Semantic Typology
Semantics of Locative Relations in Rongga
(ISO 639-3: ROR)

by

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Abstract

Many scholars have proposed a universal set of locative relations. Herskovits's comprehensive study of English locative relations found that locative concepts such as inclusion, support and contiguity, and coincidence are basic in English. Her findings offer support for strong Universal Conceptual Categories. On the other hand, Levinson et al.'s examination of locative relations of nine unrelated languages revealed that the basic concepts are attachments, superadjacency, full containment, subadjacency, and proximity which suggest Universal Tendencies rather than Universal Conceptual Categories. This study investigates how locative relations are encoded in Rongga and their implications for the universalism of locative relations. A standard elicitation technique (topological relation picture series) was used in this study.

It appears that Rongga is unique in the priority it gives to the notion of functional relations over locative relations. Functional relations refer to the "natural" function between located and reference objects. Thus, when a natural function is present the relation is functional rather than spatial. Rongga uses the preposition *one* to refer to "expected" functional relations. Additionally, the natural functional relation defines what "normality" is in Rongga. However, when the natural relation is absent the relation becomes locative. Therefore, the relation is "unexpected". Various prepositions such as *zheta wewo/zheta tolo* 'on', *zheta wena* 'over/above', *zhale one* 'inside', *zhale wena/zhale lewu* 'below/under' are used to express locative relations. In other words, instead of encoding the locative relationship based upon the locative concepts described by Herskovits and Levinson et al., Rongga emphasizes the importance of natural function between located and reference objects.

Since the functional relation is highly salient in Rongga, the notions functionality should be considered in addition to locative relations. Furthermore, the salience of functional relations in Rongga suggests that the functional preposition (*one*) indicating functional relation is acquired earlier because it is morphologically and syntactically less complex and its semantics is more abstract than the prepositions indicating the locative relations (*zheta wewo/zheta tolo* 'on', *zheta wena* 'over/above', *zhale one* 'inside', *zhale wena/zhale lewu* 'below/under').

In short, the functional relation between objects is crucial in Rongga, and is used to separate functional relationships from the locative relationships.

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Chapter 1

Introduction

1.1 The domain of the study

This thesis deals with locative constructions in Rongga such as *mok zheta wewo meja* 'the glass is **on** the table', *li'e one mako* 'the fruit is **in** the dish', *bola zhale lewu kursi* 'the ball is **under** the chair', *nusa zheta wena wolo* 'the cloud is **over** the mountain', etc. I am interested in the locative constructions of Rongga for three reasons. First, they help to reveal principles underlying the use of topological prepositions across languages. For example, the notions of support and contiguity are applicable to the use of *on* in English (Herskovits, 1982). In Polish, however, different notions (e.g. attachment and support by horizontal surface) are the most relevant for *przy* 'on' and *na* 'on' respectively (Cienki, 1989). In contrast with English and Polish, the concept "natural" function is crucial for *one* 'at' in Rongga (as discussed further in chapter 4).

Second, locative constructions can have either simple or complex interpretations. An interpretation is simple if it refers to precise position of an object relative to another object. For example, in *the fruit in the dish* the interpretation is that the fruit is located within the volume of the dish. An interpretation is complex if what speakers express by a given locative construction does not correspond to a simple geometric relation implied by the relevant construction. For example, the locative

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expression in *the lady in red* cannot be understood in the same way as the previous

locative construction (i.e. *the fruit in the dish*). Rather, it entails other knowledge such

as cultural information about women and clothes.

Finally, the domain is interesting since it can contribute to broader linguistic

issues such as language comprehension and production processes, translation

research, and Applied Linguistics. Its contribution to the process of language

production and comprehension is evident from Herskovits's explanation (1982: 34)

that once we have semantic regularities, for example through an encoding/decoding

scheme, we can generate more pointed questions about what people may or may not

do when they speak and understand languages. The exploration of meanings of

prepositions can also benefit research on translation both practically (i.e. pointing out

the preposition equivalents cross-linguistically) and theoretically (i.e. formulating a

Translation theory). Furthermore, understanding relevant semantic aspects of

prepositions helps teachers to teach functional categories (e.g. prepositions) in a

classroom.

1.2 Methodology

1.2.1 Respondents

I included six respondents in this study. Two of them (a couple) live in Bali.

The husband works in a private tourism service while his wife is a house wife. They

have been in Bali for more than ten years. They speak Rongga at home, but switch to

Indonesian in offices or other social activities.

The other four respondents are in the village of Tanarata where Rongga is mainly spoken by the people there. Two of them are also a couple. The husband is a teacher of a public elementary school and his wife is a housewife. The other two are brothers. One of them is the secretary of the office of Tanarata village while his brother is a farmer. In their everyday contact, Rongga is the main language.

1.2.2 Definition of data

Since the study involves adpositions (e.g. prepositions), it is necessary to provide an operational definition of the locative construction. The working definition applied here is the one that combines semantic and syntactic criteria adopted from Levinson (2003: 486): "a spatial adposition is any expression that heads an adverbial phrase of location in the BASIC LOCATIVE CONSTRUCTION (answers to *where*-questions)" as in *The water is in the glass, The clothing is pinned on the line, etc.*

1.2.3 Data and data collection

Data included in the current study are clauses or phrases that express locative relations (i.e. constructions that contain a preposition as an answer to *where*-questions) like *mok **zheta wewo** meja* 'the glass is on the table', *bola **zhale wena** kursi* 'the ball is under the chair' *kimbi ike **one** ulu* 'the headband is on head', etc. I employed the elicitation tool first developed by Melissa Bowerman (1996) to elicit the uses of such locative constructions. The elicitation tool is a booklet of seventy-one line-drawings or pictures (topological relations pictures series or TRPS for short),

each representing a topological spatial relation. TRPS covers a large range of spatial

relations that would be coded in English using such prepositions as *on, in, under,*

over, near, and *against*, as well as complex prepositions like *inside, on top of, in the*

middle of, etc. In the current study, however, the elicitation tool is modified. It only

contains thirty-one pictures. Five examples of pictures included in the elicitation tool

are presented below (Bowerman, 1996). The others are provided in Appendix A.
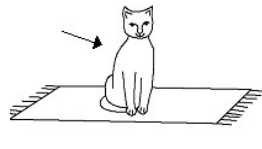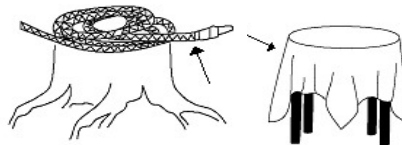
Picture 1   Picture 2   Picture 3   Picture 4

Picture 5

    I collected the data in Bali and Tanarata. I showed the elicitation tool to my

language consultants individually and asked them to provide information in written

form of what prepositions or spatial terms they used to describe the spatial relations

between the located object or *Lo* (i.e. the entity being located) and the reference

object or *Ro* (i.e. the place where the *Lo* is located) in the pictures (e.g. where is the

[figure]?). In addition, I extended the contexts of use of a particular spatial term. For

example, based on Picture 1, the location of *a cup* in relation to *the table* is specified

with *zheta wewo* 'on'. To further elicit the knowledge of *zheta wewo*, I created novel

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contexts by putting *a book* on *my head*, *a book* on *my shoulder* and asked them to specify the location of *the book* in relation to *my head* and *my shoulder*. I also asked them to specify the spatial relation of someone who rides a horse. Such a procedure was also applied to the other spatial terms (e.g. *one*, *zhale wena*, etc) to be able to 'schematize' the basic or core meaning of topological prepositions.

One advantage of employing the TRPS is that the reference is carefully controlled. In this manner it produces more reliable results than methods that are based on, for example, senses as applied in the Natural Semantic Metalanguage tradition by Wierzbicka (1980). Besides, such responses from the native language consultants are important in semantic analysis as voiced by Hymes (in Berlin, 1968: 31) "An unfortunate distrust of the native speaker as anything but a source of sounds has sometimes led to the ignoring of information of an [ethnolinguistic] sort as 'unscientific'. As it happens, reliable data of this sort could be of immense importance to students of psycholinguistics as well as ethnolinguistics".

In addition to data elicited by using TRPS, some data in this study are taken from Rongga texts such as autobiography of Bapak Antonius Gelang and *Pake* 'Frog' texts, and from Rongga grammar book by Arka et al. (2004).

1.3 The goal of the study

There are three reasons why I studied the topological preposition in Rongga. First, no study on Rongga exists, especially on its topological prepositions (except

preliminary studies by Arka, 2004). In those studies, he discusses the use of spatial

terms mainly in connection to vertical planes (e.g. *zheta, zhele, zhale, zhili*).

Second, Rongga speakers use an extensive number of spatial expressions. Out

of 9391 tokens in 28 Rongga texts investigated (e.g. *Pake* 'Frog' text, autobiography

text, etc.) spatial expressions constitute a total of 6.18% of tokens in the texts (Arka,

2004). This means that 1 in every 16 words in Rongga texts is a spatial word. This

number is higher compared to, for example, Balinese texts where the use of spatial

expressions constitutes a total of 2.81%. The table 1 and table 2 below show the

frequency of use of different spatial terms in Rongga and Balinese taken from Arka

(2004: 6).

Table 1. Frequency of use of different spatial terms in Rongga (from a total of 9391 tokens in 28
texts)

Spatial terms	No. of Tokens	Percentage
zhili	136	1.44%
zhale	124	1.32%
zheta	119	1.27%
zhele	111	1.18%
lau	10	0.11%
wewo	32	0.34%
wena	49	0.52%
Total	**581**	**6.18%**

Table 2. Frequency of use of spatial terms in Balinese (from a total of 21987 tokens in 12 texts)

Spatial terms	No. of tokens	Percentage
ring	247	1.12%
di	219	0.99%
ka/ke	140	0.63%
kauh	5	0.02%
samping	5	0.02%
delod	4	0.01%
beten	4	0.01%
dangin	3	0.01%
kangin	2	-
dauh	1	-
kelod	1	-
kaja	-	-
Total	**631**	**2.81%**

Third, the study will enable us to see how the topological prepositions are coded in Rongga, which belongs to the Austronesian language family. In other words, the present study will point out how its findings are different or similar with those of Herskovits or Levinson. Thus, the main goal of the current study is to look at how the topological prepositions in Rongga are semantically coded. The study is expected to contribute to the 'universalism' of the semantic analysis of topological prepositions across languages.

Chapter 2

Semantic Studies on Prepositions Relevant to the Present Study

2.1 Introduction

The semantics of topological prepositions has been addressed by many scholars. One set of prepositions are called "topological" because they do not involve perspective or measurement (Bowerman, 1996: 388). Herskovits (1982), for example, discusses the English topological prepositions in a detailed and careful manner. Meanwhile, Cienki (1989) and Levinson (2003) approach the topic from a cross-linguistic perspective. Cienki compared the meanings of locative and adlative spatial behavior (i.e. the motion involved leads to a decrease in the distance of the *Lo* from *Ro*, e.g. *The swimmer dove into the pool*) in English, Polish, and Russian, while Levinson investigated the meanings of locative expression of nine unrelated languages. In the following three sections, I review Herskovits's, Cienki's, and Levinson's studies.

2.2 Herskovits's study on English topological prepositions

2.2.1 Normal situation types

An utterance (e.g. a locative construction) can have multiple interpretations depending upon its contexts of use. For example, *the man at the desk* can be interpreted as indicating the location of the man (i.e. he is very close to the desk), or as the man that is working with his computer at his desk (Herskovits, 1982: 12).

Given such a case, the appropriate interpretation of the utterance is based on the normal situation. However, the question that should be raised now is "How do we define the 'normal' situation?"

Herskovits (1982: 18-19) defines "normal" with some precision. First, a normal situation conforms to the laws of physics -- the common sense physics of ordinary solid objects, liquids and gaseous substances. For example, *The woman walked through the wall* implies that the wall has a gap that is big enough for the woman to walk through. Second, objects are where they belong -- most of them near the earth, within the field of gravity. Finally, objects are "normal", and *where the function is relevant, they behave according to their normal function* (my emphasis since it is relevant to how Rongga speakers encode locative situations). For example, the interpretation of *The teapot is on the table* is that the table stands normally, with its top horizontal, and the teapot sits on it. Thus, the interpretation of a locative construction is based upon such "normal" situations.

Nevertheless, one caveat should be pointed out here. The "normal" situation explicated by Herskovits is intended to describe the spatial relation of objects in English. This is one problem for her "normal" explication because what is "normal" in English is not "normal" in other languages. Whether it applies to other languages (e.g. Rongga) remains to be investigated.

2.2.2 Core meaning

The normal interpretation of a locative construction is partly contributed by the characteristics of its preposition. The notion of core meaning attempts to capture this contribution.

Herskovits's discussion of the core meaning is related to the notion of "prototype" in the study of lexical meaning. The prototype approach looks at natural kinds from a psychological perspective. A prototypical bird for example is "the best example" of a bird. Most people will have similar descriptions of birds in size, color, habits, etc. However, the idea of core meaning is not in the strict sense the same as the notion of "prototype". Herskovits explains that the core meaning of a preposition is the "ideal" meaning of a geometric description. She further explains that if there are other uses (i.e. use types) of a particular preposition, they deviate from the core meaning through what she calls "transfer" (e.g. approximation, resemblance).

For example, Herskovits (1982: 69-70) explains that the core meaning of the preposition *on* is related to **support** and **contiguity**. However, the use of *on* in English can be extended beyond the strict sense of **support** and **contiguity** as in *The book is on the table* in which the book could be indirectly supported by the table (i.e. there could be another object like a magazine that comes between the book and the table). In different contexts, the spatial relation between the book and the table clearly shifts from the core meaning of *on* (i.e. direct **contiguity** and **support**). There is also a significant shift in the use of *on* as in the example *the wrinkles on his forehead* shows. Nevertheless, even though the shift is discontinuous here (since support could

be seen as irrelevant), the situation resembles one of support and contiguity. The resemblance itself motivates the use of *on*.

To discuss the core meaning of *in*, Herskovits (1982; 72-82) provides the following examples (not all examples are repeated here):

1a. *The milk in the bowl*

1b. *The bird in the tree*

1c. *The nail in the box*

1d. *The horse in the field*

1e. *The gap in the border*

In 1a, the *Lo* the milk is "contained" or within the "inclusion" of the *Ro* the bowl. The same "inclusion" also applies in 1b. However, the "inclusion" of the bird in the tree in 1b is not based on the same geometric description as in 1a. Rather, it is a reflex of geometric conceptualization mapped onto the geometric relation of the real objects (i.e. the bird is conceptualized within the containment outlined by the volume of the tree).

Example 1c shows how the practice of *in* is ambiguous. In such a context, two interpretations are plausible: the nail could be within the containment of the box (i.e. within the volume of the box), or it could be that the nail is embedded or nailed partially into the box's wall.

The two phrases in 1d and 1e indicate how the "inclusion" is generalized across dimensions (i.e. one-, and two-dimensions). There is, however, a distinction between the practices of *in* with the one-, or two-, dimensional objects. When *in* is used with the two-dimensional *Ro* (*the horse in the field*), the Lo the horse is on top of the Ro the field, while when it is employed with a one-dimensional *Ro* (*the gap in the border*) the *Lo* the gap is part of the *Ro* the border. In short, the examples show how the meanings of phrases 1b, 1c, 1d*,* and1e are derived from the core meaning of *in*, that is the **inclusion** of a geometric construct in a one-, two-, or three-dimensional geometric construct.

For the preposition *at*, Herskovits provides **coincident** as its core meaning as in *The train is at Victoria Station*. In the example, the train and the station are viewed as points that are "coincident". Like *on* and *in*, other uses of *at* also derive from its core meaning. The derivation from the core meaning of *at* can be seen in *The target is at ten feet*. According to Herskovits, the meaning of *at* in the context is "embedded" (i.e. The target is viewed as a point "coincident" or located ten feet from the reference object).

However, before leaving this section, another question should be posed: how is the core meaning determined? This is the other problem of Herskovits's study, especially of her proposal on core meaning since she does not provide a rigorous procedure to arrive at the core meaning. Instead, her definition is based on the range of use types from which she selects the central or ideal meaning for a particular preposition.

To assess the accuracy of her definitions of core meaning, it is necessary to compare them, for example, to how a lexicographer defines *at*, *in*, and *on* in a dictionary. For that purpose, I referred to the Oxford English Dictionary (OED). Unlike Herskovits, the lexicographers in the OED provide more than one core sense (core meaning in Herskovits's term) for each of the prepositions. There are six core senses for *at* (e.g. expressing location or arrival in a particular place or position, expressing the time when the event takes place, denoting a particular point or segment on a scale, expressing a particular state or condition, expressing the object of a look, gesture, thought, action, or plan, expressing the means by which something is done), nine core senses for *in* (e.g. expressing the situation of something that is or appears to be enclosed or surrounded by something else, expressing a period of time during which an event takes place or situation remains the case, expressing the length of time before a future event is expected to take place, expressing state or condition, expressing inclusion or involvement, indicating the language or medium used, as an integral part of an activity, expressing a value as a proportion of a whole), and twelve core senses for *on* (e.g. physically in contact with and supported by a surface, forming a distinctive or marked part of the surface of something, having the thing mentioned as a topic, as a member of a committee, jury, or other body, having the place or thing mentioned as a target, as a medium for transmitting or storing information, in the course of a journey, indicating the day or part of a day during which an event takes place, engaged in, regularly taking a drug or medicine, paid for by, added to). In

addition, each core sense could have several sub-senses (derived meanings in Herskovits's term).

The lexicographer defines the core meanings not based on the oldest meaning because word meanings change overtime, or on the most frequent meaning because sometimes the figurative meanings are more frequently used. Rather, they are determined based on the acceptance by native speakers as the one that is most established as literal and central. Besides, the core senses represent the central or typical meanings established by research on and analysis of the British National Corpus and other corpora and citation databases.

However, I am not trying to point out that Herskovits's definitions are false. In fact, it is of great advantage in our attempts to formulating primitive concepts of spatial relations. I realize the approaches adopted by Herskovits and the lexicographers are different. What matters is that it would be advantageous if we have a rigorous and reliable procedure to arrive at core meaning definitions of each preposition before deriving its extended meanings.

2.2.3 Use types

In addition to the core meaning, the lexicon (i.e. each preposition) also has use types. The use type is the extension of the core meaning and is indicated with quotation marks. For example, the unusual roles of subjects and objects in *the lady in red* introduce a use type "person in clothing". Its interpretation shifts from the core

meaning of *in* (i.e. inclusion of geometric construct in a one-, two-, or three-dimensional geometric construct).

2.2.4 Encoding and decoding

As explained in the two previous sections each preposition includes both core and derived meanings. Herskovits's proposal creates two problems. First, given a situation containing a spatial relation between the objects, how can we encode such a situation using the appropriate preposition?

Second, given a clause containing a locative construction, how can we decode or interpret the spatial relation of the objects? To handle the questions, Herskovits proposes pragmatic principles.

2.2.5 Pragmatic principles

Grice (1975) proposed a general principle of cooperation for communicative utterances and exchanges. The cooperative principle consists of four more specific maxims that are called Grice's maxims, i.e. maxim of truthfulness (saying what is true), maxim of informativeness (saying as informative as is required), maxim of relevance (be relevant), and maxim of clarity (be perspicuous) (cited in Kearns, 2000: 255). The maxims are considered as a set of instructions to speakers and hearers in the process of communicative interpretation. Herskovits adopts one of the Grice's maxims (i.e. relevance) for interpreting locative constructions. The "relevance" principle (Herskovits, 1982: 145) says that "of several expressions true of a given

situation, the appropriate one is the maximally relevant one". Other principles that Herskovits employs are "salience", "tolerance and vagueness", and "typicality". Herskovits provides examples of how the principles can be used to help select an appropriate spatial term in a complex spatial relation between objects.

For example, given a situation of interaction between a socket and a bulb, we have to decide between *in* and *under* to specify the spatial relation appropriately in the context. Since there is a "functional" interaction between the socket and the bulb (i.e. there will be light when it is put in the socket), therefore "function" is the relevant aspect for the two objects. Thus, *in* is more appropriate than *under* to describe the functional relation between the bulb and the socket.

The functional relation, even though Herskovits does not state it explicitly, is ubiquitous in English (and in other languages like Rongga). There are many examples to support this. For example, when fertilizer contained in a bag lies in a field, one can say *the fertilizer in the field*, not* *the fertilizer on the field*. But, when the fertilizer is spread over the field there is a contact between the fertilizer and the field. For that strong association of contact, according to Herskovits, one can then say *the fertilizer on the field*. Herskovits's argument, I think, is only partly true. I believe what is more relevant in that context is the functional relation between the objects. I refer to such relations as the "natural" function (i.e. the fertilizer is naturally on the field to fertilize the field) that motivates the use of *on*.

A functional relation can also be observed in *There is a truck in the road*. Herskovits (1986: 154) claims that the fact that the truck is seen as an obstacle cannot

be inferred from its location and our world knowledge of trucks and road. I again disagree with her. Instead, I argue that the truck being an obstacle can indeed be related to its location and our knowledge of the truck and the road. Functionally, *the truck on the road* is common (i.e. the trucks naturally function on the road). The reason why *There is a truck in the road* is also possible because in that situation the truck does not perform its natural function, hence is understood as an obstacle. A similar argument is also voiced by Cienki (1989: 75) saying "it is normally sufficient to identify a vehicle's location with *on the road*, and this usage is associated with the context of travel in English".

Furthermore, recall the example *the wrinkles on his forehead*. Herskovits explains that the use of *on* here is due to the shift of support and contiguity to that context. I, on the other hand, argue that what matters more in that context is the "natural" relation between the wrinkles and the forehead. It is naturally that the wrinkles appear on someone's body parts. This evidence further confirms that functional relations partially determine the use of English prepositions.

If these examples are not sufficient to convince us about the ubiquity of functional relations, other examples can still be presented. In *the knob on the front of the TV,* normally and functionally the knob is placed on the front of TV (i.e. usually in that position the knob functions to turn on the TV). Thus, the "natural" function of the knob with respect to the TV in such a position motivates the use of *on front*. A similar functional relation is also applicable to the use of *on* in *the knob on the door,*

the legs on the table, *etc* (Pye in conversation). That functional relation is prominent as well in Rongga as discussed in Chapter 4.

The facts above drive us to question "what distinguishes the functional relation from the locative/spatial relation?" Some clarification is necessary to point out to what extent functional relations are encoded using spatial terminology. It seems, based on the previous examples, the "natural" function of objects can be used to differentiate the functional and spatial relations. When there is a "natural" function performed between the objects (e.g. *the fertilizer on the field, the truck on the road, the knob on TV, the knob on the door, the legs on the table*, etc) the relation is called "functional". However, when that "natural" function is absent (e.g. *the fertilizer in the field, the truck in the road*, etc) the relation is "locative or spatial". Herskovits is aware of the functional relation as I italicized in sub-section 2.2.1 (i.e. *where the function is relevant, they behave according to their normal function*). However, she did not discuss it specifically. Let us now continue to the other pragmatic principles.

The (perceptual) salience principle (e.g. size, color, visibility, etc) can be used to explain the metonymic shift of spatial objects. In the example *The house is on the top of the mountain*, the top of the mountain is the most visible part of the mountain, not the base of the mountain. In other words, the top of the mountain is more salient than the base. Hence, the location of the house is specified in relation to the top of the mountain.

But, the "natural" function is also relevant here (i.e. it is common or natural to assume that houses are located on the top of the mountain). Even, Herskovits (1986: 153)

explains that in such an example "functional" salience plays a role which could be confused with functional relevance.

There is a context of geometric description where a particular spatial relation is given tolerance. In *The morning star is to the right of the church*, to the right of the church does not imply that the star is beside the church. Thus, the distance and the exact position of the morning star to the church are ignored. (We can show that functional importance is implied here. In the utterance, the exact position and the distance of the morning star to the church are functionally irrelevant since the "natural" appearance of the star to the right of the church is more relevant). Tolerance, as Herskovits (1982: 29) explains, "is usually associated with vagueness that is with objects whose descriptions are somewhat indeterminate, and with relations whose truth is in doubt".

Typicality is also important in selecting an appropriate preposition in a given context. We say *the cap is on the cognac bottle* not **the cognac bottle is the one in the cap* since typically the cap is smaller and more mobile than the cognac bottle. Again, Herskovits's argument is partly true here. In my opinion, what is more relevant here is the "natural" function between the objects (i.e. it is natural that the cap is on the cognac bottle and functionally it serves to close the bottle).

But, why do English speakers not say *the cap is in the bottle* as in *the bulb is in the socket?* The argument is related to the "natural" function itself. When they say the former utterance, the cap does not perform its "natural" function to the bottle (i.e. the possible interpretation is the cap is contained within the interior of the bottle). In

other words, the relation between the objects in *the cap is in the bottle* is "locative", not "functional". In the case of *the bulb is in the socket*, however, it is ambiguous. Herskovits's argument for this case is that the function between the bulb and the socket is prominent (i.e. there will be light when the bulb is placed in the socket). In fact, the relation is described with *in*, not *on* to indicate the functional relation. One possible explanation could be the relative importance of the functional relation in English. The functional relation in English is not as prominent as that in Rongga as will be explained in chapter 4.

Another example of the typicality principle is that one can say *The house on the lake*. Unlike the previous example (i.e. *the cap is on the cognac bottle*), the house is on the edge of the lake and is fixed. But, "fixed", as Herskovits (1982; 159) explains, must be qualified by "typically" – since if someone's house is a mobile one, he can still say *my house on the lake*. Thus, the interpretation is based on typicality of such particular contexts.

The same caveat is again stated here. The pragmatic principles proposed by Herskovits are formulated to encode or decode English locative constructions. Their applicability to Rongga locative constructions will be evaluated in Chapter 4.

2.3 Cienki's study on prepositions

Cienki (1989) compares the spatial behavior of a selected group of locative and adlative prepositions in English, Polish, and Russian. His basic approach to the topic is the same as Herskovits. However, what makes his study different from

Herskovits is that his objectives are to examine the translation equivalents of the prepositions under study across the three languages and to test the applicability of Conceptual Semantics in order to point out why the translation equivalents of prepositions differ cross-linguistically.

Furthermore, Cienki disagrees with Herskovits to some extent in explicating the core meaning of basic topological prepositions. For instance, the meanings of the preposition *at* in English are grouped into three (Cuyckens, 1984 cited in Cienki, 1989: 102):

a. Proximity (e.g. *the man at the wall, the man at the table*)

b. Proximity or coincidence (e.g. *Meet me at the post office, Meet me at the Market Place*)

c. Coincidence (e.g. *They put up camps at strategic points*)

Cuykens (1984 cited in Cienki, 1989: 104) points out that *at Ro* is considered a dimensionless entity (i.e. the perceived interior or supporting surface of *Ro* is absent). He further adds that *at* has a very general meaning from which the more specific meanings (i.e. proximity, coincidence, proximity or coincidence) can be derived. To put it in different words, the specific senses of *at* above are not parts of its core meaning. Rather, it depends upon the context.

For instance, following Cienki's example, when someone comes into an office to look for Barbara, she may be told "She's at her desk". In a close-up view, the *Ro* the desk indicates a prominent feature of supporting surface and allows us to

lexicalize the spatial relation with *on*. However, the desk can still be considered as a point in a region of space. When *at* is used with *Ro* schematized as a container or boundary, it is with that region or the place of *Ro* the *Lo* coincides with. Thus, *at* indicates only proximity in that sentence.

In *Chicago is at the point where the East and West meet* the derivation of coincidence can be observed. In this example, the region or the place of *Ro* is covered by the *Ro* itself. Therefore, there is no space besides the *Ro*. In such a context, there is a coincidence reading, not proximity.

For the proximity or coincidence readings, it can be pointed out in *Meet me at the post office*. In a close-up point of view, the *Lo* is in the place or the space outside the *Ro* (i.e. the *Lo* coincides with the place of *Ro*). Hence, the proximity reading is possible. But when a remote point of view is involved the *Ro* is seen as a point, and the coincident reading is allowed.
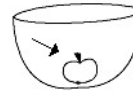
Given the facts, Cienki argues that the core meanings of *at* includes either coincidence or proximity. It is in contrast with Herskovits's definition (1986): *at* is for a point to coincide with another.

2.3.1 Meanings of topological prepositions in English, Polish, and Russian

To compare the meanings of *on* and *in* in the three languages, I use the following pictures.
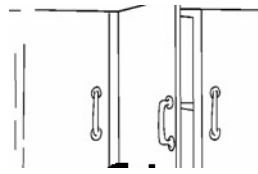
Picture 1   Picture 2

In English and Russian, the spatial relation between the door handle and the door is described with *on* (support and contiguity) and *na* 'on' (support) respectively. In Polish, however, more specific semantic conditions are required for the spatial relation as shown in Picture 1. When *Lo* is supported with horizontal surface *na* 'on' is appropriate. But, in a situation where *Lo* is in normal contact with a vertical side and the attachment is salient as indicated in Picture 1, *przy* 'on' is more representative.

For the spatial relation of containment in picture 2, it seems that English, Polish, and Russian express the relation in the same way. The prototypical instances of this use type include *Ro* with complete enclosure (e.g. *jar, bag*) or partial enclosure (e.g. *glass, bowl*). *Lo* contained in such Ro is described with *in*, *w* + L (Locative case), *v* + L (Locative case) in English, Polish, and Russian.

There is, however, disagreement between the three languages especially in describing the interior of a flat area (two dimensional *Ro*). According to Sysak-Boronska (1980: 54-63 cited in Cienki, 1989: 71-73), there are three types of surfaces in Polish. The first is a flat, frame-like surface. It can be composed of a non-material surface surrounded by a material boundary (e.g. a doorway), or is a border itself for a

flat area (e.g. a frame). In such Ro, *w* 'in' is used. The second type of surface is the opposite of the first one. It is vast flat areas with imperceptible boundaries. To describe the spatial relation in that surface, *na* 'on' is appropriate. The final type of flat area is the one between the previous two extremes above. The area may be surrounded by boundaries but not be very salient. In this context, the spatial relation could be specified either with *w* 'in' or *na* 'on'.

In Russian, there are some differences in the use of *v* 'in' and *na* 'on' from Polish *w* 'in' and *na* 'on'. However, the differences are not widespread and systematic as the uses of *in* in English and *w* 'in' in Polish.

Regarding *at*, it seems that there is no true counterpart of *at* in Polish and Russian. The two languages require that the spatial relations between the objects must be specific from the beginning. Thus, the counterpart of *at* could be *na* 'on', *w* 'in', or *przy* 'on' in Polish, and *na* 'on', *v* 'in' in Russian depending upon the relevant locative situations. For example, when *at* has the coincident reading, it usually corresponds to *na* 'on' or *w* 'in' in Polish, and *na* 'on' or *v* 'in' in Russian. *na* 'on' is more common with the *Ro* schematized as two-dimensional (e.g. *skating rink*) in Polish and Russian, while *w* in Polish and *v* in Russian is common with three-dimensional objects (e.g. *school*).

The distinct translation equivalents in the languages stems from the different conceptualization of the locative relations at stake. The question now is "How can we fill in the gap of the translation equivalents?"

2.3.2 Means of getting "in between" the translation equivalent gaps

Talmy (2000: 236-239) in *Toward a Cognitive Semantics* provides four means that can be employed to compensate for the distinct translation equivalents as explained below. For the reason of relevance to the topic, only three of them are presented here.

a. Cancelling features of over-specific schemas

In *The paper is on my desk sticking out of my notebook* (*na* 'on' in Polish and Russian), the hearer understands that the paper is not in contact with the desk and it is indirectly supported by the desk. In fact, it is supported by the notebook. This is the example of an over-specific schema. However, in relation to the qualifying *Ro* (the notebook), the support condition is suspended. The fact provides further evidence in Cienki's study that word meaning is based on a cluster of preference conditions.

b. The use of open class elements

Beside the closed-class elements (e.g. prepositions), languages usually have open-class elements (e.g. verbs, adjectives, nouns) to express spatial relations. While the open-class elements may play no fundamental role at the fine-structural level (i.e. closed-class elements), they provide many particular, sometimes idiosyncratic, characterization of space (Talmy, 2000: 237). Talmy further gives examples in English such as nouns (e.g. *zigzag, spiral*), adjectives (e.g. *concentric, oblique*), or verbs (e.g. *ricochet, streak*) as in *Paint streaked her cheeks*. Additionally, their uses

can also incorporate the regular locative constructions as in *There's a spiral of dots on the board.*

c. The image-constructing process in the hearer

When a hearer is listening to a speaker, the hearer's capture of the exact image as intended by the speaker will keep being revised as more information about it is obtained from the discourse. For example, a person B hears from a person A that *There are dots all over the board*, B will combine his configurationally sense of the dots (i.e. how dense it is) and with the *all over the board* until he comprehends the exact image the speaker intends to convey (i.e. chalk marks here and there over the board). Talmy (2000: 237) states:

The hearer somehow combines the reference ranges of a sequence of grammatical and lexical elements with each other and with her understanding of the world and of the current speech situation in a way that there emerges a fairly detailed image, one token to be close to what the speaker wanted to convey. The image may go through revisions as more is heard or called up from general knowledge.

2.4 Levinson's cross-linguistic study on locative constructions

The main goal of Levinson et al. study (2003; 485-516) in *'Natural Concepts' in the Spatial Topological Domain-adpositional meanings in cross-linguistic perspective* is to reevaluate the strong version of Universal Conceptual Categories or UCC for topological prepositions. The UCC is based on a set of standard assumptions below (in Levinson, 2003: 485-486):

a. The simplest spatial notions are topological – concepts of proximity, contiguity, containment (Piaget & Inhelder, 1956).

b. Such notions can be taken to be either primitive, so that we have conceptual primes like IN, ON, UNDER (Jackendoff, 1983), or near primitive, so that, for example, IN is decomposed in terms of at least partial inclusion (Miller & Johnson-Laird, 1976).

c. These concepts are more or less directly coded in spatial language, above all in the closed-class spatial relators like prepositions and postpositions, which have (comparatively) simple semantics (Talmy, 1983), largely universal in nature since they correspond to elements of our neurocognition (Landau & Jackendoff, 1993). Consequently, "we can develop a fairly comprehensive ideas of the spatial relations expressed in language by focusing on spatial prepositions" (Landau & Jackendoff, 1993; 223).

d. Hence, the topological adpositions are among the earliest concepts learned by children (Johnston & Slobin, 1979), and in learning them children map prelinguistic universal spatial concepts directly onto words (H. Clark, 1973, E. Clark, 1974), suggesting that we have rich innate concepts in this field (Li & Gleitman, 2002).

The claim above is supported with the results of much research on spatial acquisition by children. For example, according to Piaget and Inhalder (in Bowerman, 1996: 386-387) the spatial concepts are not a reflex of spatial perception. Rather, it is based upon representation through the locomotion and actions upon objects during their first eighteen months or so of life. Thus, "the earliest spatial notions are closely bound to object functions such as containment or support".

The claim is further supported with the acquisition of English prepositions. The order of the acquisition is first, they acquire the **containment** notions (*in*), **support** and **contiguity** (*on*), and **occlusion** (*under*), then the notions of **proximity** (*next to, beside, between*), and finally relations involving projective prepositions (*in front of, in back of/behind*).

The idea that children have pre-linguistic concepts of spatial relation gains more support from other scholars. Trying to challenge Piaget's claim that emphasizes the role of children's actions upon objects, other scholars pointed out that children are sensitive to many properties of spatial relations. For example, Antell and Caron (1985 cited in Bowerman, 1996: 388) within the few days or months of life children can differentiate the spatial scenes such as above-below. Additionally, Quinn and Eimas, Behl-Chadha and Eimas (cited in Bowerman, 1996: 388) also indicate that children with an age of a few days or months can distinguish left-right spatial scenes. However, most of these studies are based on English including Herskovits's prototypical locative examples rather than the extensions. To validate the strong claim of the UCC, it is necessary to look at how the topological spatial relation is expressed cross-linguistically.

Bowerman (1996: 293-398), for example, discusses how the following stimuli containing simple spatial relations are described differently in English, Finnish, Dutch, and Spanish.
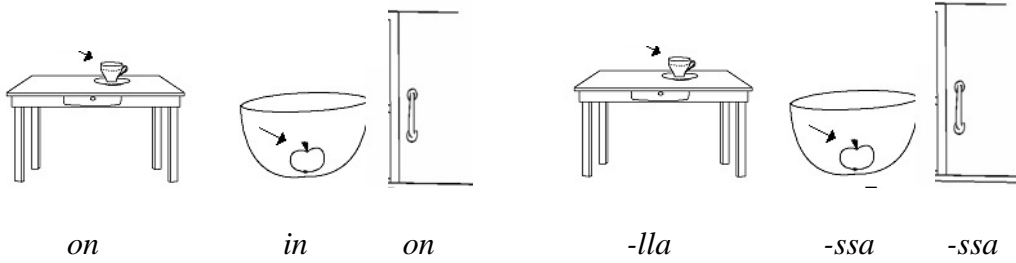
a. English   b. Finnish
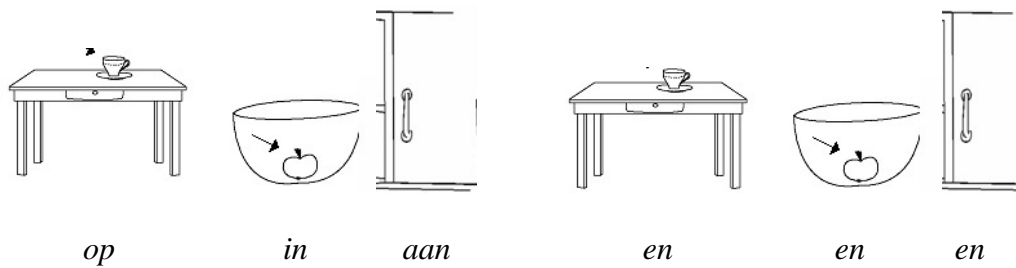
c. Dutch   d. Spanish

As can be seen from the pictures that even for the languages that are genetically

related there is a different way of marking the locative construction. In English, the

spatial relation of the cup and the table, and the handle and the cupboard are encoded

with *on* (*the cup on the table, the handle on the cupboard*), but the preposition *in* is

required to encode the spatial relation of containment (*the fruit is in the bowl*). It is in

contrast to Finish where the spatial relation of the fruit and the bowl, and of the

handle and the cupboard is marked with the same case ending –*ssa* 'in'. The relation

between the cup and the table, however, is marked with a different case ending –*lla* 'on'.

Further distinctions can be pointed out in Dutch and Spanish. Different adpositions are employed to describe the spatial relations of the cup and the table (*op* 'on$_1$'), of the fruit and the bowl (*in* 'in'), and of the handle and the cupboard (*aan* 'on$_2$') in Dutch, while in Spanish the same preposition *en* is used to describe all three spatial relations.

The question now is that if languages belonging to the same family (i.e. the Indo-European language family) encode the same spatial relations distinctly, how do languages from different language families mark the relation? Bowerman and Choi in their study of acquisition of topological relations in English, Korean and Dutch (2001: 490-491) pointed out that English children consistently distinguished **containment** from **support** (e.g. *put in*, *put on*), while Korean children were more attentive to the distinction between the **interlocking** relations (*kkita*) and various "looser" kinds of joinings including putting clothing onto different body parts.

Furthermore, Levinson et al. (2003) investigate how nine unrelated languages (i.e. Basque, Dutch, Ewe, Lao, Lavukaleve, Tiriyo, Trumai, Yeli Dnye, Yukatek) mark spatial relations. Their findings show that the practice of adpositions in the nine languages clusters around the notions of **attachment**, **superadjacency**, **full containment**, **subadjacency**, and **proximity**. Note that these notions are different from the standard assumptions. Unfortunately, these differences are not emphasized

in their study of spatial relations. The differences, as Levinson (2003: 513) says, support the Universal Tendency or UT rather than the strong version of UCC.

Regarding the spatial relation differences, where do they stem from? Levinson et al. (2003: 514) argue that "they should be seen in a functional perspective, given universal and tendencies in human organization of the environment." For example, the *in* relation (in-container) is shared by nearly all contemporary cultures for different purposes. The hunter-gatherers like the Australian Aboriginals, however, have little traditional use of containers. Instead, for the most part they use flattish trays. Similarly, for the *on* category, cultures that habituate to elevated working surfaces and storage above the ground distinguish such relations from, for example, *over*. Levinson et al.(2003: 514) further add "in addition to these cultural pressures for the distinction between special spatial relations, the shared nature of our human stance and preoccupations in a terrestrial environment with its uniform gravitational field offer additional functional sources for universal tendencies".

2.5 Summary

Herskovits (1982) indicates that the basic topological relations in English are, like the UCC's claim, related to the notions of **containment**, **support** and **contiguity**, and **coincidence**. Even though in most cases the similar spatial notions in English are also shared in Polish and Russian, results of the study by Cienki (1989) show that there are still distinctions in the spatial relation markings as further pointed out by Bowerman in English, Finnish, Dutch, and Spanish, and in English, Korean and

Dutch. The more significant differences are indicated in the nine unrelated languages

investigated by Levinson. His study reveals such different spatial notions as

attachment, **superadjacency**, **full containment**, **subadjacency**, and **proximity**.

Given these studies on the topological adpositions, the present study, as stated

at the outset of the thesis, is aimed at investigating how Rongga speakers mark the

spatial relations. More specifically, it is to point out whether Rongga supports

Herskovits's or Levinson's findings. For example, given a locative situation in

Rongga as shown in Picture 3 below, Herskovits and Levinson will have different

predictions about the appropriate preposition to describe the spatial relation between

Lo (the clothes) and *Ro* (the line).
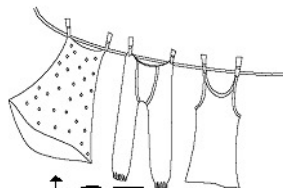
Picture 3

Herskovits will predict that the notion (vertical) **support** is relevant in that context,

hence *on* is appropriate to describe the topological relation (e.g. *clothes pinned on a*

line). Meanwhile, Levinson's prediction is that the notion **attachment** is more

relevant (e.g. Yeli Dnye, Tiriyo). In Yeli Dnye, for example, the postposition *p:uu*

"attached to" is used. Quite interestingly, unlike Herskovits's and Levinson's

predictions, the idea of "natural" function between the objects determines the

selections of the appropriate preposition in Rongga. In that situation, *one* 'at' is

representative, not *zheta wewo* 'on' (as discussed in more detailed in chapter 4).

Chapter 3

Overview of Grammar and Locative Constructions in Rongga

3.1 Introduction

In this chapter, I will introduce the locative constructions in Rongga. First, I will sketch the grammar of Rongga in section 3.2. I will present an explanation of the structures of Rongga locative constructions in section 3.3 and present the decoding and encoding of these structures in section 3.4.

3.2 Grammar of Rongga

Rongga is an endangered language spoken in the eastern part of Indonesia. The language is spoken by around 4000 speakers (Arka, 2004) mainly in the villages of Tanarata, Bamo, and Watunggene, Kota Komba sub-district, in the regency of West Flores or Manggarai. It is a highly isolating language. The following are some basic properties of Rongga. The examples presented here are from my elicitation, *Pake* 'Frog' text, and Rongga Grammar book by Arka et al., and Bapak Antonius Gelang's autobiography.

a. The basic word order of Rongga is SVO.

1. *Ja'o   ala   li'e   **one**   mako*

   I   take   fruit   in   bowl

   pro   v   n   prep   n

   'I took the fruit in the bowl'. (Elicitation)

This basic word order is determined based on two tests – frequency and markedness. Of 35 sentences that occur in the text *Pake* 'Frog', 94% of them have SVO word order. In cases where the order VO is found the subject is dropped as the following example shows.

2.

Wuku-wuku	*niu*	*pake*	*ndau*	*dano*	*pota*	*mbiwa*
shout shout	call	frog	that	also	lost	not
v	v	n	dem/det	adv	adj	neg

zhenge	*ko*	*talu*
answer	part	hear
v	part	v

'Called out the frog but there was no answer from it'. (*Pake* 'Frog' text)

In contrast to the subject, there is no example of a sentence with a missing object in the text. It seems that, based on the data available, the object is obligatory in Rongga.

The markedness test also confirms that SVO is the basic word order in Rongga. Even though the example *Ndoi, Sis ti'i na'a ja'o* 'Money, Sis gave me' is possible, that structure is uncommon in Rongga (i.e. it is only spoken to emphasize that *ndoi* 'money' is given to me, not something else). Put another way, *Ndoi, Sis ti'i*

na'a ja'o 'Money, Sis gave me' is more "marked" than *Sis ti'i ndoi na'a ja'o* 'Sis gave me some money'.

Rongga does not distinguish the morphological forms of subject and object. In other words, Rongga lacks a case system. Thus, the form of the pronoun *ja'o* 'I' as a subject (e.g. ***Ja'o** ti'i kau li'e* 'I gave you fruits') is the same as its form as an object (e.g. *Kau ti'e **ja'o** li'e* 'You gave me fruits'). Note that the form *kau* 'you' as the subject is also the same as *kau* 'you' as the object.

b. The noun modifiers (e.g. demonstrative, adjective, possessive forms) are postnominal as can be seen in the following example.

3. *Manga*   *one*   *sa*   *mbo*   *mazhi*   *ko*   *ana*   ***ito***   *ndau*

     exist   in   one   house   live   part   child   small   that

     v   prep   num   n   v   part   n   adj   dem/det

     'There is a little child living in one house'. (*Pake* 'frog' text)

However, as can be seen in the example, the numeral marker (e.g. *sa* 'one') is prenominal.

c. The direct object usually appears after the indirect object.

4.   *Sis*   *ti'i*   ***kazhi ndoi***

      Sis   give   her   money

      propN v   pro   n

      'Sis gave her money'. (Elicitation)

5.   *Ja'o* *pera* ***Ivan   nunu rebha***

      I   tell   Ivan   news good

      n   v   n   n   adj.

      'I told Ivan good news'. (Elicitation)

But, when the direct objects precede the indirect objects there is a preposition (i.e. *na'a* 'to/for') that precedes the indirect objects.

6.   *Sis*   *ti'i*   ***ndoi***   *na'a*   ***kazhi***

      Sis   give   money   to/for her

      propN v   pro   prep   n

      'Sis gave money to her'. (Elicitation)

Double objects can also occur with verbs such as make (*kengo*), do (*tau*), cut (*to'i*), and scold (*mbani*) in Rongga with a restriction that the second object is marked with

particle *pi'i* 'to/for' for the verbs make (*kengo*) and do (*tau*), and particle *ne'e* for the

verbs cut (*to'i*) and scold (*mbani*) as the examples below show.

7.   *Carles kengo* **wae**   **pi'i**   **Sis**

      Carles make   tea   to/for Sis

      n   v   n   prep.   N

      'Carles made tea for Sis'. (Elicitation)

8.   *Ja'o*   *tau*   *ata*   **rebha/zhe'e**   **pi'i**   **Ivan**

      I   do   something   good/bad   to/for   Ivan

      n   v   n   adj   prep   Ivan

      'I did something good/bad for/to Ivan'. (Elicitation)

9.   *Ja'o*   *to'i*   **kajuperi**   **ne'e**   **gergaji**

      I   cut   bamboo   with   saw

      n   v   n   prep   n

      'I cut the bamboo with a saw'. (Elicitation)

10.   *Om*   *Domi*   *mbani*   **Ivan**   **ne'e**   **ngaja**   **zhe'e**

      uncle   Domi   scold   Ivan   with   word   strong

      n   n   v   n   prep   n   adj

      'Uncle Domi scolded Ivan with strong words'. (Elicitation)

d. An adverb, in general, occurs after the word it modifies. For example, the adverbs of intensifier *tu'u* and *bholo* (both are glossed 'very' in English) modify the adjectives that occur before them.

11.   *mezhe*   ***tu'u/bholo***

        big   very

        'very big' (Rongga grammar book)

In addition to the adjectives, the intensifier *bholo* can also modify a verb.

12.   *Ja'o*   *le*   *he*   *kau*   ***bholo***   *ko*

        I   part   remember   you   very   part

        'I remember you very well'. (Rongga grammar book)

The adverb of manner which is commonly formed by combining the preposition *ne* 'with' and adjectives, especially when it occurs with an intransitive verb also follows the verb as can be shown in example 7.

13.   *Kazhi*   *soro*   ***ne***   ***molo***   *bhate*   *ngge*   *wolo*   *ndia Rongga*

        she   speak   with   nice   all   each   mountain   here   Rongga

        'She speaks nicely to every mountain here'. (Rongga grammar book)

However, when the adverb of manner appears with a transitive verb, it is usually mobile (i.e. it can occur at the beginning, at the end of the verb, or after an object) as can be seen in example 12 above.

e. The relative clause in Rongga is postnominal. Typologically, this property is expected in a verb-medial language that behaves like a verb initial language.

14.　　*Tanah **ata**　　ngia　wake　mbo　ndi'i　ja'o.*

　　　　　land　　that　　place　build　house　live　I

　　　　　n　　　　rel　　n　　　v　　　n　　　v　　　pro

　　　　　'I live in the place where I built the house'. (Autobiography)

f. Tense in Rongga is marked by distinct lexical forms such as *ngai* (progressive), *mbiwa* (imperfective), *tako, nembumai* (perfective), *tau* (future). In other words, the verb is not marked to indicate the tense.

15.　　*Ana　　ndau　　　**nembumai**　　mata　ga*

　　　　　child　that　　　　　yesterday　　　die　　already

　　　　　n　　　dem/det　　　adv　　　　　v　　　adv

　　　　　'The child died yesterday'. (Rongga grammar book)

The *nembumai* can also occur at the end of the sentence.

16. *Ana   ndau   mata   ga   **nembumai***

    child   that   die   already   yesterday

    n   dem/det   v   adv   adv

    'The child has died yesterday'. (Rongga grammar book)

However, *nembumai* does not appear between *mata* and *ga* in Rongga (**Ana nadau mata **nembumai** ga*).

g. The locative constructions that use prepositional phrases are placed after the subjects or objects. Typologically, this property of adpositions (i.e. preposition) is consistent with Rongga as a verb-medial language.

17. *Ja'o   ala   li'e   **one**   mako*

     I   take   fruit in   bowl

     pro   v   n   prep   n

    'I took the fruit in the bowl'. (Elicitation)

18. *Mok   **zheta wewo**   meja*

     cup   on   table

     n   prep   n

    'The cup is on the table'. (Elicitation)

Example 18 shows that Rongga lacks of copula verbs.

(n= noun, v= verb, pro= pronoun, adj= adjective, propN= proper noun, dem/det= demonstrative/determiner, prep= preposition, num= numeral, conj= conjunction, adv= adverb)

3.3 Overview of locative constructions in Rongga

A locative construction describes how a located object (*Lo*) is spatially related to a reference object (*Ro*). The locative relation between the *Lo* and *Ro* itself is expressed using locative prepositions (e.g. *one* 'at', *zheta wewo* 'on', etc). As can be seen in the previous examples, the *Ro* appears after the *Lo* and locative prepositions. Another example is presented below.

19.   *Lambu*   *kau*   ***one***   *lemari*

        shirt   you   in   cupboard

        n   poss   prep   n

    'Your shirt is in the cupboard'. (Elicitation)

The expression *Lambu kau one lemari* 'Your shirt is in the cupboard' is called a **locative construction**. In Rongga, locative constructions can occur within an existential clause (e.g. *Manga one sa mbo mazhi ko ana ito ndau* 'There is a little child living in the house'), or it can also appear as a prepositional phrase modifying a noun phrase (e.g. *li'e one mako* 'the fruit in the bowl').

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3.4 Encoding and decoding of locative constructions in Rongga

As explained in 2.2.4, the two main problems in interpreting a locative construction are the process of encoding (generation of locative constructions) and decoding (interpretation of locative constructions). For example, given a locative situation as in Picture 1, what is the appropriate preposition to describe the locative relation between the *Lo* (i.e. *the jacket*) and the *Ro* (i.e. *the hook*) in Rongga?
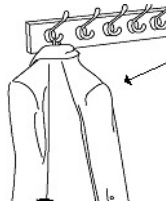
Picture 1

Or, given a locative construction such as *Lambu kau one lemari*, what real world situations correspond to its interpretation in Rongga? I describe some relevant aspects of Rongga locative constructions in the following sub-sections.

3.4.1 Normality

In 2.2.1 I said that the locative construction *the man at the desk* can have multiple interpretations (e.g. the location of the man, the man is working at his desk). To interpret it truly and appropriately, Herskovits says that it is based on "normal" situation types. However, the discussion of normality provided by Herskovits (i.e. conformity to the laws of physics, the place where the objects belong, and the

"normality" of objects) is to encode and decode an English conception of locative relations. English locative constructions encode the conventional cultural expectations of English speakers.

The generation and interpretation of Rongga locative constructions are related to the normality of the locative relation between the *Lo* and *Ro*. But, what is the concept of "normality" that is expressed in Rongga? In addition to the precision given by Herskovits, it seems that the normality of the Rongga locative relation is based on the "natural" functions of the objects for Rongga speakers. For example, given a locative situation like Picture 1, the preposition *one* is appropriate to describe the spatial relation between *lambu* 'shirt' and *hanger* 'hook' (*Lambu one hanger* 'The shirt is on the hook'). The "natural" function applies since the shirt is "naturally" located on the hook. This example suggests that *one* describes a functional relation between the *Lo* and *Ro* rather than a locative relation. The prominence that Rongga gives to function over location has not been documented in other languages and will be the main focus of this thesis. The Rongga preposition contrasts semantically with the locative expressions in English and Yeli Dnye. In English, the notion **support** is relevant, hence *on* is appropriate. Meanwhile, the postposition *p:uu* is used in Yeli Dnye since the notion "**attached to**" is more salient in that language.

In the following locative situations, the "natural" function also holds to describe the topological relations between the *Lo* and the *Ro*.

Picture 2   Picture 3   Picture 4
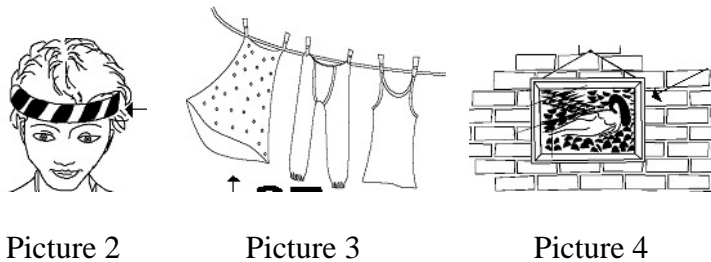
The "natural" function and other features relevant to the locative constructions in Rongga will be further discussed in chapter 4.

The salience of function rather than location seems to be a decisive feature in the description of locative relations in Rongga. In many cases there is considerable overlap between the expression of locative/spatial and functional relations, however the two concepts are distinct and should not be confused. I will attempt to clarify the functional relation that *one* expresses in the rest of this thesis and demonstrate the distinction between functional and locative relations. Rongga appears to be unique in the priority it gives to functional relations. No other discussions of locative relations in the world's languages have discussed a functional basis as the primary determinant of locative relations (e.g. Cienki, 1989, Herskovits, 1982, 1986, Jackendoff, 1983, Levinson, 2003). In this thesis, I will illustrate the functional basis of locative relations in Rongga and attempt to define the functional relations that Rongga speakers consider "normal".

3.4.2 Pragmatics

The other factor that is essential to the interpretation of locative constructions is pragmatics. As pointed out in 2.2.4, Herskovits provides the pragmatic principles (i.e. relevance, salience, tolerance and vagueness, and typicality) to interpret complex spatial relations in English. Pragmatics, as Jackendoff (1983: 208) explains, is "a theory of invited reference, relation to discourse, and relation to the world". The speaker and the hearer are supposed to share the same pragmatic knowledge when they encode or decode the locative constructions involved in communication. The pragmatic knowledge includes, among other things, knowledge of the world.

3.4.2.1 World knowledge

In the example *Mok zheta wewo meja* 'The glass is on the table' we generally assume that the table is supported by the ground (the floor) and the glass lies on the horizontal surface of the table. Such knowledge of the world is a part of pragmatics that we employ to interpret locative expressions. In other words, our interpretation of locative constructions is based upon our naïve view (i.e. in contrast with the more scientific theories). In accordance with this view, Herskovits (1986: 64-65) states:

"Space is three-dimensional, isotropic, and Euclidian. The earth is immobile, and its surface—the ground—extends to infinity in all directions. The ground has bumps and hollows, but keeps overall within not "excessive" distances from an horizontal plane. Above the ground is empty space, and underneath, earth and rocks to unknown depth. In places, solid ground gives way to seas, lakes, and rivers, with more or less horizontal top surfaces except where rivers fall.

The ground supports solid objects, which are connected, isolatable wholes. At a given instant, they have a well-defined surface, which separates the inner substances of the object from the outside world. Each has a shape, and a location in space. The

surface of an object may appear totally plane and smooth, but it may also have a very apparent "texture", i.e. some more or less periodic three-dimensional patterns.

Liquids may be still, or agitated, or flowing. When still, they are contained, and have an horizontal top surface. Liquid in movement may maintain the overall shape, and thus constitute an "object", although none of its parts are the same from one moment to the next. Some "objects" have less definite shapes: air, clouds, fog, etc. There is light and darkness, and shadows with more or less definite shapes, all without substance.

Gravity pervades space. Every object, unless it is in movement, or lighter than air, must be supported, either by the ground, or by another object which is itself supported. Water will support some objects and not others.

Herskovits (1982: 66) calls this view the *canonical description* of the world. In the everyday use of locative constructions, however, our description of the spatial relations between objects is not based upon the real canonical description. Rather, it reflects the ways in which we conceptualize these relationships. For example, when we say *in the valley*, it does not necessarily reflect the exact boundary of the valley. In fact, the boundary is a result of our mental processing of the real view (i.e. the boundary of the valley). Thus, *in the valley* reveals our conceptualization of the real world. In Jackendoff's words (1990), *in the valley* is "the projection of the real world in our mind".

3.4.2.2 Figure/Ground relationship

The other pragmatic knowledge relevant to the encoding and decoding process is our understanding of the Figure and Ground relationship. Talmy (2000: 315-316) provides the characteristics of Figure and Ground as follows:

Figure	Ground
• more movable	more permanently located
• smaller	larger
• geometrically simpler (often pointlike) in its treatment	geometrically more complex in its treatment
• more recently on the scene/in awareness	more familiar/expected
• of greater concern/ relevance	of lesser concern/relevance
• less immediately perceivable	more immediately perceivable
• more salient, once perceived	more backgrounded once Figure is perceived
• more dependent	more independent

In "unmarked" cases, the Figures are usually the subject of the given locative expressions. For example, in *Lambu one lemari* 'The shirts are in the cupboard', *Pake one lia tana* 'The frog is in the ground's hole', *Mok zheta wewo meja* 'The glass is on the table', *lambu* 'the shirt', *pake* 'the frog' and *mok* 'the glass' are the Figures and the subjects of the locative expressions, while *lemari* 'the cupboard', *lia tana* 'the ground's hole' and *meja* 'the table' are the Grounds. Such a Figure/Ground

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relationship is canonical in Rongga and is useful in generating or interpreting its locative constructions. Inverse relations (i.e. the Ground as the subject of the locative expressions) like the English examples *the man in the blue cap* or *The Empire State building is near me* are not found in Rongga. This fact is related to Rongga's functionally based system. In Rongga what is normal is that the location of the blue cap is on the man's head, and this relation of the cap with regard to the man's head (not vice versa) is prominent, hence described topologically using *one* to indicate the functional relation. In the case of the second example, what is normal in Rongga is the fact that someone is usually at a building and his relation to the building is important. In this context, *one* is used to describe the functional relation as well between the person and the building.

3.5 Summary

Rongga employs prepositions in its locative constructions. They can appear as prepositional phrases either after the direct object (e.g. *Ja'o ala li'e one mako* 'I took the fruit in the bowl') or after the subject of the locative expression (e.g. *Mok zheta wewo meja* 'The glass is on the table').

In the encoding and decoding process, Rongga speakers use the "natural" function between the objects as a decisive feature to generate or interpret a locative construction. In addition to this functional feature, Rongga speakers and hearers are also assumed to share the same pragmatic knowledge (e.g. the world knowledge, the

Figure/Ground Relationship) in the process of interpreting or generating locative

constructions.

Chapter 4

Basic Locative Prepositions in Rongga

4.1 Introduction

This chapter discusses the semantics of locative prepositions in Rongga such as *one* 'at', *zheta wewo/ zheta tolo* 'on', *zheta wena* 'above/over, *zhale one* 'inside', and *zhale lewu/zhale wena* 'under/below'. Before proceeding to a detailed discussion of these prepositions, it is necessary to note that Ronga has a basic locative word *we'e nde* 'where'. It is basic in the sense that it does not activate any specific semantic features. When it is used, it does not signify such specific notions as containment, exteriority, coincidence, etc. Rather, it is used to refer to abstract location. To make this description more concrete, the following example taken from Bapak Anton Gelang's autobiography is presented.

Zhele ndau ja'o jatuh cinta ne'e mbhu'e mok,   ina   manga pata   ata
There that   I   fall   love with girl   mok   because exist   words person

we'e nde   *lizhu   kita*   *su'u*   ***we'e nde***   *tana   kita*
where   sky   we   cary.on.head   where   land   we

kenda ***we'e nde***   *ndau   kita   muzhi*
stand   where   there   we   live

'There I fell in love with a girl, because there's a proverb, the place **where** we

carry the sky on our head, **where** we stand on its land, (that is) the place

where we live'. (Autobiography)

The use of *we'e nde* is restricted to proverbs. In everyday spoken Rongga, however,

the basic locative prepositions (e.g. *one* 'at'*, zheta wewo/ zheta tolo* 'on' *zheta wena*

'above/over*, zhale one* 'inside'*,* and *zhale lewu/zhale wena* 'under/below'), projective

prepositions (e.g. *muzhi wena* 'back of', *olo wena* 'front of', *pe'a wena* 'outside'),

and spatial terms related to vertical and horizontal planes (e.g. *zheta, zhele, zhili,*

zhale, mena all are glossed 'at' in English) are more commonly used.

The basic locative prepositions fall into two categories: a preposition that

encodes *functional relations* (i.e. *one*) and a set of prepositions that encode *locative*

relations (i.e. *zheta wewo, zheta tolo, zheta wena, zhale one, zhale lewu,* and *zhale*

wena). I explore their semantic domains in the following sections.

4.2 The functional relation of *one*

As I explained in sections 2.2.1 and 2.2.4, according to Herskovits the "normal"

situation combined with pragmatic principles are used to generate or interpret locative

expressions in English. Additionally, she indicates, though implicitly, that the notion

"natural" function is important (i.e. "*where the function is relevant, they behave*

according to their normal function" (Herskovits, 1982: 20)). In section 4.2.1, I point

out the prominence that "natural" functions have in Rongga locative system.

4.2.1 "Natural" functions and "normality" in Rongga

The "natural" functions of *one* include two main semantic domains. The first of these domains provides compelling evidence of the significance of "natural" functions in Rongga. This evidence is provided by the following pictures.

Picture 1   Picture 2   Picture 3   Picture 4

Picture 5   Picture 6   Picture 7   Picture 8   Picture 9
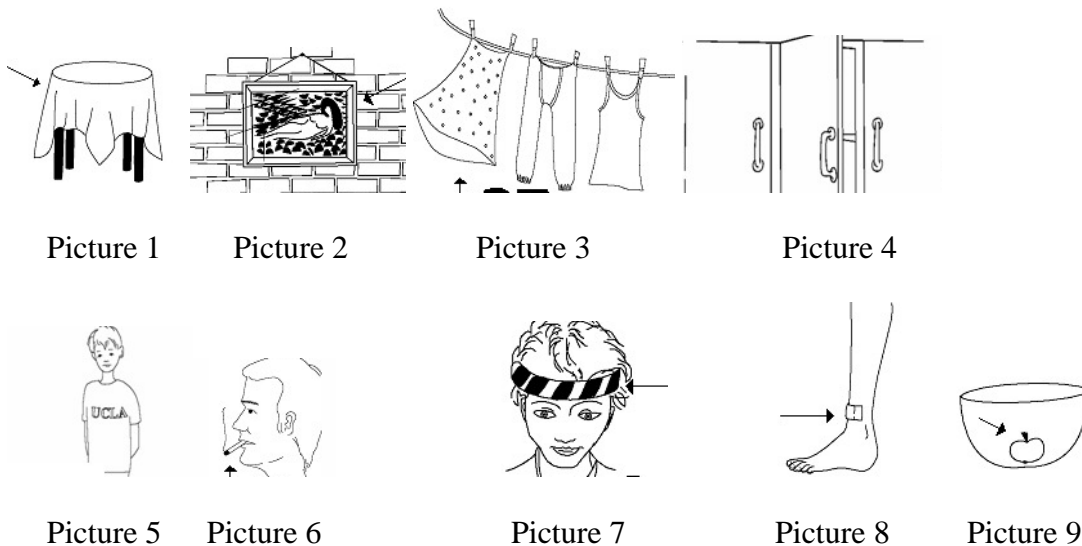
To use the appropriate preposition in the contexts of these pictures, one should have knowledge of the "natural" functional relation between the *Lo* and *Ro*. More specifically, one should know that a tablecloth "naturally" covers the upward facing surface of a table (*Kain meja one meja* 'The tablecloth is on the table'), a picture is generally or "naturally" put on a wall (*Manga foto ja'o one kembi mbo* 'There is a picture on the wall'), it is "natural" that clothing is pinned on a line (*Ngani wari one azhe* 'The clothing is pinned on the line'), it is commonly understood that the door's handle is "naturally" located on either vertical surfaces of a door that it can be used to

open or close it, it is common that writing is printed on a T-shirt, for smokers it is "natural" to put a cigarette in their mouth, etc. Thus, *one* is true and appropriate to describe the functional relations between objects in the pictures.

Furthermore, the "natural" functions also describe the employment of *one* across body parts. For instance, if we want to describe the location of earrings on someone's ear, a necklace on someone's neck, a headband tied around someone's head (Picture 7), a band aid on someone's ankle (Picture 8), a watch on someone's wrist, *one* should be used. In such contexts, those located objects are "naturally" located on those reference objects (i.e. body parts).

Even though the locations of the *Lo* with respect to the *Ro* in the pictures above indicate the notion of **support** (Pictures 1-3), **attachment** (when *Lo* is placed on body parts), and **containment** (Picture 9) the locative relations between the *Lo* and *Ro* in those contexts are specified with *one* signifying the "expected" functional relations. In those contexts what is more relevant and salient in Rongga is the functional relation between the objects, not such notions as the **support**, **attachment**, and **containment** themselves. Thus, the preposition *one* indicates *the normal functional relation* between *Lo* and *Ro*. This functional relation can be tested with "unnatural" relations between objects (e.g. when a folded tablecloth is placed on a table). In this context, the "unnatural" relation *zheta wewo* is used to describe the *locative relation* as discussed in 4.2.2.

The second semantic domain is one where the preposition *one* is used to describe a general locative relation. To provide more specific ideas of this relation, examples 1-4 below taken from *Pake* 'Frog' text' are presented:

1. | *Manga* | *one* | *sa* | *mbo* | *muzhi* | *ko* | *ana* | *ito* | *kazhi* |
   |---|---|---|---|---|---|---|---|---|
   | exist | at | one | house | live | part | child | small | (s)he |

manga	*piri*	*polu*	*ko*	*lako*	*ne'e*	*ko*	*pake*
exist	raise	raise	part	dog	with	part	frog

   "There is a child raising a frog and a dog in a house". (*Pake* 'Frog text)

2. | *Pas* | *sadho* | *one* | *dhiri* | *ngambha* | *tiba-tiba* |
   |---|---|---|---|---|---|
   | when | arrive | at | edge | steep.river bank | suddenly |

zheke	*maju*	*ndau*	*sehingga*	*ito*	*ndau*	*mo*	*tau*
stop	deer	that	so that	small	that	as if	make

hadho	*pe*	*olo,*	*ko*	*lako*	*kali*	*ngai*	*medho*
throw	to	front	part	dog	also	still	fall

teru	*pe*	*one*	*ngambha*	*ndau*	*ndewe*
continue	to	at	steep.river bank	that	the

'When arriving at the edge of the river, the deer suddenly stopped, so that the child was thrown forward. The dog also fell down to the river'. (*Pake* 'Frog' text)

3. | *Ito* | *ndau* | *coba* | *pita* | ***one*** | *sepatu* | *zhale* | *lewu* | *tempat* | *tidur* |
   |------|--------|--------|--------|-----------|----------|---------|--------|----------|---------|
   | child | that | try | seek | in | shoes | under | but | place | sleep |

dano	*mbiwa*	*tei*
also	not	find

   'The child was trying to look for the frog in the shoes, under the bed, but still he couldn't find it'. (*Pake* 'Frog' text)

4. | *Pas* | *sizha* | *manga* | *nande* | *lere*, |
   |-------|---------|---------|---------|---------|
   | when | they | exist | sleep | asleep |

pakaghara	*pake*	*ndau*	*tau*
sneak	frog	that	make

nggedha	*pu'u*	***one***	*ngia*	*ndi'i*	*kazhi*
exit	from	at	place	live	(s)he

   'When they fell asleep, the frog sneaked from its place'. (*Pake* 'Frog' text)

These examples show that the general location (i.e. reference objects) includes places (e.g. *a river bank),* buildings *(e.g. a school, a house, an office*), containers (e.g. *shoes*), sources (e.g. *location*), goals (e.g. a *river*), permanent locations (e.g. *a house*), and temporary locations (e.g. *shoes*). Regarding the *Lo*, it includes both animate and inanimate things (e.g. *human beings and animals*), and physical objects (e.g. *a car, a wooden box, etc*). Thus, *one* encodes a very general location of *Lo* with respect to *Ro* (i.e. places).

The other specific context that determines the use of *one* specifying the general locative relations is the viewing distance of a speaker. When *Lo* and *Ro* are far from the speaker, *one* is applied. Thus, a Rongga speaker will say someone is *one pasar* 'at the market', *one sekolah* 'at school' *one kantor* 'at office', etc. In that context, further specific information whether *Lo* is somewhere around the *Ro* or inside *Ro* is unnecessary. In Herskovits's words, the reference object is in a remote view.

But, given a locative situation like Picture 1 above, does *one* still apply to describe the relation between objects in a far viewing distance? The answer is "yes". However, what motivates the use of *one* in that context is not the viewing distance, but rather the first (more salient) semantic domain of the "natural" functions as previously discussed.

The far viewing distance also motivates the application of *one* in story telling. For examples (1-4), in telling the story *Pake* 'Frog' the language consultant always

used *one* to refer to a place in the story. At the conceptual level, the location of the *Lo* and *Ro* in the story is conceptualized as "far" from the speaker.

One question that should be raised in relation to the far distance of viewing is: what defines the far viewing distance? The metric system is inapplicable. Rather, what commonly determines the far distance is when the *Lo* and *Ro* are not in sight of the speaker and hearer. Thus, though in fact a person is inside a house but he and the house are not within the speaker's and hearer's sight, their location is specified with *one*. On the other hand, when the *Lo* and *Ro* are within the speaker's and hearer's sight, the spatial relation between them is specified with *zhale one* 'inside'. For example, when I was asking one of my language consultants in front of his house about Sis (my other language consultant): *Wende Sis?* 'Where is Sis?', he answered: *Sis zhale one mbo* 'Sis is inside the house'. In this context, Sis and the house were within my consultant's sight. Thus, *zhale one* 'inside' is more appropriate. *One,* however, can also be used to respond to that question with a different degree of "informativeness" from *zhale one*. When *one* is used Sis's location could be outside, inside, or somewhere near the house. Note that this is consistent with the use of *one* to express the functional relations and frequentlu used to describe the situation that a person is in a house. But, that uncertain information about Sis's location is eliminated when *zhale one* is applied (i.e. the only information available is that Sis is inside the house).

To simply identify the contexts of use of *one* indicating the "far" or "near" spatial relations, I prefer to use the contexts of "here' and "there" as explained by

Schwan (2005: 245). The "here" means the place where the speaker and hearer are, while "there" refers to other (distant) places.

The basic idea motivating the use of *one* 'at' specifying general location is that for Rongga speakers objects "naturally" occupy a place (in Herskovits words "objects are where they belong – most of them near the earth, within the field of gravity"). In other words, the locative relation between the *Lo* and *Ro* is, following Levinson (2006: 164-165), "expected" (i.e. the characteristic or normal spatial relation between objects as in part-whole relations, clothing-body relations, etc). The idea that "objects naturally occupy a place" shows the important role of the "natural" functions that determine the "expected" topological relations in Rongga. These "natural" functions (i.e. the two semantic domains) themselves define what the "normal" situation is in Rongga, and it is crucial in the encoding and decoding process of locative expressions.

4.2.2 Testing the "natural" functions

Understanding the function of the *Lo* in relation to the *Ro* is crucial in Rongga since a change of function will change the preposition used to describe the relation between them. We can use some tests to clarify the distinction between functional and locative relations. For instance, in Picture 1 (*Kain meja one meja* 'The tablecloth is on the table) shows that *one* is appropriate to locate the tablecloth in relation to the table. It is because, commonly, the natural function of the tablecloth is to cover the upward surface of the table. But now, if the tablecloth is folded and put back on the upward

surface of the table, *one* is inappropriate because the tablecloth no longer performs its "natural" function in relation to the table (i.e. to cover the upper surface of the table). Rather, *zheta wewo* 'on' is appropriate since the locative relation is now more prominent than the functional relation.

Another example showing that having knowledge of the "natural" functions is essential in Rongga can be illustrated in the example *Air one gelas* 'The water is in the glass'. *One* is employed to describe the location of water in the glass because naturally water is contained in *a glass* or other containers such as a cup, a tea pot, etc. However, if the water is now removed from *the glass* and *a pen* is put in it instead, *one* is inapplicable. In this context, *zhale one* 'inside' is required since once again the locative relation is more prominent than the functional relation.

Moreover, recall that in section 2.2.4 I argued that in *There is a truck in the road* the "natural" function between the truck and the road is absent. Thus, the absence of the "natural" function triggers the use of *in* to describe the *locative relation* between the truck and the road (i.e. the truck being an obstacle). A similar case can also be pointed out in Rongga. For example, when a passenger is in a car and the car is moving on the road the relation between the passenger and the car is described with *one (Sis one oto* 'Sis is on the bus'). On the other hand, if somebody is in a car and the car does not perform its "natural" function (i.e. it does not move on the road as naturally happens) *zhale one* 'inside' is more appropriate (e.g. *Sis zhale one oto* 'Sis is inside the bus'). Thus, as the tests point out when the "natural"

function is prominent *one* is used in Rongga. Otherwise, one of the locative

prepositions is used to express the specific locative relation between *Lo* and *Ro*.

In addition, the tests can also be applied to the second semantic domain (i.e.

the general locative relation). For example, if someone's motorbike is parked in a

garage, the topological relation between the motorbike and the garage is described

with *one* in Rongga. In that situation, the functional relation is more prominent than

the locative relation. But, imagine now that the motorbike is parked in somebody's

house. The locative relation is then prominent, not the functional relation. Thus, *zhale*

one is true and appropriate in that context.

4.2.3 The ambiguity of *one*

In the previous examples (e.g. Pictures 1-8) and in Picture 13 in

section 4.4.1, the *functional* and *locative* relations can be pointed out in a

straightforward manner based on our knowledge of the "natural" functions of the

objects. In Pictures 1-8 a tablecloth "naturally" covers an upward facing surface of

the table (*Kain meja one meja* 'The table cloth is on the table'), a picture is generally

or "naturally" put on the wall (*Manga foto ja'o one kembi mbo* 'There is a picture on

the wall'), it is "natural" that clothing is pinned on a line (*Ngani wari one azhe* 'The

clothing is pinned on the line'), it is commonly understood that the door's handle is

"naturally" located on either vertical surfaces of the door that it can be used to open

or close it, it is common that a writing is printed on a T-shirt, for smokers it is

"natural" to put a cigarette in their mouth, etc. Thus, *one* is obviously required to

describe the *functional relations* between objects in the pictures. On the other hand, in Picture 13 in section 4.4.1 below the "natural" function is clearly absent. Therefore, *zheta wewo* is used to describe the *locative relation* between the objects. In that context, in addition to the absence of the "natural" relation, support and direct contact between the objects are relevant.

Nonetheless, there are indeterminate situations in which more than one spatial term is used to describe the locative relation. Let us look at the picture below.

Picture 9

Given this locative situation, my language consultants such as Om Domi (OD), Om Domi's wife (DW), Fransiscus Seda (FS), Yuventus Rau (YR), Yohanes Nani (YN), and Ivan Ture (IT) offered various responses:

one	*zheta wewo*	*zheta tolo*
2 (YN, IT)	2 (OD, DW)	2 (FS, YR)

The use of *one* (*Mok one meja* 'The cup is on the table') is predicted from the "natural" function that it is "natural" that a cup is put on the horizontal surface of the table. The use of *zheta wewo* and *zheta tolo* 'on' (*Mok zheta wewo/zheta tolo meja*

'The cup is on the table'), however, is related to the fact that the notion of horizontal support is relevant and salient in that context. But, even though the three prepositions are true and appropriate, they encode distinct perspectives on this situation. The distinctions are related to the speakers' pragmatic emphasis. The use of *zheta wewo* and *zheta tolo* is to inform that the cup is directly supported by the table. This pragmatic information was emphasized by four speakers. Since if the cup is not directly supported by the table (i.e. there is another objects between the cup and the table such as a magazine) *zheta wewo/zheta tolo* are still used, but in relation to the magazine, not the table (*Mok zheta wewo/zheta tolo majalah* 'The cup is on the magazine'). In the latter context, the pragmatic information is different from the former one. More specifically, the support in the latter context is provided by the magazine, while in the former context it is provided by the table. However, as predicted by the functional relation test, *one* can not be used in the latter context since it is not "natural" that a cup is placed on a magazine. Put differently, the relation in the latter context is *locative*, not *functional*.

Further, a different pragmatic emphasis can be revealed in the use of *zheta wewo* and *zheta tolo* which is related to the viewing distance. When *zheta tolo* is used the speakers said that both *Lo* and *Ro* are relatively distant (but within "here" context). But, when the *Lo* and *Ro* are close (within "here" context) the speakers use *zheta wewo* (further discussed in section 4.4.1).

There is another ambiguous situation in which the use of *one* can not be easily inferred from the "natural" functions. Let us look at Picture 10 below.
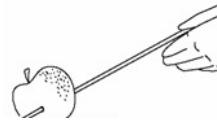
Picture 10

My language consultants' responses are as follows:

one   *zhale one*

2   (IT, DW)   4 (YN, FS, YR, OD)

As indicated by the number of responses, the ambiguity here is less than what we saw in the previous example. *Zhale one* is used by more language consultants because the locative relation is more salient than the functional relation. It is due to the fact that it is rather difficult to define the "natural" functions related to the first semantic aspect of the functional relation between the objects here since sticks are not commonly inserted into apples in Rongga culture. Thus, applying our previous test, the absence of the "natural" function motivated the speakers to use *zhale one* 'inside' to describe the *locative relation* between the objects (*Lidi tusuk zhale one li'e* 'The stick is in the apple') even though the picture describes a relation at a far distance.

The use of *one* seems to be motivated by the idea that "objects have a natural functional relation to other objects" (though this function may be rather

indeterminate). This "natural" function motivates Rongga speakers to use *one*. This is another example that shows the prominence of function in Rongga.

4.2.4 The core meaning of *one*

Herskovits provides the core meanings for the basic topological prepositions as explained in section 2.2.2. The formulation of the core meaning is important because we can point out how the extended meanings can be derived from the core meaning. Even though the extended meanings can not be pointed out for prepositions in Rongga due to the decisive feature of the functional relation, it is still suggestive in the current study to propose a core meaning. Unlike Herskovits's procedure in determining the core meaning based on the range of use types from which she selects the central or ideal meaning for a particular preposition, the core meaning in Rongga can be more precisely derived from the functional relation between the *Lo* and *Ro*. When a "natural" function is present in the locative situations, then *one* is "expected". Referring to the discussion, I propose the formalization of the core meaning of *one* as:

For *Lo* to locate at one-, two-, three-dimensional *Ro*

FUNCTION (Lo, Ro)

4.3 The locative relation of *zhale one*

As the previous functional relation test shows when a "natural" function is irrelevant in a particular situation, the relation is defined as locative rather than functional. The first locative relation I discuss is *zhale one*.

The form *zhale one* consists of the prepositions *zhale* 'down/under' and *one* 'at'. When *zhale one* is used the meanings 'down' and 'in' are incorporated implying that the location of *Lo* is within a concave surface of *Ro*. Thus, the combination of the two prepositions produces the meaning 'inside'. To apply *zhale one* correctly, we have to be able to determine whether the objects involved in the given locative relation is "naturally" related or not. For example, it is natural that fruits, stones, sand, etc are contained in a sack. In that context, as predicted, *one* is appropriate. However, even though *zhale one* is also possible in that context with a distinct pragmatic emphasis (i.e. to emphasize that the *Lo* is 'inside' the Ro), it is less commonly used. There are two explanations for this. First, as explicated in the previous section the "natural" function is crucial in the use of *one*. Thus, it is sufficient to describe the topological relation using *one*. Second, when *one* is used in that situation it already implies that *Lo* is 'inside' *Ro* given the natural function of sacks. In other words, the use of *zhale one* is redundant. Because of this redundancy and of the salience of the "natural" function *one* is more commonly applied.

Imagine now that other objects which are "unnaturally" related to the sack (e.g. shirts) are put in it. The *zhale one* must be employed to describe the *locative*

relation between the shirts and the sack. This example confirms that the "natural" function is important in defining Rongga's topological relations.

To see a more explicit context of the use of *zhale one*, let us look at Picture 11 below.
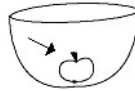
Picture 11

As can be predicted from the context (i.e. it is natural that fruits are placed in a bowl), *one* is appropriate to describe the functional or "expected" relation between the objects in the picture. But, when the fruit is removed from the bowl and a pen is placed in the bowl now *zhale one* is used to describe the "unnatural" relation between the two objects. If the pen is again removed and a block of tofu is put in the bowl *one* is used to specify the *functional* relation between the two objects since the tofu is "naturally" placed in a bowl.

In addition to the absence of a "natural" function, there is another specific feature relevant to the use of *zhale one* - **containment** (i.e. *Lo* lies within the interior of *Ro*). The *Ro* that serve as containers include cup-like objects (e.g. *glasses*), objects with holes (e.g. *shoes, a bottle*), and objects with complete enclosure (e.g. *sack*). Additionally, institutional objects (e.g. *a school, a university*, etc) are also conceived to perform containing functions. In relation to *Lo*, it can be both animate and

inanimate objects   (e.g. *human being, animal*, etc), and physical objects (e.g. *water, book, etc*).

Further evidence that *zhale one* indicates containment in the absence of a "natural" function can be found in describing the spatial or "unexpected" relation between *papers* and *a book*. When a piece of paper (a separate piece of paper that is not a part of the book) is inserted in the book, *zhale one* is applied as in *Kertas ndau zhale one buku* 'The paper is in the book'. The example shows that *the book* is conceptualized as having an interior like *the glass*, *the sack*, etc. The conceptualization of *a book* to perform a containing function derives from its front and back covers that are conceptualized as the "containing surfaces". However, *one* is used as in *Kertas one buku* 'The papers in the book' when the papers are a part of the book. In this situation, the functional relation is prominent.

4.3.1 The core meaning of *zhale one*

I stated in the previous sections that the presence or absence of a "natural" function allows us to formulate the core meaning of a Rongga preposition. Here, I propose the core meaning of the "unexpected" **containment** of *zhale one* and its formal spatial relation based upon the preceding discussion as follows:

Lo lies within the interior of a three-dimensional *Ro*.

UNEXPECTED CONTAIN (Lo, Ro)

4.4 The locative relations of *zheta wewo, zheta tolo, zheta wena*

The actual meaning of *zheta* is 'up'. Topologically, it is associated with *wewo* (*zheta wewo*) and *tolo* (*zheta tolo)* that also mean 'up'. It is typical of Rongga to juxtapose two words with the same meanings.

As I have emphasized, *one* is applied to specify the "expected" function of *Lo* with respect to *Ro*. Thus, *one* can be used to express the functional relation of objects in Picture 9 (*Mok one meja* 'The cup is on the table'). As also pointed out in section 4.2.3, both *zheta wewo* and *zheta tolo* are also applicable in that situation. In the following section the more detailed meanings of *zheta wewo* and *zheta tolo* are explained, while the discussion of *zheta wena* 'over/above' is presented in section 4.4.2.

4.4.1 *Zheta wewo*, *zheta tolo*

In addition to the absence of a functional relation as discussed in 4.2.2, *zheta wewo* is used to show the "unexpected" or spatial relation between *Lo* and *Ro* where the latter objects provide a support for the former one.

But, what objects can be considered to provide support to the located objects? The objects that have an upward facing surface such as in Pictures 12 and 13 (as prototypical examples) or objects that are conceptualized as having such features as human's shoulder, head, a tree branch, etc. In relation to the Lo, it includes both animate and inanimate objects (e.g. *persons, animals*) and physical objects (e.g. *a*

cup, a pen, etc). Thus, *zheta wewo* is applicable in the following pictures (i.e. the *Ro* provides the support for the cup and the rope).
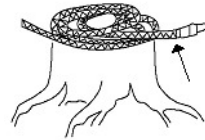
Picture 12   Picture 13

5.   *Gelas ndau   zheta   wewo meja*

        Glass   that   on   table

         'The glass is on the table'. (Elicitation)

6.   *Azhe   ndau   zheta wewo   jala   kaju*

        Rope   that   on   cut   wood

         'The rope is on the wood'. (Elicitation)

The direct support provided by the *Ro* in these contexts also entails a direct contact between the *Lo* and *Ro*. Thus, as explained before, if there is another object between the cup and the table, let us say *a magazine*, *zheta wewo* is inappropriate to describe the spatial relation between the two objects. To describe such a locative

construction, Rongga speakers will say *Mok zheta wewo majalah* 'The cup is on the magazine' not *Mok zheta wewo meja* 'The cup is on the table'.

It appears that the use of *zheta wewo* is in the context of "immediate geometric relations" (i.e. "the immediate geometric relation" in Picture 9 is between the cup and the table*)*. However, when there is another object between the cup and the table (e.g. a magazine), the "immediate geometric relation" can be between the cup and the magazine or between the magazine and the table). Which "immediate geometric relation" is activated depends upon which geometric relations the speaker intends to specify. The "immediate geometric relation" contexts are also relevant in the discussion of *zhale lewu* in section 4.5.

Regarding the support, it is not only provided by upper flat surface such as those in Pictures 12 and 13, but also by other objects that are imagined to have such a surface as *ulu* 'head', *bhako* 'shoulder', *watu* 'stone, *kaju* 'tree', etc. Being imagined to have such a surface, the objects are conceived to provide supports. So, when an object is put on one's head, one's shoulder, or a stone (in particular in the absence of the "natural" functions) *zheta wewo* is appropriate. However, as pointed out before, when the natural function is prominent as in the case between the hat and the head *one* is applicable.

What about the following picture?
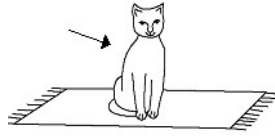
Picture 14

In Picture 14, the direct contact between the cat and the mat is obvious. Nevertheless, since the "natural" function is salient in this situation (i.e. it is natural that the cat sits on the mat), therefore the use of *one* is more appropriate to describe the "expected" relation between the objects (e.g. *Eo po'o one te'e* 'The cat sits on the mat'), not *zheta wewo*.

The other informative feature that is also associated with the use of *zheta wewo* is distance. *Zheta wewo* is used for the spatial relation between the *Lo* and *Ro* at a close distance to the speaker. More specifically, *zheta wewo* is applied to Picture 12 above when, for example, we are sitting in the living room and are describing the spatial relations of the objects. But, if the located and reference objects are distant from the speaker (but within the speaker' and hearer's sight) the spatial relations are specified by *zheta tolo* 'on' as in example 7 below.

7.   *Manu   lalu   zheta tolo   kaju*

       cock   male   on   three

       'The cock is in the tree'.

In this context, the *Ro* (*kaju* 'tree') is relatively distant from the speaker. The use of *zheta tolo* here is motivated by the absence of the functional relation. In this situation, someone is in a search of a cock that has been lost for days and finds that the cock is in a tree. Hence, *zheta tolo* is appropriate to describe the locative relation in example 7 above. This example again shows how the functional relation is prominent in Rongga.

The fact that the viewing distance is relevant to the use of *zheta wewo* and *zheta tolo* can also be pointed out in the following examples.

8. *Sis*   *zheta wewo*   *jara*

    Sis   on   horse

    'Sis is riding a horse'. (Elicitation)

9. *Sis*   *zheta tolo*   *jara*

    Sis   on   horse

    'Sis is riding a horse'. (Elicitation)

In example 8, the position of Sis is on a horse and the horse does not walk away. Hence, *zheta wewo* is appropriate. On the other hand, in example 9, the situation is that the horse walks away while Sis is riding it. Since the position of Sis and the horse is getting farther from the speaker, *zheta tolo* is now more appropriate than *zheta wewo*.

Regarding the use of *zheta wewo/zheta tolo*, it seems to be motivated by the fact that Sis is not a horse rider. But, if somebody is a horse rider, his riding a horse will be described by *one* indicating the functional relation between the objects. This fact again indicates the importance of "natural" functional relations in Rongga.

4.4.1.1 The core meanings of *zheta wewo, zheta tolo*

Following the discussion, the salience of support and direct contact (i.e. in the absence of the functional relation) are relevant to the application of *zheta wewo* and *zheta tolo*. It allows me to formulate the core meanings of *zheta wewo* and *zheta tolo* as follows:

Lo is in a direct contact and supported by *Ro*

UNEXPECTED SUPPORT & DIRECT CONTACT (Lo, Ro)

4.4.2 *Zheta wena*

The meaning of *zheta wena* is composed of the literal meanings of its components. The actual meaning of *zheta*, as I said before, is 'up'. But, the exact meaning of *wena* is rather unclear. Arka et al. listed the meanings of *wena* in the Rongga dictionary as (1) 'down' and (2) 'leftover'. However, based on its distribution in such expressions as *muzhi wena* 'back of' (*muzhi* 'back'), *olo wena* 'front of' (*olo* 'front'), *wena* could mean 'side', and with regard to its occurrence in the locative situations as in Pictures 15 and 16 below, *wena* could be interpreted as 'in relation to

a place below'. Literally, *zheta wena* is translated into 'up of a place below'. Thus, in this study *zheta wena* is glossed as 'above/over' mainly based on its appearance in particular locative situations.

Zheta wena is applied to *Lo* that are 'over/above' the *Ro* and there is no contact between them. Thus, to specify the spatial relations between the objects as shown in the following pictures:
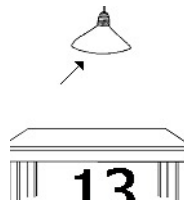
Picture 15   Picture 16

zheta wena is applied (*Nusa zheta wena wolo* 'The cloud is over the mountain', *Sulu zheta wena meja* 'The lamp is above the table'). To use *zheta wena* in that context, the position of the *Lo* is not necessarily exactly over the *Ro*. When the *Lo* is 'over' and in a tilted position in relation to the *Ro*, *zheta wena* is still applicable. In Herskovits's term, in such a context the precise axis between the *Lo* and *Ro* is "ignored". The notion of "ignorance" is supported by Jackendoff (1990: 35-37) in his *Semantic Structures* with the preference rule system (i.e. "'preference rules' because these rules establish not inflexible decisions about the structures, but relative preferences among a number of logically possible analyses" cited in Cienki, 1989: 34).

What about Picture 1 (i.e. the tablecloth on the table)? The requirement of 'above/over' and without contact between the objects explains why *zheta wena* is inapplicable in that picture. In that situation there is a direct contact between the tablecloth and the table. More importantly, the functional relation in the picture excludes the use of *zheta wena*.

But, one question occurs here: why *one* is not used to describe the locative relations between *Lo* (the cloud, the lamp) and *Ro* (the mountain, the table) in Pictures 15 and 16? Isn't it natural or "expected" that clouds are over mountains and lamps are over the table in Rongga? Even though it is "expected" that the clouds are over the mountain and the lamp is over the table, but the "functional" relation between the *Lo* and *Ro* are absent in these situations. Furthermore, the absence of contact between the objects motivated the use of *zheta wena* in Pictures 15 and 16 above.

4.4.2.1 The core meaning of *zheta wena*

Referring to the discussion, I would like to propose the core meaning of *zheta wena* as follows:

Lo is over *Ro* without a support and direct contact between the two objects.

UNEXPECTED OVER & WITHOUT CONTACT (Lo, Ro)

4.5 The locative relations of *zhale wena, zhale lewu*

Unlike *zheta wena*, the meaning of *zhale wena* is more transparent. The meaning 'under/below' of *zhale wena* is derived from its component meanings *zhale* 'under' and *wena* 'down'. Regarding *zhale lewu*, its component meanings *zhale* 'under' and *lewu* 'void' produce the meaning of *zhale lewu* 'under/below'.

Direct contact between the *Lo* and *Ro* is also relevant in distinguishing the use of *zhale wena* and *zhale lewu*. *Zhale wena* is used when there is contact between the *Ro* and *Lo* under it. For example, the locative relation between the objects in Picture 17 below, *zhale wena* is appropriate as in *Soke zhale wena kain lap* 'The spoon is under the napkin' (*zheta wewo* is also applicable to specify the spatial relation between the two objects, especially when the two objects are on *the table*, depending on which geometric relation a speaker intends to describe). But, when there is a space between the *Ro* and *Lo* (i.e. there is no contact between them), the spatial relation is specified with *zhale lewu*. Thus, to specify the spatial relation of the objects in Picture 18 below, Rongga speakers say *Bola zhale lewu kursi* 'The ball is under the chair'.
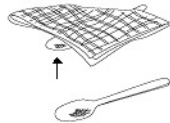
Picture 17   Picture 18

The use of *zhale lewu* in such a context can also be seen in the example below from the *Pake* 'Frog' text.

10. *Ito ndau coba pita one sepatu zhale lewu tempat tidur*

    child   that   try   look   in   shoes   under   place sleep

    dano   mbiwa   tei

    but   not   find

    'The child was trying to look for the frog in the shoes, under the bed, but

    still   he couldn't find it'. (*Pake* 'Frog' text)

What if, in Picture 18, there is another object such as *a book* under *a ball*? Is *zheta lewu* still practiced to describe the spatial relation between *the ball* and *the chair*? In that context, especially in a close distance of viewing, *zheta lewu* is inappropriate. But, *zheta lewu* is applicable to specify the spatial relation between *the ball* and *the book* in relation to *the chair* (*Bola ne'e buku zheta lewu meja* 'The ball and the book are under the table'). To demonstrate the locative relation between *the ball* and *the book*, either of the following expressions is appropriate: *Bola zheta wewo buku* 'The ball is on the book' (the natural function is absent and there is a horizontal support and direct contact between the *Lo* and *Ro*), or *Buku zhale wena bola* 'The book is under the side of the ball' (in such a geometric relation *the book* is under *the ball* and there is contact between them). So, there are three spatial terms that can be applied in such a context (e.g. *zhale lewu* to specify the spatial relation between *the ball, the book* and *the chair*, *zheta wewo* to identify the spatial relation between *the ball* and *the book*, and *zhale wena* to indicate the spatial relation between *the book*

and *the ball*). As explained previously, such spatial relations are related to the context of "immediate geometric relations".

Unlike *zheta* with the 'up' meaning which is absolute (i.e. *Mok zheta wewo meja* 'The cup is on the table' and *Manga sa zheta lizhu* 'The cloud is in the sky'), the use of *zhale* 'under' is not absolute. While it is applicable to specify that an object is *zhale tana* 'on the ground', it is inapplicable in a context, for example, when a speaker is standing next to *a table* with *a book* on it. To specify the location of *the book* in relation to *the table* from the speaker's point of view, both *zheta wewo* and *zhale (lewu)* are not appropriate. Instead, *one* is applied due to the functional relation in that context (e.g. *Buku one meja* 'The book is on the table'). Put another way, it is a "natural" function that a book is placed on a table.

4.5.1 The core meanings of *zhale wena, zhale lewu*

The proposed core meanings and the formalized spatial relations of *zhale wena* and *zhale lewu* are as follows:

Lo is under *Ro* with or without contact.

Zhale wena: **UNEXPECTED UNDER & WITH CONTACT (Lo, Ro)**

Zhale lewu: **UNEXPECTED UNDER & WITHOUT CONTACT (Lo, Ro)**

4.6 Summary

Referring to the previous discussion, Rongga speakers employ their own pragmatic principle to describe topological relations. This principle, unlike Herskovits pragmatic principles, is based on the "natural" functions of objects. This principle appears to be crucial in Rongga. It has priority over locative relations and determines the constraints on the use of all other locative expressions in Rongga. It further allows us to distinguish the *functional relation* from the *locative relation*. The functional relation includes two semantic domains. First, it refers to the "natural" function between, for example, the tablecloth and the table (e.g. *Kain meja one meja* 'The tablecloth is on the table'), the shirt and the hook (e.g. *Lambu teo one hanger* 'The shirt is on the hook'), etc. Second, it is related to the general location of *Lo* with respect to *Ro*. This aspect is motivated by the fact that Rongga speakers consider that an object "naturally occupies a place". Thus, it is "natural" that someone or something is at a place (e.g. *Sis one mbo* 'Sis is at home'). Nevertheless, as can be seen in the previous natural relation tests, when the "natural' relation is absent the relation becomes locative, not functional anymore (e.g. *Lidi zhale one li'e* 'The stick is inside the fruit').

However, this does not mean that Herskovits's pragmatic principles are irrelevant in Rongga. Its importance, though not significant, can still be pointed out especially in the indeterminate contexts (e.g. the indeterminacy of *one* and *zheta wewo/zheta tolo* to describe the location of the cup and the table). In this context, the principle "relevance" can be used to decide which spatial terms to activate. Put

differently, when the "natural" function is considered more relevant by Rongga speakers *one* is used. But, when the horizontal support and the direct contact are thought of being more relevant then *zheta wewo* is applicable. But, since the functional relation is prominent in Rongga the use of *one* is more frequent than *zheta wewo/zheta tolo* in that context.

Regarding the "normal" situation, Herskovits's notion of precision is also relevant. However, it seems that the "natural" function is more important in defining what the "normal" situation is in Rongga. Thus, given a locative situation, Rongga speakers will base their encoding or decoding of the locative relation upon the related objects' "natural" functions.

Chapter 5

Conclusions, Implications, and Suggestions

In this concluding chapter, I would like to highlight some points related to the main goal of this study. As pointed out in chapter 2, there are two "faiths" in the study of topological relations. Herskovits's study of English topological prepositions reveals that the basic notions related to the topological relations are **support** and **contiguity**, **inclusion**, and **coincidence**. It suggests that it further supports the claim of the strong version of the Universal Conceptual Categories. Levinson et al.'s findings, however, reveal distinct topological notions such as **attachment**, **superadjacency**, **full containment**, **subadjacency**, and **proximity** allowing us to discern the Universal Tendency rather than the strong Universal Conceptual Categories. Levinson et al. proposed, among other things, that the notion **attachment** is important cross-linguistically and it is successively fractionated into the notions on/over/on top. Furthermore, they claimed "attachment has at least one clear focus of its own and is an important category that tends to be recognized in language after language" (2003: 513-514).

Quite interestingly, the notion of basic topological relations in Rongga is distinct from Herskovits's and Levinson et al.'s findings. It is distinct from Herskovits since the notion "**expected**" (the "natural" function) is basic and decisive to systematically encode or decode the locative relations. Furthermore, even though Herskovits's notions **support** and **inclusion** are found in Rongga, their uses are more

restricted. The former is only applicable for horizontal support and the latter is only effective for three-dimensional *Ro*. Note that the **support** and **inclusion** in Rongga are identifiable in the absence of the "natural" functions. Additionally, Rongga speakers consider that the "natural" functions serve to define the "normal" situation.

Levinson et al. also did not include functional relations in their findings. Moreover, 'over' (*zheta wena*) and 'on' (*zheta wewo/zheta tolo*) are distinguished in Rongga, while in Levinson et al.'s findings they are collapsed into 'on/over' (i.e. collapse under the notion **superadjacency**). Regarding the containment in Rongga, it is not necessarily in the context of **full containment**. What matters is that the *Lo* lies within the interior or volume of the *Ro* (i.e. it is applicable for the partial containment as well). Note also that the **containment** in Rongga is not coded when the "natural" function is present (e.g. *books in a bag, water in a glass*).

Additionally, Levinson et al.'s claim about the cross-linguistic importance of the **attachment** is not confirmed in Rongga. They found that such examples as an earring on someone's ear, a necklace on someone's neck, a painting on the wall, and clothing pinned on a line were coded with the notion attachment, while the examples such as tablecloth on a table (Picture 1 in chapter 4), a cup on the table were coded with a different notion – **superadjacency**. In Rongga, on the other hand, all those examples are described with *one* to indicate their *functional* relation. It is decisive in Rongga that with its absence the relation becomes *locative* and affects the use of different locative terms such as *zhale one, zheta wewo, zheta tolo, zheta wena, zhale wena,* and *zhale lewu*. To point out more concrete differences between Herskovits's,

Levinson et al.'s and my findings of the basic concepts relevant to topological relations, the following visualization is presented.

Levinson et al:
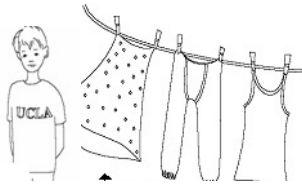
Attachment   Supperadjacency
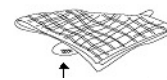
Full containment   Subadjacency

Herskovits:
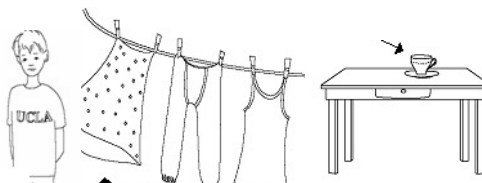
Support & contiguity
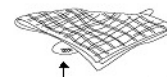
Containment   occlusion

Aryawibawa:

Functional relations
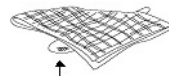
Locative relations

With the salience of the "natural" functions in Rongga (and in English as well), there are theoretical implications to studies of topological relations. The topological relations, as I would like to propose, seem to fall into two main categories. One category is composed of *functional relations* which base the topological relations upon the "natural" functions (i.e. the general location and the "natural" relation indicated by such examples as the earring on someone's ear, clothing pinned on a line, etc). Hence, the relation is "expected". The second one consists of *locative relations* where the functional relations are not prominent and topological relations are "marked" or "unexpected" according to the relevant features (e.g. with or without contact, support, containment, etc).

Despite a certain degree of ambiguity of functional and locative relation as explained in chapter 2 (e.g. the functional relation between the bulb and socket is described with *in*, not *on*), this categorization also applies in English, though it is not

explicitly pointed out by Herskovits. In the examples *fertilizer on the field, the truck is on the road, the wrinkles on his forehead, the knob on the TV*, *the cap is on the cognac bottle*, etc the relations between the *Lo* and *Ro* in those examples are specified with the preposition *on* to indicate the functional relation. But, when the fertilizer is in a sack, the truck does not function normally in a road (hence considered as an obstacle), the cap is inside the cognac bottle, the locative preposition *in* is used to describe the locative relation.

In the case of the use of *in* (not *on*) describing the functional relation between the bulb and the socket as explained in chapter 2, it could probably be due to the degree of the functional relation in English. One possible explanation is that, as Piaget (in Johnston, 1985: 970) pointed out, both *in* and *on* are categorized as prepositions that indicate the functional relation in English. If this is true, my previous explanation that *in* and *on* indicate locative and functional relations respectively needs refinement. However, unlike Rongga in which the functional relation is decisive, the question of the degree of the functional relation in English needs further investigating. One substantial point is that the functional relation in English is obvious, justifiable, and distinguishable from the locative relation.

Another implication is related to the acquisition of topological prepositions by children. Cognitive complexity based-studies such as object feature specification by Masongkay et al. (1974) and proximity coordination by Braine (1959) and Piaget & Inhelder (1967) (cited in Johnston & Slobin, 1979: 531) reveals the order of acquisition goes as follows:

in/on/under < beside < back $_{feature}$/front $_{feature}$ < between < back/front

Another study (e.g. Tanz, 1976 cited in Johnston & Slobin, 1979: 531) which is based on a comprehension test of English children found out that *behind* and *in back of* were more frequently produced by the children. This study, which was based upon salience predicted the order of development as:

in/on/under < beside < back$_{feature}$ < front$_{feature}$ < between < back < front

Johnston and Slobin (1979) also conducted research on the same domain. Unlike the first two studies, Johnston and Slobin investigated the development of children's locative acquisitions cross-linguistically (i.e. English, Italian, Serbo-Croatian, and Turkish). They pointed out, despite the various patterns of developmental acquisition within the individual languages, a general cross-linguistic pattern of order emerged:

in/on/under/beside < back$_{feature}$/front$_{feature}$/between < back/front

Furthermore, Piaget (cited in Johnston, 1985: 969-970) also found a similar pattern of locative acquisition as those three studies above. At the earliest stage, Piaget claimed, children acquired *functional* concepts (e.g. in/on/under), then proximity or topological concepts (e.g. back/front for featured-objects), and finally projective concepts (e.g. back/front for unfeatured-objects). Thus, as Johnston (1985: 969) said "the Piagetian account of spatial conceptualization during the preschool years proposes a developmental progression from functional to topological to projective-Euclidean representation of space".

Johnston (1985) defined "function" based on children's use of *in front of/in back of* for featured- and unfeatured-objects. The early uses of these prepositions, Johnston hypothesized, might express **next-to-the-back/front-of** meaning for the featured-objects, while later uses might express meanings like **first/second-in-the-line-of-sight** with unfeatured-objects (cited in Slobin, 1985: 971). Based on his study, Johnston found a similar result as those of previous studies that the feature based-relation (the functional relation) occurred earlier than the unfeatured relation: proximity, object feature < order, projective relations and *in front of/in back of* (featured) < *in front of/in back of* (unfeatured).

Regarding the order of the development, Johnston & Slobin (1979: 542) thought that it is affected by an interaction between conceptual factors (i.e. the spatial understanding underlying locative terms and their relative salience) and linguistic factors (e.g. homonymity, lexical diversity, and lexical complexity). For example, the 11-month age difference between Turkish and Serbo-Croatian children who advanced at the locative term *back* showed that, for the Turkish children, their interpretation of the use of *back* (*arkasinda*) is only for featured-objects (e.g. a chair). They did not understand that *back* was also applicable for nonfeatured-objects (e.g. trees). On the other hand, the Serbo-Croatian children who have acquired *back* for nonfeatured-objects, due to the morphological complexity and lexical diversity of *back* (*iza, izada*), may still be acquiring back*feature* (i.e. for them back$_{feature}$ is more difficult than *back* for nonfeatured-objects). This example shows that homonymity affects the acquisition of locative prepositions.

Bearing in mind Piaget's order of development (functional <

proximity/topological < projective) and the two factors (i.e. the conceptual and

linguistic factors), it seems that the prepositions indicating the functional relation (i.e.

one) should be acquired earlier by Rongga children because it is morphologically and

syntactically less complex and its semantics is more abstract than the prepositions

indicating the locative relations (*zheta wewo/zheta tolo* 'on', *zheta wena* 'over/above',

zhale one 'inside', *zhale wena/zhale lewu* 'below/under').

Nevertheless, to confirm this result further study of the acquisition of

topological relations in Rongga is imperative. It is also strongly suggested that the

proposal (i.e. the categories of *functional* and *locative* relations) needs further testing

in other (related or unrelated) languages to find out more cross-linguistic patterns

(notions) of topological relations. In this manner, it allows us to study more definitely

the universalism of topological relations.

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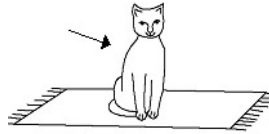Cienki, Allan J. 1989. *Spatial Cognition and the Semantics of Prepotitions in English, Polish, and Russian.* Munchen: Verlag Otto Sagner.

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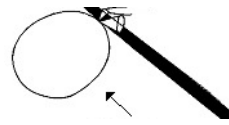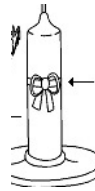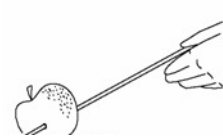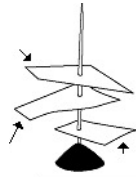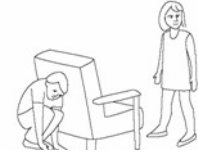
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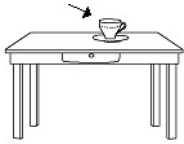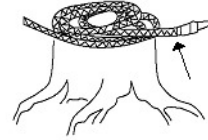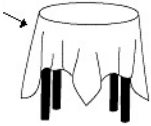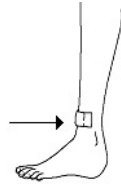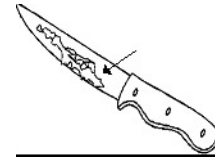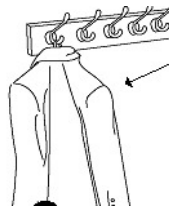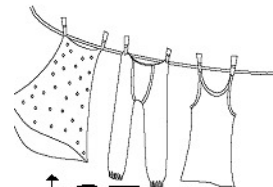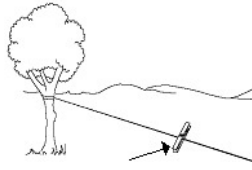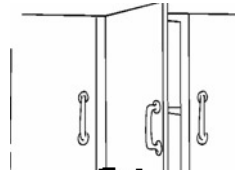
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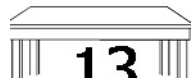
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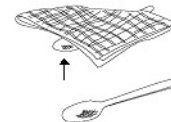
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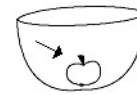BI:

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Note: BB= Bahasa Bali, BI= Bahasa Indonesia