PARTICIPANT CONTINUITY IN THAI FICTIONAL NARRATIVE

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Abstract

This paper examines participant continuity in Thai fictional narratives using the quantitative method of referential distance (RD) proposed by Givón (1983, 1995). According to Givón, referential expressions are different in terms of their RD value: average RD of full noun phrases is the highest, that of pronouns lower and that of zero anaphors the lowest. However, the result from this study shows that pronouns and zero pronouns in Thai have equal average RD value while full noun phrases have much higher average RD. Moreover, zero anaphors appear to have longer distance than expected. Considering the distribution of the long distance zero anaphors in different modes of text, we have found that they tend to refer to a character whose thought is presented as self-reflected. In this case, the reader is still able to resolve the referent of the zero anaphor. Therefore, the continuity of character is maintained. We can conclude that zero anaphors are devices for maintaining participant continuity even though the distance between the anaphor and the textual antecedent is quite long. Thus, we argue that features of the deictic center need to be taken into account in the investigation of participant continuity.

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1. Introduction

1.1 Purpose of study

In the linguistic analysis of narratives, participant continuity is an issue that has been widely studied. Many studies focus on the component of narrative discourse that is distinguished by spatiotemporal dimension such that events in a narrative are divided into two major groups or levels such as events/non-events, macrostructures/microstructures, storylines/non-storylines (Grimes 1975; Hopper 1979; van Dijk 1980; Longacre 1983; Burusphat 1991). The part of the text that presents the psychological state of a character is considered not to pertain to the importance of the global structure of a story. However, it is shown by many studies on deixis in narrative, as in the Deictic Center Theory, that events in narrative tend to be presented as experienced by characters and that readers are often invited to experience the narrative world as a character does (Duchan et al 1995; in particular, Zubin & Hewitt 1995; Galbraith 1995; Li & Zubin 1995). Thus, in this approach, the psychological state of a character is taken into account as one of the important components in narratives.

This paper examines participant continuity in Thai narrative discourse, assuming the approach of Deictic Center Theory. Thus, the part of text that presents the psychological state of a character is identified and will be generally called "thought context." In terms of the methodology of participant continuity, this study uses the quantitative method of Referential Distance (henceforth RD) that is proposed by Givón (1983a, 1983b, 1995) to analyze the distribution pattern

of RD of referential devices, including full NPs (e.g. definite NPs, kin terms and names) personal pronouns and zero anaphors. Givón claims that there is a correlation between the phonological size of the referential coding and the degree of continuity of the participants. More specifically, full NPs are less continuous than pronouns while zero anaphors are the highest in terms of the degree of congruity.

The study shows that in the analysis of RD of the overall text, each type of referential device has a different pattern of the distribution of RD. The distribution pattern of full NPs follow Givón's prediction but the RD of zero anaphors shows some unexpected results. Investigating the thought context, we find that the unusual pattern is partly caused by the distribution of referential devices in the thought context.

The paper begins with a review of theoretical concept of narrative structure in a text-based approach and the Deictic Center Theory, and the participant continuity and referential devices. Then, the methodology of RD will be introduced, including the corpus of data that is used in the analysis. After that, the overall result of the distribution pattern of RD will be discussed. Finally, the analytical and quantitative characteristics of referential devices in thought context will be demonstrated.

1.2 Review of literature

1.2.1 Narrative structure: Text-based approach

There have been many studies on the structure of narrative discourse. In this section, I will give a brief introduction to

the theoretical concepts involving narrative structure from the approach that is mainly concerned with the organization of a narrative text (Dane 1970; Grimes 1975; Hopper 1979; van Dijk 1980; Longacre 1983; Halliday and Hassan 1976). A study of Thai narratives in this approach will also be briefly reviewed. Moreover, some disadvantages of using this approach will be discussed.

A narrative in these approaches is considered one type of text that has particular structures that contribute to global coherence. They are primarily concerned with the organization of narrative discourse, the semantic categorization of the text component and the ordering of components. According to Grimes (1975), a narrative can be analyzed into events and non-events which include setting, background, evaluations and collateral. Hopper (1979), primarily using evidence from tense-aspect marking in a discourse, proposed the notion of foregrounding and backgrounding as characteristics of actual story line and supporting material, respectively. van Dijk (1980) posited the hierarchical structure that determines the ordering of the narrative components and general rules for deriving macrostructures from microstructures. In a crime story, for example, some characters are introduced after the component of complication events such that the deletion rule is needed to rearrange the order of background and complication.

Following the text-based approach and Longacre (1983) in particular, Burusphat (1991) has divided a Thai narrative text into storyline and non-storyline events. Storyline is claimed to be the structural backbone of events that moves the text from the beginning to the end. Texts that

contain cohesion, evaluation, irrealis, setting, flashback, cognitive state and background information are considered as non-storyline categories. The distribution of referential devices is also used to determine the storyline. Noting the high frequency of zero anaphors in the backbone of the story, she suggests that the storyline can be partially detected by the occurrence of zero anaphors (Burusphat 1991: 146).

This approach focuses on the system of predicates indicating different types of states of affairs in narratives. However, the experiencer of an event is not taken as part of the system. Thus, the referential devices of participants in nonstoryline events are not accounted for in this model. To illustrate, in her account of zero anaphors, Burusphat recognizes that there are cases in which a text about one character can be interrupted by a thought of that character and continue its storyline events after the thought (Burusphat 1991: 145). The discontinuity of the event structure is accounted for but the understanding about the continuity that such a character has throughout storyline and nonstroyline events is left unexplained.

1.2.2 Deictic Center Theory

This section gives a review of Deictic Center Theory as a frame of reference for this study. Deictic Center Theory (Duchan et al 1995) proposes that deictic features of a speech situation are transferred into the narrative text. In the speech situation, deixis plays an important role in anchoring time, space, participants, and objects in a real-world situation. In narrative texts, these same features are anchored into a story-world event. Being abstract from the real-world situation, the story world is a men-

tal construct of the reader or listener. (Zubin and Hewitt 1995: 130)

There are four components in the deictic center: the WHERE, the WHEN, the WHO, and the WHAT. The WHERE and WHEN refer to the spatio-temporal location in which the story world is constructed to occur. The WHO and WHAT are participants and objects that are placed in the story world. These components are synchronized to establish a deictic center through which the reader or listener views the current story world. In the same manner, we anchor these components to the time of utterance, the spatial location of the event, the speaker and the addressee, and the object that is talked about in the real world situation.

As reviewed above, Deictic Center Theory proposes that fictional narratives import many characteristics from interactional discourse. However, narrative discourse is also different from interactional discourse. Fictional narratives have been shown to have linguistic characteristics that are distinguishable from other types of discourse such as a third-person character, parenthetical non-communicative psychological verbs and reversed verb-object word order (Galbraith 1995: 33). These linguistic devices are used cumulatively to evoke the story world in which readers are invited to observe the event from the psychological perspective of a character. Thus, the psychological perspective represents a deictic field in which a character whose perspective is taken is experiencing narrative events. The character whose perspective is taken is called the origin of perspective and characters or props that are observed in narrative events are called objects of perspective. Figure 1 illustrates a simplified

structure of psychological perspective.

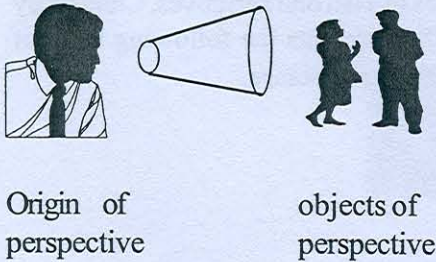Origin of perspective   objects of perspective

Figure 1: Psychological perspective

In the psychological perspective, the thought of a character can be presented in a text in two major ways, internal monologue and private state representation. (Wiebe 1990; Zubin forthcoming).

In a psychological perspective, the stream of thought of a character can be presented in a form almost identical to direct speech, except that it is internal, i.e. not spoken in the story-world. This type of thought context is called internal monologue. The model of the speech interaction is evoked. Sometimes an imaginary addressee is also mentioned: the thought is expressed as if it were a string of speech addressed to a particular addressee. Moreover, since such an internal utterance is understood not to be heard by other characters, it often has epithets or address terms that would not be appropriate to be expressed publicly in the actual social interaction.

Thought in narratives is often found to be in the form of representation. In private state representation, feelings, emotion and thought are expressed from the experiencer, known as the origin of the psychological perspective. The interactional components of speaker and addressee are not fully evoked as in internal monologue, and yet many types of linguistic coding indicating the interac-

tion are used to evoke the presence of the experiencer.

It should be noted that feelings, emotion and the thought process of a character can also be described or summarized from a perspectival vantage outside the character. This type of thought context is called a private state report, or psychonarration.

1.2.3 Participant continuity and referential devices

The continuity of participants, or characters, in a narrative discourse has also been studied extensively. In terms of linguistic analysis, participants are studied from the distribution of the referential devices that are used to refer to them. Many studies focus on the discourse-structural conditions on each type of referential device. (Bolkestein 1985) In reaction to the text-based approach, Givón proposes a model that makes reference to the speaker and listener's mental representation. Givón (1983a) proposed to use quantitative methods to measure the notion of texture or continuity in a text. Assuming the cognitive model of speaker/hearer co-constructivism, Givón operationalized the cognitive notion of accessibility in terms of recency in a text.

Givón argued that grammatical devices can be cross-linguistically ranked in terms of the degree of participant continuity. Among these categories, zero anaphors are the highest in continuity/accessibility while full NPs are the lowest; pronouns fall in between the two devices. The scale as shown in Figure 2 is based on his studies of syntactic coding in narratives from various languages.

more continuous/accessible

zero anaphora
unstressed/bound pronouns or
grammatical agreement
stressed/independent pronoun
full NPs

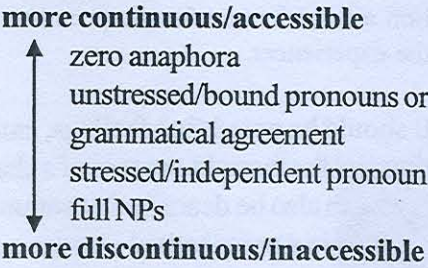**more discontinuous/inaccessible**

Figure 2: Scale of continuity/accessibility
and phonological size of NPs (Givón 1983a)

There are not many studies on referential distance in Thai. In her study on strategies in Thai oral narratives, Chodchoey (1986) presents the following table of referential distance.

Referential Distance	Zero anaphor		Pronoun		Full NP		Total	
1	683	73%	150	16%	100	11%	933	100%
2-4	155	48%	77	24%	89	28%	321	100%
5-10	24	30%	8	10%	48	60%	80	100%
11-20	2	9%	0	0%	21	91%	23	100%
+21	0	0%	0	0%	22	100%	22	100%

Table 1: Distribution of referential choice for maintenance of referents (Chodchoey, 1986: 191)

Chodchoey claims that there are three factors that cause both zero anaphors and pronouns to have a distance up to the range of 11-20: 1) types of intervening clauses, e.g. elaboration clauses, 2) humanness and 3) position in a clause.[2] Note that except for the difference in the number of tokens used in the discourse, zero anaphors and pronouns are not significantly distinct in terms of the distribution pattern of their referential distance.

In summary, this section reviews some previous studies on participant continuity in a narrative discourse. The approach that focuses on segmenting a narrative text into units such as storyline vs. non-storyline considers characters' thought to have less relevance to the structure of discourse. Thus, only the continuity of the participant in the storyline has been seriously investigated. However, in the Deictic Center Theory, a narrative is viewed as presenting the experience of a participant such that in the context involving thought, a participant can continue to be present in the storyworld as an experiencer or origin of psychological perspective but could be absent from the text. In order to understand the participant continuity and referential devices in fictional narratives, this study will apply the quantitative approach of RD to a narrative discourse in which thought

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[2] one problem with this study is that a clause as a unit of measurement is not clearly defined; according to her, "a clause is defined as consisting of a predicate and its associated noun phrases." (Chodchoey 1986:3)

context is recognized such that an experiencer of thought as such is taken into consideration.

2. Methodology and text preparation

This section includes the methodology of measuring referential distance. First, the method of assigning the distance value to each token of referential device is introduced. Then, the method of preparing textual data is discussed. This involves identifying thought context, segmenting a text into clauses as units of measurement and identifying referential devices. It should be noted that it is important that the criteria for identifying the categories that are involved in the measurement be clearly demonstrated in order to ensure consistent results.

2.1 Methodology of referential distance

This method, also known as 'look-back,' has been extensively used to study many kinds of syntactic and semantic phenomena that are involved with pragmatic factors, such as referential choice, syntactic roles, word order, animacy/humanness and voice alternation. (Givón 1983c; Myhill 1992)

The goal of the method is to measure how far one has to look back to find the NP that refers to the same participant as the current one. The clause is used as a unit of measurement. Thus, we count the number of clauses between the two consecutive mentionings of the same referent. The value is assigned according to the number of clauses between the two references. The following rules show the scope of this counting method.

1) No value of 0 is assigned. The smallest value is 1, suggesting that any NPs whose referent is bound within a clause is not counted. Therefore, this excludes bound reflexive pronouns and possessive NPs.

2) The first mention of each character is not counted as having a distance value but is used as an antecedent of the next mention.

3) Direct quotations are not counted as having a distance value. Thus, a referential device that occurs immediately after a direct quotation will skip over the direct quotation, and its mention in a narration text before the quotation is taken as its antecedent.

Givón (1983b: 350) limited the scope of his study by making it clear that only subject participants would be counted and that reference terms inside direct quotation would not be studied. However, this limited scope has shortcomings for Thai data. In the following section, I will illustrate problematic cases and suggest a modification to Givón's methods in this study.

1) Non-subject references: Body part metaphor

One phenomenon that might cause problems with this count is the use of body part terms in Thai. Consider the following example,

[301]
ใจ   ไป   อยู่ ที่ เจ้าแม่มะขาม
jāy pāy jùː thîː jâomǽːmakhǎːm
heart go live at Makham Guardian
เสีย   แล้ว
sǐa   lǽːw
CMP   already (CMP = Completive)

'(Her) Heart has gone out to be with the Makham Guardian already.' (or, She is now preoccupied by the thought of the Makham Guardian.)

The data in [301][3] shows the use of the body part term 'heart' which is used metaphorically to mean 'attention'. This sentence follows [299] which reads 'Now Son forgets all about finding her husband.' We can infer that that the metaphorical expression in [301] refers to Son's attention. In order to understand sentence [301], we need to be able to identify whose attention is being talked about. Note that the sentence is still grammatical if we put an overt form of referential device after the head noun 'heart'. There are more than 40 sentences of this type in each novel. Therefore, in this study, I consider the referential device used with body part terms as a part of the referential continuity that needs to be counted as well.

2) Direct quotations

From the data we find some definite NPs that refer to a character as 'a person who spoke' or 'a person who listened'. In order to be able to identify the participant to which the NP refers, we need to look back inside the direct quotation. Consider the following data[4]:

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[3] when the data is original excerpts from the corpus, the number corresponding to the ID number in the database is used, and it is marked by square brackets.

[4] The referential device that is used in the Thai text is given in curly brackets after the English translation; N stands for full NP, P for pronoun and Z for zero anaphors. The referent is given after the colon in the curly bracket. For example, {Z:ON} reads as the referential expression is a zero anaphor in Thai and refers to the character ON, or Oranop.

{Data from the novel LNC; Characters: Paan (PN), Son (SN), Sangworn (SW)}

[206]

ฉัน	ไม่	ได้	ตาม	ดู
tɕhăn	mây	dây	taːm	duː
1st	NEG	REA	follow	look

พี่	วอน	มัน	นี่
phîː	wɔːn	man	nîː
brother	Worn	3rd	PRT

"I am not up to keeping track of him."
(REA=Realis marker; RT=Particle)

[207]

ตอบ	คำถาม	เมีย	เพื่อน
tɔ̀ːp	khamthăːm	mia	phɯ̂an
answer	question	wife	friend

∅	แล้ว
	lǽːw
Z	already

'After answering his {Z:PN} friend's {N:SW} wife's {N:SN} question,'

[208]

เจ้า	ปาน	ก็	หัน	ไป	โกหก
tɕâw	paːn	kɔ̂ː	hăn	pay	koːhòk
Cao	Paan	PRT	turn	go	lie

หน้าตาย	กับ	เจ้านี้	ทั้งหลาย
nâː-taːy	kàp	tɕâːwnîː	tháŋlăːy
face-die	with	creditor	all

'Cao Paan {N:PN, turned to lie with a straight face to all those creditors'

[213]

คราวนี้	เจ้า	ปาน	จึง	ต้อง
khraːwníː	tɕâw	paːn	tɕɯŋ	tɔ̂ŋ
this time	Cao	Paan	thus	must

ตอบแย	กับ	สน	ต่อไป	อีก	ระลอก
tɔ̀ːyǽː	kàp	sŏn	tɔ̀ːpay	ʔìːk	ralɔ̀ːk
annoy	with	Son	longer	again	time

'Now Cao Paan {N:PN} had to deal with Son {N:SN} one more time.'

[214]

ชั้น　　รู้

tɕhán　rúː

1st　know

"I know."

[215]

คน　พูด　นุ่ง　กางเกง

khon　phûːt　nûŋ　kaːŋkeːŋ

person speak wear　pants

เข้าสมัย　　　เปี๊ยบ

khâw-samǎy　píap

fashionable　very

'The speaker {N:SN} wears pants that are so fashionable.'

[206] "I am not up to keeping track of him."

[207] After answering his {Z:PN} friend's {N:SW} wife's {N:SN} question, [208] Cao Paan {N:PN}, turned to lie with a straight face to all those creditors

[213] Now Cao Paan {N:PN} had to deal with Son {N:SN} one more time

[214] "I know."

[215] The speaker {N:SN} wears pants that are so fashionable.

Notice that the definite NP 'the speaker' in [215] refers to the participant who spoke [214]. Note that the 1st person pronoun in [214] is chán with a high tone, as an alternate of chăn with a rising tone. This form identifies Son as the speaker. The form of the first person pronoun used in [214] gives the information that identifies Son as the speaker who is referred to in [215]. It is not possible to identify the referent of the defi-

nite NP 'the speaker' from the previous mention in the narration text in [213]. Therefore, even though direct quotes are not counted in this study, in some cases information inside direct quotations are important to the identification of the referent.

2.2 Analytical categories

This section illustrates 1) types of thought context, 2) the syntactic definition of clause, and 3) types of referential expressions in Thai.

2.2.1 Identifying thought context

By thought context, I mean a cluster of clausal units that present thoughts, perceptions, knowledge, intentions, goals and other psychological attributes.[5] This section demonstrates characteristics of three major types of thought context, private state report, internal monologue and private state representation.

1) Private state report

The context that is a private state report presents feelings, emotion and the cognitive process of a character in the form of summary or description. The character whose private state is reported tends to be explicitly coded as an NP argument of a predicate of private state. The emotion is often lexicalized as a verbal element.

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[5] This type of context is called subjectives sentences in Bruder & Wiebe (1995). It is problematic in Thai to define sentences and this analysis requires well defined units. To aviod this confusion about sentences, this study will use the broad term of context instead of sentences.

[1093.2]

นาง   แอบ   คิด   อย่าง   หงุดหงิด

[KMS]

naːŋ   æːp   khít   yàːŋ   ŋùtŋìt

Naang   Aeb   think   LM   be annoyed

(LM = Linkage marker)

'Naang Aeb was thinking, being annoyed.'

Sentence [1093.2] shows the summary of the emotional state of *Aeb*. The experiencer, *Aeb*, is coded as a subject argument of psych-action predicate 'think.' Her emotional state, 'being annoyed,' is summarized in the modifying position.

2) Internal monologue

Internal monologue presents a stream of thought in the form of direct speech that it is spoken internally or privately. Therefore, we sometimes find it orthographically marked with a single quotation marker as '…'. However, this convention is not consistent; we often find a short internal monologue pops up among other forms of thought without orthographic marking. The following example shows the internal monologue[6] formally presented with single quotation marks, starting at [231][7]:

{Data from LNC; Characters: Paan (PN), Son (SN), Sangworn or Worn (SW)}

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[6] More precisely, this examples shows "internal dialogue," an internal monologue form structured with a specific addressee in mind.
[7] Note that clause [230] is a private state report which is often used to introduce thought representation and internal monologue. (Weibe 1990)

[230]

แต่   ใจ   จริง   ทั้ง   ทุเรศ

tæː   tɕay   tɕiŋ   tháŋ   thúʔrêːt

but   heart   true   both   disgust

เวทนา

wêːtthanaː

pity

'Naang Aeb was thinking, being annoyed.'

[231]

อี   สน   เอ๊ย   นอน   รอ

ʔiiː   sŏn   ʔə́ːy   nɔːn   rɔː

Eey   Son   VOC   lie down   wait

ผัว   อยู่   ที่   บ้าน   เหมาะ

phŭa   yùː   thîː   bâːn   mɔ́ʔ

husband   stay   at   house   fit

ดี   แล้ว

diː   lǽw

good   already

{VOC=Vocative particle}

'Eey Son, you lie down, waiting for your husband; that's better.'

[231.2]

พรุ่งนี้   ไอ้   วอน   มัน   ก็

phrûŋníː   ʔây   wɔːn   man   kɔ̂ː

tomorrow   Ay   Worn   3rd   PRT

กลับ   เอง   แหละ

klàp   ʔeːŋ   læ̀ʔ

return   by oneself   PRT

'Tomorrow, Aye Worn is gonna be back home; no doubt about it.'

[230] But in his {Z:PN} true mind he {Z:PN} felt disgusted with and pitied her. [231] 'Eey Son, you lie down, waiting for your husband; that's better. [231.2] Tomorrow, Aye Worn is gonna be back home; no doubt about it.'

The data [231] - [231.2] shows the internal monologue presented inside single quotation marks. They exhibit linguistic

properties of actual speech but violate social norms if they are externally spoken. We can see that inside the quotation marks the vocative form Eey Son is used as an address form, evoking a speech situation. However, the title Eey is derogatory, and that the content of such thoughts as 'lie down, waiting for your husband' is socially restricted and is not acceptable to be addressed publicly to either the addressee herself or other people. Thus, besides the single quotation mark, linguistic forms and social context mark this segment as internal speech, not actual speech.

3) Private state representation

Thoughts can be presented in the form of representation, i.e. the narrative events are presented from the psychological perspective of the experiencer, or the origin of perspective. The origin of perspective tends to be suppressed in the text unless he/she is an object of her own psychological perspective. Private state representation shares substantial properties with internal monologue but exhibits linguistic modification of the subjective character and other deictic and interactional elements. The following data illustrates this type of thought context.

{Data from LNC; Characters: Son (SN)}

[1257]

แค่   ที่   ได้ยิน
khɛ̂ː thîː ø dâyyin
only REL Z hear
'Just only from what she {Z:SN} heard,'

[1257.2]

        ก็   ดีใจ
O   kɔ̂ː   diːtɕay
Z   PRT   be glad
'she {Z:SN} is so glad'

[1258]

จน   เนื้อ   เต้น
tɕon   núa   ø   tên
until flesh   Z   dance
'that her {Z:SN} flesh is dancing.'

[1259]

พรุ่งนี้   หล่อน จะ   รวม   เงิน
phrûŋníː lɔ̀n tɕàʔ ruam ŋɤn
tomorrow 3rdF IRR gather money
ทั้งหมด   ไป   แทง   หวย
tháŋmòt pay thɛːŋ hǔay
all   go   play   illegal lotto
'Tomorrow, she {P:SN} will bring all the money to buy lotto.'

[1260]

คราวนี้   จะ   รวย   ทับ
khraːwníː ø tɕàʔ ruay tháp
this time Z IRR rich overlie
ซ้ำสอง   เข้าไป   อีก   นะ
sámsɔːŋ khâw-pay ʔîːk nâʔ
double go in   more PRT
ไม่ว่า
mâywâː
PRT
'This time, she {Z:SN} will be even richer.' {IRR=Irrealis}

[1257] Just only from what she {Z:SN} heard, [1257.2] she {Z:SN} is so glad [1258] that her {Z:SN} flesh is dancing. [1259] Tomorrow, she {P:SN} will bring all the money to buy illegal lotto. [1260] This time, she {Z:SN} will be even richer.

[1257] - [1260] show the private state representation of Son. They are about her feelings and thoughts about plans and speculation about her future. In this context the third person, feminine pronoun lòn is used in [1259] instead of the first person pronoun, thus an internal speech situation is not evoked. However, in [1260] there is an interactional particle that is usually used in actual conversation. To illustrate,

[1260]

คราวนี้	จะ	รวย	ทับ
khraːwníː ø	tɕàʔ	ruay	tháp
this time Z	IRR	rich	overlie

ซ้ำสอง	เข้าไป	อีก	นะ
sámsɔ̌ːŋ	khâw-pay	ʔìːk	nâʔ
double	go in	more	PRT

ไม่ว่า
mâywâː
PRT

'This time, she {Z} will be even much richer (than anybody might have thought).'

The data above shows the occurrence of the interactional particles náʔ and mâywâː. In conversation, these particles are used to indicate the speaker's strong belief that contrasts with the addressee's belief.[8]

2.2.2 Identifying a clause

According to Givón (1983), a clause is taken as an objective unit to be measured for distance between two mentionings of the participant. There-

fore, in order to segment a text into valid units in a consistent way, we need explicit criteria that are also general enough to be used with problematic cases of complex construction. This study proposes to use the approach to complex constructions in Role and Reference Grammar (henceforth RRG) to define a clause (Van Valin & LaPolla 1997). It has been shown in Rangkupan (1997) that as a language that extensively uses serial verb constructions, Thai exhibits various types of complex constructions in which one form can be used to mark different types of complex units. RRG recognizes a layered structure of complex constructions and the relation between units in such a way that it is able to account for both semantic and syntactic relations of these complex constructions.

According to RRG, complex sentences contain a layered structure of subclausal units, called a juncture. There are three kinds of junctures, that is, nuclear, core and clause. In general, two major differences between these juncture types lie in their properties of argument taking and the scope of modifiers. A major characteristic of a nuclear juncture is the argument pooling. That is, the two verbs in the juncture act as if they are a single predicate, so that they pool all their arguments together as a single set. In core junctures, the two cores share at least one argument; and, such modifiers as modals may be allowed to have independent scope over a particular core. In clausal juncture, however, each clause is independent of the others, with respect to the argument realization, so that arguments of the clauses are not structurally shared. Rather, any missing arguments are subject to pragmatic conditions of anaphor.

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[8] Patcharin Peyasantiwong, 1981, "A study of final particles in conversational Thai," Ph. D. dissertation, University of Michigan, p. 113.

In Thai, there are two properties that differentiate juncture types, namely, the realization of arguments and the occurrence of adverbs. The realization of arguments in a non-matrix subclausal unit is an important property for distinguishing types of juncture in Thai. In nuclear and core junctures arguments that are shared by the non-matrix predicate are obligatorily omitted while in a clausal juncture the arguments are optionally omitted. The former type of the missing argument is called a linking zero while the latter is called an anaphoric zero. We will first consider the following set of examples:

(1)

นวล ผลัก โต๊ะ ตัว นั้น
nuan phlàk tóʔ tua nán
Nuan push table CL DEM
ล้ม
lóm
fall down
'Nuan pushed that table down.'

(2)

นวล ผลัก โต๊ะ ตัว นั้น จน
nuan phlàk tóʔ tua nàn tɕon
Nuan push table CL DEM until
ล้ม
lóm
fall down
(a) 'Nuan pushed that table until it fell down.'
(b) 'Nuan pushed that table until she fell down.'

There are two predicates in each of the above sentences, that is, phlàk 'push' and lóm 'fall down' and two NPs, that is, 'Nuan' and 'that table'. Sentence (1) is a juxtaposition of the two predicates without any markers or conjunctions, while sentence (2) has a conjunction

tɕon 'until' between the two predicates. Semantically, sentences (1) and (2) are very similar in terms of the description of a state of affairs. Both involve the action of 'pushing a table' indicated in the first predicate; and, the action brings about an event of 'falling down'. Note that when the two predicates are linked by a conjunction, a context-free sentence like (2) could be ambiguous. To illustrate, the participant who undergoes the event of 'falling down' could be either of the participants in the first predicate, that is, 'Nuan' or 'that table', whereas in (1) the only possible interpretation is that it is the 'table' that undergoes the event of 'falling down'.

The above semantic interpretation of the state of affairs and its participants shows the possibility for an argument to occur in the position before a verb in the second predicate, including in the form of zero anaphor. Based on the sentences above, we apply a test for the acceptability of argument realization in the construction, as follows:

(3)

*นวล ผลัก โต๊ะ ตัว นั้น
*nuan phlàk tóʔ tua nán
Nuan push table CL DEM
มัน ล้ม
man lóm
3rd fall down
'Nuan pushed that table down.'

The unacceptable sentence in (3) shows that the realization of an NP as an argument for the second predicate is not possible. A well-formed sentence for this type of construction requires the second predicate to share its argument with the preceding predicate.

Now we apply the same test to the sentence (2), in which there is a conjunction before the second predicate.

(4)

นวล	ผลัก	โต๊ะ	ตัว	นั้น	จน
nuan	phlàk	tóʔ	tua	nán	tɕon
Nuan	push	table	CL	DEM	until

มัน	ล้ม
man	lóm
3rd	fall down

'Nuan pushed that table until it fell down.'

(5)

นวล	ผลัก	โต๊ะ	ตัว	นั้น	จน
nuan	phlàk	tòʔ	tua	nán	tɕon
Nuan	push	table	CL	DEM	until

ตัวเอง	ล้ม
tuaʔeːŋ	lóm
self	fall down

'Nuan pushed that table until she fell down herself.'

In these two sentences, the argument of the second predicate is overtly realized as man 'it' and tuaʔeːŋ 'herself' respectively, and yet the sentences are grammatical. Thus, the non-matrix unit marked with the conjunction tɕon 'until' is a candidate for a clause.

Another test is needed to confirm the result and make sure that the omission of argument is not due to other pragmatic incompatibility. According to Rangkupan (1997), the occurrence and position of post-verbal adverbs vary among juncture types. In a core juncture, adverbs that modify only the verb in the matrix core must occur at the end of the clause, that is, they are not allowed to occur between the two cores. In a clausal juncture, adverbs that modify the matrix clause must occur at the end of that clause. In a nuclear juncture, adverbs are not allowed to modify only the verb in the matrix nucleus. To illustrate,

(6)

นวล	ทุบ	แก้ว	ใบ	นั้น
nuan	thúp	kɛ̂ːw	bay	nán
Nuan	hit	glass	CL	that

แรง ๆ	จน	แตก
rɛɛŋrɛŋ	tɕon	tɛ̀ːk
hard	until	be broken

'Nuan hit that glass quite hard until it was broken.'

(7)

*นวล	ทุบ	แก้ว	ใบ	นั้น	จน
*nuan	thúp	kɛ̂ːw	bay	nán	tɕon
Nuan	hit	glass	CL	that	until

แตก	แรง ๆ
tɛ̀ːk	rɛɛŋrɛŋ
be broken	hard

The above data show that an adverb rɛɛŋrɛŋ 'quite hard,' which modifies the activity verb thúp 'hit' must occur at the end of the 'hit' predicate; it cannot occur at the end of the other predicate. Thus, a complex unit marked with the conjunction tɕon 'until' is a clause.

To sum up, in order to determine if a unit in a complex construction is a clause we perform these two tests, namely, the realization of arguments and the occurrence of adverbs between two units. Clauses do not have obligatorily shared arguments and require that a postverbal adverb, if any, occur at the end of the clause which contains the verb it modifies. Core junctures have obligatorily shared arguments and allow a matrix verb to be independently modified by a postverbal adverb but require that the adverb occur at the end of the juncture.

Nuclear junctures have pooled arguments and do not allow a matrix verb to be independently modified by a post-verbal adverb. The defining properties of each juncture type in Thai are summarized below:

Juncture types	Shared arguments	Position of adverbs modifying the matrix unit
Nuclear	Required	Not applied
Core Juncture	Required	At the end of the non-matrix core
Clausal juncture	Not required	At the end of matrix clause

2.2.3 Defining referential devices

Referential devices that will be included in this study are divided into three major groups: full NPs, pronouns and zero anaphors.

2.2.3.1 Full NPs

The category of full NPs includes proper names, with or without titles, and noun phrases indicating kinship relations and a definite description of a participant.

The following examples show types of full NPs that are used to refer to the character Sangworn in the novel LNC:

1) Proper names
First name: Sangworn
Nickname: Worn

Title + Nickname: Cao Worn, Aye Worn (showing familiarity)

2) Kinship or relationship terms
phǔa 'husband'
phûan 'friend'

3) Definite description
khon phûːt 'the speaker'

2.2.3.2 Pronouns

The system of reference terms in Thai is socio-culturally complex. They are differentiated in terms of person, sex, marital status, age, socio-economic class, profession, kin or pseudo-kin relations, intimacy levels, etc. (Palakornkul 1972; Truwichien 1986) The following table shows the third person pronouns that are used in the novel KMS:

Reference terms	Semantic components	Character
lɔ̀n	'female, marital status neutral, not old'	Oranop, Uea
naːŋ	'female, married, age neutral'	Uea, Aeb
khǎw	'male, marital status neutral, not old'	Boonsong
kæː	'sex neutral, marital status neutral, old'	Aeb, Pao

Table 2: Third person pronouns used in the novel KMS

We can see that three out of five characters are referred to by two pronominal forms. For example, in some contexts Aeb is referred to as kæː, reflecting her age, and in the other as naːŋ, reflecting her sex and marital status.

2.2.3.3 Zero anaphors

A zero anaphor is defined as an argument that is omitted from a clause by pragmatic condition. This section shows the occurrence of zero anaphors in Thai clauses, of which definition is given in Section 2.2.2. It also illustrates the type of omitted arguments that will not be counted as zero anaphors.

The following are examples of zero anaphors in subject, object and oblique positions. Possessive zeroes are found with kin terms and body part terms as described above in section

1) Subject and object position

The data in [560] illustrate the occurrence of zero anaphors both in the subject and object positions[9] ; the clause in [559] is added to provide a context that has their antecedents.

[559]   Naay Boonsongi {N} then walked and stopped behind Oranopj {P}'

[560]
และ   เรียก   เบา ๆ
læʔ ø rîak ø baobao
and Zi call Zj softly
'and hei {Z} called herj {Z} softly.'

Both subject and object arguments in clause [560] are zero anaphors, referring to *Boonsong* and *Oranop* respectively.

2) Oblique position

Clause [605] shows the occurrence of a zero anaphor in an oblique position; clause [604] in the matrix clause the antecedent of the zero anaphor can be found.

[604]   Then Oranop {P} went to get the bag containing the shirt,

[605]
ที่   นาย   บุญส่ง   ซื้อ   มา
thîː naay bunsòŋ súːí maː
REL Naay Boonsong buy LM
ฝาก
fàːk ø
give Oranop
'that Naay Boonsong bought for her.'

Sentence [605] shows the occurrence of a zero anaphor in an oblique position. The verb fàːk 'give' occurs after a predicate 'buy,' adding a slot for an oblique argument with a role of a recipient. Note that clause [605] is still grammatical even if an overt form of pronoun is used.

It should be noted here that there is another type of missing argument in Thai, i.e. linking zero. A linking zero is not an entity but an absence of arguments for yielding types of relationship among units in a complex construction. Thus, a linking zero is syntactically governed and is one of the defining properties of many types of serial verb constructions in Thai. The following illustrates the occurrence of a linking zero.

---

[9] The canonical position for subject and object NPs is used for placing zeroes in the string.

[651]

หล่อน จะ เดิน ออก ไป
lɔ̀n   tçà? dəːn ?ɔ̀ːk pay
3rd F IRR walk exit LM

ขอยืม   หนังสือเริงรมย์   และ
khɔ̌ːyɯːm nǎŋsɯ̌ːrəːŋrom lɛ́?
borrow   entertaining book and

นิตยสาร   มา   อ่าน
nítayasǎːn maː ?àːn
magazine LM read

'She would go out to borrow entertaining books and magazines to read.'

There are three predicates in clause [651], 'walk,' 'borrow,' and 'read.' They are linked by the markers pay 'go,' and maː 'come,' directional words that function as purposive markers. All the three predicates share the same subject argument, lɔ̀n 'she.' Using the same test proposed in section 2.2.2, we find that the actor argument of each non-matrix unit cannot be realized. We conclude that these gaps are obligatory to yield this type of purposive construction. Since they are not missing elements that are conditioned by pragmatic principles, we do not consider them as zero anaphors, and, thus, they are not units of the RD measurement.

To sum up this section describes how the distance is assigned and how a text is prepared for the distance assignment. In the next sections the results of this measurement will be presented and discussed.

3. Overall results

This section presents the overall results from the measurement of the distance of each referential device from both novels. Then two major aspects of the quantitative data, frequency distribution

and the average distance, will be discussed. The data used in this paper are excerpts from two Thai novels: Lan Nok Caak (LNC) and Koet Maa Suay (KMS). There are 11,967 words in LNC and 8,676 words in KMS.

3.1 Frequency distribution

The following table shows the distribution of referential distance within each category of referential device.

Referential distance[9]	Full NP			Pronoun			Zero anaphor		
	Tokens	TUD[10]	Percent[11]	Tokens	TUD	Percent	Tokens	TUD	Percent
1	166	166	34%	171	171	69%	414	414	85%
2	102	102	21%	60	60	24%	48	48	10%
3	63	63	13%	10	10	4%	13	13	3%
4-5	63	31.5	6%	7	3.5	1%	7	3.5	1%
6-7	22	11	2%	1	0.5	<1%	4	2	<1%
8-10	23	7.7	2%	0	0	0%	2	0.7	<<1%
11-20	30	3	<1%	0	0	0%	0	0	0%
21-200	25	0.14	<<<1%	0	0	0%	0	0	0%
Total of tokens	494			249			488		

Table 3: Distribution of Referential Distance within each category of referential device

From Table 3 the data show that in general the distance values of all devices densely cluster within the range of 1 to 3 clauses.[13] We can see that most antecedents are in the immediately preceding clause (34% for full NP[14], 69% for pronoun and 85% for zero anaphor). The data also show that pronouns and zero anaphors are distributed across distance in a very similar way, and that they are distinct from full NPs. That is, the occurrence of full NPs spreads extensively through the range of 200 clauses but pronouns and zero anaphors occur within a much shorter range of 10 clauses of antecedent. Pronouns and zero anaphors are different in that the percentage of pronouns occurring at the distance of 2 is much higher than that of zero anaphor, 24% and 10% respectively, and that zero anaphors occur at a longer distance than pronouns, that is, up to 8-10 clauses. To illustrate, their distribution is plotted in a graph below.

[10] In the topic continuity literature there are a variety of ways to set up the referential distance scale. The point is that referential distance is not linear. The differences in the 1-3 range are more important than in the 4-10 range, and these are more important than in the 11-20 range, and so on. A technical solution for this problem would be to use a log scale for the RD. For ease of interpretation I have used a measure analogous to this in Table 4 and elsewhere.

[11] TUD, or Tokens per Unit Distance, is equal to the number of tokens divided by the clause range. For example, 6 rows down there are 23 tokens divided by 3 clause distances in the clause range (8, 9, 10), giving an average of 7.7 tokens per unit distance.

[12] Based on the TUD over the total of tokens.

[13] This cut-off point corresponds to a revised version of Givón's RD methodology (1995). In this version, only three values are assigned, the value 1 to the gap of one clause, 2/3 to that of two or three clauses and >3 to an item with the distance greater than 3 clauses. However, this study uses the cut-off point only for data presentation. It is not useful to collapse the data in the range of over 3 clauses into one category since it obscures the presence of longer distance zero anaphors and pronouns.

[14] Most of the full NP tokens that have RD value of 1 clause are those which follow direct quotes, marking participants in an interactional unit. From the novel LNC alone, there are 21 out of 23 full subject NPs that are of this type.
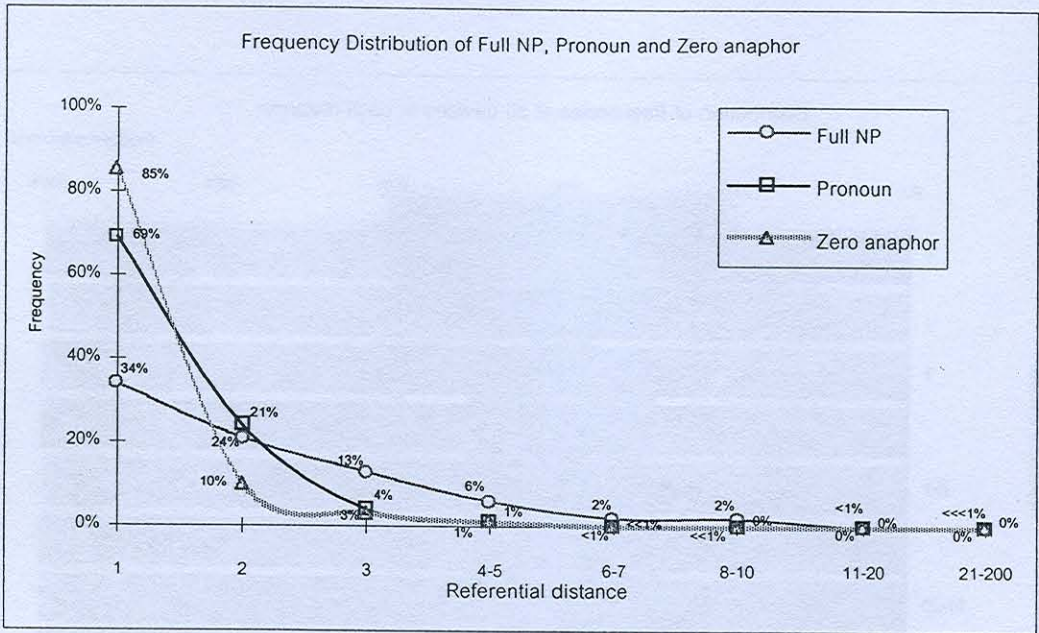
Figure 3: Frequency distribution of full NPs, pronouns and zero anaphors

Among the three devices in Figure 3, full NPs are clearly distinct from pronouns and zero anaphors: the curve starts much lower than the other two categories but tapers off smoothly towards the end of the range. On the other hand, pronouns and zero anaphors start very high at the distance of 1 and drop sharply to the next category. The zero anaphor is different from the pronoun in that it is much steeper, as expected, but surprisingly spreads through a longer range.

In order to illuminate the distribution pattern for the referential choice, the frequencies of each type of referential device at each distance unit will be compared. Table 4 shows the percentage of the frequencies of full NP, pronoun and zero anaphor in each row. The data is also presented in a bar graph as shown in Figure 4.

Referential Distance	Full NP		Pronoun		Zero anaphor		Total	
	TUD	Percent	TUD	Percent	TUD	percent	TUD	percent
1	166	22%	171	23%	414	55%	751	100%
2	102	49%	60	28%	48	23%	210	100%
3	63	73%	10	12%	13	15%	86	100%
4-5	31.5	82%	3.5	9%	3.5	9%	38.5	100%
6-7	11	81%	0.5	4%	2	15%	13.5	100%
8-10	7.7	92%	0	0%	0.7	8%	8.4	100%
11-20	3	100%	0	0%	0	0%	3	100%
21-200	0.14	100%	0	0%	0	0%	0.14	100%
Total of TUD	384.34	40%	245	20%	481..2	40%	1110.54	100%

Table 4: Distribution of frequencies of full NP, pronoun and zero anaphor
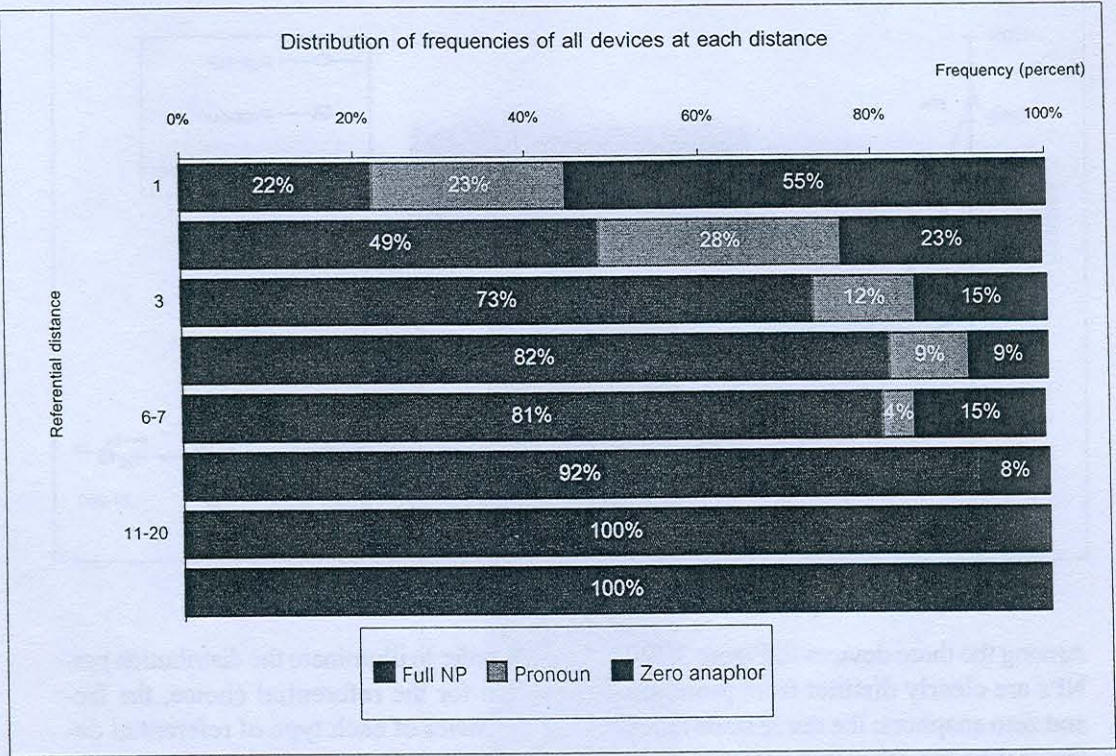
Figure 4: Distribution of frequencies of full NPs, pronouns and zero anaphors

Figure 4 shows zero anaphors are distinctly dominant at the distance of 1 clause. At the distance of 2, pronouns and zero anaphors together dominate the choice, but among the three devices, full NPs are unexpectedly dominant. From the range of 3 up to 200 clauses full NPs distinctly dominate over pronominals. At the range of 2 to 5 clauses, pronouns and zero anaphors share approximately equal space in each distance unit. However, from 6 to 10 clauses, zero anaphors take up the part of pronominals. Thus, it is clear that at a greater distance zero anaphors are preferred to pronouns.

3.2 Average referential distance

To calculate the average value of the referential distance, we multiply the number of tokens by its distance value, and we sum up the results and divide them by the total number of tokens. The result is shown below:

	Full NP	Pronoun	Zero anaphor
Referential Distance	6.8	1.3	1.3

Table 5: Average distance of each type of referential device

From the result of average referential distance above, full NPs show a sharp distinction from the other two types of reference. However, pronouns and zero anaphors have equal average referential distance.

In conclusion, the data analysis using Gívən's methodology of referential distance (1983) shows that full NPs have a distinctive behavior in a text. That is, they tend to be used at greater distance than pronouns and zero anaphors; pronouns and zero anaphors tend to occur within the range of 1 to 2 clauses. However, this measurement fails to establish the clear distinction between pronouns and zero anaphors in Thai. On the contrary, the data analysis shows a lot of similarities between them. Firstly, most of their occurrences are within a gap of one clause. Secondly, they are also equally chosen when the gap is two clauses and sporadically used through the text within the range of 3 to 5 clauses. Thirdly, the value of their distance is almost the same. Nevertheless, at the range of more than 5 clauses, zero anaphors are dominant.

4. Referential devices in the thought context

Zero anaphors that diverge from standard RD findings in Thai are often in contexts that are coded from the psychological perspective of a character. Full NPs and pronouns also show uncharacteristic distribution in this context type. This section will discuss referential devices in a variety of psychological context types. We will first look at the referential coding for the origin and the object of perspective. Then, we will discuss the issue of RD in thought context. The last point involves the chaining of

the referential device that suggests the continuity of the psychological perspective.

4.1 Referential coding of the origin and object of perspective

In the thought context, the origin of perspective tends to get the referential form of a zero anaphor and the object of perspective a full NP. In the following, we first look at the coding of the origin of perspective in the expression of emotion using body part metaphor. Then, we consider the use of kin terms to refer to the relationship between the origin and object of perspective.

4.1.1 Body part metaphor for emotion

Expressions of thoughts and emotions in Thai are often found to be in a metaphorical form using body part terms. That is, the body part that is conceptualized as the location of the emotion is used in a sentence instead of the experiencer. The character whose emotional state is represented is often suppressed. Therefore, a zero anaphor is used to code the experiencer in the possessive position. To illustrate,

[582]

อะไร	อีก	ที่		ยัง
?aray	?ì:k	thî:	ø	yaŋ
what	again	REL	Z	still

เป็นหนี้	อยู่	ร้านเหล้าร้านกาแฟ
pennî:	yù:	rá:nlâwrá:nka:fæ:
owe	CONT	public house

โรงจำนำ	แขกขายผ้า
ro:ŋtçamnam	khæ:kkhă:yphâ:
pawn shop	clothing salesman

'Whom else does he {Z:SW} still owe money to, the public house, the pawn-

shop, the clothing salesman?'

[583]

นั่ง สน ยัง ผ่อน ชุดเสื้อ
naŋ sŏn yaŋ phɔ̀n tɕhútsɯ̂a
Nang Son still pay by installment
shirt
'Nang Son {N:SN} still has to pay the
instalment for the shirts'

[584]

ที่ ซื้อ ใหม่ หมาดๆ
thîː ø sɯ́ː mày màːtmàːt
REL Z buy new newly
'that she {Z:SN} just bought.'

[585]

คิด ไม่ ออก แล้ว ซี
ø khít mây ʔɔ̀ːk lɛ́ːw siː
Z think NEG exit already PRT
'I {Z:SW} can't think of anything else
now.'

[586]

เขา บอก ตัวเอง
khăw bɔ̀ːk tuaʔeːŋ
3rd tell self
'He {P:SW} told himself {P:SW}.'

[587]

สมอง หมุน ติ้ว
samɔːŋ ø mŭn tîw
brain Z spin fast
'His {Z:SW} brain was spinning fast.'

[582] Whom else does he {Z} still owe
money to, the public house, the pawn-
shop, the clothing salesman? [583] Nang
Son {N} still has to pay the installment
for the clothes [584] that she {Z} just
bought. [585] I {Z} can't think of any-
thing else now [586] He {P} told him-
self {P}. [587] His {Z} brain was spin-
ning.

The meaning of [587] is metaphorical.
It expresses the Sangworn's emotional
state of being confused and stunned be-
cause of his preoccupation with the is-
sue. In [587], the body part noun 'brain'
occurs without any overt possessor. That
is, the referent whose brain it [587] re-
fers to is missing. Nevertheless, we can
infer that it refers to Sangworn's brain.
Note that even though it is grammatical
to refer to the possessor with an overt
form, as in [587a & b], the expression
evokes the brain as a physical body part,
and is less compatible with the meta-
phorical reading, as shown below.

(587a)
ʔsamɔːŋ khăw mŭn tîw
brain he spin fast

(587b)
ʔsamɔːŋ sangworn mŭn tîw
brain Sangworn spin fast
'His/Sangworn's brain was spinning
fast.'

4.1.2 Kin relationship

In the thought context, when characters
that are related by kin interact with each
other, they are often referred to by kin
terms, instead of names. In internal
monologue, the origin of perspective al-
ways internally addresses or refers to
other characters that are related to him/
her by kin terms, just like in a speech
situation. In private state report and rep-
resentation, kin terms are also used very
often. Characters who are objects of
perspective get the kin form and the ori-
gin of perspective, as the ego of the re-
lationship, tends to get a zero. That is to
say, the possessor of the relationship is
often suppressed. The following illus-
trates the private state representation in
which kin terms are used to refer to the

object of perspective while the ego gets a zero anaphor, starting from [421]:

{Data from KMS; Characters: Boonsong (BS), Aeb (AB), Arthorn (AT), Uea (UA)}

[420]

นาย บุญส่ง ไม่ ตอบ
na:y bunsoŋ mây tɔ̀:p   ø
Naay Bunsong NEG answer Z
'Naay Boonsong {N:BS} did not answer her {Z:AB}'

[421]

เพราะ เขา ไม่ค่อย สะดุ้ง
phrɔ́ʔ khǎw mâykhɔ̂y sadûŋ
because 3rd hardly be affected
ต่อ วาจา กระแทกกระทั้น
tɔ̀: wa:tɕa: krathɛ̂:k-krathán
with speech be sarcastic
ของ แม่ยาย นัก
khɔŋ mɛ̂:ya:y   ø nák
POSS mother-in-law Z much
'because he {P:BS} did not feel much affected by his {Z:BS} mother-in-law's {N:AB} sarcastic words.'

[422]

ถ้า จะ ว่า
thâ: tɕàʔ wâ: ø
if will criticize Z
'If somebody were to criticize him {Z:BS},'

[423]

ก็ อาจ จะ ถูก
kɔ̂: ʔà:t tɕàʔ thù:k
PRT may will be right
'it might be right.'

[424]

เพราะ เขา ไม่ ชอบ
phrɔ́ʔ khǎw mây tɕhɔ̂:p
because he NEG like
แม่ยาย เสีย
mɛ̂:ya:y   ø sĭa
mother-in-law Z PRT
'That's because he {P:BS} dislike his {Z:BS} mother-in-law {N:AB}'

[424.2]

เสียจนกระทั่ง ไม่ใคร่
tɕonkrathâŋ   ø mâykhrây
until Z hardly
คิด ซื้อ อะไร มา ให้ แก
khít sɯ́: ʔaray ma: hây kɛ:
think buy what come give 3rd
'so much that he {Z:BS} never thinks of buying anything for her {P:AB}.'

[425]

ส่วน เด็กชาย อาทร นั้น
sùan dèktɕha:y ʔa:thɔ:n nán
as for Dekchay Arthorn DEM
เขา ตั้งใจ จะ เปลี่ยน
khǎw tâŋtɕay tɕàʔ plìan
3rd intend IRR exchange
กระเป๋าหนังสือ ให้ ใหม่
krapǎw-nǎŋsɯ̌: hây ø mày
school bag give Z new
'For Dekchaay Artorn {N:AT}, he {P:BS} had planned to buy him {Z:AT} a new school bag.'

[426]

และ จะ มอบ เงิน ให้
lɛ́ʔ ø tɕàʔ mɔ̂:p ŋən hây
and Z IRR give money give
ภรรยา เป็น ผู้ ไป
phanraya: ø pen phû: pay
wife Z be person go

เลือก   ซื้อ
lɯak   súɯː
choose   buy
'And he {Z:BS} will give the money to his {Z:BS} wife {N:UA} to do the shopping.'

[420] Naay Boonsong {N:BS} did not answer her {Z:AB} [421] because he {P:BS} did not feel much affected by his {Z:BS} mother-in-law's {N:AB} sarcastic words. [422] If somebody were to criticize him {Z:BS}, [423] it might be right. [424] That's because he {P:BS} dislikes his {Z:BS} mother-in-law {N:AB} [424.2] so much that he {Z:BS} never thinks of buying anything for her {P:AB}. [425] For Dekchaay Artorn {N:AT}, he {P:BS} had planned to buy him {Z:AT} a new school bag. [426] And he {Z:BS} will give the money to his {Z:BS} wife {N:UA} to do the shopping.

The above example shows the private state representation in which Boonsong is set up as the origin of perspective and, thus, an ego of kin relationship. As objects of perspective, Boonsong's mother-in-law, or Aeb, and Boonsong's wife, or Uea, are referred to by their kin relations. Boonsong himself gets the zero anaphor in the possessive position. Note that in the thought context from [421] to [426], two out of three NPs that refer to Aeb are kin terms; Uea, being referred to one time in this context, gets the form of kin term.

4.2 On referential distance

From section 3, the quantitative result of RD shows the unexpected pattern of long distance zero anaphors and short distance full NPs. Considering the RD of the referential device that is used to

refer to the origin and object of perspective, we find that when the origin of perspective that is suppressed is brought back into the story, it sometimes gets a long distance zero anaphor. We also find that even though it was not the first mention in the thought context, objects of perspective are often referred to by full NPs, causing their RD being relatively short.

4.2.1 Long distance zero anaphors

The following illustrates a long distance zero anaphor that is used to refer to the origin of perspective in [654]. The relevant context that precedes the referential device in question is also given.

{Data from KMS; Characters: Aeb (AB), Oranop (ON), Uea (UA)}

[640]
อรุณพ   รู้สึก   สบายใจ
Ɂɔːranóp rúːsɯ̀k sabaːy-tçay
Oranop   feel   feel good
จาก   นางแอบ
tçàːk naːŋɁæ̀ːp
from   Naang Aeb
'Oranop {N:ON} felt relieved about Naang Aeb {N:AB}'

[641]
แต่   กลับ   มา   เป็นทุกข์
tæ̀ː ø klàp maː pen-thúk
but Z return come be worried
เพราะ   นาง   เอื้อ
phrɔ́Ɂ naːŋ Ɂɯ̂ɯa
because Naang Uea
'but she {Z:ON} has become worried about Naang Uea {N:UA}.'

[642]

เนื่องจาก วันนี้ หลังจาก นาย
nûaŋtçà:k wanní: lǎŋtçà:k na:y
because today after Naay

บุญส่ง ไป แล้ว
bunsòŋ pay lǽ:w
Bunsong go already

'That is because today, after Naay
Boonsong {N:BS} left home,'

[643]

นาง เอื้อ ก็ เข้า ห้อง ทอด
na:ŋ ʔûa kô: khâw hɔ̂:ŋ thɔ̂:t
Naang Uea PRT 3rd room lie

ตัว ลง นอน บน เตียง
tua loŋ nɔ:n bon tiaŋ
body down lie down on bed

'Naang Uea {N:UA} went into the
room, lying down on the bed.'

[644]

นับว่า ผิดปกติ อีก
nápwâ: phìtpòkkatì? ʔì:k
consider be unusual again

เหมือนกัน
mǔankan
likewise

'This is quite unusual'

[645]

เพราะ นาง ไม่เคย นอน แต่
phrɔ́? na:ŋ mây-khə:y nɔ:n tæ̀:
because she never sleep at

เช้า
tçhá:w
morning

'because she {P:UA} never takes a
nap in the morning.'

[646]

ปกติ นาง เอื้อ เป็น คน
pòkkatì? na:ŋ ʔûa pen khon
usually Naang Uea be person

ขยัน
khayǎn
be diligent

'Usually Naang Uea {N:UA} is a
diligent person.'

[647]

ถึงแม้ จะ มี อรณพ
thǔŋmǽ: ø tçà? mi: ʔɔranóp
although Z IRR have Oranop

มา ช่วย ทำงาน
ma: tçhûay ø thamŋa:n
come help Z work

'Even though she {Z:UA} has Oranop
{N:ON} helping her {Z:UA} with
housework'

[648]

หล่อน ก็ จะ หาเรื่อง รื้อ จัด
lɔ̀n kô: tçà? hǎ:-rûaŋ tçàt
3rdF PRT IRR be active tidy

สิ่ง รก ๆ ใน บ้าน
sìŋ rók-rók nay bâ:n
thing messy in house

'she {P:UA} usually tidies things up'

[649]

ให้ ดู เรียบร้อย แก่ สายตา
hây du: rîaprɔ́:y kæ̀: sǎ:yta:
so that look tidy to eye

ขึ้น
khɯ̂n
more

'so that it looks better.'

[650]

...และ ถ้า มี เวลา
...lǽ? thâ: ø mi: we:la:
...and if Z have time

'... and if she has time,'

[651]

หล่อน จะ เดิน ออก ไป
lɔ̀n tɕàʔ dəːn ʔɔ̀ːk pay
3rdF IRR walk exit go
ขอยืม หนังสือเริงรมย์ และ
khɔ̌ːyɯɯm nǎŋsɯ̌ː-rəːŋrom lɛ́ʔ
borrow leisure books and
นิตยสาร มา อ่าน
nitayasǎːn maː ʔàːn
magazine come read
'she {P:UA} goes out to borrow some books and magazines to read.'

[652]
แต่ วันนี้ นาง เอื้อ ซึม
tɛ̀ː wanníː naːŋ ʔɯ̂ia sɯɯm
but today Naang Uea be dull
'But today Naang Uea {N:UA} is quiet and dull'

[653]
เหมือน คน เป็น ไข้
mɯ̌an khon pen khâːy
like person be fever
'like a person who is sick.'

[654]
ซัก ผ้า เสร็จ
ø sák phâː sèt
Z wash clothes finish
'She {Z:ON} finished washing clothes'

[654.2]
ก็ รีด ผ้า เสร็จ
kɔ̂ː ø rîːt phâː sèt
PRT Z iron clothes finish
'and she {Z:ON} finished ironing clothes.'

[655]
กิน ข้าวกลางวัน
ø kin khâːw-klaːŋwan
Z eat lunch
'She {Z:ON} had lunch.'

[656]
และ เตรียมตัว ไป ตลาด
lɛ́ʔ ø triamtua pay talàːt
and Z prepare go market
'and she {Z:ON} got ready to go to the market.'

[657]
ตลอดเวลา นางเอื้อ ยัง
talɔ̀ːtweːlaː naːŋʔɯ̂ia yaŋ
the whole time Naang Uea still
นอน ซม
nɔːn som
lie down quiet
'This whole time Naang Uea {N:UA} was still lying down quietly.'

[640] Oranop {N:ON} felt relieved about Naang Aeb {N:AB} [641] but she {Z:ON} has become worried about Naang Uea {N:UA}. [642] That is because today, after Naay Boonsong {N:BS} left home, [643] Naang Uea {N:UA} went into the room, lying down on the bed. [644] This is quite unusual [645] because she {P:UA} never takes a nap in the morning. [646] Usually Naang Uea {N:UA} is a diligent person. [647] Even though she {Z:UA} has Oranop {N:ON} helping her {Z:UA} with housework [648] she {P:UA} usually tidies things up [649] so that it looks better [650]...and if she {Z:UA} has time [651] she {P:UA} goes out to borrow some magazines to read. [652] But today Naang Uea {N:UA} is quiet and dull, [653] like a person who is sick.

[654] She {Z:ON} finished washing clothes [654.2] and she {Z:ON} finished ironing clothes. [655] She {Z:ON} had lunch. [656], and she {Z:ON} got ready to go to the market. [657] This whole time Naang Uea {N:UA} was still lying

down quietly.

The referential device in question is the zero anaphor in [654], which refers to Oranop. The most recent mention in the text is in [647], which is in a previous paragraph. The referential distance between the zero anaphor in [654] and its textual antecedent in [647] is equal to 7 clauses. These two paragraphs talk about Uea's unusual behavior as observed by Oranop, who is set up to be the origin of perspective, as seen in the private state report in [640]. We can see that the text is mostly about Uea, and that Oranop is mentioned in the text only in [647]. The text shifts to the here-and-now of the story in [654] in which Oranop's actions of doing chores are narrated. Here Oranop is the object of her own psychological perspective. She is referred to by a zero anaphor even though the textual antecedent is in the 7 clauses earlier. We can see that, by means of using zero anaphors to refer to the here-and-now actions of the origin of perspective, the psychological perspective of this character is maintained.

4.2.2 Short distance full NPs

The following illustrates the occurrence of a full NP that is used to refer to the object of perspective. The RD values of the referential devices referring to the origin and object of perspective are also given after the data are presented.

{Data from KMS; Characters: Aeb (AB), Oranop (ON), Uea (UA)}

[822]

อรณพ   เฝ้า   แต่   คิด   ว่า
ʔɔranóp fâw tæ̀ː khít wâː
Oranop keep just think that
'Oranop {N:ON} kept thinking to

find out.'

[823]

นาง   แอบ   ขโมย   เงิน   ของ
naːŋ ʔæ̀ːp khamoːy ŋɤn khɔ̌ːŋ
Naang Aeb steal money POS
หล่อน   ไป   เพื่อ   อะไร?
lɔ̀n pay phûːa ʔaray
3rd go for what
'why Naang Aeb {N:AB} stole her {P:ON} money.'

[824]

          จะ   คิด   ว่า
ø   tɕàʔ   khít   wâː
Z   IRR   think   LM
'She {Z:ON} could have assumed that'

[825]

นาง   แอบ   เป็น   ขโมย
naːŋ ʔæ̀ːp pen khamoːy
Naang Aeb be thief
โดยสันดาน   หรือ   เพราะ
doːy-sǎndaːn rɯ̌ː phrɔ́ʔ
by nature   or   because
ความจำเป็น   อย่างหนึ่งอย่างใด
khwaːmtɕampen yàːŋday-yàːŋnɯ̀ŋ
necessity   one of all
'Naang Aeb {N:AB} is a thief either by nature or by necessity.'

[827]

        ก็   นึก   ไม่   ออก
ø   kɔ̂ː nɯ́k mây ʔɔ̀ːk
Z PRT think NEG exit
'but she {Z:ON} could not believe so.'

[828]

เพราะ   ลำพัง   นาง   แอบ
phrɔ́ʔ lamphaŋ naːŋ ʔæ̀ːp
because alone   Naang Aeb

คน   เดียว   ก็   ไม่   มี   ทาง
khon diaw kɔ̂: mây mi: tha:ŋ
CL one PRT NEG have way
จะ   ต้อง   ใช้จ่าย   อะไร
tɕàʔ tôŋ tɕháytɕà:y ʔaray
IRR must spend what
มากมาย
mâ:kma:y
a lot
'This is because Naang Aeb {N:AB},
herself alone, should not need too much
money.' {CL=Classifier}

[830]
ข้าว   ก็   มี   กิน
khâ:w ø kɔ̂: mi: kin
rice Z PRT have eat
'Food, she {Z:AB} has plenty to eat.'

[831]
ขนม   หมากพลู   ก็   มี   ให้
khanǒm mà:kphlu: kɔ̂: mi: hây
snack betel nuts PRT have give
           พร้อมสรรพ
ø phrɔ́msàp
Z enough
'Snacks and betel nuts are provided for
her {Z:AB}.'

[832]
เพราะ   นาง   เอื้อ   เป็น   ลูก
phrɔ́ʔ na:ŋ ʔûɨa pen lû:k
because Naang Uea be offspring
ที่   ดี
thî: di:
REL good
'This is because Naang Uea {N:UA}
is a good daughter.' {REL=Relative
marker}

[833]
นอกจาก   นาง   จะ   ยอม   ให้
nɔ̂:ktɕà:k na:ŋ tɕàʔ yɔ:m hây
besides 3rdF IRR allow give
แม่   ของ   นาง   อยู่   เหนือ
mæ̂: khɔ̌ŋ na:ŋ yù: nɨ̌a
mother POS 3rdF stay over
ทุก   วิถีทาง   แล้ว
thúk wíʔthǐ:tha:ŋ lɛ́w
every way already
'She {P:UA} does not only let her
{P:UA} mother {N:AB} is over her
{Z:UA} in every way,'

[834]
นาง   ก็   ยัง   อุปการะ-เลี้ยงดู
na:ŋ kɔ̂: yaŋ ʔùppaka:ráʔ-líaŋdu:
3rdF PRT still support-take care
ø
Z
'but she {P:UA} also take care of her
{Z:AB}.'

[835]
     ไม่   ให้   นาง   แอบ   ได้รับ
ø mây hây na:ŋ ʔæ̀:p dâyráp
Z NEG give Naang Aeb receive
ความเดือดร้อน   อีกด้วย
khwa:mdɨɨatrɔ́n ʔì:kdûay
insufficiency as well
'and she {Z:UA} never let Naang Aeb
{N:AB} lack anything.'

[822] Oranop {N:ON} kept thinking to
find out [823] why Naang Aeb {N:AB}
stole her {P:ON} money. [824] She
{Z:ON} could have assumed that [825]
Naang Aeb {N:AB} is a thief either by
nature or by necessity [827] but she
{Z:ON} could not believe so. [828] This
is because Naang Aeb {N:AB} should
not need too much money. [830] Food,
she {Z:AB} has plenty to eat. [831]
Snacks and betel nuts are provided for

her {Z:AB}. [832] This is because Naang Uea {N:UA} is a good daughter. [833] She {P:UA} does not only let her {P:UA} mother {N:AB} is over her {Z:UA} in every way, [834] but she {P:UA} also take care of her {Z:AB} [835] and she {Z:UA} never let Naang Aeb {N:AB} lack anything.

Oranop. This text fragment is about how Oranop feels when she found out that Aeb stole her money and her how she rationalizes the situation. Here Aeb is the object of perspective. Uea is brought into the thought at [832]; still, Aeb stands out as a major object of perspective. Referential devices that are used to refer to these characters and their average RD are given in the table below.

	Full NP		Pronoun		Zero anaphor	
	Freq.	Ave. Dist	Freq.	Ave. Dist	Freq.	Ave. Dist
Aeb	5	1.8	0	-	3	1.0
Uea	1	44	3	1.0	1	1.0
Oranop		2.0	1	1.0	2	1.5

Table 6: Comparison of referential distance of the origin and object of perspective

Table 6 shows that Aeb is the character that is mentioned most frequently in this text fragment. Full NPs are used more often than other referential devices. We can see that the average RD of full NPs referring to Aeb is quite low, that is, 1.8 clause. Uea is mentioned after Aeb and is referred to by pronoun with a very low average distance of 1.0.

4.3 Continuity of psychological perspective

This section discusses the use of anaphoric devices for the continuity of psychological perspective. It is found that zero anaphors are used to maintain the psychological perspective whereas pronouns are used as an anti-shift marker.

4.3.1 Zero anaphor: Maintenance marking

The above data show the thought of

As shown above, zero anaphors are heavily used in Thai narrative discourse. The percentage of the frequencies of zero anaphors is not significantly different in the psychological neutral context and thought context. However, it is found that zero anaphors in the thought context are less structurally dependent. The following example shows the chaining of zero anaphors in the thought context.

{Data from LNC; Characters: Sangworn (SW), Son (SN)}

[895]

แต่ วันนี้ สังวร อารมณ์ รื่น
tɛ̀ː wanníː săŋwɔːn ʔaːrom rɯ̂ɯn
but today Sangworn mood good
'But today Sangworn {N:SW} is in a good mood.'

[896]

ยัง มี อี สาม พัน
ø yaŋ mi: ʔi: săːm phan
Z still have PRT three thousand

อุ่น ๆ แนบ หัวใจ
ʔùn-ʔùn næːp hŭatçay
quite warm close to heart

'He {Z:SW} still has the three thousand right close to his {Z:SW} heart.'

[897]

เรื่อง ทีวีสี ไม่ ต้อง
rûaŋ thiːwiː-sĭː ø mây tôŋ
issue color TV Z NEG must

ไป คิด ใช้หนี้ ให้ โง่
pay khít tçháynî: hây ŋôː
go think pay give stupid

'For the color TV payment, he {Z:SW} need not worry about paying,'

[898]

ในเมื่อ จะ มี รายได้
naymûa ø tçàʔ mi: raːydâːy
when Z IRR have income

พิเศษ เพิ่ม ขึ้นมา
phíʔsêːt phəm khûn-ma:
special increase come up

เรื่อย ๆ
rûayrûay
continually

'since he {Z:SW} would have more and more special income.'

[899]

นี่ ถ้า นังสน รู้เรื่อง
nî: thâː naŋ-sŏn rúː-rûaŋ
PRT if Nang Son know

'If Nang Son {N:SN} knows about this,'

[900]

มัน คง กรีดกร๊าด ทำ ดี
man khoŋ kríːtkráːt tham di:
3rd may scream do good

เข้าใส่ ไม่ ด่าทอ
khâw-sày ø mây dàːthɔ: ø
put into Z NEG scold Z

อย่างเคย
yaːŋkhəy
as usual

'she {P:SN} must be screaming, being nice to him {Z:SW}, [900.2] not be scolding at him {Z:SW} like before.'

[895] But today Sangworn {N:SW} is in a good mood. [896] He {Z:SW} still has the three thousand right close to his {Z:SW} heart. [897] For the color TV payment, he {Z:SW} need not worry about paying [898] since he {Z:SW} would have more and more special income. [899] If Nang Son {N:SN} knows about this, [900] she {P:SN} must be screaming, being nice to him {Z:SW}, [900.2] not be scolding at him {Z:SW} like before.

The excerpt shows the use of zero anaphors in the thought context. In [895], the full NP is used to refer to Sangworn as an experiencer of the emotional predicate. The rest of this fragment presents the thought stream of Sangworn as the origin of perspective and the object of his own perspective. At [899] Son is brought into his thought as another object of perspective and interacts with him. Except for the mention in the private state report in [895], Sangworn is referred to only by a zero anaphor. Between [900] and [898] the text is interrupted by clauses about another character, Son, but the reference to Sangworn in [900] continues to be suppressed, i.e., zero anaphors are used in the non-subject position as in [900] and [900.2]. We conclude that zero anaphors are primarily used to maintain the psychological perspective.

4.3.2 Pronouns: Anti-shift marking

As shown in section 2.2.3, there are many forms for third person pronouns in Thai. They carry more information than pronouns in a language like English. According to Givón (1983), the degree of continuity implied by pronouns is lower than full NPs but higher than zero anaphors. Investigating the use of pronouns in the thought context, we find that they are often used when there is a temporal shift, from the present either to the future or to the past, but the origin of perspective is maintained. The following example shows the occurrence of pronouns in the thought context. In this passage Son, the origin of perspective, is talking with her husband. He wants to bring children to work in his factory:

{Data from LNC; Characters: Son (SN)}

[1255]

เด็ก ลัก แค่ ไหน ล่ะ
dèk sàk khæ̀: nǎy lâ?
young about around which PRT
"How young?"

[1256]

สน ตั้ง คำถาม
sǒn tâŋ khamthǎ:m
Son put question
'Son {N:SN} raised the question.'

[1257]

แค่ ที่ ได้ยิน
khæ̀: thî: ø dâyyin
only REL Z hear
'Just only from what she {Z:SN} heard,'

[1257.2]

ก็ ดีใจ
ø kô: di:tɕay
Z PRT be glad
'she {Z:SN} is so glad'

[1258]

จน เนื้อ เต้น
tɕon nʉ́a ø tên
until flesh Z dance
'that her {Z:SN} flesh is dancing.'

[1259]

พรุ่งนี้ หล่อน จะ รวม เงิน
phrûŋní: lɔ̀n tɕà? ruam ŋən
tomorrow 3rdF IRR gather money
ทั้งหมด ไป แทง หวย
tháŋmòt pay thæ:ŋ hǔay
all go play illegal lotto
'Tomorrow, she {P:SN} will bring all the money to buy lotto.'

[1260]

คราวนี้ จะ รวย ทับ
khra:wní: ø tɕà? ruay tháp
this time Z IRR rich overlie
ซ้ำสอง เข้าไป อีก น่ะ
sámsɔ:ŋ khâw-pay ʔì:k nâ?
double go in more PRT
ไม่ว่า
mâywâ:
PRT
'This time, she {Z:SN} will be even richer.'

[1261]

"เก้า ขวบ สิบ ขวบ..."
kâ:w khûap sìp khûap
nine year ten year
"Nine or ten years old."

[1255] "How young?" [1256] Son {N:SN} raised the question. [1257] Just

only from what she {Z:SN} hears [1257.2] she {Z:SN} is so glad [1258] that her {Z:SN} flesh is dancing. [1259] Tomorrow, she {P:SN} will bring all the money to buy illegal lotto. [1260] This time, she {Z:SN} will be even richer.

[1261] "Nine or ten years old."

From the above data, a full NP is used to refer to Son in [1256] in which her action of 'asking a question' is narrated. From [1257] to [1260], her stream of thought is presented. Zero anaphors are used in [1257] to [1258]. These three clauses are about how she feels at the moment. We can see that her stream of thought continues in [1260]. In [1259] there is a shift of temporal reference, which is indicated by a temporal phrase 'tomorrow'; she was making a plan of what to do with the money she had. Here the shift of the deictic component of time certainly causes a discontinuity. Even though an overt form of NP is expected to occur, a pronoun is used. This phenomenon follows Givón's claim about a pronoun as a device that implies more continuity than a full NP. However, a full NP, which is also claimed to show more discontinuity than a zero anaphor, is rarely used in the middle of a stream of thought. We can conclude that pronouns are used as an anti-shift marker that keeps the psychological perspective from being shifted when other deictic center components shift.

The following table shows the use of pronouns to refer to the origin of perspective in the thought context:

	Son (LNC)		Oranop (KMS)		Total	
	Narration	Thought	Narration	Thought	Narration	Thought
Frequency	12	20	14	19	26	39
Percent	37%	63%	42%	58%	40%	60%

Table 7: Frequencies of pronouns used to refer to the origin of perspective

Table 7 shows the quantitative data of pronouns that are used to refer to Son in the novel LNC and Oranop in the novel KMS. The data is drawn from the context where they are the origin of perspective. We can see that pronouns are used more often in thought context than in narration; in general, about 60% of pronouns referring to these two characters occur in the thought context. Note that thought contexts are 36.6% of the whole text excluding direct quotes. This means that pronouns are used more densely in the thought context.

It should also be noted that the high frequency of pronouns in the thought context can be explained in terms of Deictic Center Theory, which assumes that features of actual speech are imported into narrative discourse with modification in various forms. Personal pronouns in Thai hold socio-cultural indices that are important in the interaction. Zero anaphors can be used to show the continuity in the text but lacks such socio-cultural substance.

We can summarize that in the thought context, the origin of perspective tends to be referred to by a reduced form of

referential expressions; a zero anaphor is the most preferred. When other deictic factors come into play, a pronoun is used to refer to the origin of perspective. Full NPs are mainly for objects of perspective. These referential choices seem to hold regardless of the pragmatic factor of recency in the text. These findings follow Givón's scale of continuity in that reduced forms correlate with high continuity. However, the notion of continuity needs to be extended to include the continuity of deictic center components.

5. Conclusion

This paper proposes a study on participant continuity in Thai narrative discourse. Based on the Deictic Center Theory, thought context in the narrative discourse is identified. The objective method of RD proposed by Givón is used to examine the distribution pattern of referential devices that are used to refer to participants in the discourse. In order to get a valid and consistent result, the paper also emphasizes the importance of the procedure for defining the referential devices in the language and segmenting a text into proper units for measurement.

The result from applying the methodology of RD shows the distribution pattern of RD varies across types of referential devices. Full NPs are substantially distinct from pronouns and zero anaphors since the former tend to occur at a longer distance than the latter group. Zero anaphors show the highest tendency to occur immediately after the clause where their antecedent is found. They are also found to occur at greater distance than pronouns do. Pronouns in Thai rank the lowest in frequency and do not show a distinct pattern from full

NPs and zero anaphors.

In general, with respect to the distribution pattern in an overall text, the objective method of RD clearly shows the distinctive properties of full NPs and zero anaphors but does not seem to give a clear picture of the occurrence of pronouns. Moreover, zero anaphors have greater distance than they are typically expected; and, the frequency of full NPs at short distance is quite high. However, when we perform the analytical investigation on these referential devices, we find that components of deictic center play an important part in referential choice. It is found that zero anaphors are typically used to refer to the origin of perspective. When other deictic components (i.e. time and location) are shifted, pronouns are used to block the psychological perspective of the character from being shifted. Full NPs are used to refer to objects of perspective. The analysis from thought context supports Givón's prediction of the relationship between continuity and types of referential device but not in terms of textual identification.

In response to the text-based approach, this study has shown that the deictic components play an important role in narrative structure. The psychological perspective of a character is evoked by various types of linguistic devices. In general, the method of RD is a useful measurement that provides an objective tool to account for the continuity of participant in fictional narrative. However, measuring the RD of a referential expression in the thought context can be problematic since the antecedent is not merely present in the text. The continuity of participants needs to include the role of participant from a psychological perspective as well.

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