# Folk Orientation in Halmahera with Special Reference to Insular Southeast Asia

# Folk Classification

Canoe.

# Folk Orientation in Halmahera with Special Reference to Insular Southeast Asia

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## INTRODUCTION

### 1. Studies of Folk Orientation

There have been and still remain various notions of orientation in the world other than the standard, modern orientation based on the cardinal points, that has evolved from the scientific study of geography. These orientations are generally called folk orientations. However, these folk orientations have been transformed and their terms have been translated into the terms of the so-called "modern" system of orientation.

Folk orientation has been studied from several aspects. These studies seem to be divisible into two kinds; etic and emic. The aim of the latter is to analyze and under-

stand the structure of a society of culture in which the orientation is used, or to find some rules by which thinking and behavior patterns are regulated.   Folk orientation is sometimes, but not always, related to the notion of good and evil, so that regulation of thinking and behavior patterns is generally observed.   The studies in Bali Island are typical examples.   Many scholars mentioned the importance of folk orient-ation in Bali [BELO 1953; COVARRUBIAS 1938; HOOYKASS 1956; KURATA 1964, 1965, 1972; SWELLINGREBEL 1960; YOSHIDA, 1975a, 1975b, etc.]   In Bali, there is an orientation based on the sea/mountain opposition, *kelod* and *kaja* respectively.[1)]   The orientation is connected with good and evil; *kelod* is an evil direction and *kaja* is a good one.   Furthermore, the notion of *kelod* and *kaja* is closely related to the var-ious other dichotomies, such as heaven vs. earth, man vs. woman, full moon vs. new moon, day vs. night, life vs. death, and black magic vs. white magic [SWELLINGREBE 1960: 37–40; KURATA 1964: 2–4, 1965: 2–4; COVARRUBIAS 1938: 260].   Besides *kelod* and *kaja*, two other directional terms are observed in Bali, *kanguin* (right) and *kauh* (left).   An analysis of rituals revealed that the five elements, namely the four directions and their center point (*puséum*), are the basis of the Balinese world view which is closely related to the days of the week (a week consists of five days in Bali), colors, numbers, demons, gods, animals, metals and so on [BELO 1953: 22–27; YOSHIDA 1975a: 32–36, 1975b: 138–146].   The five elements consisting of four directions and the central point observed in Bali are also seen in Java, where they are closely related to colors, metals, the days of a week, occupations, and other social factors [KROEF 1954: 854].

Barnes [1974] reported that folk orientation is the key to an understanding of the Kedangese culture of Lembata Island, eastern Indonesia.   A similar orientation is seen also among the Atoni of Timor Island [NORDHLOT 1971].   The study of the orientation among the Igorot-Bontoc in the Philippines [GODA 1976] and Mabuchi's analysis [1974] of the mythology of Okinawa can be classified as emic studies.

The etic study of folk orientation involves the comparative cross-cultural study of orientation.   This kind of study aims to discover what kinds of folk orientations exist, how these orientations, if any, were formed and their meanings for human societies.   Utsurikawa [1940] presented a list of the terms of orientation found in 45 dialects of 10 languages of the aboriginal ethnic groups of Formosa.   He also noted the characteristics of the terms of orientation and the relationship between the terms and migration patterns.   The first half of Goda's report [1976] consists of a compara-tive study of the terms of orientation in the Philippines.   He reports that an orien-tation based on the sea/land (or mountain) opposition is widely recognized, and that the direction of the land generally has higher value in a social context than the direc-tion of the sea [*ibid.*: 82–90].   Kurata [1972] compared the terms of orientation among

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1)   All examples from languages or dialects in Indonesia, regardless of the field data or the cited terms, are transcribed in the spelling system of standard Indonesian.   Thus, /dj/ is changed to /j/, /j/ to /y/, and /tj/ to /c/.   The Dutch graphimic symbol /oe/ is changed to /u/.   The transcription of the terms from other languages cited in this paper follows, in principle, the original source.

8 languages in Indonesia and suggested that an orientation based on the sea/land (or mountain) opposition is common [*ibid.*: 128–131].   He supports Kern's hypothesis that the origin of an orientation based on the sea/land opposition goes back to a period when the Malayo-Polynesian people formed a single cultural group.
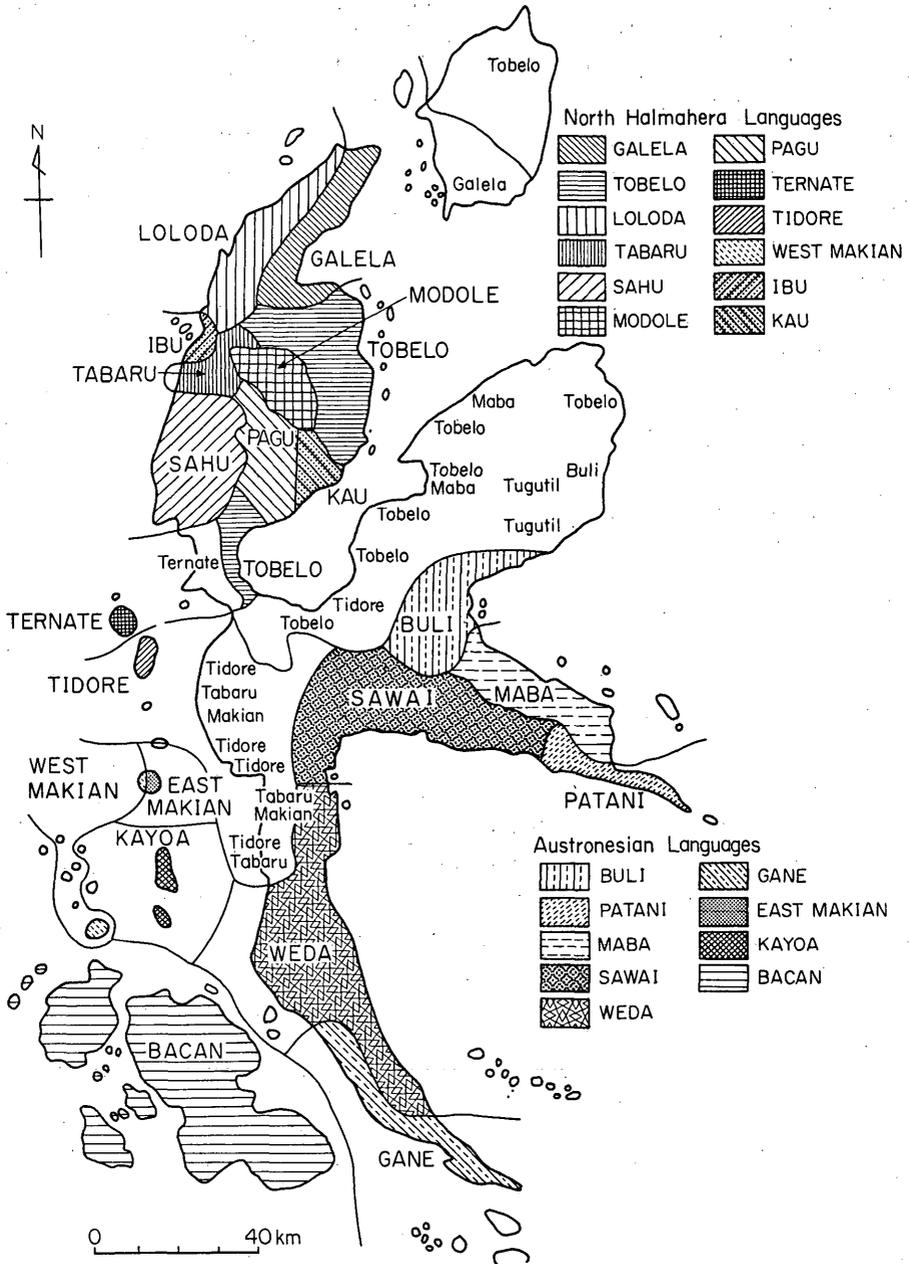
Some linguists have also had an interest in folk orientation, which they have studied from a semantic, semiological or metalinguistic point of view.   Haugen's study [1959] of Icelandic orientation was a significant landmark in the semantic study of orientation.   Cook [1967] later carried out an insightful analysis of directionals among the Narak in the Western Highlands District of Papua New Guinea.   An analysis of Koyukon locationals was done by Henry and Henry [1969].   The system of locational words in Koyukon is somewhat similar of Halmahera, although Henry and Henry's analysis is too complex to be applicable to the Halmaheran case.   Clayre [1973] studied spatial deixis among the Melanau in Sarawak on the basis of Whorf's hypotheses.   This report is so closely related to the present study that it will be mentioned later.   Recently, Groth [1977] analyzed the terms of orientation among the Canamari in Amazonia and Cased [1977] discussed the folk orientation system among the Cora of Western Mexico.   The works of these linguists or ethno-linguists constitute very fine-grained analyses of semantic systems, however, they neglected to deal with the meaning of orientation in the context of the culture or to consider it from a comparative viewpoint.

The purposes of this paper are to provide an account of the characteristics of the Galela notion of orientation and, at the same time, to point out the kinds of orientation systems that exist in Halmahera and insular Southeast Asia.   It also attempts to discuss and assess the general features of folk orientation.   In this sense it is an etic study of orientation.   This approach is adopted because the changes in the traditional society in Halmahera have been so drastic that little of the traditional value system has been retained.   However, the paper does attempt to discuss the meaning given by Galela people to the notion of orientation.

## 2.   Dialects in Halmahera and the Adjacent Islands

Because this report uses dialects (or languages) to analyze folk orientation, a fairly detailed explanation of the dialects spoken in Halmahera and the adjacent islands is required.   The dialects or languages spoken in the area can be divided into two language groups, the Austronesian and the Non-Austronesian.

The dialects spoken in North Halmahera belong to North Halmahera family, which, according to Cowan, are related to the Papuan languages of West Irian [COWAN 1957a: 86–91, 1957b: 159–161].   The North Halmahera languages are Galela, Tabaru, Tobelo, Loloda (Loda), Modole (Madole), Pagu (Isam), Ibu, Wayoli (Waioli), Sahu, Ternate and Tidore [HUETING 1908b: 370–411].   According to Watuseke [1976], West Makian also belongs to the North Halmahera group.   Buli, Maba, Patani, Sawai, Weda, Gane (Gani), East Makian and Kayoa are the dialects

**Fig. 1.** Linguistic map of the Halmahera Area. The blank area was not inhabited until later immigrants settled there. This map is based on that of Eddi Masinambow. The division of West and East Makian, the addition of Ibu and Kau and the identification of Morotai Island as an immigrants settlement are my modifications.

spoken in South Halmahera, and they belong to the Austronesian languages.[2] The dialects in South Halmahera are thought to belong to the East Indonesian language group of the Indonesian family, which is related to the West New Guinean Austronesian languages; it belongs to the South Halmahera-West New Guinea subgroup [SALZNER 1960: 19]. According to Sakiyama's study [1974] of the Buli dialect, however, the dialect appears to belong to the Eastern group of languages rather than the Western (Indonesian) group, from the standpoint of phonetic change and possessive construction [SAKIYAMA 1974: 201–222]. He further hypothesizes that Halmahera was once on the migratory route of people who spoke the so-called Oceanic languages, and that the present-day Papuan languages of North Halmahera probably were inherited from the languages of the people that had settled there prior to the arrival of the Oceanic language speakers [SAKIYAMA 1974: 221–222]. If, as suggested, the Buli dialect belongs to the Oceanic languages, it is possible that other dialects of South Halmahera have the same features.

The dialects spoken in Bacan and Sula Island to the southwest of Halmahera, belong to the Sula-Bacan subgroup of the East Indonesian language group [SALZNER 1960: 19].

Languages are an important factor in the ethnological studies conducted in Halmahera. A Galela dictionary and grammar were compiled by Baarda [1895, 1908], who was a missionary at Duma Village in the Galela Sub-district. During a stay in the Loloda Sub-district he also wrote on the dialect spoken there [BAARDA 1904]. He also published with Dijken a translation of the myths and folktales found among the Galela [BAARDA and DIJKEN 1895]. In addition to publishing a dictionary [1908a] and a grammar book [1936] of the Tobelo dialect, Hueting also left ethnographic reports on the Tobelo [1921, 1922]. Fortgens wrote on the Tabaru and published a grammar of their dialect [1928]. Simple word lists were compiled by Ellen [1916a, 1916b] for Pagu and Modole. Besides some fragmentary data on the dialects of South Halmahera, there is a well-prepared vocabulary and grammar of the Buli dialect [MAAN 1940, 1951]. But these dictionaries and grammar books deal with the orientational data discussed in this paper in only a cursory manner.

This paper is based on data collected in the Galela Sub-district and in Ternate City from September 18 to December 10, 1976. In the main, the language used for the survey was Indonesian. The terms of orientation described here are mainly adverbs. Other terms of orientation are discussed by Wada [1980].

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2) The terms which the ethnic group themselves use are employed in the referring to the names of ethnic groups and dialects in Halmahera. Thus, Galelarese and Galelareeze are synonyms of Galela in this article. Likewise, Tobelorese and Tobeloreese are Tobelo, Ternatans is Ternate, and Makianese and Makiang are Makian [LEBAR 1972: 119–122].

According to Wada (this volume, p. 502), more than 70 percent of the Kayoa population are West Makian-speakers.

## I.  FOLK ORIENTATION OF THE GALELA

### 1.  Absolute Orientation

There are two kinds of orientation, absolute and relative.  The latter shifts with changing circumstances such as the direction of the sea and the 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 the short-distance orientations respectively, because the former is oriented 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.

The Galela can clearly identify east and west by reference to the sun.  The east in their dialect is *o wange ma siwa* or *nyonyie*, and the west is *o wange ma dumu* or *sosoru*.[3]    *O wange* means the sun; *siwa* and *nyonyie*, to rise; and *dumu* and *sosoru*, to set.  Thus, the east and the west mean respectively "the rising of the sun," and "the setting of the sun."  The Galela Sub-district is located at a latitude of about 0° 2' N, and the sun always rises from almost the same direction.  At a higher latitude, of course, the phenomenon is different.  However, the Galela clearly recognize that the points of sunrise and sunset move a little with the passage of the seasons.

The identification of north and south is not so clear, the Galela using the names of the monsoon to express these points.  In their district the monsoons blow from north to south from December through April, and from south to north from June through October.  The Northern Monsoon is called *o paro o kore mie*, (abreviated to, *o kore mie*) and the southern monsoon is *o paro o kore sara* or *o kore sara*.  In Galela, *o paro* means "wind."  What meaning do the phrases *o kore mie* and *o kore sara* have for the Galela?

Both phrases originated in Ternate and were borrowed by the Galela.  *Kore* means "wind" in Ternate.  However, *kore mie* is the wind that blows *to* the south not *from* the north and *kore sara* is the wind which blows to the north according to Ternate people.  Thus *mie* means the south and *sara* means the north in Ternate [BAARDA 1895: 27–28].

Does *o kore mie* in Galela mean the south in the same way as it does in Ternate?  In fact, it does not.  *O kore mie* means the north.  Supporting evidence can be found in the terms for the east and the west wind.  The wind blowing from the east is called *o paro o wange ma nyonyie*.  If the Galela had the same notion as Ternate people it would be called *o paro o wange ma sosoru*.  It is clear that the terms for describing the wind are different between the Galela and the Ternate.  And it seems likely that the Galela originally had not only words for the north and the south but also names for the monsoon.

Galela absolute orientation is established with reference to the sun and the monsoon.  However, the north and the south are not as commonly used as the east and

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3)   Baarda transcribed the sound [ɗ] or [ḍ] as /ḍ/ and this system is followed here.   "*O*" in "*o wange*" is an article and "*ma*" in "*ma siwa*" is equivalent to the English "its."

the west.   Indeed, they use the north and the south less frequently than the east and the west.   So, of the four directions used among the Galela, the east and the west have a greater significance.

## 2.   Relative Orientation

### 1)   LOCATIONAL ROOTS

Although absolute orientation with reference to the cardinal points is clearly recognized by the Galela, relative orientation is more frequently used and appears to be the more important form.

Galela relative orientation is based on "sea-direction" (this term will be used instead of "the direction of the sea," and other directions are also referred to in the same way) and "land-direction."   "Up-direction" and "down-direction" are used in addition to the first two.   The up-direction does not mean in the direction of the higher land, neither does the down-direction mean in the direction of the lower land in the Galela sense.   According to their notion, "up" is the right side facing the sea and "down" is the left side.   If their notion of orientation is simply to identify such four directions, it would not be much different from those already reported for the Austronesian language-speaking area.   However, in Halmahera a more complex notion of orientation is formed on the basis of these four directions.

Figure 2 shows a couple of examples of Galela orientation.   Suppose that a person is standing at the seashore facing the sea (generally the sea is in an easterly direction).   On a distance sea (case A in Fig. 2), another person is sailing upwards (towards the south).   The expression to describe the situation of the person in the boat is "he heads *idai* (*una wo togi idai*)."   If we are to express the same situation in English, it will be "he heads upwards on a distant sea," whereas the Galela can express it in one word, *idai*.   When a person is sailing landwards from a distant location in the up-direction (case B), "he is going *sadaku*."   If someone is approaching from the land-direction (case C), "he is going *kodine*."   On the other hand, if someone is head-
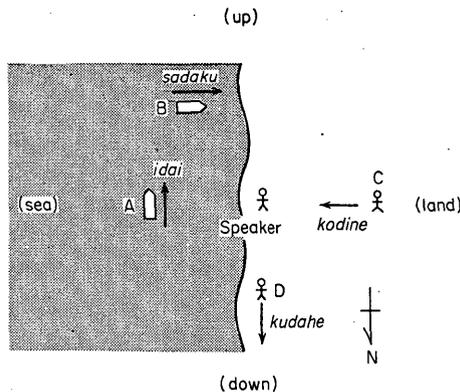


**Fig. 2.**   Examples of Galela folk orientation.

ing further downwards from a nearby location in the down-direction (case D), "he is going *kudahe*."

Those examples show that the expressions of orientation in Galela are complex. In fact there are no less than one hundred such expressions.   Although there is no expression equivalent to *idai* in English, its meaning can be understood and the same idea can be expressed by using more than one word.   However, there is a significant stylistic difference between expressing an idea in one word, such as *idai* in Galela, and having to express it by phrase, as in English.   From this it appears that Galela has a higher level of codability than does English as far as the vocabulary of orientation is concerned.   The concept of codability, which was first introduced by Brown and Lennerberg [1954], is related to the frequency of word use.   A high level of codability generally indicates the high frequency of word use.   When there are many alternatives in a lexicon within a certain semantic domain, and the level of codability is also high, it suggests that the given domain has a particular significance for the speakers of that language.   The Galela appear to pay particular attention to orientation.

In analyzing such a great number of terms of orientation, a factorization method can be adopted; the words which begin *ku-* can be collected (Fig. 3):

*kudaku*:  heading downwards at a distant location in the up-direction
*kudake*:  heading downwards at a nearby location in the up-direction
*kudai*:  heading downwards at a distant location in the sea-direction
*kudade*:  heading downwards at a nearby location in the sea-direction
*kudahu*:  heading further downwards at a distant location in the down-direction
*kudahe*:  heading further downwards at a nearby location in the down-direction
*kudina*:  heading downwards at a distant location in the land-direction
*kudine*:  heading downwards at a nearby location in the land-direction
*kunega*:  heading downwards at a proximal distance
*kunena*:  heading downwards at an immediate distance.

*Ku-* means "downwards," in the same way, *i-*, *ko-*, and *sa-* are affixes meaning "upwards," "seawards," and "landwards" respectively.[4]   The same method of analysis reveals that the roots are the locational terms which are distinguished by direction and distance (Fig. 4).

Only four directions are recognized, but the combinations of these directions such as NE, SE, NW and SW, are not used.   These directions not only indicate lines but also cover the fan-shaped planes which are divided into four (Fig. 4).   Thus any position can be indicated by one of four directions.   But how can the distance differential between *daku* and *dake* be distinguished?   Informants stated that the difference between *daku* and *dake* depends on whether or not an object is visible. However, it may be transformed as follows: The distinction of distance depends on whether or not an object can be recognized clearly, as illustrated by the following

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4)   In these cases, they take the form of a prefix, but they can take the form of a suffix in
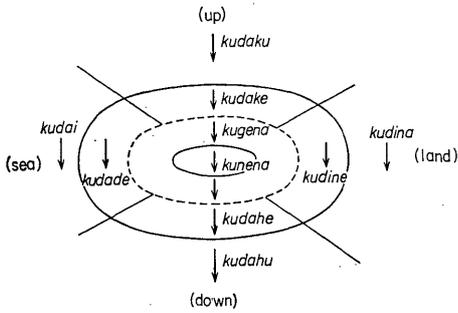    some cases.   Therefore, the term affix is chosen instead of prefix.

Fig. 3.  Combinations of *ku-* and
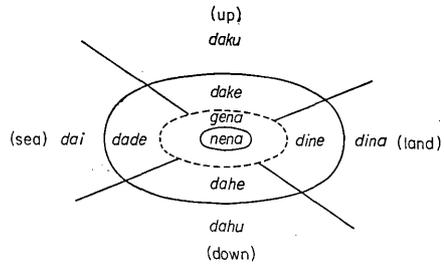         locational roots.



Fig. 4.  Division of space.

example.  When a person is coming from the up-direction and although visible
cannot be identified, they say that someone is coming *daku.* When the person can
be identified, using his name, they say he is coming *dake.*

In these locational roots, *nena* and *gena* are different from the others; they are
distinguished only by distance and are not associated with any direction.  According
to the Galela, when an object is within the reach of a speaker's hand, *nena* is used,
whereas *gena* is used when an object is beyond the reach of a speaker.  So far, ob-
servation of actual usage of *nena* and *gena* has shown that the Galela frequently use
*nena* even if an object is clearly beyond the reach of the speaker's hand.  It seems
likely that *nena* is used when object is psychologically real enough to appear im-
mediate.  So, the description should be restated as follows: *Nena* is used when an
object is almost within the reach of a speaker's hand.

The distinction between *gena* and the locational roots which indicate a short
distance with direction such as *dine, dade, dake* and *dahe,* is not simple in comparison
with the examples mentioned above.  However, when asked to express someone
heading downwards from a distant location in the up-direction the Galela enumerate
these locational roots in the following order: *Kudaku, kudake, kugena, kunena, kuge-
na, kudahe* and *kudahu.*  It is clear that *dake* and *dahe* indicate a point spatially
more distant than *gena.*  According to the Galela, *gena* is used when an object is
beyond the reach of a speaker's hand but within earshot.  If *dake, dahe, dine* and
*dade* were used only when an object is beyond earshot, there would be no problem.
However, the Galela sometimes have been observed to use *dake* on occasions when
an object is apparently within the boundary of *gena.*  They appear to use *dake* to
emphasize direction rather than distance subconsciously or consciously, despite an
object being within the boundary of *gena.*  For this reason the distinction between
*gena* and *dake* cannot be defined as a difference of distance.  It is related to another
dimension, such as emphasis of direction, and is dependent on context.  However,
as mentioned above, *gena* is generally considered to indicate a nearer location than
*dake.*  So, *gena* is put on the inside of *dake, dahe, dade,* and *dine* and the boundary
between *gena* and *dake* and so on is drawn by a broken circle in Fig. 4.

*Doka* and *doke* are another set of locational roots, and are used when there is an

**Table 1.**  Classification of locational roots in Galela

| | distal | | | | | | proximal | |
|---|---|---|---|---|---|---|---|---|
| | directional location | | | | non-directional location | | non-immediate | immediate |
| | down | up | sea | land | other side | approaching | | |
| near (recognizable) | dahe | dake | dade | dine | doke | — | gena | nena |
| far (unrecognizable) | dahu | daka | dai | dina | doka | naga | | |

obstacle between a speaker and an object.   The obstacles tend to be something which is difficult to traverse directly such as a river, a mountain or the sea when a speaker is on land, or an island or a cape when a speaker is at sea.   Very simply, these terms could be translated as "on the other side," though this is not an exact gloss.   *Doka* and *doke* are distinguished with reference to distance in the case of *daku* and *dake*, *doka* is used when an object on the other side is clearly unrecognized or invisible, and *doke* when an object on the other side can be recognized clearly.

*Naga* is another locational root.[5]   It is used when a visitor has been announced previously by a letter or by someone who has already arrived, and when it can be assumed that the person is on his way although he has not yet appeared.   On a festival day, for example, when a man has not yet been seen, although it is certain that he will come from the sea-direction, the Galela say that he is coming *sanaga*.   And the moment he appears, *sadade* replaces *sanaga*.   Table 1 summarizes this discussion and provides a classification of the locational roots in Galela.

2) AFFIXES

As mentioned above, *ku-* is an affix used to express "downwards."   "Upwards" is *i-(iye-)*, "landwards" is *sa-*, and "seawards" is *ko-*.   It should be noted that these directional affixes are not speaker-based (non-ego focal or non-ego directional). They do not suggest heading toward or leaving a speaker.   For example, when an object moves downwards from a distant location in the up-direction (Fig. 3), it is designated as *kudaku*, *kudake*, *kugena*, and *kunena*, as it moves through points at different degrees of proximity to the speaker.   And when it proceeds further down after having passed the speaker the degrees of distance are designated as *kunena*, *kugena*, *kudahe*, and *kudahu*.   Thus, the combination of *ku-* (downwards) and *dai* (a distant location in the sea-direction) can be employed and "downwards at a distant location in the sea-direction" can be expressed in the word, *kudai*.

Galela has not only such non-ego directional affixes but also two ego directional affixes, *no-* and *ka-*.   *No-* is an affix meaning "coming towards a speaker" (centripetal), and *ka-* is an affix meaning "leaving a speaker" (centrifugal).   Figure 6

5)  According to Baarda, *naga* is a term which indicates an indefinitive location in conjunction with a preposition; for example, *inaga* means "from here to somewhere upwards" [1895: 272].
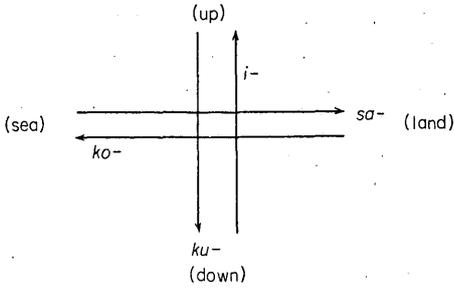
Fig. 5. Affixes indicating four directions.



Fig. 6. Examples of the combinations with the affix *no-*.

shows some examples of the use of *no-*. The case of *ka-* requires a complete reversal of the arrows in Fig. 6. *Nonena* means "to here" because *no-* implies "from somewhere to here." Similarly, *ka-* implies "from here to somewhere" and *kanena* means "from here." Thus, Galela have two sets of directional affixes, ego directional and non-ego directional.

The same situation can be expressed by using ego directional and non-ego directional affixes, *kudaku—nodaku*, *kudake—nodake*, and so on. However, there is a difference between *kudaku* and *nodaku*. *Kudaku* is the form emphasizing the downwards movement and *nodaku* is the form emphasizing speaker-directed movement.

*No-* and *ka-* have anothen semantic function which further emphasizes "towards a speaker" and "from a speaker." *No-* and *ka-* mean "to come or go crossing over the same obstacles" as in the case of *doka* and *doke*. The following example illustrates the use of these terms. Take a situation where the obstacle is a river which is rather difficult to wade across (Fig. 7). If a person on the other side of the river (who can be recognized from a speaker's side, so that the locational root to be used is *doke*) wades straight across the river, his movement is expressed as *nodake*. Reaching a speaker's side of the river by detouring in the sea-direction is called *nodade*. Reaching a speaker's side of the river by way of a detour in the land-direction is called *nodine*. In Fig. 7 an object stays in the up-direction. So, *ku-* (downwards) can be applied in this case. However, *kudoke* does not indicate the movement of crossing the river,



Fig. 7. Examples of terms used in the case of the existence of an obstacle.

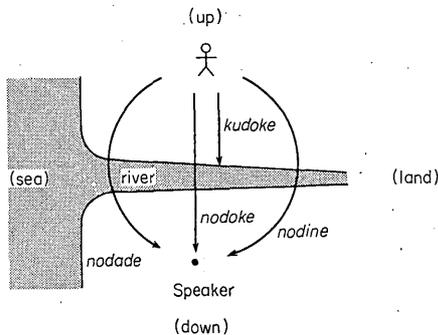but it only refers to the movement downwards; in this case, it refers to the movement of only going to the water's edge.   Such a function of *no-* and *ka-* is different from that of a simple ego directional affix.   It might be an anomalous function developed from the ordinary function of the ego directional affix.

*Ka-* is used also as a locational affix.   According to Baarda, *no-* as well as *ka-* indicates a location [1908: 153].   However, in current usage at least, *ka-* is the only locational affix.   This observation is supported by the cases of Tabaru and Tobelo (see below) in which the affixes related to *ka-* in Galela are used as a locational affix.

There are some other affixes which can be added to locational roots.   Addition of *ma-* or *ge-* to these roots forms demonstratives.   *Madoke* means "that thing which is on the other side"; *madade* means "that thing which is on the sea"; *magena* corresponds to the Indonesian *itu* (that); and *manena* corresponds to *ini* (this).[6]   *Ma-* and *ge-* are not attached to some locational roots, the terms of which indicate a distant location, such as *dai, dina, daku, dahu* and *doka*, because an object is too far away to be indicated.

*Mage-* is an emphatic form of *ma-* or *ge-*.   *Magedine* means "that very thing which is in the land-direction."   Such emphatic forms are also observed in the affixes indicating the four directions.   *Ka-* is an affix which has an emphatic function, and *kai-, kaku-, kasa-* and *kako-* are the emphatic forms of the directional affixes.   *Kaku-dake* means "exactly downwards at a near by location in the up direction."

*Koma-*, which is a compound form made up of the two affixes *ko-* and *ma-*, is an affix which means "just like" or "the same as" (conformative).   *Komadahe* means "the same as that thing which is at a downward location."   *Komagena* is equivalent to the Indonesian *begitu* (like that) and *komanena* is equivalent to *begini* (like this).

Table 2 shows the classification of the affixes.   According to Baarda, *ngo-* is another affix that can be used with the above-mentioned affixes without *ma-*, *ge-*, and *koma-*.   However, *ngo-* itself has no special meaning, so that the meaning of

**Table 2.**   Classification of affixes in Galela

| | directional | | | | | | loca-tional | demonstrative | |
| | non-ego directional | | | | ego directional | | | demon-strative | confor-mative |
| | up-wards | down-wards | land-wards | sea-wards | centri-petal | centri-fugal | | | |
|---|---|---|---|---|---|---|---|---|---|
| non-emphatic | *i-* | *ku-* | *sa-* | *ko-* | *no-* | *ka-* | *ka-* (*no-*) | *ma-* (*ge-*) | *koma-* |
| emphatic | *kai-* | *kaku-* | *kasa-* | *kako-* | | | | *mage-* | |

Note:   According to Baarda, *ngo-* is combined with affixes of direction, such as *ngoi-, ngoku-, ngosa-, nogko- ngono-*, and *ngoka-*.   However, its meaning does not change [BAARDA 1895].

6)   A similar case to the Galela is found among the Eskimo:   *Manna* means "this one," *anna* "that one in the north," *ganna* "that one in the south," *panna* "that one in the east," *kanna* "that one down there," *sanna* "that one down in the sea," and *iŋŋa* "that one" [BLOOMFIELD 1933: 259].

**Table 3.** Combinations of affixes and locational roots in Galela

| affixes \ roots | dake | daku | dahe | dahu | dine | dina | dade | dai | doke | doka | naga | nena | gena |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i (kai)- | + | + | + | + | + | + | + | + | + | + | + | + | + |
| ku (kaku)- | + | + | + | + | + | + | + | + | + | + | + | + | + |
| sa (kasa)- | + | + | + | + | + | + | + | + | + | + | + | + | + |
| ko (kako)- | + | + | + | + | + | + | + | + | + | + | + | + | + |
| no- | + | + | + | + | + | + | + | + | + | + | + | + | + |
| ka- | + | + | + | + | + | + | + | + | + | + | + | + | + |
| ma-, ge-, (mage)- | + | − | + | − | + | − | + | − | + | − | − | + | + |
| koma- | + | − | + | − | + | − | + | − | + | − | − | + | + |

*ngoko-* is the same as that of *ko-*. In the following discussion of Tobelo orientation the reason for the existence of the affixes is examined, despite the lack of an apparent difference in meaning.

Table 3 shows the 92 different combinations, excluding emphatic forms, of the locational roots and the affixes. Were emphatic forms included, there would be 151 combinations. There is a significantly larger number of combinations when the other meanings that can be conveyed by *ka-* and *no-* are considered. When the Galela talk about orientation without using proper names they must choose an appropriate expression from among these combinations. This may mean that the Galela nearly always pay subconscious attention to relative orientation.

3) OTHER TERMS OF ORIENTATION

In addition to the adverbs mentioned above, the terms of orientation in Galela include the following verbs:

*hiye*: to head upwards, to ascend, or to climb up
*huku*: to head downwards, to descend, or to go down
*hisa*: to head landwards[7]
*hiko*: to head seawards[7]
*hino*: to come, to come over from the other side
*hika*: to go, to go over to the other side.

There is an imperative form used in a situation in which the people are angry; *ngisa, nguku, ngoko,* and *ngiye*.[8] *Ngisa,* for instance, means "get out of here and go landwards." *Bola* means "to return," and can take suffixes of direction such as *-ye, -sa, -ku,* and *-ko*. *Ye, sa, ku,* and *ko* also are used independently as prepositions [WADA, 1980]. *O wange ma nyonyie* means the east and *nyonyie* only means "ascending." The root is possibly *hiye*. The wind which blows from the land in the evening

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7) According to Baarda, *hisa* and *hiko* have other meanings: *Hisa* means "to move to the top-end of a tree or a bamboo which has fallen down" and *hiko* means "to move to the root-end of the tree or a bamboo" [BAARDA 1895: 178, 181].

8) Baarda did not mentioned *ngiye*, whereas my informants commonly used this item.

is called *o lohoko*, the root being *hoko*. Many such examples may be found in the everyday life of the Galela.

## 4)  MANNER OF CONVEYING RELATIVE ORIENTATION

The relative orientation of the Galela hinges on the sea/land opposition. When neither the sea nor the land is in sight relative orientation is conveyed with reference to the direction of the sunrise, namely the east, which is assumed to be equal to the sea-direction. For the Galela, absolute orientation is usually concealed by relative orientation and is seldom used. In navigation, however, they orient themselves by the sun, the moon and the stars. There are several stars that can be used for orientation. The star which carries the most significance for the Galela is *o ngoma bilatu* (lit. "the marked star," Sirius) and which always indicates the east or the west. Thus, the Galela use both types of orientation depending on context.

However, a problem arises from the recognition of the sea-direction as the east. In Soasio, the center of the Galela Sub-district, the sea-direction happens to fall in the east. Also the Galela villages scattered along the coastline to the east of the northern peninsula of Halmahera generally face eastwards, although the coastline actually runs southwest to northeast. Of course, it is possible that the villages were established in the places where the sea-direction coincided with the east. However, it is clear that there is a relationship between the position of the village and this notion.

Even if in some places the sea-direction falls in the west or the north, the Galela still retain a notion of orientation based on the sea/land opposition, regardless of absolute orientation. However, it is noteworthy that in most cases the sea-direction corresponds to the east in the Galela Sub-district. In this area there is no place in which the position of the sea and the land is reversed by 180°.

The right side facing the sea is recognized as "up" and the left as "down." What is the origin of this kind of association? According to Naidah [cited in BAARDA 1895: 28], the Galela who were conquered by the Sultan of Ternate decided that the direction of the Sultan's castle was "up," namely the south was "up." His assumption is rather questionable and it will be commented on later.

The up/down directions are based on a vertical axis, although I have treated them as a horizontal notion until now. For this reason, a discussion of how the Galela relative orientation is applied to movements on a vertical axis and how it is applied to movements in a three-dimensional space is required.

Climbing up a coconut palm (ⓐ in Fig. 8) is expressed as *igena* (or *kadake*) and climbing up further is expressed as *idake*. Climbing down (ⓑ in Fig. 8) is called *kudake*. Climbing up in a land-direction (ⓒ in Fig. 8) is *idine*, climbing up in a sea-direction is *idade*, and when the same movement occurs in a horizontal down-direction, it is *idahe*. However, the informants hesitated when someone climbed up a coconut palm in a horizontal up-direction (ⓓ in Fig. 8), because a situation of this kind had to be expressed as *idake* and this term also indicated the case of ⓐ in Fig. 8. *Sadake* and *sadoke* are used to express a situation in which a bird or a plane has flown from the sea-direction to the land-direction above a speaker's head (ⓔ in Fig.
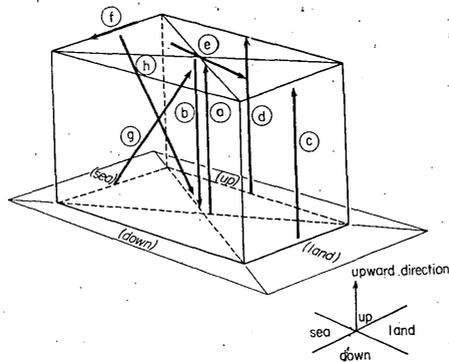
**Fig. 8.** Three-dimensional movement.

8). Of the two expressions, *sadoke* is better because the Galela consider that they cannot reach the place where a bird or a plane is flying. What expression can be used for the situation of ⓕ in Fig. 8, i.e., for the situation where something moves from up to down in a horizontal sense in an upward sea-direction? The answer given by informants was *kudoke*, a term which is not actually used. Other situations such as ⓖ and ⓗ in Fig. 8, appeared to be difficult for informants to express, and they pointed out that it should be expressed as *sadade* for ⓖ and ⓗ. This expression ignores diagonal movement and analyzes it as an unintegral horizontal dimension. This expression reminds me of the case in which someone is coming down from a mountain to the village on the coast. If coming down is emphasized, *kudine* would be employed. However, the Galela choose *kodine* regardless of the fact that an object is descending. Although there is a possibility of expressing a situation of this kind by means of the combination of verb and adverb, namely *una wo huku kodine* (he descends seawards), they deny that such an expression can be used. There is no expression for indicating diagonal direction in space.

Examination of various situations in Galela space reveals the following: The application of relative orientation to the vertical dimension is rather limited, it being restricted to situations in which a speaker is directly overhead or below; *doke* and *gena* are generally employed to avoid the confusion between the vertical and horizontal up/down directions; and relative orientation is used mainly in the horizontal direction.

## 3. Actual Application of Folk Orientation

Two examples of the actual application of the orientation are discussed here to illuminate some features of Galela orientation. One is an example of Galela orientation as manifested within their homeland, followed by the other example of their orientation as applied to places beyond their homeland.

Most Galela villages are concentrated near L. Galela. The village of Duma, located quite far from the sea, is one of them. The sea cannot be seen from Duma. Duma lies on the shores of L. Galela and thus provides an excellent field setting for

investigating whether or not the orientation is influenced by the lake.   In Balinese orientation, for example, a lake takes the place of the sea.

Below are some of the terms used to indicate the directions from which Duma can be approached:

Soasio:      *sadai* (from a distant location in the sea-direction)
Makete:      *sadai* (from a distant location in the sea-direction)
Gotalamo:    *sadade* (from a nearby location in the sea-direction)
Ngidiho:     *idahu* (from a distant location in the down-direction)
Dokulamo:    *kodine* (from a nearby location in the land-direction)
Samuda:      *kodine* (from a nearby location in the land-direction)
Roko:        *kodina* (from a distant location in the land-direction)
Bale:        *nodoke* (from the near other side)
Togawa:      *nodoka* (from the distant other side)
Seki:        *nodoka* (from the distant other side).

These data seem to suggest the following points:

(1)   The plane is divided into four parts by four directions, but these parts are not equal, the sea/land directions covering a wider area than the up/down directions. Because, according to the Galela, Makete is included in the sea-direction regardless of its being located almost in the northeast of Duma, and the direction of Roko is considered to be the land-direction although the actual direction is fairly near the north.   It seems that sea/land directions are more prominent in the Galela orientation than the up/down directions.

(2)   The lake does not function as a substitute for the sea, in contrast to the Balinese case.   The lake is recognized only as an obstacle.

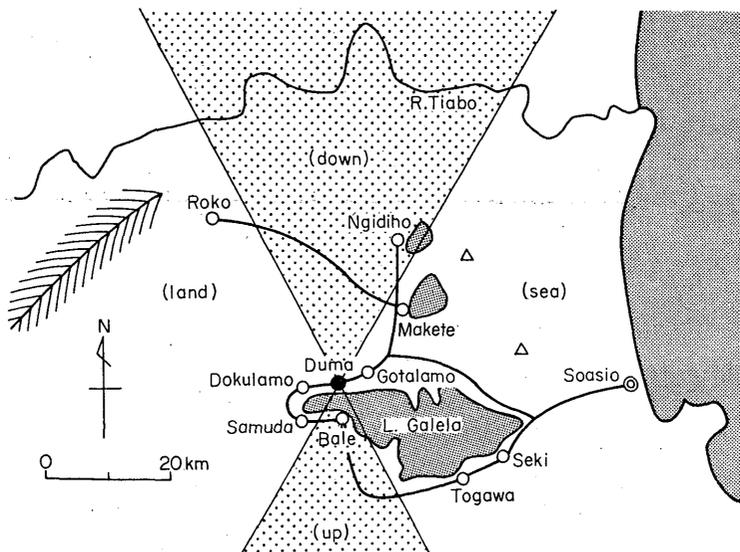(3)   The mountains do not influence orientation.   If the land-direction corresponded



**Fig. 9.**  Duma and other villages.

to the direction of the mountains which run from northeast to southwest, Makete and Samuda would be included in the down-direction and up-direction respectively. However, the data do not support this conjecture. The orientation of the sea and the land is decided by the position of the sun, namely by absolute orientation.
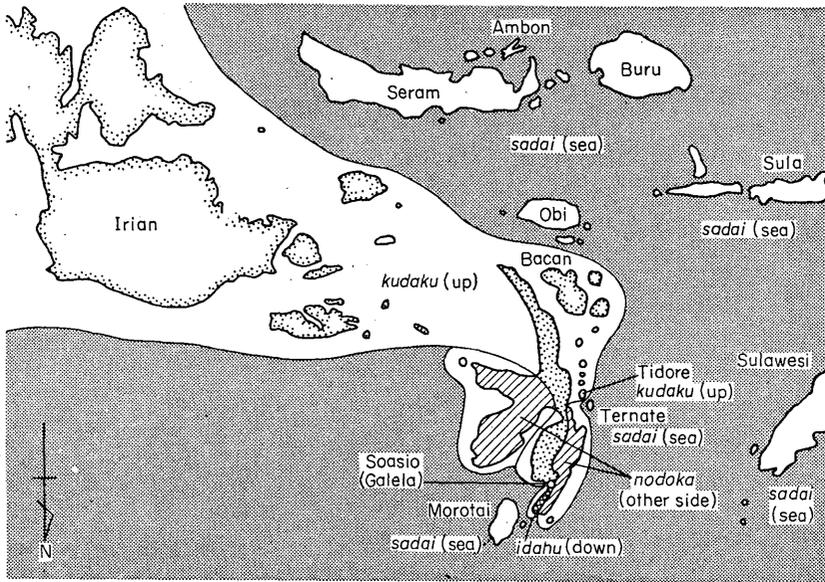
(4) The actual applications of *nodoka* and *nodoke* indicate their other features. *Nodoke* as an emphatic usage means "someone is crossing straight over the lake, probably by boat." However, the villagers of Bale usually come to Duma by road via Dokulamo, as Duma villagers know well. So, *nodine* could be used for this situation, because the villagers of Bale come to Duma by way of a detour in the land-direction. Bale is located in the up-direction and *no-* has the meaning, "toward here." So, *nodake* could also be used. However, the villagers of Duma chose only *nodoke* and do not use other terms, namely *nodine* and *nodake*. It would seem that *doka* and *doke* (the other side) is more prominent for them than the four directions and that the connection between *doke* or *doka* and *no-* is close. Furthermore, the usage of *no-* (probably *ka-*, too) is context-bound.

(5) Samuda Village is not visible from Duma. However, they use *kodine* for approaching Duma from Samuda. This usage is entirely dependent on their knowledge that Samuda is near Duma. The distinction between *dine* and *dina* on the land does not depend on whether an object can be recognized or not, but rather on the psychological distance.

Let us take another example. Soasio is the administative center of the Galela Sub-district. For a speaker based in Saosio, approaching from the villages along the east coast of the northern peninsula, such as Limau and Laloga, is expressed as *idahu* (from a down-direction, namely from the north). *Kodina* (from a land-direction, namely from the west) is employed only for coming from the Galela villages of the inland area, although there are some villages of the Loloda, the Ibu, and the Tabaru to the west of Soasio. These villages lie along the west coast of the peninsula, and coming from them is expressed as *nodoka* (from the other side). *Nodoka* is also used for approaching from the area of C. Lelei and the area of Lolobata, which are on the other side of the Kau Gulf. The same expression refers to the southeastern peninsula of Halmahera, where the Maba and the Buli people reside. *Kudaku* (from an up-direction, namely from the south) can be used for coming from the villages of the Tobelo and the Kau, which are located to the south of Saosio along the east coast of the northern peninsula of Halmahera. However, for the villages along the north coast between the town of Tobelo and Soasio, such as those of Mamuya area, *kudaku* is not used, but instead *nodoka* is used, because there is a small cape between the next neighboring village and Soasio. *Kudaku* is also employed in the Weda area in the southern peninsula of Halmahera, and in the islands lying between Tidore Island and Bacan Island. Ternate Island is the expection. Coming from Ternate is called *sadai* (from a sea-direction or from the sea, usually corresponding with the east). *Sadai* is used on many occasions such as approaching from Morotai Island, which is to the east of Soasio, or from far away Sulawesi, Obi, Sula, Buru, Seram and Ambon. The same expression is used for coming from Jakarta. Ho-

wever, *kudaku* is used approaching from Irian, despite its being as far from Soasio as from Sulawesi.[9]

Figure 10 shows all the points discussed above. This map attempts to characterize the Galela conception of the world. Being drawn south side up, the map may



(A)

(B)

The distances, positions, and shapes of the islands are arbitrarily modified to coincide with Galela concepts.

////// : other side

**Fig. 10.**   Galela perspective of the world.

9)   Baarda mentioned another similar example in which going to Papua was expressed as *kadaku* [1895: 28].

strike the reader as somewhat incongrous. It had to be drawn this way because the south is the up-direction in the Galela orientation system.

It is a rather strange map. For instance, Ambon and Sulawesi are depicted in the sea-direction, i.e. the east, despite their location to the south and the west of the Galela area respectively. It is contrasted with the case of Halmahera, Morotai and Irian. The Galela do not grasp clearly the position of the islands which are indicated as the sea-direction without referring to Morotai Island. So the Galela simply indicate that the people of these islands come from the sea and indeed there was no way to reach Soasio except from the sea. Some people still now do not know the exact positions of these islands.

Ternate Island and Irian are interesting cases. Coming from Ternate is expressed as *sadai*, although coming from Tidore, which is very near Ternate, is expressed as *kudaku*. It is not clear why only Ternate is recognized as *dai* (a distant location in the sea-direction), but it seems that there is some relationship with the invasion of the Sultan of Ternate. However, it is noteworthy that this phenomenon contradicts Naidah assumption that the up-direction corresponds to the direction of the castle of the Sultan of Ternate. On the other hand, coming from Irian is known as *kudaku*, although Irian is no nearer the Galela Sub-district than Sulawesi, Obi, or Sula Island. It is possible to assume that the Galela were in contact with the people of Irian at an earlier time and that they knew the exact position of Irian. This is also confirmed by the relationship of the Galela language to the Papuan languages of the Vogelkop Peninsula of Irian Jaya.

### 4. Significance of Folk Orientation

It is now almost impossible to observe the traditional life of the Galela. Their livelihood greatly depends on cash earned from the production of copra, sago and fishing. A high death rate and in-migration are characteristic and have made it difficult for them to retain their traditional lifestyle. No traditional Galela houses are found and most rituals have disappeared.

However, among the few remaining rituals is one relating to orientation. When they open a new field for shifting cultivation they select a tall tree to be left in the field (called *o gota ma karano*; *kayu raja* in Indonesian, "king tree"), in the belief that the spirit of the forest lodges in the tree. They make a cut in the trunk to insert some
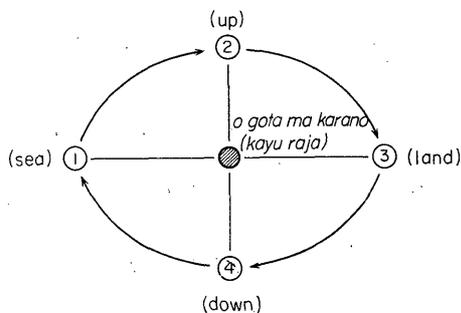


**Fig. 11.** Directions and order for the recitation of magic prayers.

magic drugs, and then they recite magic prayers. The recitation starts with the cultivators standing at a position in the sea-direction, the second part takes place in the up-direction, the third part in the land-direction, and lastly in the down-direction, circling around clockwise. It seems that the most prominent direction is the sea-direction and the second is the up-direction. However, it is not clear from the ritual which has more significance; reciting from the sea-direction or toward the land-direction.

There are many instances in eastern Indonesia where the land-direction is related to the celestial world and the sea-direction to the earthly world. If it is assumed that Galela people hold the same notion as that of the rest of eastern Indonesia, the Galela myth that Mt. Lukum is the cradle of their culture is consistent with this assumption. Moreover, their cemeteries are located in the sea-direction. The ritual in which the magic prayers are made in a clockwise movement seems to have some connection with Balinese rituals [YOSHIDA 1975a: 35–36]. The existence of a dualism in eastern Indonesia cannot be denied, but the dualism theory is based on such simple logic as to explain most phenomena. It should therefore be applied carefully.

An explicit significance has not been found in the Galela rituals, but it can be seen in their everyday life. To catch the fish called *ngawaro*, a group of more than ten boats with a scoop net, which is spread under the water at the bow, surround the fish and drive them toward the shore to trap them in their nets. During the southern monsoon season (*o musung o kore sara*) some Galela people go to C. Lelei for several weeks to practice this type of fishing. When they drive the fish into the nets they frequently use the terms of the orientation discussed above. They shout nothing but the terms of orientation when they are at work, and it seems that such terms are more accurate than English terms.

Galela folk orientation does not seem to be well-suited to a tropical forest environment where visibility is limited, terms of this kind functioning effectively only in an open place, and in the Galela area the only open place is the sea. For their folk orientation the sea is significant not only because their orientation is decided by the sea/land opposition, but also because it is only on the sea that the orientation functions fully. Thus, it could be said that their orientation hinges on the sea.[10]

## II  FOLK ORIENTATION IN HALMAHERA AND THE ADJACENT ISLANDS

In order to further explicate the features of Galela folk orientation and to investigate other types, a comparative study of folk orientation in Halmahera and the adjacent islands, including Sula Islands, was carried out.

Unlike the cases of the Galela and the Ternate, the data for the other peoples

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10) The locational root *dina,* "a distant location in the land-direction," also means "the bow of a boat" [BAARDA 1895:98], and *dai* means "the stern of a boat" [*ibid*: 86]. When a boat heads towards the land, *dina* (bow) and *dai* (stern) correspond to the locational roots of the land-direction and the sea-direction, respectively. This example may concern the sea as well.

were collected from the people who had migrated into Limau Village, Duma Village and Ternate City.[11]   Modole and Buli dialects are analyzed by the use of Ellen's [1916] and Maan's [1940] word lists, respectively.

## 1.  The Loloda (Loda)

The Loloda live on the other side of the mountains located to the west of the Galela Sub-district.   So the sea is to the west and the land is to the east in their area, thus the directions of the sea and the land in their villages are the reverse of those of the Galela.   Loloda folk orientation is basically the same as that of the Galela. Table 4 shows the locational roots in Loloda.   Some differences from Galela are observed: The roots indicating near location have the prefix *me-*, namely *medauk*, *medake*, *medai* and *medine*.   *Me* originally meant "already existing."   When it is used as the prefix for locational terms it means "near."   *Dauk* and *dokam* (single form of the latter is *doka*) are different from *dahu* and *doka* in Galela.

Table 5 shows the classification of affixes and their combinations with locational roots in Loloda.   Affixes in Loloda mainly take the form of a suffix in contrast with the prefix in Galela.   To form demonstratives, the prefix *me-* is changed to *ma-*, such as *madauk*, *madake*, *madai* and *madine*.   *Menege* and *menena* also are changed to *manege* and *manena*.   However, Loloda has two kinds of demonstratives, one set for non-humans and another for humans.   To indicate humans, the suffix *oka-* is added,

Table 4.   Classification of locational roots in Loloda

| | distal | | | | | | proximal | |
| | directional location | | | | non-directional location | | non-immediate | immediate |
| | down | up | sea | land | other side | approaching | | |
| near | medauk | medake | medai | medine | medoke | — | menege | menena |
| far | dauk | daku | dai | dina | doka | naga | | |

11)   The informants were:
   Loloda:   Ada Nusa (28 years old, male), in-migrant to Duma.
   Tabaru:   Maritnus Laike (45, male), in-migrant to Duma.
   Tobelo:   Albert Saibaka (49, male), a junior high school teacher in Duma, who came from Tobelo.
   Maba:   L. H. Asar (45, male), and other in-migrants to Limau.
   Ternate:   Haji S. Radjilaen (ca. 50, male) and his neighbors, residents of Ternate.
   East Makian and West Makian:   L. Radjiloen (ca. 45, male), in-migrant to Ternate, who came from Soasio in East Makian.
   Patani:   Aisak Abdulrajak (18, male), in-migrant to Ternate.
   Weda:   Mohammad Haji Howsin (56, male), in-migrant to Ternate.
   Bacan:   Nova Soplantia (36, female), in-migrant to Ternate.
   Sanana:   Haji Abdal Wahab (55, male), in-migrant to Ternate.

**Table 5.** Classification of affixes and their combinations with locational roots in Loloda

| affixes\locational roots | directional | | | | | | locational | demonstrative | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | non-ego directional | | | | ego-directional | | | demonstrative | | conformative |
| | upwards | downwards | landwards | seawards | centripetal | centrifugal | root | non-human beings | human beings | |
| | *-iye* | *-uku* | *-isa* | *-oko* | *-ino* | *(-ika)* | | *me→ma* | *me→ma + -oka* | *koma-* |
| *dauk* | + | + | + | + | + | + | + | − | − | (±) |
| *medauk* | + | + | + | + | + | + | + | + | + | + |
| *daku* | + | *dauku* | + | + | + | + | + | − | − | − |
| *medake* | + | + | + | + | + | + | + | + | + | + |
| *dai* | *daiye* | *daiku* | *daisa* | + | *daino* | *(daika)* | + | − | − | (±) |
| *medai* | *medaiye* | *medaiku* | *medaisa* | + | *medaino* | *(medaika)* | + | + | + | + |
| *dina* | + | + | + | + | + | + | + | − | − | (±) |
| *medina* | + | + | + | + | + | + | + | + | + | + |
| *doka* | *dokamiye* | *dokamuku* | *dokamasa* | *dokamoko* | *dokamino* | *(dokamika)* | + | − | − | − |
| *medoke* | + | + | + | + | + | + | + | + | + | + |
| *naga* | + | + | + | + | − | − | − | − | − | − |
| *menege* | + | + | + | + | *negeino* | *(negeika)* | *negeoka* | + | + | + |
| *menena* | + | + | + | + | *neino* | *(neika)* | *neoka* | + | + | + |

thus changing *madine* to *madineoka*, and so on. This rule is not observed in Galela. Although most affixes in Loloda take the form of a suffix, *koma-* is a conformative prefix. In this case, there is no distinction between humans and non-humans.

*Menege* (there) and *menena* (here) are irregularly combined with affixes: When they are combined with ego directional affixes, the prefix *me-* is omitted and *negeino* and *neino* are used (the latter seems to be an abbreviation of *nenaino*). Omissions of the prefix *me-* are also found when *menega* and *menena* indicate location, such as in *negoka* and *neoka*. These forms are irregular compared with the other locational terms, which are not attached to the suffix *-oka*. Only *menega* and *menena* require *-oka* to indicate location. The suffix *-oka* is rather a problematic affix, and will be discussed later.

The Loloda also use absolute orientation when they no longer have the sea/land opposition; the east corresponds to the land-direction and the west to the sea-direction. However, the north coincides with the down-direction and the south with the up-direction, as among the Galela.

## 2. The Tabaru (Tobaru)

The Tabaru live along the west coast of the northern peninsula and to the south of the Loloda. Some examples of the Tabaru folk orientation are shown in Fig. 12. Heading landwards in a distant seaward location is expressed as *daisa* and heading landwards in a nearby seaward location is *daingisa*. Similar expressions are seen in other directions, such as *dinaoko* vs. *dinangoko*. For these examples two kinds of interpretation are possible; the difference in distance is shown either by the locational roots (e.g., *dai* and *daing*) or by the affixes (e.g., *-isa* and *-ngisa*). It is difficult to ascertain which interpretation is more reasonable, because there is little available evidence in support of one or the other interpretation. For the time being the latter will be assumed here, since it is easier to understand morphologically. Table 6 shows the classification of locational roots and affixes based on this choice.

The Tabaru affixes without *ko-* take the form of a suffix. The locational suffixes are *-ika* and *-ngika*, and the demonstrative suffix is *-eda*. The prefix *ko-* is added with locational roots plus *-eda*, and it indicates "the same as that," as in *kodakueda*.

The combinations of affixes and roots of proximal location (e.g., *ge* and *ne*) are rather irregular in contrast to those of affixes and roots of distal location. When the
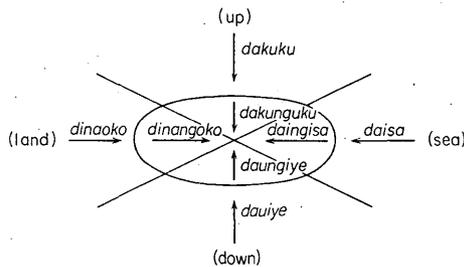


**Fig. 12.**   Examples of the Tabaru folk orientation.

**Table 6.**   Construction of folk orientation in Tabaru

| affixes / locational roots | | | | | distal | | | | | | proximal | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | directional location | | | | non-directional location | | | |
| | | | | | up | down | sea | land | other side | approaching | non-immediate | immediate |
| | | | | | *dau* | *daku* | *dai* | *dina* | *doka* | *naga* | *ge* | *ne* |
| directional | non-ego directional | up-wards | far | *-iye* | + | + | + | + | + | + | — | — |
| | | | near | *-ngiye* | + | + | + | + | + | — | *gingiye* | *ningiye* |
| | | down-wards | far | *-uku* | + | + | + | + | + | + | — | — |
| | | | near | *-nguku* | + | + | + | + | + | — | *gunguku* | *nunguku* |
| | | land-wards | far | *-isa* | + | + | + | + | + | + | — | — |
| | | | near | *-ngisa* | + | + | + | + | + | — | *gingisa* | *ningisa* |
| | | sea-wards | far | *-oko* | + | + | + | + | + | + | — | — |
| | | | near | *-ngoko* | + | + | + | + | + | — | *gongoko* | *nongoko* |
| | ego directional | centri-petal | far | *-ino* | + | + | + | + | + | + | *genano* | — |
| | | | near | *-ngino* | + | + | + | + | + | — | — | *ningino* |
| | | centri-fugal | far | *-ika* | + | + | + | + | + | + | *genaka* | — |
| | | | near | *-ngika* | + | + | + | + | + | — | — | — |
| locational | | | far | *-ika* | + | + | + | + | + | — | *geda* | — |
| | | | near | *-ngika* | + | + | + | + | + | — | — | *neda nangoka* |
| demonstrative | demonstrative | | | *-eda* | + | + | + | + | + | — | *geena* | *neena* |
| | conformative | | | *ko-+ -eda* | + | + | + | + | + | — | *kogeena kogeda* | *koneena koneda* |

locational roots are combined with non-ego directional suffixes, there is concordance of vowels, such as in *gingiye, ningiye, gunguku* and so on.   When *ne* is combined with ego directional suffixes it changes to *ningino,* but in combinations of *ge* and ego directional suffixes there is no concordance, as in *genano* and *genaka.*   To indicate location *geda* and *neda* are used.   The forms seem to be abbreviated from *geeda* and *needa* which are combined with the demonstrative suffix *-eda,* and it would be irregular usage.   The demonstratives of *ge* and *ne* are *geena* (that) and *neena* (this).   However, *ko-* is combined not only with *geena* and *neena* but also with *geda* and *neda,* and both forms are used as a means of indicating "like that" and "like this," respectively. *Nangoka* is another irregular form which is combined with *ne* and *-oka,* the affix of past tense according to Fortgens [1928: 383], and it is used in almost the same way as *neda,* namely to mean "herein."

As in the Loloda case, the sea-direction serves as the west when the sea/land opposition is lost.   Moreover, the up-direction corresponds to the south as for the Loloda and the Galela.

### 3. The Tobelo (Tobelorese, Tobeloreeze)

The Tobelo live to the south of the Galela along the east coast of the northern peninsula. They may have the largest population among the peoples of the east coast of Halmahera and they migrate to various parts of the island. Figure 13 shows some examples of Tobelo folk orientation.[12] It is clear that, as among the Galela, there is a distinction in distance (near and far) in each direction. Locational roots, if analyzed from the same morphological viewpoint as Tabaru, can be distinguished with reference to the criterion of distance, for example *dai* and *dane* in the sea-direction. The directional affixes can be also be divided into two on the basis of distance in each direction; for example, *-iha* and *-ngiha* in the case of "landwards." Were there locational roots and affixes to indicate near and far for each direction, there could be four different expressions for distance in each direction (e.g., *dai-iha*, *dai-ngiha*, *dane-iha* and *dane-ngiha*). However, there are only two expressions (e.g., *daiha* and *danengiha*) in Tobelo, as in Galela and Tabaru.

Hueting's dictionary [1908a] provides a partial solution to this problem. He described *dae*, *dane*, *dine* and *doke* as the abbreviated forms of *daena*, *danena*, *dinena*, and *dokena*, the roots of near location. *Ena* in these words is an abbreviation of *enanga*, a neuter personal pronoun [HUETING 1908a]. However, *enanga* is also used in *nenanga* and *genanga* meaning "here" and "there." So, "a nearby location" may have come to be expressed by adding *enanga* as a suffix, or *enenga* itself may mean "near." It could be assumed that *daenanga*, which was formed by adding *enanga* to *dau*, changed to *daena* because omission of *nga* and *na* is observed quite frequently in Tobelo. In the same way, *-uku*, a directional affix, was connected with *daenanga* to form *daenanguku*. Moreover, *na* was omitted, so that *daenguku* appeared. This could explain why there are not four expressions according to distance for each direction. It also indicates that the Tobelo terms follow the same paradigm as Galela. In other words, Tobelo has one affix and two locational roots for each direction, which are distinguished according to distance.
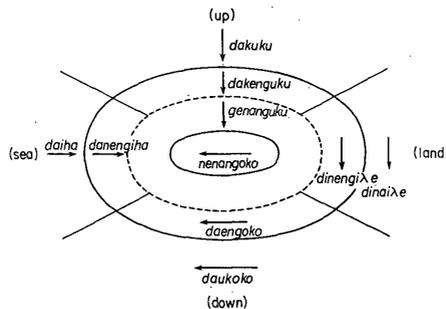


**Fig. 13.** Examples of Tobelo folk orientation.

12) Hueting transcribed the sound produced at the point of articulation between [1] and [d] as /λ/ [1908a]. I follow his graphimic symbol for transcribing Tobelo.

However, in order to provide an account of the terms that are currently used by the Tobelo it is better to assume that there are two kinds of affixes, namely -uku and -nguku, in spite of the fact that there was originally only one kind of affix. The directional affixes are occasionally prefixes, as in ngokadina (landwards) and ngukudaku (downwards) [Hueting 1908: 267, 271], although most affixes are usually suffixes. In these cases, there is no alternative to divide them into two parts; ngoka- and dina, and nguku- and daku. Galela have similar exmaples; ngo- is added to the directional affixes as in ngoi-, ngoku-, ngosa-, ngoko-, ngono- and ngoka-. These may correspond to -ngiλe, -nguku, -ngiha, -ngoko, -ngino and -ngika in Tobelo. If so, this will throw more light on the question of why the affixes of the ngo- form do not change their meaning in Galela. It also explains why the Tabaru case is the same as Galela, despite Tabaru having two kinds of affix for each direction. It is noteworthy that, although Tobelo and Tabaru have two kinds of affixes to indicate near and far, they are only morphologically different forms, and the combinations of these affixes and the locational roots convey the same meaning as in Galela and Loloda.

Tobelo also has the ego directional affixes, namely the centripetal and the centrifugal affixes -ino, -ngino, -ika and -ngika. To indicate location the locational roots themselves and the forms with the suffixes -oka and -ngoka are employed. In the case of gena and nena the roots are not used, but the forms which add the suffix -ngoka, are used. Though -oka and -ngoka are originally used to express the past tense, they are used to indicate location clearly in Tobelo. Nenangoka in Tobelo corresponds to nangoka in Tabaru, neoka in Loloda and also kanena in Galela. Ka- of Galela would be the same as -oka of Tobelo, which is a past tense affix. Therefore the ka- of Galela would originate from a past tense affix, and only ka- could be used as a locational affix. However, the centrifugal affix (-ika) is used to indicate location in Tabaru so that it is possible that the ka- of Galela has taken on a different function from the centrifugal affix. But no cases were found in which the centripetal affix is used as a locational affix.

In Tobelo, there are only two kinds of demonstratives, gena and nena. So the affix indicating "the same as" is connected only with gena and nena, as in kogena (kokogenanga) and konena (kokonenganga).

The east is called o wange ma nyonyie, the west is o wange ma hohor, the north is o kore mie, and the south is o kore hara in Tobelo. Just as among the Galela, the south corresponds to the up-direction and the east to the sea-direction, when the sea/land opposition is lost.

## 4.  The Modole (Madole)

The Modole live in the upper reaches of the R. Kau and the Pagu live in the lower course. Ellen published word lists of Modole and Pagu [1916a, 1916b]. As data on these dialects have not been collected, the terms concerned with orientation are taken from Ellen's lists for use in the following discussion. Tobelo terms are shown in parenthesis.

**Table 7.** Construction of folk orientation in Tobelo

| directional category | type | affix | dau (down far) | dae (down near) | daku (up far) | dake (up near) | dai (sea far) | dame (sea near) | dina (land far) | dine (land near) | doka (other side far) | doke (other side near) | naga (approaching) | gena (non-immediate) | nena (immediate) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| non-ego directional | up-wards far | -iki | +* | − | + | − | +** | − | + | − | + | − | + | − | − |
| non-ego directional | up-wards near | -ngiki | − | + | − | + | − | + | − | + | − | + | − | + | + |
| non-ego directional | down-wards far | -uku | +* | − | +** | − | + | − | + | − | + | − | + | − | − |
| non-ego directional | down-wards near | -nguku | − | + | − | + | − | + | − | + | − | + | − | + | + |
| non-ego directional | land-wards far | -iha | +* | − | + | − | +** | − | + | − | + | − | + | − | − |
| non-ego directional | land-wards near | -ngiha | − | + | − | + | − | + | − | + | − | + | − | + | + |
| non-ego directional | sea-wards far | -oko | +* | − | + | − | + | − | + | − | + | − | + | − | − |
| non-ego directional | sea-wards near | -ngoko | − | + | − | + | − | + | − | + | − | + | − | + | + |
| ego directional | centripetal far | -ino | +* | − | + | − | +** | − | + | − | + | − | − | − | − |
| ego directional | centripetal near | -ngino | − | + | − | + | − | + | − | + | − | + | − | + | + |
| ego directional | centrifugal far | -ika | +* | − | + | − | +** | − | + | − | + | − | − | − | − |
| ego directional | centrifugal near | -ngika | − | + | − | + | − | + | − | + | − | + | − | + | + |
| locational | far | -oka | + | − | + | − | + | − | + | − | + | − | − | − | − |
| locational | near | -ngoka | − | + | − | + | − | + | − | + | − | + | − | + | + |
| locational | root | | + | + | + | + | + | + | + | + | + | + | − | − | − |
| demonstrative | demonstrative | − | − | − | − | − | − | − | − | − | − | − | − | gena | nena |
| demonstrative | conformative | ko- | − | − | − | − | − | − | − | − | − | − | − | + | + |

\* *Dau* is combined as *dauk*.   \*\* When the same vowels come in close sequence, one is deleted.

*Modole*

    *da'u (daku):*   up or the south.

    *daue (daena):*   here in the down-direction.

    *do'ango'o (dokengoko):*   toward over there on the sea.

    *do'angu'u (dokenguku):*   toward there in the north.

    *do'angiye (dokengiλe):*   toward over there in the south.

    *do'ai'a (dokaika):*   toward yonder.

    *'ado'a (kadoka):*   yonder.

    *gena'a (genangika):*   there.

    *genade (genangide):*   upwards.

*Pagu*

    *dakaha (dokena):*   there but not so far.

    *neena (nenanga):*   here, today, this.

Four locational roots can be identified in the Modole dialect, namely *da'u* (up or the south), *daue* (down, or more accurately, a nearby location in the down-direction), *do'a* (over there or yonder) and *gena* (there). Affixes are *ngo'o* (seawards), *ngu'u* (northwards) *ngiye* (southwards), *'a* (at or in: locational affix), and *de* (upwards). Ellen's *genade (genangide)* should be *ganaiye (genangiλe)* because in Tobelo there is the form *genangiλe* and not *genangide*. It could be assumed that there are two kinds of locational roots distinguished by distance, near and far: *da'u* which indicates a distant location and *daue* which indicates a nearby location. Taking into account the cases of other dialects, it is probable that *dai* and *dina* might be used as locational roots, and *ngiha* and *ino* as affixes, although they are not included in Ellen's list.

The R. Kau runs north–south and the sea is not visible from the Modole area. It is noteworthy that Modole orientation is not adapted to fit their environment. In other words, upstream does not correspond to the up-direction or the land- (or mountain-) direction, but to the down-direction. Furthermore, it is clear why the terms of the sea-direction and the land-direction are not found in Ellen's list, and why *do'a* (over there, yonder, and possibly other side) appears more frequently than *daue* (down) and *da'u* (up) in his list, because *do'a* might be the most useful among these terms in their area, and the terms of the sea-direction and the land-direction, if any, might be the least useful.

In Pagu, only two terms were found in Ellen's word list. More terms concerning orientation need to be collected in order to discuss the Pagu orientation system.

## 5. The Ternate (Ternatans)

The Ternate live on Ternate Island, to the west of Halmahera. This was the first of the Molucca Islands to be modernized. Malay was introduced at an early date and it co-existed with the Ternate dialect. In *Magellan's Voyage Around the World*, there is a word list, and most words are Malay [PIGAFETTA 1906: 116–147]. In the 15th century, Islam seems to have begun spreading in Ternate and a monarchy was established by the Sultan. Of the four Sultans who reigned in Ternate, Tidore,

Bacan, and Jailolo, the Sultan of Ternate was the most powerful.   The people living
in North Halmahera were ruled by the Sultan of Ternate, and consequently the Ter-
nate dialect had a great influence in Halmahera, particularly in the northern part.
The Ternate notion of orientation is different from those discussed so far, so more
attention will be given to it.

The locational roots are *dai* (seaward location), *dia* (landward location or the
location in the mountain-direction), *daku* (upward location), *dahu* (downward
location), *daka* (yonder or other side), *kage* (there) and *kane* (here) (see Fig. 14).
Though *daka* is thought to have originally meant "other side," it is now used as
"yonder."   This may be the result of Malay influence.   The affixes are *iye* (upwards),
*tara* (downwards), *isa* (landwards), *hoko* (seawards), *ino* (centripetal affix), and *ika*
(centrifugal affix).   These terms are close to those in the other dialects discussed.
However, Ternate does not have two kinds of locational roots or affixes distinguished
by distance.   Moreover, the way in which these terms are combined is different from
that of other dialects.

Affixes indicating a certain direction can take the forms of both prefix and suffix.
Moreover, the affixes take on different meaning when they are prefixes and suffixes.
When the affixes take the form of a suffix, these expressions are the same as those in
the other dialects.   However, when the affixes take the form of a prefix the expressions
are different from what we have seen so far (Fig. 15).   For example, *hokodai* (seaward
+ seaward location) means "seawards to a seaward location" or "from here sea-
wards," not "seawards in a seaward location" (if the Ternate want to express this they
use *daihoko*).[13]   In the same way, *iyedaku* means "from here upwards," *isadia*
means "from here toward the mountain," and *taradahu* means "from here down-
wards."   However, each affix can be combined with only one locational root, such
as in the examples mentioned above, when the affix takes the form of a prefix.

In Ternate, the centrifugal affix *ika* takes the form of a prefix and when the affix
is combined with locational roots, the combinations mean to head toward the place
which the roots designate.   Furthermore, locational roots which can be combined
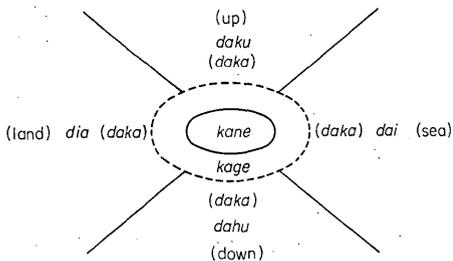


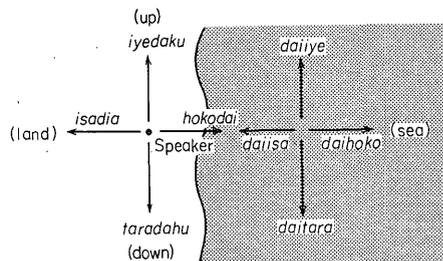**Fig. 14.**   Division of space in Ternate.



**Fig. 15.**   Example of Ternate folk
orientation.

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13)   It is possible to consider *hoko* as a verb.   Originally it was difficult to assign them to
the verb or affix class.   These affixes might be derived from verbs [BAARDA 1895: 175].

**Table 8.** Construction of folk orientation in Ternate

| affixes \ locational roots | | | | | directional location | | | | non-directional location | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | down | up | sea | land | yonder (other side) | there | here |
| | | | | | *dahu* | *daku* | *dai* | *dia* | *daka* | *kage* | *kane* |
| directional | non-ego directional | down-wards | to | *tara-* | + | − | − | − | + | + | − |
| | | | from | *-tara* | + | + | + | + | + | + | − |
| | | up-wards | to | *iye-* | − | + | − | − | + | + | − |
| | | | from | *-iye* | + | + | + | + | + | + | − |
| | | sea-wards | to | *hoko-* | − | − | + | − | + | + | − |
| | | | from | *-hoko* | + | + | + | + | + | + | − |
| | | land-wards | to | *isa-* | − | − | − | + | + | + | − |
| | | | from | *-isa* | + | + | + | + | + | + | − |
| | ego directional | | centrifugal | *ika-* | − | − | − | − | + | + | − |
| | | | centripetal | *-ino* | − | − | − | − | + | + | − |
| locational | | | | root | + | + | + | + | + | + | + |
| demon-strative | | | demonstrative | *ena-* | + | + | + | + | + | *enage* | *enane* |
| | | | conformative | *doka-* | + | + | + | + | + | *dokage* | *dokane* |

with the centrifugal affix are limited to those that do not indicate special directions, such as *daka* and *kage*. Likewise, the centripetal affix *ino* takes the form of a suffix and can be combined with only *daka* and *kage*. These combinations mean to come from the place designated by the roots. Thus, affixes which do not indicate special direction (namely non-ego directional affixes) are attached only to the locational roots which do not indicate special directions. These combinations are different from those already seen.

The combinations of locational roots and affixes can be summarized as follows: When an affix takes the form of a prefix, it means to head *toward* the place which the locational roots combined with the affix indicate (i.e., the roots indicate "goal"); when an affix takes the form of a suffix, it means to head *from* the place which the locational roots combined with the affix indicate (i.e., the roots indicate "source").

None of these affixes are combined with *kane* (here). It is reasonable that pre-fixes cannot be combined with *kane* because they have the meaning "towards here" within themselves. Although *ino* takes the form of a suffix, *ino* cannot be combined with *kane* because it also contains the meaning "towards here." However, the fact that the suffixes are not combined with *kane* cannot be interpreted using the same reasoning.

The demonstrative affix *ena* takes the form of a prefix and is combined with locational roots, as in *enadia* and *enadahu*. *Doka*, the affix which indicates "the same as," also takes the form of a prefix and is combined with locational roots, as in

*dokadia* and *dokadahu*.　 *Kane* and *kage* have a rather different combination, because *kane* could be divided into *ka-* and *ne*, *kage* into *ka-* and *ge*; and *ka-* seems to be the affix indicating location.　 So, *ena* is combined with *ne* and *ge*, such as in *enane* and *enage*.　 *Doka* is also combined with *ne* and *ge*, such as in *dokane* and *dokage*.

　　Because Ternate Island is small and round, the relationship between relative and absolute orientations changes according to a speaker's location.　 In Ternate City, *dai* (sea-direction) coincides with the east and *daku* (up-direction) with the north. In a village located on the north coast of the island, *dai* coincides with the north and *daku* with the west.　 Along the west coast, on the opposite side of Ternate City, all four directions are reversed 180°.　 However, the people use the orientation used in Ternate City when they lose the sea/land opposition.

　　The up-direction is connected with the north among the Ternate and with the south among the other peoples already mentioned.　 The Ternate notion is related to the castle of the Sultan of Ternate: As the castle is located on the hillside to the north of Ternate City, approaching the castle from anywhere in the island means going upwards.　 However, to the people of Ternate City, heading toward the castle means heading toward the north, namely the up-direction corresponds to the north.　 It is very possible that the notion of orientation used in Ternate City gradually spread throughout the island.　 People who live in the village located to the north of the castle have been observed to use the expression "going upwards" when they want to go to the castle, although they use the expression "going downwards" when they go to the city.　 It is noteworthy that the relative orientation of the Ternate was reconstructed with reference to the position of the Sultan's castle.　 Moreover, the Ternate did not make a clear distinction between vertical up-direction and horizontal up-direction.

　　A confusion between vertical and horizontal up/down directions is observed in other cases.　 For example, some people use *diatara* (downwards at a location in the mountain-direction) instead of *diahoko* (seawards at a location in the mountain-direction), when an object is coming down from the mountain.　 Some use also *iyedia* (upwards to a location in the mountain-direction) instead of *isadia* (toward the mountain from here), when an object is going up to the mountain.　 However, *diatara* and *iyedia* are less frequently used among the Ternate than *diahoko* and *isadai*.　 These expressions probably result from the topography of the island, which has a high mountain in the center, because the mountain is so dominant that some Ternate people think that heading towards the mountain from the seashore is equivalent to going up to the mountain.　 Also, heading seawards from the mountainside is the same as going down slope.　 Thus, the overlap of vertical and horizontal up/down directions is seen.　 Although most people do not confuse them, a semantic change is obviously occuring, and both expressions tend to be used as alternatives.

## 6.　The West Makian (West Makianese)

　　Makian Island is located between Ternate and Bacan Islands.　 Although rather

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**Fig. 16.** Division of space in West
Makian.



**Fig. 17.** Examples of West Makian folk
orientation.

small, the people living in the western part of the island speak the West Makian dialect which belongs to the North Halmahera language group, and the people living in the eastern part speak the East Makian dialect, which belongs to the South Halmahera language group. The orientation of the West Makian is very similar to that of the Ternate.

West Makian has four locational roots with specific direction: *naso* (downward location), *nei* (upward location), *nao* (seaward location) and *nanga* (landward locationt). The affixes are *so* (downwards), *fi* (upwards), *fo* (seawards) and *fia* (landwards).

When an affix comes after a locational root it means to head toward the direction of the affix from the place which the root indicates (i.e., the root indicates "source"). When an affix precedes a locational root, it means to head from here towards the place

**Table 9.** Construction of folk orientation in West Makian

| affixes | | | locational roots | directional location | | | | non-directional location | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | down | up | sea | land | yonder | there | here |
| | | | | *naso* | *nei* | *nao* | *nanga* | *sona* | *soma* | *sine* |
| directional | down-wards | to | *so-* | + | — | — | — | + | + | — |
| | | from | *-so* | + | + | + | + | + | + | — |
| | up-wards | to | *fi-* | — | + | — | — | + | + | — |
| | | from | *-fi* | + | + | + | + | + | + | — |
| | sea-wards | to | *fo-* | — | — | + | — | + | + | — |
| | | from | *-fo* | + | + | + | + | + | + | — |
| | land-wards | to | *fia-* | — | — | — | + | + | + | — |
| | | from | *-fia* | + | + | + | + | + | + | — |
| locational | | | *soso-* | + | + | + | + | *sosona* | *sosoma* | *sesine* |
| demonstrative | demonstrative | | | — | — | — | — | — | — | *mema* | *mine* |
| | conformative | | | — | — | — | — | — | — | *hapa* | *faine* |

which the root indicates (i.e., the root indicates "goal"). For instance, to head from here to the land-direction is expressed as *fiananga*.

Neither centrifugal nor centripetal affixes are used in West Makian. No word corresponding to "other side" is found. The locational roots indicating no special direction are *sine* (here), *soma* (there) and *sona* (yonder). The latter two terms are combined with the affixes already mentioned.

When indicating location, *soso-* is used as in *sosonei*. In the cases of roots of non-directional locations, *sesine*, *sosoma* and *sosona* are used instead of the attaching *soso-*. West Makian has only two demonstratives, namely *mine* (this) and *mema* (that), and the two terms indicating "like this" and "like that" are *faine* and *hapa*, respectively. Thus, the notion of orientation is similar to that of the Ternate, although the terms are very different. Among the West Makian, the sea-direction is identified with the west and the up-direction with the south, when the sea/land opposition is lost.

### 7. The East Makian (East Makianese)

The notion of orientation of the East Makian is basically the same as that of the West Makian, although the terms are somewhat different.

The locational roots are; *anne* (here), *addia* (there), *nogo* (yonder), *lawe* (seaward location), *lewe* (landward location), *yase* (upward location) and *pope* (downward location). The affixes are *kle* (landwards), *kla* (seawards), *tia* (downwards) and *po* (upwards). The affixes take the form of both prefix and suffix, and they convey the same meaning in West Makian. Presumably, *nogo* originally meant "other side." This assumption is based on the fact that there is a set of verbs such as *yama* (to go down), *poma* (to go up), *lama* (to go seawards) and *lema* (to go landwards) which are closely related to *yase*, *pope*, *lawa* and *lewe*. Likewise, *nogo* has a related verb *noma*, which means "to go to the other side, or to go somewhere."[14] *Do* is an affix indicating location, and it is used as in *dolawe*,[15] but *anne*, *addia*, and *nogo* are used in root form to indicate locations. *Tane* (like this) and *taddia* (like that) are two conformative terms. It is impossible to express such a similarity by means of one word when the roots of directional location are employed. This similarity should be expressed as *dai do lawe* ("the same as that in the seaward location").

Among the East Makian, the sea-direction coincides with the east and the up-direction with the south, when the sea/land opposition is lost.

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14) The system of locational roots, affixes and verbs in a somewhat irregular compared with Maba and Weda. *Tia* (landwards) may be borrowed from West Makian.

| affix | la | le | ya | po | no | remarks |
|-------|------|------|------|------|------|------------------|
| — | lawe | lewe | yase | pope | nogo | locational roots |
| k | kla | kle | tia | po | — | affix |
| ma | lama | lema | yama | poma | noma | verb |

15) I treat *do* here as an affix although it is possible to consider it as a preposition.

**Table 10.** Construction of folk orientation in East Makian

| affixes / locational roots | | | | directional location | | | | non-directional location | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | down | up | sea | land | yonder (other side) | there | here |
| | | | | yase | pope | lawe | lewe | nogo | addia | anne |
| directional | down-wards | to | tia- | + | — | — | — | — | + | — |
| | | from | -tia | + | + | + | + | + | + | — |
| | up-wards | to | po- | — | + | — | — | — | + | — |
| | | from | -po | + | + | + | + | + | + | — |
| | sea-wards | to | kla- | — | — | + | — | — | + | — |
| | | from | -kla | + | + | + | + | + | + | — |
| | land-wards | to | kle- | — | — | — | + | — | + | — |
| | | from | -kle | + | + | + | + | + | + | — |
| locational | | | do- | + | + | + | + | noge | addia | anne |
| demonstrative | demonstrative | | | — | — | — | — | — | (addia) | (anne) |
| | conformative | | (t-) | — | — | — | — | — | taddia | tane |

## 8.   The Maba

The Maba live along the north coast of the southeastern peninsula of Halmahera. They also migrated in large numbers to other areas of Halmahera. The locational roots are; *pice* (here), *pitah* (there), *poli* (other side), *polau* (seaward location), *polei* (landward location), *poya* (upward location) and *popop* (downward location). There appear to be other terms indicating politeness, such as *polamai*, *poleimai*, and so on, although these terms indicate near location for an informant.[16] The affixes are *-nei* (landwards), *-nau* (seawards), *-pop* (downwards), *-nya* (upwards) and *-ni* (to here).[17]  *Tai-* is a demonstrative affix, and *faitai-* is an affix indicating similarity (conformative). The roots themselves are employed to indicate location.

The non-ego directional affixes are combined with all locational roots without

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16)   Many polite and impolite forms are observed in Maba. For instance, the omission of "p" or the addition of "ce" or "n" are considered to be impolite. *Picenyama* is less polite than *piceyama*, *popoceyama* less than *popopceyama* and *popopceyama* less than *popopyama*.

17)   The following table shows the system of locational roots, affixes and verbs.  *pop, ya, lau, lei,* and *li* seem to be the original forms, although they are used with *po-*, which may be a locational prefix.

| affix | pop | ya | lau | lei | li | remarks |
|---|---|---|---|---|---|---|
| po | popop | poya | polau | polei | poli | locational root |
| n | pop (npop) | nya | nau (nlau) | nei (nlei) | ni (nli) | affix |
| ma | — | yama | lama | — | lima | verb |

**Table 11.** Construction of folk orientation in Maba

| affixes | | locational roots | directional location | | | | non-directional location | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | down | up | sea | land | other side | there | here |
| | | | *popop* | *poya* | *polau* | *polei* | *poli* | *pitah* | *pice* |
| directional | downwards | *-pop* | + | + | + | + | − | + | + |
| | upwards | *-nya* | + | + | + | + | − | + | + |
| | seawards | *-nau* | + | + | + | + | − | + | + |
| | landwards | *-nei* | + | + | + | + | − | + | + |
| | centripetal | *-ni* | − | − | − | − | +. | + | + |
| | locational | root | + | + | + | + | + | + | + |
| demonstrative | demonstrative | *tai-** | + | + | + | + | + | *tatah tah* | *taice ce* |
| | conformative | *faitai-** | + | + | + | + | + | *faitah* | *faice* |
| verb | up↔down | *-yama* | + | + | − | − | − | + | + |
| | sea↔land | *-lama* | − | − | + | + | − | + | + |
| | toward here | *-lima* | + | + | + | + | + | + | + |

\* In the combination of *tai-* and *faitai-* the pronouns without *po-* are used and *mai* is usually attached as a suffix.

Note: *-ce-* or *-cen-* is inserted in compound forms made up of locational roots and directional affixes.

*poli.* In contrast with these affixes, *-ni* is combined with the roots of non-directional location, such as in *polini* (from the other side to here), *pitahni* (from there to here), and *piceni* (to here). *Tai-* and *faitai-* are combined with all locational roots, but the combinations with *pice* and *pitah* are irregular; *taice* and *ce* (this), *tatah* and *tah* (that), *faice* (like this or the same as this) and *faitah* (like that or the same as that).

There are the verbs which contrast with *polau, poya* and *poli; lama* means "to go seawards or landwards," *yama* means "to go upwards or downwards," and *lima* means "to come here." However, despite having verbal function, these terms are used like a suffix as the substitution for direction suffixes. In these cases, *lama* is combined with *polau, polei, pice* and *pitah*, and *yama* with *poya, popop, pice* and *pitah. Lima* may contrast with *lama* and *yama* in the sense of "to come" and "to go."

*Lima* and *-ni* appear to be related to *poli* on the basis of the system of formation of these terms concerning orientation. However, the meanings of these terms do not relate to each other; namely, *poli* means "the other side," but *lima* means "to come here" and *-ni* indicates "to here." This contradiction may be resolved if it is assumed that Maba was influenced by the North Halmahera language. This assumption can explain why only the centripetal affix and not the centrifugal affix occurs. In Maba, the south is called *sima* and the north is *moruono*.

## 9. The Weda

The Weda live in the southern part of Halmahera. Most live along the east coast and some along the west. Their notion of orientation is basically the same

**Fig. 18.** Examples of Weda folk orientation.

as that of the Maba. The locational roots are; *poce* (here), *pote* (there), *pope* (downward location), *poya* (upward location), *polau* (seaward location) and *polei* (landward location). The directional affixes are *-nope* (downwards), *-neya* (upwards), *-nelau* (seawards) and *-nelei* (landwards) These affixes are combined with all locational roots without *poce*, and *-se-* is usually put between an affix and a locational root. As *poce* is not combined with any directional affixes, "to move away from a speaker" cannot be expressed by the combination of affix and locational root. At that time, *-le* is combined with directional affixes such as *neya-le* (from here upwards).

**Table 12.** Construction of folk orientation in Weda

| affixes | | locational roots | directional location | | | | | non-directional location | |
|---|---|---|---|---|---|---|---|---|---|
| | | | down | up | sea | land | towards | there | here |
| | | | *pope* | *poya* | *polau* | *polei* | *-le* | *pote* | *poce* |
| directional | downwards | *-nope* | + | + | + | + | + | + | − |
| | upwards | *-neya* | + | + | + | + | + | + | − |
| | seawards | *-nelau* | + | + | + | + | + | + | − |
| | landwards | *-nelei* | + | + | + | + | + | + | − |
| | locational | root | + | + | + | + | − | + | + |
| demonstrative | demonstrative | *n-* | + | + | + | + | − | *nte* | *nce* |
| | conformative | − | − | − | − | − | − | *faje* | |
| verb | up ↔ down | *-yama* | + | + | − | − | − | + | − |
| | sea ↔ land | *-lama* | − | − | + | + | − | + | − |
| | without specific direction | *-lima* | + | + | + | + | − | − | − |

Note: *-se-* is inserted between the locational root and a directional affix.

Just as in Maba, Weda has *yama* (to go seawards or landwards), *lama* (to go upwards or downwards) and *lima* (to go or to come). *Yama* is combined with *pope*, *poya* and *pote*, *lama* with *polau*, *polei* and *pote*, and *lama* with the roots of directional location.[18]

To form demonstratives, *n-* is attached to the locational roots as follows; *nce*, *nte*, *npope*, *npoya*, *npolau* and *npolei*. There is only one conformative term in Weda, *faje*. Where related to some direction, the indication of conformative cannot be expressed by only one word. It is expressed with phrases such as *dodo polau* ("the same as that in the sea").

### 10. The Patani

Because few data on Patani orientation were collected, only brief comments will be made for comparative purposes.

The Patani live in the area extending from the tip of the southeastern peninsula to its southern coast. The locational roots are; *pica* (here), *pitah* (there), *timah* (yonder), *piyama* (upward location), and *pipoma* (downward location), *pilama* (seaward location) and *pilema* (landward location). These terms are very similar to Weda, Maba and East Makian. The affixes are *nya* (upwards), *pop* (downwards), *nau* (seawards) and *nei* (landwards).

Coming upwards is expressed as *napi poma-yama* and going downwards is ex-expressed as *fan yama-yama*. *Napi* means "to come" and *fan* means "to go." Thus going landwards is expressed as *fan lama-lama* and going seawards is expressed as *fan lema-lama*. *Pi-* of *pipoma* may be a locational affix and *poma* may be the directional root. *Lama* and *yama*, which are attached to directional roots, may be originally verbs, as in Maba and Weda.

The notion of orientation of the Patani is similar to that of the Maba and the Weda, although the data on the Patani are still incomplete. In Patani, the east is *morla*, the west *pit*, the south *sima* and the north *maunopo*.

### 11. The Buli

The data on the Buli consist of terms taken from Maan's dictionary [1940]. The following have been selected for discussion:

*lau*:         the side where the sea is
*lalau*:       seaward from a speaker

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18) Likewise, in Weda the terms concerning direction and location are:

| affix | pe | ya | lau | lei | (li) | remarks |
|---|---|---|---|---|---|---|
| po | pope | poya | polau | polei | (poli) | locational root |
| ne | nope (nepe) | neya | nelau | nelei | (neli) | affix |
| ma | — | yama | lama | — | lima | verb |

Weda possibly has *poli* and *neli*, which contrast with *lima*. As in Maba, *pe, ya, lau,* and *lei* are considered to be the original forms (directional roots).

| | |
|---|---|
| malau (malawe): | to go the sea from the seashore, namely seaward appro aching a speaker |
| polau: | at the side of the sea |
| lalei: | to the land from the sea, toward the land, landwards from a speaker |
| malei: | to go toward land, namely toward a speaker |
| polē: | at the side of the land |
| lalī: | to over there, to there |
| lamī: | to here |
| polī (pulī): | there, over there |
| nap: | downwards, toward the north from Buli |
| nais: | upwards, toward the south or the west from Buli (to Batavia [Jakarta] and Holland from Buli) |
| nata: | (direction-indicator) to over there from a speaker |
| tai (taie): | this |
| na: | that |
| ca (cia): | that |
| tane: | here |
| tina: | there. |

It is clear from these terms that the down-direction coincides with the north and the up-direction with the south (west). In the Buli area, the sea-direction ordinarily corresponds to the east and the land-direction to the west. However, the sea-direction coincides with the south on the south coast of the northeastern peninsula, so the up-direction coincides with the west. It seems that *lau* is a term which indicates "sea-direction," *lei* indicates "land-direction," and *li* means "over there" (yonder). *La-* is an affix which indicates "moving away from a speaker," *ma-* indicates "approaching a speaker," and *po-* is a locational affix. Furthermore, *tai* (this) is contrasted with *tane* (here) and *na* (that) is contrasted with *tina* (there).

Maan's data shows that among the Buli there are four directions which are composed of the sea/land and the up/down directions, although the data are still incomplete. The terms are similar to those in Weda and Maba. In Buli, *morla* is the east, *pāt* the west, *simi* the south and *pulat* the north. These terms are also similar to those in Patani and Maba.

## 12.   The Bacan (Batjanese)

The Bacan live on Bacan Island and the adjacent islands, and their language is different from the South Halmahera language group. The Bacan have four directions; *lau* (sea-direction), *daya* (land-direction), *ata* (up-direction) and *bawa* (down-direction). *Ini* means "here and this," *itu* means "there and that" and *cana* means "yonder." *In* is a locational affix and is combined with the directional terms, such as *ilau*, *indaya*, *iyanta*, *inbawa* and *incana*. *Ini* and *itu* take *de* as a prefix to indicate location and become *deini* and *deitu*. *Ka* is a preposition indicating "toward" and corresponds to *ke* in Indonesian. However, there is no term equivalent to the
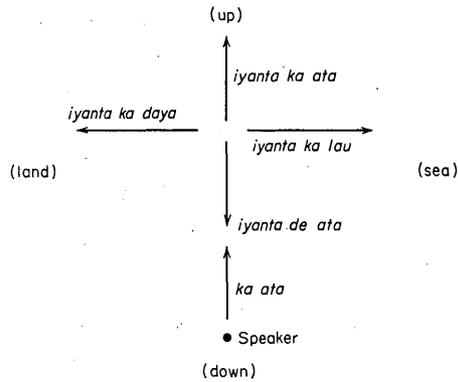
**Fig. 19.** Examples of Bacan folk orientation.

Indonesian *dari* (from) in Bacan. So, "from here" is expressed as *deini kacana* (here and to there), in which *deini* indicates only the starting point (source). "To head seawards in an upward location" is expressed as *iyanta ka lau*, in which *iyanta* indicates the location and *ka lau* indicates the direction. Likewise, *iyanta ka ata* means "to head farther upwards in an upward location." On the other hand, "from an upward location to here" is *iyanta de ata*. This phrase is probably the result of the deletion of *kamari* (to here) from *iyanta de ata kamari*. *De ata* probably now means "from an upward location." So, *de* may be a preposition indicating now not only a location but also a starting point (source).

In Bacan, there are three kinds of affixes or prepositions, and these are combined with the directional terms to express orientation. The manner of expression in Bacan is very different from what we have seen above.

## 13. The Sanana

The Sanana live on the Sula Islands, to the southwest of Halmahera. The manner in which orientation is expressed in Sanana is simpler than that of Bacan.

The directional terms are *fai* (sea-direction), *tema* (land-direction), *lepa* (up-direction) and *neo* (down-direction). The locational terms are *saik* (here), *saneka* (there) and *samana* (yonder). The Sanana language does not have terms equivalent to the Indonesian *dari* (from) and *ke* (towards), and has only *bo*, a preposition indicating location. So, directions cannot be expressed without verbs, e. g., "to go seawards" is expressed as *laka bo fai* (*laka*: to go; sometimes *laka fai is* used). "Coming from the upward location" is expressed *bia bo lepa* (*bia*: to come; *bia lepa is* also used).

## III.  FOLK ORIENTATION IN SULAWESI

I visited Sulawesi for one month (June, 1977), and made a preliminary investigation of the folk orientation of the Minahasans, the Selayar, the Makassarese, the

Buginese and the Sadang Toraja.   Although still incomplete, the following data can
be used for comparison with those of Halmahera.

## 1.   The Minahasans

The Minahasans, who live in the northern tip of Sulawesi, speak a language of
the Minahasan group of West Indonesian.   In Minahasan, the north is called
*amian*, the south *timu*, the east *sendangan* and the west *talikerang*.   They have no
other terms of orientation.   It is clear that they do not have a relative orientation
made up of the sea/land opposition.   However, these terms are interesting because
*timu* is closely related to *timur* of Malay, which means the east.   *Timu* and *timur*
have the same origin, which is *timuɣ*, according to Dempwolff [1938: 138].   The
terms which originated from *timuɣ* are widely distributed throughout insular South-
east Asia and mean the south not only in northern Sulawesi, but also in the Philippines
and Formosa.   The distributions of the terms related to *timu* and *amian* is discussed
below.

*Nyaku mange aki amian* means "I go to the north."   *Nyaku* is "I," *mange* is
"to go," and *aki amian* means "to the north."   "I come back from the south" is
*nyaku aki timu wo mai*.   It is interesting that this means "I am in the south and then
toward here."   *Wo* means "afterwards" and *mai* means "toward here."   It is also
clear from the examples that Minahasan lacks a directional affix, but has only a
preposition of location, as in Sanana.

## 2.   The Selayar (Salayar)

The Selayar live on Selayar Island, a narrow island extending from north
to south and located to the south of Sulawesi.   Three dialects (Selayar, Laiolo, and
Barang-barang) are spoken, of which Selayar, a dialect of Makassarese that belongs
to the South Celebes group of the Southwest Indonesian, is the most widely used.

In the Selayar dialect the north is *raha*, which also means "down," and the south
is *rate*, meaning "up."   The east is *raja*, which originate from *daja'* (land), and the
west *lau*, which originate from *la'ud* (sea) [DEMPWOLFF 1938: 42, 93].   It is obvious
from the terms that the Selayar have a relative orientation hinging on the sea/land
and up/down oppositions, the same as that in Halmahera.

Although most people of Selayar Island live on the west coast, a few inhabit the
east coast.   On the east coast, *raja* is the west and *lau* the east.   However, *raha* is
the north and *rate* the south, the same as on the west coast.   The orientation of the
Selayar is different from that of the Ternate who characterize the directions as being
reversed 180° on the opposite coast of the island.   It seems that the north and the
south are fixed to coincide with "down" and "up," respectively.   According to my
informant, directions named by the sun or a wind or by terms borrowed from Malay
do not exist among the Selayar.   This suggests that they do not have absolute
orientation.   Nonetheless, relative orientation may function as absolute orientation
among the Selayar.   Since Selayar Island is narrow and most people live on the west
coast relative orientation actually corresponds to absolute orientation.   So another

system of orientation might have been unnecessary. However, the Selayar regard the sunrise as indicating the land-direction (*raja*), when the sea/land opposition is lost. In current usage, they translate *raja* as the east, *raha* as the north and so on, and it would seem that they readily integrated Indonesian or Malay cardinal points into their own system.

The following are the expressions in Selayar to mean "I go to some direction":

North:       *Nakke lanaunganga,*  or *Nakke la'lampa naunganga.*
South:       — *lannaikanga,* or — — *naikanga.*
East:        — *lannaikanga,* or — — *naikanga.*
West:        — *lakalaukanga,* or — — *kalaukanga.*

(*nakke*: I, *la-*: shall, *naung*: to go down or to go north, *lampa*: to go, *naik*: to go up, *kalauk*: to go seawards, *-anga*: locational suffix.)

There are only three verbs, *naung* (to go down), *naik* (to go up) and *kalauk* (to go seawards). There is the same semantic overlap as in the case of the Ternate, in which the up-direction indicates the horizontal and vertical up-directions.

The following are examples of the expression "I come from some direction":

North:       *Nakke battu rahangang.*  (*battu*: return)
South:       — — *rateang.*
East:        — — *rajangang.*
West:        — — *laukang.*

From the two kinds of examples we see that the Selayar do not have an affix meaning "to or toward" and "from," but they have a locational affix (*-ang* or *-anga*), and the direction is mainly indicated by the verbs.

## 3.    The Makassarese (Macassarese)

The Makassarese live along the west coast of the southern peninsula of South Sulawesi. The terms of orientation in Makassarese are: The north, *wara*; the south, *timboro*; the east, *raya*; and the west, *lau*. They have a notion of orientation formed of the sea/land opposition, but *timboro* and *wara* themselves do not have the meaning
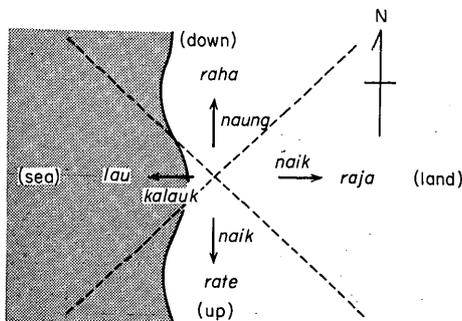


**Fig. 20.**   Selayar folk orientation.          **Fig. 21.**   Makassarese folk orientation.

of "up" and "down." *Timboro* also has its origin in *\*timuɣ* and *wara* in *\*baɣat* [DEMPWOLFF 1938: 19].

"I go to some direction" is expressed as:

North:        *Nakke lampa wara.* (*nakke*: I, *lampa*: to go)
South:        —    —    *timboro.*
East:         —    —    *anrai.*
West:         —    —    *kalau.*

*Raya* and *lau* are changed to *anrai* and *kalau,* whereas *wara* and *timboro* remain the same, which may suggest that these two sets of directions were originally different from each other.

"I come from some direction" is expressed as:

North:        *Nakke battu warakkang.* (*battu*: return, *-ang*: locational affix)
South         —    —    *timbororang.*
East:         —    —    *rayangang.*
West:         —    —    *laukang.*

These examples show a similarity with Selayar. The following are examples of expressions in which some actual place names are used:

*Nakke lanaika ri* Jeneponto. (Jeneponto is in the south)
*Nakke lanaung ri* Moras. (Moras is in the north)
*Nakke laanta'le ri* Selayar. (Selayar is in the south.)

*Naika* means "to go up," *naung* means "to go down," and *anta'le* means "to go over there." These examples show that the south and the north are connected with "up" and "down," respectively. *Anta'le* is the verbal form of *ta'le* (other side) and is used as the meaning of "to go over the sea," or "to go to the other side." Although Selayar Island is in the south, *anta'le* is used for going to Selayar because Selayar is on the other side of the sea. *Antama* means "to go to inside" and is used as the meaning of "to go to the land-direction, namely, to the east." *Antama* is related to *tama* which means "in, inside, or within." According to Matthes [1885], *kalau* (*kalaoe*) means "to go westwards" and *anrai* means "to go eastwards." It is clear that the south and the north are closely related with "up" and "down" respectively and that the Makassarese have four or more verbs related to direction.



**Fig. 22.** Buginese folk orientation.

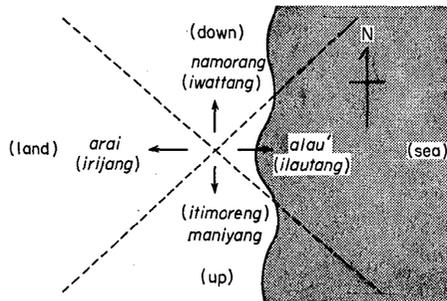According to Matthes [1885], *timoro* is "the east wind" and *bara* is "the west wind" and these terms are derived from *\*timuɤ* and *\*baɤat*, too.   Thus, there are two sets of terms, *\*timuɤ* and *\*baɤat* in Makassarese, *timboro* (south)/*wara* (north) and *timoro* (east wind)/*bara* (west wind).

## 4.  The Buginese

The main area occupied by the Buginese is the east coast of South Sulawesi, which faces the Bugis Gulf.   Their language belongs to the South Celebes group, as does Makasserese.   The terms of orientation in Buginese are: The north, *manorang*; the south, *maniyang*; the east, *alau'*; and the west, *arai*.[19]   Sometimes the north is called *no'* and the south is *enre*.   *No'* and *enre* mean "to go down" and "to go up," respectively.   From these terms it is obvious that their directions consist of the sea/land opposition and the up/down directions.

"I go to some direction" is expressed as:

North:        *Iyak lao ri iwattang.* (*iyak*: I, *lao*: to go, and *ri*: preposition of
South         — — —*itimoreng.*                                            location)
East:          — — — *ilautang.*
West:          — — — *irijang.*

"I come from some direction" is expressed as:

North:        *Iyak pole ri iwattang.*  (*pole*: come)
South:        — — —*itimoreng.*
East:          — — — *ilautang.*
West:          — — — *irijang.*

Within actual sentences, *iwattang* and *itimoreng* are used in the substitutions for *manorang* and *maniyang*, and they may originate from *\*baɤat* and *\*timuɤ*.   Furthermore, according to Matthes [1874], *timo* is "the east wind" and *bara* is "the west wind" in Buginese.   It is noteworthy that several sets of terms concerning orientation are seen in Buginese; *\*timuɤ/ \*baɤat* (as south/north and as east/west), up/down and sea/land, as in Makassarese.

As in Makassarese, there is only one suffix indicating location, *-ang*, and one preposition of location, *ri*, in Buginese.   Therefore, "toward" or "from" cannot be expressed by using a suffix or preposition, but can be only by using the verbs.

## 5.  The Sadang Toraja

The Sadang Toraja live in the mountain area of South Sulawesi and their language belongs to the Sadang group of Southwest Indonesian.   The R. Sadang runs north to south, and most people live along its course.

In Sadang Toraja, the north is *dae*, the south *lo'*, the east *dio* and the west *lan*.   *Dae* and *lo'* originate from *\*daja'* (land) and *\*la'ud* (sea), respectively [DEMPWOLFF 1938: 42, 93], although *dae* and *lo'* mean "upstream" and "downstream."   The sea/

19)   Matthes [1874] transcribed *urai* and *aja* as "the west."   Furthermore, he transcribed *nó* and *manó* as "the north," and *wara* as "the star of the north."

land opposition is expressed in the downstream/upstream directions in Sadang Toraja. *Dio* was not originally related to the cardinal points, and means "yonder or over there."[20]   *Lan* is not related to the cardinal points and either it means "in" or "into."

The north is *ulu na wai* ("the head of the river"), and the south is *pollo na wai* ("the foot of the river"), the east is *mata na allo* ("the sun") or *kadellekan kulla* ("the place of the sunrise"), and the west is *kadotoan kulla* ("the place of the sunset").[21] The Sadang Toraja have a system of absolute orientation.

"I go to some direction" is expressed as:

North:        *Lamale na-rekke.*   (*la-*: shall or will, *male*: to go)
South:        —   *na-sau'.*
East:         —   *na-lako.*
West:         —   *na-tama.*

*Rekke* means "to the north," *sau'* means "to the south", *lako* means "to the east and to over there," and *tama* means "to the west and inland."

"I come from some direction" is expressed as:

North:        *Tama* (or *ma'palu*) *dae mai.*   (*tama*: to enter or to go inside,
South:        —           *lo'*   —.   *ma'palu*: to head, *mai*: to here)
East:         —           *dio*   —.
West:         —           *lan*   —.

In Sadang Toraja, there is no term for "from," so that *mai* (to here) and a verb are combined to express "from."

The following are examples in which the actual place names are used:

*Lamale na-rekke* Rantepao.   (Rantepao is located to the north)
*Lamale na-rokko* Makale.   (Makale is also located to the north)

*Rekke* is used for going to Rantepao, however, *rokko* which means "down-
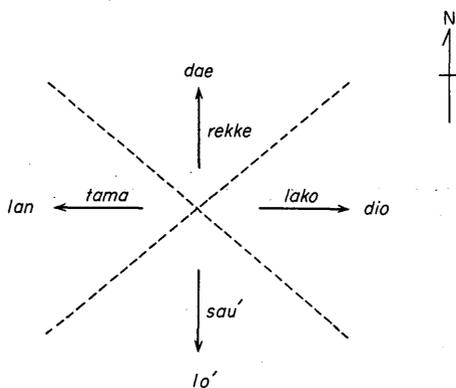


**Fig. 23.**   Sadang Toraja Folk orientation.

20)   According to Tammu and Veen, *dio* means "at or in (preposition indicating location)" [1972: 139].
21)   *Ulunna langi'* is north, *pollo na uai* is south, *matallo* (*mata allo*) and *kadellekan kulla* in east, and *kadotoan kulla* is west, according to Tammu and Veen [1972: 685, 422, 252].

wards," is used for going to Makale, despite the fact that both places are located to the north.  *Rokko* (downwards) and *langngan* (upwards) are usually used, respectively, for "up" and "down" in a vertical sense.  Nonetheless, *rokko* in this case is used in a horizontal sense because Makale is obviously located in an upward location.  This case is problematical, but it may be that the notion of a correlation between the north and downdirection still exists as among the Makassarese and Buginese.

## IV.  DISCUSSION

### 1.  Type of Folk Orientation

#### 1)  COMPONENTS OF FOLK ORIENTATION

All the notions of orientation mentioned above, except for those of the Minahasans and the Sadang Toraja, consist of two directional sets, sea/land and up/down directions.  Those folk orientation systems are not equivalent of each other, however, and can be divided into different types of orientation systems.  The components of folk orientation systems will be discussed here so as to distinguish types of systems.  The components are: (1) Locational terms (roots) and/or directional terms, (2) affixes and/or prepositions of direction and location, and (3) verbs that are related to directions.

The terms referred to so far in this paper as "locational roots" are now discussed in more detail.  In the Halmaheran languages these terms have been labelled "locational roots" because they are combined mainly with directional affixes.  However, the locational roots are clearly divided into two groups: The terms of directional location and those of non-directional location.  The latter, for example, *gena* (there) and *nena* (here) in Galela, refer only to locations (locative terms), whereas the former probably referred originally to directions.  The terms of directional location possibly originated from directional terms, so that the origin of the terms of directional location may be different from that of the terms of non-directional location.  Also, directional terms might evolve to refer to locations.

There are three types of locational roots which originated from directional terms: (1) Directional terms have entirely changed to locational terms.  For example, there is no locational affix in the Loloda and the Ternate dialects and the locational roots themselves indicate location.  The Tobelo dialect has a locational affix, but the roots themselves can indicate location.  The locational affixes of Galela and Tabaru might be the same as the case of Tobelo.  In these cases, the set of near and far locations for each direction can exist because the directional terms have changed to locational terms.  As seen in the discussion of Galela orientation, two groups of terms were combined in the locational dimension and Galela space was divided into ten.  This interpretation could solve the irregular combinations with affixes and the terms of non-directional location, and also the fuzzy boundaries between the locations indicated by the terms of non-directional location and the locations indicated by the

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terms of directional location; (2) directional terms can refer to locations by means
of the combinations with locational affixes. For instance, in Maba and Weda the
terms of directional location consist of directional roots and locational affixes. How-
ever, the forms which are combined with the directional terms and the locational
affixes are further combined with the directional affixes as the terms of directional
location in Galela, Loloda, Tabaru, Tobelo and Ternate; and (3) directional terms
themselves without any affix have come to refer also to locations. For example,
West Makian and East Makian have locational and directional affixes. So their
terms of directional location could refer to directions and locations.

The Bacan and the Sula languages have only directional terms, which do not
indicate locations. Likewise, Minahasan, Selayar, Makassarese, and Buginese have
the same kind of directional terms as Bacan and Sula. Selayar, Makassarese and
Buginese have locational affixes, but the forms which are combined with the direc-
tional terms and the locational affixes are no longer combined with an affix.

The locational terms (roots) and/or directional terms are divided into three
types: L-1: the terms of directional location indicate only locations; L-2: the terms
of directional location indicate both locations and directions; and L-3: the terms
indicate only directions (Fig. 24). In the L-1 type, the central space is divided into two,
as "here" and "there." The outer space is divided into eight by means of four direct-
tions and a contrasting set of distance (near and far), except in Ternate in which the
outer space is divided into four. The L-1 type usually includes other locational terms
such as "other side." The L-2 type is further subdivided into two depending on
whether or not the terms of directional location can be divided into directional roots
and locational affixes: L-2a has four terms of directional location which by them-
selves can refer to both directions and locations, and three terms of non-directional
location which consist of "here," "there" and "yonder"; and L-2b has four terms
of directional location composed of directional roots and locational affixes, and three
terms of non-directional location consisting of "here," "there" and "yonder" or
"other side." In the L-2 type, "other side" could change to "yonder," but not *vice
versa*. There are transitional cases in which the terms indicating "other side" also
mean "yonder." The L-3 type has four directional terms and probably three loca-
tional terms which consist of "here," "there" and "yonder" or "other side."

In the affixes and/or prepositions of direction and location, there are two very
different types: The Da type that includes non-ego directional affixes; and the Dn
type that does not. The Da type is subdivided into three subtypes: Da-1 has four
non-ego directional affixes and two ego-directional affixes; Da-2 has four non-ego
directional affixes similar to Da-1 but which function in a different way from Da-1.
When these affixes take the form of a prefix the locational roots which are combined
with the prefixes indicate *goal*. When they take the form of a suffix the locational
roots which are combined with the suffixes indicate *source*; and Da-3 has also four
non-ego directional affixes, but does not include an ego directional affix (one case has
a centripetal affix but its use is rather restricted).

The Dn type is also subdivided into three subtypes: Dn-1 has affixes and/or

**Fig. 24.**  Types of space-division.

Note:  The terms "other side" can be employed to mean "yonder"
in the types L-2b and L-3.

prepositions indicating "from" and "toward"; Dn-2 has only an affix and/or pre-
position indicating "toward"; and Dn-3 has no affix or preposition of direction,
having only an affix or preposition of location, such as "on" or "at."

The verbs related to directions are closely connected with directional affixes or
directional terms.   The V-1 type has four verbs which can be used for any directional
location, and also two ego directional verbs.   Moreover, these verbs are directly
related to directional affixes.   The V-2 type has only three verbs and these function
in a different way from V-1: One is used in a dimension between the sea and the land;

**Table 13.**  Analysis of folk orientation

| language or dialect | L-1 | L-2a | L-2b | L-3 | Da-1 | Da-2 | Da-3 | Dn-1 | Dn-2 | Dn-3 | V-1 | V-2 | V-3 | V-4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Galela | + | | | | + | | | | | | + | | | |
| Loloda | + | | | | + | | | | | | (+) | | | |
| Tabaru | + | | | | + | | | | | | (+) | | | |
| Tobelo | + | | | | + | | | | | | (+) | | | |
| Modole | (+) | | | | (+) | | | | | | (+) | | | |
| Ternate | (+) | | | | | + | | | | | + | | | |
| West Makian | | + | | | | + | | | | | (+) | | | |
| East Makian | | + | | | | + | | | | | + | | | |
| Maba | | | + | | | | + | | | | | + | | |
| Weda | | | + | | | | + | | | | | + | | |
| Patani | | | (+) | | | | (+) | | | | | (+) | | |
| Buli | | | (+) | | | | (+) | | | | | (?) | | |
| Bacan | | | | + | | | | (+) | + | | | | | + |
| Sanana | | | | + | | | | | | + | | | | + |
| Selayar | | | | + | | | | | | + | | | + | |
| Makassarese | | | | + | | | | | | + | | | + | |
| Buginese | | | | + | | | | | | + | | | (+) | |

the second is used in a dimension between up and down; and the last does not have specific direction.  The V-3 type has four directional verbs which are related to directional terms.  The V-4 type has no verb which is related to directions.  Table 13 shows those of the types discussed above that belong to each language or dialect.

## 2)  TYPES OF FOLK ORIENTATION

The following typology of folk orientation is based on the descriptive account given above and on a comparison of the terms of location and direction (Table 14 and 15).  Folk orientations on Halmahera, the adjacent islands and South Sulawesi can be divided into two types by means of the presence or absence of non-ego directional affixes; the Halmahera type and the Non-Halmahera type.  The Halmahera type is limited to Halmahera and the adjacent islands, whereas the Non-Halmahera type may be distributed throughout Indonesia or probably insular Southeast Asia as a whole.

The Halmahera type can be subdivided into three subtypes: (A) The North Halmahera subtype, (B) the Makian subtype and (C) the South Halmahera subtype.  The North Halmahera subtype and the South Halmahera subtype are clearly defined, whereas the Makian subtype is not.  Being intermediate between the other two subtypes it is not as clearly defined.

(A)  **The North Halmahera subtype**:  Although the Tobelo and the Tabaru dialects have affixes distinguished by distance, they only have morphological devices and the compound forms which are made up of locational terms and affixes, convey the same meaning as those of Galela and Loloda.  This subtype, which consists of

**Table 14. Comparison of terms of directional location (directional terms)**

| language or dialect | down far | down near | up far | up near | sea far | sea near | land far | land near | other side far | other side near | yonder | approaching | non-immediate | immediate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Galela | dahu | dahe | daku | dake | dai | dade | dina | dine | doka | doke | — | naga | gena | nena |
| Loloda | dauk | medauk | daku | medake | dai | medai | dina | medine | doka | medoke | — | naga | menege | menena |
| Tabaru | dau | | daku | | dai | | | dine | doka | | — | naga | ge | ne |
| Tobelo (Modole) | dau / dane | dae | daku / da'u | dake | dai | dane | dina | dine | doka / do'a | doke | — | naga | gena / gena | nena |
| Ternate | dahu | | daku | | dai | | dia | | (doka) | | doka | — | kage | kane |
| West Makian | naso | | nei | | nau | | nanga | | | | sona | — | soma | sine |
| East Makian | pope | | yase | | lawe | | lewe | | (nogo) | | nogo | — | addia | anne |
| Maba | popop | | poye | | polau | | polei | | | poli | (poli) | — | pitah | pice |
| Weda | pope | | poya | | polau | | polei | | | | — | — | pote | poce |
| Patani | pipoma | | piyama | | pilama | | pilema | | | — | timah | — | pitah | pice |
| (Buli) | | | | | polau | | polei | | | poli | — | — | tina | tane |
| Bacan | bawa | | ata | | lau | | daya | | (cana) | | cana | — | itu | ini |
| Sanana | neo | | lepa | | tema | | fai | | | — | semana | — | saneka | saik |
| Selayar | rara | | rate | | lau | | raja | | ta'le | | | — | | |
| Makassarese | wana | | timboro | | lau | | raya | | | | — | — | antu | anrinni |
| Buginese | namorang | | maniyang | | alau | | urai | | | | — | — | ro | rini |

**Table 15.** Comparison of affixies and prepositions

*Column groups — directional: non-ego directional (downwards, upwards, landwards, seawards) and ego directional (centripetal, centrifugal); and locational.*

| language or dialect | downwards | | upwards | | landwards | | seawards | | centripetal | | centrifugal | | locational | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | far | near | far | near | far | near | far | near | far | near | far | near | far | near |
| Galela | ku | | i | | sa | | ko | | no | | ka | | ko | |
| Loloda | uku | | iye | | isa | | oko | | ino | | ika | | (root) | |
| Tabaru | uku | nguku | iye | ngiye | isa | ngisa | oko | ngoko | ino | ngino | ika | ngika | ika | ngika (root) |
| Tobelo | uku | nguku | iðe | ngiðe | iha | ngiha | oko | ngoko | ino | ngino | ika | ngika | oka | ngoka (root) |
| (Modole) | | ngu'u | | ngiye | | | | ngo'o | | | 'a | | (root) | |
| Ternate | tara | | iye | | isa | | hoko | | ino | | ika | | soso | |
| West Makian | so | | fi | | fia | | fo | | — | | — | | do | |
| East Makian | po | | tia | | kle | | kla | | ni | | — | | (root) | |
| Maba | pop | | nya | | nei | | nau | | — | | — | | (root) | |
| Weda | nope | | neya | | nelei | | nelau | | — | | — | | (root) | |
| Patani | pop | | nya | | nei | | nau | | — | | — | | (root) | |
| Bacan | — | | — | | — | | — | | (de) | | (ka) | | in, (de) | |
| Sanana | — | | — | | — | | — | | — | | — | | bo | |
| Selayar | — | | — | | — | | — | | — | | — | | ang(a) | |
| Makassarese | — | | — | | — | | — | | — | | — | | ang, ri | |
| Buginese | — | | — | | — | | — | | — | | — | | ang, ri | |

L-1, Da-1 and V-1, is seen in Galela, Loloda, Tabaru, Tobelo, and probably Modole.

(B)  **The Makian subtype**:  The common components of this subtype are L-2a, Da-2, and V-1.  However, the Ternate dialect has two ego directional affixes similar to the North Halmahera subtype, and the terms of directional location of Ternate refer only to locations, in contrast with West Makian and East Makian, in which those refer to locations and directions.  Furthermore, terms of locational roots and affixes are quite distinct.  The terms of the Ternate dialect are close to those of the North Halmahera subtype.  On the other hand, the terms of East Makian are similar to those of the South Halmahera subtype.  The terms of the West Makian dialect are independent from the others.

It is likely that speakers of the North Halmahera languages did not all come to Halmahera at the same time.  The West Makian might have come to Makian Island later.  The orientation system of this subtype may have been influenced by interaction among the Ternate (probably the Tidore, too), the West Makian and the East Makian, which might have different origins or which might have come to each area at different times.

(C)  **The South Halmahera subtype**:  The components of this type are L-2b, Da-3 and V-2.  The Maba and the Weda dialects are included in this subtype and possibly also the Patani and the Buli dialects.  The directional affixes of Maba, Weda and Patani are directly related to the directional roots, whereas the affixes of the North Halmahera subtype are not.  This subtype may have been influenced by the North Halmahera subtype and its directional affixes may have developed as the result of association with the paradigm for locational terms.[22]  The centripetal affix of Maba also suggests that this assumption might be correct.

The Non-Halmahera type does not have the non-ego directional affixes and ego directional affixes, but it includes some affixes and/or prepositions of general direction, such as "from" and "toward."  Sometimes the type does not include an affix and/or prepositions of direction and has only an affix and/or preposition of location, such as "in" or "at."  This type is divided into two subtypes by the presence or absence of the verbs related to directional terms:  The South Sulawesi subtype has the verbs of this kind but the Sula-Bacan subtype does not.

(D)  **The South Sulawesi subtype**:  The components of this subtype are L-3, Dn-3 and V-3.  Selayar and Makassarese are included here and Buginese possibly is too, although it is not clear whether Buginese has such verbs.

The folk orientation system of the Sadang Toraja is somewhat related to the South Sulawesi subtype, but it cannot be so classified because it has adverbs that are independent from the directional terms.  Minahasan has a parallel preposition like Bacan, but it lacks the notion of the sea/land opposition.

(E)  **The Sula-Bacan subtype**:  The components of this subtype are L-3, Dn and V-4. Bacan and Sanaua are included in this subtype.

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22)  Although the North and South Halmahera languages may have influenced each other historically, the South Halmahera subtype appears to have been influenced by the North Halmahera subtype from a synchronic viewpoint.
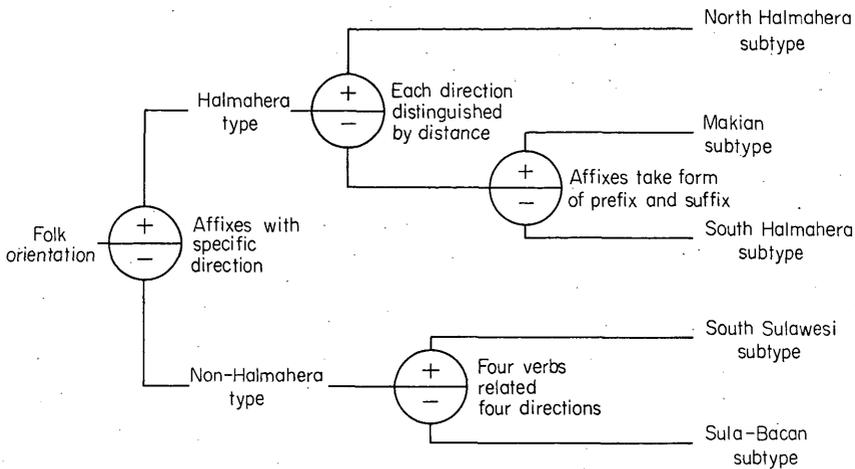
**Fig. 25.** Classification of types of folk orientation in Halmahera, the adjacent islands and South Sulawesi.

### 3) CHARACTERISTICS OF ORIENTATION IN NORTH HALMAHERA

The characteristics of orientation of North Halmahera are:

(1) Four directions constructed with the two directional sets, sea/land and up/down directions. Moreover, the up-direction always corresponds to the south;

(2) The locational dimension is divided into ten by means of distance and directions; and

(3) There are four particular affixes which indicate four directions. They are related to the verbs which also convey four directions. It would seem that these affixes originated from those verbs [BAARDA 1895: 175].

Those chaiacteristics indicate that the folk orientation system of North Halmahera is unique compared with other systems. Discussion of the origin of this unique system of orientation is referred to in a later section (see notes on migration). Here I would like to discuss the integration of the North Halmaheran orientation system into the cultural system.

Baarda [1906] reported an interesting example of the spirits of the Galela. *O nyawa* (*njawa*) indicates a human and also denotes the human after death. There are two kinds of *nyawa* (spirits): One is *dilike*, which derives from unnatural death as a result of war, murder, or suicide, and the other is *sone-hoa*, which derives from a natural death. Each spirit lives in a separate district: *Dilike* live in the eastern district and *sone-hoa* in the western, called *gome* [BAARDA 1906: 2011].[23] In the Tobelo area, there is an evil spirit named *o tokata*, which is of two types: *O tokata o honganino* which comes from the forest, and *o tokata o tonakino* which comes from the ground. The former is said to cause people to have nightmares and make them very

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23) Perry cited Baarda [1906] and described *dikili* instead of *dilike* [1914: 283] and Kruijt transcribed *diliki* [1906: 378]. However, *dilike* is adequate.

ill-humored.  The nighttime visit of *o tokata o honganino* is said to affect people's legs in bizarre ways.  So, the people sleep with their heads in a land-direction, toward the wall of the house, in order to protect themselves from the spirit [HUETING 1922: 266–67].[24]

Although there are some anecdotal cases where a parallel can be drawn between orientation and the system of beliefs, as a whole the folk orientation system is not closely correlated to the value systems, at least not in present-day Halmaheran society.  Thus the hypothesis raised earlier must be reconsidered, namely the prediction that spatial terms which are highly differentiated and idiosyncratic do not necessarily indicate that spatial orientation has special significance for those who speak the language.  In other words, the existence in the language of a highly elaborate paradigm for mapping spatial dimensions does not imply that spatial orientation is afforded a special symbolic significance in a culture.  It is misleading to make inferences about cultural facts from linguistic evidence.

## 2.  Folk Orientation in the Other Areas

### 1)  ABSENCE OF ABSOLUTE ORIENTATION (SERAM)

Absolute orientation determined by the sun, the stars, or the winds can be found almost anywhere.  However, in the case of Seram there is no evidence of absolute orientation.  According to Jensen [1972], the inland people of the western part of Seram have four directions; *lowan* (sea-direction), *loyada* (land- or mountain-direction), *lodi* (right-direction, facing the sea) and *lori* (left-direction).  A set of terms, *lowan* and *lodaya*, corresponds to the set of sea/land directions.  However, the other set obviously does not coincide with the set of up/down directions, but with the set of right/left directions.  These terms are different from those mentioned above.  Moreover, Jensen notes that for the people of Seram there is no fixed position for the sunrise because they believe it varies according to place and time.  Thus they have no notion of orientation by the sun.  It would seem that either they had not yet observed the link between the seasonal changes and the positions of the sunrise, or they have lost this notion.  Furthermore, relative orientation appears to have an absolute function.  So, they refer to the villages lying almost on the other side of the island as if those villages were located on either the right or left side of their own village.  They might be unaware that their land is an island.  On the basis of this evidence Jensen hypothesizes that such orientation was developed in another geographical location where the land mass was much larger, and from which it introduced to Seram [JENSEN 1972: 180].

There is, however, another interpretation of the Seram orientation system, which stands out rather strikingly.  These people live on the mountainsides and can

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24)  Many evil sprits such as *o toka, o meki, o ibilisi* and *o putiana* are observed among the Galela (see Ishige in the volume, pp. 417–427).  They are believed to live in the forest, as among the Tobelo.  However, there may be a contradiction between the idea that evil sprits live in the land-direction and the idea that heaven is also in the land-direction.

always see the sea or the mountains. Thus they hardly ever lose their sense of direction. This means that they do not need another system of orientation. They do not, however, climb to the mountain tops which are thought to be inhabited by spirits and not by men. Moreover, Seram Island may be too large for them to travel around, and also they lack boats. Therefore, they have no way of knowing that their land is an island. It can be claimed that they have adapted to such a particular situation without an absolute orientation, rather than their notion of orientation having originated elsewhere.

### 2)  VERTICAL AND HORIZONTAL UP-DOWN DIRECTIONS (THE KEDANGESE)

According to Barnes [1974], the Kedangese notion of orientation is highly complex and it is difficult to define clearly its terms. The Kedangese live on Lembata Island, which lies to the east of Flores, in the Lesser Sunda Islands. They have five terms of orientation; *oté* (up-direction and left-direction), *olé* (down-direction and right-direction), *oli* (up-direction), *owé* (down-direction) and *oyo* (to the side, undifferentiated lateral term) [*ibid.*: 79–88]. It is interesting that there are two sets of up/down directions, which is reminiscent of the Ternate case. In the Kedangese area there are two high, imposing mountains, as on Ternate Island. These mountains clearly serve as important landmarks for orientation. On Ternate Island there is some overlap in the use of terms denoting the horizontal up/down directions with those denoting the vertical up/down directions. The Kedangese orientation system, too, can be easily understood in these terms.

*Oli* and *owé* are probably glossed as "mountain-direction" and "sea-direction." *Oté* may be originally defined as "up-direction" and *olé* as "down-direction." *Oté* and *olé* seem to have been used only as horizontal up/down directions, and later came to be used also as vertical up/down directions as in Ternate. The difference between the Kedangese and the Ternate is that the former terms are more often used in a vertical sense than are those of Ternate. Noteworthy is that, when there is a very high mountain, the up/down directions in the horizontal sense tend to be used in the vertical sense as a substitute for the mountain/sea directions.

*Oyo* (to the side) may be defined as "other side." It is difficult to understand its function because the Kedangese have two other lateral terms, *oté* and *olé*. They also have absolute orientation terms, *timur* (east) and *waraq* (west), which are related to the sun or the monsoons [BARNES 1974: 79]. Moreover, they might know that the villages lies around the mountains, unlike the inhabitants of Seram. Barnes gives a concrete example of the use of *oyo*: The villagers of Leuwajang refer to the village of Peusawa as *oyo*. The latter village lies exactly on the other side of the mountain. This example supports the assumption that *oyo* means "other side."

### 3)  ADAPTATION TO AN INLAND AREA (THE MELANAU)

The Melanau folk orientation, which was described by Clayre [1973], can be compared directly with the data presented in this paper. The comparison raises some interesting questions. The Melanau live in Sarawak, and their language

is classified as the Borneo Group of the Southwest Indonesian [SALZNER 1960: 13].[25]

Table 16 illustrates Clayre's data on the Melanau folk orientation system. The overall pattern is similar to the types of orientation system discussed above. One important difference is that the main river takes the place of the sea as the point of orientation among the Melanau: *Alud* means "riverward-direction" and *dayeh* means "inland-direction."[26] Although they have the notion of "up" and "down," those terms are used only in a vertical sense. The upriver-direction (*aju'*) and the downriver-direction (*aba'*) can be substituted for horizontal up/down directions. If the orientation based on the sea/land opposition was the original one, the Melanau orientation would be a form which was adapted for inland situations. This orientation is immediately reminiscent of other examples of inland orientation.

The case of Seram is special for when there is no absolute orientation, although the sea/land opposition is still used. The Modole orientation is very different from that of the Melanau, although both peoples use the river for orientation. In the Modole case the upriver-direction does not correspond to an up-direction in a horizontal sense, but to a down-direction. The Modole orientation is the same as that of the Tobelo, and this implies that their orientation system has not been modified to adapt it to their circumstances. Similar cases are also found among the inland Galela. L. Galela does not take the place of the sea, although this appears to be the case in Bali. It could be assumed that there are two kinds of orientation systems, the flexible type and the fixed type.

Among the Sadang Toraja, we see a different type of adaptation for inland. The sea-direction is replaced by the downstream-direction and the land-direction to the upstream-direction. The other directions are not the up/down directions, or the right/left directions, or the riverward/inland directions, but are the directions such as *dio* (yonder) and *lan* (in or within).

In Taiwan, there are other types of orientation adapted to inland locations. Since the mountains stretch nearly all the way from south to north the terms which originally referred to the land and the sea are used for the east and the west, besides the terms which derived from the sunset and sunrise. These terms also mean upwards/downwards and upstream/downstream directions. Another set of directions which is used for the south and the north is of three kinds; right/left directions in most cases, a undifferentiated lateral term such as "aside," and no special reference term used [UTSURIKAWA 1940].

Let us return to the Melanau case. The coastal Melanau orientation system is a little different from the inland Melanau. Among the coastal Melanau, there are the up/down directions in a horizontal sense; the up-direction indicates the direction of Brunei (a more or less northeast direction) and the down-direction indicates the direction of Kuching (approximately southwest) [CLAYRE 1973: 80]. This is very similar

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25) Salzner transcribed Belan'u—Milano instead of Melanau [1960: 13].
26) Pahang people have a similar orientation to the Melanau (Donald Lambert, pers. comm.). The Pahang live along the R. Pahang of Peninsular Malaysia and have the following terms; *kelaut* (towards the river), *kedarat* (towards the inland), *keulu* (towards upriver) and *kehilir* (towards downriver).

**Table 16.** Melanau folk orientation (after Clayre [1973])

| term of orientation | Melanau | | | | | | | Lahanan Sub-tribe | | Coastal Melanau | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Dalat dialect | | | Matu dialect | | Bintulu dialect | | | | | |
| | direction | position | motion | direction | motion | direction | motion | direction | motion | direction | motion |
| up | bau | bah bau | bawai | amuh | kamuh | 'bau | 'bawai | kabau | bagwai | wab | wab |
| down | iba' | bah iba' | ba'ai | iba' | kiba' | 'bu | 'bu'ai milèh | kiva' | ba'ai | la'an | la'an |
| upriver | aju' | aju' | kaju' | aju' | kaju' | aju' | ju'ai | naju' | ju'ai | aju' | kaju' |
| downriver | aba' | aba' | kaba' | aba' | kaba' | ava' | va'ai | nava' | sa'ou | aba' | kaba' |
| inland | dayeh | dayeh | jangai | dayeh | kedayeh kalem | dayeh | jangai | nalem | lemai | dayeh | jangai |
| riverwards | alud | alud | *kalud udai | awir | kawir | da'ud | durai | nipa | paai | alud | udai |
| across river | ipah | bah ipah | paai | | | | | | | | |
| here | 'ih | gi'ih | ki'ih kidei | | | | | | | | |
| there | in | giin | kiin | | | | | | | | |
| yonder | inan | inan | kinan | | | | | | | | |
| deictic | direction | location | motion | | | | | | | | |

* *Kalud* means "to approach the river from a distance" and *udai* means "to approach the river from close-to."
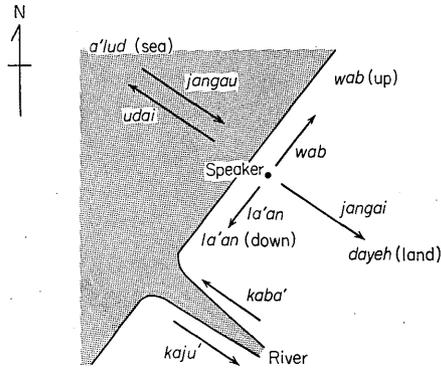
**Fig. 26.**  Folk orientation among the coastal Melanau (after Clayre [1973]).

to the Halmaheran case, but the coastal Melanau have the upriver/downriver direc-
tions besides the four other directions.   The terms for upriver/downriver directions
do not derive directly from the terms for "up" and "down," and are independent of
the others.   So, these terms can coexist with the other four terms among the coastal
Melanau.

There are other interesting terms in Melanau, namely *udai* indicating "to approa-
ch the river from a distance" and *kalud* indicating "to approach the river from close-
to" [CLAYRE 1973: 75].   It is clear that the Melanau have a contrastive set of
locational terms distinguished by distance, although they have only one set.   More-
over, *jangai* means not only "toward the inland from the coastline," but also "ap-
proaching the coast from the sea" among the coastal Melanau [CLAYRE 1973: 80].
Although not directly equivalent, these cases are somewhat similar to that of
Halmahera.   However, these cases may point the way in which the orientation of the
Halmahera-type could be constructed.

### 4)   SIMILAR ORIENTATION TO THE MELANAU

In North America there are systems of orientation very similar to that of the
Melanau.   The Koyukon orientation system is an example (Table 17).   The Ko-
yukon live along the R. Yukon and the R. Koyukon in central Alaska.   They
have three prefixes of distance (*no*: near, *do*: average, midway and *yu*: furthest) and
two directional affixes (*ts'e*: to or toward, and *ts'nN*: from or away from) [HENRY
and HENRY 1969: 128–39].[27]   The main difference between the orientation system
of the Kuyokon and that of the Halmaheran peoples is that the former only have two
directional affixes.   Thus, they do not make as many distinctions as the latter in
dividing up in deictic spectrum.

According to Henry and Henry [1969: 141], an orientation similar to that
of the Koyukon is found among the Kutchin, the upper Tanana (Nabesa), the

27)   They transcribed one more term of distance; *?a* (closest, nearest [rare]).   Since they
added that the word was rare I have omitted it.

**Table 17.** Comparison of the Melanau and the
Koyukon terms of orientation

| language<br><br>term | Melanau | Koyukon |
|---|---|---|
| up | *bau* | *di* |
| down | *iba'* | *t'o (yax)* |
| upriver | *aju'* | *ni* |
| downriver | *aba'* | *do* |
| inland | *dayeh* | *nko (nga, nox)* |
| riverward | *alud* | *tta* |
| across the river | *ipah* | *no* |

Note: Melanau after Cayre [1973] and Koyukon after
Henry and Henry [1969].

Chipewayan and the upper Kuskowin of Alaska and Canada. Moreover, the
distribution of similar features of orientation is not limited to Alaska or Canada, but
occurs to some extent in northwestern and central California [KROEBER 1976: 15].
The Yurok, for example, have the following terms of orientation; *pul* (downstream),
*pets* (upstream), *hiko* (across the stream), *won* (up hill or away from the stream), and
*wohpe* (across the ocean) [KROEBER 1976: 15].

According to Shirokogoroff [1926], moreover, some dialects of Northern Tungus
have terms of orientation based on reference to the river: for instance, *sulilá, holoki,*
*solovu* and *soloxo* refer to "the upper course of a river," *ajali, äjäki, ajä* and *äjä* refer
to "to go with the current", and *bargila, bargiski* and *bargit* refer to "the opposite
side of the river" [SHIROKOGOROFF 1926: 184–185]. Therefore, one might consider
that there was some relationship among the orientation systems of the Melanau, the
Tungus and the Koyukon. This is a fascinating assumption, but it could not be
drawn from those data alone. The manner of orientation is essentially simple and a
similar orientation can be found in other areas where there is no possibility of
diffusion.

## 5) UP-DOWN AND RIGHT-LEFT

The notion of orientation based on the sea/land opposition is widespread
throughout Indonesia, the Philippines and Taiwan. However, it is not limited to
these areas. For example, a similar orientation system is found on the northeast
coast of New Guinea and on Samoa [JENSEN 1972: 176–177]. In Hawaii, *mauka*
means "towards the mountains or inland" and *makai* means "seawards or offshore"
[SOLENBERGER 1953: 133]. The Chamorro in the Marianas Islands have four terms
of orientation; *catan* (north), *luchan* (south), *haya* (east, or the side of the land), and
*lago* (west, or the side of the sea) [SOLENBERGER 1953: 133–41]. An orientation
based on the sea/land opposition might be widespread among the speakers of
Austronesian languages.

However, compared with the sea/land directions, there is little discussion on the

other sets of directions. There are two dominant sets of relative orientation in this area; up/down and right/left directions. Up/down directions, as mentioned already, are found in Halmahera, the adjacent islands, South Sulawesi and in Sarawak. Probably the orientation system in Buru Island [JELLESMA 1875] and Lembata Island can be included in this type.

In most cases the up-direction corresponds to the south. Naidah assumed that the Galela up-direction coincided with the direction of the castle of the Sultan of Ternate, but his hypothesis is not borne out by the evidence shown in Table 18. The interpretation of this phenomenon is problematical. The horizontal up/down directions originated from the vertical up/down directions. The change from vertical up/down directions to horizontal seems to be related to the correspondence between the up-direction and the south. The directions of the monsoon may be related to the up/down directions, because the monsoon's directions correspond to the up/down directions in Halmahera, Borneo and Lembata Island. Nonetheless, this does not hold true for South Sulawesi, were the monsoons blow from the east and the west, despite the up-direction being the south. Another interpretation that the up-direction corresponds to the direction of the ancestors might be possible, but this is not supported by the Galela myth in which their ancestors are said to have come from the

**Table 18.** Relationship between absolute and relative orientation in Halmahera, the adjacent islands and South Sulawesi

| 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 |
| Selyar | land | sea | up | down |
| Makassarese | land | sea | up | down |
| Buginese | sea | land | up | down |
| Coastal Melanau | land (southeast) | sea (northwest) | down (southwest) | up (northeast) |
| Kedangese | up | down | land | sea |

28) Riedel [1885] mentioned that the Galela people have a tradition of migration from the northwest [ibid.: 58]. It is difficult to ascertain what kind of tradition they had and how they indicated the northwest, because they do not have such a term.

mountain, i.e. the west.[28] A single hypothesis probably cannot account for the correspondence of the up-direction to the south.

Right/left directions are more widely distributed than up/down directions. Right/left directions are found, as mentioned already, in Java, Bali, Seram and Taiwan. Furthermore, there are seen on Flores, Roti, and Timor in the Lesser Sunda Islands, and in the Philippines. The Sikanese in Flores have four directions; *lau(na)* (the side of the sea), *reta(na)* (the side of the land or upward), *li(na)* (right side) and *wawa(na)* (left side). The Lio in Flores have similar directions to the Sikanese; *de lau* (the side of the sea), *da gele* (the side of the land or upward), *da gale* (right side) and *da gawa* (left side) [CALON 1893: 200–208]. The Rotinese have the cardinal points such as *dulu* (east), *muli* (west), *ki* (north and left) and *kona* (south and right) [JONKER 1908; FOX 1973: 356]. The Atoni of Timor have the following terms; *neonsaen* (sunrise and east), *neontes* (sunset and west), *ne'u* (right and south) and *ali'* (left and north) [CUNNINGHAM 1964: 36]. The Hanunóo on Mindoro Island, Philippines, have three kinds of orientation and one of them is; *sa bābaw* (above, toward the mountains and upstream), *sa lāwed* (below, down from, toward the coast and downstream), *sa sikun* (right) and *sa wala* (left) [CONKLIN 1955: 65–66].

Although right/left directions are mainly found in the Lesser Sunda Islands and in Taiwan, these orientations might have developed independently rather than being directly connected with each other, because more significance is accorded to right/left directions in the Lesser Sunda Islands than in Taiwan. In Taiwan, there are some dialects in which no terms, or only one term such as "to the side," are used instead of right/left directions, whereas in the Lesser Sunda Islands the notion of right/left directions is accorded special significance among the Rotinese and the Atoni [Fox 1973; CUNNINGHAM 1964]. The notion of right/left directions in the Philippines may be related to that of Taiwan, although the cases of the Philippines are not clearly defined. Before discussing this point further, I would like to mention the general features of relative orientation.

## 6) GENERAL FEATURES OF ORIENTATION

Apart from orientation which develops from the use of proper names and borrowed terms, there are two kinds of orientation, absolute and relative. Absolute orientation can be called celestial orientation, because the sun, the moon, stars and constellations are used. The sun is the most prominent and indicates not only the east and the west but also the south and the north. The meridian, the highest point of the sun's altitude, indicates the south in the northern hemisphere. Orientation based on monsoons or dominant winds is semi-absolute, since these natural phenomena indicate constant directions in a limited area. If absolute orientation is labelled celestial orientation, then semi-absolute orientation can be referred to as aerial orientation, and is intermediate between absolute and relative.

Relative orientation may be divided into three, bodily, terrestrial and abstract orientations, of which bodily orientation is the most fundamental type.[29] According to Lyons [1977], up and down in a vertical sense is the most salient of the spatial

dimensions, front-back dimension is the second, and right-left dimension is less salient than front-back dimension [LYONS 1977: 690–691]. The other directions might derive from bodily orientation. Land/sea directions and riverward/inlandward direction, probably in/out directions too, might be derived from front/back directions, whereas upriver/downriver directions and upper land/lower land directions might have derived from up/down directions in a vertical sense. The horizontal up/down directions also derived from the vertical up/down directions. The evidence available so far indicates that every folk orientation is mapped in these ways, except
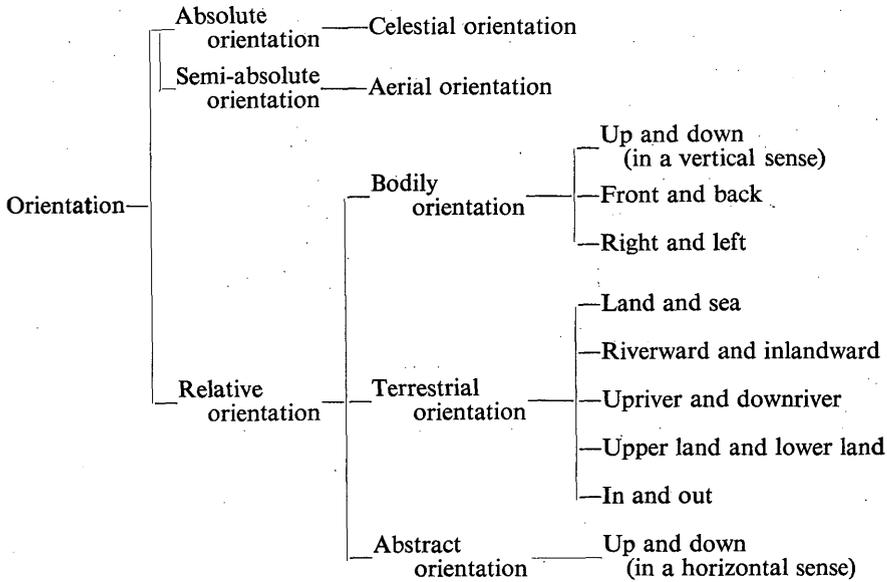
Orientation—

- Absolute orientation ——— Celestial orientation
- Semi-absolute orientation ——— Aerial orientation
- Relative orientation
  - Bodily orientation
    - Up and down (in a vertical sense)
    - Front and back
    - Right and left
  - Terrestrial orientation
    - Land and sea
    - Riverward and inlandward
    - Upriver and downriver
    - Upper land and lower land
    - In and out
  - Abstract orientation ——— Up and down (in a horizontal sense)

**Fig. 27.** Classification of orientation.

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29) Sköld [1964] recognized four kinds of orientations; (1) local geographical, (2) *qibla*, (3) solar and (4) polar [*ibid.*: 267]. Local geographical orientation coincides with the terrestrial, and solar and polar orientations correspond to the celestial orientation. *Qibla* orientation is as follows:

> In the case of *qibla* orientation, one direction is looked upon as the basic direction. This is called *qibla*, and the other directions are determined from that. A man facing the *qibla* has the cardinal points behind him, on his left and on his right. In the cases where this principle is consistently and fully applied, the *qibla* direction is called 'infront', and the other cardinal points are referred to by the words for 'behind', 'left' and 'right' [*ibid.*: 267].

Though the *qibla* orientation is somewhat similar to the bodily orientation, the categorizations are different. Sköld might wish to emphasize in the case of the *qibla* orientation the fact that one direction has first to be defined, namely front/behind (back) directions before right/left directions are determined. On the other hand, I think that the bodily orientation is more basic, and the terrestrial type might have developed from it.

for the use of borrowed terms or proper names[30].    Most ethnic groups have absolute
orientation when they have a relative one, but not *vice versa*.

Many kinds of combinations can be predicted, not all of which are actually found.
Since the present discussion deals with relative orientation, it will be restricted to
combinations of this type.[31]    There are several constraints on combinations.    The
set of riverward/inlandward directions is a specific set and can be combined only with
upriver/downriver directions.    The set of in/out directions is also specific, and is
found only in the fjord area, e.g., Scandinavia and Iceland.[32]    Sets which have the
same origin cannot be combined with each other.    For instance, horizontal up/down
directions are not combined with upriver/downriver directions or upper land/lower
land directions.    Right/left directions are different from front/back directions and
up/down directions, because right/left directions are symmetrical and the others are
asymmetrical on the basis of the human body or human locomotion.    In addition,
right/left direction cannot be employed before the main axis is determined, therefore,
they are always used for the secondary directions.

Land/sea directions are combined with horizontal up/down directions and right/
left directions.    The former are seen in Halmahera and so on, and the latter in the
Lesser Sunda Islands.    Land/sea directions can be substituted for upriver/downriver

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30)  The old orientation among the Tungus consisted of four directions; toward the southern
slope (*ant*[*a*]: S), toward the northern slope (*boso*: N), forwards (E), and to the bottom
(f[V]r[V]?:W) (V indicates vowel) [SHIROKOGOROFF 1926: 174, 183].    "Forwards" and "to
the bottom" directions originate from the sun's movement; forwards to the highest
position (E) and another movement down (W) [*ibid.*: 182].    Although the terms of the
direction of the northern slope were not clearly mentioned in these glosses, those of the
southern slope of mountain meant "dry" [*ibid.*: 169].    I believe that those terms proba-
bly originated from the sun too, because the southern slope is so sunny that it is dry and
the other side is shady and wet.    A similar case, in which the sunny side is the south
side, is found among the Norwegian Lapps [SKÖLD 1964: 273].
    The borrowing of terms is common everywhere, and the use of proper names, especially
place names, is found in some areas, e.g., Waikiki side (to the east) and Ewa side (to the
west) in Hawaii [SOLENBERGER 1953: 133].    Other cases, in which the neighboring tribal
names are used, have been reported in Africa [DOKE 1956: 108–109].    The case of the
Sadang Toraja, which consists of the set of yonder/in, is problematical and may be
exceptional.
31)  It is common for the four directions to consist of the celestial orientation and the aerial
or relative orientations.    Cases where the four directions are decided only by the sun are
rare, but are seen among the Buriats of Alar and Tunka [KOTWICZ 1962: 188].    However,
seldom do the four directions consist of only aerial orientation, because the orientation is
ordinarily a subordinate type.
    The combination of front/back and right/left is the most fundamental orientation, but
it is not common: It is found in the new orientation system among the Mongol
[SHIROKOGOROFF 1926: 183] and in old Irish system [LYONS 1977: 696].
32)  The Lappish orientation consists of a up/down directions and in/out directions on the
basis of following a valley or fjord [SKÖLD 1964: 275].    In Iceland, the orientation of in
(*inn*)/out (*ut*) is employed as well as in Scandinavia [HAUGEN 1959: 454–455].

directions and riverward/inlandward directions. The former are combined with
right/left directions, and are found in Taiwan and in the Philippines. The latter are
combined with upriver/downriver directions, and the combinations are found in
Borneo and in Malaysia Peninsular. The orientations in the Lesser Sunda Islands
might be different from those of Taiwan and the Philippines.

### 7) AERIAL ORIENTATIONS

I would like to add some comments on aerial orientation in this section. In
insular Southeast Asia three terms which deal with aerial orientations are commonly
found, *timur* (east) and *barat* (west) in Indonesian, and *amian* (north) in Minahasan.
According to Dempwolff [1938], the protoform of *timur* is *\*timuɣ* and the gloss is
"a raincloud" [DEMPWOLFF 1938: 19]. The protoform of barat is *\*baɣat* or *\*ha-
baɣat* and the gloss is "the northwest monsoon" [*ibid*: 19]. The protsform of
*amian* is *\*qamihan* and the gloss is "the northwind or the northeastern wind"
[WURM & WILSON 1973: 241]. Table 19 shows the insular Southeast Asian dis-
tribution of these three terms derived from *\*timuɣ*, *\*baɣat* and *\*qamihan*. Table 19
shows that the set of *\*timuɣ* (S)/*\*qamihan* (N) is seen in Taiwan and that the set of
*\*timuɣ* (E)/*\*baɣat* (W) is commonly seen in Indonesia, except Sulawesi. From the
Philippines to Sulawesi, various kinds of combinations are seen; *\*timu* (S)/*\*qamihan*
(N) is seen from Taiwan to North Sulawesi, whereas *\*baɣatɣ*(S)/*\*qamihan* (N) is in
North Luzon (Ilocano), Mindoro (Hanunóo and Mangyan) and Mindanao (Bagobo).
In Sulu, *\*timuɣ* and *\*baɣat* mean the east and the west, respectively, as in Indonesia.
In Tagalog, *\*baɣat* indicates the east, which is the reverse of Indonesian.[33] Fur-
thermore, *\*timuɣ* (E)/*\*baɣat* (W) and *\*timu* (S)/*\*baɣat* (N) coexist in South Sulawesi,
although in the latter cases they are the names of winds.

The phenomena mentioned above may have resulted not only from the direction
of monsoon, which varies from one area to another, but also from migration patterns.

### 8) NOTES ON MIGRATION

Further analysis of the relative orientations and aerial orientations mentioned
above will contribute to the complex task of reconstructing the migration patterns in
this area.

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33) In Mangyan (Mindoro Island), both *timog* and *abägat* indicate "the south" or "the
south wind," though *amihanon* means "the north" or "the north wind" [GARDNER 1950].
On the other hand, *abagat* means "the south wind" or "the west wind" in Bagoba (Mind-
oro Island), and *silatan* (I do not know if it originates from *selatan* [the south] in Malay
or *silangan* [the east, *silang*: to rise] in Tagalog.) means "the east wind" or "the west
wind" [GISBERT 1892]. It seems that the Bagobo did not have a clearly developed
concept of the west so that *abagat* and *silatan* were employed for "the west wind."
*Abagat* possibly originated from "the south wind" and *silatan* meant "the east wind."
In Cebu, *timog* means "the east" or "the east wind" as in Malay (pers. comm., from
Sakiyama). Thus, various kinds of combinations of the terms of orientation or the
names of winds are seen in the Philippines.

**Table 19.** Distribution of the terms derived from *timuɣ\**, *baɣat\** and *qamihan\** in insular Southeast Asia

| Language | | *timuɣ | *baɣat (*habaɣat) | *qamihan | note |
|---|---|---|---|---|---|
| Panapanyan | | timor (S) | — | ami (N) | |
| Pangtsah | | ka-timor (S) | — | ka-amis (N) | |
| Sincized aboriginial ethnic group in Taiwan | 29 | — | — | amisam (S) | rabahan (N) |
| | 33 | tsimmu (S) | — | zammi (N) | |
| | 39 | tenbuq (S) | — | ami (N) | |
| | 41 | teepoh (S) | — | imis (N) | |
| | 42 | tebo (S) | — | imis (N) | |
| | 43 | tibol (S) | — | yamis (N) | |
| | 45 | timoɣ (S) | — | — | siaɣaɣ (N) |
| Tagalog | | timog (S) | habagat (E, SE)[†] | ʔamihan (N) | hilaga (N) |
| Ilocano | | — | abagatan (S) | ʔaminam (N) | |
| Hanunóo | | timug (ENE)[†] | ʔabāgat lalāki[†] (WSW) | ʔamihan (NNE)[†] | salātan (SE)[†] |
| | | | ʔabāgat babāyi[†] (SSW) | | |
| Mangyan | | timog (S) | abāgat (S) | amihanon (N) | |
| Bagobo | | — | abagat (S.W)[†] | amian, amihan (N)[†] | silatan (E, W)[†] |
| Sulu | | tīmol (E) | bāgat (W) | — | sātān, slātan (S), ūtāla (N) |
| Sangir | | timuhe (S) | bahe (W) | miang (NNE)[†] | |
| Minahasan | | timu (S) | — | amian (N) | |
| Tontemboan | | — | — | amian (N) | |
| Makassarese | | timboro (S) timoro (E)[†] | wara (N) bara (W)[†] | — | |
| Buginese | | timoreng (S) timo (E)[†] | warakang (N) bara (W)[†] | — | wara (N-star) |
| The languages of the coastal people of Seram | | timul-e (E) | halat-e (W) | | |
| Madurese | | temor (E) | baraq (W) | — | |
| Sasak | | temug (E) | barat (W) | — | |
| Sumbanese | | timu (E) | barat (W) | — | |
| Savunese | | dimu (E) | wa (W) | — | |
| Kedangese | | timur (E) | waraq (W) | — | |
| Rotinese | | ani timu (E)[†] | — | — | |

[†] Name of wind. Sources: Taiwan [Utsurikawa 1940], Tagalog and Ilocano [Aida 1976], Hanunóo [Conklin 1955], Mangyan [Gardner 1940], Bagobo [Gisbert 1892], Sulu [Cowie 1893], the names of winds and stars of Makassarese and Buginese [Matthes 1874, 1885], the language of the coastal people of Seram [Jensen 1972], Madurese and Sasak [Kurata 1972], Savunese [Kern 1892], Kedangese [Barnes 1974], Rotinese [Jonker 1908], and Sangir and Tontemboan Sakiyama pers. comm.

It is possible that *qamihan* originated in the Philippines, whereas *timuɣ* and *baɣat* originated among the Malay people. *Timuɣ*(E) and *baɣat* (W) might have been brought to the Lesser Sunda Islands by them. On the other hand, *timuɣ*

and *baɣat were probably introduced to the Philippines via the northwest coast of Borneo, and were combined there with *qamihan. We see two sets of combinations in the Philippines, *timuɣ (S)/*qamihan (N) and *habaɣat (S)/*qamihan (N). The former set spread from the Philippines to Taiwan where it is found only in the coastal area, and also to North Sulawesi. Although the situation in South Sulawesi is less clearly defined, *timuɣ (S)/*baɣat (N) probably were introduced from the Philippines or elsewhere from the northern part of Sulawesi, and *timuɣ (E)/*baɣat (W) were later borrowed from the Malay people as the names of winds.

Sea/land directions are the most widespread directions among the insular South-east Asian people. However, the Chamorro formerly used a set of right/left directions instead of a set of sea/land directions, though the etymology of the other set of directions (catan and luchan) is unfortunately rather unclear [PREISSIG 1918: 25].[34] The evidence suggests that the sea/land directions were recently introduced to the Marianas Islands. Furthermore, it seems that the Atoni in Timor do not have the sea/land directions.[35] It is likely that the spread of sea/land directions did not occur long ago. It is also possible to assume that right/left directions were independently employed for orientation. The right/left directions in Taiwan and probably in the Philippines also might have been used for orientation independently of those in the Lesser Sunda Islands. Since the Atoni lack a set of sea/land directions it would seem that the sea/land direction was not combined originally with the right/left direction.[36] In the Lesser Sunda Islands, the sea/land directions and the set of *timuɣ (E)/*baɣat (W) might have spread from west to east.

The distribution of the up/down directions in a horizontal sense is rather restricted compared with the other directions. It is impossible to assume that the horizontal up/down directions originated in South Sulawesi. It is, however, possible to assume that it came from somewhere in the east. Although there are few data to test this hypothesis, it is probable that the up/down directions originated in New Guinea. The orientation of the Narak people of the Western Highlands District of Papua

34) Preissig [1918] noted the following: The old Chamorro expressions—qui agapa (to the right); qui acágüi are now seldom used; instead—san lago (to the north); san jaya (to the south) have been adopted to express the equivalents of right and left [ibid.: 25]. Gui means "side" and san means "in." Though Solenberger transcribed haya instead of jaya, the sound is the same. Preissig used /j/ as the sound which was the English [h], but it is strongly aspirated [ibid.: 4]. Solenberger [1953] clearly indicated that lago and haya meant "sea" and "land," respectively [ibid.: 132–141], though Preissig designated them the meanings "the north" and "the south." Furthermore, lago and jaya obviously originate from *la'ud and *daja,' respectively.

35) It seems that the Rotinese have an orientation based on the sea/land opposition, according to Barnes' references [1974: 80].

36) Even if the Atoni and Rotinese had the orientation based on the sea/land opposition, this set of directions could not be combined with right/left directions, because both sets may indicate the same directions in each area.

Table 20. The Narak spatial deixis (after Cook [1967])

| ego-focal | non-ego focal | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | non-lateral | | | | | | | lateral | | | |
| (Centripetal) | non-vertical | | | | vertical | | | distal | | proximal | |
| | upward | | downward | | up | center | down | continu-ity | disconti-nuity | non-imme-diate | imme-diate |
| | far | near | far | near | | | | | | | |
| *kaiya* | *koiye* | *tue* | *koma* | *tma* | *pla* | *paNo* | *kalA* | *kora* | *kona* | *tla* | *tm* |

New Guinea provides some clues. Table 20 illustrates the Narak spatial deixis [Cook 1967]. According to Cook, the Narak people have a contrastive set of terms for near/far in non-lateral directions, and a term for "the other side" [Cook 1967: 1–28]. Their orientation is somewhat similar to that of Halmahera, although there are some salient differences. It could be hypothesized that an orientation prototype similar to the Narak orientation which developed in New Guinea was integrated with the sea/land directions in Halmahera or in the western part of New Guinea, and that a composite form of orientation developed there. So far there are insufficient data to test this, but those which are available do not contradict the hypothesis. This orientation might have spread from or *via* Halmahera to other islands.

Although it is yet impossible to make conjectures about how the orientation spread, it is likely that in the area there were some waves of east to west migration as well as *vice versa*. Sago palms, *fei*-bananas, sugarcanes, and probably breadfruit trees may have originated in New Guinea and spread both westwards and eastwards. Moreover, rockpaintings, especially negative hand-stencils, are found in Sulawesi, Seram, Kei, Timor, New Guinea, and in Northeastern Australia [Heekeren 1972: 152]. These facts can be accounted for if we allow that some waves of migration also took place from east to west.

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