

On Common Ground, Context and Information Structure: The Case of Counter-Expectation in Thai

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Abstract

This paper addresses the influences of common ground, context and information structure on the linguistic production and interpretation processes with a special reference to counter-expectation in Thai. It presents, first of all, a fresh view on the operation of the particle *leew45* as a marker of counter-expectation. It also indicates the association of the particle with focus and the influence of common ground and context, both of which control the use and interpretation of *leew45* as well as the conversation flow. Moreover, the unaccounted additional impact of numeral scalarity on the production of a counter-expectation has been detected. The paper applies the Question Under Discussion (QUD) technique in order to account for these phenomena.

1 Introduction

This introductory section addresses the re-appraisal of the role of the particle *leew45*. It also raises two problematic issues involving the impact of numeral scalarity and the association of *leew45* with focus.

1.1 The re-appraisal of the role of *leew45*

Leew45 has been regarded as a post-serial particle which acts either as a perfective aspect marker or a past time marker (Kanchanawan, 1978; Boonyapatipark, 1983). Also, Scovel (1970) proposes that it marks the completion of the event. Following these claims which are based hugely on

the assumption that *leew45* plays its primary role in temporality, it can be concluded in (1) that the addition of *leew45* to the sentence generates perfectiveness, thereby asserting that the event *plaa33thooŋ33 taay33* or *die (the goldfish)* happened before the time of utterance and satisfies the truth-condition ‘*the sentence is true if and only if there was a goldfish and it died at time t*’ where *t* refers to the reference time.

- (1) *plaa33thooŋ33 taay33 leew45*
 goldfish die *leew45*
 ‘The goldfish died.’

Nonetheless, the perfectiveness as well as the completion of the above event can still be derived even when *leew45* is omitted. Findings from the data suggest that *leew45* actually implies an expectation about the issue under discussion based on the state of the issue prior to the reference time. It also suggests that the particle is used in order to denote a counter-expectation. This claim is supported by three pieces of evidence given in (2), (3) and (4) which present the co-occurrence of *leew45* with an achievement, an ongoing predicate and a state, respectively. They all indicate that the presence of *leew45* does not affect the derivation of the aspectual readings which are in fact derived through the aspectual nature of the predicates attached to *leew45*.

- (2) *fay33faa42 dap22 leew45*
 power go out *leew45*
 ‘The power went out.’
 → Previously it was expected that the
 power would not go out.

- (3) maa45 kam33lan33 wiŋ42 lɛɛw45
 horse PROG run lɛɛw45
 'The horse is running now.'
 → Previously it was expected that the horse would not run.
- (4) tɔɔn33nii45 baan42 sa22ʔaat22 lɛɛw45
 now house be clean lɛɛw45
 'The house is clean now.'
 → Previously it was expected that the house would not be clean

The appearance of *lɛɛw45* at the discourse level as shown in (5) also exhibits its function as a marker of counter-expectation.

- (5) Context: Danai saw a beautiful vase at the pottery shop and wanted to buy it. However, he was running late for his class. He then decided to come back to buy the vase after work. Now he is at the pottery shop but does not see the beautiful vase he wants to buy. He then asks the shop assistant about it.

- Danai: cɛɛ33kan33 bay33 nan45
 vase CLASS DEM
 pay33 nay24 khруп45
 go where PART (POLITE.MAS)
 'Where is that vase?'
- SA: mii33 khon33 maa33 sɯu45
 have person come buy
 pay33 lɛɛw45 kha22
 go PART PART (POLITE.FEM)
 'A person has bought it.'
 → Previously it was expected to be available.

The utterance of the shop assistant marked by *lɛɛw45* implies the expectation about the vase, i.e. that the vase would be available, which was formed in accordance with the state of the vase prior to the reference time NOW. Secondly, it asserts the updated state of being unavailable of the vase at the reference time which counters the state of the vase present in the expectation. Now compare (5) to (6):

- (6) Context: Danai saw that the shop assistant was busy with a customer. He wants to know what happened.

- Danai: mua42kii45 mii33 ʔa22ray33
 a moment ago have what
 ruu24 khруп45
 QW PART (POLITE.MAS)
 'What happened a moment ago?'
- SA: mii33 khon33 maa33 sɯu45
 have person come buy
 cɛɛ33kan33 pay33
 vase go
 kha22
 PART (POLITE.FEM)
 'A person came to buy a vase.'

The broad question asked by Danai indicates that he does not acknowledge the existence of the vase. Or even if he does the shop assistant does not detect his expectation about the vase. Therefore, she does not add *lɛɛw45* to her utterance to overtly inform him that his expectation no longer holds.

The minimal pair of situations provided in (5) and (6) reveals that the presence of *lɛɛw45* gives two implications: 1) the existence of the issue under discussion; and 2) a particular expectation regarding the state of the issue under discussion and its validity prior and at the reference time. The semantics of *lɛɛw45* is summarised as shown in (7):

$$(7) \quad [[lɛɛw45]] = \exists y \exists x \forall t' < RT [(expectation(y)(t'): \sim p(x)) \wedge p(x)(RT)]$$

In verse, when *lɛɛw45* appears it indicates that in all time intervals before the reference time $t' < RT$ someone y holds an expectation such that the issue under discussion x is in the state of $\sim p$ and at the reference time RT , x is in the state of p . These implications subsequently determine the conditions of use of *lɛɛw45*.

1.2 Two problematic issues detected in the production and interpretation processes

When *lɛɛw45* co-occurs with numbers, the production of a counter-expectation is not only controlled by the semantics of the particle but also by numeral scalarity. (8Bi) is an acceptable response to (8A) while (8Bii) is not.

(8) A: thuk45khrəŋ45 da33nay33 kin33
 every time Danai eat
 yaa33 sɔŋ24 met45
 medicine two CLASS
 'Every time, Danai takes 2 tablets of
 paracetamol.'

B: (i) khrəŋ45nii45 khaw24 kin33
 this time he eat
 pay33 saam24 met45 lɛɛw45
 go three CLASS PART
 'This time he has taken 3 tablets!'

(ii) khrəŋ45nii45 khaw24 kin33
 this time he eat
 pay33 nɔŋ22 met45
 go one CLASS
 ʔeeŋ33/*lɛɛw45
 only PART
 'This time he has taken only 1 tablet!'

Basically, when *lɛɛw45* co-occurs with numbers, it urges a division of two sets—the set under expectation and the set countering expectation. In the situation in (8), 2 serves as the expected number which distinguishes the set under expectation {0, 1, 2} from the set countering expectation {3, 4, ...}. The former represents the state of $\sim p(t')$ of the issue under discussion while the latter represents the state of $p(RT)$ of the issue under discussion. The felicity of a sentence marked with *lɛɛw45* is determined by the existence of the entailment of the expected number in the state of $\sim p(t')$ by the asserted number in the state of $p(RT)$. In (8Bi), the expected number 2 is reached and surpassed by the asserted number 3 which entails the expected number by default. On the contrary, in (8Bii) the expected number is not reached and thus not entailed by the asserted number. Thus, a counter-expectation is generated in (8Bi) but not in (8Bii).

Moreover, as shown in (9), the association of *lɛɛw45* with focus is detected. Given that the particle possibly associates either with the number or the subject NP, the sentence in (9A) can be interpreted in two ways which result with two possible responses in (9Bi) and (9Bii):

(9) A: da33nay33 kin33 kek45 pay33
 Danai eat cake go
 sip22 chin45 lɛɛw45
 ten CLASS PART
 'Danai has eaten 10 pieces of cake!'

B: (i) sip22 chin45!
 ten CLASS
 '10 pieces!'
 (ii) da33naay33 ʔa22na45
 Danai QW
 'Danai?!'

The situation in (9) shows that a sentence with *lɛɛw45* does not always connote only one distinct counter-expectation. The expectation and what counters it are identified through the focused elements present in the antecedent and the postcedent. These foci call for the interpretation that complies with the appropriate common ground knowledge and context available on the addressee's side.

2 Common ground, context, information structure, and QUD

This section is aimed at, first of all, discussing the interactions among common ground, context and information structure. It is also aimed to introduce the mechanism of QUD and how it explains these interactions.

2.1 The interactions among common ground, context and information structure

Adopting Rooth's (1985, 1992) notion of focus, focus is a member of a set which contains all alternatives relevant to the issue under discussion. The set of alternatives is established from the substitutions for the variable standing at the focused position. Following this idea, the statement in (10) contains the *x* variable as shown in (11) and induces the set of alternatives as given in (12):

- (10) Danai will buy a bottle of [red wine]_F.
 (11) Danai will buy a bottle of *x*.
 (12) {white wine, red wine, milk, gin, water, ...}

The variable *x* represents the focused element and refers to all plausible alternatives which include all bottled liquids that Danai will potentially buy.

In addition, according to Krifka (2007), in both the semantic and pragmatic uses of focus the focused element is required to match the appropriate common ground knowledge and context.

- (13) A: What did the manager send to his daughter?
 B: The manager sent [a POSTcard]_F to his daughter.
- (14) A: Who did the manager send a postcard to?
 B: The manager sent a postcard to [his DAUGHTer]_F.

The pragmatic use of focus as exemplified in (13) and (14) suggests that even though (13B) and (14B) share the same truth conditions, i.e. the sentence is true if and only if there is a definite manager that both A and B know and the manager sent a postcard to his daughter, the foci in the two sentences are assigned to the elements that correspond with the common ground and contexts, which, in these cases, suggested by the questions in (13A) and (14A). Such pragmatic use of focus illustrates the management of common ground in order to achieve a particular communicative purpose. It helps create the cognitive representation that the participants in the conversation rely on when the utterance is produced and interpreted. Assigning a focus to the element incompliant with the purpose of the speaker thus impedes the communication.

Regarding the semantic use of focus, different focus locations in a sentence with a focus-sensitive particle offer different truth conditions. A wrong assignment of focus results in the delivery of the information not supposed to be transferred to the addressee. The sentences in (15) and (16) present the association of the focus-sensitive particle *only* with focus:

- (15) The manager only sent [a POSTcard]_F to his daughter.
- (16) The manager only sent a postcard to [his DAUGHTer]_F.

The semantic exhaustivity of *only* is applied to two different focused elements resulting in different truth conditions as outlined in (17) and (18):

- (17) (15) is true if and only if there is a definite manager who sent something to his daughter which was nothing else but a postcard.

- (18) (16) is true if and only if there is a definite manager who sent a postcard to someone who was no one else but his daughter.

2.2 QUD and Information Structure

Roberts (1996) proposes that in each conversation, a conversational goal is set up based on the interaction between common ground and context. Common ground selects the contexts that represent the possible worlds in which the common ground information is true. The conversational goal requires a mutual commitment between the speaker and the addressee. It is accomplished through the setup move creating by the speaker and the payoff move determined by the addressee. A question represents the issue being discussed in the conversation and is thus referred to as a question under discussion.

QUD is developed by Roberts (1996, 2012) from the accounts of question proposed by Hamblin (1973), Groenendijk and Stockhof (1984) and von Stechow (1991). A question, according to Roberts (2012), designates a set of alternatives or *q-alternatives* which contains all alternatives that are eligible to be selected as the definitive answer to the question. The set of q-alternatives for a *wh*-question is established, as shown in the formality in (19), by abstracting the *wh*-phrase present in the *wh*-question and applying it to any entity that contains the properties identified in it.

- (19) The *q-alternatives* corresponding to utterance of a clause α :

$$q\text{-alt}(\alpha) = \{p: \exists u^{i-1}, \dots, u^{i-n} \in D[p = |\beta| (u^{i-1}) \dots (u^{i-n})]\}$$
 where α has the logical form $wh_{i-1}, \dots, wh_{i-n}(\beta)$, with $\{wh_{i-1}, \dots, wh_{i-n}\}$ the (possibly empty) set of *wh*-elements in α , and
 where D is the domain of the model for the language, suitably sortally restricted,

(2012:10)

Concerning the congruence between a question and its set of q-alternatives, QUD relies on the influence of common ground as proposed in von Stechow's (1991) account of question. The content of a question corresponds to the common ground knowledge and thus determines the properties of all plausible alternatives.

In many cases achieving a particular communicative goal involves a stack of questions which includes both superquestions and subquestions stemmed in accordance with common ground and context. They are evaluated and ordered in accordance with the interlocutors' moves and context under the conditions as stated in (20) which generally require that the questions be answerable and not yet answered by the common ground knowledge. Also, they must be ordered in such a way that the complete answer to the lower ranked question is a partial answer to the higher ranked question. Accordingly, QUD, as shown in (21), functions in the way in which the relation among the superquestion and the subquestions is displayed.

- (20) QUD, *the questions-under-discussion stack*, is a function from M (the moves in the discourse) to ordered subsets of $Q \cap Acc$ (the set of accepted setup and payoff moves in M) such that for all $m \in M$:
- i. For all $q \in Q \cap Acc$, $q \in QUD(m)$ iff
 1. $q < m$ (i.e. neither m nor any subsequent questions are included), and
 2. $CG(m)$ fails to entail an answer to q and q has not been determined to be practically unanswerable.
 - ii. $QUD(m)$ is (totally) ordered by $<$.
 - iii. For all $q, q' \in QUD(m)$, if $q < q'$, then the complete answer to q' contextually entails a partial answer to q .

(Roberts 2012:14-15)

- (21)
- | | | |
|----------------------------|---|--------------------------------|
| QUD(1) | = | \emptyset |
| QUD(a) | = | $\langle 1 \rangle$ |
| QUD(a _i) | = | $\langle 1, a \rangle$ |
| QUD(Ans(a _i)) | = | $\langle 1, a, a_i \rangle$ |
| QUD(a _{ii}) | = | $\langle 1, a \rangle$ |
| QUD(Ans(a _{ii})) | = | $\langle 1, a, a_{ii} \rangle$ |
| QUD(b) | = | $\langle 1 \rangle$ |
| QUD(b _i) | = | $\langle 1, b \rangle$ |
| QUD(Ans(b _i)) | = | $\langle 1, b, b_i \rangle$ |
| QUD(b _{ii}) | = | $\langle 1, b \rangle$ |
| QUD(Ans(b _{ii})) | = | $\langle 1, b, b_{ii} \rangle$ |

(Roberts 2012:18)

In response to the question stack, the strategy of

inquiry or the strategy to answer q is set up as demonstrated in (22). The pair of question and strategy $\langle q, S \rangle$ prompts the setting of subinquiries to q or q' which leads to the function of the strategy of inquiry shown in (23). In summary, the strategy to answer 1 is to answer a by answering a_i and a_{ii} and to answer b by answering b_i and b_{ii}.

- (22) The *strategy of inquiry* which aims at answering q , $Start(q)$:
For any question $q \in Q \cap Acc$, $Strat(q)$ is the ordered pair $\langle q, S \rangle$, where S is the set such that:

If there are no $q' \in Q$ such that $QUD(q') = \langle \dots q \rangle$, then $S = \emptyset$.
Otherwise, for all $q' \in Q$, $QUD(q') = \langle \dots q \rangle$ iff $Strat(q') \in S$.

(Roberts 2012:18)

- (23)
- | | | |
|-------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Strat(a _i) | = | $\langle a_i, \emptyset \rangle$ |
| Strat(a _{ii}) | = | $\langle a_{ii}, \emptyset \rangle$ |
| Strat(a) | = | $\langle a, \{ \langle a_i, \emptyset \rangle, \langle a_{ii}, \emptyset \rangle \} \rangle$ |
| Strat(b _i) | = | $\langle b_i, \emptyset \rangle$ |
| Strat(b _{ii}) | = | $\langle b_{ii}, \emptyset \rangle$ |
| Strat(b) | = | $\langle b, \{ \langle b_i, \emptyset \rangle, \langle b_{ii}, \emptyset \rangle \} \rangle$ |
| Strat(1) | = | $\langle 1, \{ \langle a, \{ \langle a_i, \emptyset \rangle, \langle a_{ii}, \emptyset \rangle \} \rangle, \langle b, \{ \langle b_i, \emptyset \rangle, \langle b_{ii}, \emptyset \rangle \} \rangle \} \rangle$ |

(Roberts 2012:19)

Suppose there is a situation in which both Danai and Sunan acknowledge that Thani has recently acquired a cat. Sunan does not retain further information and only Danai has obtained it. She is aware of this fact and thus thinks Danai can be a good source of information. Her primary curiosity is about the appearance of the cat. The question she is going to ask, which become the goal of the conversation, is thus aimed at acquiring the information about the look of the cat. The dialogue between these two people takes place in the way as shown in (24):

- (24) Sunan: What does the cat that Thani has recently bought look like?
Danai: It is a male Siamese cat.

In this case, the superquestion is multiplied to

subquestions which inquire about the specific features that make up the cat's overall appearance. These questions are listed in (25). Suppose each of the q-alternative sets for Subquestions a, b, c and d contains only two alternatives, the full question stack is created as shown in (26) and the full strategy of inquiry, in which the pairs of question and strategy for both the superquestion and the subquestions are ordered by the function \langle , is provided in (27):

- (25) i) Does it have long fur?
 ii) What colour is it?
 iii) What is the colour of its eyes?
 iv) Is it a male or a female?
- (26) 1. What does the cat that Thani has recently bought look like?
 a. What type of fur does it have?
 a_i. Does it have long fur?
 Ans(a_i) = No
 a_{ii}. Does it have short fur?
 Ans(a_{ii}) = Yes
 b. What colour of fur does it have?
 b_i. Does it have black fur?
 Ans(b_i) = No
 b_{ii}. Does it have brown fur?
 Ans(b_{ii}) = Yes
 c. What colour of eyes does it have?
 c_i. Does it have blue eyes?
 Ans(c_i) = Yes
 c_{ii}. Does it have yellow eyes?
 Ans(c_{ii}) = No
 d. What gender is it?
 d_i. Is it a male?
 Ans(d_i) = Yes
 d_{ii}. Is it a female?
 Ans(d_{ii}) = No
- (27) Strat(1) = $\langle 1, \{ \langle a, \{ \langle a_i, \emptyset \rangle, \langle a_{ii}, \emptyset \rangle \} \rangle, \langle b, \{ \langle b_i, \emptyset \rangle, \langle b_{ii}, \emptyset \rangle \} \rangle, \langle c, \{ \langle c_i, \emptyset \rangle, \langle c_{ii}, \emptyset \rangle \} \rangle, \langle d, \{ \langle d_i, \emptyset \rangle, \langle d_{ii}, \emptyset \rangle \} \rangle \rangle$

3. Proposed account for the production and interpretation of *læw45*'s counter-expectation through QUD

This section will tackle the issues raised in Subsection 1.2 by applying the QUD technique. The section begins with the typical formation of

denials through questions in Subsection 4.1. Subsection 4.2 addresses the formation of *læw45*'s counter-expectation through questions and accounts for the issue concerning numeral scalarity. Finally, Subsection 4.3 deals with the issue concerning common ground, context and information structure.

3.1 The Formation of Denials Through Questions

In general, a denial denotes an opposition against the proposition represented in the antecedent. It is not produced against a vague target but against a specific element which is deemed false. The target is signalled by means of focus assignment. This thus means that information structure also influences the production and interpretation processes. An example is given in (28):

- (28) Danai: Thani's cat is a [Persian]_F cat.
 Sunan: It is not a [Persian]_F cat. It is a [Siamese]_F cat.

The above denial is targeted at the focused element *Persian*. The congruence of denial requires that the focused element in the postcedent be relevant to the focused element in the antecedent. In the case of (28), focus is assigned on the adjectival modifier *Persian* in both the antecedent and the first sentence of the postcedent. Besides, the second sentence of the postcedent provides the correct information through the adjectival modifier *Siamese* which receives focus.

Expressing an agreement or a disagreement is identical to answering a polar or yes/no question which is formed in accordance with common ground knowledge and context. Moreover, under QUD, the antecedent forms the setup move which induces either an agreement or a disagreement. In contrast, the postcedent represents the payoff move which requires the verifications for the existence of the definite NP, which represents the issue under discussion, and for the properties of the issue as depicted in the antecedent. Following this, Danai's statement in (28) is processed through the question stack shown in (29). Please note that this question stack mentions only two plausible alternatives for each subquestion.

- (29) 1. Is it the case that Thani's cat is a Persian cat?
- a. What kind of pet does Thani have?
 - a_i. Does Thani have a dog?
Ans(a_i) = No
 - a_{ii}. Does Thani have a cat?
Ans(a_{ii}) = Yes
 - b. What type of cat does Thani have?
 - b_i. Does Thani have a Persian cat?
Ans(b_i) = No
 - b_{ii}. Does Thani have a Siamese cat?
Ans(b_{ii}) = Yes

Sunan's reply suggests that the fact that Thani has a cat is the complete answer to question a and thus the existence of Thani's cat, which is the issue under discussion, is confirmed. However, the result of the verification of the information concerning the type of the cat which is carried out through question b suggests a contrast between the assertion in the antecedent and Sunan's background knowledge. The answers to questions a and b encourage Sunan to express a denial and to provide the correct information.

3.2 The formation of *leeW45*'s counter-expectation through questions

The formation of *leeW45*'s counter-expectation can be carried out through questions. Consider (30):

- (30) Danai: thaa33nii33 mii33 mɛɛw33
 Thani have cat
 sɔɔŋ24 tua33
 two CLASS
 'Thani has two cats.'
- Sunan: tɛɛ22 tɔɔn33nii45 khaw24
 but now he
 mii33 saam24 tua33 leeW45
 have three CLASS PART
 'But now he has three!'

In the case of *leeW45*'s counter-expectation, similar to the case of denial, the setup move formed in the antecedent is aimed at asking either for an agreement or a disagreement while the payoff move calls for the verifications for the existence of the issue under discussion in the common ground and for the properties of the issue. Both verifications can be conducted through questions in

(31) and (32):

- (31) What kind of pet does Thani own?
 (32) How many cats does Thani currently own?

However, *leeW45*'s counter-expectations, unlike denials, are not made at this stage. The reason is, the semantics of *leeW45* prompts a comparison between the states of the issue under discussion before and at the reference time. This comparison calls for two additional questions in (33) and (34). The questions are supposed to verify the existence of the expectation or the state of the issue under discussion prior to the reference time and, due to the presence of numbers, to check if the asserted number exceeds the expected number.

- (33) How many cats did Thani previously own?
 (34) What is the relation between the number of cats that Thani currently owns and the number of cats he previously owned?

The complete stack of questions and answers are compiled as shown in (35) while the strategy of inquiry is given in (36). Please note again that although each q-alternative set allows several alternatives, only two alternatives are mentioned:

- (35) 1. Is it the case that Thani owns two cats?
- a. What kind of pet does Thani own?
 - a_i. Does Thani own a dog?
Ans(a_i) = No
 - a_{ii}. Does Thani own a cat?
Ans(a_{ii}) = Yes
 - b. How many cats does Thani currently own?
 - b_i. Does Thani own two cats?
Ans(b_i) = No
 - b_{ii}. Does Thani own three cats?
Ans(b_{ii}) = Yes
 - c. How many cats did Thani previously own?
 - c_i. Did Thani own two cats?
Ans(c_i) = Yes
 - c_{ii}. Did Thani own three cats?
Ans(c_{ii}) = No
 - d. What is the relation between the number of cats that Thani currently owns and the number of cats he

previously owned?

d_i. Is the former greater than the latter?

Ans(d_i) = Yes

d_{ii}. Is the former smaller than the latter?

Ans(d_{ii}) = No

(36) Strat(1) = $\langle 1, \{ \langle a, \{ \langle a_i, \emptyset \rangle, \langle a_{ii}, \emptyset \rangle \} \rangle, \langle b, \{ \langle b_i, \emptyset \rangle, \langle b_{ii}, \emptyset \rangle \} \rangle, \langle c, \{ \langle c_i, \emptyset \rangle, \langle c_{ii}, \emptyset \rangle \} \rangle, \langle d, \{ \langle d_i, \emptyset \rangle, \langle d_{ii}, \emptyset \rangle \} \rangle \rangle$

The answers to questions b and c indicate that Danai's statement in fact was true before the reference time and is false at the reference time NOW. Besides, they give rise to question d which leads to the division of the set under expectation $\{0, 1, 2\}$ and the set countering expectation $\{3, 4, \dots\}$. The answer to b suggests that the asserted number 3, which represents $p(RT)$, exceeds and entails the expected number 2 present in $\sim p(t')$ by default. *Lεw45* is consequently used by Sunan in order to accomplish her payoff move, that is, to express a counter-expectation.

3.3 The problematic issue concerning context and information structure

(9A) contains the truth conditions '*the sentence is true if and only if there is a person called Danai and he has eaten ten pieces of cake*'. However, it can be interpreted in various ways due to the fact that focus is not overtly marked and thus can be assigned to any eligible element. The fixed location of *Lεw45* does not give any clue about the location of focus as intended by the speaker. Suppose there are two possible contexts which are compatible with the semantics of *Lεw45* and in which (9Bi) and (9Bii) are felicitous as given in (37):

(37) i) Danai eats less than 9 pieces of cake.

ii) Thani and Sutha eat more than 9 pieces of cake. Danai and Sunan eat less than 9 pieces.

The above contexts indicate two different foci and thus lead to two different variables as shown in (38).

(38) i) For the context in (37i):
Danai eats **less than 10** pieces of cake
Danai eats **x** pieces of cake

ii) For the context in (37ii):
Thani and Sutha eat more than 9 pieces of cake
x eats more than 9 pieces of cake

The interpretation processes of *Lεw45*'s counter-expectations under the two contexts above are carried out as follows. The context in (37i) hints that in the common ground of both interlocutors there exists the information on the number of cake that Danai normally eats. The number indicated in (37i) represents the expected number. It induces the division of the set under expectation $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ and the set countering expectation $\{10, 11, 12, \dots\}$. After obtaining the new knowledge that this time Danai has eaten 10 pieces of cake, the speaker of (9A), guided by the common ground knowledge, is aware that the focus of (9A) must be assigned on the number of pieces of cake that Danai has eaten. Before uttering (9A) she has to verify the newly obtained information with the assistance from the question stack in (41). Note again that though the subquestions in this case actually involve more than two alternatives, only two alternatives are addressed.

- (41) 1. Is it the case that Danai normally eats less than 10 pieces of cake?
- a. What kind of dessert does Danai normally eat?
 - a_i. Does Danai normally eat cakes?
Ans(a_i) = Yes
 - a_{ii}. Does Danai normally eat fruit jelly?
Ans(a_{ii}) = No
 - b. How many pieces of cake does Danai normally eat?
 - b_i. Does Danai normally eat 9 pieces of cake?
Ans(b_i) = Yes
 - b_{ii}. Does Danai normally eat 10 pieces of cake?
Ans(b_{ii}) = No
 - c. How many pieces of cake has Danai eaten this time?

- c_i. Has Danai eaten 9 pieces of cake?
Ans(c_i) = No
- c_{ii}. Has Danai eaten 10 pieces of cake?
Ans(c_{ii}) = Yes
- d. What is the relation between the number of cake Danai normally eats and the number of cake he has eaten this time?
 - d_i. Is the latter greater than the former?
Ans(d_i) = Yes
 - d_{ii}. Is the latter smaller than the former?
Ans(d_{ii}) = No

The new knowledge which suggests that Danai has eaten 10 pieces of cake provides answers to questions a and c. Danai does not eat less than 10 pieces of cake this time. The answer *10 pieces* to the question in c is then compared with the answer to b which represents the expected number. The answer to d suggests that the number asserted in (9A) is greater than the expected number. This contrast motivates the use of *leew45* in order to express a counter-expectation.

Regarding the interpretation process, the common ground information concerning the number of pieces of cake that Danai normally eats also facilitates the interpretation of *leew45*'s counter-expectation. Like in the production process, it directs the addressee to the question stack in (41) and enables her to identify the focus of (9A). At this stage the addressee recognises the association of the number of cake with *leew45* which suggests a counter-expectation. As (9Bi) shows, the addressee holds the same expectation concerning the number of cake that Danai normally eats. Moreover, she realises that the number of cake that Danai has eaten this time counters her expectation. Therefore, she expresses her surprise.

Regarding the context in (37ii), both interlocutors share the common ground information about the people who normally eat more than 9 pieces of cake and the people who normally eat less than 9 pieces of cake. They acknowledge that Thani and Sutha normally eat more than 9 pieces of cake while Danai and Thida normally eat less than 9 pieces of cake. Both of the

interlocutors, or at least one of them, holds the expectation that only Thani and Sutha, not Danai and Sunan, will eat more than 9 pieces of cake. According to the common ground information, the people involved can be divided into the set under expectation which contains the people who normally eat more than 9 pieces of cake as shown in (42) and the set countering expectation which has the people who normally eat less than 9 pieces of cake as its members as shown in (43).

(42) {Thani, Sutha}

(43) {Danai, Sunan}

Suppose these four people are at the same cake party, the counter-expectation expressed in (9A) is thus bound to the question stack in (44):

- (44) 1. Is it the case that Danai normally eats more than 9 pieces of cake?
 - a. What kind of dessert does Danai normally eat?
 - a_i. Does Danai normally eat cakes?
Ans(a_i) = Yes
 - a_{ii}. Does Danai normally eat fruit jelly?
Ans(a_{ii}) = No
 - b. Who normally eat more than 9 pieces of cake?
 - b_i. Does Thani normally eat more than 9 pieces of cake?
Ans(b_i) = Yes
 - b_{ii}. Does Danai normally eat more than 9 pieces of cake?
Ans(b_{ii}) = No
 - c. Who has eaten more than 9 pieces of cake this time?
 - c_i. Has Thani eaten more than 9 pieces of cake this time?
Ans(c_i) = No
 - c_{ii}. Has Danai eaten more than 9 pieces of cake this time?
Ans(c_{ii}) = Yes
 - d. What is the relation between the number of cake that Thani has eaten this time and the number of cake that Danai has eaten this time?

- d_i. Is the latter greater than the former?
 Ans(d_i) = Yes
- d_{ii}. Is the latter smaller than the former?
 Ans(d_{ii}) = No

According to the common ground information, Danai is not a member of the set under expectation but of the set countering the expectation. Therefore, the new information which says that Danai has eaten 10 pieces of cake opposes the expectation. That Danai is not the person who normally eats more than 9 pieces of cake, though it was valid previously, is invalid at the reference time. *LeeW45* is thus added to denote the counter-expectation.

As for the interpretation by the addressee, the counter-expectation expressed by the speaker urges her, first of all, to identify the focus. She is able to do so with the help of common ground and context. Realising that *leeW45* in this sentence associates with the focused subject NP *Danai*, she successfully derives the correct interpretation, that is, it is Danai who has eaten 10 pieces of cake, not Thani and Sutha as she previously expected. Surprised with the new information, she uttered (9Bii).

4 Conclusion

Following Robert's (1996, 2012) QUD mechanism, a counter-expectation generated by *leeW45* is expressed in order to achieve the conversational goal, that is, to oppose the expectation regarding the state of the issue under discussion prevailing at the time before the reference time. It asserts that the expectation is no longer valid at the reference time and suggests that the updated information be added to the common ground. The production and interpretation of *leeW45*'s counter-expectations are dependent upon the association of *leeW45* with focus. Even though overt focus marking in Thai is optional, focus identification can be carried out with the help of the QUD technique. The formation of *leeW45*'s counter-expectations is guided by the QUDs which reflect the common ground information while at the same time calling for the set of q-alternatives from which the focused element is selected. The QUDs validate the proposition that presents the expectation drawn

from the state of the issue under discussion before the reference time. Moreover, they inquire for the information about the state of the issue at the reference time and check the relation between the two states. In the cases in which numbers appear, the two processes are also controlled by numeral scalarity which allows only the surplus of the asserted number over the expected number in the forward direction of the scale.

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