Language, Thought And Social Awareness: a Preliminary Anthropological Linguistic Investigation Of Time And Space in The Bima Language

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Abstract

This article discusses the connection between language and thought processes and its implication towards social consciousness and attitudes. The framework is developed from various concepts of linguistic relativity particularly temporal and spatial deictic systems. Data were introspectively collected from the Bima native speakers selected based on dialectal variation, topography, and political geography and descriptively analyzed by identifying, classifying, describing and explaining the connection between various linguistic forms and spatio-temporal dimensions and social consciousness. The study finds that the concept of time in the language is not only semantically realized in adverbs of time but also morphologically represented in linguistic markers of present, past and future. Space is realized through the choice of three-dimensional locative markers: 'ake' speaker proximity, 'ede' hearer proximity, and 'aka' speaker-hearer distant detachment. Location is also marked by other factors: topography, geography, trans-communication pathways, and socio-political vitality of referred area. The study shows a strong relationship in both expert and commoner speakers' understanding of spatial and temporal concepts although explicit reference to space and time as required in the language does not significantly materialize in different attitudes toward them.

Key Words*: language, thought, social awareness, deictic systems*

Introduction

This article focuses on the relationship between spatial and temporal deictic systems in the Bima language[1] and how they relate to the

1 The Bima language is an Austronesian language currently spoken by 818,721 speakers and it can be found on Sumbawa Island of Indonesia.

thought processes that its speakers undertake and how these relate to their awareness of linguistic and social dimensions. Such a discussion is not at all new and this has indeed been one of the prime concerns in linguistic studies since its first appearance from German scholarship in the eighteenth-century.

Lucy (1996; 2006) has mentioned three major reasons for this recurrence. First, there has been a wide-spread trend to study human culture and behavior from semiotic points of view. In this new perspective, language is no longer seen as a mere means of thought, culture, and communication; it has a new role as a source of data to test the validity of information in human sciences. Secondly, language as a product of thought can be seen as a mirror of individual thought. If individual thought, as Lucy (1996; 2006) has strongly suggested, is the prime cause of or guide to attitudes, the language used can reveal the thought processes that the users undertake. The third reason deals with linguistic relativity. If language affects one's thought, as assumed above, investigating how one's language reflects their thoughts is essential although it is problematic in itself. It is essential for the purpose of understanding the speakers' behaviors but it is problematic because the observers themselves might be influenced by their own languages and cultural behaviors when understanding the observed culture of the language speakers.

Of all cultural phenomena, time and space have widely been studied and this article will contribute to the debate by investigating how spatial and temporal dimensions are expressed in the Bima language and how this subconscious linguistic knowledge affects the speaker's attitudes towards time and space. Nonetheless, language, culture and consciousness are intricately difficult to discuss and below are a brief theoretical overview of the concepts in relation to time and space. While culture is too broad a perspective to tease out, the discussion in the paper can only be focused on language and awareness of space and time.

Theoretical Framework

The connection between language and thought has been widely discussed in relation to the Sapir-Whorf hypothesis particularly discussing the relationship between the nature of the languages speakers use and the way they perceive and categorize the experiences therein. Other perspectives have been introduced (e.g. the language-of-thought hypothesis) but they are not very fruitful. Recently, in anthropological linguistic perspectives, human subconscious language-culture perception has been discussed under the wide-covering heading called linguistic ideology (see Errington, 1988; Wollard and Schieffelin, 1994; Silverstein, 1981) and linguistic relativity (Gumperz and Levinson, 1996; Foley, 1997).

The Sapir-Whorf Hypothesis

The relationship between language, thought and awareness can be traced back to key thinkers in the Boasian tradition. This tradition believes that people observing the same social phenomena arrive at different views because of the different ways in which they observe and evaluate the phenomena resulting from different grammars of languages they speak. This belief has been largely known as the Sapir-Worf hypothesis. In the words of Foley (1997: 192-3), this tradition assumes that people speaking languages with markedly different grammars will be led by the grammars of the languages to different ways of observing the world and to different understanding of the observations. This happens because the grammar of the language enables its speakers to organize and classify the world and their experience. By the same token, the mental perception conceptualized by the grammar of the language will also be used to interpret our lived experiences. In this way, human cognitive capacity is restricted to and mediated through his or her language. In this way, the three-dimension category of time and space in the Bima language

might lead us to assume that the speakers might categorize the worldly experiences similarly in three dimensions, but whether and to what extent this is true is still open for careful scrutiny.

Further development of the tradition leads to the idea that only part of the complete thought processes is linguistically expressed. This is rooted in the Kantian tradition that the main function of language is for the organization of human experience of the sensible world. Given that the range of human personal experiences is infinitely varied while the linguistic forms for their expressions are very limited, one should think that the act of classifying experiences is everywhere in human communicative interactions. As Foley (1997: 185) puts it, "the relationship between language and thought is one way; linguistic categories may express (at least partially) those of thinking, but never other way around: linguistic categories do not determine thought." If this is the case then the linguistic categories of time and space in the Bima language is one thing and the way its speakers categorize worldly experiences is another.

Following Boas, Foley (1997) has also argued that speakers of languages with linguistic sophistication do not always have more complicated cognitive processes: the differences are due to different cultural emphases. He also exemplified that the Papuan people of the New Guinea have only three words for counting (i.e., *one*, *two*, and *three*) because the people have no need for complicated counting and thus there is no need for higher numerical expressions. Quoting Boas, he suggested that all languages, despite all formal differences, are equally viable for cognitive processes and that all speakers of any languages can always find ways of going around with more complex cognitive processes regardless of limited formal properties of the languages they speak. Interestingly, the Bima speakers categorize spaces around them in three dimensions (see Mahsun, 2005), but to what extent this categorization can directly affect their attitude towards spaces as Mahsun has assumed is debatable. As the current study will show below, although there are three dimensional categories of time and spaces, the link between these categories and the spatio-temporal awareness is not significantly substantiated.

In fact, Monti, Parsons, and Osherson (2001) have teased this phenomenon out when they said that thought processes can exist outside language and are not conditioned by the language of thought processes. They prove this by studying logical inferences resulting from sentential connectives (i.e., *not*, *or*, *if … then*….) and linguistic inferences involving di-transitive verbs (e.g., *give*, *say*, *take*). Using 3T fMRI, the study shows that logical inferences make use of the Brodmann area of the brain while linguistic inferences make use of the perisylvian area and both processes make use of fronto-parietal cortex as support area. They conclude that logical inferences exist outside language and both inferences make use of different thinking processes: logical thinking requires multi-layered processes while linguistic inferences require linear ones. This suggests that the existence or non-existence of spatio-temporal categories in a language does not affect the speaker's view of time and space. As this study will indicate below, while there is a difference in spatio-temporal indices among speakers of different language backgrounds, these indices are not statistically significant.

Smith (1993) discusses the relationship between the grammatical concept of tenses and the social concept of time. In opposition to tense-less theory of time (i.e. tenses in language A cannot be translated into those of language B), Smith argues that this untranslatability provides solid evidence that the aspects of time are expressed differently across languages and, in this way, time is tense-based nature of time and, consequently, it is grammaticalized. For analyses, she introduces a translation method following this postulate: "Two sentences as used in the same context have the same meaning if and only if they have the same truth and confirmation conditions and are logically equivalent and logically identical." (p. 3). This method is used below with a similar procedure.

Language and Collective Awareness

As Foley (1997) has argued, the relationship between language use and collective awareness can be described in three similar but different concepts: sign, symbol and index. The relationship is a sign when it represents visual connection between the signified and the signifier. Road signs on the street represent the pathways or activities that drivers can or cannot do and the representation has been conventionally codified to mean as such: for example, a road sign with left turning arrow signifies left-turning road. The relationship is symbolic when the sign and what it signifies are based on conventions: for example, a sign with a crossed-out P signifies no-parking as crossing means 'no' and P stands for 'parking'. The relationship is an index when there is either continuity, or a cause and effect relationship between the signifier and the signified. The appearance of water-like body on the surface of mid-day road indexes the high temperature in the premises. This latter term has been widely used in linguistic studies in order to show evidence of a relationship between language and socio-cognitive meanings. Like signs and symbols, indices result from linguistic and cultural conventions and practices developed throughout the history of the community.

Foley (1997: 8-9) introduces two opposing conceptions in the relationship between signifiers and the meanings that they imply. The use of a particular sign calls into play a particular concept in the mind of anyone who is familiar with that sign. A man blinking an eye to an Indonesian lady will trigger a thought of love invitation in the mind of the latter as the sign is mentally represented as such in the latter's culture. To the former, the act results from his mental conception of blinking as a sign of warmth or a greeting gesture to a friend. In this concept, language and meaning are mentally represented in the mind of the speaker and a particular sign can only entail a given meaning. The second conception suggests that there is no pre-given relationship between the signifier and the signified simply because the sign can signify more than one signified meaning. Thus meaning is subject to continuous negotiation. In this way, language is seen as enactment of meanings. This negotiation makes use of cultural conventions, linguistic practices and associated meanings developed throughout the history of the community, maintained in the linguistic ideology of that community.

Linguistic Ideology of Time and Space

Filipovic and Jaszczolt (2012) have excellently presented an interdisciplinary volume focusing conception of and cross-cultural differences in representing time and space. This volume puts together studies on space and time from various theoretical and methodological angles in interdisciplinary approaches combining linguistics, psychology, philosophy, and anthropology and this in itself is a strategic endeavor into revealing the complex nature of interaction between language, culture, and cognition in human communication and interaction. The study also describes various spatial and temporal constructs from various cultural perspectives such as cultural specificity in determining time intervals in an Amazonian culture, distinct temporalities in a specific Mongolian hunter community, Russian-specific conceptualization of temporal relations, Seri and Yucatec frames of spatial reference, memory of events in space and time, and metaphorical meaning stemming from perception and spatial artifacts. The study shows that linguistic diversity in time and space representation and yet supports universal aspects of linguistic representation of spatio-temporal reference in which topography and direction of movement are essential dimensions of space and grammatical system is the main index of spatio-temporal reference.

Sinha, Sinha, Sampaio, and Zinken (2012) have ethnographically studied time intervals in Amondawa, a Tupi language and culture

of Amazonia based on natural environmental events (*seasons* and *days*) and lifespan time (*age*). They found that Amondawa time intervals are exclusively event-based and not time-based explicated based on the duration of events and not on time units. The people had no practice of time keeping and thus had no lexicalized abstract concept of time. The study arrives at two convincing conclusions: (a) Time interval systems are linguistically and culturally specific, and (b) the concept of time results from cultural and historical construction mediated through symbolic and cultural-cognitive artifacts of time reckoning.

Apresjan (2012) compares the semantics and pragmatics of the Russian and English temporal syntactic expressions. The study focused on (a) surprising punctuality interpretation, that is, the speaker's surprise at the fact that events go as planned and on (b) surprising fateful coincidence interpretation, that is, the speaker's surprise at the fact that unplanned events go as if they had been pre-planned. The study concludes that while the time expressions are shared by both languages, the preferred interpretations are language-specific. The difference results from different linguistic worldviews: the Russian values surprising punctuality interpretation while the English favors the surprising fateful coincidence.

Charlier (2012) proposes an ethnographic analysis of how a particular event (i.e. Mongolian wolf hunting) expresses potentially universal and language-specific features that shape the ways people relate to their natural environment. The found that the wolf hunter experiences two modalities of temporality: cyclical and 'evenemental'. The actualization of these temporalities reveals a particular perception of the environment as well as the singular moral position of an individual in it.

Priestley (2012) examines different types of time expressed in Koromu (Kesawai), a Papuan language, to show the interaction of time expressions with cultural and environmental contexts and to investigate semantic description. Meanings are explicated in a metalanguage based on semantic primitives. The discovery of natural semantic metalanguage (NSM) temporal primes and investigation of semantic molecules, non-primitive meanings that occur within the meaning of other concepts, promotes comparative and contrastive semantic description. The finding of culture-specific concepts referring to 'time-' and 'event-based' time intervals, linear and cyclical time, suggests that a range of expressions need consideration when cultural perspectives are assessed.

According to Langacker (2012), space and time, as facets of interpreted experience, are highly variable in their linguistic manifestation. Universal aspects of language structure reflect a more basic level of apprehension. Space and time have a foundational role in grammar. Objects and events, the prototypes for nouns and verbs, are primarily conceived, respectively, as spatial and temporal entities. The extensive noun-verb parallelism suggests that space and time merit unified treatment. However, certain asymmetries suggest that time has a special status. Time has multiple roles in language. It is always the medium of conceptualizing activity and serves in various capacities as an object of conception. The dynamic conception of space, through time, makes possible the metaphorical conception of time itself, in terms of space.

Johansson Falck (2012) compares spatial constructs in mental imagery to spatial constructs in non-metaphorical and metaphorical language. The study is based on a psycholinguistic survey of people's mental imagery for paths and roads, and a previous corpus-linguistic investigation of path- and road-instances from the British National Corpus. The aim is to investigate if spatial path and road constructs in mental imagery focus on similar aspects as those in metaphorical language. The study shows that mental imagery and metaphorical language are more restricted than non-metaphorical language, and typically are related to the specific anticipations for bodily action that paths and roads afford. The focus is on function, which influences both direction and manner of motion.

Since the grammar of every language can divide temporal reality in a different manner, Drozdz (2012) presents a method of arriving at the understanding of one of its dimensions – the present – encoded in the structures of English. These structures consist of eleven temporal and aspectual constructions, which are analyzed by means of Cognitive Grammar tools, namely construal aspects. To be able to make detailed observations concerning temporal reality, the author proposes to operate the construal aspects by ascribing specific values to them. With this approach it is possible to formulate precise conclusions concerning such facets of the present as its extent and its two boundaries – the past and future.

Hickman and Robert (2006) define space in three opposing conceptions. First, space is an arbitrary universal cognitive conception developed from intuition that shapes our experiences and our views of the world. In this way, language functions as a means by which the life experiences are captured and the use of spatial references can explicitly reflect how speakers of the language construct their views of the environments. Secondly, other linguistic analyses argue that space is neither basic nor even purely spatial, but rather that it carries many other values for example the geographical shapes of environments. The different uses of spatial references in different languages result from the construction within the history of the speakers' interaction with their worlds. Thirdly, different languages use different ways of spatial referencing. The differences lie in (a) the nature of the forms used for spatial information, (b) differences in highlighted aspects, and (c) the different linguistic and cultural systems that are used by the speakers. These aspects lead to the need for universal categorization of spatial information and referencing.

Hickman and Robert (2006) have also shown that not only do spatial references relate to other values, but that they also relate to speakers' cognitive systems by explicating how speakers of the languages and the language varieties express, perceive and categorize their experiences with the world around them. As they use limited ways of expressing meanings, Hickman and Robert (2006) exemplify, languages may differ in what they called (a) 'semantic granularity,' i.e. different number of spatial prepositions in each language, (b) information density, i.e. the amount of information conveyed in the lexicalized and conflated forms of spatial references, (c) close set of categories in various grammatical forms: for example, spatial reference with one object (*near*), of two objects (*between*), of several objects (*among*), and of numerous objects (*amidst*). They also exemplify that spatial references can be discussed in the following ways: manner (English: *to run, to fly, to walk*), path (*to run up, to run down*), and ground (*to run into the room*). They argue that "[l]anguages differ in the way they encode path and manner, but also in the attention they pay to manner."

In this way, languages, according to Hickman and Robert (2006), can be classified into three types of language. Firstly, the verb-framed languages such as Romance and Semitic languages express information about pathways in the main verbs for examples *entrer*, *monter*, or *traverser*. Secondly, the satellite-framed languages such as Germanic and Slavic languages encode the path in the satellites, that is, in the particles, prefixes or prepositions associated with the main verbs (English: *run into the room*). Finally, the equipollently-framed languages encode path and manner in the same equivalent grammatical forms. These languages can use serial verbs, bipartite verbs (one expressing manner and the other expressing path), or generic with combined verbs encoding manner and path. However, as examples below will show, the Bima language is a verb-framed language in which time is marked by the interchange of position of 3-SG subject marker (*na*) and time marker (*ra*) (e.g. *na lao ra* [3SG Go PART '(he) will go immediately'] vs *ra lao na* [PART Go 3SG '(he) went']). It is also a satellite-framed language when space is marked by the use of serial verbs (e.g. *rai losa* [Run Go Out i.e. run out] vs *rai lu'u*

[i.e. run into]). It is also an equipollent language when topography, geography, political status, or means and direction of movement is indexed in the expression of time and space (e.g. *ra lao mu ari Kore* [PART Go 2SG Out PN 'Did you go out to Kore?'] vs *ra lao mu awa Kore* [PART Go 2SG Out PN 'Did you go down to Kore?']). While more of similar examples are provided below, this classification fails to tease out what language is the Bima language in relation to space and time and a more relevant one should be identified.

With relevance to spatio-temporal frame of reference, Levinson (2003) suggests three major types of languages: (a) languages with intrinsic frames of reference within which the coordinates are determined by the inherent features of the ground objects (e.g. *He is in front of the house*), (b) languages with relative and anthropocentric frames in which the coordinate system is based on the viewer or the point of view (e.g. *He is to the left of the house*), (c) languages with absolute frames of reference with the use of fixed bearings such as cardinal points (e.g. *He is north of the house*). In these languages, the speaker's egocentric deictic point of view is used. To Silverstein (2003), the speaker's point of view is represented with the n-th order of indexical relationship: the 1st , 2nd and 3rd orders respectively represent that of the speaker(s), the audience(s), and both. With this respect, as the data below will show, the Bima language has absolute reference to time and space.

Pederson et al's (1998) comparative study of non-European languages has shown significant connection between people's spatial and temporal reference and their linguistic reference. The perception and the reference are cognitively realized based on the planes of the human body (i.e. right/left and front/back dimensions), geographical navigation (in/out and up/down dimensions), and interaction between immediate environments. Following Clark (1973), they believed that perception of space is a part of human universal cognition and this perception will shape linguistic references of space in any human language but, they added, the human body is not always the mind coordinate of projections. Linguistic frames of reference can come in three forms: *absolute* (i.e. reference made by using figure/ground or other geo-cardinal relationships), *relative* (i.e. based on subjective perceptual concepts of temporal and spatial locations), and *intrinsic* (i.e. based on the location of the referred object to the coordinate one). They also found that how language speakers linguistically encode spatial and temporal dimensions correlates with their conception and memorization of spatial and temporal distinction in non-linguistic enterprises. This classification is worth further examination in the Bima language considering the fact that spatio-temporal references in the language are made, firstly, with regard to speaker's currently absolute positions in geography and time and, secondly, relative to his subjectively perceived socio-political importance of the space and time where he is in as compared to the perceived socio-political importance of the space and time he is referring to.

Research Method

The study is ethnographic in its design as its main aim is at explicating how speakers of the Bima language construct sense of temporal and spatial dimensions. The population of the study is all speakers of the Bima language inhabiting the area of Kota Bima, Bima and Dompu of West Nusatenggara Province of Indonesia numbering a total of 818.721 people. Some more speakers of the language live in Komodo and Flores. Some more live in Sumbawa, Lombok, Java, Sulawesi and other parts of Indonesia.

The participants were native speakers of the language firstly recruited from students and staff at the School of Education, Mataram University and secondly from various areas of the language speakers. The samples of the study were 18 persons (9 male and 9 female) proportionally selected from the main geographical and dialectical areas of the language: (a) Wera and

Ambalawi (b) Sape and Lambu, (c) Wawo and Lambitu, (d) Bima and Raba, (e) Langgudu, (f) Belo, Palibelo, Woha, and Parado, (g) Bolo and Madapangga, (h) Donggo and Soromandi, and (i) Sanggar and Tambora. Two speakers from each region were selected. For comparative purposes, samples of speakers of other languages (i.e. Sasak, Samawa, and Balinese) were also recruited. Data were collected through observation, elicitation interviews, retrospective interviews, and prospective interviews. A sentence-based mini language test was also administered in order to assess the sample's awareness of time and space dimensions. The data were qualitatively analyzed by identifying, classifying, describing and explaining temporal and spatial forms in the language. Analysis of variance was also used in order to assess differences in social awareness with respect to time and space.

Findings and Discussions

Major findings of the study are the linguistic forms found in the Bima language for the expressions of time and space.

The Bima Concepts of Time

The dimension of time in the Bima culture is linguistically expressed in three major forms: adverbs of time, clitics and immediacy particles.

Adverbs of time

The concept of time in the Bima culture is represented by the words "ai [ay]" and "wakatu" when talking about the time of the day. For longer and macro levels of time, the language uses expressions similar to other languages by using adverbs representing time such as "awina" yesterday and "naisi" tomorrow. Time in the culture is clearly marked with the use of past-time marker {-na} and that of next-time marker {-si}.

Nonetheless, time in the language, as shown in Figure 1, can come in three opposing dimensions. The dimension is the range of time from now ('ai nai na ake' today) to the past and from now to the future. The culture has 2 (two) systems: (a) 'awi' one-day vs 'nai' tomorrow, and (b) Number of days before or after today (e.g. 'ɗiɗi' 2 days or 'tolu ɗi' 3 days). These time markers are marked by 'na' to indicate past time and 'si' to indicate future time. Thus, 'next 4 days' is expressed as 'upa ɗi si' and conversely 'last 4 days' is uttered as 'upa ɗi na'. In this way, as shown in Figure 1, expression of time in the Bima language is similar to that in English in which time is expressed in terms of (a) today, (b) the last or the next day, and two or more days before or after.

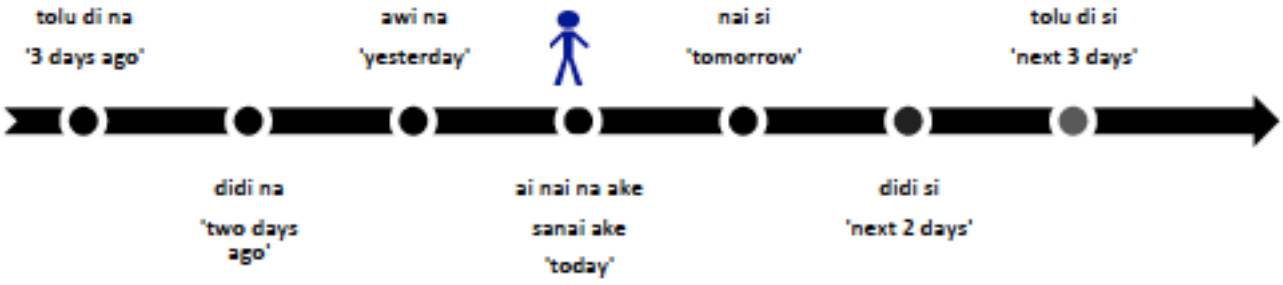

Figure1. Time Dimensions and Expressions in the Bima Culture

Clitics

The expression of time in the Bima culture is not always clearly marked in the adverbial time markers as shown above. In most instances of communication, time is implicated through the use of clitics, i.e. grammatical forms indicating the agent of actions expressed in the predicative verbs. They can take positions before the verbs and for this reason it is referred to as pro-clitics. They can appear after the verbs and are thus labeled as post-clitics. Note that in the Bima language they cannot be found within the verbs.

Note also that the position of the clitics implies the time of the actions. Pro-clitics indicate future actions and post-clitics imply past actions. In (1) below, the action (i.e. the planting or ngguɗa, with implosive alveolar, of cassava) is in the future and is in the form of a plan. In (2), the movement of the clitic after the verb implies that the action has been performed in the past, even when it is moved even further after the object as in (2a) or the place of the action as in (2b). Note that these movements bring about different meaning emphases and for reasons of space they cannot be illustrated here. Also note that the extract made use of the two implosive sounds peculiar to the Bima language: (a) the alveolar implosive and (b) the bilabial implosive sounds marked respectively as /ɗ/ and /≡/.

In the Bima language, there are various clitic forms with similar time-related behaviors as explicated above. These clitics are summarized below.

Time Markers

In addition to clitics, time marker {ra-} is also used. In unmarked form, expression of time is exemplified in (2) or (3) below where the time marker {ra-} or {-r} is used. In marked form, particularly in formal situation, (4) is the norm.

(1) Nami mu ngguɗa ≡ojo aka nggaro — future/plan
1PL CL plant casava PREP garden
'We (Exc) will plant cassava in the garden'

(2) Nami ngguɗa mu ≡ojo aka nggaro — past action (i.e. planting)
1PL plant CL casava PREP garden
'We (Exc) planted cassava in the garden'

(2a) Nami ngguɗa ≡ojo mu aka nggaro — past activity (i.e. planting cassava)
1PL plant casava CL PREP garden
'We (Exc) planted cassava in the garden'

(2b) Nami ngguɗa ≡ojo aka nggaro mu — past activity with place emphasis
1PL plant casava PREP garden CL
'We (Exc) planted cassava at the garden'

(3) Nami ra ngguɗa **≡ojo** aka nggaro — object emphasis
1PL PAST plant casava PREP garden
'We (Exc) planted cassava in the garden'

(4) **Nami** ra ngguɗa mu ≡ojo aka nggaro — subject emphasis
1PL PAST plant CL casava PREP garden
'We (Exc) planted cassava at the garden'

Immediacy Markers

The time marker {ra-} can appear before or after the verbs. As shown above, placed before the verbs it indicates past action. Moving it after the verb as in (5) suggests temporal immediacy of the action. Note however {ra-} in this position is rather the unmarked form of temporal immediacy marker {-ru}[2] as in (6). While (6) is very immediate for action to take place, (7) with {-ɗu}[3], however, is the most immediate and allows no delay in it.

Non-speakers of the Bima language might be puzzled with the use of the three immediacy markers, but its speakers do know that the immediacy dimensions range in an ascending order from {-ra} and {-ru} to {-ɗu}. The use of {-ra} implies that there is still ample time to spare and preparation has not been adequately made. The use of {-ru} indicates that the time is pretty soon and preparation has been made but not completed. The use of {-ɗu} suggests that the time has arrived and preparation has been completed.

(5) Nami mu ngguɗa ra /≡/ ojo aka nggaro
1PL CL plant IM casava PREP garden
'We (Exc) will immediately plant cassava in the garden' (Unmarked)

(6) Nami mu ngguɗa ru /≡/ ojo aka nggaro
1PL CL plant IM casava PREP garden
'We (Exc) will immediately plant cassava in the garden' (Marked)

(7) Nami mu ngguɗa ɗu /≡/ ojo aka nggaro
1PL CL plant IM casava PREP garden
'We (Exc) will immediately plant cassava in the garden'

2 Note that other variations such as {-ri}, {-ro}, and {-re} also exist with different pragmatic functions and need further scrutiny elsewhere.

3 I also find other forms such as {ja}, {pu} and {ni} which can co-occur with {-ɗu} and other particles with particular order and with implied pragmatic functions.

The Bima Concepts of Locative Space

There are a number of spatial markers in the Bima language but for reasons of space the focus is only on locative space, i.e. linguistic forms indicating geographical locations. For this, the Bima speakers can make use of at least four locative markers: the four corners of direction, deictic, topography, and geography.

Direction

In the Bima language, speakers can mark location of things relative to that of others based on the four corners of direction: north {ɗa}, south {ɗo}, west {ɗi}, and east {ele}. Take for an example, a quote from a famous Bima song in (8) below.

(8) Poda si nee mu ɗi weki ku amania. Hanta caɗa pu uma ma sampuru ini rii
True if want 2SG PREP self 1SG brother carry PRE-north PRT house REL ten six pole
If you truly want me, my brother. Carry north a house of sixteen poles.

The singer uses the word "ca-ɗa" which implies many things to a Bima speaker. Given the fact that Bima girls live with their parents until marriage, the use of the word indicates that their house is located north of the house of the boy the song is sung to. The use of prefix {ca-} and 'hanta' (carry) indicates that the movement will need more than one move: this is again a spatial marker in itself. This example as well as other examples with other words in the quadrant indicates that the Bima speakers have to store information in memory about the position of things relative to that of others: any object in the mind of any Bima speaker is always anchored in concrete geographical space already aligned with the axes of the four quadrants. Interestingly, similar cases can be found in the Guugu-Yimidhirr speakers in Australia (Foley, 1997: 221).

Deictic Systems

In the Bima language, location of things can also be indicated by its closeness either to the speaker or to the hearer. As shown in the examples below, when things are close to the speaker, they use 'ake (this)' and when they far and closer to the hearer, they use 'ede (that)". In this way, it is just like the use of 'this' and 'that' in English or 'ini (this)' and 'itu (that)' in Bahasa Indonesia. However, the Bima language has an extra form indicating location of things distant to both speakers and hearer: 'aka (that)'.

Nonetheless, the notion of closeness is not at all a matter of proximity but geography. The choice of deictic forms is very much dependent upon the speaker's geographical knowledge of the area. Thus, the choice of 'ake (this)'is not only motivated by the fact that the thing is located close to the speaker but also because the location is approximately close to the speaker relative to that of the hearer. Similarly, as shown in (12) and (13), the choice of 'ede (that) for a car in Bali island or 'aka (that)' for money in Sulawesi island

(9) Ngguwu ake ke ntau nahu — close to the speaker
Hut D RED possess 1SG
This hut belongs to me.

(10) Salaja ede de tu'u ≡a nggomi — close to the hearer
Hut D RED build PREP 2SG
You build that high hut.

(11) Santawo aka ka na paja — distant from both speaker and hearer
Hut D RED CL large
That big hut is large.

(12) Weha sai mpa oto ede re ni — a car in Bali
Take drop in PART car D D PART
Why don't you pick up that car there?

(13) Piti aka ka wati loa ɗi-raka — money in Makassar
money D RED NEG able PRE obtain
The money cannot be obtained.

between a friend in Jakarta and in Bima is very much motivated by the speaker's knowledge of the topography of Indonesia and the location of the speaker and the hearer in that topography.

Topological Systems

In addition to the four axes of quadrant above, spatial space in the Bima language is also represented in up-in-down and in-out-across dimensions. The choice of up (*ese* and its association) or down (*awa* and its association) is determined by geographical as well as political phenomena. In (14), the use of 'ese Sambori' is motivated by the high geographical location of the place (i.e. at the top of Mount Lambitu) or at least reaching the area requires going up hills. The opposite is *awa* (down). In (15), the use of Dei (in) is motivated by the cubically spherical shape of the mosque as a building while in (16), the use of 'ese' (up) is motivated by the religious status of the mosque as a highly respected place of worship. Note that a village of high political status is addressed in 'ese' (up) form as opposed to 'awa' (down). Also note that places surrounded by mountain ranges like Kae (Woha, Langgudu, Belo, and Monta) are addressed as Dei Kae and this is because of this reason. One can hypothesize that the use of *awa* (down) for respectable and politically powerful places like Jakarta, Bali, Mataram, Sumbawa, and Dompu indicates the Bima speaker's egocentric view of Bima (i.e. the Kingdom of Bima) as the highest center of political power. Consequently, every Bima person returning home will refer to Bima as *lao ese* (Mbojo) (going up to Bima). To a place eastern of Bima, the word 'east' is used and even to a place like Goa, which was more powerful and dominating in the history of Bima, the word 'north' is instead used, avoiding linguistically expressing the political subordination of Bima when the word 'ese' is used to these areas.

(14) La Hima wau ra teka ese Sambori.
PN already PAST climb up PN
Ahmad has gone up to Sambori

(15) La Hima wau ra lu/u Dei sigi
PN already PAST enter in mosque
Ahmad has gone into the mosque (to clean it).

(16) La Hima wau ra nee ese sigi
PN already PAST climb up mosque
Ahmad has gone to the mosque (to pray).

Spatial space in the Bima language is also expressed according to the topography of the surrounding areas. In this way, in-out-across spatial expressions are used but various forms are available for choices: ari (out), ipa (across), and dẽi (in).

(17) La Sile na wau ra lao ari Kore through the seaway from inland
PN CL already PAST go out PN
Saleh has gone to Kore (by boat)

(18) La Sile na wau ra lao awa Kore through the road from upland
PN CL already PAST go out PN
Saleh has gone to Kore (by bus or motorcycle)

Time and Space Implication: Linguistic and Social Awareness

The next questions to think about in the article are (a) whether the Bima speakers are aware of the spatial and temporal dimensions of sentences, and (b) whether the wide existence of time and spatial expressions in the Bima language brings some impacts of the speaker's spatial and temporal behavior.

At first glance, the first question might not be fruitful to answer. Indeed, Silverstein (1981) has convincingly argued that aspects of language use are not always accessible to its speakers, but let us identify if it is the case with the Bima speakers. To evaluate this assumption, I have distributed a linguistic ideology test-like questionnaire to two groups of the language speakers: experts and common speakers. With a statistical analysis, the study found that there is a near perfect correlation (with Rho .997) between the commoners and experts understanding of time, immediacy, and pathways and thus suggesting that inaccessibility of linguistic knowledge in the Bima context is not substantiated. Thus, the study shows that both commoners and experts have equal understanding of time and space dimensions of expressions.

Let us now move to the second question, that is, if there is difference in the speaker's attitude towards time and space regardless of differences in language background. For this, I have distributed a linguistic questionnaire to speakers of the Bima and the Non-Bima languages. At first glance, there is a different attitude toward spatial and temporal dimensions of expressions, but with F analysis, the difference is found not to be significant (F_{count}=2.02<F_{table} 4.08 p.05, df 40). More studies with more samples, details and in-depth analyses are required in order to uncover possible relationships between language background and attitudes towards time and space.

Conclusion

This article has shown that in the Bima language and culture the concept of time is semantically expressed in three dimensions of time (i.e. past, present and future). It is also morphologically expressed with clitics: pro-clitics for future actions and post-clitics for past actions. The concept of space is expressed in the four axes of quadrants, up-in-down dimensions, and in-out-across dimensions. The choice of forms depends on physical and geographical proximity, topography, and political status of the location. All speakers of the language are aware of the spatial and temporal dimensions of events and report to have highly valued time and space in their lifetime. Nonetheless, the statistical analysis has proven that while there is a difference in the speaker's attitudes toward time and space, the difference is not significant.

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