sulawesi in most of their conversations about spatial matters employ a commonly recognized set of directional expressions. Some of these phrases are unfamiliar to speakers of European languages and, at first sight, contradict international geographical standards. For example, a speaker of Makassarese (MAK) living in the city of Makassar would say if he

- intends to travel to Pare-Pare (which lies to the north):

MAK				IND	ENG
ero-kaq	*naung*	*ri*	*Pare Pare*	*saya mau turun ke*	<I want to go down
want-1 sg	move downwards	LOC	name of town[2]	*Pare-Pare*	to Pare-Pare>

However, the astute willingness of 'traditional' coastal communities to adopt new technologies (here, for instance., the use of nautical charts and modern navigational means like satellite navigation devices) is well known and reported: 'Skippers [in the eighteenth century] were keen on introducing all kinds of innovations that made traffic easier and more efficient. This sector of society harboured many people who were ready and willing to innovate, by no means invariably working according to traditions.' (Knaap 1996:149; see also Ammarell 1999; Liebner 2000.)

[2] I use the following abbreviations: LOC – locational 'adverb'; POSS – possessive; sg – singular; QUAL – qualifier; nas – nasalization; ACT – active.

- is talking about someone living in Jeneponto (that is, a place south of Makassar):

MAK			IND	ENG
apa-ji	*kabaraq-na*	*i-rate?*	*bagaimana sih kabarnya*	<What actually is the/his/
what-QUAL	news-3sgPOSS	LOC-above	*di atas?*	her news above?>

Here, <go down> refers to a place which – if referred to from Makassar – would be 'above' on a standard map, while Jeneponto would be found in the 'lower' section of the same map (see Map 1). <Going down> leads to an area <below> or <downwards> (*irawa*) as seen from the position of the speaker; *irate* corresponds to the verb *naiq*, <going up>. Two other terms, *waraq* and *timboroq*, are believed to denote the direction itself, and in dictionaries and wordlists are glossed as <north> and <south>, or <west> and <east>.[3] However, in daily language, referring to the coastline of the peninsula of South Sulawesi would indicate the two other cardinal directions of international convention, east (E) and west (W); for example, someone living in Pakato (see Map 2) would say if intending to go

Map 2. Village of Pakato and surroundings

[3] For the first interpretation, see Cense 1979; for the second one, Grimes and Grimes 1987. I return to the variations in interpretation of directional terms below.

- to the village of Soreang, located west of Pakato:

MAK			IND	ENG
la-kalauq-kaq	*ri*	*Soreang*	**saya ke (arah)*	<I will go (seawards)
FUT-direction of sea-1sg	LOC	name of village	*laut ke Soreang*	to Soreang>

- to the village of Bilibili, located east of Pakato:

MAK			IND	ENG
anraiq-kaq	*ri*	*Bilibili*	**saya ke (arah)*	<I will go (landwards)
direction of land-1sg	LOC	name of village	*darat ke Bilibili*	to Bilibili>

The same two terms would be used by a person with an 'average' geographical knowledge for any destination reachable via the sea and located (approximately) to the west if seen from the area inhabited by speakers of MAK (like the islands of the Spermonde Archipelago, or coastal towns in Kalimantan and Java) as opposed to eastern and inland destinations like Soppeng, Sengkang, or Bone. Again, two further words (*raya* and *lauq*) denote the direction (in dictionaries more commonly glossed as <east> and <west> than <landwards> and <seawards>; see Arief 1995) and, combined with the locational /i-/, the area referred to (see Figure 1). The employment of these terms is related to the position of the speaker: if, for example, the speaker is in Pare-Pare, Makassar would be *irate*, <upwards, above>; if the speaker is in Bantaeng, on the southern coast of the peninsula, *raya* denotes topographic <north>, the direction opposite the Flores Sea. Furthermore, a lack of geographical knowledge would cause a speaker to simply apply the term describing his first movement out of his core area – so Jayapura on the island of Papua could be *kalauq*, <in the direction of the sea, seawards>, if reached by inter-island ferry.

This paradigm is commonly known as a 'relative orientation', as opposed to an 'absolute' orientation, where indicating direction is based on unchangeable points of reference.[4] Relative orientation is commonly acknowledged to be in use not only in Makassar (MAK), but also in the Bugis language (BUG) and in languages of other ethnic groups of Sulawesi and beyond. Figure 1 shows the directional concepts of these two major ethnic groups of South Sulawesi as described by Yoshida (1980:59-60). Clearly, the axis of SEA(WARDS) ⟷ LAND(WARDS) corresponds to the shorelines of the territories of either Makassar or Bugis, where SEA in MAK refers to the W, the Straits of Makassar, and in BUG to the E, the Gulf of Bone. This geographical

[4] Here following Yoshida 1980:25-33; for an overview of the vast discussions on the linguistics of spatial orientation, see Senft 1997. I will return to some aspects of the theoretical framework of spatial orientation after a discussion of its actual usage in a South Sulawesian context.

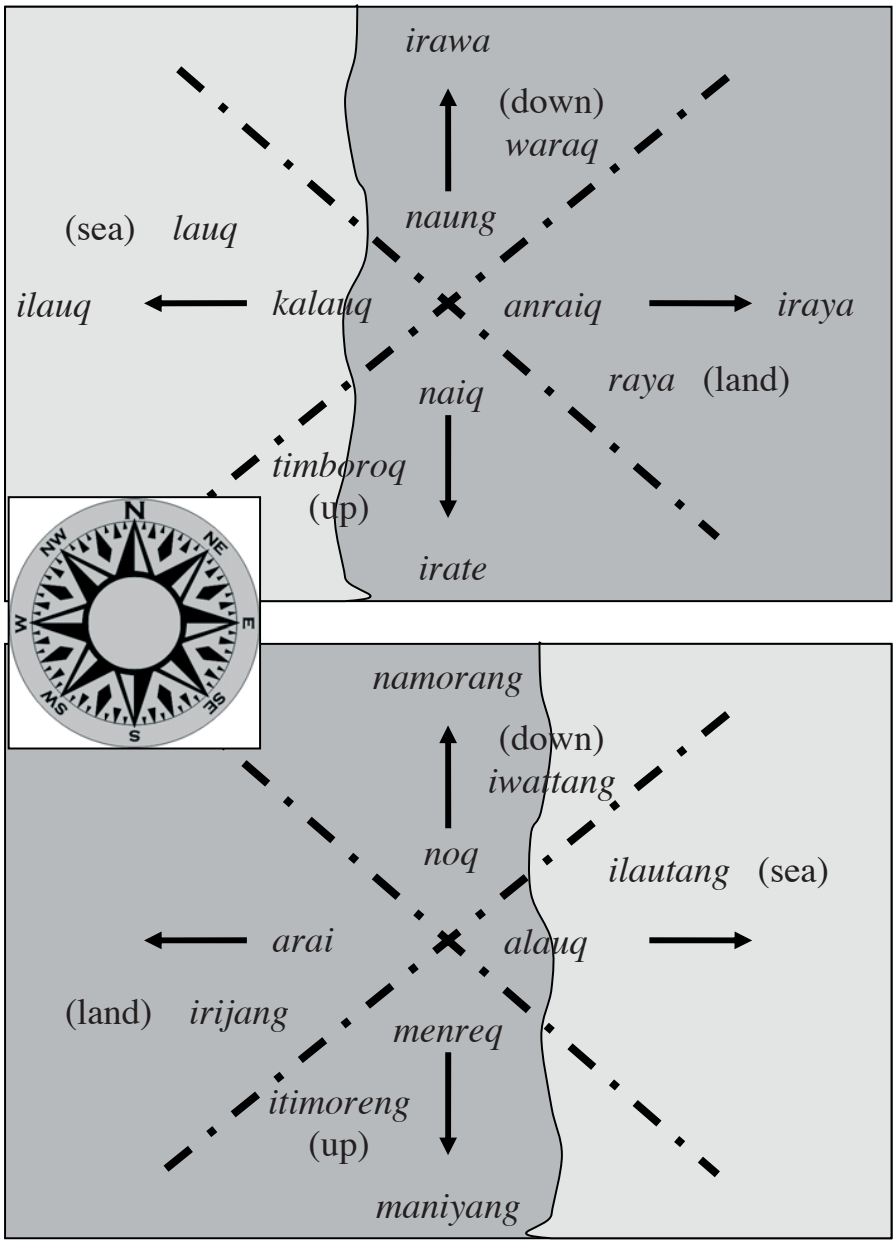


Figure 1. Makassar (above) and Bone Bugis (below) system of 'relative orientation', after Yoshida (1987); spelling corrected following Cense (1979), Matthes (1874) and conventions used in this article

and 'ethnic' relativity of the SEA ⟷ LAND axis is mentioned in Cense's and Matthes's Makassar dictionaries (for instance '*lauq*: […] in Bantaeng: south', Cense 1979: entry *lauq*), or by Ammarell (1999:92-3):

> Among the Bugis from the area around Maros [on the western shore of the peninsula – see Map 1] […] *olau'* refers to the interior which lies East, while *orai* […] refers to the direction of the sea to the West. […] This rather puzzling system, I suggest, is a product of past migrations. Ancestors of the Bugis from around Maros came from or were influenced linguistically, at least in part, by the Bugis of Bone and Soppeng who claim great antiquity in their respective homelands on the east coast of South Sulawesi. There, variants of these terms do 'appropriately' describe the actual geography. […] It therefore seems likely that the terms for seaward and landward were borrowed from Bone by the Bugis of Maros […], retaining a meaning which may have been synonymous with East-West.

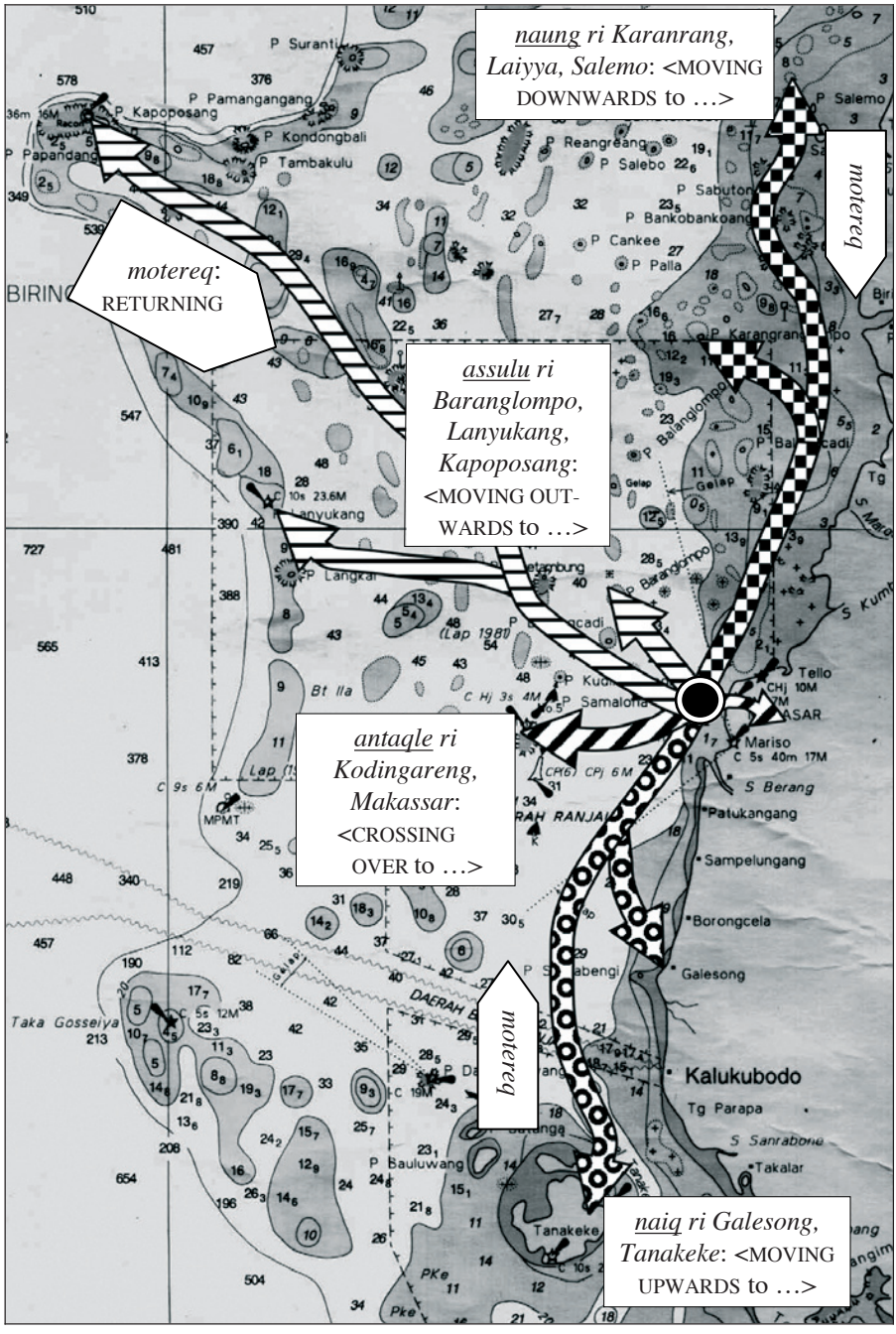
Conversely, note that, following Yoshida, UP ⟷ DOWN in both languages denotes SOUTH ⟷ NORTH, which he associates with MAK *timboroq*/BUG *timoreng* versus MAK *waraq*/BUG *iwattang*. These two words seem to be associated with the proposed reconstructions *timuR, commonly glossed as <southeast monsoon> or <wind bringing rain> and *SabaRat, <west wind, northwest monsoon>,[5] 'attributable to [one of the two] Proto-Malayo-Polynesian […] orienting features, [… namely …] the South-East Asian monsoons' (Blust 1997:39), clearly 'non-relative' points. I return to these ambiguities below.

Closer examination of these patterns confirms Barnes's notion (1996:163) that 'virtually all coverage of these parts in daily vocabulary by outsiders is inadequate [… and …] misinterpreted when translated directly by European ideas about the cardinal points'. In MAK as well as in BUG, the concepts DOWN (or BELOW) and UP (or ABOVE) are used for a wide variety of directions and localities:

MAK			IND	ENG
ammantang-ngi	*i-rate-ang*	*anging*	*ia tinggal di atas angin*	<He lives (above the wind)
live-3sg	LOC-above-LOC	wind	*(di sebelah barat)*[6]	in the west>

<Above the wind> is understood as referring to the direction of the most common and strongest wind experienced in Makassar (the daily sea breeze) as well as the westerlies during the wet season between December and March; <below the wind>, accordingly, refers to the E.[7] UP and DOWN, too, may indicate topographic movements: if located in Malino in the mountains to the E of Makassar, a speaker of MAK would say:

5 See Wurm and Wilson 1975; Dempwolff 1938; and footnotes 29-32 below.
6 Arief 1995, under the entry *rate*.
7 For example, Cense 1979, under the entry *rawa*.

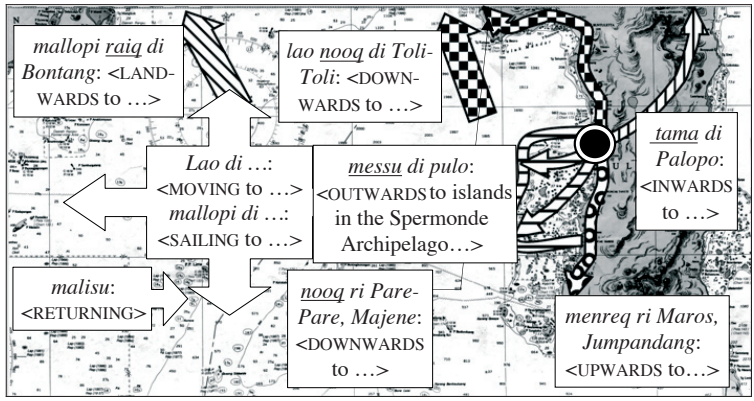


Map 3. Some directional terms used by 'small-scale transporters' of Lae-Lae Island, sketched onto INC 128

MAK				IND	ENG
ero-kaq	*naung*	*ri*	*Mangkassaraq*	*saya mau turun ke*	<I want to go (down)
want-1sg	move downwards	LOC	name of town	*Makassar*	to Makassar>

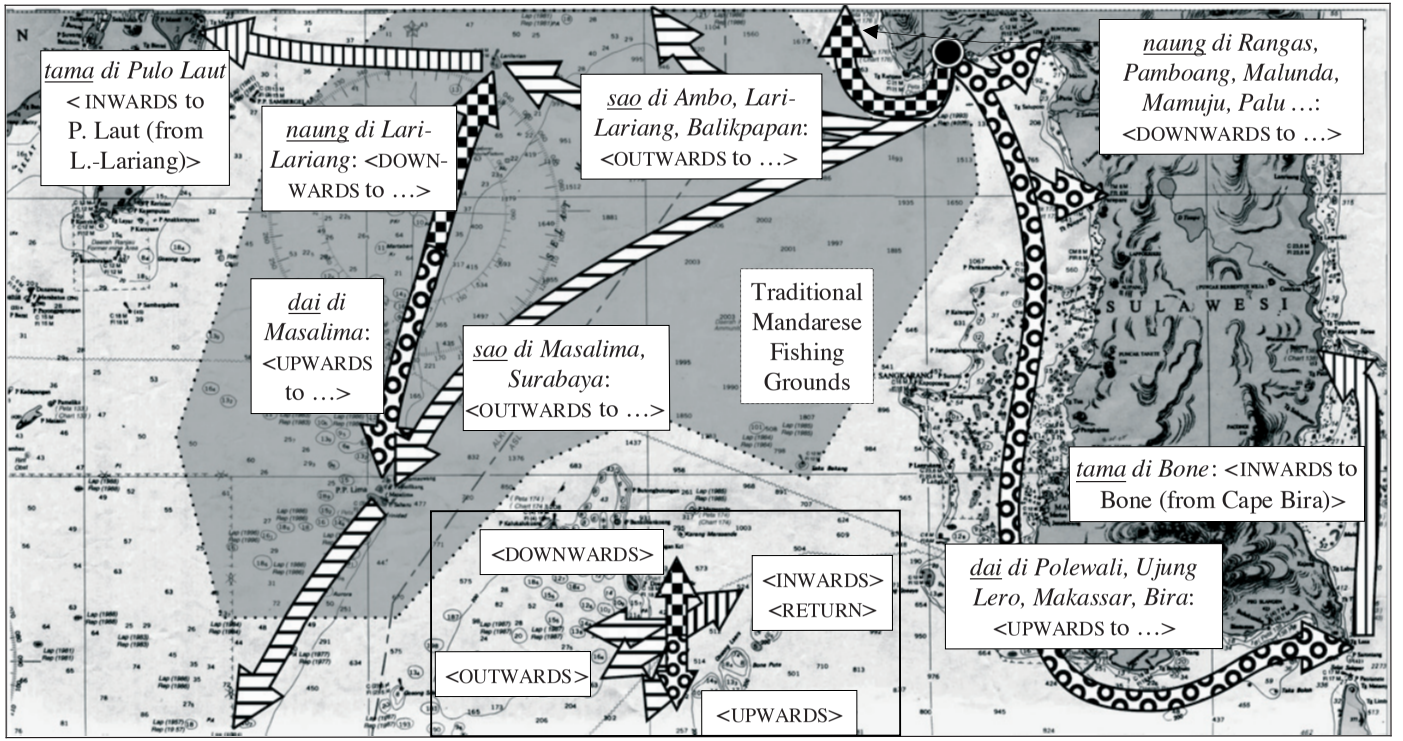
Use of these different directionals depends greatly on the geographical knowledge of the individual speaker and the 'topographic situation' he is living and speaking in. In daily language an ample number of other terms like <cross over>, <inside>, and <outside> would also be used. An analysis of orientational paradigms therefore has to take into account actual locations and activities.

Map 3 illustrates some possible movements of *sekoci*, small motorized vessels used for transport purposes in Makassar harbour and between the islands of the Spermonde Archipelago, if leaving from the island of Lae-Lae opposite Makassar.[8] As we would expect, a trip to the islands of Laiyya or Salemo north (N) of Makassar would be called *naung*, MOVING DOWNWARDS, and the reverse course to Galesong or Tana Keke would be *naiq*, MOVING UPWARDS. However, movements within sight off Lae-Lae itself are *antaqle*, <crossing over>, and a voyage to islands in the western part of the Spermondes is called *assulu*, <moving outwards>; when returning to Lae-Lae, people talk of *motereq*, <returning>. My MAK informants, anyway, readily accepted the general paradigm of SEAWARDS ⟷ LANDWARDS and UP ⟷ DOWN, but claimed that they would only use *kalauq*, <seawards>, if leaving the fringing reef of the Spermondes 'to places like Jakarta or Bali, which we simply cannot reach' with small open vessels.



Map 4. Some directional terms used by sailor-traders of Barru sketched onto INC111, centred on the Port of AwerangE

8 Based on interviews with Lae-Lae boat pilots in March and April 2003.



Map 5. Some directional terms used by blue-water fishermen of Pambusuang, Mandar, sketched onto INC 111

Map 4 shows some of the terms used by Bugis trader-sailors of Barru for describing spatial movements on land and sea if centred on the port of AwerangE.[9] As is the case in MAK, Barru sailors move UPWARDS to any location in a southerly direction on the mainland of South Sulawesi, and DOWNWARDS to destinations to the N and NNE. However, these terms are not used when sailing. The first move through the islands inside the fringing reef of the Spermonde Archipelago is called *messu*, <move outwards>, and not *raiq*, <move landwards>, as we would expect given Yoshida's and Ammarell's explanations of Bugis orientational terminology. Having left the reefs, any movement of a Barru ship would be labelled *lao*, <go, move>, or *mallopi*, <sail with a ship>; returning to their homeport of AwerangE is simply *malissu*, <return>. In interviews the words *raiq* and *nooq* were only mentioned after my insisting that there should be something more than *lao* and *mallopi* only, and combined with *lao* or *mallopi* plus (consistently) the two ports of Bontang and Toli-Toli, major destinations for Barru's trading fleet. Travelling to an inland destination like Enrekang or Palopo was called *tamaq*, <move inwards> – which is consistent with the use of *messu* when leaving the shore and heading to sea, but nevertheless not what we would expect.

The directionals mentioned by Mandar blue-water fishermen from Pambusuang and Rangas[10] (Map 5) illustrate a comparable pattern. Movements along an approximate north ⟷ south axis are labelled DOWN versus UP, and movements away from the shoreline to any initial seawards destination are described as *sao*, <*seawards>.[11] However, in the examples of voyages given here, *sao* and *daiq* change into *tama*, <inwards>, for instance when sailing from the island of Lari-Lariang to the mainland of Kalimantan or passing the Cape of Bira and turning N 'into' the Gulf of Bone – in the case of eastern Kalimantan my informants explained this by saying 'we are then approaching a new shore, so "moving inwards" again'. *Tama* is employed too, to describe 'sailing opposite to any direction called *sao*'; again, <sailing back home> was readily called *malai*, <return>. The insert on Map 5 shows these directionals as used to refer to movements inside the Mandar sailor's traditional fishing grounds, where SEAWARDS denotes any movement 'out' into the grounds, and INWARDS or RETURN would depict leaving the area.

9 Interviews with sailors, captains, and navigators of AwerangE in March 2003.

10 Interviews with Mandar sailors in 1995-1997, 2002-2003, 2005.

11 Though not translating *sao* into IND '*ke laut*', but '*ke sana*', 'over there', informants clearly stated that the word denotes movements from a house to the beach and then to any direction away from a shoreline into the direction of the open sea, generally associated with WSW. <Moving outwards>, as opposed to *tama*, <moving inwards>, from a house to other directions than the shore, would be *messung di boyang*, 'moving out of the house' (Interviews January 2005).

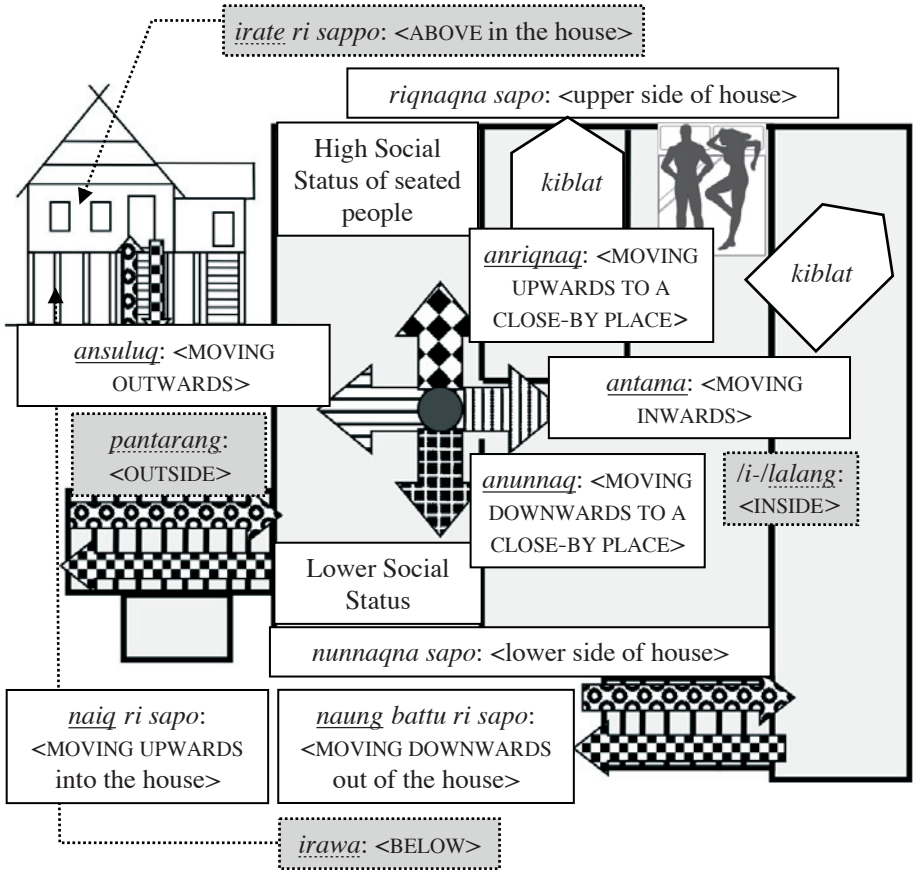


Figure 2. Orientation in a Biran house

Biran inter-island traders

The village of Bira is famous as the home of the best-known sailor-traders of South Sulawesi, 'good warriors, both at sea and land; the richest among them are merchants; the others employ themselves in building of proas'.[12] These inhabitants of the most southerly tip of the peninsula of South Sulawesi speak the 'Pesisir' dialect of Konjo (KON), a language related to MAK which to the west and north is surrounded by speakers of BUG (Grimes 1987:27-8).

12 Stavorinus 1798:260. On Biran sailing and the boat-building industries of Tana Beru, Ara, and Lemo-Lemo, see Collins 1936, 1937, 1944; Gibson-Hill 1950; Horridge 1978, Liebner 1993, 2000; Pelly 1975, 1977.

As is the case with most maritime-orientated groups, the arid and infertile soil of Bira and surroundings was probably the main reason that residents turned to the sea for a livelihood.

For an analysis of Biran spatial terminology I start with the orientational axis in a house (Figure 2). Constructed on stilts, a person entering the house would have to *naiq*, MOVE UPWARDS, into the house itself. Its floor is conceptualized as being 'above' or 'upwards', /i-/*rate*, from the position of speakers on the outside: 'Hoyakoq berannu *irate ri sappo*',[13] <look for your knife *above* in the house>, would be said by people still on the ground. Once inside, the person could move in four directions, *anriqna* or *annunnaq*, UPWARDS ⟷ DOWNWARDS NEARBY, and *antama* or *ansuluq*, INWARDS ⟷ OUTWARDS. 'Upper' and 'lower' sides are orientated to where the staircase, 'the feet of a house', leads into the building. Beds and bedrooms are placed so that the head of a sleeping person points to the 'upper' side, and even when sleeping on the floor in an open room, people would avoid positions where the head points to the 'lower' side. During more formal occasions guests and inhabitants would be seated according to social status, with the highest-ranking person sitting with his/her back to the *riqnaqna sapo*. If at all possible, the whole house would be arranged in such a way that the *kiblat* points to the 'upper side'; praying facing the *nunnaqna sapo* is believed to be *harang*, 'forbidden (or at least unwished for) by religious directives'. 'Outwards' (*pantaraq*/-ng/) and 'inwards' (/i-/*lalang*) denote the space reached by movements towards or away from the main front stairs and entrance if the speaker is inside the house. *Pantaraq*/-ng/ also refers to the space outside the house, to locations preferably still in the line of sight from a window or the veranda when the speaker is inside the house. Leaving the house by descending the stairs is labelled *naung*, MOVING DOWNWARDS, to the ground, which is below (/i-/*rawa*) the elevated house; /i-/*rawa* refers specifically to the space under the floor or the close vicinity of the building directly visible <from above> (*battu irate*) when looking out of a window.

This consciousness in the use of directions and orientations can be found, too, in a description of the process of 'boarding an anchored ship'. Figure 3 illustrates the different movements necessary when coming out of the house (*naung*, DOWNWARDS), proceeding to the seashore (*ansuluq*, OUTWARDS), approaching the ship (*kalauq*, SEAWARDS), and finally boarding the ship (*naiq*, UPWARDS), projected onto a sketch of the hamlet of Panrang Luhuk, one of the two traditional anchorages of Bira. While *naung* and *naiq* here represent vertical movements of descending the staircase of a house and ascending from the dugout onto deck, *ansuluq* and *kalauq* are clearly defined by the shore, or *biring lauq/kassi*,[14] where the outwards movement changes into

13 [look-2sg knife-POSS2sg LOC-above LOC house].

14 Literally, <edge of the sea/sand>.

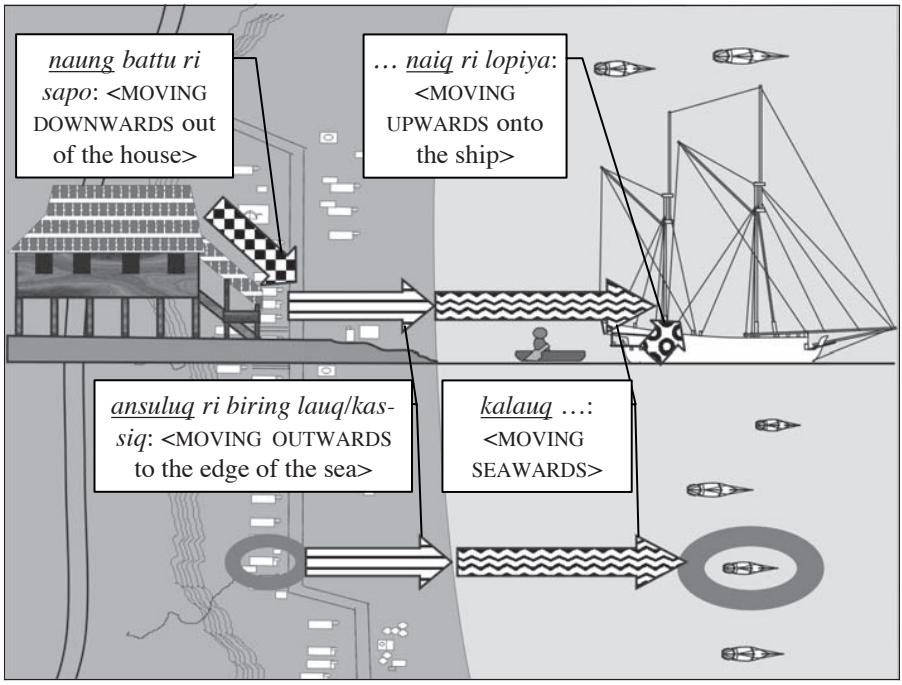
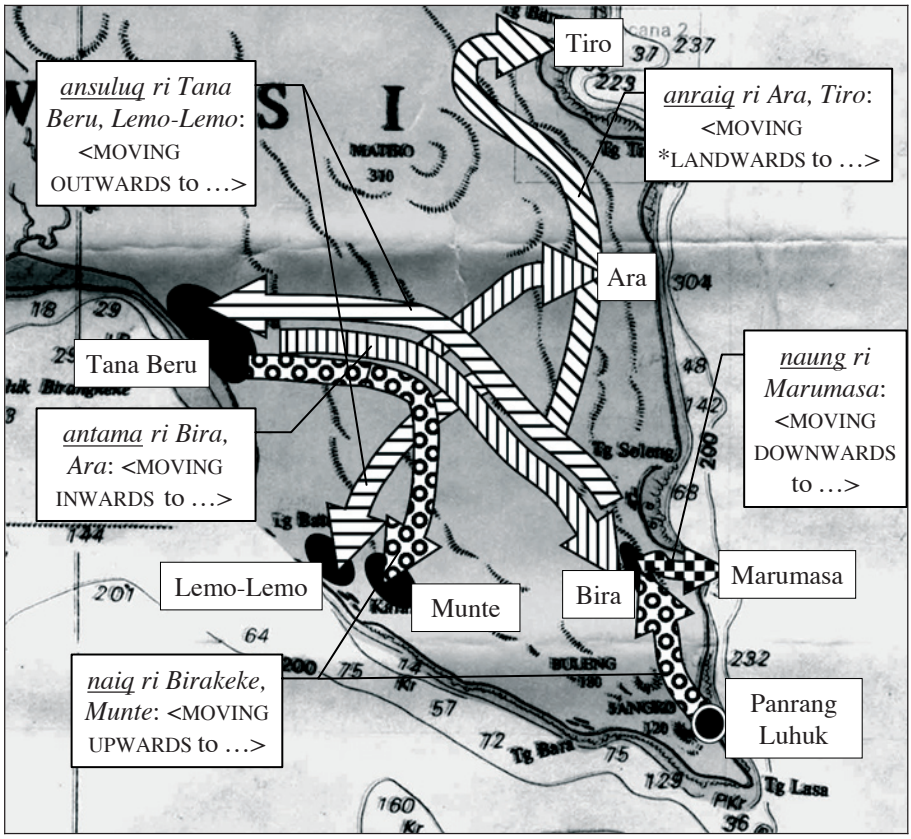


Figure 3. Moving from house to ship in Panrang Luhuk

a seawards one. Conversely, one would *anraiq ri biring lauq/kassi*, <MOVE *LANDWARDS[15] to the seashore>, and *antama ri kampong*, <MOVE INWARDS into the village>.

Map 6 shows the directionals employed by Birans living in the hamlet of Panrang Luhuk to refer to several nearby movements on land. Making one's way to the town of Bira itself is called *naiq*, as the road is ascending; from there on to the NW to Tana Beru (or turning W off the main road to Munte) is labelled *ansuluq*, MOVING OUTWARDS. For a Biran, Ara or Tiro are reached by MOVING *LANDWARDS, *anraiq*; however, from Tana Beru these two villages are reached by MOVING INWARDS, the same as travelling from Tana Beru to Bira Town. Though we would expect *naung*, DOWNWARDS for the way back to Panrang Luhuk from Bira, a person living in the hamlet would say *maliang*, RETURNING (HOME). *Naung*, however, would be used for

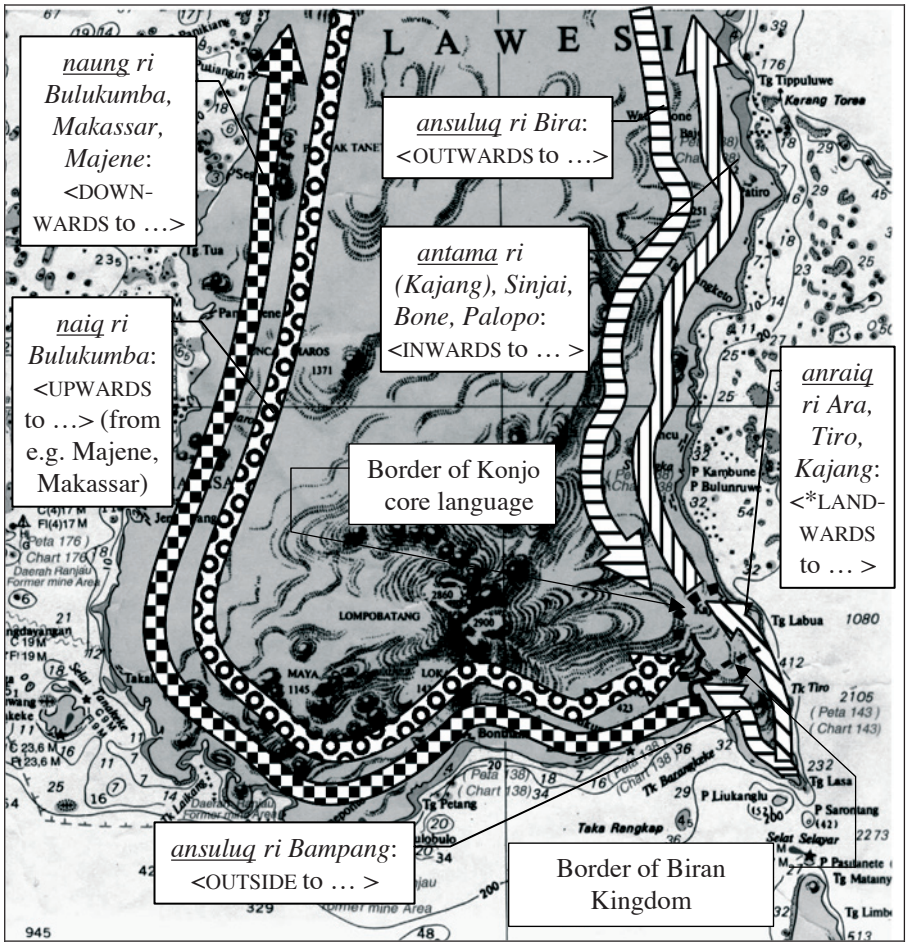
[15] MAK *anraiq*, morphologically explainable as an active verb (/ACT(nas)-root/), is mentioned by both Cense (1979) and Arief (1995) as 'to go to the east', while MAK *raya*, translated by both as 'east', does not seem to have a verbal form. As neither the dictionaries nor my informants gave a clear translation into, for example, IND 'ke arah darat', I here mark its gloss as *LANDWARDS with an asterisk.



Map 6. Cape Bira, INC 143

descending from Bira Town to Marumasa, the second traditional anchorage just below the cliffs of Bira itself. Note that *naiq* and *naung*, UPWARDS and DOWNWARDS movements, are only used here for either topographical features such as ascending or descending the coastal cliffs, or for describing a socially upwards movement; informants explain that one must *naiq ri Munte* from Tana Beru, because the better part of today's inhabitants of Tana Beru migrated there from the now deserted village of Lemo-Lemo, where Munte was the seat of the Karaeng Lemo-Lemo, who reportedly ruled the area before the aristocracy of Bira became more important.

Extended land-based movements are seen on Map 7. Informants insist that *ansuluq*, OUTWARDS, can only be used to refer to the initial WNW movement along the southern coast until reaching the river Bampang; from there, any travel to destinations W and N along the western coastal road of the penin-



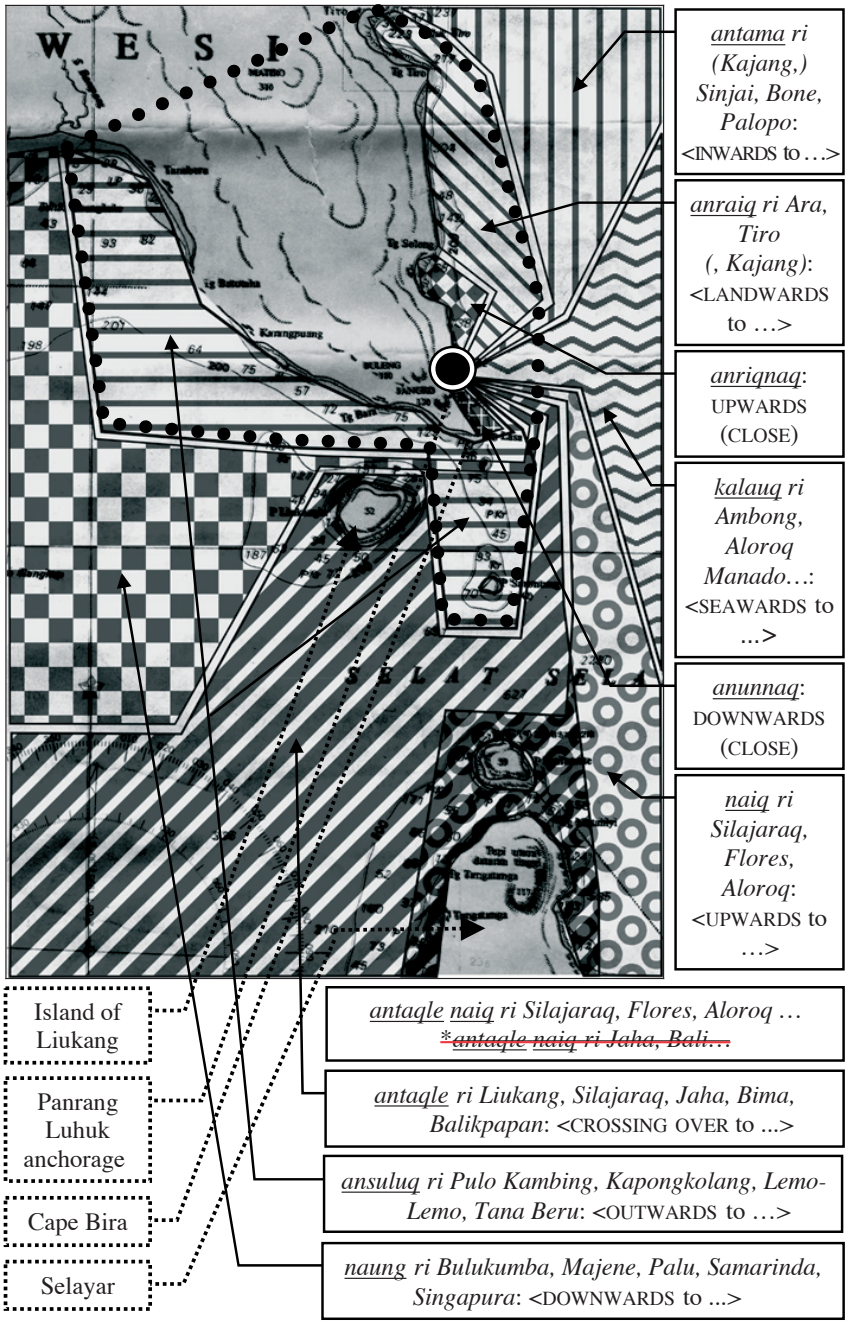
Map 7. Some Konjo directionals employed for movements on land; INC 111

sula is labelled *naung*, DOWNWARDS. Similarly, *anraiq*, LANDWARDS, used for travelling N along the eastern coast, changes into *antama*, INWARDS, after reaching Tiro or Kajang; my informants were somewhat vague about where this change takes place. However, the river Bampang is the western border of the historic Kingdom of Bira as well as the boundary of the area inhabited by speakers of 'Konjo Pesisir'. The Bay of Tiro constituted the northern border of the kingdom, and the port of Kajang marks the northern periphery of the Konjo Pesisir 'core language' – the lands further W and N are increasingly inhabited by speakers of BUG and KON 'Pegunungan' (Grimes and Grimes 1987:27). Here, obviously, either a political or ethno-linguistic frontier is

crossed, and the directional terminology consequently has to change. The pairing of directionals used after having traversed this line seems logical at first glance. After having moved DOWNWARDS to Makassar, Pare-Pare, or Majene, one comes back UPWARDS, and after having moved INWARDS to places in the Gulf of Bone, one moves OUTWARDS back to Bira. Yet, inside the political/ethnic borders we found an INWARDS ⟷ OUTWARDS movement, that is Bira ⟷ Tana Beru along the southern coastal road, which is continued with DOWN ⟷ UP after the river Bampang.

If on board a ship anchored in Panrang Luhuk, any Biran sailor with some experience could mention at least nine different directionals for possible movements of his vessel to destinations all over the archipelago and beyond. Use of these terms is surprisingly consistent; however, only experienced navigators and captains could supply information on more 'unusual' destinations which would be out of range of the regular voyages of Biran vessels (see below). Map 8 outlines the sea areas which would fall in the range of particular directionals, here centred on the boundaries of the historic Kingdom of Bira (dotted line). A first 'inner circle' of orientation is bound by the Cape of Bira and the northernmost point of the Bay of Kasusu. As is the case inside a house, movements along the shoreline inside this circle would be *anriqna*, UPWARDS TO A NEARBY DESTINATION, pointing N until the N cape of the Bay of Kasusu, and *anunnaq*, DOWNWARDS TO A NEARBY DESTINATION, south (S) to Cape Bira. The next 'circle' is bound by the ethnopolitical limits mentioned above – as on land, one moves S and then W and NW, OUTWARDS, to Tana Beru, and N, *LANDWARDS, to Tiro (or Kajang). Here, Cape Bira divides the areas which are labelled NEARBY DOWNWARDS and OUTWARDS. Going to the fishing grounds between the cape and Bembe Island in the Straits of Selayar would be *ansuluq*, OUTWARDS. Panrang Luhuk anchorage itself marks the division between OUTWARDS and *LANDWARDS movements. *Antama*, INWARDS, denotes all destinations 'inside' the Gulf of Bone, opposing *naung*, DOWNWARDS, which is used for various ports on the western shores of Sulawesi, the northern parts of Makassar Straits, and in the Straits of Malacca. Any movement initially heading for 'the open sea, where there are no obstructions'[16] to the E of the anchorage is labelled *kalauq*, SEAWARDS. This includes places in a wide range between SE and NE like Alor (KON Aloroq) and other islands of the Southern Moluccas or Manado in North Sulawesi. The S quarter is referred to by two terms, *antaqle*, CROSS OVER (TO THE OTHER SIDE), and *naiq*, UPWARDS. Here again, the cape seems to divide the two directions; one could say *antaqle* (and/or) *naiq ri Silajaraq* (<Selayar>) or Alor, but not *antaqle naiq ri Jaha* (<Java>) or Bali. However, *antaqle* can denote numerous destinations all along the Java Sea and in the

[16] Informant HAS, March 2003.



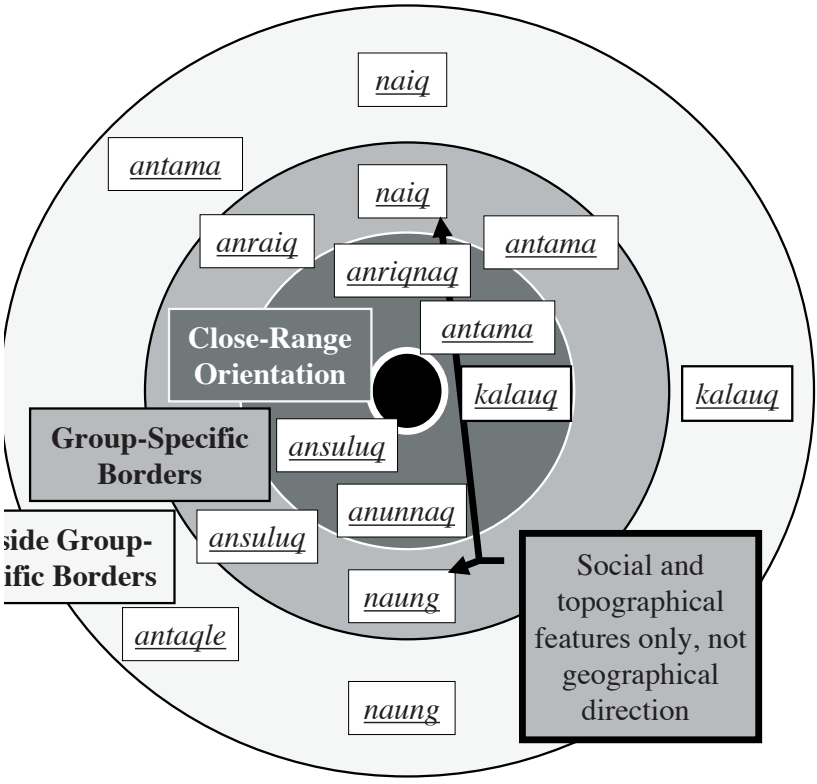
Map 8. Areas coverd by different directionals seen from Panrang Luhuk Anchorage; projected onto INC 143

southern parts of the Straits of Makassar, while *naiq* is not used extensively when leaving Bira for a customary trading cycle. Note that none of the words employed for indicating the points of a compass are used to describe these movements; however, any Biran navigator of some standing could easily 'translate' the directionals into compass bearings. I will return to this point; suffice it to say here that navigators clearly distinguish between use of these directionals in daily language and the technical requirements of navigation.

Figures 4 and 5 summarize the orientational paradigms discussed so far. Birans distinguish between three different 'circles' of orientation (Figure 4), an inner one which is used for close-range orientational purposes like inside a house or just off the beach, a medium-range circle which is bound by ethnic and political borders, and an outer one which is used to refer to destinations outside the first two circles. Some of the directionals used by Birans are only found inside certain ranges (like *anunnaq* and *anriqnaq*, which are only used for close-range 'destinationing'); others do not indicate geographical movements inside a certain range (like *naiq* and *naung* which inside the 'ethnic borders' only refer to topographically vertical movements, or movements between social or political levels). Analogous patterns of 'three more or less discontinuous levels or rather scales localizing a person or an object […where…] change of scale is often indicated by a change of spatial categories' (Teljeur 1987:348) are frequently reported in the literature.[17]

Figure 5 'unrolls' the coastline of South Sulawesi into a straight horizontal line; vertical lines denote the borders of the orientational ranges, extended into half-circles in the upper part of the diagram. Directions along the outer rim of the half-circle represent movements to areas outside the peninsula which would be reachable by sea. I include only movements directed to locations in the outer circle, not the reverse. Circles labelled with abbreviations of the conventional cardinal directions give approximate bearings. Note that not all of these directionals are arranged in unambiguous ways. For example, a *LANDWARDS movement to the N after reaching Tiro/Kajang is continued to INWARDS, opposing OUTWARDS, and subsequently DOWNWARDS when travelling to the second possible direction, to W and N along the southern and western coast to Tana Beru, then Bulukumba or Makassar. In the inner ranges of the diagram some terms do not pair up with their semantically logical complements, like *anraiq* (*ri Ara*) versus *maliang* (*ri Panrang Luhuk*); informants, though, accepted proposed pairings (like, in this example, *kalauq ri Panrang Luhuk* when leaving from Ara), but repeatedly claimed that one then 'would be on the way back home anyway'. Clearly, the use of *kalauq* as opposed to *anraiq* in this context is difficult, as we have seen that the seman-

[17] I will return to this with the examples of Halmaheran languages analysed by Bowden (1997) and Yoshida (1980).



gure 4: 'Ranges' of Biran sailor's orientational paradigm

Figure 4. Ranges of Biran sailors' orientational paradigm

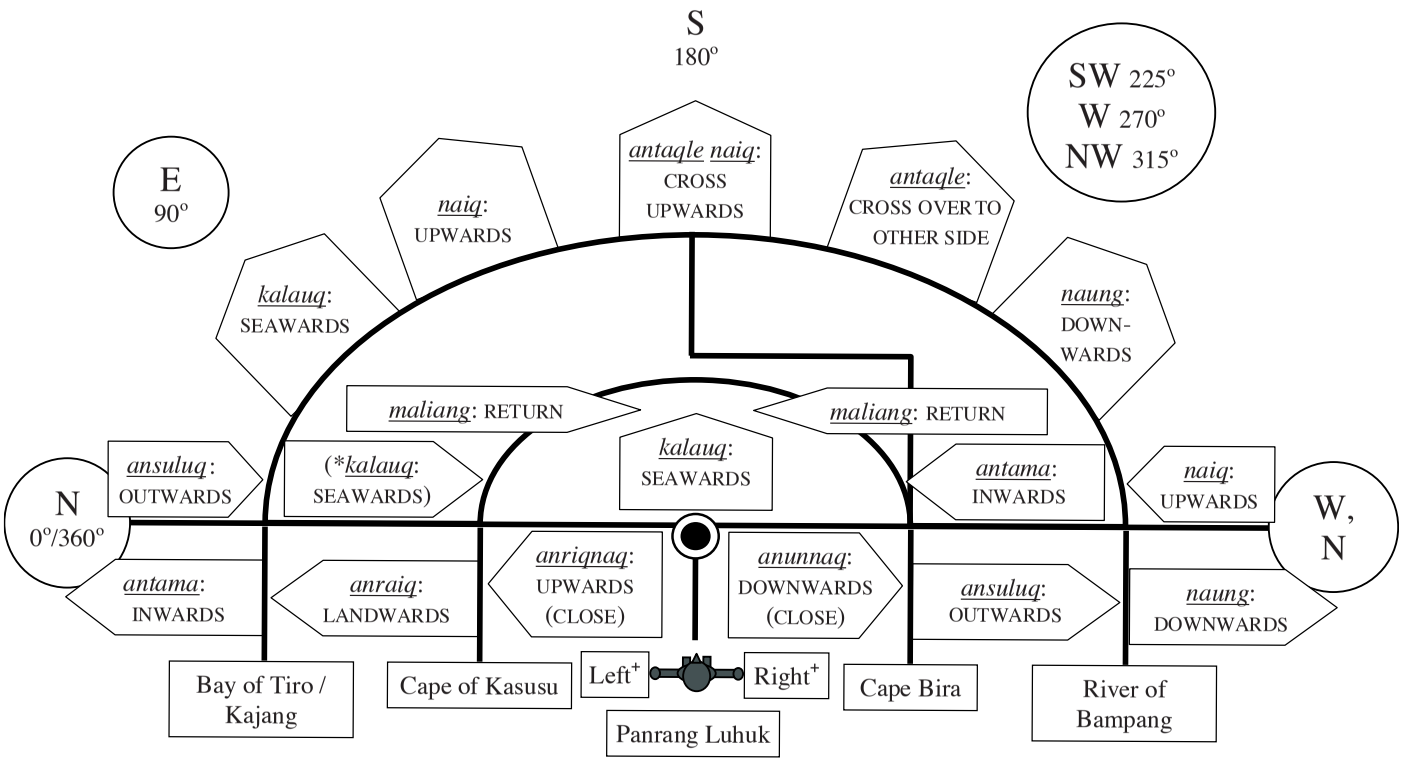
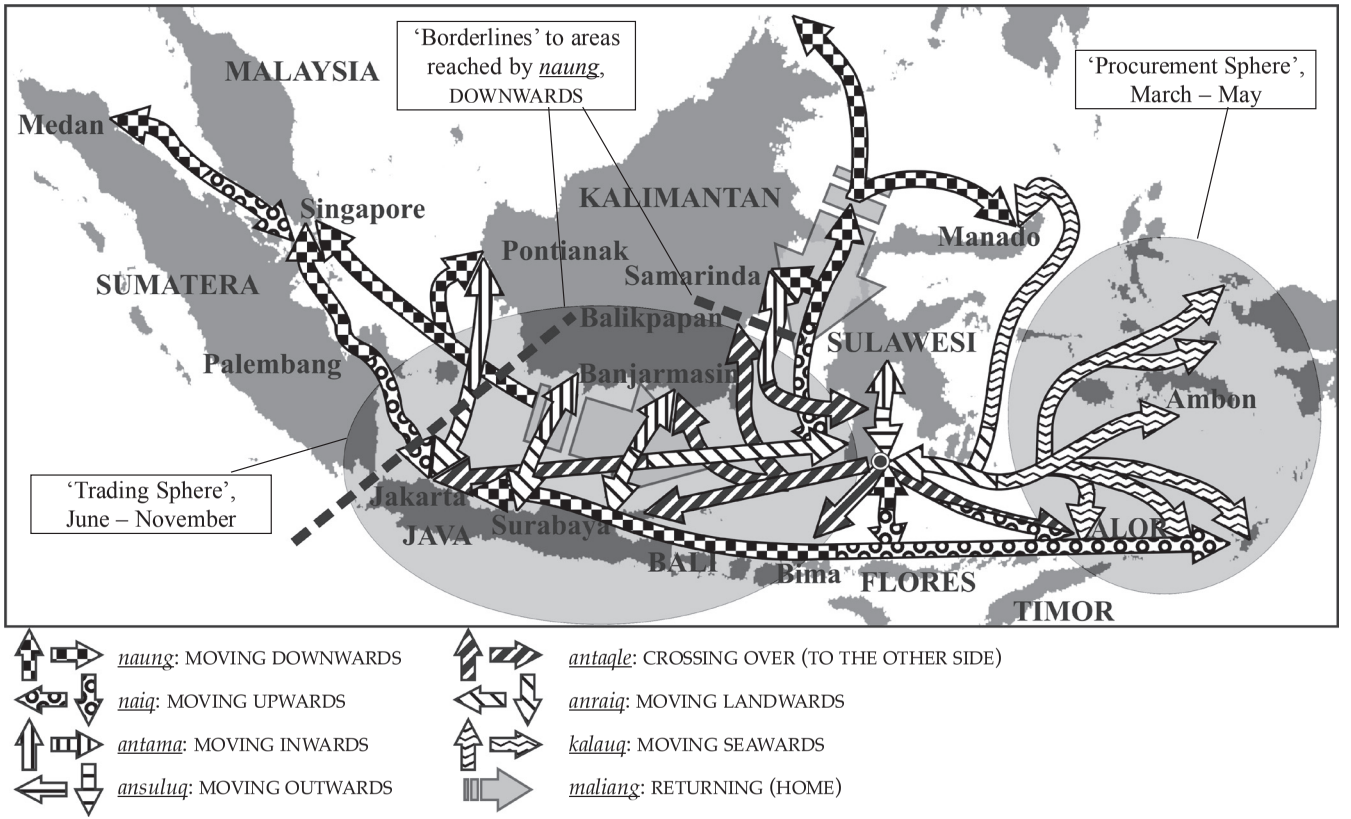


Figure 5. Unrolled diagram of directionals, centred on Panrang Luhuk;
a plus sign (+) indicates directions for a person facing the shoreline



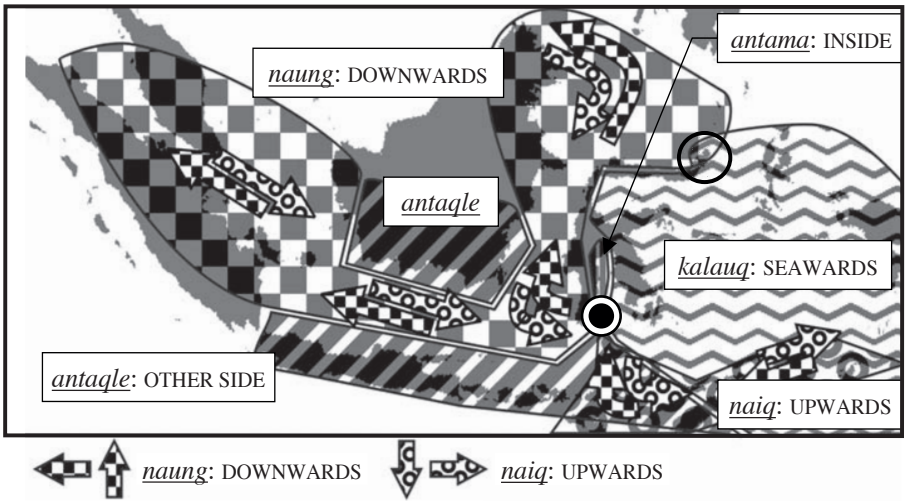
Map 9. Directionals employed to describe some possible movements of Biran trading vessels

tically correct reading of the former must refer to an open, unobstructed SEAWARDS movement, which in this representation of the paradigm seems to be nearly the same direction as *LANDWARDS. Another difficult word is *antaqle*, CROSS OVER (TO THE OTHER SIDE), which has no semantically plausible opposite except *maliang*, RETURN. Accordingly, at my insistence, several informants used 'semantically logical' pairs like *maliang naung*, <returning downwards>, for a trip from Selayar to Panrang Luhuk. This diagram clearly shows that the directionals UPWARDS, INWARDS, and *LANDWARDS all point to the 'left' for a person facing the seashore, approximately falling into the range of 1º-180º on a mariner's compass, while DOWNWARDS and OUTWARDS point 'right' and cover 181º-360º. This perception is summoned up by informants in explanations like: 'if facing the seashore, *ansuluq* means to go to the right, *antamaq* to the left'.[18]

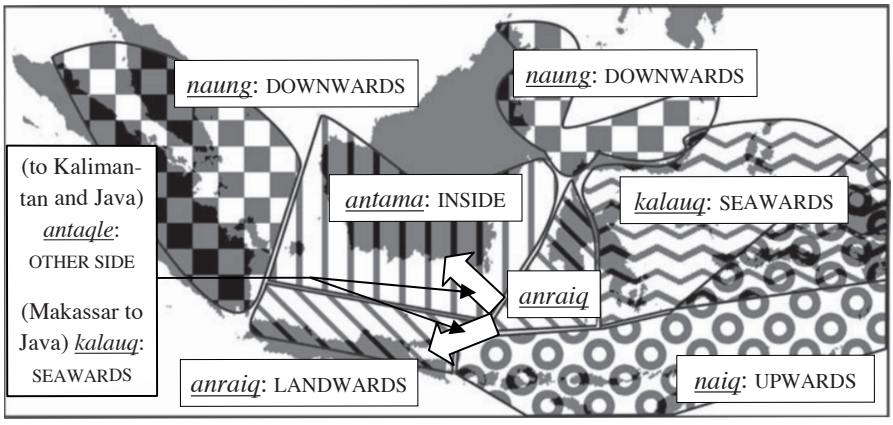
These patterns become more complicated when we analyse the directionals used to illustrate the possible movements of Biran ships when away from their home port, as shown in Map 9.[19] We have already noted the INWARDS ⟷ OUTWARDS and UPWARDS ⟷ DOWNWARDS movements to and from the head of the Gulf of Bone and the island of Selayar; a proper Biran captain during Bira's trading heyday, however, would have started his trading season at the end of the west monsoon with a voyage to the Moluccas, labelled *kalauq*, SEAWARDS. Here the crew would be kept busy procuring forest products (like certain tree barks used as dyes in Java's batik industries or cargoes of spices) until the first easterlies set in about May. Then the vessel would sail for a port in eastern Java to sell its cargo. This move to the W is invariably called *naung*, DOWNWARDS, with any move in the opposite direction (to the E) being identified as UPWARDS, *naiq*. Only if the ship came from a more northern part of the Moluccas would it stop over in Bira or Tana Beru before proceeding to Java; opposing the SEAWARDS direction (*kalauq*), this trip W would be called *anraiq*, now clearly to be glossed LANDWARDS. Sailing again from Bira or Tana Beru for Java is described as *antaqle*, indicating CROSSING OVER to some 'other side' of the Java and Flores Sea which has to be reached for conducting the trader's business. After having sold the cargo in eastern Java, the ship would take on rice or some general trade wares, which it ideally would carry to a port in southern Kalimantan to be exchanged for a cargo of timber destined for Javanese markets. Crossing the Java Sea to the N is called *antama*, MOVING INWARDS, while the way back S to Java is labelled *anraiq*, LANDWARDS, and not 'outwards' as we would expect. Following the eastern wind and the tides of trade, the ship would move more and more to the W, crisscrossing the Java Sea with different cargos, probably sailing as far as the Straits of Malacca at the end of the east monsoon. Any movement to

18 Informant BA, December 2000.

19 For records of the Biran trading cycle, see Collins 1937.



Map 10. Areas inside the Indonesian archipelago covered by various directionals, centred on Bira



Map 11. Areas inside the Indonesian archipelago covered by various directionals, trading season

the W along the northern coast of Java or to the NW from Java to the Straits is called *naung*, DOWNWARDS, and the reverse to the E is called *naiq*, UPWARDS. A possible direct trip from Tana Beru or Bira to Singapore or Medan is called *naung*, too. However, the direct way back to Bira falls under *maliang*, RETURN (HOME) – as does any other movement from any destination throughout the archipelago around November, when the winds change and the Biran fleet headed back home to be docked until the following March.

To understand the patterns behind the use of these directionals, we need to ask what terms are used to describe movements which are 'uncommon' for a Biran sailor. For example, a direct course from Bira to ports in southern Kalimantan is referred to as *antaqle*, CROSS OVER, but from Bira to Pontianak would be called *naung*, DOWNWARDS. Several informants stated that '*antaqle* becomes *naung* when passing southern Sumatra',[20] with a possible dividing line running SW to NE through Sunda Strait. The same is seen between Balikpapan and Samarinda, where the more northerly port of Samarinda (as for any other destination further N on Kalimantan or all ports along the western shore of Sulawesi) is reached from Bira by MOVING DOWNWARDS and not CROSSING OVER. The latter directional, *antaqle*, though, is used to describe a voyage from Samarinda to the South Sulawesian port Pare-Pare.[21] Manado is a special case (Map 10). If the ship reaches North Sulawesi through the Moluccas, the movement is *kalauq*, SEAWARDS; if it sails through the Straits of Makassar, it would be moving DOWNWARDS. A voyage from Jakarta to Makassar during the trading season goes *LANDWARDS, but the way back could be either SEAWARDS ('If we leave Makassar for Java, we sail out into the open sea'[22]) or *antaqle*, CROSSING OVER, as from Bira to ports on both sides of the Java Sea. And even sailing to Alor from Bira outside the 'procurement season' between March and May could be called CROSSING OVER or UPWARDS (or both: see *antaqle naiq ri Aloroq* mentioned above); if reached for the purpose of producing or bartering for trade goods in March, the trip is labelled *kalauq*, SEAWARDS.

Maps 10 and 11 show projections of the different areas covered by Biran directionals onto a map of the Indonesian archipelago, the former for a Bira-centred view, the latter for movements during the Biran trading cycle from June to November. Map 10 also shows the general axis of UPWARDS $\Longleftrightarrow$ DOWNWARDS movements, which, as noted in Figure 5, obviously refer to E/S $\Longleftrightarrow$ W/N respectively. A comparison of the two patterns indicates that the only area called INSIDE as seen from Bira, the Gulf of Bone, 'moves' to

20 Interviews 1995-2002.

21 During the years around 1970, a considerable number of Biran ships were employed in transporting boulders used for various construction works from Sulawesi to Kalimantan.

22 Informant BA, January 2001; other informants stated that *kalauq* in this context is only correct if used by Makassar sailors.

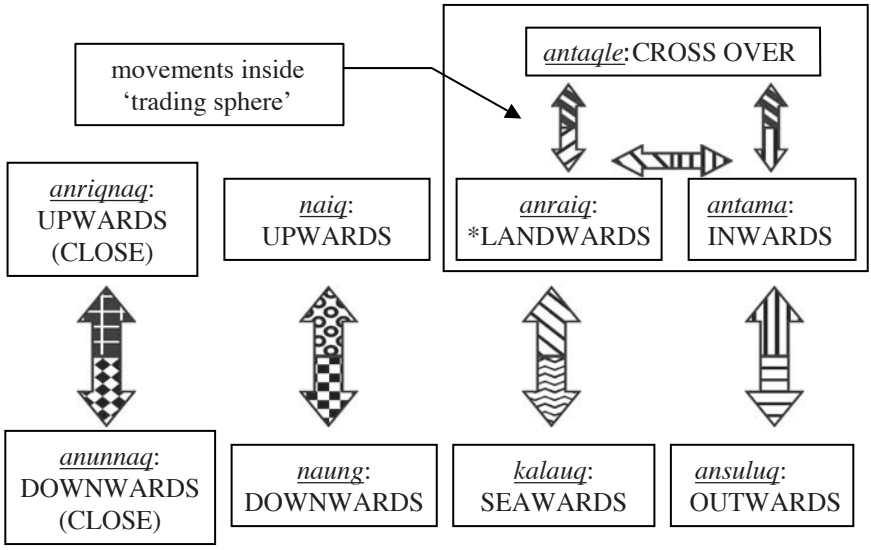
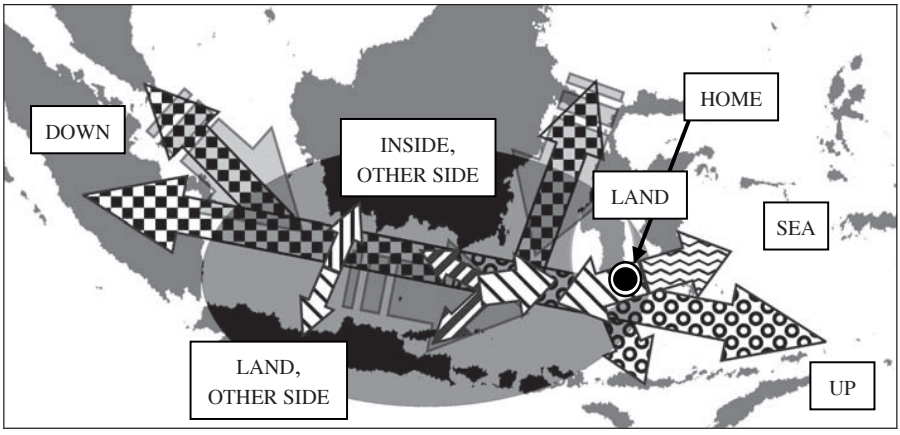


Figure 6. Semantic grouping



Map 12. Orientational paradigm for Bira

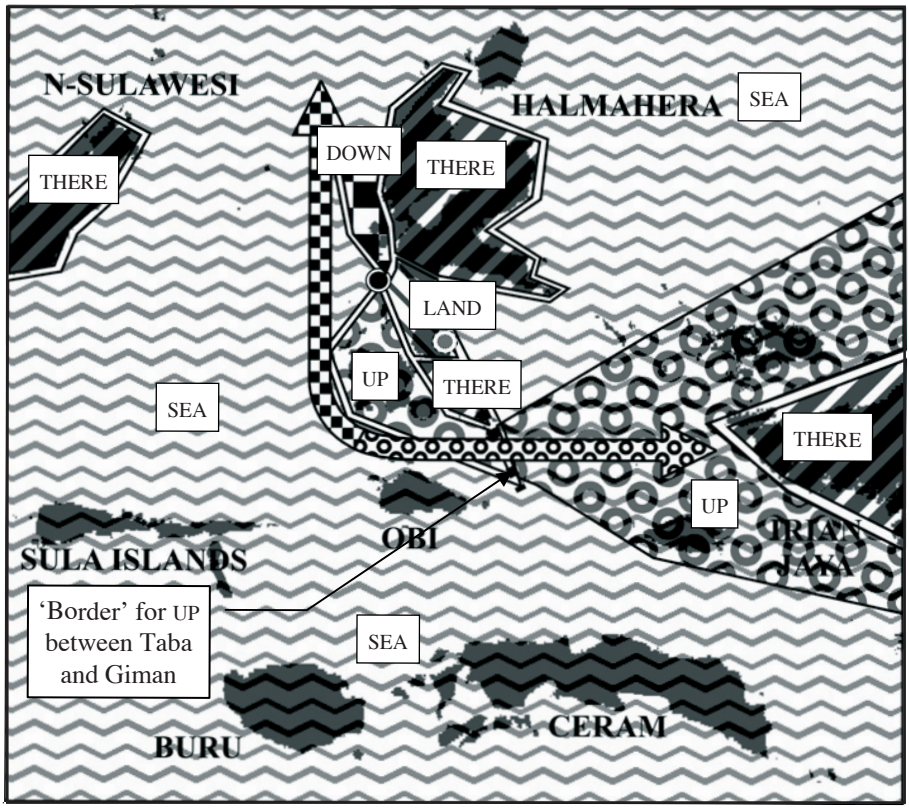
Kalimantan during the trading season, and that a 'new' area to LANDWARDS opens up in Java and South Sulawesi; also, the distinction between places which are labelled UP or DOWN from the speaker's position becomes much clearer. However, the two areas LANDWARDS have to be appraised according to the position of the sailor. The '*REAL LAND' seems to be South Sulawesi, because, when viewed from there, both Java and Kalimantan again are referred to as the OTHER SIDE, or – in the case of Java when viewed from Makassar – even SEAWARDS.

Figure 6 is a semantic diagram of the different directionals. All expected semantic oppositions show up; in the upper-right corner of the diagram, two words describing opposite movements of Biran ships, LANDWARDS and INWARDS, are difficult to pair up logically. Additionally, we find the term CROSS OVER (TO THE OTHER SIDE), which does not seem obscure when opposed to LANDWARDS and INWARDS, but is in fact not used in opposition to any of the other directionals. It should not come as a surprise that these three terms are the only ones used for courses sailed inside the traditional Biran trading area that do not follow the E-W movements of the UP ⟷ DOWN axis; *kalauq*, SEAWARDS, only shows up incidentally, as the course from Makassar to Java simply leads 'out into the open sea', and *ansuluq*, OUTWARDS, is not mentioned at all for movements inside the Biran core trading area.

Map 12 sums up our findings. Though at first sight we might assume they refer to N or S, DOWNWARDS and UPWARDS more often denote movements along an E-W axis. Except for the SEAWARDS course from Makassar to Java, in all other areas the space called SEA – clearly located in an ENE quarter – is placed 'outside' of an 'inside', where LAND, HOME, OTHER SIDE, INSIDE are the choice for indicating directions. This 'inside' is the area where most movements of Biran vessels take place. A further core area inside this latter one is where Birans have their HOME, a place which even from the LAND Java is reached by MOVING LANDWARDS. Leaving this seemingly more important second LAND, for the first one could be seen as CROSSING OVER or SEAWARDS. At a later time, one actually RETURNS HOME to this core LAND from all other known directions. We have here the epitome of a 'homeland'. To solve this puzzle, we will now have a look at orientational paradigms used by other ethnic groups of the area.

The Austronesian background

Maps 13-15 outline systems of orientation found in the literature for ethnolinguistic groups on the island of Halmahera. Though the northern parts of that island are reported to be inhabited by speakers of Papuan languages, it will become clear in the following that 'there are broad similarities between

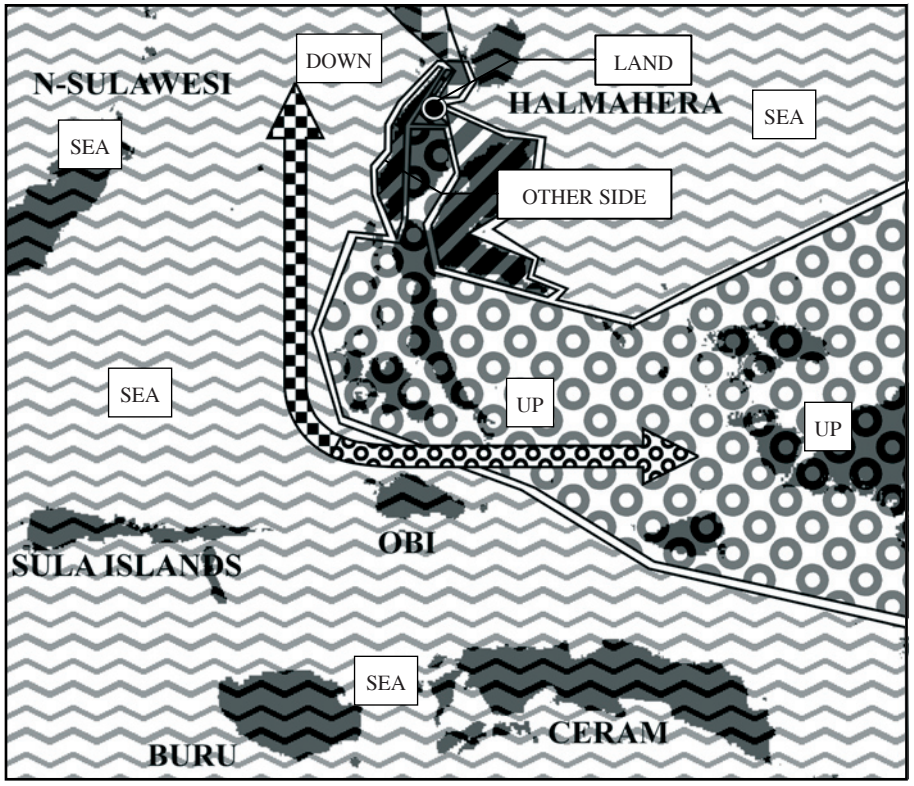


Map 13. Orientational paradigm of the Taba, after Bowden 1997

the directional systems of both the (Austronesian) South Halmahera languages and the (Papuan) North Halmahera languages' (Bowden 1997:255).

Map 13 shows an orientational pattern reported by Bowden for the Austronesian Taba (and, to a certain extent, the closely related[23] Giman) language. Two 'pairs' of contrasting directionals, SEA <—> LAND and UP <—> DOWN, define the locations of places one knows and recognizes from one's position of speaking. A fifth directional, translated by Bowden as <there>, refers to several known and probably frequently visited places; a wide range of other, sometimes even closer, locations fall under SEAWARDS, eventually encompassing 'anywhere else in the world' (Bowden 1997:264). Note that the two directions labelled DOWN and UP correspond to Sulawesian usage, where DOWN (in the case of Bira only partly) refers to N, while UP denotes S and E. Bowden (1997:265) explains that

[23] 'Giman, spoken by the current inhabitants of Southeast Halmahera, is mutually intelligible with Taba' (Bowden 1997:267).



Map 14. Galela system of relative orientation, after Yoshida 1987:34

> all of the other languages in the Halmahera region, whether Papuan or Austronesian, have roughly comparable systems, distinguishing at least the same five basic categories. […] Most strikingly, all of the systems distinguish an up-down axis that correlates quite closely with the Taba one. While Taba speakers go 'down' only as far as Ternate, speakers of Tobelo continue 'downwards' as far as the northern tip of Halmahera. Taba speakers go 'up' as far as Gebe, but the Giman […] keep going 'up' through to the Raja Ampat islands to Irian Jaya. Some languages from Irian Jaya also use the same terms and extend the axis further.

Map 14 shows Yoshida's analysis (1980) of the orientational pattern of the Galela, speakers of a Papuan language located on the NE tip of Halmahera. Again, two pairs, SEA ⟷ LAND and UP ⟷ DOWN, plus what Yoshida calls 'other side' (related to Bowden's 'there'?) indicate discrete geographical 'areas'. It is noteworthy that the island of Ternate is classified as SEAWARDS, while a range of other adjacent places – even the nearby island of Tidore – are categorized as UPWARDS. 'It seems that there is some relationship with

the [seaborne] invasion of the Sultan of Ternate' (Yoshida 1980:37). Yoshida depicts these terms on an 'emic map' (Figure 7) which he orientates around the four main quarters SEA, LAND, UP, and DOWN. It is obvious that this map is far from commonly acknowledged topographic reality; however, following Yoshida, it is logical and harmonious if seen from the viewpoint of a speaker of Galela. He argues that we should distinguish between two orientational systems,

> absolute and relative. The latter shifts with changing circumstances such as the direction of sea and land, whereas absolute orientation is not influenced by such circumstances, but rather is decided by astronomical and/or meteorological phenomena. Absolute and relative orientations may be called the long-distance and short-distance orientations respectively, because the former is orientated by reference to long-distance objects such as the sun and the moon, and the latter by reference to the sea and the land. The cardinal points are typical examples of absolute orientation. (Yoshida 1980:24.)

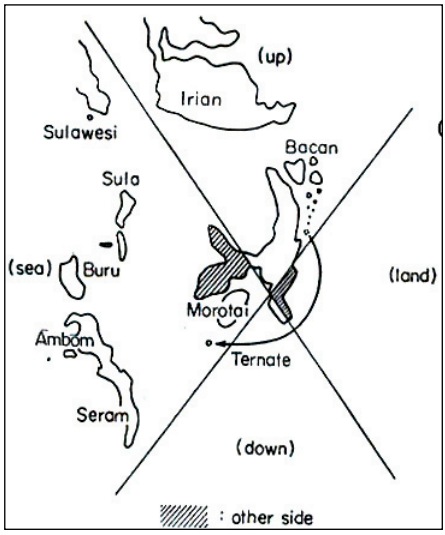
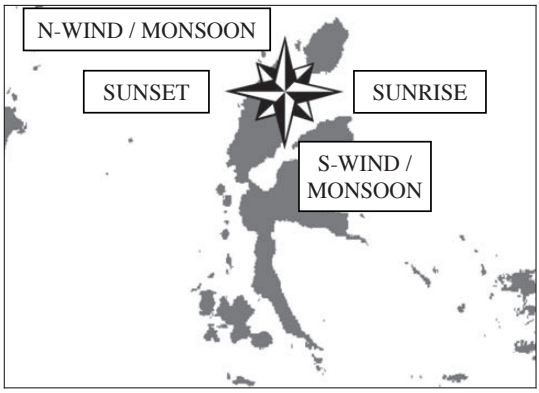


Figure 7. An 'emic map' of Galela's relative geography, Yoshida 1987:36

Map 15 illustrates Yoshida's delineation of the Galela pattern of 'absolute' orientation. Note that the two different (local) directions of the monsoons and the rising and setting of celestial bodies define four cardinal points, which could easily be compared to the modern compass rose. However, I remind the reader of Barnes's counsel concerning inadequateness and misinterpretations of indigenous orientational patterns 'when translated directly by European ideas about the cardinal points'. We should not forget that a 'bluntly right-angled' western approach to geographical and topographical directions is closely connected to the use of magnetic compass, nautical charts,



Map 15. Galela system of absolute orientation, after Yoshida 1987:24

and coordinates[24] – clearly not common in societies where 'some people still now do not know the exact position of these islands' (Yoshida 1980:37), that is, are unaware of geographical features as interpreted by 'modern standards'. Besides, the surprisingly high correspondence of UP and DOWN with the western concepts of S and N in many languages of eastern Indonesia cannot be entirely dismissed as part of a merely 'relative' orientation system. If the directionals LAND and SEA are related to the geographical location of an area, we would expect UP and DOWN to follow these settings – an expectation that is not confirmed even by the data used by Yoshida (Figure 8).

Directional systems relying solely on either 'absolute' or 'relative' patterns are difficult to apply in actual situations like navigating a ship or finding one's way in a city (Gatty 1958:45). For present purposes we may speak of 'home referring' and 'self-centred' patterns, the former relying on geographical or topographical patterns connected with the place someone leaves from or heads to, the latter giving an individual's orientation according to 'unchangeable' features like celestial bodies or annual phenomena like seasonal winds. However, existing non-western directional systems of some sophistication like the famous case of Micronesian navigation[25] use com-

[24] A problem even 'traditional' navigators are aware of, as illustrated by 'a compass rose made by an old man [navigator on Buton island]; the informant emphasized that proper directions do not fit the points of the mariners compass used as scheme, thereby recalling the wind- and star-compasses recorded in Micro- and Polynesian navigation' (Liebner 1993:38).

[25] See Lewis 1994; Gladwin 1970. Jack-Hinton (2003, personal communication) informs us of 'a comparable situation in Mediterranean and Black Sea seafaring history where, before the introduction of the magnetic compass, the Greeks, if not the Phoenicians, developed the wind rose as a directional concept. North was recognized by Polaris, east and west were recognized by the rising and setting of sun and stars, and eight "points" between were recognized by different seasonal prevailing winds. In Medieval Europe it was known as "La Rosa dos Ventos".'

Language	*East*	*West*	*South*	*North*
Galela	SEA	LAND	UP	DOWN
Loloda	LAND	SEA	UP	DOWN
Tabaru	LAND	SEA	UP	DOWN
Tobelo	SEA	LAND	UP	DOWN
Modole	?	?	UP	DOWN
Ternate	SEA	LAND	DOWN	UP
West Makian	LAND	SEA	UP	DOWN
East Makian	SEA	LAND	UP	DOWN
Buli	SEA	LAND	UP	DOWN
Sanana	SEA	LAND	UP	DOWN
Selayar	LAND	SEA	UP	DOWN
Makassar	LAND	SEA	UP	DOWN
Bugis	SEA	LAND	UP	DOWN
Coastal Melanau	LAND	SEA	UP	DOWN
Kedang	UP	DOWN	LAND	SEA

Figure 8. Correspondence of directionals with cardinal directions, Yoshida 1987:77

binations of both 'home referring' ('relative') and 'self-centred' ('absolute') approaches, where the directions of dominant winds, oceanic swell, and positions of celestial bodies (be they setting, rising, or 'static') are constantly 'recalculated' in 'relative' as well as 'absolute' ways.

In insular Southeast Asia we luckily face a situation where the two dominant seasonal 'winds' can be used as bearings for directions based on yearly cycles, illustrated on Map 16 (August) and Map 17 (January). The main direction of the airflow between June and October, known as 'east monsoon' in Sulawesi, actually describes a clockwise curve through Indonesia and the Philippines to turn into a SW wind in the northern parts of the China Sea. As shown on Map 16, a significant number of words related to the Proto-Austronesian (PAN) reconstruction *timuR which denote this 'wind' or direction in languages of Taiwan, the Philippines, and Indonesia tend to follow this change. *timuR is believed to gloss <southeast monsoon>, <wind bringing rain>, or <rain cloud>.[26] In MAK[27]

[26] For this and other reconstructions see Dempwolff 1938; Wurm and Wilson 1975; especially the gloss 'southeast monsoon' is widely accepted by current authors as a reconstruction of Proto-Malayo-Polynesian (PMP) (see Blust 1997:39; Adelaar 1997:54). There is a wide variety of different spellings of reconstructions which for a person not specialized in reconstructional linguistics is somewhat confusing (for instance, **ha-baFat*, **habaRat*, **SabaRat*, <NW monsoon>); I here follow the orthography proposed by the referees of this article.

[27] *Timoroq*, 'east wind, east monsoon', and *timboroq*, 'south', *itimboroq*, 'in a southerly direction' (Cense 1979); Grimes and Grimes (1987) mention *timboroq* as 'east'; Yoshida follows Cense

and BUG,[28] two terms are found which seem to be connected to *timuR, one referring to S, the other referring to E – and, surprisingly, both indicate directions of winds blowing during the local dry season.

The wind pattern shown on Map 17 (January) is opposite to the meteorological situation of August. Starting ENE-NE, the air turns counter-clockwise to become the west monsoon of the Java Sea. The words related to the proposed PAN reconstructions *SabaRat, <west wind, northwest monsoon>, and *qamiSan, <north>, projected onto the map, allow several observations. In the southern parts, only one of the two terms is used (with a clear meaning of W and obviously related to *SabaRat). In BUG[29] and MAK[30] again we find two words, one referring to N, one to W, which, however, are both linked to *SabaRat. In most of the languages shown in the northern parts of the map, two terms associated with *SabaRat are used, for N (related to *qamiSan) and for a generally SSW direction. In contrast to the change of direction 'experienced' by words derived from *timuR, those derived from *qamiSan and *SabaRat do not follow the directional shift of the main airflow between December and March in the area under discussion.

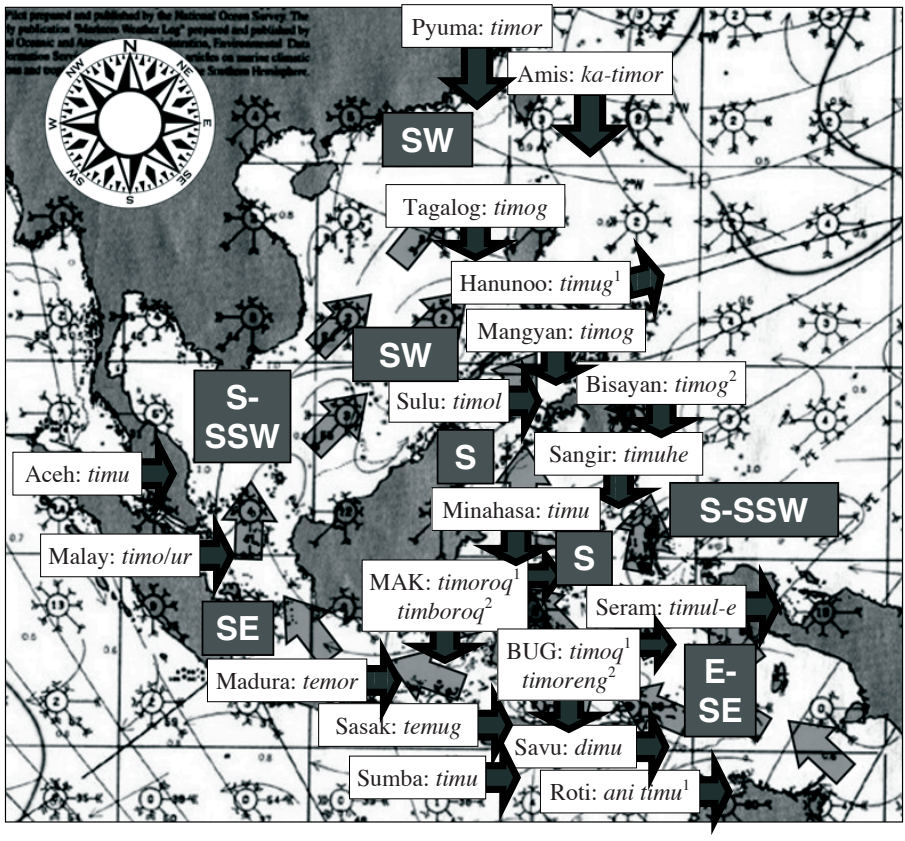
Perhaps the most unexpected observation is that in a number of Philippine languages derivates of *SabaRat clearly oppose words derived from *qamiSan – despite the existence of directional terms for S related to *timuR as seen on Map 16. A possible explanation would be that the sources available to me are not precise enough in conveying the actual meaning of the expressions. Some words relate to 'names of winds' and are marked as such on the two maps; some sources, for example Harvey's online dictionary (1998) for Bisayan (which in some cases also gives Tagalog and Ilongo expressions), simply gloss S as *habagat(an)* as well as *timog*, without any further explanation than mentioning the informants. However, quoting an additional informant, Harvey gives SW as *habagatan*, thereby conveying a hint of the 'relativity' of

(and Matthes 1885). It should be noted that, according to Cense, the meaning of *timboroq* shifts to east in the dialect of Bantaeng (on the southern coast of the peninsula), while *timoroq* in all dialects of MAK denotes the SEE winds during May-October.

28 *Timoq*, 'east wind, east monsoon' (Matthes 1874); surprisingly, *wəttu timoroq*, 'east monsoon' [literally: 'time of east wind'] (Matthes 1874). *Timoreng*, 'within actual sentences', as reported by Yoshida (1980:61), is 'used in the substitutions for […] *maniyang*'. Matthes does not mention *timoreng*, but explains *maniyang* as 'the south; compare MAK *naiq*, upwards, climb'.

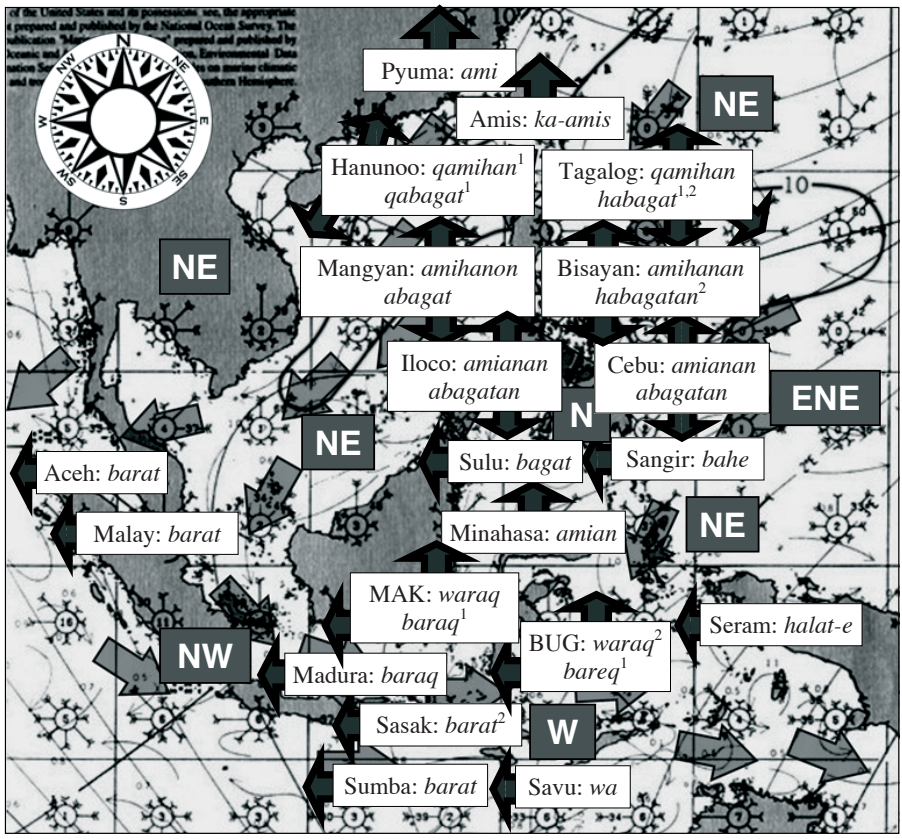
29 *Bareq*, 'west wind, west monsoon', and *waraq*(-*waraq*), 'north star [Polaris?]' (Matthes 1874); interestingly Ammarell (1999:255, note 16) mentions *bareq* as 'west wind, west monsoon' and cardinal direction W, but not *waraq*(-*waraq*), as 'neither star nor the [celestial] pole itself is visible from the Java, Flores, and Banda Seas'. Yoshida (1980:8) mentions *warakkang* as 'substitute' for *manorang*, following Matthes 'the north'; here the suffix /-a/*əə*/ could be interpreted as locational, pointing to a 'lost' directional/locative connected with Polaris.

30 *Baraq*, 'west wind, west monsoon', and *waraq*, *araq*, 'north', *i(w)araq*, 'in a northerly direction' (Cense 1979). Cense's explanation of *waraq-waraq* is somewhat unclear: 'star which on 10 February appears in the middle of the skies'.



Map 16. Direction of 'southeast monsoon' and words related to **timuR*, <southeast monsoon, wind bringing rain, rain cloud> in several Austronesian languages. Light arrows on the map indicate the direction the wind blows to; dark boxes contain the international label for a wind out of said direction. Available space permits only approximate placement of language-related boxes. In white boxes containing two words, the upper dark-framed arrow connected to the box indicates the direction pointed to by the first word, the lower arrow the direction of the second word. Sources: PCIO, month of August; Yoshida 1987, Adelaar 1997 (if not otherwise mentioned in text)

1 Name of (seasonal) wind/season
2 See explanation in text



Map 17. Direction of northwest monsoon' and words related to **SabaRat*, <west wind, northwest monsoon> and **qamiSan*, <north>, in several Austronesian languages. Light arrows on the map indicate the direction the wind blows to; dark boxes contain the international label for a wind out of said direction. Available space permits only approximate placement of language-related boxes. In white boxes containing two words, the upper dark-framed arrow connected to the box indicates the direction pointed to by the first word, the lower arrow the direction of the second word. Sources: PCIO, month of January; www.alibataatpandesal.com; Yoshida 1987; Adelaar 1997 (if not otherwise mentioned in text)

1 Name of (seasonal) wind/season
2 See explanation in text

the word in daily Bisayan use. Adelaar (1997:58, note 5) makes an analogous case for Sasak by explaining the difference 'between barət a directional term and barat "wind storm"' and quoting two divergent series of glosses found in dictionaries which

> give the same set of terms for cardinal directions, but the meanings they attribute to each term are different. Agerbeek [1914] has barat 'west', timuq 'east', dayə 'north', and lauq 'south', whereas Nazir Thoir et al. [1985] have barət 'north', timuq 'south', daya 'west', and lauq 'east'. It is not clear in which part of Lombok they collected their data.

Here it is necessary to recall again Barnes's advice on 'European ideas about the cardinal points' as well as my comments on 'relative' and 'absolute' orientation. However, the data presented allow at least two conclusions. If we try to trace the alterations of the reconstructions on a map, we see two opposing 'turns' which could describe the proposed change in the meaning of *timuR from S to E and that of *SabaRat from SSW to W (Map 18). Additionally, we realize that the N $\leftrightarrow$ S opposition of *qamiSan versus *SabaRat and/or *timuR in the northern parts of the map is *SabaRat versus *timuR, clearly a W $\leftrightarrow$ E opposition, in the southern parts.

Human orientational patterns exhibit a tendency to use 'cardinal' points, related to a presumed body-centred model, in opposing pairs like front $\leftrightarrow$ back, left $\leftrightarrow$ right, and up $\leftrightarrow$ down. The first natural phenomena human beings witness are the diurnal movements of celestial bodies (sun, moon, or stars) which describe a daily 'round' from roughly E to W. 'From a universal point of view the directions east and west are almost always perceptible, and therefore perhaps more important than other directions' (Adelaar 1997:77). In a suggested 'Austronesian homeland' along the coasts of southern China and Taiwan, a second natural observation could easily be the yearly cycle of NNE (fairly accentuated in the northern part of the South China Sea between October and April[31]) and SSW (less apparent the rest of the year) winds and the corresponding seasons. If we hypothesize that these two natural occurrences were essential parts of the early Austronesian's system of orientation, we can assume that the system would employ – as is the case with the people of Halmahera – the two directions of the main seasonal winds for referring to approximately N and S, and the movement of heavenly bodies for fixing E and W (Map 19).

As shown above, there is an explicit tendency for the directionals UP and DOWN to refer to E and W respectively; for example, for Biran navigators any movement UP in due course goes eastwards, and any movement DOWN eventually turns westwards. Here, a surprisingly simple explanation could help

[31] Here, roughly between 15^{o}-25^{o}N and 110^{o}-125^{o}E; all wind-direction data based on PCIO.

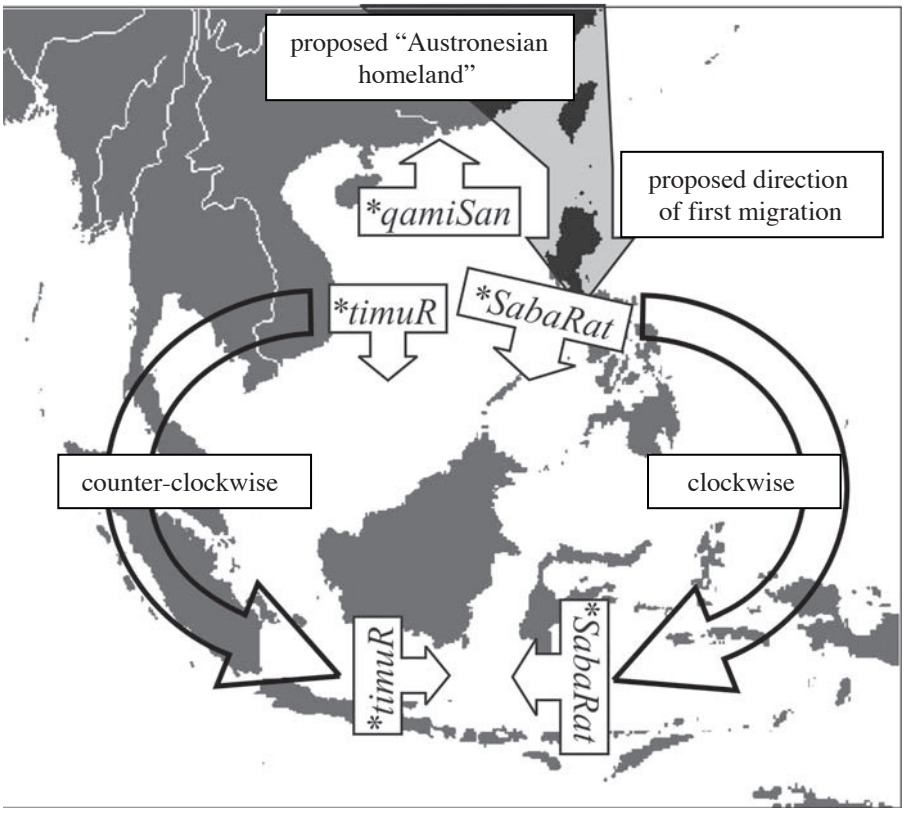
to elucidate the use of 'up' and 'down' as horizontal directionals. Like all sailors all over the world, Austronesian navigators are reported to have used various techniques related to stars for plotting courses, especially their rising (moving vertically up) and setting (moving vertically down) movements.[32] The concept of associating horizontal directions with the movements of celestial bodies is reported for a number of Austronesian languages (for instance, the entries for east and west in Tryon 1995), formulated perhaps most clearly by Van den Berg (1997:205) in his discussion of spatial deixis in the language of Muna (an island off Southeast Sulawesi to the south), where he reasons that 'the concept of "high" is linked up with "east", presumably because of the sun's rising in the east'.[33] For the eastern fringe of Austronesian migratory movements, Feinberg (1988:99) reports that the speakers of the 'Polynesian outlier' language Anutan 'unequivocally identify these terms [UP and DOWN] as indicating east and west, explaining these identities in terms of their association with the rising and setting sun'. A model operating on these categorizations is projected onto the upper part of the map, with a proposed wind-direction-related N ⟷ S axis on the left part of the UP ⟷ DOWN arrow.

If we transpose this model onto the geographical and meteorological situation in the Indonesian archipelago (and especially the Java Sea, which is the Biran navigator's main 'trading sphere'), it shows that astronomical movements and changes of wind directions happen 'in the same direction', that is, both follow a roughly E ⟷ W axis. However, there is a clear tendency to have a 'branch' of the directions described as DOWNWARDS and UPWARDS referring to N and S. If we turn the wind-direction-based model of orientation counter-clockwise according to the 'turn' of the winds when blowing through the South China and Java Seas (left arrow on the map), we end up with a northerly UP and a southerly DOWN, obviously not matching the actual use today of these directionals.

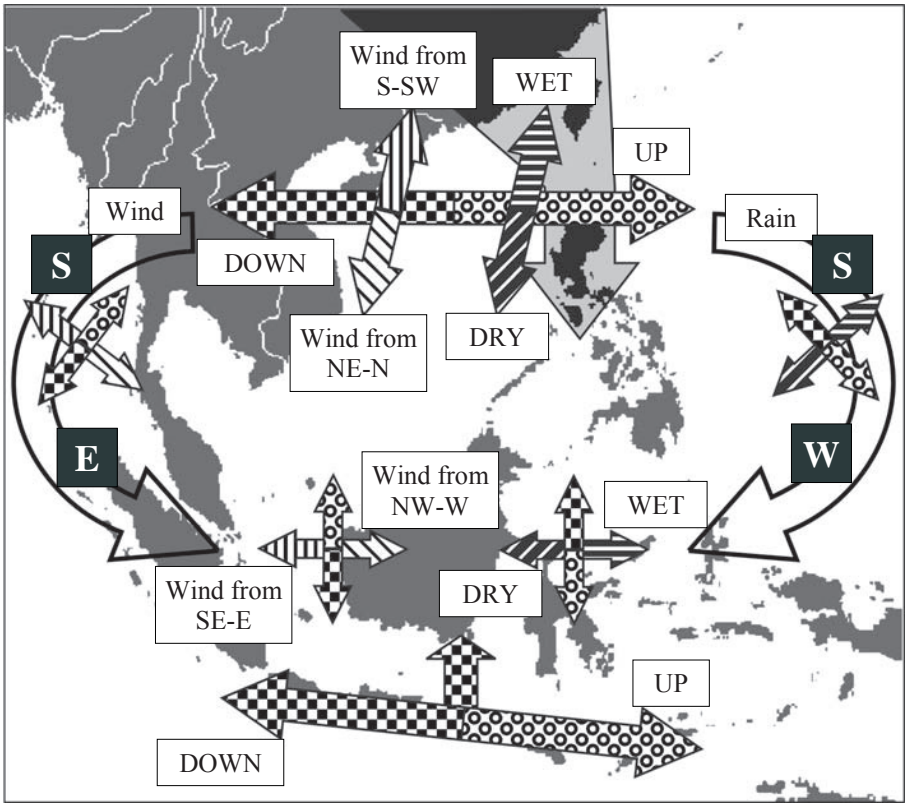
A second endeavour shown on the right side of the map is based on the yearly cycle of precipitation in the two areas. While major parts of the Indonesian archipelago experience their wet season with the NWW monsoon during the winter of the northern hemisphere, the peak rainfalls in southern China and the northern Philippines occur in June-October, at a time when especially the western shore of Sulawesi and the islands of Kalimantan, Java,

[32] I already mentioned the most famous example, the Micronesian 'star paths'; see Lewis 1994. Ammarrell (1999) and Liebner (1993, 1996, 1998) report on aspects of the use of celestial bodies in navigation among South Sulawesian inter-island traders and fishermen, including 'traces' of 'star-path navigation'.

[33] Compare Barnes's account (1996:165) on Lamaholot speakers of Lamalera, Lembata, Solor Archipelago: 'The east is *téti* ['above'] because they think of the east as being higher, while the west is *lali* ['below'] because they think of the west as being lower'.



Map 18. PAN/PMP reconstructions for E, W, and N projected onto a map of insular Southeast Asia



Map 19. Possible reflections of orientational axis projected onto a map of Southeast Asia. Right side shows a projected turn of the proposed PAN/PMP orientational paradigm if based on wind direction; [S] and [E] inside the arrow refer to the corresponding change in wind-direction. Left side shows a turn following the yearly precipitation cycle. The DOWN ⟷ UP arrow in the lower part of the map follows the Biran directional paradigm.

and some of the Lesser Sundas – the 'inside' or core area of Biran maritime movements – are subject to a time of (sometimes severe) drought during the local 'east monsoon'.[34] The arrow on the right part of Map 19 attempts a 'turn' of our proposed 'Proto-Austronesian wind rose' in a clockwise direction, in line with the changes of wet and dry seasons in the two areas under discussion, resulting in UP pointing S and DOWN pointing N. Consequently, it seems logical to propose that the major Austronesian orientational axis was much more related to annual changes in precipitation than to prevailing airflow.

Thus, the argument that 'the Austronesian system clearly is one adapted to a life on or near the sea, in which the sailing winds were of basic importance […] obviously linked to the demands of sailing traditional watercraft' (Blust 1997:39-40) must be reassessed. It seems that for the early Austronesians agricultural cycles (which depend on the occurrence of reliable rainfall) were more important than patterns of annual winds. At first sight, this does not seem to fit with the change in associating derivates of *timuR with <*wind bringing rain> to <direction of wind during dry season> which follows the actual SE to SW shift of the monsoon wind. But the clockwise 'shift' of the alleged major orientational axis, UP ⟷ DOWN, accords with the 'turn' of the directional meaning of *SabaRat shown on Map 18, a word that throughout the northern Philippines and the central and eastern parts of the Indonesian archipelago is associated with the directions of the winds carrying the yearly peak in precipitation. However, occurrence and amount of rain in the area are strongly influenced by local geographical patterns, as is the use of directionals. I believe that a detailed analysis of the indigenous orientational and meteorological terminology related to annual changes in airflow and climate in those areas where derivates of the pair *qamiSanə*timuR/*SabaRat gradually change into *timuRə*SabaRat will offer further proof for my contention that the main spatial reference of the early settlers of the area was linked to seasonal rainfall.

A further conjecture

As established by the example of Micronesian 'star-path navigation', effective directed movements over long stretches of open space like the sea are only possible if the navigator can rely on a reasonably 'absolute' system of orientation that fits the space and the time he travels in (Lewis 1994:127). 'When today's navigators are asked if the indigenous system can be used to describe […] a ship's heading or a course, they laugh, insisting that it just isn't pre-

[34] http://app.nea.gov.sg/cms/htdocs/article.asp?pid=1110 (monthly averages of rainfall in Taiwan); Haslam 1983; Tomascik et al. 1997:94-100 (on Indonesia); Bellwood 1985:9 (general overview).

cise enough'.[35] The use of indigenous or European nautical charts is widely reported since the first European contacts with insular Southeast Asia,[36] and today virtually all sailors and blue-water fishermen of South Sulawesi (and even the 'small-scale sea-transporters' of Lae-Lae) have an understanding of the 'western' orientational concept of four cardinal directions as depicted on a compass rose and nautical charts. If there is a compass on board ship (as there generally has been on bigger inter-island vessels since at least the eighteenth century), it is used for setting and holding a course to a destination beyond the limits of known landmarks, either in degrees or in 'points', which correspond to their 'western' counterparts. If no compass is used, for instance on board a Mandar blue-water fishing vessel at the end of a drift voyage searching for flying fish eggs, the navigator would call his position N off the island groups in the S parts of the Straits of Makassar <DOWNWARDS> or <INWARDS> off the islands, but set the homeward course via the N part of the Spermondes using compass-related terms.[37]

Figure 9 shows the 'Malay' compass rose with the points named in Konjo as well as after Dutch-Malay usage as described in maritime dictionaries of the nineteenth and early twentieth centuries (Badings 1880; Kriens 1880; Oderwald 1924). Both the similarities in the words used to describe major and minor points of the rose (in KON, MAK, BUG or MAN) and the congruence with 'western' concepts are obvious:

> [T]he wind compass has sixteen points which are universally acknowledged to correspond one-to-one with the sixteen points of the international mariner's compass. From observations […] it is evident that this sixteen-point system is constructed as a horizon circle consisting of eight evenly spaced sets of opposed directions [… and …] we do know that navigators rely upon this system of naming and conceptualizing directions to describe wind direction, both on land and aboard ship, and to describe the heading and course of a ship at sea. (Amarrell 1999:97-9.)

It is evident, too, that there is a tendency to place directions connected to the word *lauq*/*t* in the northern half of the rose, while the SW and SE quarters are occupied by words containing *daya* and *tenggara* respectively; I mark this division with the T-shaped line in the centre of the rose. Following

35 Ammarell 1999:96. Of the Bugis inter-island traders of Balo-Baloang my informants have the same impression.

36 Fernandez-Armesto 1995:303; Knaap 1996:61; Ammarell 1999; Le Roux 1935; Leupe 1849; Liebner 1993, 1998.

37 Interviews 2002. For example, RP, a master navigator of Pambusuang, easily noted correctly the mentioned position of a ship displayed on video tapes 'because of the direction of the waves'; he called it IND 'di bawah Doang-Doangan' (<BELOW Doang-Doangan>), and called the necessary course homewards via Kapoposang island 'masuk ke timur-timur laut' (<INWARDS to ENE>); compare Map 5.

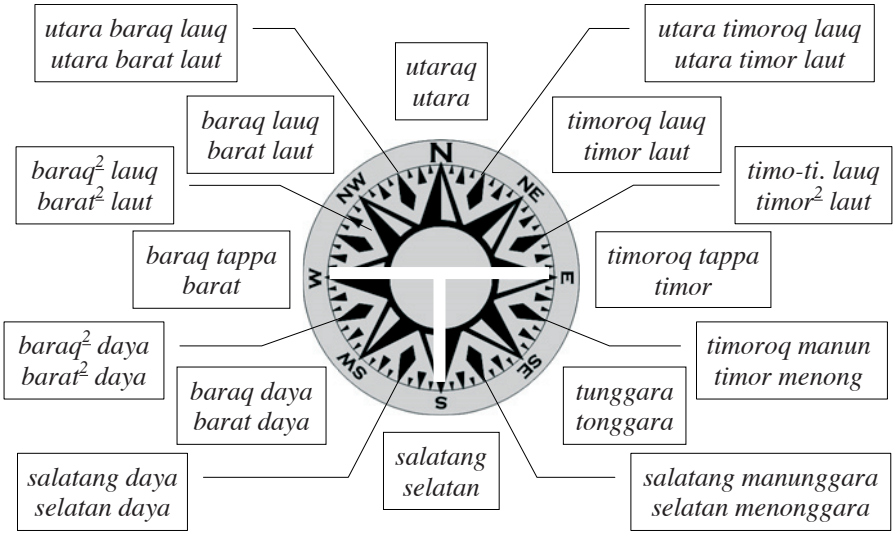


Figure 9. 'Malay' compass rose in Konjo (first line) and Dutch-Malay usage of the 19th century (second line); ² denotes reduplication

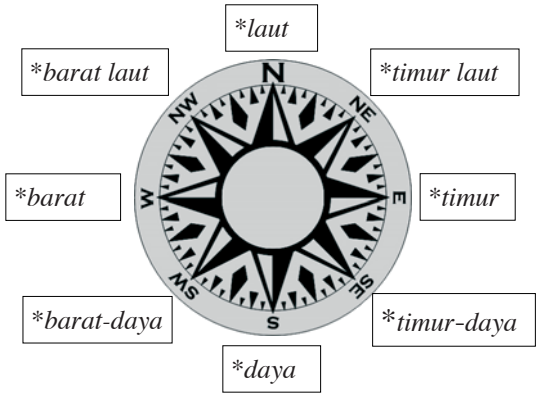
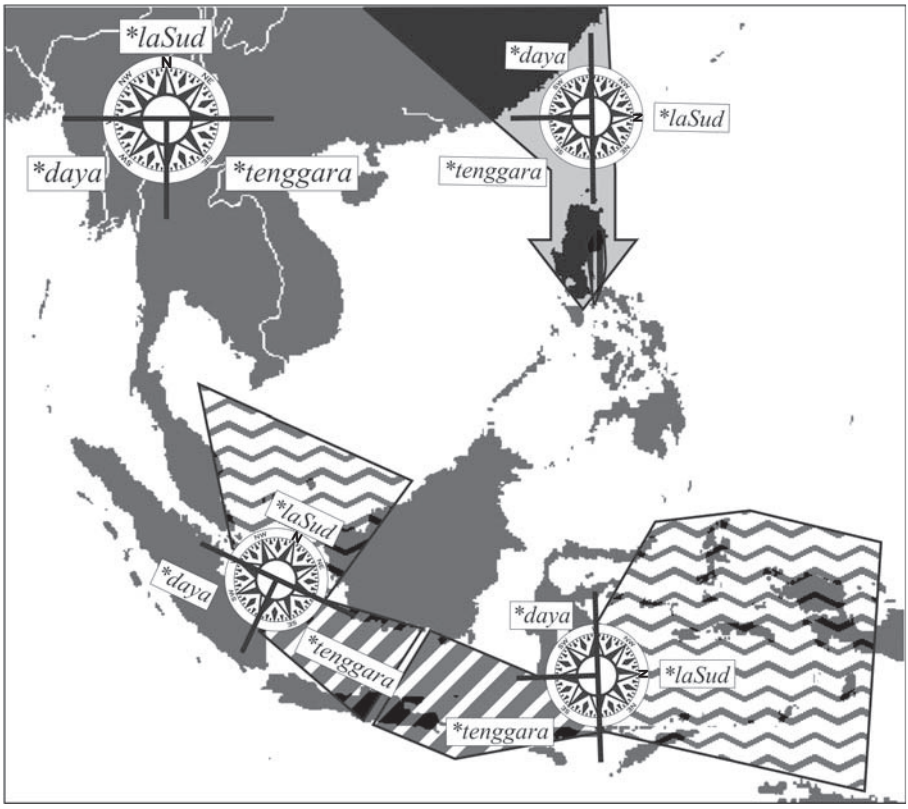


Figure 10. Reconstructed '"Srivijaya" directional system', after Adelaar 1997:59

Blust (1997), this pattern of 'macro-orientation' refers to a land-sea axis, in PAN/PMN reconstructions called *laSud, <downriver, seawards>, and *daya, <upriver, towards the interior>, 'a fundamental geographical axis which connects either the point of land farthest from the sea with the coast, or the highest point of land with what on virtually all islands is the lowest: the beach'. As shown in the example of the directionals in MAK and BUG, this land ⟷ sea opposition 'is highly localized' (Blust 1997:48) throughout insular Southeast Asia, though it has 'reflexes in a huge [number] of daughter languages all over the Austronesian area' (Adelaar 1997:54).

Adelaar (1997:58-9) explains this pattern by reconstructing an 'original Srivijayan directional system' based on the oppositions *lauə*daya and *baratə*timur (Figure 10), that developed into 'a peninsular Malay adaptation' where 'the original terms for north, south, and southeast seem to have been replaced' by the Sanskrit *uttara* for N, and a derivate of *selat*, <strait>, referring to the Straits of Malacca if seen from that port. However, the change in direction of the seasonal winds which (as Adelaar argues) made up one of two major axes occurs only around the southern end of the Straits, while the northern parts are affected by an ENE (November-March) versus WSW (June-September) airflow that is associated with the direction of the monsoons in the Gulf of Bengal, clearly opposite to the meanings of the proposed reconstructions. Adelaar (1997:61) rightly notes that the compass-like rose with 'fixed' directionals 'is an overdeveloped and abstract device […] an important tool for maritime purposes and long-distance travelling' which therefore 'is not widely used elsewhere'– and accordingly would not reflect all details of local, 'home-centred', or 'relative' orientation.

In Map 20 I test a more basic approach to the underlying pattern of this 'wind rose'. If we 'turn' the 'Malay' compass according to only three supposed major directions, that is, *daya-*laSud-*tenggara, onto various areas of a map, it is evident that the LAND ⟷ SEA axis could easily reflect actual geographical situations. In South Sulawesi, this relation closely matches some of the directionals discussed above, and, as stated by Adelaar, the division seems logical for a supposed 'Malay homeland' on the SE shore of the Straits of Malacca. Amazingly, for both models, the 'Srivijayan' Malay as well as the Konjo one, the alternations of *tenggara depict an area inside the Java Sea, the quarter where, as we have seen, the more important movements of Biran ships and trade take place. Recall that the Java Sea and surrounding shores are referred to in Konjo by a specific selection of directionals (LAND, INSIDE, OTHER SIDE), which are opposed to HOME and, furthermore, 'somewhat beyond' the general paradigm of destinationing used by Biran sailors; I have argued that the term *antaqle*, <CROSS OVER (TO THE OTHER SIDE)>, is of particular importance here. A <THERE> or <OTHER SIDE> was found, too, in the orientational patterns used in Halmahera as a fifth directional that adds ref-



Map 20. 'Turned Malay' compass roses projected onto a map of Southeast Asia

erences to an array of better-known places to the 'four cardinal points'. I am convinced that parallel models could be found in other languages of insular Southeast Asia, and that these might give us further insight into the meaning of *tenggara, the third 'quarter' of our rose, which Adelaar (1992:115, 1997:59) explains only vaguely as possibly a Tamil word. The possibility remains that this word might refer to more frequently visited areas – like the 'inner' seas of the Indonesian archipelago which for Malay traders would have been their 'procurement sphere' in the historic spice trade (Hashim 1986; Reid 1988), as they were, later on, for Biran sailors.

A number of sources, nicely summarized by Adelaar (1997:71), correlate the use of directionals with cultural patterns and beliefs of a variety of ethnolinguistic Austronesian groups. For the average Muslim South Sulawesian sailor, the 'furthest' and perhaps most important place in his world is Mecca, the objective of the fifth pillar of Islam, the hajj. In South Sulawesi, making a

voyage to Mecca is called *naiq Haji* (KON, MAK) or *menre ri Makka* (BUG),[38] opposing the actual indigenous geographical direction, which should be DOWNWARDS. However, when talking about the topic of this article, a Muslim friend mentioned that, when in Mecca, speakers of BUG speak of *ri toddangE* when talking about people back home in Sulawesi. Matthes's Bugis dictionary of 1874 translates *todang* as 'the lower part; therefore: *todanna bolae*, *tampinna bolae* […under the entry *tamping*] the part of the house which is located on the side where the entrance is found', recalling *anunnaq*, LOWER SIDE (NEARBY), in Konjo. My friend argued that *ri toddangE* would be 'the lower end of a bed, or the lower side of your body like the feet'. Apparently, from this place of the highest esteem in the Muslim South Sulawesian world one would be closest to home.

[38] In daily local usage of IND *naik Haji* or *naik ke Mekkah.*

Abbreviations used

BUG	Bugis
ENG	English
IND	Indonesian
KON	Konjo
MAK	Makassar
MAN	Mandar

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