TEXTUAL STRUCTURE AND DISCOURSE PROMINENCE IN YAPESE NARRATIVE

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE
UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN
LINGUISTICS

AUGUST 2005

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ACKNOWLEDGEMENTS

ABSTRACT

This work shows that morphosyntactic variation in the form of tense-mood-aspect (TMA) and referring expressions in Yapese narrative act in concert to give rise to an enhancement in the imagined storyworld at high points of narrative action.

Drawing on accessibility theory, typological work in the textlinguistic tradition, and a perceptually grounded version of the situation model framework, the dissertation argues that representations of the most highly salient entities and clauses in narrative tend to exploit semantic resources which work to create a rich simulacra of perceptual experience.

The work takes the form of a case study, examining a corpus of narrative and non-narrative text in Yapese, a language of Micronesia. It is found that a foregrounding distinction conditions the split between independent pronoun TMA markers and clitic pronoun TMA markers. Highly foregrounded clauses in Yapese narrative may be zero-marked, they may take the inceptive *nga*, or they may be in the perfect non-present *ka qu*. *Nga* invokes a semantics of goal-satisfaction or effect, event types which have been shown to enhance the processing of connected clauses in laboratory studies. *Ka qu* is an instance of frame-breaking pragmatic reversal.

The Yapese system of reference is analyzed with respect to cognitive status. Particular attention is paid to the pronoun, determiner, and deictic systems. Yapese has a definite and two indefinite articles, and contrasts speaker proximal, hearer proximal, and distal demonstratives. It is argued that the higher the minimal cognitive status required for a referring expression, the more elaborate and constrained the representation of the referent. Highly elaborate and constrained representations have properties in common with highly salient objects in perception. The high accessibility of hearer proximal demonstratives is analyzed as a combination of spatial and social distance effects.

Highly elaborated subjects tend to correlate with highly foregrounded clauses. Variation in both the TMA and reference systems is manipulated by narrators to more deeply immerse the audience in the narrative at key points.

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ABBREVIATIONS

1	first person	inf	infinitive
2	second person	intr	intransitive
3	third person	ints	intensifier
acc	accusative	irr	irrealis
AdvP	adverbial phrase	loc	locative
caus	causative	locpro	locative pronoun
clsfr	classifier	neg	negative
cmp	complementizer	nom	nominative
dat	dative	non-pres	non-present
def	definite	non-sg	non-singular
dimin	diminutive	NPC	noun phrase connector
dist	distal	perf	perfect
DM	discourse marker	pl	plural
dmn	demonstrative	poss	possessive
du	dual	prior	priorative
emph	emphatic	prog	progressive
ex	exclusive	prx	proximal
FM	focus marker	pst	past
h	hearer	ref	referential
hbt	habitual	relpro	relative pronoun
idf	indefinite	s	speaker
idfpro	indefinite pronoun	sg	singular
imper	impersonal	stat	stative
inc	inceptive	tns	transitive
incl	inclusive		

1. INTRODUCTION

People all over the world tell stories. Users of language are able to construct an imagined world and to populate it with characters and their actions, to structure their own experiences and those of others in narrative form, and to communicate attitudes, beliefs, social norms and personal standpoints via narrative. Good storytellers skillfully manipulate language to produce highs and lows of emotion, excitement and empathy. In this dissertation, I aim to uncover specific and general ways in which human beings structure their narratives so that their addressees are drawn into and experience the imagined world created by the storyteller. I wish to suggest that all storytellers exploit the structural resources of their language in ways that pull comprehenders into the imagined world of the story and give rise to varying representations of the imagined world that more or less approach simulacra of lived experience.

My second aim is to move toward a synthesis of two distinct conceptions of narrative structure and affect. The first tradition, which encompasses discourse analysis and pragmatics, emerges from linguists' study of naturally occurring discourse, and has broadly focused on the way morphosyntactic marking is varied throughout naturally occurring discourse to create a richly textured structural pattern. Specifically, I make use of theoretical tools which emerge from the textual study of narrative structure (notably the work of Labov (1972) and Fleischman (1990)), and those which come from the pragmatic tradition of studying the accessibility of noun phrases (in the vein of Prince (1981), and particularly the framework advanced by Gundel, Hedberg & Zacharski (1993)). The second, more recent, tradition is firmly situated in the laboratory, and is

concerned with understanding ways in which linguistic input is integrated and interpreted by the mind in such a way that comprehension is achieved. This cognitivist, psycholinguistic approach toward understanding language behavior, then, focuses on the mind, rather than the text. Specifically, I draw on two recent and related theories of language production and comprehension: the situation model framework of imagined representations (formerly called the mental models framework and emerging from van Dijk & Kintsch (1983), Johnson-Laird (1983), Kintsch (1998) and more recently in the work of Zwaan, especially Zwaan and Radvansky (1998) and Zwaan (2004)); and Barsalou's (1999) perceptual symbol systems approach to semantics.

Despite their interest in very similar questions, these two traditions have unfortunately not experienced the kind of fertile exchange of ideas that one would hope for, and there is a great deal of productive learning that each could take from the other. On the one hand, the observations of textlinguists and pragmaticists are boosted in explanatory adequacy when analyses are grounded in well-motivated cognitive explanations for observed behavior. Textual structure, on the other hand, is a neglected site of empirical evidence for psycholinguists. The kinds of single instances of processing behavior that psycholinguists measure are repeated over and over each day by each member of a speech community. The cumulative effect of such behavior, which one might analogize to the effect of single water molecules on a riverbed, is to gradually erode the shape of the structure of the language in ways which reflect the cumulative pressure of processing patterns and constraints. Processing explanations which are in accord with the conventions of natural language behavior are thus strengthened by this evidence, while explanations which appear to contradict it ought to be re-examined.

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In this work, by means of a case study exploring patterns of narrative and non-narrative text in Yapese, I show that a synthesis of these two traditions strengthens our understanding of the ways in which narrators construct a textured pattern of relief to express high and low points of narrative action and expressivity. Before turning to an outline of my general line of argumentation as it is laid out in the present work, I briefly summarize key theoretical tools and frameworks. This chapter concludes with some remarks on the particular aspects of Yapese which make this study a useful contribution to the field.

1. Textlinguistics and Pragmatics

Two broad areas of textual structure are considered in this work. The first is concerned with the structural properties of events as expressed in narrative, and particularly with the variation in tense, mood and aspect marking that speakers employ to make events more or less prominent in the narrative. The second focuses on entities in discourse and the ways in which producers of text impart knowledge about knowledge of entities.

The textlinguistic approach to studying discourse tends to focus on naturalistic texts as a whole, mining the text for observations on structure, function and form. The work of Labov and Waletzky (1967) and particularly Labov's (1972) work on the form of narrative structure have proven to be robust analytical tools for this work. Labov (1972) defines a minimal narrative as two clauses which stand an iconic temporal relationship such that if the order of the clauses were reversed, the sense would be changed. He proposes five elements of narrative structure: the abstract; orientation; complicating

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action; evaluation; and coda. Although this framework is more than thirty years old, it has stood the test of time and is widely employed in contemporary work.

A key insight into the structure of narrative is the distinction between clauses which express events on the timeline of the narrative and those which may be expressed in scrambled temporal order without altering the sense of the narrative progression (Labov 1972, Grimes 1975, Dry 1983, 1988, 1992, Hopper & Thompson 1980). The former have variously been called foregrounded or narrative clauses, and the latter, backgrounded clauses, non-narrative clauses, or free clauses.

Several researchers have also uncovered more subtle distinctions within these classes. Of particular note is Fleischman's (1990) *Tense and Narrativity*, which explores what were previously puzzling tense-aspect alternations in Old French. Fleischman argues that switches in and out of the historical present are evidence of narrators strategically manipulating the structure of the text in such a way that a mise-en-relief pattern of foregrounding and backgrounding emerges. In fact, tense-aspect alternations have proved to be key in understanding narrative structure across several languages. Work in a similar vein has yielded key findings for American English (Schiffrin 1981), Australian English (Engel & Ritz 2000) and Tokelauan (Hooper 1998). The present work draws heavily on insights from these writers.

In the 1980s, a number of researchers (see especially Wallace 1982, Reinhart 1984) advanced processing explanations for foreground-background distinctions based on analogy with insights into visual perception which emerge from gestalt psychology. The gist of their processing explanation was that the tense-aspect combinations which express high degrees of salience of foregrounding in the narrative, most typically perfects, share

the properties of good continuation, boundedness and similarity which have been hypothesized to be common to those visual objects which tend to stand out as figures against the background. As I shall explain below, however, this processing explanation is at odds with more modern understandings of the role of modality in processing perceptual input. Recent work suggests that the kind of amodal abstraction argued by these theorists is unlikely to be involved in narrative processing.

The second aspect of textual structure that is examined in this work involves imparting knowledge about entities which exist in the discourse world. If the textlinguistic tradition described above mainly highlights the contribution of clause type and verbal morphosyntax to textual structure, this second tradition focuses on the use of nouns to refer to the entities involved in the discourse world. Just as clause structure and tense-aspect may be used to create a pattern of varying salience of events, the form of a noun phrase and the kind of representation that the participants share is the key to variations in topicality among entities in discourse.

I will be considering such variations in NP form as pronominality, definiteness and deictic modifiers. My major theoretical tool for this section of the investigation is Gundel, Hedberg and Zacharski's (1993) givenness hierarchy framework. This framework is part of a school of research on the accessibility and givenness of discourse entities in the tradition of Prince (1981). Accessibility theory, as it is often called, considers correlations between noun phrase form and the degree to which discourse participants can be assumed to have shared knowledge regarding entities in the discourse. Gundel, Hedberg and Zacharski's framework posits six cognitive status; an entity in

discourse may occupy some or all of these statuses at any given time, and the form of the NP which refers to the entity is constrained by its cognitive status.

2. Situation Models and Perceptual Symbols

Recent proposals regarding the way in which discourse is processed have moved the emphasis from text to mind, toward the analysis of what are known as mental models, or more recently, *situation models*. A situation model is a representation of discourse content which integrates both textual information and information which comes from the interpreting subject's experience of the world. Kintsch defines the model thusly: "[t]he complete structure that is composed of both text-derived propositions (the textbase) and propositions ... contributed from long-term memory is called the situation model" (Kintsch 1998: 49). van Dijk and Kintsch put it this way: "a text representation involves not only text elements, but also knowledge elements" (1983: 336). Zwaan and Radvansky see situation models as "amalgams from information stated explicitly in the text and inferences" (1998: 163). Kintsch (1998) aims toward extending the model of comprehension beyond the domain of text, and proposes that comprehension is a useful notion in action planning, problem solving and decision making and in formation of self-image. He continues to regard the situation model as comprised of the textbase "plus varying amounts of knowledge elaborations and knowledge-based interpretations of the text" (50).

The idea that the situation, rather than merely the text, is key to the mental representation of discourse was demonstrated experimentally early on by Bransford,

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Barclay and Franks (1972). Their experiment presented subjects with sentences of the type in 1a. and 2a., below

1a.   Three turtles rested *on* a floating log, and a fish swam beneath *them*.
2a.   Three turtles rested *beside* a floating log, and a fish swam beneath *them*.

Subjects were then prompted with sentences such as 1b. and 2b., below, and asked if they recognized the sentences.

1b.   Three turtles rested *on* a floating log, and a fish swam beneath *it*.
2b.   Three turtles rested *beside* a floating log, and a fish swam beneath *it*.

Sentences 1a. and 1b. describe the same configuration of elements; the turtles are above the log, which is above the fish. They describe the same situation. Sentences 2a. and 2b., on the other hand, describe different situations; one in which the fish is beneath the turtles, but not the log, and the other in which the fish is beneath the log, but not the turtles. Bransford et al. found that when subjects were probed on the recognition test, they frequently asserted that they did in fact recognize 1b. (when they had in fact heard 1a.). No similar effect was found for the pair 2a. and 2b. These results suggest that text comprehension is built on a model of the situation, rather than an exact recall of the text.

The roots of modern conceptualizations of a situation model come from proposals about the nature of mental models from Johnson-Laird (1983) and from van Dijk and Kintsch (1983). Johnson-Laird's *Mental Models: Towards a cognitive science of language, inference and consciousness* addresses the nature of models in a general sense, considering their role in reasoning and inference as well as in language. van Dijk and Kintsch's *Strategies of Discourse Comprehension* also uses the notion of a mental or situation model, but is rather more detailed with respect to the kinds of contextual knowledge involved in the construction of models from linguistic input. Their model of

discourse comprehension involves both cognitive and contextual assumptions about discourse processing. It presupposes that both perception and discourse processing involve the construction of a representation, which is not an exact replica of the input but is interpreted through the integration of previous knowledge (1983: 4-6). The kind of knowledge input that is integrated into the model is not restricted to encyclopedic knowledge about the world (such as for instance knowledge that if a log is above a fish and a turtle is above the log, the turtle is above the fish), but also knowledge about the social context of the discourse. Such social context includes knowledge about the type of speech act in progress, the social status of the participants, and the situation in which the discourse takes place (1983: 6-8).

van Dijk and Kintsch's model is explicitly strategic in nature; they define strategies as being "like effective working hypotheses about the correct structure and meaning of a text fragment, and these may be disconfirmed by further processing" (1983: 11). Strategies work together to produce an understanding of the text. Strategies are employed at various levels of understanding the text: at the level of comprehending propositions; of connecting those propositions into locally coherent strings of connected clauses; hence to understanding the macrostructure or gist of the text. Comprehension strategies may also draw on an understanding of the cultural conventions of the text type (for instance, is the text hypothesized to be a narrative, with a orientation-complication-resolution structure?). Other strategies which are involved in comprehension include stylistic strategies, which communicate and comprehend information such as the register, or the social or emotional context, presumably through analysis of information such as lexical choice, or socially significant phonological variables, or intonation patterns. Comprehension strategies can

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be influenced by paralinguistic behavior such as gesture or facial expression. Finally, rhetorical strategies are used to "better realize the goals of the verbal interaction, such as comprehension, acceptance of the discourse, and successfulness of the speech act" (van Dijk & Kintsch 1983: 18).

Both stylistic and rhetorical strategies, in van Dijk and Kintsch's model, "allow language users to make strategic options between alternative ways of expressing more or less the same meaning or denoting the same referent" (1998:17). In other words, these strategies involve morphosyntactic variation. The relationship between propositional content and morphosyntactic form is a one-to-many relationship. The same meaning encoded in the proposition {READ [man, newspaper]} (where READ is a two place predicate with an agent and a patient) can be extracted from multiple ways of expressing the clause, given the appropriate context. The examples below demonstrate the effect of manipulating both the nominal referring expressions and the way that the event is perspectivized in time:

1. The man read the newspaper.
2. David reads the newspaper.
3. My father had read Sunday's *Australian.*
4. So, he's reading it, ...

Although van Dijk and Kintsch do not explore the matter in great detail, their distinction between rhetorical and stylistic strategies roughly parallels distinctions between textual and interpersonal channels of language (e.g. Halliday 1976). The relationship of textual and interpersonal structure to situation models has been rather neglected in subsequent explorations of the situation model of discourse processing. After presenting a summary

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of the more recent work on situation models, I will return to this point below, with particular focus on textual structure.

The most recent expansions on the situation model framework are heavily influenced by Barsalou (1999), who proposes that cognition (and hence language) is a *perceptual symbol system.* He outlines a cognitive architecture for the formation, maintenance and use of symbolic concepts based on perceptual input. When perceptual information is processed, (for instance, my looking at a *blue cup*), various neurological processes are involved — systems which are involved in object recognition, color discernment and so on. Barsalou proposes that selected elements of perceptual processing are involved in the creation of a memory representation of a perceived object. "[A] perceptual symbol is a record of the neural activation that arises during perception" (1999: 582). Repeated exposure to similar objects gives rise to a higher-level abstraction, called a *simulator,* which has access to selected perceptual memories of similar objects (for instance the information that *cups* are experienced as objects with handles which can contain things and can be picked up and drunk from). The simulator is then an available resource from which to run a *simulation*; an instance of accessing a particular concept for cognitive purposes.

A critical component of this model which differs from other theories of conception is that when a concept is accessed through a simulation, the perceptual information which was involved in creating the concept is involved in its representation. Perceptual symbol systems, then, provide a mechanism for addressing, at least in part, what kinds of information from outside the text are brought to bear on the construction of a situation model, and how they arise naturally during cognition.

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Barsalou contrasts his approach to symbolic cognition with what he calls *amodal* symbols. Amodal symbols are symbol systems in which symbolic information is separated from perceptual input, and is stored as strings of features, or as logical abstractions. The explanation for narrative processing which draws on abstractions gleaned from the study of visual processing by gestalt psychologists is therefore an example of an amodal explanation.

Barsalou's (1999) most convincing argument for perceptually based rather than amodal symbol systems rests on the perceptual symbol framework's explicit articulation of meaning. Unlike amodal accounts, perceptual symbol systems have a detailed theoretical account of the way in which meaning operates. A related critique is that amodal systems posit no mechanism by which abstractions emerge from perceptual input. Barsalou also notes that while empirical evidence for amodalism is notably absent, there is neurological evidence which is difficult to explain under an amodal account of meaning. For example, neurological damage to locations in the brain associated with visual processing affects the processing of categories strongly associated with visual perception, e.g. *birds* (Barsalou 1999: 579). Finally, Barsalou notes that amodal systems are overly powerful and lack constraints upon what sorts of abstractions are theoretically possible.

Zwaan (2004) integrates the notion of the perceptual symbol with the comprehension of discourse in progress, a framework which he dubs the *immersed experiencer framework*. Within his model, "comprehension is the vicarious experience of the described events through the integration and sequencing of traces from actual experience cued by the linguistic input" (2004: 38). Words activate simulations of

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perceptual experience. On-line combination of words into units[1] results in construals of "a mental simulation of a specific event" (2004: 40). Crucial to the model is the fact that this process of construal proceeds in parallel with activation, which acts to ensure that the diffuse activated features of a word are constrained by the syntactic and semantic context. Thus an input such as "The ranger saw the eagle in the sky" will produce a different mental simulation of the concept *eagle* than will "the ranger saw the eagle in the nest"; in the former case, the representation will be of an eagle flying with its wings outstretched, whereas in the latter, the representation is constrained by the predicate to give a representation where the wings are drawn in to the body (Zwaan 2004: 36). Construals are then *integrated* into a coherent discourse. Again, integration is on-line and parallel to construal; so partial integration may be achieved before construal is completely fixed. Integration involves examining events for such links as temporal continuity or breaks, for overlap in features (for instance, examining adjacent events for evidence of the same setting, or the same referents), and for indications of cause and effect relationships.

The building of comprehension from perceptual symbols, then, results in the notion of the immersed experiencer, who vicariously perceives the entities and events of the text through activation of perceptual systems which overlap with the systems which would be activated if the entities and events were in fact in the immediate perceptual situation. As Zwaan puts it, "[i]f the comprehender behaves like an immersed experiencer, the contents of working memory should reflect the accessibility of objects and events in the real world given our human sensory, attentional, and action-related limitations" (2004: 54). A perceptual symbol based account of situation models reconceives the situation model from the idea of textbase plus experience to thinking of the situation as rich simulation of

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perceptual experience. The comprehender is conceived of as being "inside" the text, experiencing the events which it is describing.

Most of the recent research on situation models has focused on testing this idea. A good deal of experimental evidence has been amassed to suggest that the experience of objects and events in narrative operates in a similar fashion to the experience of objects and events in the world. Zwaan and Radvansky (1998) is a review of experimental evidence, and focuses on five areas of information which are integrated into situational models of narrative — namely temporal, spatial, causal, motivational and person- and object-related information. Zwaan (2004) adds perspective to the list of text-based factors which ought to have a easily-detectable perceptual component when they are comprehended. The experimental evidence for Zwaan and Radvansky's proposal will be reviewed in greater detail throughout this work.

If we are to take situation models seriously, and conceive of language as "a set of processing instructions on how to construct a mental representation of the described situation" (Zwaan & Radvansky 1998: 162), we need to re-consider van Dijk and Kintsch's contention that stylistic and rhetorical variation are strategic moves toward the production and comprehension of the kinds of situation models which are appropriate for the discourse context. The areas of perceptual experience which have been considered most frequently in the experimental literature are fortunately also areas of experience which underlie the most commonly grammaticalized concepts in human language. In designating space, for instance, languages distinguish between near space and far space by means of deictics. Languages also carve up the region of time and perspectivization of time by means of tense and aspect, obligatorily marked on the verb in an unignorably

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large number of the world's languages. The persons and objects described in discourse may be expressed in variable ways dependent upon their individuation and accessibility in memory.

These parallels between well-traveled areas of situation models and the grams of human language mean that we are now in a position to evaluate situation models with respect to the behavior of human language "in the wild" as well as in the laboratory. The relatively smooth fit between those aspects of the situation which are argued to affect the representation and those aspects of language which are varied strategically throughout a narrative means that the time is ripe for a converging analysis of narrative structure which draws from both the psycholinguistic and the textlinguistic and pragmatic traditions.

3. Textual Structure and Discourse Prominence in Yapese Narrative

This dissertation aims to argue that the morphosyntactic variation which indicates the relative salience of events and entities in discourse is in fact motivated by producers strategically exploiting meaning in ways that result in the comprehender being most deeply immersed in the experience of the narrative at points of greatest salience. The line of argumentation proceeds as follows.

Chapter 2 is a brief introduction to Yapese. I review what is known of the history of the language and discuss its current status; I then summarize previous scholarship on this language. Chapter 2 also includes a detailed outline of the Yapese corpus data from which the bulk of my investigation is drawn. Finally, a thumbnail sketch of the orthography and some brief remarks on grammatical structure are included for the benefit of readers not familiar with this language.

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In Chapter 3, I compare and synthesize textlinguistic and psycholinguistic approaches to the event structure of narrative. This chapter proposes what I have called the situated foreground hypothesis:

The situated foreground hypothesis:
The more prominent an event is in the imagined world of narrative, the more likely that the clause which expresses it will employ morphosyntax that indexes the experience of events which occur in the here-and-now of the real world.

Evidence from the laboratory and from the detailed study of text which suggests that this is a fruitful line of research is reviewed and evaluated.

My fourth chapter tests the situated foreground hypothesis in Yapese narrative. This chapter describes the kinds of tense-mood-aspect alternations which Yapese narrators employ to vary the salience of events and their centrality to the narrative progression. Yapese TMA markers may be split into two classes, depending upon the type of pronoun subject they may take. I argue that these two classes correspond to a distinction in the level of foregrounding, and that markers which cannot take clitic pronouns are found with the most highly backgrounded clauses which are least salient to the progression of the plot. I also show that the markers which are the most highly foregrounded index here-and-now experience more strongly than do other markers. I thus conclude that a high degree of foregrounding is indeed characterized by an enhanced immersion in the simulated world of narrative.

Chapters 5, 6, and 7 move away from considerations of events in narrative and turn to the question of more or less salient entities in discourse. Chapter 5 reviews the literature on accessibility theories in some detail, with particular attention to the givenness hierarchy framework of Gundel, Hedberg and Zacharski (1993). The literature

emerging from researchers in the situation model framework who are concerned with entities in text has concentrated heavily on locational information, and I review experimental evidence converging on what has come to be known as the *spatial distance effect* (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). This evidence is compared to text-based investigations into the use of deictic terms particularly with reference to accessibility and social interaction. I propose that the evidence to date predicts that the Yapese hearer-proximal deictic demonstrative is likely to be used for the most accessible entities in text which appear with a deictic. Chapter 5 ends by reviewing the capacity of Barsalou's (1999) perceptual symbol framework to handle distinctions in definiteness.

In Chapter 6, I analyze the system of nominal reference in Yapese through the lens of the givenness hierarchy framework. I then test the ability of the perceptual symbol model to handle the kinds of distinctions in definiteness found in Yapese, and show that in theory, the model is sufficiently robust to integrate this data. I propose that distinctions in definiteness and accessibility correspond to the complexity and elaboration of the perceptual symbol, and the degree to which the simulation is bound in complex predicate relationships. Evidence from visual processing (Rock et al. 1992, Mack & Rock 1998a, 1998b, Kubovy, Cohen & Hollier 1999, Mack 2003) is used to support the notion that the degree of elaboration and the amount of information contained in the representation of some concept correlates with the degree to which an object in the world is at the center of attentional focus.[2] Thus, objects which are highly accessible in the text share properties with highly accessible perceived objects in the world, giving rise to an enhanced immersion in the text. Chapter 7 tests my predictions with regard to deixis in Yapese, and

I show that the hearer proximal demonstrative signals a greater degree of accessibility than do the other terms in the Yapese deictic system.

The final substantive chapter in this work investigates whether enhanced immersion in the event structure of the narrative correlates with enhanced immersion in the experience of objects. I show that the most highly foregrounded clauses in narrative are those clauses which are the most likely to have subjects which are both at the center of attention and expressed by clitic or zero pronouns. Chapter 9, the conclusion, summarizes the arguments laid out in support of my thesis that narrators employ morphosyntactic variation in strategic fashion to simulate the deepest experiences of immersion in the narrative world at high points of narrative structure.

4. Motivations for the Case Study

Before I conclude this introductory chapter, some remarks justifying my case study model for investigating the relationship between morphosyntactic form and processing considerations are in order. Several other approaches, including experimental laboratory work, or a typological approach, also had the potential to shed light on the question to hand. I believe, however, that the case study approach has advantages over each of these.

First, there are both strengths and weaknesses of experimental and naturalistic data as the empirical evidence for such an investigation. With experimentally collected data, the researcher has far tighter control over the types of examples which make up the data, and processing hypothesis can be tested explicitly. Naturalistic data, however, has the advantage of far more closely approximating everyday language use. Particularly with regard to narrative, the emotive and expressive component which gives rise to much of

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the rich structure found in naturally occurring narrative is difficult to simulate under the formal and clinical conditions of the laboratory. Narrative is in essence performance, and the institutionalized setting of the lab is not particularly conducive to a relaxed and intimate rapport with an audience.

A strictly typological investigation may also have done much to uncover insights into this question, and indeed, cross-linguistic data has proved important to much of my thinking on the subject. Typology, however, requires detailed description over a balanced sample of languages, and such a sample is not yet available. Part of the importance of the current work lies in its potential as a contribution to the typology of the future.

A case study, of course, requires a case, and there are several special aspects of Yapese grammar which make it ideally suited for the current investigation. First, the distinction between its two classes of TMA markers, which has not previously been adequately explained, rests on degrees of foregrounding and backgrounding. Second, the high-focus foreground marker *nga* 'inceptive' is of particular interest. This marker involves semantics of intention or effect, and is quite unlike the high-focus foreground markers of more commonly studied European languages which commonly index present time. As I explain in Chapter 7, the shape of the deictic system in Yapese makes it an ideal site for testing the contributions to accessibility made by the interaction of social and spatial concerns. Additionally, the definiteness system of Yapese has a complex tripartite division, distinguishing between definite, referential and indefinite noun phrases. The complexity of the system makes it a "difficult" testing ground for theoretical frameworks of definiteness; thus frameworks which are able to cope with the complexity of the system are strengthened.

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Finally I wish to briefly problematize the kinds of typological or other "special status" justifications which linguists who work on small or lesser-studied languages often put forward. Such justifications are rare in studies of widely spoken languages, particularly of English, and we should be wary that such an imbalance does not lead to our theories of language being biased toward languages such as English as the default case for theory testing.

This chapter has laid the theoretical and motivational groundwork for my study. After sketching the major theoretical traditions on which I will be drawing, I summarize the structure of my line of argument. My work draws on the textlinguistic tradition of studying foregrounding and backgrounding in narrative, as well as work on accessibility theory which comes out of the tradition of pragmatics. The cognitively-based situation model framework and the associated work on perceptual symbols also informs my approach to the subject. My major thesis here is that narrators strategically exploit the perceptual nature of symbols to enhance the audience's experience of immersion at key points in the narrative. This chapter concludes with some remarks on the case study as a fruitful vein of investigation.

2. YAPESE: A BRIEF SKETCH

This chapter is designed as a short introduction to the Yapese language for those readers who may not be familiar with Jensen et al.'s *Yapese Reference Grammar* (1977a, henceforth YRG) or *Yapese-English Dictionary* (1977b, YED). I begin with a brief history of the language and some observations on its current use. I then present an exhaustive review of previous linguistic scholarship on this language. After some remarks on the data considered and fieldwork methodologies employed in the current work, I finish this chapter by presenting a short sketch of select aspects of the grammar for the benefit of readers who are not familiar with Yapese or with typical properties of Austronesian languages.

1. Yapese: History and Current Status

Yapese is spoken on the islands of Yap, at the western edge of the Micronesian archipelago. It currently has just over 5 000 speakers (FSM Division of Statistics 2002).[1] The designation 'Micronesian' is problematic and variable. Geographically, Micronesia refers to the archipelago in the western Pacific that stretches from Palau in the west to Kiribati in the southeast. The chain is mostly spread out along an east-west axis, with the Marianas lying in a north-south chain toward the western end, and the Gilberts describing a southerly curve at the eastern end. Politically, the archipelago includes several sovereign nations, including the Federated States of Micronesia, which encompasses the member states of Yap, Truk, Pohnpei and Kosrae. Strictly speaking, Micronesian languages are those which belong to the Greater Micronesian subgroup (Jackson 1983, 1986), which includes Nauruan, the languages of the Gilberts and the Marshalls, and all of the languages of the Federated States with the

exception of Yapese and the Polynesian outliers (Nukuoro and Kapingamarangi). Neither

Chamorro (Guam) nor Palauan are Micronesian languages.

Figure 1: The Micronesian Archipelago
(Courtesy of the University of Texas Libraries, The University of Texas at Austin)

Figure 2: Yap Proper
US National Atlas 1970 (Courtesy of the University of Texas Libraries, The University of Texas at Austin)

Four closely-spaced islands make up what is commonly known as Yap Proper: Yap,

Tomil-Gagil, Maap and Rumung. Yap State includes this group as well as numerous outer

islands, including Ulithi, Fais, Woleai, Ifalik, Lamotrek and Satawal. Yapese is spoken on

the islands of Yap Proper (Fig 2).

Yapese has long been difficult to classify. It is incontrovertibly a member of the

Malayo-Polynesian family, the sub-group of Austronesian which includes all of the

languages outside of the ancestral proto-Austronesian homeland, Taiwan (see Blust 1988 for

the arguments pointing to a Taiwanese homeland). The Malayo-Polynesian family exhibits a

binary branching structure at its higher nodes (see Fig 3).
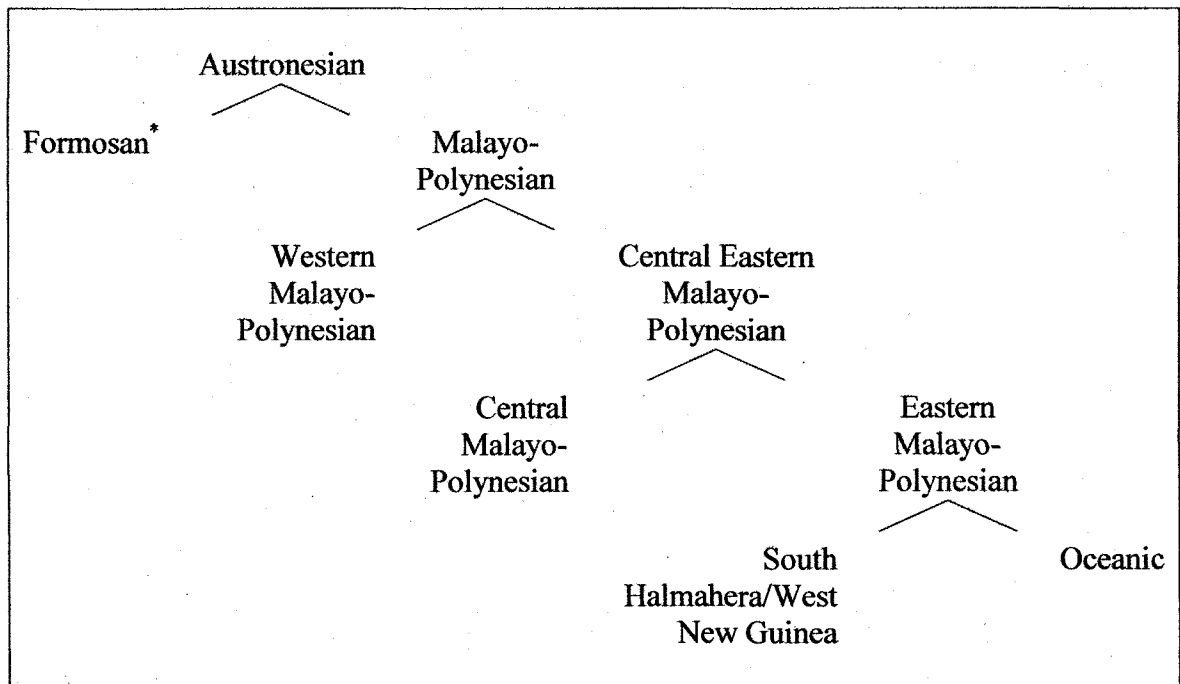
*This should be read as shorthand for the various Formosan languages, which do not constitute a subgroup.
Figure 3: The Higher Nodes of the Austronesian Family Tree
(Ross (1988:20), see Blust 1978, 1982, 1984 for argumentation)

The difficulty of classifying Yapese stems from the fact that it has borrowed

extensively, and due to its geographical location, has borrowed from both Oceanic and non-

Oceanic languages (Ross 1996). To the southeast, beginning at Ulithi, a chain of islands

stretches into the Truk archipelago. As far east as Nauru, the majority of Yap's neighbors

speak genetically Micronesian languages, which constitute a subgroup of Oceanic (Jackson

1983, 1986). To the southwest lies Palau. Palauan is clearly Malayo-Polynesian, but not

Oceanic.[2] Reviewing the historical record, Ross infers that there was substantial contact with

both the Oceanic languages to the east and Palauan to the west:

> [W]e know that the people of Yap were in frequent contact with Belau [Palau], whence
> came material for their stone money, and with the inhabitants of Ulithi, via whom the
> Yapese communicated with the rest of their "empire" in the atolls of Western
> Micronesia.
> (Ross 1996: 124)

Ross solves the puzzle of Yapese classification by positing at least five lexical strata. A strata

inherited from POc is argued to be the oldest because it is found in bound morphemes (the

transitivizer *-e:y* <POc *-akini* as well as vowel raising historically motivated by the POc

transitivizer **-i*), and in the pronominal system. Later strata come from early Palauan, from

another unidentified non-Micronesian source (which Ross suggests might be an even earlier

stage of Palauan or perhaps some extinct relative), from early borrowings from Nuclear

Micronesian languages, and from later borrowings from Ulithian and Woleaian. Ross further

presents evidence to suggest that Yapese and proto-Admiralty may have had a distinct

common ancestor (Ross 1996: 143-5).

In recent history, Yapese has been influenced by Spanish, German, Japanese and

American English. In addition to Ross' five lexical strata, one can observe borrowings from

each of these sources, e.g.: *kuruuth* (<Spanish *cruz*) 'crucifix, Christian cross'; *Moontaag*

(<German *Montag*) 'Monday'; *neegii* (<Japanese *negi*) 'onion'; *faloowaa* (<English *flour*)

'bread, flour'.

Yap is currently a multilingual society. Colonia, its capital, has a sizeable population of outer islanders who speak various Micronesian languages, especially Ulithian, Woleaian, and Satawalese. Because there are no high schools on the outer islands, students who wish to continue with their schooling come to Yap from the outer islands, and English is the lingua franca of not only the high school, but government and commerce.

The maintenance of Yapese culture and language is of contemporary concern on Yap. These themes are articulated by Jesse Raglmar-Sublomar in his address to the 1995 meeting of the Pacific Islands Association of Libraries and Archives (PIALA):

> It has been said and I think it has a lot of truth that "we need to know where we come from in order for us to know where we are going". This is what I think our history, our culture, our customs and traditions teach us. They make us a stronger people, a more committed people and a more respectable people. Our societal values have worked for many generations of our people for thousands of years. These values of self-respect and a sense of community, pride, cooperation and commitment, to name a few, come from our culture, our traditions and our history ... Our cultural heritage provides for us enlightenment and uplifiting that in our entire experience can never be provided by anything else we have. Our culture, our heritage must be viewed in terms of its crucial role in our future sustainability as a people.
> (Raglmar-Sublomar 1995: 13-14)

The Yap State Education and Enterprising Department (YapSEED) is vigorously committed to ensuring that Yapese culture and language is represented within a western-style education system. YapSEED is currently in the process of reassessing its curriculum, and has recently published a series of early reading texts in all four languages of Yap state, as well as in English. In an interview (conducted as part of the current study) Sherri Manna comments on the differences between current education in Yap and her own schooling in the 1950s:

> "Ma tin ba 'araay ni goomaang ea boechii yaat boed ea chineey ni gu ma guy ea bitiir ni sikuul ni yi ma fil ea yaat ea da 'un fil ea tin'eam ngomaed ni marunga'agean yu Wa'ab."

"Those things, for example the little stories that I see they teach to schoolchildren now, they didn't teach those to us, those things about Yap."

2. Previous Linguistic Scholarship

The history of linguistic scholarship on Yapese reflects the colonial history of the islands. The earliest probable western contact is in 1526, when the Portuguese explorer Diego del Rocha landed on what he named the Sequeira Islands – most likely Ulithi (Lévesque 1996). Contact with westerners was sporadic until the later part of the nineteenth century. In 1869, the German trading company J.C. Godeffroy & Sons established an office on Yap. Both Germany and Spain had an eye toward Micronesian territories, and in 1885, Pope Leo XIII ruled that the islands would be ruled by Spain (Labby 1976).

The Spanish missionary and Capuchin monk Fr. Ambrosio de Valencina produced the earliest published work on Yapese grammar (de Valencina 1888), *Primer Ensayo de Gramatica de la lengua de Yap*. His grammar, printed in Manila, is, as far as I can ascertain, the first published work which contained written Yapese. The Spanish-based orthography which he employed was used until the Yapese Orthography Committee reworked Yapese orthographic conventions in 1972 (YRG: 4). The work contains a short dictionary of some forty pages and a list of phrases and dialogues. For modern commentary on de Valencina's grammar, see Hoyos Hoyos (1996).

In 1899, after their defeat in the Spanish-American war, Spain sold its Micronesian territories to Germany (Alkire 1976). For the first half of the twentieth century, the majority of recorded linguistic scholarship is German. The German Mission Fathers (*der Patres der Mission*) primer from 1909 appears to be directed toward teaching German to Yapese

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children. As well as lessons on the alphabet, it contains sections on geography and patriotic songs in German. The Yapese portion of the text includes twelve short texts (without translations) and conjugation tables for German and Yapese verbs.

Sixtus' (1914) grammar is the most comprehensive of the early grammars. He covers basic phonology, major grammatical categories, transitivity, conjunction, affirmation and negation, interjections and morphological derivation in thirteen chapters. He also includes a set of practice exercises for learners, and a substantial dictionary — both German-Yapese and Yapese-German.

Henry Furness' 1910 work, *The Island of Stone Money: Uap of the Carolines*, is an ethnographic work with an appendix which covers language. As well as a short, fourteen-page word list, he deals with various grammatical categories, numerals and conjunctions. His remarks on Yapese are typical of colonial attitudes:

> "It is almost needless to remark that when a language has never been set forth in writing, its forms and even its pronunciation are as shifting as the sands of a beach. The only object of those to whom it is native is to understand and be understood. Let these two ends be gained, and all the accidents of grammar are superfluous and pronunciation will fall under no critic's condemnation ... In these circumstances I have deemed it wisest to set forth the Etymology and Syntax in the briefest and most concise way, and trust to phrases and the vocabulary as supplemental to the mother wit of the traveller in his communication with the simple-minded natives of this truly charming island"
> (Furness 1910: 181)

During the first decade of the twentieth century, there was a burgeoning Japanese presence in the islands. With the outbreak of World War I, Japan seized control of German Micronesia (Alkire 1976). During this period, Japanese language instruction was widespread, and many older Yapese people are fluent in Japanese. At the end of World War II, the United States of America took over the administration of the islands of Micronesia. The post-war period sees the last of the pre-modern German grammars, Lorrach's (1953) manuscript.

Unfortunately, this manuscript has been available to me only as a microfiche copy. The condition of the manuscript is very poor, and a good deal of it is handwritten, rendering much of it entirely illegible.

The works of Isidore Dyen and Samuel Elbert mark the beginning of American scholarship. Elbert (1946) recorded preliminary Yapese-English and English-Yapese word lists. Dyen (1949), working with an "informant from Dechimur in the Tamil district" produced an *Interim Report* which took a modern approach to phonological description. Although the orthographical representation is somewhat changed, the phonological system that he set out closely resembles that on which the modern orthography is based. Dyen also comments on the presence of regional variation in Yapese.

In 1969, Robert Hsu produced a dissertation entitled *Phonology and Morphophonemics of Yapese,* as well as a short paper on the same subject in *Hawai'i Working Papers* (Hsu 1969a & b, respectively). Hsu was also heavily involved in the computational aspect of producing PALI dictionaries and grammars – a series of works on Pacific languages produced by the University of Hawai'i Press (see Hsu & Peters 1983). Around the same period, Jensen, Iou and Pitmag produced a set of lessons intended for American Peace Corps volunteers learning Yapese (Jensen, Iou & Pitmag 1967).

By far the most comprehensive works on Yapese grammar and lexicography are the PALI grammar and dictionary, produced by John Jensen, Leo Pugram, Raphael Defeg and John Baptist Iou. The *Yapese-English Dictionary* (Jensen et al. 1977a,), contains both English definitions for Yapese headwords, and a finderlist for Yapese translations of English words. The *Yapese Reference Grammar* (Jensen et al. 1977b) presents comprehensive and detailed descriptions of phonology, morphology and syntax.

Since Jensen et al.'s grammar, linguistic scholarship on Yapese has mostly taken the form of short articles or unpublished theses and dissertations. John Walsh and Eulalia Harui-Walsh examined connections between Yapese and Ulithian (Walsh & Harui Walsh 1979, Walsh 1985, Walsh 1987). Jensen's short essay on transitivity and passivization (or rather the lack thereof) appeared in 1984. Hung's 1989 essay deals with the phonology of Yapese vowels, and Cho and Ladefoged (1997) examine the articulatory phonetics of ejective consonants. Ballantyne (2000) describes Yapese reduplication and argues for the evidence of both CV and CVC syllables in non-final position. Ballantyne (2004) examines information structure and referring expressions in Yapese in the framework of Centering Theory. This work is recapped in some detail in Chapters 6 and 7.

3. The Corpus

The corpus of materials used as data in the present study were collected over an intermittent period of eighteen months in Hawai'i and on Yap. The corpus is comprised of two parts; the Honolulu corpus and the Colonia corpus. The Honolulu corpus was collected at the University of Hawai'i in the spring of 2001. It consists of four short texts previously published by PALM (Pacific Area Language Materials) (PREL 1999) as readers for upper-level elementary students.[3] Three of these are narratives: *L'agruw i Maabgol* (The Married Couple, Anon 1978/1999a), *Beaq ni ba Moqon ngea ba Raan' i Moongkii* (A Man and a Troop of Monkeys, Yiftheg 1978/1999),[4] retold by Bernard Yiftheg, and *Thilig Kaakaroom* (A Long Ago Storm, Anon 1978/1999b). The final text in the Honolulu corpus, *Guwchiig* (Dolphins, Anon 1999) is a non-fictional piece of expository text concerning the habits of dolphins. The entire Honolulu corpus comprises 3, 077 words of written text. The texts were

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translated by Ms. Stella Kolinski, a native speaker of Yapese from Colonia, and interlinearized collaboratively.

The Colonia corpus was collected over a two-month period between September and November of 2002, on Yap. The corpus consists of three texts; *Schooldays*, *M'uw* (Canoes) and *Dapael* (Menstrual Houses). All three texts are interviews, and were transcribed and translated by Ms. Angela Y. Kenrad and Sheri Manna, who were my primary language consultants and teachers.

Ms. Kenrad was in her thirties at the time the interviews were conducted. She is originally from Rumung, but was resident in Keng, Weloy (within the town of Colonia) at the time of the interviews. Sheri Manna is from the Weloy district and in her fifties.

In *Schooldays*, Angela Kenrad interviews Sheri Manna about her childhood and her experiences at Saint Mary's school. This first interview was intended to familiarize both consultants with the process of interviewing, transcription and morpheme-by-morpheme translation.[5] *M'uw* is an interview conducted with Mr. Walter Chieng by Angela Kenrad in the town of Teb, Tomil, in which he describes some aspects of traditional canoe building. The interviewee for *Dapael* (who has asked that her name not be made public) gives an account of the traditions surrounding puberty rituals for women and the demise of the custom of *dapael*, or menstrual houses. She was interviewed in a town in Weloy. Both of these interviewees are over 65, and were chosen for their expertise in traditional knowledge. Copies of the tapes and transcribed interviews are available on Yap, at the Education Department (YapSEED), in the Historic Preservation Office, and at the Yap State Archives. Copies of the transcripts have been deposited in the Department of Linguistics Reading Room, University of Hawai'i at Mānoa, and digital copies of the tape are available in the

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same department's Phonetics Laboratory.

In total, the corpus is comprised of 6, 665 words (769 clauses). Table 1 summarizes the materials in the corpus.

Table 1: Summary of Corpus Materials

Text	Abbreviation	Words	Clauses
Honolulu Corpus			
L'agruw i Maabgol (The Married Couple)	L	938	114
Beaq ni ba Moqon ngea ba Raan' i Moongkii (A Man and a Troop of Monkeys)	M	779 (614 narr 165 questions)	86 (71 narr 15 questions)
Thilig Kaakaroom (A Long Ago Storm)	T	373	121
Guwchiig (Dolphins)	G	1, 152	18
Total for Honolulu Corpus		***3, 242***	***339***
Colonia Corpus			
Schooldays Angela Kenrad interviews Sheri Manna	S	550	75
M'uw (Canoes) Angela Kenrad interviews Mr. Walter Chieng	W	1, 454	187
Dapael (Menstrual Houses) Interview conducted by Sheri Manna	D	1, 409	168
Total for Colonia Corpus		***3, 413***	***430***
Total Corpus		**6, 655**	**769**

In producing translations and transcriptions of the texts recorded in Colonia, I have tried to be mindful of Leo Pugram's critique of earlier linguistic fieldwork on Yap. Pugram's 1989 paper delivered at the *Vernacular Language Symposium on New and Developing*

Orthographies is a summary of the impact of linguistic scholarship and particularly of

orthographic change from the perspective of an educator. Pugram provides the following

suggestion for future linguists working on Yapese:

> The three native speakers never worked together. Each worked with the linguist at
> different times. This was a problem for us later because as each new native speaker
> came to work with the linguist he said what the earlier native speaker had said before
> was untrue. I was one of these.
> (Pugrum 1989: 47)

Transcriptions were produced by both Angela Kenrad and Sheri Manna in parallel.

After an initial transcription was produced, I reviewed the parallel transcriptions in

conjunction with the tape, and highlighted areas in which the records were unclear or

inconsistent. The process was then revisited at areas of unclarity. The entire transcription was

then checked and rechecked against the tape. The tape and transcript were then presented to

the interviewee for review. In the case of Mr. Walter Chieng, who is not literate in Roman

script, unclear sections of tape were checked verbally.

One of the unforeseen advantages of this methodology was that I was spontaneously

able to gather some data on sociolinguistic variation as Ms. Kenrad and Mrs. Manna combed

through the tapes and remarked upon regional variation in passing. This data is not

substantial and not explicitly analyzed here (although see chapter 4 for brief remarks on the

transitive dual agreement marker). Any assessment of the examples of Yapese contained

within this dissertation should bear in mind that Yapese is regionally diverse, and that the

data presented here are not representative of the pronunciation or the idiom of all speakers of

Yapese.

4. Thumbnail Sketch of Yapese Grammar

For a detailed treatment of Yapese grammar, readers are referred to Jensen et al.'s

(1977) *Yapese Reference Grammar*. The following is intended as a thumbnail sketch to assist

readers who are unfamiliar with Yapese to read the examples in this work. Grammatical

analysis which is new or differs substantially from the analysis in Jensen et al. (1977a, b) will

be laid out and motivated throughout the rest of this dissertation.

4.1. Phonology and Orthography

Yapese distinguishes voiceless stops and fricatives; voiced stops and fricatives are not

distinguished. Plain and glottalized contrasts are found for glides, the lateral liquid, nasals,

and a subset of the voiceless obstruents. Table 2 represents Yapese orthography (to the left)

and IPA values (to the right) for Yapese consonants.

Table 2: Yapese Consonants. Adapted from YRG: 38.

	labials		dental		retroflex		velar		glottal	
plain voiceless stops	p	p	t	t	ch	t͡ʃ	k	k	q	ʔ
glottalized stops	p'	p'	t'	t'			k'	k'		
plain voiceless fricatives	f	f	th	θ	s	s			h	h
glottalized fricatives	f'	f'	th'	θ'						
voiced obstruents	b	ß	d	ð	j	j	g	x		
plain nasals	m	m	n	n			ng	ŋ		
glottalized nasals	m'	m'	n'	n'			ng'	ŋ'		
plain liquids			l	l	r	r				
glottalized liquids			l'	l'						
	high front				high back rounded					
plain semivowels	y	j			w	w		·		
glottalized semivowels	y'	j'			w'	w'				

With respect to vowels, Yapese distinguishes vowel length at eight points of articulation,

giving rise to sixteen distinct vowels. Vowels and approximate IPA values are given in Table 3. Again, Yapese orthography is represented to the left.

Table 3: Yapese Vowels and Approximate IPA Values. Adapted from YRG (14, 18)

Short Vowels				Long Vowels			
	front	central	back		front	central	back
high	i ɪ		u ʊ	high	ii iː		uu ʊː
mid	e ɛ	ö œ	o ɔ	mid	ee eː	oe œː	oo ɔː
low	ë æ	ä a	a ʌ	low	ea æː	ae aː	aa ɑː*

*[ɑ] is the approximate IPA value assigned to this vowel by the YED (xi); the vowel is however more fronted than the cardinal IPA value.

The current Yapese orthography was introduced in 1972, by a committee comprised of Yapese representatives from districts across the islands, the Yapese linguists Pugram and Iou, and University of Hawai'i linguist John Jensen. Prior to this, the orthographic system designed by Spanish missionaries in the late 1800s was in widespread use. The introduction of the *new spelling*, as it is called, has been a matter of some controversy, with many Yapese people preferring to use the *old spelling*. Particular controversial is the representation of vowels in the new spelling, which is significantly different from that of the older system, and the use of 'q' to represent the glottal stop.

> I believe that the biggest mortal sin committed in the orthography process was to add the letter 'Q' which does not represent any sound, but is used as a glottal stop. Nobody, and I mean nobody, liked that 'Q'.
> (Pugrum 1989: 48)

Pugram (1989) also remarks that another problem created by the introduction of the new spelling was that it was taught only to children, and that adults were unable to assist their

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children with schoolwork.

New spelling is preferred by YapSEED; and because many of the materials in my corpus were either taken from YapSEED publications (or publications of its earlier incarnation, Yap District Department of Education), or else were intended to be of use to curriculum developers at YapSEED, I have used new spelling throughout. In transcribing spoken data, we have made every effort to be faithful to conventions established by the Education Department. In written Yapese, orthographic conventions vary to some extent; for the analyst of connected discourse, this is particularly noticeable when writers vary the assignment of word boundaries. Out of a conviction that this variation is a valid site of analysis, I present all data from written sources in its original form.

4.2. Selected Aspects of Clause Structure and Morphosyntax

The major open word classes in Yapese are nouns, verbs and adverbs. There is no adjectival class. Noun attributes are expressed by means of relative clauses.

1. ba   yakoq   ni   ba   geel
    ref   storm   relpro   stat   strong
    "a strong storm" (lit. "a storm which is strong")

Yapese has a nominative/accusative case system, with case distinctions only apparent on pronouns. The order of basic constituents in a Yapese clause varies according to the tense-mood-aspect of the verb and the form of noun phrase arguments. For clauses with full noun phrase arguments, canonical Yapese word order is VSO. Verbs are preceded by a TMA marker:

2. Kea   chuwqiy   Tamag   ea   falowaa.
    perf.3.sg   buy.tns   Tamag   idf   bread
    "Tamag bought bread"
    (YRG 263, interlinear glosses mine throughout)

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If the subject is a pronoun, it occurs preverbally. Two clause structure patterns are found in Yapese; what Jensen et al. (YRG) call *independent pronoun verb phrases* and *suffixed pronoun verb phrases*.

In an independent pronoun verb phrase, the independent subject pronoun (Table 4) precedes the tense aspect marker, which in turn precedes the verb.

3. **Yaed** bea marweel.
    3.pl prog work.intr
    "They are working."
    (YRG 194)

In the singular, the independent pronouns divide into two series (Table 4). Series I is used in contrastive environments, and is often found when the pronoun is not in a clause (*I gaag?* 'Me?'). Series II is used when the pronoun is nominative or accusative and in a non-contrastive environment. Object pronouns occur post-verbally (unless they are fronted, see below).

In suffixed pronoun verb phrases, the subject pronoun follows, and is often cliticized to, the TMA marker. Clitic subject pronouns (Table 5) neutralize the distinction between dual and plural.

4. **Kea** yaen nga Donguch.
    perf.3.sg go to Donguch
    "S/he has gone to Donguch."
    (YRG: 204)

The term *suffixed pronoun verb phrase* comes from the fact that clitic pronouns are accompanied by subject number agreement suffixes. These suffixes preserve the dual/plural distinction lost in the clitics. Agreement follows a three-way system. Clitic subjects of transitive verbs follow a different agreement pattern from subjects of intransitive verbs (Table 6).

5. Ka   ra   chuwqiyeed   ea   chugum.
   perf   3.non.sg   buy.tns.pl   idf   things
   "They bought things."

6. Ka   ra   chuwaey'   gaed.
   perf   3.non.sg   buy.intr   pl
   "They bought."
   (YRG: 137)

Yapese verbs are either transitive or intransitive; there are no verbs like English *eat* which may be transitive or intransitive depending on context. Valency may be signaled morphologically via the intransitivizing prefix *ma-* or the transitivizing suffixes *–eeg, -g,* or -*y* (YRG, Jensen 1984) or *–naag*, which under certain circumstances has a causative semantics.

Intransitive	Transitive	Gloss
masay	*sey*	to split
fool	*fooleeg*	to measure
miith	*mithaeg*	to hide
quruf	*qurfeeg*	to burn
puruuy'	*puruuy' naag*	to discuss
roowroow	*roowroow naag*	to be red/to make red

Pronominal objects of transitive verbs may either be independent pronouns (as in Table 4)[6] or object clitics (Table 7):

7. Kea   guyeeg.
   perf.3.sg.nom   see.tns.1.inc.acc
   "S/he saw me."

8. Kea   guyeem.
   perf.3.sg.nom   see.tns.2.acc
   "S/he saw you."
   (YRG: 140)

For the interaction between subject and object suffixes on transitive verbs, see chapter 4.

Table 4: Independent Pronouns

	sg I	sg II	du	pl
1 inc	gaeg/gaag	gu	gadow	gadaed
1 ex			gamow	gamaed
2	guur	ga	gimeew	gimeed
3	qiir	ø	yow	yaed
indef	yi		gayow	gayaed

Table 7: Clitic Objects

	sg	du	pl
1 inc	-eeg	-dow	-daed
1 ex		-mow	-maed
2	-eem	-meew	-meed
3	ø	-row	-raed

Table 5: Clitic Subjects (YRG: 199)

	sg	pl
1 inc	gu	da
1 ex		ga
2	mu	mu
3	i/ø	ra
indef	ni	

Table 8: Dative Pronouns (YRG: 149)

	sg	du	pl
1 inc	ngoog	ngoodow	ngoodaed
1 ex		ngoomow	ngoomaed
2	ngoom	ngoomeew	ngoomeed
3	ngaak'	ngoorow	ngooraed
indef	ngooyiy		
impers	ngaay		

Table 6: Subject Number Agreement

	Transitive Verb	Intransitive Verb
dual	-eew	gow
plural	-eed	gaed

Table 9: Genitive Pronouns for Alienable Possession (YRG: 149)

	sg	du	pl
1 inc	roog	roodow	roodaed
1 ex		roomow	roomaed
2	room	roomeew	roomeed
3	rook'	roorow	rooraed
indef	rooyiy		
imper	riy		

Dative pronouns (Table 8) are diachronically derived from the object clitics and the preposition *nga* (YRG: 149), with vowel lengthening and raising in the affixed preposition. The third person singular *ngaak'* differs from this paradigm in that the vowel is not raised, and the element [k'] is not present in the object clitic pattern (third person singular object clitic is zero).

As is the case in many Austronesian languages, marking of the possessive relationship is split between those items which are inalienably possessed, in which case the possessor is indicated by a suffix on the possessee, and those items which are alienably possessed, and are marked by a genitive pronoun (Table 9). The inalienable possessive suffixes are identical in form to the object clitics, with the exception that they have no vowel at the onset of the suffix in the singular (that is, the suffixes in the singular are *–g* first person inclusive singular, *-m* second person singular). The alienable genitive pronouns follow a similar pattern to the dative, (with similar exceptions to the paradigm evidence by the accusative clitics), but with the element *roo-* rather than *ngoo-*.[7] For ready reference to these data, readers are referred to Appendix B.

A typologically interesting feature of Yapese grammar is that Yapese has no voice alternations. Although Yapese has noun incorporation constructions (e.g. *chuwaen'* 'to get tired of, be disinterested in, be bored with' < *chuw* (intr) 'to leave, go out from, divorce, remove out of, get out of' + *waen'* 'feeling, mind, opinion (3.sg) (YED)', they are of the type that Mithun (1984) has dubbed *lexical compounding*, and are not productive (Ballantyne 2003).

Passive functions, such as the suppression of a non-topical agent (Givón 1981, 1994)

are achieved in Yapese by means of the semantically bleached indefinite pronoun.

9. | Ka | **ni** | pirqeg | bayaay | nii | |
perf	idfpro	find	again	cmp	
qayuweeg	ea	guwchiig	ea	girdiiq	ko
help	idf	dolphin	idf	people	to fitaeq.

fish
"It was also found (lit "someone also found") that dolphins help people to fish."
(Brugger & Lukubyad 1978)

Evidence that *ni* is in fact a pronoun (rather than a marker of passivization) comes from the

fact that it has a clitic form (*ni*) and an independent form (*yi*). The aspect marker *maa*

'habitual' may not occur with clitic pronoun markers (see Chapter 4 for more detailed

discussion of tense-aspect-mood and pronouns), and in the next example, takes the

independent form of the indefinite pronoun. Note also the position of *yi* prior to the TMA

marker, as is the case generally for independent pronouns.

10. | **yi** | maa | sikeeng | naag | ea | girdiiq |
idfpro	hbt	test	tns	idf	people
ngea	chiyeg				
and	monkeys				

"people and monkeys are tested" (lit. "someone tests people and monkeys")

Yapese also has the option of fronting noun phrases:

11. | Pi | n'ean | ney | ea | goqo |
Pl	things	spkr.prx	FM	only
maa	riin'	ea	guwchiig.	
hbt	do.tns	idf	dolphins	

"These things, only dolphins do (them)."
(Brugger & Lukubyad 1978)

5. Concluding Remarks

This chapter has been intended as a ready reference for those readers unfamiliar with

Yapese or the properties of Oceanic or Austronesian languages. I have briefly discussed the

history and current status of the Yapese language, and reviewed previous linguistic scholarship on this language. After outlining the data on which the present project is based, I sketch some relevant aspects of Yapese phonology, orthography and grammar.

The position of Yapese as a primary subgroup of Oceanic means that new data of any kind which furthers our understanding of this language which is so unlike its neighbors makes a valuable contribution to Austronesian linguistics. Given that studies of discourse structure in general have focused for the most part on widely spoken, and particularly Indo-European languages, analysis of Yapese discourse structure additionally contributes to our understanding of the typological diversity of the world's languages. Finally, the rather unusual lack of case manipulation morphology in Yapese makes the analysis of the functions of referring expressions an intriguing addition to the study of information structure and accessibility.

3. EVENTS IN NARRATIVE: TEXTLINGUISTIC AND PSYCHOLINGUISTIC

PERSPECTIVES

"Reality never occurs in narrative form. The totality of what happened to and in and around me since I got up this morning is not organized as narrative, and as a totality cannot be expressed as narrative. To make a narrative, I have to isolate certain elements out of the unbroken seamless web of history with a view to fitting them into a particular construct which I have more or less consciously in mind"
(Ong 1981: 12)

This chapter considers the ways in which language encodes events in narrative, and how events are granted enhanced prominence in the structure of a narrative. My major argument is that the kind of morphosyntactic marking which is strategically employed to increase the importance of events in narrative corresponds to an indexing of the event in such a way that it mimics our lived experience of real events.

I begin with brief outlines to two approaches to the study of narrative; first, what I refer to as the textlinguistic tradition, which is primarily concerned with explaining morphosyntactic patterns in naturalistic data, and second, a more recent experimentalist approach to understanding narrative through the lens of the situation model framework. I then consider a number of domains of investigation which have the potential to be better understood through a synthesis of these schools of research. I first consider the question of iconicity, the mirroring of the temporal order of events in the order of clauses in the text. Experimentalist psycholinguistic work has shown that iconically presented events have a processing advantage over non-iconic ordering (Ohtsuka & Brewer 1992, van der Meer et al. 2002, Zwaan 1996, Begsten & Vonk 1995). Evidence from text shows that producers of language are sensitive to this distinction, and index it morphosyntactically

(Longacre 1976, den Exter Blokland 1995, Heimerdinger 1999, Heller 2004, Mfonyam 1994, Schiffrin 1981, Fleischman 1985, 1990).

Iconicity forms a baseline of events on the narrative timeline. I next consider various ways in which languages augment this baseline to increase the prominence of events. My focus here is particularly on tense and aspect, and this section begins by reviewing experimental evidence which considers processing differences between ongoing events and completed events (Carreiras et al. 1997, Zwaan Madden & Whitten 2000, Madden & Zwaan 2003, Magliano & Schleich 2000). I then turn to textual evidence, which indicates that both progressive and present tense morphosyntax have the capacity to increase the prominence of narrative clauses. Evidence is taken from study of the conversational historical present (Schiffrin 1981, Fleischman 1990), from the Tokelauan inchoative (Hooper 1998) and from the Australian English present perfect (Engel & Ritz 2000).

The chapter concludes with a review of the experimental research which suggests that events which are connected causally (Duffy et al. 1990, Singer et al. 1992, Hallordson & Singer 2002) or with respect to goal satisfaction and intention (Rinck & Bower 2004, Trabasso & Suh 1993, Suh & Trabasso 1993, Albrecht & Myers 1995, Lutz & Radvansky 1997, Radvansky & Curiel 1998) are processed more efficiently than those which are not connected in such a fashion. I end by proposing that this processing advantage is likely to correlate with morphosyntactic marking. Before turning to the domains of narrative under investigation, I first sketch the characteristics of the two major schools of thought which are drawn on in this chapter.

1. Textlinguistic Perspectives on the Structure of Narrative

A good deal of insightful research on the nature and structure of narrative has emerged from what I am calling the *textlinguistic* tradition. This tradition is marked by the use of primarily naturalistic data; that is, data which more or less approximates language as it is used in daily life. The aims of this tradition have been first to understand the structural properties of narrative, and second, to account for morphosyntactic variation, particularly as it pertains to marking clauses as more or less prominent within the text.

A given text counts as a narrative if it has minimally "two clauses which are temporally ordered: that is, a change in their order will result in a change in the temporal sequence of the original semantic interpretation" (Labov 1972: 360). The following short extract is taken from a pre-adolescent narrative:

1.   This boy punched me
        and I punched him
        and the teacher came in
        and stopped the fight.
        (Labov 1972: 360)

The order of narrative clauses in the text (*sjuzhet*) mirrors their order in the represented world (*fabula*).[1] Narrative clauses by definition cannot be reordered without upsetting the order of events in the *fabula*. Note that if the order of the first two clauses in the narrative above is reversed, the semantic interpretation is changed: *I punched this boy/ and he punched me* (Labov 1972: 360).

Labov's (1972) analysis of the structure of narrative has been widely influential and has proven to be applicable to analyzing narrative structure across a variety of narrative genres and in numerous languages.

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In Labov's schema, a canonical narrative is structured from the following elements:

Abstract	summarizes the tale and the impetus for telling it
Orientation	describes the setting, characters, situation
Complicating Action	introduces events which occurred
Evaluation	evaluates the events/narrative
Result or resolution	explains what finally happened
Coda	relates the events to the current context

These elements are found within the narrative in the order presented, with the exception of evaluation, which may be interspersed with other elements throughout the text. Note furthermore that Labov's framework does not require all these elements to be present; example (1) above still counts as a narrative despite lacking many of these parts.

The complicating action is the heart of the narrative, and it is in the complicating action that the majority of temporally ordered clauses are found. Not all clauses within a narrative, however, occur in chronological order. Those clauses which do reflect the temporal ordering of the described world have a special status within analysis of narrative, and are generally referred to as *narrative clauses*, or sometimes as the *foreground* of the narrative. Non-narrative clauses are variously described as *free clauses* (Labov 1972, Fleischman 1990) or *backgrounded clauses* (Grimes 1975, Brinton 1996, Dry 1983, 1988, 1992). Backgrounded clauses describe continuous, habitual or iterative actions or states which may temporally overlap or be simultaneous with narrative clauses. They may be reshuffled in the text without reordering the sequence of events in the fabula.

Multiple authors have defined the narrative foreground as being composed of clauses which mimic the temporal order of events in the imagined world. "[T]he foreground is composed of sentences which refer to sequenced points on a timeline. The

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background is composed of those sentences that either do not refer to a single point (e.g. imperfectives, habituals, iteratives), or refer to a point that is not presented in *fabula* sequence" (Dry 1983: 48). Similarly, "[t]he foreground is generally considered to be the actual storyline of the narrative" or "the main eventline of the narrative, its 'skeleton' or 'backbone'" (Brinton 1996: 45). Hopper and Thompson list two features characteristic of the foreground: first, "the foregrounded portions together comprise the backbone or skeleton of the text, forming its basic structure; the backgrounded clauses put flesh on the skeleton, but are extraneous to its structural coherence" (1980: 281). Sequentiality is paramount for a clause to be foregrounded: "the foregrounded clauses ... are ordered in a temporal sequence ... Backgrounded clauses, however, are not ordered with respect to each other" (1980: 281). Several writers (Kalmár 1982, Hopper & Thompson 1980) have commented that when background material is removed and the clauses of the narrative skeleton are considered alone, they (more or less successfully) form a précis or abstract of the narrative events.

In contrast, the background, "often defined negatively" (Brinton 1996: 45), is composed of events out of temporal sequence; of descriptions of the setting, characters and motivations; of comments on or evaluations of the narrative; and of alternatives or negatives (Brinton 1996). Grimes (1975) notes that background events are secondary events which may be overlapping or concurrent with foregrounded events; that they may be "off-stage"; summarized, rather than narrated; and that they have the capacity to be moved around in the text without changing the temporal structure of the depicted events.

Binary conceptions of a foreground/background distinction have been critiqued by some thinkers. Givón (1987) conceives of the foreground/background as a continuous

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conceptual space which may appear binary if it is viewed in terms of formal correlates; he suggests that morphosyntax has a tendency to discretize (i.e. make discrete). Fleischman further points out that the morphosyntactic markers associated with various aspects of the foreground or background are in fact independent of each other, although they may travel together. She thus views foreground and background as a matter of degree, and conceptualizes "the different degrees being expressed through an interplay of the semantic and grammatical oppositions available in the language" (1990: 184).

It is typical for narratives, especially for more complex and involved narratives, to instantiate a sequence of episodes building to a peak. As the episodes move closer to the peak and the suspense heightens, languages use a variety of strategies in order to mark levels of increasing prominence. This fact gives us an independent base for assessing prominence in narrative clauses; those clauses which appear early on the timeline are less prominent than later clauses which occur toward the peak. Thus, given a shift of morphosyntax within a narrative episode, we should generally expect the shift to be from a morphosyntax of lesser prominence to a morphosyntax of greater prominence (this of course does not hold true across episodic boundaries).

It is easy to find examples of languages which express varying degrees of foreground and background, distinguishing between prominent and less prominent events both on and off the timeline. The following example from Kickapoo, (an Algonquian language of northern Mexico) illustrates this type of system. Kickapoo distinguishes five levels of grounding: ordinary background; significant background; ordinary events; pivotal events; and peak (Jones & Jones 1979). The narrative extract in question displays the first four of these.

Table 1: Grounding in Kickapoo Narrative

Level	Form	Function
ordinary background	indicative first aorist	setting, participants, descriptions of mental states
significant background	conjunctive first aorist	background material of greater importance to the narrative; also used to demote events to background
ordinary events	conjunctive second aorist	most events on the timeline
pivotal events	doublet construction	events on the timeline of particular significance to the story

(After Jones & Jones 1979)

2.a. Noohki   eepoθeaake   anika isi   kiaki.
      again   conj.1st.we.took.off   moving along   still
      conj.1st: significant background
      Again we took off and kept moving along.

 b.   Se   nahi   mani isi   paskickaake
      then   there   in this way   conj.1st.we.went
      eetoke
      at the same time
      conj.1st: significant background
      eeneewaaci   kehcayaapeani.
      conj.2nd.he.saw.him   a big buck
      conj.2nd: ordinary event
      Then there in this way we went and at the same time he saw a big buck.

 c.   Eehkipemwaaci.
      conj.2nd.he.shot.him
      He shot him.

 d.   Neθenwi   pemweewa   se
      three times ind.1st.he.shot.him   at that time
      eeneθaaci.
      conj.2nd.he.killed.him
      doublet: pivotal event
      He shot him three times when he killed him.

 e.   Pesinakeci   trai   ciihi
      conj.1st.we.gutted&skinned.him   wow!   !
      mesayaapea.
      a big buck
      conj.1st: significant background
      We gutted and skinned him, wow, a big buck!

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f.   "Se   kiihpenopena,"   iini   eehici.

now   ind.fut.we.will.go.home   then   conj.2nd.he.said

conj.2nd: ordinary event

"Now we will go home," then he said.

g.   "Ena,"   iini   eehinaki

OK   then   conj.2nd.I.said.to.him

conj.2nd: ordinary event

"OK," then I said to him

h.   Eehawaatoaani   eiiki   niina   aaneta

conj.2nd.I.hauled   also   me   some

wiaaθi.

meat

conj.2nd: ordinary event

I also carried some of the meat.

i.   Wiina   eiiki   emmeθoomaaci.

he   also   conj.2nd.he.carried(some).on his back

conj.2nd: ordinary event

He also carried [some] on his back.

j.   Ni   na   eenaatenakeci   noohki

then   that.one   conj.2nd.we.picked.him.up   again

kotakea.

the other one

conj.2nd: ordinary event

Then that one, we picked up that other one again.

k.   Lini   se   nenesiikehcisinepenao

and   then   ind.1st.we.were.very.tired emph(asis)

ind.1st: ordinary background

penoocaio   ni   eenaacimenoaake

ind.1st.it's.very.far.emph   then   conj.2nd.we.stopped.to.drink

ind.1st: ordinary background conj.2nd: ordinary event

nahi   nepihi,   pileki

there   water   at a water tank

And then we were very tired, it's very far, then we stopped to drink water there at a water tank.

(Jones & Jones 1979: 12-13)

In this example, we see an escalation of narrative foregrounding up to the point of the pivotal event in the episode. The initial clauses describing the hunter's movements are presented as significant background; these are followed by spotting the buck, presented

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with an inflectional shift to signal an ordinary event; followed then by the actual killing of the deer in the doublet construction at (c) and (d).

The next shift at (e) into significant background begins the second part of this excerpt which concerns going home (note furthermore that this episodic boundary is accompanied by a spatial shift). Again we see an escalation from significant background at (e) to ordinary events at (f) through (j), and then when the portion of the journey is over, a new location and a switch back to backgrounding at (k).

There are a number of features which are found across languages which typically tend to increase the prominence of a clause in the narrative foreground. These include strategies of rhetorical underlining, as with the Kickapoo repetition, above (such as strategy is also commonly found in English). Of particular interest in the current work are strategies related to the manipulation of tense and aspect. Languages tend to promote narrative clauses to prominence through the use of both imperfectives and the present tense: evidence for this generalization will be outlined later in this chapter.

2. Events in the Situation Model

In more recent years, research on narrative has broken with the textlinguistic tradition. Current research places itself squarely within the tradition of psycholinguistics, is primarily experimental in nature, and is concerned with examining how narrative is processed. Although this research has undoubtedly advanced our understanding of the way in which narrative is comprehended, it has unfortunately been rather divorced from earlier textlinguistic work. The major implication of this lack of interaction has been that work in the experimentalist tradition has tended not to focus on the core areas of

grammar, especially tense and aspect, which were central to the descriptive work of earlier researchers.

Of Zwaan and Radvansky's (1998) five dimensions which are critical to updating situational models, three are relevant to the perception and linguistic encoding of events; namely time, causality, and intentionality. Zacks and Tversky (2001) point out that one crucial difference between the perception of objects and the perception of events is that events have a temporal dimension. Whereas objects persist in time and a viewer has a chance to perceive the structural properties of an object in various temporal orders, events are fleeting across time and have inherent internal temporal ordering. The perception of events, then, is influenced by the order in which those events occur.

It is a truism within situational models research that temporal information is ubiquitous in language: "[e]very sentence obligatorily contains information on the absolute or relative time at which the event described in the sentence occurred" (Zwaan & Radvansky 1998: 175). Despite this observation, laboratory research on temporal information processing has tended to concentrate less on the obligatory or grammaticalized components of temporal information, instead probing the effect of time adverbials or lexical choice.

The laboratory work has however considered in some detail the question of the order of events in narrative. The communication and comprehension of events differs from the perception of events in that events may be packaged in language in an order that differs from their chronological order. Narrators have tools available to present events in reverse order. There is experimental evidence, however, that comprehenders have a baseline assumption that events in language will be delivered in chronological order

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(Ohtsuka & Brewer 1992, van der Meer et al. 2002); a phenomenon dubbed the *iconicity assumption* (Givón 1983, Fleischman 1985, 1990, Dowty 1986, Zwaan 1996). Zwaan (1996) further notes that not only are events assumed to be chronological, but they are also assumed to be contiguous in time with no intervening events – the *strong iconicity assumption* (see also Begsten & Vonk 1995).

A second temporal dimension which has been investigated by experimental researchers is the distinction between ongoing events and completed events (Carreiras et al. 1997, Zwaan Madden & Whitten 2000, Madden & Zwaan 2003, Magliano & Schleich 2000). This distinction corresponds rather transparently to the aspectual distinction between progressive and perfective, frequently grammaticalized in the languages of the world. The experimental work in this area then, is nicely complemented by textlinguistic studies which have examined the role of tense-aspect in narrative structure.

Frameworks such as Barsalou's (1999) perceptual symbol semantics and Zwaan's (2004) immersed experience framework predict that events in language which more closely simulate the experience of events in the real world are processed more efficiently than events which simulate that experience with fewer features indexing the real-world perceptual experience. This then becomes a fertile point of contact between the psychologically motivated research and the research which has focused on texts. As a text advances, events tend to increase in prominence, building to the peak or resolution. The main idea that I wish to examine in this chapter is whether the factors which psycholinguists have identified as crucial to updating the situation model have observable correlates in the kinds of morphosyntactic strategies which users of language have conventionalized for the purposes of heightening the prominence of events in narrative.

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Do language users employ resources which package events in the here-and-now in order to enhance the experience of narrative? Do degrees of foregrounding correspond to the degree to which the experiencer is immersed in the narrative world?

These questions can be stated more formally as the following hypothesis, which I have dubbed the *situated foreground hypothesis*:

> *The situated foreground hypothesis:*
> The more prominent an event is in the imagined world of narrative, the more likely that the clause which expresses it will employ morphosyntax that indexes the experience of events which occur in the here-and-now of the real world.

The remainder of this chapter will consider a selection of the features of events as they are experienced in real time, and will evaluate the structure of narrative text from the standpoint of examining morphosyntax which encodes here-and-now features. We experience events in sequenced order; I show first that this has psychological reality as measured by processing differences, and second that it has a correlate in morphosyntax. We also experience events (a) in the present and (b) as ongoing. The situated foreground hypothesis predicts that if a language employs a present versus past distinction in narrative clauses, present tense clauses should be more prominent. In a similar fashion, if a language makes a foregrounding distinction between ongoing and completed narrative clauses, ongoing clauses should be more prominent. Finally, I consider the way in which causally or intentionally connected events are likely to be experience as parts of the same unit, and predict that clauses with such a connection should be found to be more foregrounded than clauses which are not connected in such a fashion.

3. Iconicity and Strong Iconicity

Events are experienced chronologically through time. We do not experience events in reverse order. Language, can, however, encode events asynchronously, in a reverse or a muddled temporal order. The *iconicity hypothesis*[2] (Zwaan 1996; see also Fleischman 1990, Dowty 1986) predicts comprehenders have a baseline assumption that in the absence of evidence to the contrary, the order of events in the text will reflect their order in the situation being described. The *strong iconicity hypothesis* predicts that, absent contrary evidence, not only are events ordered chronologically, but furthermore that no time intervenes between subsequent events: "[t]he default assumption of readers is that subsequent sentences or clauses in a narrative relate subsequent and contiguous events" (Zwaan 1996: 1205).

Iconicity has been studied both from the point of view of experimental psycholinguistics and the naturalistic study of text. A number of experimental studies have demonstrated that iconicity is crucial in narrative comprehension and that iconic clauses, and in particular strongly iconic clauses are more easily integrated into the developing situation model (Ohtsuka & Brewer 1992, Begsten & Vonk 1995, Zwaan 1996, van der Meer et al. 2002). These results suggest that comprehenders are indeed working from the assumption that language will deliver clauses in an order iconic with the events in question, and that when the order of clauses deviates from the iconic order, the concomitant overriding of this assumption taxes processing resources. Linguists focusing on the structure of texts have tended to use a somewhat different terminology, speaking of the foreground and of narrative versus non-narrative clauses. Nonetheless, there is converging evidence from text linguistics that a users of language do in fact

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assume that temporal sequencing of clauses and events is iconic. Researchers have noted for example that iconically sequenced events in narrative are contextually unmarked (Fleischman 1990); that there may be special morphology to signal the distinction between sequential foregrounded and non-sequential backgrounded events (Longacre 1976, den Exter Blokland 1995, Heimerdinger 1999, Heller 2004, Mfonyam 1994) and that parataxis plays a special role in narrative (Schiffrin 1981, Fleischman 1985, 1990).

These structural distinctions bolster the psycholinguistic evidence that iconicity is of critical importance to the comprehenders of narrative. Before considering some textual examples, I first review the experimental studies which suggest that iconicity and strong iconicity are key factors in language processing.

3.1. Iconicity and Situation Models

Experimental evidence has shown that events which are presented in chronological order are more easily integrated into the situation model – that is, it takes a shorter amount of time to process such events. Chronologically packaged events are also more accessible; it takes less time to retrieve such events from memory.

Ohtsuka and Brewer (1992) test the iconicity hypothesis by presenting subjects with narratives which represent the same set of ordered events packaged in varying orders in the text. Five different orders were tested. In the canonical order, subjects heard the events ordered in the same way as they occurred in the situation. Events were also presented in reverse order. The flashback condition presented events in canonical order but moved one of the events to a later position. In the embedded order, a medial event was followed by the immediately subsequent, and then the immediately preceding event,

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and so on (i.e. if the events are ordered 1-2-3-4-5, the embedded conditions presents them in the order 3-4-2-5-1). Finally, in the flashforward condition, events were presented in order up to a certain point at which the narrative skipped forward in time, and then the missing events were filled in later.

In order to test the ease with which subjects constructed a mental model of the event sequence, after hearing the narratives they were given a set of 20 questions probing the temporal ordering of the events. Ohtsuka and Brewer found that the canonical condition, in which the packaging of events in the text was isomorphic with their occurrence in the situation, produced significantly higher scores on the comprehension test than the other narratives. No significant difference was found between the reverse order, the flashback order or the embedded order, but the flashforward condition resulted in a drop in comprehension score. They interpret these results to indicate two principles: (i) iconicity of temporal order aids in discourse processing; and (ii) discourse processing is facilitated when comprehenders can integrate new events into the temporal structure of their existing mental model. Their first conclusion is of course equivalently stated in terms of a lack of iconicity acting to impede processing; when language users must override the iconicity assumption, events in narrative are processed less efficiently. The second condition is not met in the flashforward condition, since the forward leap in time is difficult to attach to the existing temporal model.

Experimental findings from van der Meer et al. (2002) suggest that German speaking subjects are sensitive to the order of temporal relations between events encoded in language, and that false probes on a word recognition test are rejected more slowly if the probes name an event that subjects expect to be temporally subsequent to a previously

presented stimulus. In a series of experiments, they found that events presented to subjects in chronological order were processed more quickly than events which were presented in asynchronous order. One of their experimental procedures presented subjects with an initial stimulus sentence, and then a probe word. Subjects were asked to judge whether the probe word was in the sentence. They also varied the onset time of the probe. Under the longest probe onset condition, false probes were rejected the most slowly when the probe word referred to an event which is temporally subsequent to the initial stimulus event in everyday experience (for instance a set like *The housewife strikes the matches –* *burn*). The next slowest rejection times were found for events that are commonly temporally prior to the stimulus. Finally, unrelated events were rejected quickly. They suggest that this evidence can be interpreted to support the notion that language comprehenders use inferences regarding the usual temporal sequencing of events, and that these inferences impeded the ability to recognize the probes as false.[3] (An alternate explanation of these results, which van der Meer et al. do not consider, is that temporally consistent probes like *burn* may immediately be integrated into the already constructed situation model. In such a case, the integration of the probe causes interference when the subject searches the situation model for evidence of elements in the text. The presence of the probe in the situation model confounds the attempts to isolate the text-based material.) In any event, the experiment presents good evidence that comprehenders expect that the next event delivered through language will in fact be the next event that occurred in the imagined world.

These two experiments, then, present evidence that there exists a baseline assumption that the order of events in the text will mirror the order of events in the

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imagined world. van der Meer et al. show that comprehenders expect that the next event delivered linguistically will correspond to the next chronological event. Ohtsuka and Brewer's work suggest that if this assumption is violated, it is accompanied by a processing cost.

Given that comprehenders expect that events will be delivered in chronological order, the strong iconicity hypothesis, which states that these events will be not only chronological but contiguous, is in fact motivated by the weak version. If I, as a comprehender of language, expect that events will be narrated in chronological order, I can also infer that there will be no significant gaps between these events. A temporal shift has the potential to jump over events of significance which will then be narrated out of sequence; I should thus expect that no temporal gaps will occur in the story. Evidence for strong iconicity is thus also evidence for a baseline assumption of iconicity in general.

Language of course does have the capacity to express temporal shifts, and indeed does so all the time; experimental research has however shown that such shifts are accompanied by an increased processing cost. Zwaan (1996) tests the strong version of the iconicity hypothesis by varying the time juncture between subsequent events in the narrative input. Subjects in this set of experiments were presented with short narratives which varied the type of temporal adverbial in one critical sentence. The temporal juncture was either *a moment*, *an hour*, or *a day*. The experiments varied in a variety of respects; in one, the adverbial contained the word *later* (i.e. *a moment later*, etc.); in others, *later* was removed to control for the fact that the semantics of *later* may imply a linkage between events. In another case, the temporal juncture was isolated in its own clause (e.g. *An hour went by*). Finally, a variety of tests were used to judge processing

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time and comprehension: reading time; response time to probes of words in clauses immediately prior to the critical sentence; and comprehension questions which tested subjects' learning of the temporal order of the events.

Over all of these conditions, Zwaan found that events which were contiguous in time, that is, in the *moment* condition, were processed faster (using reading time as a measure) than those which involved an intermediate or a long temporal shift – in other words, they were more quickly integrated into the situation model. Response times to confirm that a probe word was present in the sentence immediately prior to the critical sentence were shorter for the short temporal shift and longer for the intermediate and long shifts. The same response pattern was found with comprehension questions; events which were connected in a contiguous fashion primed immediately subsequent events to a greater degree than did those which were connected with a temporal gap. Thus, strongly iconic events have a processing advantage over merely sequential events. Zwaan interprets these results to suggest that at points of temporal discontinuity, comprehenders assume that they have encountered an episodic boundary. Part of this assumption includes the inference that the entities involved in the previous episode are not necessarily likely to be involved in the upcoming new episode. Thus, non-contiguous chronological events are not only integrated with less ease than their contiguous counterparts; they are also less accessible.

The results from Zwaan (1996) show that temporal discontinuities require greater processing resources and are less accessible than are temporal continuities. Further supporting evidence for the accessibility hypothesis comes from experimental evidence reported by Begsten and Vonk (1995). Their experiments presented subjects with a

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narrative which contained a temporal link between two clauses. The links were either markers of continuity (*and*, or zero marking) or of discontinuity (a relative time marker such as *then/next/afterward* or an absolute time marker like *three hours later*). They tested for the accessibility of entities mentioned in the sentence directly prior to the time shift, and found that markers of continuity correlated with faster reaction times than did markers of discontinuity, suggesting again that comprehenders infer that episodic boundaries are likely to co-incide with a shift in the entities present in the discourse.

This sum of experimental evidence then, suggests that Labov's definition of a narrative as consisting of at least two clauses in iconic order has psychological validity. Users of language work on the assumption that if no other evidence is present, events in the narrative situation are delivered in the same order as the events in the imagined world, and language users construct their situation models accordingly.

Not all events are presented in chronological order in narratives, however. Given the importance of the assumption of iconicity, and given furthermore the hypothesis that language is conceived of as "a set of processing instructions on how to construct a mental representation of the described situation" (Zwaan & Radvansky 1998: 162), the experimental evidence predicts that these "instructions" ought to cue the distinction between chronological and asynchronous events. In other words, a structural difference between iconic and non-iconic events should be observable in naturalistic narrative texts.

3.2. Iconicity in Text

Researchers focusing on the analysis of naturally occurring text have indeed uncovered morphosyntactic distinctions sensitive to the difference between those events

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presented in sequential order and those which depart from that order. Some languages (e.g. Biblical Hebrew (Longacre 1976, den Exter Blokland 1995, Heimerdinger 1999, Heller 2004), Bafut (Mfonyam 1994), Lachixio Zapotec and Rabinal Achí (Jones & Jones 1979) employ a special morphological marker (or the lack thereof) to indicate just those events which stand on the narrative timeline. In other languages, multiple markers are used (e.g. Kickapoo (Jones & Jones 1979), Old French (Fleischman 1990), Tokelauan (Hooper 1998)), but the distinction between the timeline and those events which are presented in asynchronous order still stands. Finally, supporting evidence for (strong) iconicity comes from the cross-linguistic tendency to employ paratactic structure for those events which are closely connected on the narrative timeline. Parataxis involves the stringing together of chronologically ordered events in co-ordination, often without any special marking, and it depends upon the default assumption that such events are chronological and contiguous. It is a particularly robust feature of oral genres and of languages in which an oral tradition has a strong influence on the written form (Fleischman 1990). It contrasts with the hypotatic structure of languages like written English, where connections are much more likely to be encoded in a hierarchical structure involving relationships of subordination.

One of the best-studied cases of a language which has a morpheme specially dedicated to marking the narrative foreground is that of Biblical Hebrew (Longacre 1976, den Exter Blokland 1995, Heimerdinger 1999, Heller 2004). Sequential foregrounded clauses are found in the *waw* plus prefixal verb construction. Events in the background are found in a variety of constructions, including suffixal verb clauses, nominal clauses and clauses marked by the medial verb *hayah* (Longacre 1976). The following example is

from the flood narrative in Genesis. This excerpt is taken from the peak of the narrative; ancient Hebrew narrative peaks are marked by a rhetorical strategy of repetition to underscore prominent events. Verbs in the *waw* plus prefix construction are italicized (note also that *way* is a regular allomorph of *waw*):

3.a.   whammayīm gabrū m'od m'od ʿal ha'areṣ,
           And the waters prevailed exceedingly, exceedingly on the earth

b.   *waykussū* kɔl-heharīm haggbohīm 'eŝer-taḥat kol haŝŝamayīm.
           And were covered all the mountains the high ones which are under all the heavens.

c.   ḥemeŝ 'esreh 'ammah milma'lah gabrū hammayīm
           Fifteen cubits upwards prevailed the waters

d.   *waykussū* heharīm.
           And were covered all the mountains

e.   *wayyigwa*ʿ kol-basar haromeŝ ʿal ha'areṣ ... wkol ha'adam;
           And perished all flesh moving on the earth ... and all men;

f.   kol 'eŝer nišmat-rūaḥ ḥayyīm b'appayw ... metū
           all of which stirred the breath of life in its nostrils ... died.

g.   *wayyimaḥ* 'et-kal-haykūm 'eŝer ʿal pnē ha'damah ...
           And was wiped out everything existing which was on the face of the earth

h.   *wayyimmaḥū* min-ha'areṣ.
           And they were wiped out from the earth
           (Longacre 1976: 253-4).

Two sequenced events are presented in the extract; the water covers the mountains, and every living thing is wiped out. These are presented with *waw*-prefixed verbs in clauses (b) and (d) and (e), (g) and (h) respectively. Clauses (a), (c) and (f) are backgrounded clauses which provide either descriptive material, or in the case of (a), recapitulate earlier events.

In Bafut, a Bantu language spoken in north-west Cameroon, events on the narrative timeline are unmarked for tense-aspect. A series of background markers are used to mark those events which occur asynchronously: *lɛ* 'remote past'; *mɜ* 'immediate past'; *lɛɛ̀* 'perfect'; *sɨ, nî* 'imperfective'; and *bɜ* 'be verb' (Mfonyam 1994). The following example

shows how narrative clauses appear unmarked, in contrast to the surrounding clauses in the background which establish the characters and report subordinate and simultaneous events. Timeline events are in boldface; markers of background are italicized.

4.a.   à *lɛ* n-tswe nɨ bàŋgyê bi bi tarə̀
         He had three wives (remote past).

b.   à tswè *mə̂* nɨ bàŋgyê bi bya bi tarə (l)aa
         As he had his three wives (immediate past),

c.   ŋù yì mɔʔɔ a kî n̂-tswe ghu ɨkǔm yì ɨ *bə* philibo ŋgwa
         there was another person, whose name was Philip Ngwa ("be").

d.   **a ghɛɛ n̂-saʔa ŋgwɛ philibo wâ**
         He went and seized the wife of Philip (ø).

e.   à saʔà mə ŋgwɛ philibo wa aa
         When he seized the wife of Philip (immediate past)

f.   **philibo wa a ghaà**
         Philip protested; (ø)
         (Mfonyam 1994: 194-6).

Other languages which distinguish between timeline and non-timeline events include, for example, a number of the mesoamerican languages studied by Jones and Jones. For Lachixio Zapotec and Rabinal Achí, for instance, completive aspect marks timeline events, while events in the background are marked with some other aspect (Jones & Jones 1979: 8, 16-18).

Not all languages which have been shown to mark the distinction between timeline events and asynchronous events do so with a single marker. Often, multiple markers will constitute a natural class of timeline markers, which contrasts with a second class which marks off-timeline events. The Kickapoo example at (2) above illustrates such a system. Multiple markers of foregrounding have also been argued for languages as diverse as Totonac and Cajonos Zapotec (also mesoamerican, Jones & Jones 1979) Old French (Fleischman 1990), Tokelauan (Hooper 1998), and Australian English (Engel & Ritz

2000). In all of these systems, however, the most basic distinction between the foreground and the background is that of sequentiality. As we will see below, there is some good evidence to suggest that for languages with multiple markers which code for sequentiality, markers which encode distinctions of prominence within the foreground tend to achieve this prominence through a cumulative marking of iconicity plus some other factor which enhances the immersion of the experiencer in the situation model.

Further evidence for the baseline assumption of iconic ordering comes from the position of paratactic co-ordination in narrative. Fleischman (1985) notes that temporal continuity within narrative is so robust that it need not always be explicitly signaled. Many narrative genres, particularly performed oral narratives, make use of a highly paratactic structure; that is, one where ideas are linked by co-ordination rather than subordination. In contrast, modern written discourse tends to be hypotactic – in other words, it makes use of embedded structures in order to signal the links between ideas or events. In addition to being found in oral genres, parataxis is found in writing where there exists a strong oral tradition as is observed by Fleischman (1990) in her study of early French vernacular writings and Hooper (1998) for writing in Tokelauan.

Fleischman notes that the default pragmatic connection between paratactic clauses is iconic; either temporally sequential: *I finished writing my paper, I went to bed* or else causal or conditional: *You go out without your jacket, you're going to be cold* (examples from Fleischman 1985: 132). She further points out that departures from iconic structure require additional morphosyntax: *You're going to be cold if you go out without a jacket; I went to bed after I had finished writing my paper* (Fleischman 1990: 132). She argues that it is this iconic continuity which allows for parataxis to move the narrative forward.

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"We are prepared to supply the temporal – and causal – links for ourselves, on the assumption that there is cohesion, even when it has not been explicitly (formally) demonstrated – the 'good continuity' principle" (Fleischman 1985:864, see also Fleischman 1990:132 for similar remarks).

In a study of tense switching in oral English narratives, Schiffrin (1981) finds that tense shifts are more frequent when clauses are linked by a temporal conjunction than they are in pairs of co-ordinate clauses. She furthermore shows that these temporal conjunctions are more frequent when the texts shifts from a more highly foregrounded to a less highly foregrounded tense than they are when the foregrounding is increasing. (The tenses in question are the conversational historical present and the past; see below for a more detailed explication of this distinction.) Increases in foregrounding occur within episodic units as the narrative tension builds up in that episode. Decreases in foregrounding, in contrast, occur over episodic boundaries and are frequently accompanied by temporal shifts. Thus, paratactic (i.e. co-ordinate) conjunction is less likely to occur over episodic boundaries with their concomitant temporal shifts; exactly the state of affairs predicted by the iconicity hypothesis.

Both the morphological evidence and the supporting evidence from parataxis support the psycholinguistic evidence. In the absence of evidence to the contrary, language users assume that the order of events in a narrative will mimic their order in the imagined world.

4. Iconicity Augmented: Studies in Tense and Aspect

In the above section, I argued that when the structure of narrative recapitulates the perceptual experience of events along the dimension of temporal ordering, the narrative is more easily processed. Temporal ordering is not, however, the only dimension of perceptual experience that speakers have the option of encoding in language. When we experience events, we experience them in the present rather than the past, and many of the world's languages have the capacity to distinguish between past and present events through their tense systems. In addition, events are perceptually experienced as not only present, but ongoing. This corresponds rather transparently to aspectual distinctions which distinguish progressive and perfective clauses; a linguistic distinction frequently grammaticalized in the languages of the world.

4.1. Ongoing Versus Completed Events: Laboratory Studies

A number of experimental investigations have found that information which is ongoing is more readily accessible to comprehenders than is information which is completed. This is predicted by the situation model framework and by the idea of the immersed experiencer. We can directly perceive events as they occur, but we have no ability to directly perceive past events.

Carreiras et al. (1997) find that current qualities of a protagonist are more accessible than those properties which are represented as no longer current. They gave subjects a series of short narratives in Spanish which introduced a character and provided a brief description of that character. At some point in the description, the character was

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assigned an occupation, packaged either as their current (simple present) or erstwhile (simple past) occupation.[4] A probe test was used to measure the accessibility of past versus ongoing qualities. After a varying number of intervening clauses, subjects were presented with the occupation name, and asked to respond either "yes" or "no" dependent upon whether the occupation had been mentioned in the text. Carreiras et al. find that occupation names are recognized more quickly when they refer to the character's current occupation rather than to a non-current occupation.

In a companion experiment, they test the accessibility of a character who is represented either as being engaged in some activity or having completed some activity. In these trials, narratives first introduce two characters. The third clause is a main clause predicating some activity of the first character in either the past progressive or past perfect; this is followed by a subordinate clause which indicates a simultaneous activity by the second character. A varied number of filler clauses intervene, none of which mention the first character; subjects are then presented with a probe of the first character's name.

5.   John works as a waiter in a restaurant.
        Mary eats there every day.
        John was finishing/ had finished his shift
        when Mary arrived at the restaurant.
        (She asked for the dish of the day.)
        (She read the newspaper while waiting for the food.)

        Probe: John

        Carreiras et al. (1997: 443)

Name recognition was significantly faster when the first character was represented as performing a past progressive activity. Carreiras et al. interpret this to mean that activities

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which are currently ongoing within the situation are more accessible than those which are completed.

Zwaan Madden and Whitten suggest that "people, objects, events and mental states that are currently "in" the narrated situation are more available to the comprehender than are objects, events and mental states that are not or non longer in the situation" (2000: 1027). They test this hypothesis with regard to the availability of clauses after a time lapse; events which are completed may not currently be "in" the situation and hence are predicted to be less accessible, whereas uncompleted events which are still "in" the situation are predicted to be more accessible.

Zwaan Madden and Whitten used a combination of aspectual and lexical material to construct their test materials. In their first set of experiments, they constructed sentence pairs in which the first sentence was alternately ongoing or telic. In the second set, the critical sentence was the second member of the pair. After the second sentence, they presented subjects with the major action from the first sentence and recorded recognition times based on a yes/no probe.

6.   Example of material from first experiment:
      Tom was playing/stopped playing the piano.
      After an hour, his mother entered the room.
      Probe: playing

7.   Example of material from second experiment:
      Mary was walking in the park.
      When her friends drove by, she waved and stopped/continued.
      Probe: walking

In both cases, recognition times for the probe were reduced when the probe referred to an ongoing rather than a completed action. Zwaan et al. take this to mean that "events that

are still going on in the situation are more available to the comprehender than events that are no longer going on" (2000: 1027).

Experimental evidence has also uncovered an intriguing asymmetry between the accessibility of perfective or completed events and that of imperfective or incomplete events (Madden & Zwaan 2003, Magliano & Schleich 2000).

Madden and Zwaan (2003) used a picture recognition test to investigate whether perfectives gave rise to representations of completed events and imperfectives to representations of incomplete events. They used perfective/imperfective pairs like "The man made/was making a fire", and for each pair, constructed pictures which showed the event as either completed (such that the fire was roaring in the grate) or incomplete (such that the man was piling logs into the fireplace). Subjects were presented with one of the sentences from the pair, and then asked to choose which picture accurately represented the event. Subjects tended to match perfective sentences with completed pictures. Imperfective sentences, however, were equally likely to trigger a match with either completed or incomplete pictures. A second experiment involved only one picture, which either matched the sentence (e.g. perfective/completed) or was a mismatch (e.g. perfective/incomplete). In this trial, subjects had to provide a yes/no answer to the question of whether or not the picture matched the event in the sentence. Response times were measured (note that answers to mismatched pairs are of course expected to be "yes"; a picture of a man making a fire is a good match for "The man made a fire"). Zwaan & Madden found that response times for perfective/completed matches were faster than for perfective/incompleted matches, but no significant difference was found between imperfective/completed and imperfective/incomplete. In the final experiment in

this series, the picture was presented first, and subjects' response time in judging if the sentence matched the picture was measured. Again, completed pictures gave rise to a shorter response time if the sentence was perfective than when it was imperfective, but incomplete pictures showed no difference in response times between perfectives and imperfectives.

The overall finding from these experiments, then, is that perfectives make completed representations more available than incomplete representations, and complete representations are more likely to prime perfective clauses than they are to prime imperfective clauses. The asymmetry of the result lies in the fact that while perfectives are strongly associated with completed actions, imperfectives are equally as likely to be associated with either completed or incomplete actions. Zwaan and Madden offer as an explanation the proposal that imperfective events, which have internal duration, are likely to be represented in heterogeneous fashion across differing individuals. My representation of "making a fire" may involve stacking firewood in the fireplace, while yours may involve the striking of a match. In contrast, perfectives, which represent a single point in time, are much more likely to trigger homogenous representations across subjects.

Magliano and Schleich (2000), using different experimental protocols, come up with a quite opposite result. They find that imperfectives are judged to be ongoing and perfectives to be completed, and that furthermore this judgment is more robust for imperfectives as the number of intervening clauses increases. Their test materials more closely resemble canonical narratives than do the Zwaan & Madden sentence-picture tests. Magliano and Schleich constructed a number of short narratives (of 4-10 clauses).

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Midway through the narrative, the critical experimental clause presented a certain activity either in the perfective or the imperfective. A varied number of intervening filler clauses occurred. In one set of tests, the probe was an untensed verb phrase corresponding to the critical activity; response times to this probe were measured. In the other set, subjects were then presented with a probe yes/no question asking whether or not the critical activity was completed, and the probability of a completed representation was recorded.

For both perfectives and imperfectives, the number of intervening clauses resulted in a delay in accessibility. This delay is less marked for imperfectives, however; suggesting that ongoing events indeed remain ongoing in the situation. For the second set of experiments, when the number of intervening sentences was low (1-2), subjects tended to judge the activities which were presented in the progressive as ongoing and those in the perfective as complete. This tendency decayed rather rapidly, however, and after 3-4 intervening clauses, perfectives had a no more than chance likelihood of being judged as complete. This finding stands in contrast to Zwaan and Madden (2003), in which it was imperfectives which were more likely to have no more than a chance association with either completed or incomplete events.

The muddied picture which emerges from the experimental evidence speaks to a fundamental tension between (i) the representation of events as ongoing, and (ii) the iconicity principle. The situation model framework, and particularly the immersed experiencer version, predicts that events which are represented in a way which most closely resembles our here-and-now experiences are also those events which produce the strongest effects of immersion in the narrative world. We perceive events as they occur, thus, ongoing events ought to best represent narrative immersion. We also, however,

perceive events in the world in connected, sequential order – thus events in the text which are presented as sequential ought also to strongly immerse us in the narrative. If events are sequential, each one must be completed before the next begins. Thus *both* ongoing *and* completed events are likely to give rise to an immersed sensibility. There is one final temporal dimension encoded in language which ought to give rise to an increased or decreased sense of immersion in the situation, namely present versus non-present tense alternations. Events occur in the present; thus, present-tense events ought to be more salient in the situation model. To the best of my knowledge, this distinction has not been tested experimentally. (Note that for the experiments described in this section, contrasts are between the simple past or past perfect and the past progressive.)

4.2. Tense and Aspect in the Text

How does the seeming paradox of a preference for both ongoing and completed perspectives on events play out in human language? What sorts of strategies for resolving this tension have language users codified in their grammars? And what is the role of tense? Three possible strategies could apply. First, the most prominent events (those most likely to trigger the highest degree of immersion) could be entirely presented in the perfective. This would act to enhance their sequential, iconic profile. Second, the most prominent events in narrative could be overwhelmingly packaged as imperfectives, which correspond the way events are experience as in progress. Third, a combination of strategies could apply, with differentials in foregrounding levels signaled by switches of tense and aspect.

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In fact, this third combination is indeed attested. The most frequently studied example of tense shift in narrative involves the conversational historical present, or CHP. The CHP is a special use of the simple present within a narrative framework. It is strongly associated with spoken language, and tends not to appear in the formal written versions of languages with a lengthy tradition of writing. Although it is found used with the sequential, foregrounded clauses in a narrative, it is rare to find entire narratives told in the CHP (Schiffrin 1981). Finally, a key component of the CHP in narrative is that despite its lack of overt telicity, it does not flout the iconicity assumption. Seriatim events in the CHP are interpreted as representing temporally ordered events in the storyworld. The following example illustrates the use of the CHP in spoken English:

8.   So she got that angel
      and put it on my pavement.
      And I got the angel
      and I *throw* it after her.
      So then she *starts*.
      She *walks* down to her house,
      stands on her doorstep.
      (Schiffrin 1981: 53)

Analyses of the CHP (Wolfson 1979, Schiffrin 1981, Fleischman 1990, Fludernik 1991, Thornborrow 2000) typically are in accord with the idea that tense switch in narrative has the function of increasing the prominence of events in the narrative. There is however some controversy over the nature of the foregrounding effect. Wolfson (1979) critiques traditional approaches where the CHP is viewed as a device to increase the "vividness" of talk, and argues that it is tense switching which engenders foregrounding but that the direction of the switch (i.e. past to CHP or CHP to past) is irrelevant. Schiffrin (1981) counters this argument with a quantitative study of 73 narrative texts,

where she finds that direction of tense shift is indeed significant; switches from the past to the historical present occur within episodes, whereas shifts out of the historical present back to the past tend to occur at episode boundaries. This is consistent with a hypothesis that the CHP serves to increase the prominence of events. Highly foregrounded events typically occur towards the end of an episode, and the switch back to past at an episode boundary thus serves to decrease vividness as the new episode begins, to prepare the way for a re-escalation of tension toward the more foregrounded events in the subsequent episode. Fludernik (1991) also objects to the "vividness" characterization; however, her work focuses on literary texts, which Fleischman (1990) points out are more apt to deviate from narrative norms than are oral texts.

In her study of tense shifts in Old French narratives, Fleischman divides clauses into sequential and non-sequential, and examines the tenses and tense shifts associated with each category. She finds the following pattern of tense usage:

Old French Tense Shifting (Fleischman 1985, 1990)

Sequential:	High Focus	Narrative Present
	Low Focus	Simple Past (for completed events)
Non-sequential:	Continuous	Simple Past (for non-completed events)
	Completed	Past Anterior

In the following extract taken from the 13th century *chantefable* of *Aucassin et Nicolette*, clauses on the timeline are preceded with an asterisk (*), verbs in the simple past are italicized, while those in the narrative present are in boldface.

9.a.   *pensa* tant a Nicolette
        rather he *was thinking* so much
b.   sa douce amie
        about his sweet friend Nicolette
c.   qu'il *oublia* ses resnes

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that he *forgot* all about the reins

d.   et quanques il *dut* faire;
     and everything he *had* to do.

e.   et li cevax qui ot senti les espernos
     And the horse, who had felt the spurs,

*f. l'en *porta* par mi le presse,
     carried him into the fray.

*g. se **se lance** tres entre mi ses anemis;
     He **throws** himself amidst his enemies,

*h. et il **getent** les mains de toutes pars,
     and their hands **are** on him from all sides,

*i. si le **predent**,
     and they **grab** him,

*j. si le **dessaisisent** de l'escu et de la lance
     then **divest** him of his shield and his lance,

*k. si l'en **mannent** tot estrousement pris
     and **lead** him away, securely captured.
     (Fleischman 1985: 855-6).

Considering the sequential events, it can be seen first that the clauses in the CHP are all on the timeline, representing events in fabula order. It must be the case that the hero goes into battle before he is manhandled by his enemies, which must happen before he is captured. Any other ordering of these events loses the sense of the narrative. One can observe in addition that the shift from the simple past to the narrative present corresponds to the hero's casting himself into the heat of battle – at which point he experiences a string of events which are not only sequentially ordered but also a high point of the dramatization.

The CHP, then, is a device used to increase the prominence of sequential events. The CHP has both present tense and imperfective aspect (Fleischman 1990); it however does not violate the baseline assumption of iconic ordering. It is thus good evidence for the situated foreground hypothesis. Not only does it employ the morphosyntax of the

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present, mirroring our experience of events in present time; it also employs the morphosyntax of the imperfective, mirroring our experience of events as ongoing rather than completed.

Fleischman's analysis of the CHP also sheds some light on the asymmetry between imperfectives and perfectives observed in the experimental evidence. Recall that Zwaan and Madden (2003) find that perfectives tend to be strongly associated with completed events (and vice versa), while imperfectives are much more loosely associated with incompleted events. Magliano and Schleich (2000), on the other hand, find that it is imperfectives which have a strong association with ongoingness, whereas perfectives have only a chance relationship to completed events. The key to this seeming paradox lies in the fact that the Zwaan and Madden experiments make use of a picture test, in contrast with Magliano and Schleich, whose test materials are in fact narratives.

In Fleischman's account of markedness and tense-aspect in narrative, she observes that "[i]t is commonly the case that the meaning of the unmarked category encompasses that of the marked category ... the unmarked category can always be used, even in situations where the marked category is appropriate" (1990:52). Fleischman observes that narrative constitutes a marked context, in contrast to "everyday" language. Within the unmarked context of everyday language, the past perfect is marked vis-à-vis the present imperfective. In Zwaan and Madden's (2003) experiments, the experimental materials are in the contextually unmarked category of such everyday language, and their finding is that it is the imperfectives, the unmarked form, which encompass the meaning of both ongoing and completed events. According to Fleischman, narrative is a marked context, and within this context the markedness norms of everyday language are reversed. Thus in

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narrative, past perfect is unmarked, and present and imperfective clauses are marked – as

is seen above in example (9), in which it is the present imperfectives which achieve

prominence in part through their violation of the markedness norm for narrative. For

Magliano and Schleich's experiment, which is clearly tapping into the marked context of

narrative, it is the unmarked perfect which has the expanded semantic ground, as seen in

the no-greater-than-chance association of perfects with completed events.

Although the historical present has been widely studied (perhaps because of its

presence in Western European languages), it is not the only device that languages make

use of in order to inject present-like morphosyntax into the narrative. Hooper (1998)

describes the behavior of the Tokelauan inchoative *kua*, which she regards as having

many of the functional textual properties which have been attributed to the historical

present.

Most narrative clauses in Tokelauan are packaged with zero-marked verbs. At

points of the narrative which are significant or highlighted, however, the verb may take

kua. In this example, Tokalalaga finally understands how his sons' lives may be saved:

10.	Pā	foki	ki	te	taimi	tēnā,
	arrive	also	to	SP	time	DEM
	fakalogo	atu	ia	Tokalalaga,	**kua**	**ia**
	listen	DIR	ABS	Tokalalaga	TA	3.sg
	hāfia.	Oi	**kua**	**tū**	loa ...	
	understand	SEQ	TA	stand	then	

"That time arrived again, Tokalalaga listened [to the song], and he **understood**.
Then he **stood up** at once ..."
(SP 'specific determiner', DEM 'demonstrative', DIR 'directional particle', ABS
'absolutive', TA 'tense/aspect particle', SEQ 'sequential conjunction')
(Hooper 1998: 140)

The semantics of *kua* illustrate that this marker also has the function of enhancing the

immersed experience by mimicking the perception of actual experience. "I characterize

its central meaning as 'a (significant) new situation comes about'" (Hooper 1998: 125).

Hooper additionally remarks that "it is essentially a category of the present or

contemporaneous system, not of the past or anterior system" (1998: 226). *Kua*

perspectivizes an event as begun and either ongoing (in the case of states or activities) or

else as having present relevance (in the case of achievements or accomplishments, for

which it is the end-point of the activity which is inchoate). In either case, *kua*

encompasses both a forward movement in time and a link to the present, both of which

index the actual perceptual experience of events.

Engel and Ritz (2000) note some innovative uses of the present perfect in

Australian English, and argue that it has become a narrative tense with a foregrounding

function. In contrast to other varieties of English, Australian English allows present

perfect verbs with past time adverbs:

11. Police confirm that at 16.30 hours yesterday the body of Ivan Jepp has been
    located.
    (Engel & Ritz 2000: 130)

The present perfect may additionally be used with verbs which denote activities (in

Vendler's 1967 sense). In other varieties of English, present perfect is only allowable

with activities when an adverbial phrase explicitly marks the culmination point. It is

difficult to find a discourse context in other varieties of English for *John has cried* (Engel

and Ritz note that one can be found if the focus is put on a time before the event where

John is attempting to cry); compare *John has cried for an hour*.

These unusual properties, in addition to their observations of the distribution of the

present perfect in natural discourse, lead them to the conclusion that "the Australian

P[resent] P[erfect] is widely used in informal spoken discourse where the moment of

speech is 'reset' as in uses of the historical present" (Engel & Ritz 2000: 137). That is, the present perfect has become a narrative tense in Australian English.

As with the historical present, the Australian present perfect has a foregrounding function. "[I]t is often used at the heart of the narrative, i.e. the complication" (Engel & Ritz 2000: 133). In the following extract, taken from a radio talk show, the speaker is describing signing autographs. The temporally sequenced action that comprises the unusual events which make the story worth telling are presented in the present perfect, indicated in bold:

12.   I'd done enough, and she said 'Can you sign this?' and I said 'Oh, okay, one final
       signing, I promise, and will you go away?' and she said 'Yeah, yeah'. So I've **got**
       a texta, I've **held** her head straight and I've **written** on her forehead 'Hi Mum,
       I've tried drugs for the first time'
       (Engel & Ritz 2000: 134).

As with the CHP, we see an augmentation of the unmarked narrative past perfect at points of narrative prominence.

A final observation pertaining to these tense-aspect combinations which are used to enhance the foregrounding function is that they have a tendency to inject a subjective or evaluative component. Tokelauan *kua* has highly subjective overtones, and is used as the preferred TMA marker for observed events (Hooper 1998: 126). Leith (1995), in a study of performances of Scottish Traveller folk tales finds that the historic present tends to be more widely used in familiar and intimate settings, and less so in more public venues, and he suggests that the style adopted within Traveller groups is indicative of in-group rapport. In a study of conflicting narrative accounts of the same events, Thornborrow (2000) finds that the CHP is found consistently in the second speakers' telling of the events. Thornborrow's data are taken from two television talk shows and from the

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television courtroom of *Judge Judy*; adversarial situations in which the second teller

stands to gain from convincing the audience that his or her version of the events is more

accurate. Thornborrow analyzes the switch to CHP as a "discursive resource available to

producers of these second stories [that] enables them to foreground their level of

commitment to their story through a performed present version of past events as they

experienced them" (2000: 371). Schiffrin (1981) remarks that quotative verbs (say, go)

are the most frequent tokens of CHP verbs in her study. Quotatives are widely used as

evaluation devices in narrative; again, the most proximal tense-aspect combination is

exploited for its subjective effect. This widespread use of foregrounding tense-aspect

combinations for highly subjective purposes bolsters the notion that increases in

foregrounding do indeed enhance the experience of immersion. Users of language

employ these strategies when they want their listeners to get inside the narrative world

and sympathize with the characters therein.

Having examined some of the tense-aspect patterns that are employed to enhance

the prominence of events in various languages, we can re-evaluate the situated

foreground hypothesis;

> *The situated foreground hypothesis:*
> The more prominent an event is in the imagined world of narrative, the more likely
> that the clause which expresses it will employ morphosyntax that indexes the
> experience of events which occur in the here-and-now of the real world.

We have seen that languages signal highly prominent events with morphosyntax

which indexes the present (the English and Old French CHP, Tokelauan *kua*, the

Australian English present perfect) and the imperfective (the CHP, and *kua* for some

aktionsarten). Events in the here-and-now are experienced in the present and not in the

past; they are experienced as ongoing and not as completed. These injections of the semantics of the here-and-now act to enhance the degree to which the experiencer is immersed in the narrative, and we have seen that narrators make strategic use of these options at key points in the narrative. We are now ready to turn to our final consideration in the realm of experimental studies; the roles of causality and intentionality in updating the situation model.

5. Causality and Intentionality

In addition to the temporal relation of sequentiality, sets of clauses in a narrative can be grouped according to causal relations or via their relationship to a common goal. There is ample experimental evidence to suggest that both causal and intentional chains are both processed more readily and recalled with more speed and accuracy (Duffy et al. 1990, Singer et al. 1992, Hallordson & Singer 2002, Rinck & Bower 2004, Trabasso & Suh 1993, Suh & Trabasso 1993, Albrecht & Myers 1995, Lutz & Radvansky 1997, Radvansky & Curiel 1998). Evidence that morphology which signals such concepts is exploited as a signal of foregrounding in narrative is however notably absent. In this section, I wish to argue that the evidence from causality and intentionality should be integrated into the predictions of the situated foreground hypothesis. In the next chapter, I will present morphological evidence that shows that Yapese is a language which behaves in the way that this hypothesis predicts.

5.1. Causality

A number of experiments have found that the second member of a causally related pair is processed more quickly than an unrelated clause (e.g. Duffy et al. 1990, Singer et al. 1992, Hallordson & Singer 2002).

Duffy et al. (1990) compared sets of events which were causally related to varying degrees with those which were not. They found a decrease in reading time with those events which were moderately causally related over those events which were unrelated.[5] Singer et al. (1992) compared pairs of clauses which were temporally related but not casually related with pairs which were both temporally and causally related.

13.   Causally related pair:
       Dorothy poured the bucket of water on the fire.
       The fire went out.

14.   Temporally related pair:
       Dorothy placed the bucket of water on the fire.
       The fire went out.

They found that reading times for the second sentence in the pair was significantly shorter in the causal condition that in was in the temporal condition, suggesting that causally related clauses are more swiftly integrated into the situation model than are clauses which are not related temporally. In an experiment designed to further investigate this result (Singer et al. 1992, Experiment 3), they considered three types of pairs; close causal relation, distant causal relation, and no causal relation. In this trial, they found that close causal relations result in a faster reading time for the consequent than do far causal relations, which are in turn faster than non-causally related pairs.

These results are repeated in Hallordson and Singer (2002), in which similar pairs of either causally connected or merely temporally connected antecedent-consequent pairs

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are presented to subjects. Again, reading times are faster for the consequent in the causally related pairs – "it is easier to integrate a text outcome with a causally related antecedent than a more tangentially related one" (Hallordson & Singer 2002: 155). This set of experiments also investigates the extent to which causal relations prime bridging inferences. A bridging inference is an inference which must be made in order to connect two related events in a text; for example, the antecedent *The hunter shot the deer* and the consequent *The deer died* are connected by the bridging inference *Bullets kill animals* (Hallordson & Singer 2002). After exposing subjects to the antecedent-consequent pairs, four filler sentences intervened, and then subjects were asked to respond to two yes-no questions concerning either a clause in the text or a bridging inference. These were presented in various orders such that for one group of subjects a question probing an event in the text was the prime and a question probing a bridging inference was the target (e.g. Prime: Did the hunter shoot the deer? Target: Do bullets kill animals?). Other groups were given bridging inferences as primes and antecedents as targets, or bridging inferences as primes and outcomes as targets. These groups were compared against two groups who completed the same tasks, but were presented with antecedents which were not causally related to their consequents (e.g. *The hunter examined the deer*). Hallordson and Singer find a mutual priming between the knowledge required to construct a bridging inference and both causally connected antecedents and outcomes; and find that the response time to answer target questions is reduced when the original passage presents pairs of clauses which are not connected causally.

Hallordson and Singer interpret these results to indicate that subjects are bringing real world knowledge to bear on the connections inherent in the text. In the experiments

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surveyed so far, antecedent clauses are identical in the causal and in the control

conditions, except for the verb; one verb sets up a causal connection, while the other does

not. Thus, there is nothing in the text that can account for the ease with which outcomes

of causes are integrated compared to mere temporal connection. The difference must

reside in knowledge from outside the text which comprehenders bring to bear on the

problem of constructing a coherent representation.

Zacks and Tversky (2001) argue that successive events are perceived in a

hierarchical partonomic fashion; that is, groups of subevents are reliably assigned to the

same higher order event structure across individuals. Zacks, Tversky and Iyer (2001)

presented experimental subjects with videotapes which showed a variety of actions

(making a bed, washing the dishes, assembling a saxophone) being performed by actors.

Subjects were asked to watch the videotapes and indicate points at which they thought

one event ended and a new event began. One set of individuals were instructed to

produce a fine-grained segmentation; the second set a more-coarse grained segmentation

of events.

Zacks, Tversky and Iyer found that a certain subset of the breakpoints produced by

the fine-grained group corresponded to those breakpoints signaled by the coarse-grained

group, suggesting that events are perceived and segmented in hierarchical fashion. In a

second task, subjects were also asked to produce on-line verbal descriptions of the events

that they perceived. The researchers considered a number of variables in the talk

produced; they found that for instance NPs were more likely to be pronominal or null

when they were within higher-order events in the fine-grained case; somewhat less likely

to be pronominal or null at fine-grained events which corresponded to breakpoints in the

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coarse-grained condition (i.e. at higher-order breakpoints), and least likely to be so in the coarse-grained condition. Similar results were found for after-the-fact verbal descriptions. Finally, when new readers were given transcripts of the verbal descriptions in the fine-grained condition and asked to group the fine-grained events into a more coarse-grained event structure, they also tended to group the events in a similar fashion to the group who had performed the coarse-grained task while watching the videotape.

These results suggest that not only are there reliable commonalities in the construction of a partonomic hierarchy of observed events across individuals, but that furthermore there are linguistic indices of this hierarchy which allow for the perceptual experience to be represented when triggered by a verbal description. I wish to argue here that the perception of causal chains (and goal-satisfaction chains, see below) in language is likely to give rise to an integrated representation of component events as a single grouped constituent, and that this is why causally connected events are both easily integrated into the emerging situation model and give rise to priming effects.

The evidence from work on event partonomy explains why causally connected events behave as grouped events. There is further evidence from the study of causal reasoning to suggest that, absent other evidence, cause-and-effect chains are assumed to be sequential and contiguous. That is, as is the case for experienced real-life events, canonical representations of cause-and-effect relations are strictly iconic.

First, cause and effect chains are always iconic. As Lagnado and Sloman (2004) note, causes always precede their effects in time. Although there may be a significant time lapse between cause and effect, longer time lapses often have the effect of making the causal relation more opaque and less amenable to direct perception. Special

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techniques are often required to tease out the distinction between covariation and causal relation (see Lagnado & Sloman 2004 for further discussion of this point).

Second, there is experimental evidence to the effect that when individuals are presented with two competing potential causes for some effect, they tend to favor the later cause as bringing about the effect (Kahneman & Miller 1986, Miller & Gunasegaram 1990, Schottmann 2002).[6] Kahneman & Miller (1986) present subjects with a scenario in which two individuals must each toss a coin, one after the other. If the coin tosses are equivalent, both win $1,000. When Jones tosses a head, then Cooper subsequently tosses a tail, 86% of subjects report that Cooper is more likely to feel guilty than Jones, despite the fact that both events are equally culpable in the failure to win. In other words, the event which is closer in time to the outcome is seen as more directly contributing to the effect.

Miller & Gunasegaram (1990) test a similar question involving temporal order variation. In their scenario, two potential causes, a teacher setting exam questions, and a student preparing for the exam, are equally as likely to cause a single effect, the student performing badly on the exam. When subjects assigned to the "student" group were told that the exam questions had been prepared before they had studied the material, they were likely to attribute their performance to lack of preparation. When they were told, however, that the questions had been prepared after they had finished studying, they tended to attribute their performance to an unfair set of questions. Miller & Gunasegaram explain this by suggesting that the event which is closer in time to the outcome is viewed as more directly causing that outcome.

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Finally Schottmann (1999) finds that for young children (5 and 7 year olds), temporally proximal causes are preferred over delayed causes even in those cases where the children have previously understood that the mechanism in question produces a delay between cause and effect. Schottmann showed young children a device in which a mechanism introduced a temporal delay between dropping a ball into a box and making a bell ring. She then hid the mechanism, and asked the children which of two balls (an earlier and a later ball) produced the effect. Despite their having learned that the mechanism produced a temporal delay, the young children preferred to attribute the cause to the temporally contiguous event.

These results point to an underlying strategy of using temporal proximity as a heuristic for cause-and-effect relations. As Schottmann puts it "[c]ontiguity is a good but fallible cue to causation" (1999: 314). Thus, when comprehenders are presented with a causal chain in the situation, their best strategy is to assume, absent contrary evidence, that the events are subsequent and contiguous; that is, that the events are strictly iconic in the way that real-world events are experienced.

If it is the case that narrators prefer to signal events which are more prominent in narrative by using morphosyntax which enhances their similarity to events in the here and now, using morphosyntax which implies strict iconicity is one way in which they might do so. Cause or effect signaling morphosyntax carries with it the implication that causes precede their effects; thus, such morphosyntax is likely to be already associated with the presentation of events in iconic order, and can be seamlessly imported into narrative contexts. The additional implication of tight temporal connection that accompanies causation means that events linked in such a fashion resemble experiences of the here and

now more closely than do events which do not evoke a strictly iconic interpretation, since when we experience events with our senses, we perceive them as an uninterrupted stream without intervening temporal gaps. Packaging a clause with causative or effect-signalling morphology, then, is hypothesized to be potential (but previously unattested) strategy for marking the narrative foreground.

5.2. Intentionality

A cause-effect connection may have the additional overlay that the causation chain is brought about by an individual; in other words, the chain of events may unfold toward the satisfaction of some goal. As with merely causally related events, there is evidence to suggest that comprehenders track goal-related information and that such information influences their ability to process and recall related events in narrative (Rinck & Bower 2004, Trabasso & Suh 1993, Suh & Trabasso 1993, Albrecht & Myers 1995, Lutz & Radvansky 1997, Radvansky & Curiel 1998). Rinck and Bower (2004) suggest that the special status of goal-based information is achieved by subjectively experiencing the narrative from the point of view of characters therein:

> "another way to get readers to appreciate what is on a character's mind is to attribute an active goal (wish, desire, plan) to that character. Thus if the story states that the character is hungry, we can expect that items ... associated with eating would be assigned priority in the character's consciousness, and consequently in the reader's model of the protagonist."
> (Rinck & Bower 2004: 8)

Trabasso and Suh perform a series of experiments investigating the availability of higher order goals within a story (Trabasso & Suh 1993, Suh & Trabasso 1993). They begin by noticing that stories vary in coherence dependent upon whether or not the

subgoals in the story are connected. Examples (15) and (16) below illustrate the

distinction between a hierarchically organized story which is connected by means of a

superordinate goal and a sequentially organized story in which no higher order goal

connects the disparate episodes:

15.　　Betty wanted to give her mother a present.
　　　　She went to the department store.
　　　　She found out that everything was too expensive.
　　　　Betty decided to knit a sweater.

16.　　Betty wanted to give her mother a present.
　　　　She went to the department store.
　　　　She bought her mother a purse.
　　　　Betty decided to knit a sweater.
　　　　(Trabasso & Suh 1993: 4-5)

Trabasso and Suh construct more elaborate versions of stories which differ just in terms

of whether the story is hierarchically organized, in which a superordinate goal connects

two episodes, or sequentially organized with no higher order goal in place.

The aim of their experiments is to measure whether or not causal connections in the

hierarchically ordered story result in a more coherent connection between the goal

mentioned at the onset of the story (e.g. wanting to give a gift to one's mother) and

events which occur later in the story. Via pre-experimental analysis of the causal

networks in the two versions of the story, they identify points at which the first

mentioned goal should be maximally activated in the hierarchically ordered story (for

instance, at the beginning of the second episode which instantiates a second attempt to

satisfy an initially unsatisfied goal). These stand in contrast to the sequentially ordered

story, in which the first mentioned goal is predicted not to be activated in the second

episode as it has already been satisfied.

Trabasso and Suh (1993) measure the activation of superordinate goals through a "talk aloud" methodology. Subjects are instructed to verbalize their reactions to successive sentences in the narrative. These segments of talk are then analyzed for reference to higher order goals, and reference to higher order goals at the predicted points in the discourse is assessed. Suh and Trabasso (1993) measure the response to probes which either (a) mention the first goal of the story or (b) repeat the original goal sentence in its entirety. Both experiments support the conclusion that superordinate goals are more available in hierarchically ordered stories than are previously satisfied unconnected goals in sequentially organized stories; the advantage of their direct comparison is that the number of intervening clauses remains constant across both versions of the story.

Albrecht and Myers (1995) find that under certain conditions, concluding a narrative with a sentence which is inconsistent with an as yet unsatisfied goal results in a delay in reading time. Their materials consisted of a narrative in two episodes. The narrative was varied according to whether the goal of the first episode was satisfied or postponed. After the conclusion of the second episode, a target sentence which was inconsistent with the ability to fulfill the postponed goal was presented and reading time was measured. Albrecht and Myers find that inconsistent sentences are accompanied by a processing delay if (i) the intervening second episode is short or (b) contextual information is inserted into the text which primes the postponed goal (for instance, rementioning the setting in which the goal postponement occurred directly prior to the target sentence).

These experiments taken together show that comprehenders do in fact track the goals of characters in narrative. They have, however, emphasized the distinction between

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incomplete and completed goals. A series of experiments by Radvansky and colleagues considered the status of completed goal chains vis-à-vis events which were unrelated in terms of intentionality. Lutz and Radvansky (1997) compare not only the effect of incomplete and complete goals on retention, but also compare completed goals to neutral stories in which goal information is not relevant. They use a similar set of stories to the earlier Trabasso and Suh experiments, but add a third version of the story in which the initial goal becomes immediately satisfied and hence is not part of the episodic structure, but becomes demoted to setting information. The purpose of their experiments are (i) to replicate the earlier results in which it was shown that incomplete goals remain activated and (ii) to investigate whether completed goals tend to remain available in comparison to non-goal related information, or otherwise whether completed goals are actively suppressed or else decay over time.

Three narrative conditions are considered. The first two are identical to those used in Trabasso and Suh (1993) and Suh and Trabasso (1993). In the hierarchical version, an overarching goal is presented at the onset of the narrative. In the first episode, an attempt to fulfill this goal fails; the goal is achieved in the second episode. In the sequential version, the goal is achieved within the first episode. Finally, in the neutral version, the presentation and achievement of the goal are presented in the first two clauses of the narrative, and two unrelated episodes intervene. Their experiments also varied the number of clauses in the intervening second episode.

In addition to replicating earlier findings which show that incompleted goals are more available than complete goals, they additionally consistently find that completed goals are more available than ideas which are not presented as part of a goal-achievement

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structure. In other words, the information about, say, buying a present is less available when it is presented as setting information than when that information occupies the entirety of the first episode. This is true even when the number of intervening clauses is balanced to adjust for referential distance effects. Similar results are found by Radvansky and Curiel (1998), who test a groups of older and younger adults, and find that age plays no role in the ability to retrieve completed goal information.

They interpret these results to mean that completed causal and intentional chains have a special role in the construction of an integrated situation model. Such chains of events are likely to be represented as connected episodes which combine as higher-order events of the type uncovered by Zacks and Tversky (2001) and Zacks, Tversky and Iyers (2001). Cause-and-effect chains, including chains of intentionality in which the cause is deliberately produced by an actor, furthermore engender a strictly iconic interpretation unless other evidence is provided to override this interpretation. Lutz and Radvansky (1997) additionally argue that the enhanced accessibility of such chains may be due to an inference that they will be required for later integration of new events. Under the assumption that narratives are coherent and that events in narrative are presented purposefully, comprehenders assume that a knowledge of chains of related earlier events may be required in order to coherently integrate later events in the narrative.

6. Conclusion

This chapter has examined a variety of experimental evidence which suggests that certain types of connections between events gives rise to increased processing efficiency (both in terms of speed of integration and access in memory). These connections are

argued to give rise to such efficiency because they reflect perceptual experiences of real-life events. I have furthermore considered ways in which these processing efficiencies play out in naturalistic language data. I have shown that in a variety of cases, languages do indeed make use of morphosyntax which signals these kinds of event relations, and that there is a tendency for morphosyntax which indexes the here-and-now to be employed at high points of narrative, giving rise to an enhancement of immersion in the narrative. We are now in a position to formulate some specifics of the situated foreground hypothesis:

> *The situated foreground hypothesis:*
> The more prominent an event is in the imagined world of narrative, the more likely that the clause which expresses it will employ morphosyntax that indexes the experience of events which occur in the here-and-now of the real world.

The hypothesis first predicts that, because events in the real world occur in sequential order, (i) languages are likely to employ morphosyntax which differentiates those events which are ordered sequentially from those which are not, and (ii) that sequential events are likely to be more prominent than non-sequential events. Extracting prominence from the textlinguistic evidence is rather tricky (and circular) in this case, as definitions of the foreground in narrative tend to involve a statement to the effect that the foreground is composed of sequentially ordered material. Nonetheless, the first part of the prediction is assessable against text evidence.

The strength of bringing textlinguistic evidence to bear on this problem emerges when we look at predictions of higher levels of foregrounding. Within the main storyline of iconic events, we expect that:

- Strongly iconic events will be more prominent than weakly iconic events, because they reflect our experience of contiguous events in the world.

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- Ongoing or durative iconic events will be more prominent than their non-ongoing or non-durative counterparts (just as long as they do not violate iconicity), because when we experience events in the world, they are experienced as they occur.
- Present tense events will be more prominent than non-present events, because our experiences occur in the present.
- Chains of events related through causation or intention will be more prominent than unrelated events, because these index strict iconicity.

It is at this level of investigation that these hypotheses can be tested against narrative data. Clauses in narrative become more prominent as the narrative progresses, and so we should expect to see morphosyntax encoding strong iconicity, imperfectivity, present tense and causality and intentionality later in the narrative progression than morphosyntax which merely signals iconicity. The next chapter will consider the subset of these hypotheses which are relevant to the textual structure of Yapese narrative.

4. FOREGROUNDING AND BACKGROUNDING IN YAPESE NARRATIVE

In Chapter 3, examples from a range of languages showed that systems of tense, mood and aspect are often key in creating a pattern of relief in which clauses which are integral to the narrative stand out against less crucial clauses. Yapese is no exception to this, and in this chapter I explore ways in which the Yapese TMA system operates to create a finely grained pattern of figure and ground within the textual structure of narrative.

Within the narrative timeline or foregrounded portion of the narrative, the degree to which some clause is foregrounded is tied to its position in the narrative structure. We expect narrative tension to increase as the story progresses; thus those markers which tend to occur on the main storyline and toward the end of the narrative progression tend to be more highly foregrounded than the initial clauses in the complicating action. Both psycholinguistic and textlinguistic evidence point to the notion of iconicity, or a veridical temporal ordering of narrative events, as the baseline for foregrounded clauses. We should thus expect the clauses at the initial portion of the complicating action to be at least iconic (although it is of course possible that they will possess some properties beyond iconicity).

Chapter 3 also discusses a variety of evidence which points toward what I have called the situated foreground hypothesis

The situated foreground hypothesis:
The more prominent an event is in the imagined world of narrative, the more likely that the clause which expresses it will employ morphosyntax that indexes the experience of events which occur in the here-and-now of the real world.

The situated foreground hypothesis predicts that the certain tense-aspect combinations are likely to encode the highly foregrounded clauses in narrative. Highly foregrounded clauses are:

> (i) likely to be perfect, as events in the here-and-now are experienced seriatim;
> (ii) so long as they preserve telicity, are likely to be progressive, as events are experienced as ongoing rather than as completed;
> (iii) are likely to be in the present tense, as events in the here-and-now are present and not past; and
> (iv) are likely to be packaged with morphology which encodes causality or intentionality.

We saw in Chapter 3 that the apparently contradictory predictions of (i) and (ii) are in fact both borne out in systems in which the conversational historical present employs present progressive morphology to express sequential (and hence telic) events. It is hence only those progressive events whose context sets up a semantics of telicity which are in the foregrounded portion of the narrative. Laboratory evidence in Chapter 3 illustrates that both causation and intentionality increase the processing efficiency of pairs of events. I suggest that the grouping of such linked events into constituent units has a bearing on this enhanced efficiency, and that such linking additionally acts to signal strict iconicity, a property shared by events in the here-and-now. Intentionality has the added feature of appealing to experiences of attempts at goal-fulfillment. I thus predict that morphology which encodes causality or intentionality will also have a foregrounding effect.

As we shall see in this chapter, Yapese represents an instance of just such a predicted system. In order to demonstrate that this is the case, this chapter describes the textual pattern created by variation in tense, mood and aspect marking as it occurs in Yapese narratives. Before I flesh out this description, two additional theoretical tools are

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needed to construct a coherent description; the idea of the deictic center, and Labov's (1972) notion of evaluation in narrative.

1. Two Additional Theoretical Notions

1.1. Deictic Center

In order to comprehend a narrative, the addressee is required to construct a representation of time decoupled from the utterance time and relevant to the temporal situation of the story-world – the story-now. In a Reichenbachian (1947) schema of temporal reference, the reference time R for narrative is anterior to the speech time S; and for narrative clauses, the event time E is equivalent to R. As the sequence of narrative clauses pushes the E forward in time, R moves with it, giving rise to the narrative effect of movement through time.

Deictic Shift Theory (Duchan, Bruder & Hewitt 1995) examines ways in which the reader's perspective moves around in the story-world. The deictic center is defined as "[a] location within the world of the narrative [which] serves as the center from which the sentences are to be interpreted" (Segal 1995: 15). Almeida (1995) argues that in comprehending a narrative, a reader/listener sets up a representation of a "narrative now-point", and that events on the story line are perceived from this reference point. Furthermore, the occurrence of sequential perfective events on the story line "have the temporal effect of moving the now-point forward" (171). In other words, each event in a narrative clause causes a shift forward in the reference time. Although the same point is previously made by theorists of narrative structure (e.g. Dry 1983, Fleischman 1985), Almeida situates the shift in perspective more squarely in the processing capacity of the

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listener/reader; rather than the narrative being driven forward, the deictic center, an aspect of the representation of the text, shifts forward in time. The deictic center is thus a critical tool for discussing the point of view of a narrative. Although it refers to spatial as well as temporal perspective, when I use the term in this chapter I am primarily referring to temporal perspective.

1.2. Evaluation

In addition to the textual figure-ground relief pattern set up by the TMA system, distinctions of prominence may be instantiated by the *evaluative overlay* (Labov 1972). Evaluation in narrative refers to the means by which the narrator comments on the events of the story, either explicitly or indirectly, and underscores the reportability of the events. I consider the role of evaluation with respect to the set of TMA markers which are not analyzed in the section on textual structure; the irrealis and the negatives. A second important feature of evaluation in Yapese narrative is the use of direct quotation. Direct quotation provides the narrator the ability to directly voice the here-and-now perspective of the characters created by the narrative, and hence instantiates a highly immersed point of view.

2. Data

Six narratives from four separate texts comprise the material from which this analysis is drawn. All of the texts are taken from the CD-ROM *Pacific Area Language Materials* (PREL 1999), and are readers designed for middle to upper elementary school children. The text *Beaq Ni Ba Moqon Ngea Ba Raan' I Moongkii,* 'A Man and Some

Monkeys' tells the story of a hat maker who falls asleep on his way to market. When he wakes, he finds that a band of monkeys have absconded with his hats. The monkeys mimic his exasperated actions from a treetop, culminating in his casting off his own hat in frustration. The monkeys throw off the stolen hats in imitation of his gesture and he continues on his way to the market. In *L'Agruw I Maabgol,* 'The Married Couple', four children are orphaned by the death of their parents. The young girl protagonist procures food by means of a magical incantation at her parents' gravesite, but her brothers grow jealous and drown her in the well, intending to monopolize the food. The tale ends with a moral twist – the brothers perform the magic but come away with a basket filled with excrement. The short narrative *Thiliig Kaakaroom,* 'A Long Ago Storm' is a short first person account of a young boy experiencing a heavy tropical storm. *Guwchiig,* 'Dolphins' is from the upper elementary school science curriculum. The text is for the most part expository, but contains three short narrative examples to illustrate its points. The first two of these demonstrate the intelligence of dolphins. In the first, a dolphin solves the problem of a feather stuck out of reach; in the second, a pair of dolphins hook an eel out of its hiding place. The third narrative illustrates the social nature of dolphins by means of an example in which two dolphins escort an injured third to the surface to enable it to breathe.

The analysis below relies heavily on Labov's (1972) schema of narrative structure, recapitulated below for ease of reference:

Abstract	summarizes the tale and the impetus for telling it
Orientation	describes the setting, characters, situation
Complicating Action	introduces events which occurred
Evaluation	evaluates the events/narrative

Result or resolution   explains what finally happened
(Coda   relates the events to the current context)
(Labov 1972)

These elements occur as ordered within the narrative, with the exception of the evaluation, which may be found anywhere within the text. This schema represents the maximal structure of a fully-formed narrative, and not all narratives contain each element.

I begin by considering the pattern of TMA marking on main clauses in terms of the textual structure of the narrative. Yapese TMA markers may be split into two categories, depending on the class of subject pronoun that they take. I argue that the class which must take full pronouns is comprised of the markers found in the most highly backgrounded clauses in narrative – those markers which are least likely to produce a simulation with properties of the here-and-now. Within the abstract and orientation, habitual *maa*, which is used to sketch a character in terms of his or her typical activities, and progressive *bea*, which is used to express stage-setting activities prior to the onset of the complicating action, take full pronouns. In narratives with more sophisticated structure, such scene-setting activities may be found with the non-present marker *qu*, which takes a clitic pronoun. Presentative clauses with the existential verb *baay* (which typically does not take a pronoun) are also found in the orientation.

Within the complicating action proper, background events may be found in the non-present *qu* when they are of lesser importance or simultaneous with other events, or in the perfect *ka* when they occur prior to the deictic center. Both *qu* and *ka* take clitic pronouns. I argue that *qu* establishes a secondary deictic center in narrative, and that events in *qu* are locally iconic; that is, they are iconic with respect to other events on the

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secondary center. The stative *ba*, which occurs in the background, takes independent pronouns.

Independent pronouns do not occur in Yapese narrative clauses. The majority of narrative clauses are not marked for TMA at all. Zero-marking is the workhorse of narrative syntax in Yapese, and indicates that an event is on the narrative timeline. Narrative clauses may also be found with the inceptive marker *nga*, which is often used to express results or purposes. Finally, peaks in narrative are marked with the *frame-breaking* (Fleischman 1990) combination 'perfect non-present' *ka qu*.

I go on to round out my analysis of TMA marking by considering evaluative strategies of Yapese including comparators (irrealis, negation), as well as the special role of quotation in narrative. Before considering the ways in which the TMA system is exploited within narrative, I present a brief introduction to tense, mood and aspect within the Yapese verb phrase.

3. Tense, Mood and Aspect in Yapese

Yapese has a set of tense, mood and aspect markers which precede the verb within the verb phrase. The form of the verb phrase is dependent upon which of two classes the marker falls into. Jensen et al. (YRG) divide Yapese verb phrases into *independent pronoun verb phrases* and *suffixed pronoun verb phrases*.

In independent pronoun verb phrases, the full pronoun precedes the TMA marker.

1. **Yaed**   bea   marweel.
    3.pl   prog   work
    "They are working."

Transitive independent verb phrases take clitic objects if the object is non-singular.

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2. **Gamow** raa **guyeem** u Honolulu.
   1.excl.du irr see.2.sg in Honolulu
   "We (exclusive) will see you in Honolulu."

In suffixed pronoun verb phrases, the ordering of TMA marker and pronoun is reversed. The marker precedes the clitic subject, which precedes the verb, which is followed by a subject number agreement suffix. Clitic pronouns neutralize the dual/plural opposition, distinguishing only between singular and non-singular. The distinction is preserved in suffixed pronoun verb phrases by means of number agreement suffixes. The number suffixes also vary depending on the valency of the verb, with one set of suffixes for the subjects of transitive verbs and another for the subjects of intransitive verbs.[1] Note that the intransitive number suffixes are conventionally written as separate words.

3. Ka **ra** marweel **gow**.
   perf 3.pl work du.intr
   "They (dual) have worked."

4. Ka **ra** guyeew.
   perf 3.pl see.du.tns
   "They (dual) have seen her/him/it."

Tables representing the full paradigms of pronouns and agreement markers can be found in Appendix B.

Table 1 summarizes the TMA markers in Yapese.

Table 1: TMA Markers in Yapese

Independent Pronoun Verb Phrases		Suffixed Pronoun Verb Phrases	
bea	progressive	*ka*	perfect
maa	habitual	*nga*	inceptive
ba	stative	*baey*	definite future
		qa	priorative
		qu	non-present
		daa	past negative
		daa + r	negative
		(circumfix)	progressive
		daab	negative habitual
raa		irrealis	

The marker *raa* 'irrealis' may be used with either independent or suffixed verb phrases.

In the singular, a number of the suffixed pronoun forms fuse with the third person singular subject clitics in the following manner:

Table 2: TMA Markers Fused with the Third Person Singular Clitic Pronoun

	ka 'perfect'	*nga* 'inceptive'	*qu* 'non-present'	*ka qu* 'non-present perfect'	*daa* 'negative'
i 'third person singular'	*kea*	*ngea*	*qii*	*kii*	*dea*

In addition to fusing with the clitic pronoun TMA markers, in cases of zero marking the clitic third singular may trigger vowel change in the co-ordinating conjunction *ma* 'and then', giving *mea* (see e.g. (5) below).

Table 1 closely follows Jensen et al.'s analysis of tense markers in Yapese (YRG pp.195-198, 203-215). My labeling conventions depart somewhat from YRG labels. YRG uses: 'present progressive' (*bea*); 'simple future' (*raa*); 'present habitual' (*maa*); 'non-present progressive/habitual' (*qu*) 'past negative' (*daa*); present negative (*daa + r*); and 'future negative' (*daab*). Additionally, my analysis departs from Jensen et al. in that they

include zero-marking in the paradigm, contending that zero-marking expresses the simple past. These points will be addressed in more detail throughout the discussion below. Jensen et al. include the marker *ma* 'stative', with the caveat that "[t]he morpheme ma 'stative' is used only with the verb naang 'to know'." (YRG: 197). I have excluded this from my analysis on the grounds that it is not productive. Finally, the form *baey* 'definite future' is not attested in my corpus, and *qa* 'priorative' meaning "to do something first, ... to do it prior to something else" (YRG:213) occurs only once.[2] I have no new analysis to offer for these forms.

4. Textual Structure

4.1. Abstract and Orientation

The abstracts of the personal narratives studied by Labov (1972) are initial clauses which sum up the events of the story. They are distinguished by the fact that they present a key event or events but do not move the timeline forward. The reporting of the event or events may re-occur in the ensuing complicating action sequence. An abstract of this sort occurs only once in my data – not surprisingly, it occurs in the first person account of a disastrous storm, *Thiliig Kaakaroom*.

5.	Kaakaroom	ni	kaakaroom	ni	nap'an	ea
	long.time	AdvP	long time	AdvP	when	FM
	ka	gu	ba	qachiig,	mea	
	still	1.sg	stat	small	then.3.sg	
	yib	ba	yakoq	ni	ri	ba
	come.3.sg.intr	ref	storm	relpro	ints	stat
	geel.					
	strong					

"A long time ago, when I was still small, a strong storm came."

In the absence of a fully fleshed out abstract, there is a conventionalized phrase *kaakaroom ni kaakaroom* 'a long time ago' which opens the two other long narratives in my sample and functions to indicate that the conventions of narrative form are in effect. The idiom sets the succeeding clauses in the past.

Material in a typical orientation is composed of background clauses which identify "the time, place, persons and their activity or the situation" (Labov 1972: 364). In my data, these include zero-marked presentative clauses, event clauses marked by *bea* 'progressive', *qu* 'non-present', and chains of events initiated by *maa* 'habitual' and followed by zero-marked verbs.

4.1.1. Habitual Activities

Activities which work to present characters in terms of their customary actions take the independent pronoun TMA marker *maa* 'habitual'.

6. | Maruweel | rook' | ea | **maa** | **lifith** | ea |
    |----------|-------|-----|---------|------------|-----|
    | work | 3.sg.poss | FM | hbt | weave | idf |

    qurwaech.
    hats
    "His work **is** (habitually) **weaving** hats."

Maa clauses may be followed by zero-marked verbs which inherit their aspectual profile from the *maa* clause and receive a habitual interpretation. The next example immediately follows (6) in the text:

7.a. | Yugu | raa | reeb | ea | rraan | |
      |------|-----|------|-----|-------|---|
      | every | each | one | NPC | day | |
      | mea | **tabaalaaw** | ni | kadbuul | ngea | neap' |
      | then.3.sg | squat.intr | AdvP | morning | and | night |
      | ni | goqo | qurwaech. | | | |
      | AdvP | alone | hats | | | |

      ...

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b.	Raa	m'aay	reeb	mea	**taay**	nga
	when	finished.intr	one	then.3.sg	put.tns	on
	but'	...				
	ground					

"(a) Each day then he **squats** from morning until night, alone with his hats ... (b) When he finishes one, he **puts** it on the ground ..."
(A tenseless clause has been omitted for reasons of space)

4.1.2. Scene-setting Activities

The orientation may describe activities which set the stage for the upcoming complicating action. Such activities are marked with *bea* 'progressive' as in (8). As is the case for *maa*, *bea* belongs to the independent pronoun class of TMA markers.

8.a.	Tomm'oon	ni	ngea	yib	ea	rea
	first/before	cmp	inc.3.sg	come.3.sg.intr	idf	sg
	yakoq	neam,				
	storm	dist.dmn				
b.	ma	qer	ea	yi	**bea**	
	then	h.prx	FM	idfpro	prog	
	gachoworiy	ea	chugum	ni	nga	ni
	gather.tns	idf	possessions	AdvP	inc	idfpro
	yaen	i	paer	nga	reeb	ea
	go.3.sg.intr	inf	settle.intr	in	one	NPC
	naqun	ni	ba	geel		
	house	relpro	stat	strong		
c.	ma	gu	**bea**	**faafeal**		
	and	1.sg	prog	play.intr		
d.	ma	gu	**bea**	**minmin**	ko	girdiiq
	and	1.sg	prog	laugh.intr	at	people
	ni	qilal ...				
	relpro	older				

"(a) Before that storm came, (b) there, they **were/are gathering** up possessions in order to go and stay in one strong house, (c) and I **was/am playing**, (d) and I **was/am laughing** at the older people ..."

Note that the time frame for the *bea* clauses is past, "before the storm came", suggesting Jensen et al.'s 'present progressive' is an inaccurate label.

A more elaborate strategy involves marking these kinds of staging activities with

the non-present marker *qu*, which takes a clitic, in this case fused to the TMA marker.

9. | Reeb | ea | rraan | ma | qeree | |
one	NPC	day	then	hrr.prx.FM	
qii		**faafeal**	ba	guwchiig	nga
non-pres.3.sg.nom		play.intr	ref	dolphin	with
ba	gaaf	i	wul	ni	
ref	clsfr	NPC	feather	relpro	
kea	moenur ...				
perf.3.sg	wet.intr				

"One day, then, there, a dolphin **was playing** with a wet feather ..."

4.1.3. Presentative Clauses

The existential verb *baay* is commonly used to introduce characters at the

beginning of a text. In short uncomplicated narratives, it is found without any TMA

marking:

10. | **Baay** | l'agruw | i | scientist ... |
| exist | two | NPC | scientist |

"**There are** two scientists ..."

In longer and more complex narratives, the non-present form of *baay*, *qimmoey*, is used.[3]

11. | Kaakaroom | ni | kaakaroom | ea | **qimmoey** | |
long.time	AdvP	long.time	FM	non-pres.exist	
l'agruw	i	maabgol	ni	ra	
two	NPC	marry.intr	relpro	3.nom.non-sg	
diyean	nageew	dalip	i	pagäl	ngea
bear.intr	tns.du	three	NPC	boys	and
ba	buulyal.				
ref	young girl				

"Once upon a time **there was** a married couple who had three boys and a girl."

The existential verb *baay* may be followed with activities in the progressive *bea*,

but if the non-present form *qimmoey* is used, activities must be presented with *qu* 'non-

present'. Texts which begin with *baay* and *bea* forms may switch into the non-present,

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but the opposite is not true; once a text has used the non-present in the orientation, it cannot switch to the combination of *baay* and *bea*. Evidence taken from examples of *qu* clauses within the complicating action suggest that *qu* functions to set up a second, subsidiary deictic center. Not all texts make use of this option. Once this background center is invoked, however, it must be maintained. Its use in the orientation acts as a signal that the events in the orientation are in the background and that the story has not yet moved into the complicating action.

4.2. Background Material Embedded in the Complicating Action

In addition to the background material found in the abstract and orientation, background clauses may be embedded within the complicating action proper. Such material encompasses clauses which express states, clauses which express events prior to the story-now, clauses which express events simultaneous to each other, and clauses of diminished importance.

4.2.1. Ba 'stative' and Stative Verbs

Background material which describes states may be marked with the stative *ba*, which takes independent pronouns:

12.	**Ba**	**maal'aaf**	ea	gi	ni
	stat	far.intr	idf	loc	relpro
	baay	ea	maarket	riy.	
	exist	idf	market	locpro	

"The market **is far**." (Lit. 'The place where the market exists is far.')

Additionally, stative aspect may be achieved lexically by use of a stative verb. The most common such verbs are *baay* 'to exist' and *paer* 'to stay, sit, remain, live, settle down'.

13.
Qer	ea	ra	**paereed**	ni	goqo
h.prx	FM	3.nom.non-sg	settle.intr.pl	AdvP	alone
ka	yaed.				
again	3.pl.nom				

"There, they **settled down** alone again."

Stative aktionsart seems to be sufficient to allow these clauses to be zero-marked – they need not be explicitly marked as background clauses.

4.2.2. Qu 'non-present'

The clitic pronoun TMA marker *qu* 'non-present' is used for events of lesser importance within the complicating action, and for events simultaneous with each other. Of the types of non-narrative clauses considered so far, clauses in *qu* are the first to exhibit one of the properties typical of foregrounded clauses, in that they may initiate a chain of events in temporal order. *Qu* can thus be a marker of iconicity, although it does not mark events on the main narrative timeline.

Within the complicating action, *qu* marks events of lesser importance. Such events are found at the inception of a new episode, and this usage mirrors the function of *qu* in the orientation section in that it marks events which set the stage for foregrounded events within the complicating action. Example (14) directly follows a spatial shift and precedes a clause where the protagonist's brothers re-enter the narrative.

14.a.
Ma	qer	ea	**qii**	**paer**	
then	h.prx	FM	3.sg.nom	settle.intr	

b.
nga	**qii**	**soen**	**naag**	fa	dalip
inc	3.sg.nom	wait	tns	def	three
i	pagäl	ni	walaagean.		
NPC	boys	relpro	brothers.3.sg.poss		

"Then there she **settled** into **waiting** for her three brothers."

An interesting property of such sequences is that they involve the forward movement of a deictic center. Clauses like (14a) with *qu* are never followed directly by another plain *qu* clause. If they are followed by a clause in the non-present, it is of the form *nga qu* 'inceptive non-present', as in (14b). The inceptive, by virtue of its semantics, moves the story-now forward in time toward the speaker-now.

Qu clauses are not, however, narrative clauses in the strict sense, and not all clauses in *qu* are iconically ordered. A additional use of *qu* is for simultaneous events, and narrative clauses are, by definition, not simultaneous with each other. Simultaneity furthermore precludes strict iconicity; events cannot stand in a discrete sequential relationship if they are overlapping. The following example comes from the text *Moongkii*, and is taken from a longer series of events in which the monkeys imitate the movements of the protagonist.

15.a.	Mea	qunguy	ea	tuug		
	then.3.sg	clench.tns	idf	fist		
b.	**nga**	**qii**	**foeleeg**	ko	fa	pi
	inc	3.sg.nom	size.up.tns	to	def	pl
	moongkii					
	monkey					
c.	Ma	**kii**		**qunguy**	fa	pi
	then	non-pres.perf.3		clench.tns	def	pl
	moongkii	ea	tuug			
	monkey	idf	fist			
d.	**nga**	**qu**	**ra**	**foeleegeed**		
	inc	non-pres.prog	3.nom.non-sg	size.up.pl.tns		
	ngaak'.					
	3.sg.dat					

"(a) Then he clenched his fist, (b) and **started sizing up** the monkeys.(Lit 'measured it at the monkeys') (c) And the monkeys **had clenched** their fists, and (d) **started sizing** him up ... "

Figure 1 represents the overlapping of the events in schematic form. Again, *qu* shifts the deictic center. (15a) is a foregrounded clause which moves the deictic center forward, and

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is packaged as a zero-marked narrative clause. (15b) also moves the DC forward, but is marked with *qu* to indicate that it is simultaneous with upcoming events, namely (15c) and (d). Because the verb at (15b) *foeleeg* 'to size up' is an activity verb, it is associated with a deictic center which has an extension across a period of time. The use of the non-present perfect *kii* (<*ka* + *qu*) at (15c) indicates both that the event occurs prior to the current deictic center and that a second deictic center is in play. Finally, (15d) maintains simultaneity marking.

Man	Clause Tense Event	a. ø clenches fist ↓	b. *nga qii* sizes up monkeys ↓---
Timeline		Time →	
Monkeys	Event Tense Clause	↑ clench fists *kii* c.	↑------------------ size up man *nga qu* d.

Figure 1: Temporal Overlap in Example 15.

These data indicate that one of the functions of *qu* is to signal to the addressee that he or she is required to keep track of two deictic centers in order to make sense of the sequence of actions. Note however that although *qu* clauses are not globally iconic, they are locally iconic. Each separate deictic center maintains internal iconicity; clauses (a) and (b) stand in one iconic relationship on their local deictic center, and clauses (c) and (d) in a second iconic relationship.

The uses of *qu* in the orientation section and in material which describes stage-setting activities within the complicating action are consistent with the notion that *qu* sets up a second deictic center. Under the assumption that producers and perceivers of narrative share the convention that a narrative will establish a story-now in which the

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complicating action takes place, *qu* in the orientation operates as a cue that the narrative center is not yet established and that the orientation clauses are situated in a secondary, subsidiary deictic center. *Qu* as a marker of backgrounded complication action material, as in (14) above, can be viewed as an extension from this function; the clauses act as an orientation in miniature at the inception of a new episode. And finally in (15), dual centers are maintained simultaneously. Such a matrix of related functions seems a plausible extension from non-narrative uses of *qu*, where *qu* 'non-present' signals that the deictic center is not concurrent with the utterance time. Additionally, it explains why canonical foregrounded clauses are *not* found marked with *qu*. If *qu* were merely an indicator that events were not occurring at the time of utterance, one would expect all narrative clauses to be marked with *qu*. If, however, we allow that *qu* marks a secondary deictic center, its absence in the primary narrative center is predictable.

The presence of narratives without any *qu* clauses is explained by this analysis. Recall from examples (10) and (11) that presentative clauses may or may not be marked with *qu*, and from (8) and (9) that progressive stage-setting events may be either in *qu* or the progressive *bea*. If *qu* is viewed as an optional strategy for distinguishing between a primary and a secondary deictic center, its presence in longer and more elaborate texts is consistent with its absence in simpler narratives.

The major analytical points to be drawn from this elucidation of the functions of *qu* are (i) that *qu* establishes that the current deictic center stands in a comparative relationship to some other center, and (ii) that from the perspective of their own deictic center, *qu* clauses initiate a sequence of iconically ordered events.

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4.2.3. Ka 'Perfect'

Out-of-sequence events which are completed at a point prior to the current deictic

center are found with the perfect marker *ka*. *Ka* undergoes vowel shift to give *ku gu* 'perf

1.sg', *kea* 'perf.3.sg'.

16.a.	... mea	chöb	lingaan		ea	rea
	then.3.sg	explode.intr	sound.3.sg.poss		NPC	sg
	n'ean	neam	ni	wan'uug		ea
	thing	dist.dmn	AdvP	mind.1.sg.possFM		
	ba	booyoch,				
	ref	gunshot				
b.	ma	faqän	gu	changar	nga	
	then	when	1.sg	look.intr	to	
	laang					
	upwards					
c.	ma	**kea**	**yib**		ea	chigiy
	then	**perf.3.sg**	**come.3.sg.intr**idf		ceiling	
	ko	rea	naqun	neam	nga	but' ...
	of	sg	house	dist.dmn	to	ground

"(a)... then something over there made an explosive sound, to my mind like a
gunshot, (b) and when I looked up, (c) the ceiling of that house **had come** down
toward the ground ..."

The clause at (16a) is a narrative clause and moves the deictic center forward. (16b) is a

subordinate clause and hence not in the narrative foreground in the strict sense, although

it does in fact shift the deictic center. The event in (16c), the fall of the ceiling, is a

background clause which occurs prior to the current deictic center, and is packaged in the

perfect. As with *qu*, which may index the foregrounding feature of iconicity, *ka* also taps

into a feature predicted to enhance the prominence of a clause, namely perfectness. It also

shares with *qu* the property of taking clitic pronouns. Clauses in *ka* however are again not

strictly foregrounded, because they are not iconically ordered.

To summarize, the following TMA marking is attested in non-narrative clauses in

Yapese. First, the independent pronoun markers *bea* 'progressive', *maa* 'habitual' and *ba*

'stative' may occur in background clauses. Zero marking is found under certain restricted circumstances; either in the instance where a previous *maa* clause establishes an aspectual profile of habituality or else where a lexically stative verb obviates the need for explicit marking of stativity. The clitic pronoun TMA markers *ka* 'perfect' and *qu* 'non-present' are also found in backgrounded clauses. Despite the fact that these two markers do not fit the strict definition of foregrounded material as that material which moves the storyline forward in time, both of these markers are used for events integral to the construction of the narrative timeline. Clauses in *qu* express events which are crucial to the narrative but which are not strictly foregrounded just because they are simultaneous. Events presented with *ka* are also critical to constructing a temporal relationship of narrative events, but occur out of order. Both of these markers furthermore index features which are predicted to enhance immersion in the narrative situation, namely iconicity in some cases of *qu* marking and perfectness for *ka*. I thus regard clauses in *qu* 'non-present' and *ka* 'perfect' as instances of high focus background in Yapese narrative.

4.3. Narrative Clauses in the Complicating Action

Narrative clauses are, by definition, iconically ordered. All of the markers of narrative clauses in Yapese take clitic pronouns. The sequence of TMA shifts which occur as the narrative moves toward a peak form the primary testing ground for the situated foreground hypothesis. The hypothesis predicts that narrative clauses which occur at the inception of the complicating action, that is, the earliest narrative clauses which occur, will be at least iconic. The hypothesis further predicts that as the narrative tension escalates, each subsequent shift in TMA will be marked by a semantics which

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enhances the sense of the event in the imaginary world as being part of the here-and-now experience of actual lived events.

The familiar rise in narrative tension proceeding to the resolution of the problem set up by the orientation may be expressed in Yapese via a shift from zero-marked verbs in the majority of the complicating action sequence to verbs in the inceptive *nga*, culminating in the resolution typically marked by *kii* (<ka + qu) 'non-present perfect'. (Note that the use of *ka qu* at the resolution is in contrast to its use in the background as in (15c) above.)

Not all narratives employ all of these markers; however, the markers stand on the implicational scale *ka qu* > *nga* > ø. That is, if a text has narrative clauses in the perfect non-present, it will also have narrative clauses in the inceptive and the zero-marked case; similarly, the presence of narrative clauses in the inceptive imply that there will be zero-marked narrative clauses. This scale stands as additional evidence for the proposal that these markers increase the prominence of clauses, with zero-marked clauses as the least prominent and *ka qu* as marking the most prominent clause. In short and uncomplicated texts, there is not enough of an escalation of narrative tension to warrant the use of the markers which signal the most highly foregrounded events.

The situated foreground hypothesis thus predicts that zero-marked clauses will be at least iconic, and that (i) *nga* will signal iconicity plus some other enhancement of iconicity and (ii) *ka qu* will signal some additional enhancement.

4.3.1. Zero-marking in the Narrative Foreground

Before evaluating whether or not zero-marked clauses in narrative are iconic, some justification for my departure from the semantic analysis of Jensen et al. is required. As noted above, Jensen et al. characterize zero-marking as the "simple past" (YRG: 211). Not all instances of zero marking, however, correspond to an event in the past.

Zero-marked verbs can be found where the temporal reference point is the future.

17.
Ngea	gabuul	mea	**qun**	ba
and	tomorrow	then.3.sg	go.with	ref
gadaed	u	dakean	ea	chaaq
1.pl.inc	on	atop	idf	that.one
niir ...				
h.prx.dmn				

"And tomorrow, one of us (will) **follow**[4] that one ..."

18.a.
Nga	gu	moleag	qawocheeg
inc	1.sg	close.tns	eyes.1.sg.poss

b.
mu	gu	**pithig** ...
then.1.sg	1.sg	open.tns ...

"(a) I'm going to close my eyes (b) then I (will) **open** them ..."

In non-narrative text, they can be found with reference to generic activities:

19.
Ra	**baed**	u	baang	ni
3.nom.non-sg	come.3.pl.intr	from	place	relpro
ba	thiil,	ra	**baed**	u
stat	different,	3.nom.non-sg	come.3.pl.intr	from
madaay.				
ocean				

"They [dolphins] **come** from a place which is different, they **come** from the ocean."

And in narrative, they are allowable with generic or habitual activities if they are immediately preceded by a *maa* clause (see (7) above).

Zero-marked predicates inherit the temporal reference point of the previous clause. If the previous clause is telic (as is the case for all narrative clauses), they are sequentially ordered with respect to the previous clause. Thus in (18b) above, *mu gu pithiig* 'I open them' follows the previously mentioned event *nga gu moleag qawocheag* 'I'm going to close my eyes'.

In the complicating action, zero-marked clauses take their temporal reference point not from the previous clause, but from the previous narrative clause. Background clauses may intervene between zero-marked narrative clauses without shifting the temporal reference point. In this example, clauses on the timeline are in normal typeface, and those in the background are italicized. Zero-marked verbs are indicated in boldface.

20.a.	Mea	**yaen**	ba	gayow.		
	then.3.sg	**go..3.sg.intr**	ref	3.du.ref		
b.	**Suul**					
	return.intr					
c.	*ma*	*kea*	*feek*	*boechii*	*niig*	*ni*
	and	*perf.3.sg*	*pick.up.tns*	*small*	*fish*	*relpro*
	kea	*liiq*				
	perf.3.sg	*kill.tns*				
d.	*Boechii*	*niig*	*ni*	*ba*	*m'uuth*	
	small	*fish*	*relpro*	*stat*	*sharp.intr*	
	rachangalean.					
	thorn/spike.3.sg.poss					
e.	Qeree	**yib**		i	rugöy	ea
	hrr.prx.FM	**come..3.sg.intr**inf		poke.tns	idf	
	rachangal	riy	ko	fa	rea	looth...
	thorn	locpro	to	def	sg	eel

"(a)Then one of them **left**. (b)It **returned** (c) *and it had picked up a little fish that it had killed.* (d) *A little fish whose spikes are sharp.* (e) There, it **came** to poke the thorn there into the eel ..."

In (20a) and (20b), the temporal reference point is the story-now. In (20c), the reference shifts to a point prior to the story-now. Rather than being interpreted as an event at that prior point, the zero-marked verb in (20e) inherits its temporal reference

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point from the narrative clause at (20b). In other words, zero-marking is a paratactic device where the convention of narrative iconicity not only allows for the interpretation that adjacent zero-marked clauses are adjacent in time, but that furthermore the form is so strongly associated with temporal iconicity that it retains such an interpretation even across a disruption of the parataxis by intervening material.[5] As the situated foreground hypothesis predicts, the basic marker of narrative foreground in Yapese is indeed iconic.

Zero marking is the default marking for narrative clauses in Yapese. Short, uncomplicated narratives may be told entirely with zero-marked clauses. Narrators who wish to produce a more elaborate relief pattern have access to two further strategies which act to create more fine-grained gradations in the narrative foreground. The first of these is the inceptive marker *nga*.

4.3.2. Nga 'inceptive'

The marker *nga* 'inceptive' has a variety of closely related meanings. It may mean that an action is about to begin; that some action is the result of some other action, or that some action expresses the purpose of an earlier action (which I usually translate as 'in order to').

21. Inceptive

Nga	**gu**	**waen**	nga	**maqut ...**	
inc	I	go	to	taro.patch	

"I'm going to go to the taro patch ..."

22. Resultative

...ma	kii	yib	ea	m'aar	ni
and	perf.3.sg	come	idf	sick	relpro
ba	geel	ko	fa	rea	
stat	strong	to	the	one	
paapaaq	rooraed	**nga**	**kii**	**yim'**.	

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father	of.theirs.pl	**inc**	perf.3sg	die

"... and then a strong sickness came to their father, and so he died."

23. Purposive

Ma	ku	yaed	ea	qu	
then	also	3.pl.nom	FM	non-pres.prog	
raanoed	nga	madaay	ko	fitqaeq	
go.3.pl.intr	to	ocean	for	fish.intr	
nga	qu	ra	koeleed	ea	niig ...
inc	non-pres.prog	3.nom.non-sg	catch.pl.tns	idf	fish

"Then they also were going to the ocean for fishing in order that they would catch fish ...."

Nga expresses that some action has begun within the scope of the topic time. It emphasizes the connection between the previous action and the inception of the current action. As with zero-marking, clauses in *nga* are iconically ordered.

The resultative and purposive uses of *nga* are exactly the kind of previously unattested system for signaling an enhancement of narrative foreground that is suggested by the situated foreground hypothesis. The packaging of events as causally related chains gives rise to a default interpretation of strict iconicity, and such units are additionally more efficiently integrated into the situation model. Causal chains also index strict iconicity, a property of events as they are experienced. Events related by a semantics of intention or purpose are similarly strictly iconic, and in addition reflect our own experiences as strategic individuals pursuing the fulfillment of goals. Thus, events so packaged are good candidates for an enhancement of the experience of immersion in narrative.

As predicted by the situated foreground hypothesis, there is a strong tendency to find *nga* clauses at high points of narrative action. The next example comes from the text *L'Agruw i Maabgol* ('The Married Couple'). The protagonist (the little girl) has just

completed her magical procurement of food. Unknown to her, her brother has been

watching her from his hiding place.

24.a.

Ma	nap'an	ea	deeg	fa	chii
and	once	FM	start.intr	def	dimin
piin	ni	ngea	suul,		
girl	AdvP	inc.3.sg	return.intr		

b.

mea	miil	fa	chii	pagäl
then.3.sg	run.intr	def	dimin	boy

c.

ngea	**m'oon**	**rook'**
inc.3.sg	first	1.sg.poss

d.

ngea	**suul.**
inc.3.sg	return.intr

"(a) And once the little girl started to return, (b) the boy ran (c) **in order to be the first** (d) **to return.**"

It is crucial to the text that the activities of the brother remain unknown – he must return

so that she does not notice his absence. The use of *nga* foregrounds the reason for her

brother's haste to beat his sister home.

Nga clauses may also occur at the narrative peak. In the narrative *L'Agruw i*

Maabgol, there are two distinct peaks. The first, in which the young boy drowns his

sister, uses both zero marking and *nga*.

25.a.

... mea	thurury	nga	luweed
then.3.sg	push.tns	in	well

b.

ngea	**lumach**
inc.3.sg	drown.intr

c.

ngea	**yim'.**
inc.3.sg	die.3.sg.intr

"... (a) and he pushed her into the well (b) **so that she drowned** (c) **and she died.**"

This action sets the scene for the second narrative peak, which employs the three

strategies of zero-marking, *nga* and *ka qu* 'perfect non-present'.

Clauses with *nga* are far more likely than zero marked narrative clauses to occur in the thick of the narrative. Table 3 compares *nga*-marked and zero-marked main clauses in terms of whether or not they were more likely to occur immediately following a narrative clause. Clauses with *nga qu* are omitted from this count.

Table 3: *Nga* Clauses and Zero Marked Clauses where the Previous Clause is a Narrative Clause

	Number of clauses	Previous clause is narrative clause	Percentage
zero marked	87	56	64.4%
nga clauses	21	20	95.2%

(χ=17.053, p $\leq$ 0.001; distribution is significant)

Nga clauses are far more likely to occur immediately following a narrative clause than are zero-marked clauses. This is consistent with the claim that *nga* clauses are high focus foreground clauses – we would expect to find high focus foreground later in the narrative sequence than ordinary foreground. As the narrative tension increases, the narrative progresses from ordinary foreground to high focus foreground to the resolution; furthermore, as the narrative moves toward its resolution, there are larger blocks of narrative clauses in sequence and fewer background clauses.

The purposive and resultative uses of *nga* are predicted by the situated foreground hypothesis to correlate with a high degree of foregrounding. There is, however, a third function of *nga*, namely to express the inception of some new event. Given that not all of the high-focus foregrounding uses of *nga* tap into the semantics of causality or intentionality, it is not implausible to assume that the semantics of inception also have some association with the indexing of here-and-now that we expect to observe as the level of foregrounding is increased.

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There are two aspects of the semantics of inceptivity in Yapese which act to index the here-and-now of experienced events. The first of these is that, as with causally and intentionally linked chains in *nga*, merely inceptive chains are also strictly iconic. The second is that *nga* provides a metaphorical connection to present time.

Nga clauses can signal that some event will occur immediately. When the reference point for *nga* clauses is concurrent with the speech time, *nga* clauses carry the sense that the event in question will occur imminently. Such a use can be seen in (21) above, which comes from quoted speech within narrative. (26) presents a non-narrative example:

26.

Ah,	Manna',	rayog	ni	**ngam**	weliy
Ah	Manna'	irr.can.intr	cmp	**inc.2.sg**	tell.intr
ngoog,	ah	ah	marunga'agean		ea
1.sg.dat	DM	DM	about		DM
nap'an	ni	'um		'un	nga
time	subcl	non-pres.prog.2.sg		join.intr	to
sikuul?					
school					

"Ah, Manna', can you (immediately) tell us ah, ah, about when you went to school?"

And within the story-now center, this sense of immediate future translates to immediate sequential succession – that is, strict iconicity:

27.

mea	yib	ea	m'aar	ko	fa
then.3.sg	come.3.sg.intr	idf	sick.intr	prep	def
rea	piin	ni	niinaeq	rooraed	
sg	woman	relpro	mother	3.pl.poss	
nga	ni	taliiliy	naag	ea...	ea...
inc	idfpro	nurture	tns	DM	DM
ea...					
DM					

"then a sickness came to the woman who was their mother, and they (immediately) cared for her and ... and ... and ..."

Nga clauses in narrative also index the present tense, although indirectly. Once the narrative convention of past time is established, *nga* clauses signal motion through time

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toward the present. This sense emerges from the association with the homophonous and diachronically related preposition *nga,* which indicates movement toward some goal.

Ross confirms that the preposition *nga* is from the Yapese vocabulary strata inherited from Proto-Oceanic (1996:141, 156). He furthermore suggests Oceanic TMA systems can be divided into two classes. The first of these is the conservative class, in which the TMA system resembles POc:

> the tense/aspect system is simple, making distinctions between future/non-future, perfective/imperfective, habitual/punctual, and providing morphological marking for only the first member of each pair; the morphemes marking the future and the perfective respectively precede and follow the verb phrase (the habitual is marked by stem reduplication).
> (Ross 1988:97)

There are in addition more complex systems in which "morphemes marking tense/aspect are incorporated into the verb phrase, either as proclitics immediately before or after the subject pronominal proclitic or as enclitics to the verb stem" (1988: 97). Clearly, Yapese is of the second type. Ross furthermore goes on to claim that innovations in complexity in the TMA systems of Oceanic languages occurred through independent grammaticizations of non-TMA morphemes. It is then historically plausible that this homophony is not accidental and that that the preposition *nga* extended into an aspect marker.[6]

Such a change requires additionally a syntactic environment in which prepositional *nga* can be reanalyzed as a TMA marker. My sample contains examples in which a (presumably nominalized) verb follows a preposition. Although there are no examples in my data with *nga,* I do have evidence of a deverbalized noun following the preposition *ko,* in the first clause of (23), repeated here as (28). Note the absence of plural agreement on *fitqaeq* 'fishing', suggesting that it is not in fact a verb in this context.

28.

Ma	ku	yaed	ea	qu
then	also	3.pl.nom	FM	non-pres.prog
raanoed	nga	madaay	**ko**	**fitqaeq**
go.3.pl.intr	to	ocean	for	fish.intr

"And they(pl) also were going to the ocean for fishing."

Such a syntactic context is a plausible site for reanalysis of a preposition as a TMA marker.

How is a TMA marker which evolved from a preposition meaning 'toward' a good candidate for a high focus foreground marker? One plausible answer to this question is that there is a temporal analogue for proximity in space; as we shall see below, spatial proximity has an effect in marking prominence in evaluative clauses. In Chapters 5 and 7, I argue that spatial proximity enhances the accessibility of referring expressions in discourse. It may be that the perspectivization of an event as moving from a point of inception toward the present viewpoint of the comprehender enhances the sensation of immersion. This analysis is however rather speculative and remains to be tested in the laboratory. Nonetheless, the bundling together of inception with semantics involving causality and purposefulness suggest that this may be a fertile direction for experimental studies in situation model semantics.

4.3.3. Ka qu 'non-present perfect'

In narrative clauses the perfect is rare, and it appears only in combination with the non-present marker *qu*. It is found at the end of narratives, in clauses which resolve the complication. Recall that the story *L'Agruw i Maabgol* concerns three brothers who murder their sister in order to usurp her magic. The story has two distinct peaks: the first when the sister is drowned (see (25) above), and the second, below, when the murderous

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brother discovers that he cannot replicate her magic. In this example, *ka qu* fuses to give

kii 'non-present perfect third singular'.

29.a.	Ma	qer	ea	**kii**		
	and	h.prx	FM	non-pres.perf.3.sg		
	yaen	i	taay	fa	rea	duug
	go.3.sg.intr	inf	put.tns	def	sg	basket
	nga	thiliin	fa	gäl	malangean	ea
	in	between	def	du	stone.du.poss	idf
	yaam'					
	death					
b.	ma	**kii**		yoeg	fa	rea
	and	non-pres.perf.3.sg		say.tns	def	sg
	bug	i	thiin.			
	same	NPC	words			
c.	Mea	qunguy	qawochean			
	then.3.sg	close.tns	eyes.3.sg.poss			
d.	*ma*	*faqän*	*i*	*pithig*		
	then	*when*	*subcl*	*open.tns*		
e.	ma	kea	sug	fa	rea	duug
	and	perf.3.sg	full.intr	def	sg	basket
	magungaen.					
	excrement					

"(a) Here, he **had come** to put the basket between the two gravestones (b) and he **had said** the words. (c) He closed his eyes (d) *and when he opened them* (e) the basket had been filled with excrement."

The use of *ka* in resolution clauses is not difficult to explain; the perfect expresses that some event is bounded in time, a typologically common feature of the foreground. The use of *qu* is rather more puzzling, given that the purpose of *qu* elsewhere in the narrative is to set up a subsidiary deictic center. This use of *qu* is in fact entirely opposite to the prediction of the situated foreground hypothesis; *qu* explicitly divorces the situation from the here-and-now, and situates the deictic center elsewhere. This usage is difficult to explain in terms of situation model predictions that language should provide instructions to simulate the experience of events in the real world. Why should producers

of narrative choose the most crucial part of the narrative to depart from the attempt to simulate actual experience?

Several researchers in the textlinguistic tradition (Fleischman 1985, 1990, Chvany 1985, Fludernik 1991, 2003) have pointed out a strong correlation between foreground and the presentation of events which are *unexpected*.[7] In Labov's (1972) terms, in order for a speaker to tell a story, it must have the quality of *reportability*; it must contain an answer to the question *so what?* Speakers relay unexpected events because they are worth talking about. Fleischman (1990) points out that there is often an iconic connection between unexpected events and unexpected or marked morphosyntax, which she calls "pragmatic reversal" – the tendency to explicitly flout conventions of narrative in order to focus attention.

Fleischman's analysis is intended to account for some puzzling uses of the imperfective to mark high focus background in some of the Old French narratives in her data. Although her notion of pragmatic reversal is a valuable analytic tool, it is somewhat problematic in terms of its being overly powerful. Without proper constraints, any data which contradicts the hypothesis to hand can be explained away as pragmatic reversal, and hypotheses such as the situated foreground hypothesis become essentially unfalsifiable and hence untenable. I thus propose that pragmatic reversal is a phenomenon which is only associated with narrative peaks. This conceptualization of course contradicts Fleischman's original analysis – I would suggest, however, that the use of the imperfective to increase salience is accounted for by the situated foreground hypothesis, as the imperfective is an ongoing aspectual profile, and thus resembles the ongoing nature of experienced events in the real world.

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The notion of narrative peak, although not part of Labov's ontology of narrative structure, is of use to many theorists of narrative including Fleischman, and most particularly Longacre (1976, 1983). Longacre conceptualizes of the peak as the point at which dramatic tension is maximalized, and suggests that "Peak ... essentially is a zone of turbulence in regard to the flow of the discourse in the preceding and following parts of the discourse. Routine features of the event-line may be distorted or phased out at Peak ... the characteristic tense/aspect of the main line of discourse may be extended to unexpected uses at Peak." (Longacre 1983: 25).

A number of unexpected or seemingly contradictory structural patterns are found at the highest points of narrative structure across a range of languages described in the literature. For instance, Jones & Jones show that the "ordinary background" marker in Kickapoo is pressed into service to mark the peak, and comment that this is not unusual for Mesoamerican languages (1979: 20). Luraghi (1995) shows that in classical Latin, verb initial sentences, which are typically restricted to presentative clauses in the background, are also found at narrative peaks. In Manam (Austronesian, spoken in Papua New Guinea), Blewitt (1991) shows that the form used for peak moments of narrative tension is the irrealis – on its face, a state of affairs which seems to directly contradict the situated foreground hypothesis. His analysis is that this form involves "expectancy reversal" (1991: 20). Longacre points to a bundle of associated strategies which he conceives of as "rhetorical underlining" (Longacre 1976, 1983), including particularly devices of repitition or paraphrase, which he suggests may be universally available to storytellers. The repitition of a clause on the event line is in apparent contradiction with the notion of iconicity; a peak narrative clause may be repeated without the interpretation

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that the event expressed by that clause has occurred twice. The rhetorical underlining strategy of repetiton thus flouts the norm of iconicity (see e.g. Chapter 3, (3) where repitition of eventive *waw* clauses occurs at the peak of the flood narrative).

Although subordination is usually seen as a technique for backgrounding information, and various theorists explicitly exclude subordinate clauses from their definition of the foreground (e.g. Hopper & Thompson 1980, Wallace 1982, Dry 1983), Chvany (1985) points out that crucial events in a story may be presented in subordinate clauses for literary effect. This example, from Chekhov's *Spat'xočetsja* (Sleepy) describes a nanny murdering a child:

30. Zadušiv ego, ona bystro ložitsja na pol ...
     After smothering him, she quickly lies down on the floor ...

Chvany explains Chekhov's unexpected choice of a subordinate clause to present a crucial event as a (diagrammatically) iconic reflection of the unexpectedness of the event.

I thus consider the use of the present non-perfect *ka qu* at the most crucial point of Yapese narrative as an instance of pragmatic reversal. Pragmatic reversal is only predicted to occur at critical points of narrative structure, namely the peak. The affect of pragmatic reversal depends upon its capacity to deliver a jolt of surprise; and such a capacity is, as Fleischman points out, dependent upon the existence of a convention to flout (Fleischman 1990).[8]

If as situation model proponents argue, linguistic marking instructs comprehenders to construct a model which accesses their perceptual memories of lived events, what sort of processing advantage is gained by specifically violating this norm at the pivotal moment in a narrative? One tentative explanation is that narrators are exploiting the

increased processing time incurred by pragmatic reversal in order to encourage comprehenders to spend more time on the most prominent events of the narrative. It may also be the case that in order to convey the reportability of the narrative events, narrators wish to simulate the surprise and emotional affect which accompanies the kinds of lived events which have the potential to be turned into narrative. If the things that we tell stories about are the things which stand out against the humdrum background of everyday events, then perhaps flouting the norms of narrative convention to express these events mimics the effect of the actual experience of living them. If this is indeed the case, the situated foreground hypothesis holds for this case. Further experimental testing is required to assess whether or not such an explanation is supported under laboratory conditions.

4.4. Summary of TMA Marking of Textual Structure

Each of the foreground markers ø, *nga* and *ka qu* signal sequential actions which shift the primary deictic center forward on the narrative timeline. They present events in iconic order; the baseline of the narrative foreground. *Nga* enhances the experience of immersion in the narrative via its semantics of causality and intention, which index strict iconicity. Such an effect also emerges from inceptive uses of *nga*. The frame-breaking use of *qu* in the *ka qu* construction indicates the most highly foregrounded action.

Both *qu* 'non-present' and *ka* 'perfect' are used for events which are important to the temporal structure but which violate iconicity. They are used for high focus background. *Qu* and *nga qu* signal iconicity within the limited scope of the secondary

deictic center. *Ka* expresses perfectness, which is predicted to enhance prominence. Table 4 summarizes the features of this subset of Yapese TMA markers.

Table 4: Summary of Features of Realis TMA Markers

			Primary DC		Secondary DC		
		Frame-breaking	Causality or intentionality	Iconic ordering	Causality or intentionality	Iconic ordering	Telicity
Suffixing pronoun verb phrases	peak *ka qu*	✓		✓			✓
	nga		✓	✓			✓
	zero marking			✓			✓
	nga qu				✓	✓*	✓*
	qu					✓*	✓*
	ka						✓
Independent pronoun verb phrases	*bea*						
	maa						
	ba						

*Note that *qu* and *nga qu* are not necessarily iconic or telic in their uses in the orientation.

In accord with the predictions of the situated foreground hypothesis, *nga*, which is associated with causes or intentions, occurs at points of greater narrative prominence than does merely iconic zero-marking. The present evidence illustrates a case in which experimental predictions are supported by the structure of naturalistic data. In Yapese, it is the TMA marker which is associated with causation and intention which acts to increase narrative prominence. The case for *ka qu* clauses is less clear without further experimental evidence, but the strict constraints on the idea of pragmatic reversal mean that clauses in *ka qu* do not invalidate the hypothesis.

The data in Table 4 also showcase an important observation in regards to the distinction between those TMA markers which take independent pronouns and those which take clitic pronouns. Markers which do not access features of the experience of events, that is, the most highly backgrounded markers, take independent pronouns. To

this point, I have only considered realis TMA markers. The remainder of this chapter will examine the hypothesis that degree of foregrounding conditions the split between those TMA markers which may take clitic pronouns and those which are restricted from doing so.

5. Evaluation

Evaluation is "the means used by the narrator to indicate the point of the narrative, its raison d'être: why it was told, and what the narrator was getting at" (Labov 1972: 366). It carries the function of elaborating on why the events of the narrative are worth telling and wards off the listener's "so what?". In an earlier formulation of narrative structure (Labov & Waletzky 1967), the evaluation is conceived of as a discrete narrative constituent. In the case of such external evaluation, the narrator suspends the narrative action and comments directly to the listener on the events of the narrative. The Yapese TMA markers which have not yet been considered, namely the negatives and the irrealis marker *raa* fall into the class evaluative devices called comparators (Labov 1972).

5.1. Comparators

Comparators "provide a way of evaluating events by placing them against the background of other events which might have happened" (Labov 1972:381). For English, the class includes "negatives, futures, modals, quasimodals, questions, imperatives, or-clauses, superlatives, and comparatives" (387). These are, by definition, never part of the narrative foreground proper, although their evaluative force may be such that they are highly salient. The next example is taken from one of the short narratives embedded in

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the expository text *Guwchiig* (Dolphins), and illustrates how a comparator, in this case a question, can enhance the prominence of a clause. The narrator has set up the problem – a dolphin is trying to reach a toy which is stuck high out of its reach. Before presenting the solution, the narrator makes use of a question to direct the attention of the listeners.

31.   Qeree   raa   diqiy   mea   feek?
        hrr.prx.FM   irr   how   and.3.sg   pick.up.tns
        "There how did it pick it up?"

Two classes of evaluative comparators form part of the Yapese TMA system – negatives and modals.

5.1.1. Negatives

There are three negative markers in Yapese: *daa* 'negative'; the circumfix *daa + r* 'negative progressive'; and *daab*, which I have tentatively dubbed 'negative habitual'. Each of these negative TMA markers take clitic pronouns. *Daa* is the negative counterpart to zero-marking and is used for events which, had they actually occurred, would have been on the timeline. Jensen et al. analyze this as 'past negative', presumably by analogy to their rendering of zero-marking as 'simple past' (YRG: 207).

32.   **... dea**   **guy**   fa   chii   piin
        neg.3.sg   see.tns   def   dimin   woman
        fa   chii   pagäl
        def   dimin   boy
        "the girl **didn't see** the boy"

The circumfix *daa + r* is used for negative progressives (Jensen et al.'s 'present negative' (YRG: 209)) and is the negative counterpart to both *bea* 'progressive' and *maa* 'habitual' in cases where the habitual refers to a progressive event. The form is

circumfixed around the clitic pronoun and becomes *dear* in the third person singular (where the clitic pronoun is null).

33. Chanea   **dear**   **muul.**
     but   prog.neg.3.sg   come.out.intr
     "But it [the eel] **is/was not coming out.**"

34. Ma   **dear**   yingyeeng   ea   ggaan
     then   prog.neg.3.sg   chew.tns   idf   food
     rook',   ...
     3.sg.poss
     "And they **don't chew** their food ..."

Finally the form *daab*, which Jensen analyzes as "future negative", is used in my sample to express propositions which are habitually or always untrue. It is not found within any of the narratives in my sample, although there are few tokens in non-narrative text.

The negatives in (32) and (33) are evaluative comparators (note that (34) is taken from a non-narrative portion of text and is presented here to illustrate that *daa + r* can have a habitual interpretation). In (32) the use of a negative allows the narrator to reinforce the fact that events known to the addressee are not necessarily events known to the characters. The event in question is intimately tied to the moral significance of the tale, in that it concerns the duplicity of a brother hiding from his sister. And in (33), the negation sets up the problem resolved at the end of the narrative, in which the dolphins manage to pull the eel from its hiding place.

The number of negative tokens in my data is too sparse to present a full account of the interaction of tense-aspect patterns in the negative with the textual structure woven by TMA markers in the affirmative. Nonetheless, the close connection between evaluation

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and the narrator's intent to underscore the reportability of the events of the narrative lead one to conclude that evaluation is a prominent component of narrative structure. The fact that negative TMA markers take clitic pronouns, then, lends support to the analysis of clitics correlating with more foregrounded elements of the narrative.

5.1.2. Irrealis

The text *Beaq Ni Ba Moqon Ngea Ba Raan' I Moongkii* (A Man and Some Monkeys) contains an elaborated motivation sequence in which the main character contemplates the journey that will be acted out in the first episode of the complicating action sequence. In this portion of the narrative, verbs in the story-now are stative and zero-marked, while those which project the motivation are presented as the thoughts of the character and are in the irrealis.

35.a.	Paer	ngea	leam	naag	
	sit.intr	and	think	tns	
b.	ma	**raa**	**piiq**	ni	chuwaey'
	then	**irr**	**give.tns**	AdvP	sell.intr
	ni	yog	ea	salpiy	riy ...
	AdvP	earn	idf	money	locpro

"He sat and thought that he might give them to sell to earn some money from ..."

In (35a), the zero marked verbs are in the story-now (but note these are stative verbs and thus do not constitute narrative clauses), whereas the main verb embedded in the thought (*piiq* 'to give') is irrealis. At this stage in the story, the *raa* clause expresses events which have not happened; events which represent a possibility. These speculations set up the motivation for the subsequent episode, in which the protagonist is found packing up his hats in preparation for his journey.

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Note furthermore that although the *raa* clause is set in a future time, it also includes a modal meaning of epistemic uncertainty. *Raa* clauses need not be set in the future:

36.
Raa	m'aar	fea	maqadqad	reeb	ea
irr	sick.intr	or	injure.intr	one	NPC
guwchiig,	ma	maa	yib	boech	i
dolphin	then	hbt	come.3.sg.intr	some	NPC
yaed	i	qayuweeg.			
3.pl.nom	inf	help.tns.sg			

"If one dolphin is sick or injured, then some of them [the other dolphins] come to help it."

In this conjunction of the *raa* clause and the habitual clause with *maa*, a hypothetical interpretation ensues. Such uses are more characteristic of irrealis mood than Jensen et al.'s 'simple future'.

Recall from Table 1 (Section 3) that *raa* is found with either independent or clitic pronouns. Given that the split between clitic and independent pronouns is in all other cases predicted by the generalization that highly backgrounded clauses cannot take clitic pronouns, it is to be expected that *raa* clauses will follow this pattern. Data are however not yet available to confirm or deny this hypothesis. All of the examples of *raa* within narrative contexts take either fully realized noun phrases or third person singular pronouns, which are null in both the clitic and independent cases.

5.2. Quotation

Supporting evidence for the proposal that the evaluative overlay has a foregrounding function comes from the use of quotation in narrative. Quotations allow for the narrator to directly assume morphosyntax consistent with a speech time congruent

with the reference time of narrative, and as such, they connect the reference point of the narrative to the here-and-now.

Labov considers three types of evaluative quotation which occur in first person narratives of personal experience. In the first type, narrators accomplish the evaluation by embedding a first person quotation within the narrative timeline, packaging their reaction to a situation in terms of a thought or an utterance. In the second type, the quotation is explicitly addressed to a second party within the action, further interweaving the quotation into the narrative structure. Finally, an evaluative quotation may be uttered by a third party, which Labov analyzes as having the effect of carrying "more dramatic force when it comes from a neutral observer" (1972: 373).

Within a third person narrative, embedding commentary as a sentiment that has occurred to oneself at the time of the action is not an available option, as the narrator is not present as a character in the story-world. Nonetheless, quotation does carry an important evaluative function in third person narratives. Kalmár (1982), in his analysis of a (third person) Czech folk tale, looks at the efficacy of narrative clauses forming a high-level précis of the action, and finds that the omission of direct quotation from the foreground material means that the action is not well summarized.

The story *L'Agruw i Maabgol* makes extensive use of quotation for the dual purposes of furthering the plot and evaluating out of the ordinary events:

37.a.	Mea	gaqar,			
	then.3.sg	said			
b.	"Nga	gu	moleag	qawocheeg	
	inc	1.sg	close.tns	eyes.1.sg.poss	
c.	mu	gu	pithig		
	then.1.sg	1.sg	open.tns		
d.	ma	kea	sug	ea	rea	duug

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then	perf.3.sg	full.intr	idf	sg	basket
roog	ney	ko	p'aaw	ni	
1.sg.poss	s.prx.dmn	with	banana	relpro	
kea	loel,	yowgil,	ngea	niig	ni
perf.3.sg	ripe.intr	taro balls	and	fish	relpro
ka	ni	liith."			
perf	idfpro	cook.tns			

e.	Ma	faqän	i	pithig	qawochean,
	then	when	subcl	open.tns	eyes.3.sg.poss

f.	ma	kea	sug	fa	rea	duug
	then	perf.3.sg	full.intr	def	sg	basket
	ko	fa	pi	n'ean	ni	
	with	def	pl	thing	relpro	
	kea	yoeg.				
	perf.3.sg	say				

"(a) Then she said '(b) I'm going to close my eyes, (c) then open them, (d) and this basket of mine will be filled with ripe bananas, taro balls and fish which have been cooked'. (e) And when she opened her eyes (f) the basket was filled with the things that she had said."

This quotation takes on the significance of a ritual utterance throughout the story, and is repeated several times. It is referred to in subsequent uses as *yoeg fa bug i thiin* 'saying the words'. Crucially, the action embedded within the quotation is not presented outside of the quoted material. A précis of the action consisting of foregrounded material which omitted this quote would miss an important plot point.

Quotation may also be used in order to provide insight into the motivation of the characters. An important aspect of the narrative tension arises from the third person perspective which allows for the audience to appreciate motivations which are hidden from other characters.

38.a.	Ma	nap'an	ni	mool	fa	chii
	then	once	subcl	sleep.intr	def	young
	piin,	mea	gaqar	fa	bi	ni
	girl	then.3.sg	say	def	sg.dmnpro	relpro
	nganniiq	fa	pi	pagäl,		

	oldest	def	pl	boys		
	oldest	def	pl	boys		
b.	"Ngea	gabuul	mea	qun	ba	gadaed
	and	tomorrow	then.3.sg	go.with	ref	us.pl
	u		dakean	ea	chaaq	niir
	on	atop	idf	that.one	h.prx.dmn	
c.	ngea	naang	ea	gi	ni	bea
	inc.3.sg	know.tns	idf	loc	relpro	prog
	yaen	i	feek	ea	pi	ggaan
	go.3.sg.intr	inf	pick.up.tns	idf	pl	food
	niir	riy."				
	h.prx.dmn	locpro				

"(a) And once the little girl was sleeping, the oldest of the boys said (b)'And tomorrow one of us follows that one (c) in order to know where she is going to pick up that food from'."

Although these quotations do not reveal an attitude or sentiment toward the events of the text directly, they are key in presenting the unexpected events which make the narrative worth telling. The magical apparition of food is not an everyday event; neither is a conspiracy against one's sibling, especially one which ends in homicide. Both of these events, furthermore, are key to the moral significance of the tale, and this moral significance is what makes it worth telling.

Quotations are foregrounded evaluation by dint of their tense patterns. When narrators directly quote a character, they embed themselves in the time and situation of the story-now. The tenses used for the quotation are tenses which would be used if the reference time, i.e., the story-now, was identical to the utterance time, the time at which the story is told. Quotation in narrative has not to date been investigated experimentally by researchers investigating the properties of situation models, but given the special qualities of quotatives, this is a domain in which has great potential for further research.

6. Conclusion

This chapter evaluated the situated foreground hypothesis in a previously undescribed system of textual structure. Consistent with the predictions of the hypothesis, it was found that iconically ordered events are signaled by foregrounding morphology; in this case by zero-marking, *nga* 'inceptive' and *ka qu* 'perfect non-present'. Clauses which are more prominent and later on the narrative timeline are signaled by the marker *nga*, which has a semantics of causality and intentionality. This is also predicted by the situated foreground hypothesis. The most highly foregrounded clauses at the peak of the narrative are marked by *ka qu*, which I suggest involves a pragmatic reversal which indexes the unexpected or reportable events which a narrative requires. Off the timeline, levels of prominence also apply within the background. The perfect *ka*, and the non-present *qu*, which signals iconicity within a subsidiary deictic center, are high focus background markers. Evidence from the role of evaluation in narrative indicates that the irrealis and the negatives also have a foregrounded component. The most highly backgrounded TMA markers in Yapese, the stative *ba*, the progressive *bea* and the habitual *maa*, are also those markers which are prohibited from taking clitic pronouns.

This analysis of narrative foregrounding in Yapese represents a fruitful amalgam of insights from both the analysis of naturalistic text and findings from the laboratory. The results from the processing literature with respect to causal and goal-satisfaction chains are bolstered by the finding that such event types are explicitly signaled via morphosyntax at high points in narrative. Laboratory based explanations for such behavior furthermore give rise to well-motivated functionalist analysis of the textual patterns. Finally, the pragmatic reversal analysis of *ka qu* represents a new field of

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inquiry for experimentalists and a set of questions which in all probability would not have been raised without the evidence from naturalistic text.

In light of the evidence that suggests that strategic variation in the TMA marking of the clause acts to manipulate the degree to which the audience is immersed in the narrative, we might then ask if this property extends to other domains of morphosyntactic variation. One such domain is variability in the form of referring expressions. In Chapter 8 I test the notion that highly salient referring expressions correlate with highly salient clauses in both narrative and non-narrative texts. The next three chapters are devoted to examining what it might mean for a referring expression to be salient, and the forms which this salience takes in Yapese.

5. OBJECTS IN TEXT AND REPRESENTATION

1. Introduction

In Chapters 3 and 4, we saw how morphosyntactic signposts help comprehenders of language keep track of the unfolding of events in narrative. Linguistic cues alert listeners to the temporal structure, and to the increases in prominence of events as the narrative progresses, often via the tense-aspect system. The morphosyntax which accompanies a rise in narrative prominence indexes features which correspond to the perceptual experiences of events in the real world. High points of the narrative evoke an enhanced sensation of being "in" the narrative world. The event structure of a text is not, however, the only dimension of the situation that comprehenders must keep track of in order to construct a coherent situational model. Chapters 3 and 4 considered three of Zwaan & Radvansky's (1998) situational dimensions, namely time, causality and intentionality. This chapter will focus on the remaining two, the dimension of protagonist and object, and the dimension of space, both of which relate to the ability to keep track of entities in the discourse.

Human languages have rich systems for encoding subtle differences between referring entities in discourse. Phenomena such as pronouns, definiteness, deixis; classificatory phenomena such as gender, number and animacy distinctions; the presence or absence of modifiers such as adjectives and relative clauses; prosody and stress – all of these are pressed into service in connected discourse to ensure that users of language know which noun phrase refers to which of the discourse entities that they are currently juggling in their mental representation.

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A particular object in the world may be referred to in a number of different ways, for instance:

1.   an issue of *Language*
        the issue
        that issue
        this issue
        that
        this
        it
        (Gundel, Hedberg & Zacharski 1993: 274)

Extensive research has been done in the field of pragmatics with the aim of uncovering how speakers choose an appropriate form in such a way that listeners will accurately represent the entity to which the speaker is referring (e.g. Prince 1981, Heim 1983/2002, Ariel 1990, Gundel, Hedberg & Zacharski 1989, 1993, 2001). A number of theorists have converged on the ideas of familiarity or accessibility as a key variable – producers vary their use of referring expression dependent upon their assessment of the amount of information about the entity that comprehenders have available to them. As with textlinguistic approaches to foregrounding variation, such research has concentrated on the precise nature of the forms of language which encode distinctions. This pragmatic tradition has also placed an emphasis on naturalistic data (although theorists of accessibility are far more inclined to work with invented examples and grammaticality/felicity judgements of the type employed by syntacticians than are scholars of narrative form). The first section of this chapter will be devoted to a review of these pragmatic approaches, and I will outline in some detail Gundel, Hedberg and Zacharski's (1989, 1993, 2001) Givenness Hierarchy framework, which constitutes the theoretical basis for Chapter 6.

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On the psycholinguistic side, analysis of form is noticeably absent. Studies of the spatial representation of entities in discourse have, however, given rise to one of the most compelling arguments for the situation model framework, namely a processing correlate to imagined spatial distance, which has come to be known as the *spatial distance effect* (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). The presence of the spatial distance effect constitutes not only evidence that representations of imagined worlds must draw on encyclopaedic information extraneous to the textbase, but also points toward a perceptually based symbolic system. The second section of this chapter, then, will consider both the psycholinguistic evidence as well as points of synthesis between experimental and pragmatic work.

The final part of this chapter will consider non-spatial distinctions in reference with respect to protagonists and objects. After presenting experimental evidence which indicates that comprehenders track features of the protagonist in the text (Morrow, Leirer & Altieri 1992, Carreiras et al. 1996, Albrecht & O'Brien 1995) I argue that pronominal reference is a tool that comprehenders use to update properties of highly topical participants, especially of protagonists. I then examine the kinds of perceptual bases which might accompany other kinds of referentiality distinctions, drawing on work by Barsalou (1999) and Hurford (1999).

2. Theories of Accessibility

A number of theorists have addressed the problem of analyzing the relationship between the form of a referring expression in discourse and its relationship to known,

unknown, or recently activated information. Perhaps the most influential early study in this field was Prince's (1981) paper in which she presents her *assumed familiarity* scale. In this work, she outlines the requirements for a coherent theory of information packaging, proposing that such a theory requires (i) a taxonomy of linguistic forms; (ii) a taxonomy of values of familiarity; and (iii) an account of their correlation (Prince 1981: 233). More recently, detailed expositions of such a theory have come from Ariel (1990), and from the work of Gundel, Hedberg and Zacharski (1989, 1993, 2001).

Prince's (1981) scale of Assumed Familiarity classifies NP referents in terms of assumptions that the speaker can make about knowledge that is held by the hearer.

Evoked >	Unused >	Inferrable >	Containing Inferrable >	Brand-new Anchored >	Brand-new

Figure 1: Assumed Familiarity Scale (Prince 1981: 245)

An entity is *evoked* if it is already present in the representation of the current discourse; that is, it has already been mentioned or is somehow extralinguistically salient (for instance, both the speaker and hearer are evoked even if they have not previously been mentioned). An *unused* entity is present in memory but is not in the current discourse model. If an entity is *inferrable*, "the speaker assumes the hearer can infer it, via logical – or, more commonly, plausible – reasoning, from discourse entities already evoked or from other inferrables" (Prince 1981: 236). *Containing inferrables* are a special case of inferrables where the entity which provides the input for the inference is explicitly mentioned within the NP. In the example *one of these eggs*, the denotation of the entire phrase is inferrable from the contained noun phrase *these eggs*. Finally, entities are *brand-new* if a new representation must be created for the entity. Brand-new entities may be anchored or unanchored. If an entity is *brand-new anchored*, it is linked in some

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way (with an 'anchor') to some entity already present in the discourse model. The noun

phrase *a guy I work with* is anchored to the evoked entity *I.*

Ariel (1990) posits a tripartite division of context type – contextual information

may come from encyclopedic knowledge of the world, from the surrounding physical

environment, or it may be linguistic, emerging from the text. Unlike Prince, Ariel

explicitly outlines the links between degree of accessibility and the forms of referring

expression. Because she is concerned with distinctions between various sources of

knowledge, her Accessibility Marking Scale (Figure 2) is intended to account for initial

mentions of some entity in unmarked contexts. Her theory does not assume that the

accessibility of every referent can be predicted definitively from the type of noun phrase

which marks it.

	Low Accessibility
	Full name + modifier Full name Long definite description Short definite description Last name First name Distal demonstrative + modifier Proximal demonstrative + modifier Distal demonstrative (+NP) Proximal demonstrative (+NP) Stressed pronoun + gesture Unstressed pronoun Cliticized pronoun Gaps, reflexives, agreement
	High Accessibility

Figure 2: Accessibility Marking Scale (Ariel 1990: 73)

Gundel Hedberg and Zacharski (1989, 1993, 2001) construct a sophisticated model to account for correlations between the *cognitive status* of an entity and the form of the NP which refers to it. An entity is of high cognitive status if it is highly salient and easily accessible or retrievable from memory. Unlike other scales, Gundel, Hedberg and Zacharski's Givenness Hierarchy (GH) is an implicational scale. If some entity occupies a status on the hierarchy, it also occupies each status below it. For example, if an entity is uniquely identifiable, it is also referential and type identifiable.

Gundel, Hedberg and Zacharski also address the question of the correlation between degree of givenness and linguistic form. Each status may be associated with a particular form or forms. In order for a form to be used, the entity to which it refers must be *at least* as cognitively salient as the status with which that form is associated. Considering data from five languages,[1] they establish trends for cross-linguistic correlations between form and minimal cognitive status. Table 1 presents the association between forms and minimal statuses for English.

Table 1: The Givenness Hierarchy and Correspondent Forms for English

In Focus >	Activated >	Familiar >	Uniquely Identifiable >	Referential >	Type Identifiable
it	*that* *this* *this* N	*that* N	*the* N	indefinite *this* N	*a* N

Thus, to felicitously use the form, for example, *the* N, the entity in question must be *at least* uniquely identifiable. It is not however restricted to being *maximally* uniquely identifiable; it may also be familiar, activated or even in focus.

An *in focus* entity is one at the current center of attention. "This status is necessary for appropriate use of zero and unstressed pronominals" (Gundel, Hedberg & Zacharski

1993: 279). Entities are maximally *activated* when they are present in working memory, but are not at the current center of attention. Entities may achieve activation by means of recent mention or extra-linguistic salience. Activated status is necessary for the use of a full pronoun. Note here a point of departure from Prince's Familiarity Scale, which does not distinguish between types of evoked entities in this way.[2]

Entities which are at most *familiar* are present in memory, but "not in working memory because they have not been recently mentioned and are also not present in the immediate spatiotemporal context" (Gundel, Hedberg & Zacharski 2001: 286). At most familiar items are comparable to the status unused.

Toward the less salient end of the hierarchy, the type of representation created or retrieved is of more significance than the degree to which the entity is question can be assumed to be shared knowledge. As its name suggests, entities which are *uniquely identifiable* are both identifiable by the interlocutors and also have a unique referent. "This status is a necessary condition for all definite reference" (Gundel, Hedberg & Zacharski 1993: 277). *Referentiality* is achieved when "the speaker intends to refer to a particular object or objects" (Gundel, Hedberg & Zacharski 1993: 276), and furthermore intends that the addressee either create or retrieve a representation of the entity. In other words, the interlocutors know of the existence of the entity, but unlike the case with identifiable referents, they may not be aware of its actual instantiation. The final status on the hierarchy is that of *type-identifiable* objects or entities for which the addressee can access only a type-representation (Gundel, Hedberg & Zacharski 1993: 276).

Under the GH framework, use of a particular form therefore does not necessarily guarantee that one can predict the maximal status occupied by an entity. The fact that the

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hierarchy is cast as an implicational scale, however, allows Gundel, Hedberg & Zacharski to explain the fact that some form-status pairings are more likely than others in terms of Grice's Maxim of Quantity.

The Maxim of Quantity is:

"1. Make your contribution as informative as required (for the current purposes of the exchange).
2. Do not make your contribution more informative than is required"
(Grice 1975).

Part 1 of the maxim predicts that the minimal status which is associated with some form will tend to be the highest status occupied by entities coded by that form. For instance, marking an entity with an indefinite article, which codes that the entity is minimally type-identifiable (but does not preclude it from occupying higher statuses which entail type-identifiability) gives rise to a Q1 implicature that type identifiability is most likely the highest status occupied by the entity, because "use of this form conversationally implicates that the address cannot uniquely identify the referent" (Gundel, Hedberg & Zacharski 1993: 296). The first part of the maxim appears to be especially robust with respect to pronouns, since "pronominal forms have little if any descriptive content, so that information about cognitive status is crucial in delimiting the set of possible referents" (1993: 300).

Gundel, Hedberg and Zacharski also note that there is a cross-linguistic tendency for noun phrases with definite determiners not to be restricted to entities which are at most uniquely identifiable. They explain this tendency in terms of the second part of the quantity maxim. The referents of full definite noun phrases are argued to be readily accessible when marked by forms which do not mark the highest cognitive status that

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they occupy (which could be in focus, activated and familiar in addition to uniquely identifiable). Signaling that the entity is at least uniquely identifiable "is often sufficient for identifying the referent, given the descriptive content of the noun and its modifiers, and an explicit signal of a more restrictive cognitive status is therefore unnecessary" (1993: 300). The influence of the quantity implicatures, then, tends to constrain the pairing of form and cognitive status. It particularly tends toward the state of affairs where pronouns code the most highly salient items in discourse.

To summarize, theories of accessibility have emerged from the tradition of pragmatics, and are concerned with articulating the links between the form of a referring expression and its relationship with the information status of its referent. A number of taxonomies of information status have been advanced; these seek to capture the distinctions in the availability of entities in discourse as such distinctions pertain to formal distinctions in language. As well as considering taxonomies of information status, these theoretical approaches seek to link information status to noun phrase form. The kinds of formal distinctions investigated include items such as pronominality, distinctions in definiteness, and distinctions between deictic forms such as *this* (N) and *that* (N).

Although experimental investigations in the situation model framework typically do not consider NP form explicitly, there is one conversation within the experimental tradition which cross-cuts the domain of deixis, namely a set of experimental investigations which have considered the role of spatial representation in the situation model and its effect on the accessibility of objects.

3. Spatial Distance and Situation Models

A number of experiments have converged in finding that spatial distance within a situation model corresponds to accessibility; the closer that some object stands to the protagonist in a situation, the more quickly that object is retrieved from memory (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). This has come to be known as the *spatial distance effect.* It is most commonly investigated using the technique of Morrow et al (1989). In this format, subjects first learn the layout of a multipart space; for instance, they are asked to look at a plan of a research center with a laboratory, a library, an office, a conference room, a lounge, and so on. Each room within the center contains a variety of objects; for instance, a microscope, a set of scales, a computer and a work counter in the laboratory; shelves and a copier in the library. Once subjects have thoroughly learned the layout, they are then presented with a narrative that includes some sort of motion through the space. The protagonist moves from a source room to a goal room. The source and goal rooms are typically separated such that the protagonist is required to pass through an unmentioned path room. Subjects are then presented with a recognition task using a probe object from one of the spaces in the layout, and response times are measured. The narrative stimulus from Morrow et al. (1989) is partially reproduced below:

2.   Wilbur wasn't so sure he wanted to be head of the center anymore.
He had just been informed that the board of directors would be making a surprise inspection tomorrow.
He immediately called all the center's employees together in the library and told them they had less than twenty four hours to clean up the center.
He explained about the visit and said that all of their jobs were at stake.
He told everyone to spread out and clean and organize every room.
He went into the laboratory and made sure it was being cleaned, and then headed off to supervise the rest of the workers.

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He walked from the laboratory into the wash room.
[probe]
(Morrow et al. 1989: 297)

Crucially, in terms of the learned layout of the research center, it is impossible to reach

the wash room from the laboratory without passing through the storage area.

Such experiments have found consistently that objects in the goal room are more

accessible than, in decreasing order of accessibility, objects in the path room, the source

room and a room unrelated to the journey. Thus not only is there a spatial distance effect,

but accessibility correlates with spatial distance from the protagonist. Wilson et al. (1993)

confirm that the protagonist is crucial to this gradient effect; if subjects are merely asked

to compare objects to objects, rather than objects to the protagonist, the gradient effect

falls off. The effect appears to hold under a variety of conditions, including whether or

not the room in which the object is located is explicitly mentioned during the probe,

whether or not the motion is explicitly signaled by means of a verb of motion like "walk"

or whether it is merely implied, and whether or not explicit motivation for the movement

is provided (Rinck & Bowers 1995). The effect also holds true for layouts other than the

research center – Rinck et al. (1996) expressed concern that objects in the research center

were strongly associated with the rooms in which they were located (for instance a

microscope with a laboratory) and presented subjects with a novel layout in which rooms

in a daycare center were named for teachers in the center and the objects in each room

were not strongly associated with a particular room. The effect has been investigated and

found to hold true for German (Rinck et al. 1996), and in the same paper the authors

report that when the situation model is constructed by means of instructing the subjects to

imagine themselves in the situation rather than by means of a narrative, a similar effect holds.[3] In an interesting addition to the model, Rinck et al. (1997) presented subjects with a layout in which the rooms varied in size by an order of magnitude. They were interested in investigating whether actual distance was represented in the model or if the number of rooms was important; in other words, is an object on the other side of a big room less accessible than an object on the other side of a small room? They found that in fact, Euclidean distance was insignificant and that it was the number, rather than the size of rooms which mattered.

The key findings associated with these experiments are (i) that the time to access some object increases as that object increases in distance from the protagonist and (ii) that the effect holds even when the object in question is located in a room that has not been mentioned in the narrative. The second finding supports the general contention that the situation model combines information in the text with external information to build up a representation of the imagined world. The first finding is rather difficult to explain if one takes the viewpoint that cognitive representations are amodal, rather than perceptually based. Although an amodal system would presumably represent information about the spatial location of objects, it is difficult to see how the distance of an object from the protagonist would result in an accessibility delay under such a system; particularly in those cases in which neither the object nor the room in which it is located are explicitly mentioned (and hence presumably not activated). In contrast, a system in which the motion of the protagonist is tied to perceptual experience of motion and movement through space, the distance effect is explained in terms of the simulation of

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movement through the representation until the object in question is reached; longer movements take more time.

The spatial distance effect, then, is the demonstrated effect that objects which are closer to the deictic center of the current simulation are also more easily retrieved from memory. Human language encodes such distance grammatically through the use of spatial deictics such as *this* and *that*. Spatial deictics may vary along a number of dimensions; English has only two spatial deictics, a proximal and a distal. Some language have more than two; Spanish differentiates a proximal, a medial and a distal(Gundel, Hedberg & Zacharski 1993). Yapese has a speaker proximal, a hearer proximal, and a distal. Nonetheless, the basic notion of close versus far is widespread across human languages.

Given that spatial distance appears to affect the accessibility of objects in narrative and also that human languages formally encode distinctions of spatial distance in their grammar, we might ask how these facts are related. If language is indeed, in Zwaan's terms, "a set of processing instructions" for construction of the mental model, and if, furthermore, deictic expressions have a perceptual component à la Barsalou, ought we to assume that a proximal deictic constitutes an instruction to search for an item which is more easily accessible than an item referred to by a distal deictic?

3.1. Accessibility and Deixis in Language

Studies in accessibility theory have indeed suggested that proximal forms tend to be more accessible than distal forms. In Gundel et al.'s (1993) survey of cognitive status and noun phrase marking, some of the languages considered make a contrast between the

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minimal cognitive status required for appropriate use of demonstrative articles depending

upon whether the article is a proximal, medial, or distal demonstrative (Table 2).

Table 2: Demonstrative Articles and Cognitive Status
(Subset of data presented in Gundel et al. (1993: 284))[4]

	ACTIVATED	FAMILIAR	UNIQUELY IDENTIFIABLE	REFERENTIAL
CHINESE	*zhè* N 'this N'		*nèi* N 'that N'	
ENGLISH	*this* N	*that* N		indefinite *this* N
JAPANESE	*kono* N 'this N' *sono* N 'that N' medial	*ano* N 'that N' distal		
SPANISH	*este* N 'this N'	*ese* N 'that N' medial *aquel* N 'that N' distal		

Although the languages differ in terms of the status that is required for use of a particular

form, it is always true that if there is a contrast, forms which indicate a greater distance

from the speaker will be permissible with forms which are of lesser cognitive status.

Similarly, in Ariel's (1990) Accessibility Marking Scale, the following subscale

may be extracted:

	Low Accessibility
	Distal demonstrative + modifier Proximal demonstrative + modifier Distal demonstrative (+NP) Proximal demonstrative (+NP)
	High Accessibility

Figure 3: Deixis in Ariel's (1990) Accessibility Marking Scale

Such results are not confined to the small sample of well-researched languages. For

instance Lichtenberk (1988) finds that for To'aba'ita (Oceanic, Solomon Islands), the

anaphoric form *'eri* 'proximal' has a smaller average referential distance[5] from its antecedent than the corresponding distal form *baa* (RD=3.4 and RD=8.6 respectively).

At first glance, these results appear to suggest that the spatial distance effect and the linguistic use of deictics are phenomonologically similar. Entities which are represented as spatially close within the situation model are more rapidly accessed, and entities which the morphology codes as nearby require a higher minimal cognitive status.

These results, however, are not unchallenged. A number of studies of deixis (e.g. Fillmore 1975, Piwek & Cremers 1996, Botley & McEnery 2001, Strauss 2002) indicate that when proximal forms like *this* or *this* N are compared to their distal counterparts, proximal forms are more likely to code less accessible entities.

Botley and McEnery (2001) test Ariel's (1990) prediction that proximal demonstratives tend to mark more accessible entries by measuring the referential distance between antecedents and anaphoric and discourse deictic demonstratives. They find that for English data (a corpus of Associated Press news articles) distal demonstratives tend to have a lower referential distance. There are however, several flaws in their methodology. They count referential distance from the most recent NP reference to an entity, ignoring intermediate pronominal references. This is obviously problematic if referential distance is to be used as a measure of accessibility. Their average referential distance for distal demonstratives is less than 1,[6] suggesting a great deal of intrasentential anaphora; their illustrative examples are sparse on this point. Finally, some of their other numerical results appear not to correct for the fact that distal demonstratives are far more frequent in their study.

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Piwek & Cremers (1996) investigate accessibility in Dutch in terms of spatial deixis. They carried out an experimental study in which two participants were asked to construct a building with blocks. One participant was the *builder*; only the builder was able to touch the blocks. The *instructor* participant was required to instruct the builder to erect a building identical to an example building. Only the instructor could see the example. The instructor could observe the work of the builder in progress, and was free to point to items as well as issue verbal instructions. Blocks were coded as accessible if they were of unusual shape, if their location was explicitly mentioned, or if they were adjacent to the object last accessed (either verbally or physically). Their major finding is that more accessible objects tend to correlate with distal demonstratives, and less accessible ones with proximal demonstratives.

The analysis in Strauss (2002) sheds light on this apparent disparity between the spatial distance effect and the use of deictics in natural language. Her analysis brings up a dimension of the study of deixis that I have not considered to this point; namely that language occurs in an interpersonal context, and that deictic forms are explicitly tied to the standpoints of speaker and hearer. The use of a deictic form depends upon one's perspective. That which is proximal to the speaker may not be proximal to the hearer, and vice versa.

Strauss examines the distribution of the forms *this*, *that* and *it* in spoken American English. She presents evidence that *this* (N) is associated with information that is new to the hearer, while *that* (N) and *it* are used for shared information. *That* (N) and *it* are almost always used anaphorically in texts (92% and 97% of instances, respectively). In contrast, only 56% of the tokens of *this* (N) are anaphoric, suggesting that *this* (N) is

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much less likely to refer to an entity which exists in the shared discourse representation. She concludes that *this* (N) is a HIGH FOCUS form, marking an important new referent. These findings appear to directly contradict the results from accessibility theory.

Micro-analysis of the use of *this* (N) as opposed to *that* (N) or *it*, however explains this discrepancy. Strauss argues that this is "the demonstrative proposed to call a particular referent into the consciousness of the hearer" (2002: 141), and that furthermore while *that* (N) or *it* can be used as markers of solidarity between conversants by dint of their function as shared knowledge markers, *this* (N) is more likely to be used for adversative or confrontational talk. In one telling example, a caller to a talk radio show begins her segment of talk by referring to *a man*, continues at her next reference with the form *that man*, and then, after a combative interruption by the host, attempts to regain the floor with the form *this man* (144, example 18). Instances of *this* (N) in talk tend to co-occur with what Strauss characterizes as "attention getting phrases" such as *see* or *dontchu understand*, whereas *that* (N) clusters with phrases signaling shared understanding (*dju know what I'm talking about*). Finally, in its non-phoric use (Gundel et al.'s indefinite *this* N), *this* N has an affective component; it adds "vividness in telling funny, exciting, or otherwise affectively loaded narratives" (Strauss 2002: 146).

These examples would seem to indicate that the proximal form codes that a discourse entity is strongly associated with the speaker, rather than the shared conversational space. Its use to introduce a new referent which in a sense "belongs" more to the speaker than to the other participants, as well as its use in combative talk, in which the speaker is resisting rather than co-operating, suggest that it is tied in with the signaling of interpersonal information as much as with textual or ideational levels.[7]

Returning to the accessibility literature, Gundel, Hedberg and Zacharski (1993) point out that in some languages the use of *this* (N) requires not just activation, but speaker-activation. For example, in English:

3.   A: I think that my novels are better than his.
       B: I agree with that (statement)/?? this (statement).
       (Gundel, Hedberg & Zacharski 1993: 288)

Similar patterns hold for Japanese and Spanish.

This observation, as well as Strauss' findings on proximal demonstratives and speaker stance, are the key to integrating the seemingly contradictory accounts from accessibility theories and studies of spatial deixis. If speakers are assumed to track both the distinction between entities that are accessible to themselves alone, as well as entities which are accessible in the shared conversational space, we can conceive of *this* (N) as the marker for items which are accessible to and/or strongly associated with the speaker, but not accessible or generally accepted in the shared discourse representation. *That* (N) on the other hand, moves the representation out of the speaker's personal orbit, and is the marker which signals that an entity is present in the shared interpersonal inventory of discourse entities. Such an analysis moves us closer to van Dijk & Kintsch's (1998) vision of the construction of a situation model as encompassing a wide range of comprehension strategies, including those tied to sociocultural context.

So far, we have seen that for those languages which have a threefold system of deixis (Japanese and Spanish, see Table 2 above), it is always true that the distal form will be permitted with less accessible entities than the proximal form. English deixis merely makes the difference between near and far, and appears to collapse the proximal with the speaker-centered use and the distal with the shared-social use. Mandarin

(Gundel, Hedberg & Zacharski 1993) and Dutch (Piwek & Cremers 1996) have similar systems.

As with Spanish and Japanese, Yapese has a three-way deictic contrast, but unlike these languages, Yapese does not distinguish proximal-medial-distal. Rather, the distinction is speaker proximal, hearer proximal, and distal. If Yapese behaves in a similar fashion to the languages considered by Gundel, Hedberg & Zacharski, we would first expect that the distal form will require the lowest minimal cognitive status permitted with a deictic. The hypothesis that it is the interpersonal channel of communication which results in the association between proximity and low (shared) accessibility would be bolstered if we could tease apart the distinction between spatial distance and interpersonal deixis. This hypothesis can be explicitly tested in Yapese, as it is an example of a system in which the distinction "away from the speaker" is not neutralized with respect to "close to the hearer". A finding that it is the Yapese hearer proximal term which is used for deictic-marked NPs with the highest accessibility supports the hypothesis that social information is at least as important as spatial information in an account of variation in referring expressions. Chapter 7 will investigate this proposition in light of corpus data.

This section has presented a number of experimental investigations which indicate that spatially proximal items are processed with greater facility than those which stand at a greater distance. Evidence from studies in pragmatics at first glance appears to suggest that the spatial distance effects induced by non-spatial uses of deictic expressions applies more generally to the accessibility of noun phrases. This pattern is complicated, however, by the intersection of social and interpersonal deictic information. I have suggested that my proposal with regard to the influence of interpersonal deixis would be supported by

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evidence from Yapese, a language which explicitly codes the distinction between distance from the speaker and proximity to the addressee. I furthermore predict that distal forms in Yapese will allow entities of lower maximal cognitive status than will proximal forms. Deictic information, however, is but a small part of the rich variation in referring expressions. The remainder of this chapter will be dedicated to exploring another important dimension coded in morphosyntax, namely the distinction between definite and indefinite expressions.

4. Tracking Non-Spatial Information about Objects & Characters in the Situation

Outside of the investigations into spatial distance, the role of morphosyntactic variation (or rather the concepts which tend to be signaled by such distinctions) is much less examined within the situation model framework. Experimental evidence has established that properties of people and objects which cannot be derived from the textbase alone are in fact tracked within the situation model (Morrow, Leirer & Altieri 1992, Carreiras et al. 1996 Albrecht & O'Brien 1995). The kinds of inferences that we make about the referents of noun phrases may furthermore be tied to information about their status as protagonists or their recency of mention (Morrow, Leirer & Altieri 1992). What is not yet clear, however, is the way in which the kind of internal diversity that is found within systems of reference might affect or effect our experience of immersion in the narrative situation (or if this variation does indeed have such an effect). After reviewing evidence which shows that entities within the discourse are in fact integral elements of the situation model, I wish to consider how the enhancement of immersion might theoretically correlate with variation in referring expressions and in cognitive

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status. Barsalou's (1999) perceptual symbol system provides the natural theoretical framework for this investigation as it explicitly links the comprehension of language to the re-enactment of perceptual memory in a way that can explain the notion of immersion in the situation.

4.1. Tracking Information About Protagonists

One line of evidence for the notion that protagonists and objects ought to be viewed as part of the situation model comes from evidence that comprehenders use real world knowledge in addition to information in the textbase in order to construct their representations of entities in the discourse world. Carreiras et al. (1996) investigated the extent to which gender-stereotyped occupational roles influenced the integration of new information. They presented English and Spanish speaking subjects with pairs of sentences and measured reading time for each. The first sentence contained a proposition with an individual named by an occupation in the subject position; the second contained a pronominal reference to that individual which either matched or mismatched the gender stereotype. For English speaking subjects, Carreiras et al. found a delay in reading time for the second sentence when the pronoun mismatched the stereotypical gender of the noun. For the Spanish speaking subjects the delay for the mismatch occurred in the first sentence, when the Spanish speakers encountered the noun marked with an article which signaled the gender of the referent. These results show that information from outside the textbase has an impact on comprehension and that comprehenders are building information about characters into their representation of a situation.

A similar result comes from Morrow, Leirer & Altieri (1992). In their experiment, they presented a group of subjects with a narrative concerning the actions of a flight engineer and a captain in the cockpit of an airplane, and then investigated their performance on a pronoun resolution test. The group was comprised of equal numbers of pilots and nonpilots. Morrow, Leirer & Altieri found that pilots performed better on the pronoun resolution task than did nonpilots, suggesting that the pilots were bringing their expert knowledge about the situation to bear on their comprehension of the text. In a similar vein, Albrecht & O'Brien (1995) find that when the protagonist is specified as having certain properties (e.g. being a vegetarian), new information which is contradictory to those properties (e.g. ordering a hamburger) causes a processing delay.

There is a wealth of evidence that shows that comprehenders are skilled at tracking reference to protagonists and other topical participants in the discourse by exploiting cues from their form. As well as the pragmatic research reviewed above, evidence comes from formal approaches emerging from tackling the problems involved in machine resolution of pronouns, such as centering theory. Centering theory (Grosz, Joshi & Weinstein 1983/1995) is based on an algorithm which predicts which of the participants in a particular clause will continue as the topic of the next clause in the discourse. A detailed exposition of the workings of the algorithm is not necessary to my line of argumentation here; what I wish to focus on is the special status of pronouns in this theory. The *pronoun rule* states that if any entity in a clause is realized as a pronoun then it must be the most topical entity[8] in the previous clause. Applying the centering algorithm (including the pronoun rule) blindly to text (that is, without invoking information about word meaning or contextual inferences) gives topicality prediction success rates in the order of around

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80% (Strube & Hahn 1999). Given that the protagonist is the most globally topical entity in the discourse (by definition), pronominality is a key linguistic cue in communicating information which updates the model of the protagonist within the situation (Zwaan & Radvansky 1998: 174).

Supporting evidence for the interplay between pronominality, topicality and protagonist status comes from experimental results from Morrow, Leirer & Altieri's (1992) tests on pilots and nonpilots. As well as varying the degree of expertise of subjects, the experiments additionally varied (i) whether the pronoun to be resolved referred to the protagonist or a minor character; and (ii) the referential distance between the pronoun and its antecedent. They found that pronouns which denoted the protagonist were resolved with greater speed and accuracy than those which referred to a minor character, and that for both minor characters and the protagonist, examples in which the antecedent was more recently mentioned were also resolved with greater speed and accuracy. Evidence for recency of mention as key in the ability to resolve pronoun resolution is also found by Daneman and Carpenter (1980).

One can view this detailed attention to tracking the protagonist as a way of immersing oneself in the situation. Recall from Chapter 3 that one argument for the enhancement of immersion that accompanies events which are connected via intentionality or goal fulfillment is that comprehenders take on the subjective position of the protagonist in narrative (Rinck & Bower 2004). If comprehenders routinely put themselves in the shoes of the protagonist (or at the least, maintain attention in such a way that they have the capacity to do so should the narrative warrant it), then

pronominality is an important cue by which they update their models of the protagonist's spatial and temporal position, actions, mental states, desires and perspectives.

Pronominality and deixis do not, however, fully flesh out the variation within the systems of referentiality that we find in the languages of the world. Evidence from pragmatic investigation suggests that comprehenders are sensitive not only to pronominality, but also to other linguistic cues about the referential and cognitive status of entities in discourse. Might this kind of variation also be providing cues with respect how crucial an immersed perceptual experience of such entities is to the developing situation model? We have seen in Chapters 3 and 4 that the updating and integration of event-based information has clear parallels to our experiences of events in the world. The same is true of spatial information in the situation model – we have to proceed down a mental "pathway" to access objects which are more spatially distant. The remainder of this chapter will be devoted to exploring the theoretical ramifications of proposing that such immersion in the real world of perceived entities is also applicable to comprehending information about the referentiality of entities in discourse.

4.2. Definite and Indefinite Reference in Perceptual Symbol Systems

One of the advantages of Barsalou's (1999) perceptual symbol model over amodal notions of symbols is that it elucidates an explicit mechanism for connecting experiences of entities in the world to their symbol representations. An object in the world is recognized to be an instance of a particular type of object by mapping tokens (in the world) to types. Type-token mapping is achieved by "[b]inding a simulator successfully to a perceived individual" (Barsalou 1999: 596, see also Barsalou 2003). Selected

perceptual input is matched to the store of perceptual abstractions which has accrued

through previous exposure to similar individuals (the simulator); when the perceptual

input from the token in the world is judged to sufficiently match the perceptual properties

stored in the simulator, a simulation, or representation, of the object is produced. Such a

simulation, moreover, need not be triggered by an actual perception of the object in the

world; simply hearing a word which is known to be associated with the simulator is

enough to trigger a simulation (Barsalou 1999: 592).

Linguistic representations of objects, however, are not homogenous. The pragmatic

and semantic study of reference has shown that it is necessary to distinguish between

various types of referents. A referent may be an individual in the world, an individual in

the symbolic system, a category, an underspecified member of a category, or a entire set.

Moreover, languages typically display a variety of strategies in order to mark nominal

expressions for the type of reference intended. The widespread use of special markers to

restrict the range of reference of a nominal expression, especially in the domain of

definiteness, is a phenomenon that any serious theory of symbolic representation must be

able to account for.

The elucidation of how a perceptual symbol system would handle distinctions in

referent type is rather sparse in Barsalou (1999). He recognizes that definiteness is a

phenomenon to be accounted for, although he does not specify exactly the way in which

his symbolic perceptual architecture would distinguish between definite and indefinite

representations. In his formulation it appears that markers of definiteness stand outside

the perceptual system: "definite descriptions illustrate the importance of external relations

that go beyond a symbol's content in establishing its intentionality" (1999: 597). He does,

however, address a related issue; namely the perception of individuals versus that of types. Simulators have the ability to "establish propositions that construe individuals in the world" (1999: 603). Briefly, in the processes of recognizing an entity as an instance of some concept, a comprehender may also carry out a type-token mapping and predicate some property of that entity, namely the property that it constitutes a recognized individual.

In his commentary on Barsalou's work, Hurford (1999) examines the question of the perception and cognition of individuals and entities in some detail. Hurford accepts Barsalou's argument for the perception of individuals, but notes that some problems arise in instances where individuals are required to be cognized: "[i]f individuals lose their "whichness" in the process of storing a type-token fusion in long-term memory, how can the perceptual symbols (the simulators) in my mind for an ant and for my mother differ in a way that echoes the classical difference between a set and an individual?" (Hurford 1999: 621). Hurford answers this question by proposing that individuals have the same status as abstract concepts within the theory.

Within Barsalou's model, abstract concepts derive their content not from perceptual experience in the world, but from the perceptual experience of introspection. For instance, the perceptual component of the concept *truth* depends upon recognizing that upon multiple instances of assessing whether some assertion is true or false, one must compare a simulation of the assertion to one's simulation of the events in the world which the assertion describes. This repeated introspective comparison is the basis for the perceptual input for the concept of *truth* (Barsalou 1999: 601).

Using this concept of introspection as a perceptual experience, Hurford argues that the recognition of an individual rests on the introspective experience of having never encountered another entity in the world with quite the same properties of that individual. "The selected core content of the abstract notion of a cognized individual is that this particular simulator is sui generis, that one has never encountered two perceived individuals together fitting this simulator" (Hurford 1999: 621).

The distinction between definite and indefinite reference shares some features with the distinction between an individual and a type. I define a definite NP, following Lyons (1999) as one which refers to an entity which is *unique and identifiable*. This definition is widely adopted in the pragmatic literature and in models of accessibility (see for example Gundel, Hedberg & Zacharski's notion of "uniquely identifiable" discourse entities). Identifiability is in this instance analogous to the problem of the recognition of a specific individual. Given the fact that the distinction between definite and indefinite reference is widespread and shows up in unrelated languages, any theory which attempts to explain symbolic systems must therefore have an explanation of how definiteness and indefiniteness operate within the system. Finally, unique individuals in language need not be unique individuals in the world. When a new definite NP is introduced to a text, comprehenders understand at first mention that the referent represents a unique individual (Gundel, Hedberg & Zacharski 1993). Indefinite reference to a novel entity does not achieve the same ends. In both cases, however, the comprehender has equal ability to introspect (or not) on the fact that there are no other individuals which match the one under current consideration. Markers of definiteness, then, must be understood as instructions to the hearer to construct or retrieve an individual rather than a type.

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Because experimental work in the laboratory has not explicitly addressed definiteness, we are not in a position to formulate a hypothesis comparable to the deictic distance hypothesis. We can, however, combine the assumptions of the immersed experiencer framework with observable naturalistic data to set constraints for descriptive adequacy on the theory of perceptual symbols.

The immersed experiencer framework proposes that comprehenders experience linguistically transmitted situations vicariously, as though they were present. If the distinction between individuals and non-individuals is experienced perceptually (as suggested by Hurford), and given that systems of definiteness rest on distinctions of individuation and recognition (i.e. identifiability), then the immersed experiencer framework predicts that distinctions in the marking of definiteness ought to be processed in exactly the same way as other situationally-grounded information such as time or space. In other words, a representation of a definite NP ought to be processed in a similar fashion to a representation of a recognized individual, while a representation of an indefinite NP should be processed as a type-representation.

Additionally, the ability to theorize definiteness within the perceptual system casts doubts on Barsalou's conceptualization of it as external to the system. Indeed, within his framework, it is difficult to hold an internally coherent notion of what "external" might mean. If referentiality marking is stipulated as amodal, then symbols can be amodal. If symbols can in fact be recorded amodally, one of the main arguments against amodality – that there exists no explicit framework which specifies quite how an amodal system might work – can equally be applied to the framework of perceptual systems. If, on the

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other hand, the complexity of referentiality can indeed be handled by a perceptually-based system, Barsalou's model gains theoretical ground.

In order to assess whether or not systems of referentiality can be handled within this framework, we must first look to the comparative text linguistic and pragmatic literature for an answer to the following question:

> What kinds of conceptualizations underlie the variations in referring expressions in human language?

The question for the perceptual symbol framework then becomes:

> Can the distinctions in referentiality that human beings exhibit in their linguistic behavior be accounted for in the perceptual symbol framework?

I propose to begin answering this question by means of a case study. Yapese is ideally suited as a case study for this question because it has the rather unusual property of lacking the wherewithal for manipulating grammatical relations in the clause – it lacks a voice system. Degree of cognitive status, which is intimately tied to NP form, is used to manage the delivery of nominal information in Yapese, where other languages manipulate grammatical role for this function (Ballantyne 2004). Perhaps because of this, Yapese has particularly rich variation in its reference system. The next chapter will be devoted to describing the reference system of Yapese in the framework of Gundel, Hedberg and Zacharski's (1993) Givenness Hierarchy, aiming toward assessing the capacity of perceptual symbol systems to handle the richness of this variation.

5. Conclusion

I began this chapter by reviewing work in pragmatics which considers the morphosyntactic variation in noun phrase form as a function of its accessibility.

Particular attention was given to the givenness hierarchy (Gundel, Hedberg & Zacharski 1993), in which noun phrase form is argued to signal the minimal cognitive status that a discourse entity may occupy. Turning to considerations of tracking entities within the situation model, I reviewed a number of studies which have converged upon what has come to be known as the spatial distance effect (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). Given that spatial distance has a correlate in deictic systems in many languages, I reviewed the literature on deixis and accessibility for evidence that NPs which are packaged with more proximal deictic terms tend to be more accessible. Although distance within the deictic system may have some effect on accessibility, this effect may interact with socio-spatial norms of the "ownership" of information by either the speaker or by the conversants as an aggregate. I propose to test this interaction in Yapese in Chapter 7.

The literature on tracking non-spatial entities in situation models is rather more sparse. Although it is well established that comprehenders attend to the protagonist (Morrow, Leirer & Altieri 1992, Carreiras et al. 1996, Albrecht & O'Brien 1995), and there is some evidence to suggest that pronominality may be a crucial linguistic signal of this (Morrow, Leirer & Altieri 1992, Grosz, Joshi & Weinstein 1983/1995), not much attention has been paid to noun phrase forms which correlate with lesser degrees of accessibility. Given that other dimensions of the situation model have proven to be a particularly good fit with perceptual symbol systems, I examine Barsalou's (1999) model for further directions. Hurford's (1999) analysis of individuation within the perceptual symbol system appears to offer some promise on this score. The ability of perceptual

symbol systems to account for the referential system of Yapese will be examined in the next chapter.

6. REFERRING EXPRESSIONS AND THE SITUATION MODEL IN YAPESE

1. Introduction

In the previous chapter, the investigation into the role of updating objects in the situation model left us with two outstanding issues. The first is empirical: in what way does the system of spatial deixis interact with social factors when demonstrative deictics refer to entities in the discourse representation? The second is theoretical. Can we account for the diversity of variation in referring expressions within the perceptual symbol framework?

In this chapter, the second of these questions will be examined with respect to Yapese data. Such an enterprise necessitates first a coherent description of the data to hand. In the interest of contributing as complete a description of this underdescribed language as possible, in this chapter and the next I include analysis of parts of the referential system which are not necessarily pertinent to the questions to hand. This chapter will consider pronouns and the system of determiners. The question of whether these systems are theoretically compatible with the architecture of perceptual symbol systems will be considered before the deictic system because the form of the system of deictic demonstratives in Yapese is dependent upon and best understood with relevance to the determiner system. In the next chapter, I describe and analyze the class I have called *restrictors*, which includes the demonstratives as well as number markers and alienable possessive markers. I also briefly touch on classifiers, which behave in a somewhat similar fashion to the restrictors.

After outlining the methodology I adopt in order to describe and analyze the system of referentiality in Yapese, I demonstrate the output of this methodology by examining pronouns in connected discourse. I then describe the determiner system. Specific theoretical proposals which integrate determiners into the perceptual symbol system follow. I finish by considering some implications of my theoretical stance, noting that Ns which are marked with forms which require a higher minimal cognitive status tend to give rise to more complex predications within the symbol system; they are more elaborated and more constrained. Such elaborated representations are more likely to correlate with the rich simulations activated when perceived objects in the world are cognized. I predict that these elaborated representations will tend to correlate with salient points in the event structure of the narrative. These predictions are tested in Chapter 8.

2. Theoretical and Methodological Preliminaries

In Chapter 5, a number of approaches to the analysis of referring expressions in naturally occurring discourse were discussed, including Prince (1981), Ariel (1990) and various extensions on Gundel, Hedberg and Zacharski's Givenness Hierarchy (e.g. Gundel, Hedberg & Zacharski 1989, 1993, 2001). In this chapter, I analyze the forms of referring expression in natural discourse through the framework of the GH.[1]

Two aspects of the framework make it the most suitable for the current investigation. First, it was expressly created to account for cross-linguistic data, unlike other accessibility frameworks which were built to explain English data alone. In Gundel Hedberg and Zacharski (1993), the hierarchy is exemplified by detailed data from five languages which are not closely related (English, Russian, Japanese, Mandarin and

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Spanish). Second, the GH allows for and accounts for data in which the function of an

expression apparently deviates from its form. The cognitive statuses and their definitions

are recapitulated in Table 1 below for ease of reference:

Table 1: The Givenness Hierarchy (Gundel, Hedberg & Zacharski 1993)

IN FOCUS	Referent is at the current center of attention.
ACTIVATED	Referent is present in short-term (working) memory.
FAMILIAR	Addressee has a representation in long term memory.
UNIQUELY IDENTIFIABLE	Addressee is able to construct or retrieve a representation on the basis of the nominal expression alone.
REFERENTIAL	Speaker intends to refer to a particular object or objects. Addressee must retrieve or construct a representation.
TYPE IDENTIFIABLE	Addressee is able to access a representation of the type of object.

In order to discover the links between the form of a referring expression and the

minimal cognitive status required for felicitous use of that expression in Yapese, it is

necessary to construct a set of protocols for assigning cognitive status independent of the

form of the expression. By considering the highest status occupied by referring

expressions in discourse independently from their form across a large sample of noun

phrases, the minimal cognitive status associated with each form can be discerned.

The noun phrases in the corpus of material in Gundel Hedberg and Zacharski

(1993) were coded independently for cognitive status by two coders. Their data excludes

proper names, generics, indefinite plurals and elided NPs in conjoined and infinitive

clauses. Of their coding methodology they state that "[w]hile there were coding

guidelines based on syntax and recency of mention, decisions on cognitive status were

not completely mechanical, but also involved judgments based on relevance and the

shared knowledge and beliefs of the speaker and hearer. The two coders agreed on

approximately 90% of the tokens examined" (GHZ: 1993: 291). They go on to comment

that the majority of the disagreements were for entities at statuses equal to or higher than familiar, and that disagreements were resolved by discussion among the coders. They are not explicit with regards to the abovementioned "guidelines". As a two-coder strategy is not an available possibility, my methodology involves approximating the cognitive statuses via mechanical means and then carefully examining apparent exceptions or discrepancies with Gundel Hedberg and Zacharski's cross-linguistic findings.

With regard to the higher statuses (familiar and above), the highest status occupied by a particular form is tied to the accessibility of the form in memory. Memory accessibility can be approximated (although not ascertained definitively) by measuring recency of mention.

An *in focus* entity is one at the current center of attention.[2] It is "not only in short-term memory, but is also at the current center of attention" (Gundel Hedberg & Zacharski 1993: 279). In focus entities include "at least the topic" of the preceding utterance, as well as higher-order topics which are still relevant. I assume that an approximate correlation to in focus status is a referential distance equal to or less than one; in other words, a noun phrase coreferential with a noun phrase in the preceding sentence or earlier in the current sentence is coded as in focus. Exophoric reference to any speaker is coded as in focus; I distinguish here between speakers and speech participants. Exophoric reference occurs only in my spoken data, and the spoken data consists exclusively of interviews each with a single interviewer and a single interviewee. The interviewer and interviewee are speakers. Other parties present at the time are speech participants. Although the coding of speakers as in focus is useful for the two-speaker data in my sample, my adoption of this methodology should not be taken to imply its suitability for

other types of conversation. External entities indicated by pointing or other gestures are also in focus.

Entities are maximally *activated* when "[t]he referent is represented in current short-term memory. Activated representations may have been retrieved from long-term memory [or] they may arise from the immediate linguistic or extralinguistic context" (Gundel, Hedberg & Zacharski 1993: 278). Speech participants are always at least activated.

Short term, or working, memory is conceived of as a limited capacity resource responsible or both short term storage and for processing (Just & Carpenter 1992, Roberts & Gibson 2002, inter alia). Experimental work designed to investigate the capacity of working memory suggests that (i) the capacity of the short term store varies measurably among individuals; and (ii) in terms of linguistic processing, the look-back distance of the store varies by individual from two to seven clauses.

Early work in this field by Daneman and Carpenter (1980) showed that the ability to identify the antecedent of a pronoun diminishes with the number of sentences intervening between the mention of the referent and the pronoun. Subjects who were correctly able to identify the antecedent varied in their performance with referential distances spanning a range from two to seven sentences. More recent experimental work by Roberts and Gibson (2002) takes the clause, rather than the sentence, as the unit of investigation, and finds that correct identification of the antecedent in fact diminishes over multiple clause boundaries within the same sentence. They tested sentences with a range of two to five clauses between the antecedent and the pronoun, and found that performance diminished as the number of intervening clauses increased.

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For the present work, there are two issues which affect the notion of the look-back capacity of working memory. First, it is not clear whether look-back capacity is affected equally by numbers of intervening clauses and intervening simple sentences. While Roberts and Gibson (2002) found clear evidence that the number of intervening clauses has an effect, they did not explicitly test whether multi-clausal sentences were similar in effect to an equivalent number of simple sentences. In other words, it is not clear whether a single two clause sentences puts the same demands on the processing capacity as two single clause sentences.

Of particular relevance to this problem is the fact that Yapese, unlike English, has no adjectival class, and expresses nominal attributes verbally, by means of relative clauses (see example 1, Chapter 2). This means that the frequency of subordinate clauses in Yapese is very much unlike their frequency in the language on which working memory effects have most often been tested (viz. English), and suggests that an approximate look-back boundary for activated entities be based on research which has investigated sentential rather than clausal units, as the former are more likely to be comparable across languages.

In order to correct for the fact that some sentences will have multiple clauses, I set the look-back boundary for activation at the low end of the scale. An entity is coded as activated but not in focus if it is mentioned no more than three and no fewer than one sentence prior to the current reference. That is, its referential distance is greater than one and less than or equal to three.

Entities which are at most *familiar* are present in memory, but "not in working memory because they have not been recently mentioned and are also not present in the

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immediate spatiotemporal context" (Gundel, Hedberg & Zacharski 2001: 286). I assume

that previous discourse mention is sufficient to grant an entity familiar status.

Unmentioned entities which can reasonably assumed to be familiar to the addressee (e.g.

the sun, the ocean, Yap) are also coded as familiar.

Uniquely identifiable entities are those for which "[t]he addressee can identify the

speaker's intended referent on the basis of the nominal alone" (GHZ 1993: 277). Entities

which are uniquely identifiable but not familiar are those in which the nominal alone,

rather than retrieval from memory, allows for the construction of a uniquely identifiable

referent. Uniquely identifiable but not familiar entities are often marked with modifiers

which assist in constructing a unique reference:

1.   I couldn't sleep last night. **The dog next door** kept me awake.
       (Gundel, Hedberg & Zacharski 1993: 276)

A noun phrase is *referential* when "[t]he speaker intends to refer to a particular

object or objects" (Gundel, Hedberg & Zacharski 1993: 276). *Type identifiability* is

achieved when "[t]he addressee is able to access a representation of the type of object

described by the expression" (Gundel, Hedberg & Zacharski 1993: 276). A noun phrase

is coded as maximally referential when it seems that the addressee can reasonably be

expected to have constructed some sort of object-representation; otherwise, it is coded as

type identifiable. Gundel, Hedberg and Zacharski point out the existence of examples

such as (2) in which the addressee must deal with ambiguities with respect to inferring

the speaker's intent:

2.   I couldn't sleep last night. *A dog* kept me awake.

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In this example, the addressee has no way of knowing whether the speaker is referring to a particular dog or not. Because it is possible for such examples to be associated with an object-representation, such instances in my data are coded as maximally referential.

Each noun phrase in my corpus (n=2 045)[3] was coded for both maximal cognitive status and NP form. Excluded from the analysis were quantifiers and numerals. These items cannot reasonably be assumed to each form a natural class with respect to givenness. For instance, a quantifier meaning *all* X by definition indicates an NP which is at least uniquely identifiable, whereas a quantifier meaning *some* X requires by its semantics merely referentiality. Similarly, lower order numerals, and most particularly the numeral *one* are likely to behave differently (both syntactically and with respect to accessibility) to higher order numerals. In order to gain reliable results for these items, minimal cognitive status would need to be established separately for each distinct lexeme. My data does not contain enough tokens of each type for this to be possible. I note also that my analysis is not sensitive to variation between fronted and non-fronted NP tokens.

In order to assess the correlations between noun phrase form and cognitive status, it was also necessary to construct a taxonomy of NP forms in Yapese. This chapter considers: pronouns, including zero,[4] clitic, reduced and independent pronouns; and the class of determiners, which includes the definite determiner *fa*, the referential marker *ba*, the indefinite determiner *ea* and the inalienable possessive markers. The next chapter will address additional material which modifies the reference of NPs, namely demonstratives, number markers, alienable possessive markers, and finally, classifiers. Discussion of the structure of these NP forms, including new analysis not addressed by Jensen et al.

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(1977b) is interspersed with discussion of their cognitive status. I begin with the most accessible items on the hierarchy, the in focus pronouns.

3. Pronouns

In their sample of five languages, Gundel Hedberg & Zacharski find that "all pronouns ... require the referent to be at least activated" (1993: 285). Furthermore, "unstressed pronouns, clitics and zero pronominals" (1993: 285) are always in focus. In Yapese, zero, clitic and reduced independent pronouns are required to be in focus, with some exceptions. Yapese has an indefinite pronoun which is always maximally type identifiable, and which can act as an antecedent to a zero pronominal. As is the case with English, Yapese can use the second person singular to refer to people in general rather than to the addressee specifically (particularly when the clause has a deontic sense, see example (6) below). Independent pronouns must be at least activated.

In addition to the personal pronouns, Yapese uses various classificatory matter phorically (classifiers, number markers, numerals and quantifiers). I distinguish these proforms from personal pronouns; as they are headed by restrictors or classifiers, they will be addressed in the next chapter.

In the singular, there are two sets of first person independent pronoun forms in subject position. The first set appears in citation forms and the second is restricted to the spoken component of the corpus. I refer to this second set as reduced independent pronouns.

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Table 2: Independent and Reduced Independent Subject Pronoun Contrast in the Singular

	Independent	*Reduced independent*
1	gaeg	gu
2	guur	ga
3	qiir	ii

For a general description of the pronoun system, see Chapter 2, pp36-40, and the

Appendix. Table 3 shows the distribution of pronouns in the corpus according to the

approximations of cognitive statuses outlined above. Indefinite pronouns (which are

always maximally type identifiable) are not included.

Table 3: Distribution by Highest Cognitive Status of Entities Marked by Pronoun

Pronoun Type	Approximation of Highest Cognitive Status						
	R.D. < 2 (approx InF)	2 <R.D.<3 (approx Act)	Discourse Old (approx Fam)	UnId	Ref	TyId	Total
ø	451	18	1	0	2	8	480
Clitic	121	2	0	0	0	3	126
Reduced Independent	28	0	0	0	0	3	31
Dative	48	6	1	0	0	0	55
Alienable Possessor*	49	3	2	0	0	0	54
Independent	47	1	1	0	0	0	49
Emphatic**	1	0	0	0	0	0	1
Total	745	30	5	0	2	14	796

(Zero pronouns χ^2= 574.29, p≤0.001, distribution is significant; clitic pronouns χ^2= 162.62, p≤0.001, distribution is significant; reduced independent pronouns χ^2= 35.64, p≤0.001, distribution is significant; dative pronouns χ^2= 61.11, p≤0.001, distribution is significant; alienable possessor pronouns χ^2= 62.04, p≤0.001, distribution is significant; independent pronouns χ^2= 63.05 p≤0.001, distribution is significant.)
*Nouns which take inalienable possessors are excluded from this analysis, as they do so obligatorily, and thus there are cases in which inalienable possessors do not refer explicitly to entities in the discourse.
** There is only one example of this class in my corpus: *Mireew o galiy* "Come on, you two".

It is clear from these results that the overwhelming majority of pronominals refer to

an entity mentioned no earlier than the previous clause. Gundel Hedberg & Zacharski's

model predicts however that an entity must be *at least* in focus to license the use of zero

and unstressed pronominals, and at least activated in the case of stressed pronouns. That is, the expected pattern is that ø, clitic, reduced independent, dative and alienable possessor pronouns ought to be in focus, and that independent pronouns ought to be at least activated. The data points which do not conform to these expectations therefore require some explanation.

3.1. Clitic Pronouns

Close examination of instances in which zero, reduced or cliticized (including dative and genitive) pronouns appear to refer to an entity that is maximally activated or familiar leads to the conclusion that these entities are in fact in focus. The entity in question is either highly topical in some way, being the protagonist or other main topic of the discourse, or else it is less centrally topical but is the most highly topical (or only) entity which fits the classificatory parameters of the pronoun or pragmatic frame of the verb.

In example (3c), the protagonist is referred to by a zero pronoun despite there being an intervening clause between references to him. In (3a), the protagonist picks up his carrying pole and sets off on his journey to market:

3.a.	Mea	**yib**	i	chuw	nga	
	then.3.sg	come.**3.sg**.intr	inf	move.intr	from	
	taanggin	**ngea**	yaen.			
	under	and.**3.sg**	go.3.sg.intr			
b.	Ba	maal'aaf	ea	gi	ni	baay
	stat	far.intr	idf	loc	relpro	exist
	ea	maarket	riy.			
	idf	market	locpro			

c.	Qeree	**yib**	i	taaw	nga	ba
	h.prx.FM	come.**3.sg**.intr	inf	reach.intr	prep	ref
	kea	naech.[5]				
	clsfr	naech tree				

"(a) And **he** came up underneath it (carrying pole) and **he** went. (b) It's far, the place where the market is. (c) There, **he** comes to reach a naech tree."(Yiftheg 1999)

The successful reference to the protagonist with a zero anaphor in (3c) (in this case supplemented by information on the irregular verb *yib* "come.3.sg" which inflects for person), is achieved despite the intervening clause (3b) in which the protagonist is not mentioned. The protagonist retains in focus status because of his centrality to the narrative. Additionally, he is the only entity available which provides a good pragmatic fit for the verb in question; the other entities available are all inanimates. By the criteria used to assign approximate cognitive status, however, this example is miscoded as activated. This data is consistent with insights from the situation model framework which suggest that comprehenders pay close attention to protagonists, and that protagonists are highly associated with pronouns.

In the next example, the zero anaphor coded as familiar is not a protagonist. It is however highly topical and thus is in fact likely to occupy in focus status. I note also that this data is not taken from narrative, and so the notion of protagonist is redundant in this case. Sherri Manna' has just asked the interviewee how the customs of *dapael* came to be given up. The following is an excerpt from her reply. The zero anaphor under consideration is the object of the verb *paruuy' naag* 'to discuss something' at (4e); its object is the customs which have been let go.

4.a)	yaa	'u	nib	ni	**paruuy'**	**naag**
	because	non-pres.prog	idfpro.come	cmp	discuss	tns
	ø	ma	ka	gi	mo'ma'	ko
	ø	and	perf	gi (false start)	difficult	for
	gidii,					
	people					
b)	kea	gaafgow	ea	gidii	riy,	
	perf.3.sg	poor	idf	people	locpro	
c)	baay	i,	yaa	baay	i	n'ean
	exist	idf	because	exist	idf	thing
	ma	biyo'or	ea	neeng	ngea	n'ean
	and	stat.a.lot	idf	mosquitoes	and	things
d)	ma	yaen	i	paer	nga	
	and	go.3.sg	inf	stay	to	
	biyang	nga	nga	dapael.		
	elsewhere	to	to	dapael.		
e)	Eh	mu	'u	nib	ni	
	eh	and	non-pres.prog	idfpro.com	cmp	
	paruuy'	**naag**	**ø,**			
	discuss	tns	ø			

"(a) ... because they had come to **discuss it**, and it was difficult for people, (b) people were poor there, (c) there was, because there was a lot of things, a lot of mosquitoes and things (d) and to go and stay elsewhere at, at dapeal. (e) Eh, and they would **discuss it** ..."

The zero anaphor at (e) refers to the letting go of the tradition, the topic of this excerpt, previously mentioned at (a), four clauses prior. Because it is not mentioned explicitly within the three intervening clauses, this in focus noun is miscoded as familiar. Of particular note in this case is the repetition of the entire clause (a) at (e); presumably this similarity plays a role in assisting the addressee to recover the referent. Topicality *per se* is not addressed explicitly in situation model research on protagonists and objects. The kinds of narratives considered by the experimental research, however, are generally rather short and do not develop multiple topics over successive episodes – and furthermore have not, to date, addressed the tracking of topical participants in non-narrative context where the notion of protagonist does not apply. The evidence from

examples (3) and (4), however, appears to indicate that comprehenders pay special attention to all topical items and not only to protagonists.[6]

In the next example, a third person plural clitic pronoun refers to the surviving members of the family.

5.a) mea   yib   ea   m'aar   ko   fa
     then.3.sg   come.3.sg.intr   idf   sick.intr prep   def
     rea   piin   ni   niinaeq   rooraed
     sg   woman   relpro   mother   3.pl.poss
  b) nga   ni   taliiliy   naag   ea...[7]   ea...
     inc   idfpro   nurture   tns   DM   DM
     ea...
     DM
  c) mea   yaen   i   yim'
     then.3.sg   go.3.sg.intr   inf   die.3.sg.intr
  d) Ma   qer   ea   ku   **ra**
     then   h.prx.   FM   still   3.nom.non-sg
     paereed   boech   nii   n'uw
     settle.down.intr.pl   some   AdvP   long
     nap'an
     duration
     "(a) then a sickness came to the woman who is their (children) mother (b) and she
     was cared for, and ... and ... and ... (c) she went and died. (d) Then here **they**
     (children + father) still lived together for a little while."
     (Brugger & Lukubyad 1978)

Again, the three prior clauses in which the four children and their father are not referred to means that this is miscoded as familiar, when it should in fact be in focus due to the topicality of the referent. Although this group does not have protagonist status with respect to the entirety of the narrative, this example comes from the orientation section of the narrative. The protagonist (the little girl) has been introduced, but she has not yet been established as the key player. Note also that the similarity parameters of person and number assist in resolving this reference.

Similar examples can be given for the remainder of the zero, reduced or cliticized pronouns which appear to have a status less than in focus but higher than familiar. This deviation from the approximate values assigned to the higher statuses is of course to be expected – but the use of such approximations plus an examination of apparent exceptions allows for a solid conclusion, namely that an entity referred to by a zero, reduced or cliticized pronoun must be in focus. The remaining exceptions are special cases, and involve idioms, the indefinite pronoun and generic use of "you".

The two maximally referential zero pronouns are found in idioms: *mea ø yaen i neap'* "and it comes to darken" (meaning "night falls"); and *kea ø mos* "it is ended" (meaning "the end").

Of somewhat more interest are those maximally type identifiable NPs which appear as pronouns. Notable is the fact that this data is overwhelmingly from speech – only one token of eighteen is from written data. These type identifiable references are of two kinds; first, use of generic "you" to mean people in general, and second, reference to an indefinite pronoun.

As with English, Yapese can use the second person plural "you" to refer to people in general:

6.a)	Daab	kum	**maen**		
	neg	also.2.sg	go.2.sg		
b)	kemus	ni	**gabe**	yaen	u
	only	cmp	2.sg.prog	go	to
	kanawoq,				
	road				
c)	ma	daab	**maen**	nga	tafen
	and	neg	go.2.sg	to	home.3.sg.poss
	beaq	yaa	ri	daab'un	beaq
	someone	because	ints	dislike	someone

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ni	ngam	**maen**	nga	tafen
relpro	inc.2.sg	go.2.sg	to	land
ni	**gab**	pal		
relpro	2.sg.stat	menstruating		

"(a) **You** can't go, (b) **you** can only go on the road, (c) and **you** can't go on someone's land because they really dislike anyone when **you** go on the land and **you** are menstruating"

Following Gundel Hedberg and Zacharski's practice of distinguishing between indefinite and definite *this* NP, I propose that this indefinite use of the second person singular be represented separately from referential uses.

A similar phenomenon is found in the case of zero anaphors referring to an indefinite pronoun.

7.	**yi**$_i$	bea	toey	ea		kenggiin	ni
	idfpro	prog	build.tns	idf		body	of
	buleal	ngea	Ø$_{i(subj)}$	muuq		Ø$_{(obj)}$	
	buleal	and		finish.tns			

"**they**$_i$ (indef) build the body of the *buleal* and [**they**]$_i$ finish [it]."[8]

Again, the case of a zero pronoun with an indefinite pronoun antecedent is a special case and is separated from the other uses of zero pronouns, which must be in focus.

With some motivated exceptions, then, all clitic pronouns in Yapese represent in focus entities. In focus status is approximable by a measure of referential distance (R.D.<1), but of note is the fact that highly topical entities are able to maintain in focus status over longer distances. Pronominality, furthermore, appears to be a good cue for in focus status. Table 4 examines the complete set of in focus entities in my data in terms of the form of their referring expression.

Table 4: In Focus Entities by Select NP Form

NP Form	N	Percentage
Pronoun	811	78.6%
fa N	30	2.9%
ba N	3	0.3%
Inalienably Possessed	24	2.3%
Proform*	22	2.1%
ea N	142	13.8%
Total	**1032**	**100%**

*Includes proforms based on demonstratives, number markers and classifiers
(χ^2= 909.01, p≤0.001, distribution is significant)

Almost 80% of in focus items are expressed by a pronoun, indicating a very tight mutual correlation between pronominality and in focus status.

3.2. Independent Pronouns

Each of the five languages in Gundel, Hedberg and Zacharski's investigation displays a contrast between a set of personal pronouns which are required to be in focus, and a second set which are merely required to be activated. The contrast is most often found realized in terms of stress (English, Chinese, Russian, Spanish), but in Japanese, the contrast is made between zero and overt pronominals (Gundel, Hedberg and Zacharski 1993:284, Table 1). These data predict that languages will have resources available to them to make a distinction between activated and in focus pronouns. The split between independent and zero/clitic/reduced pronouns is precisely the kind of distinction that can be exploited to allow for this purpose. Table (5) re-presents the data on independent pronouns from Table (3) for ease of reference.

Table 5: Independent Pronouns and Cognitive Status

	Approximation of Highest Cognitive Status						
Pronoun Type	R.D. < 2 (approx InF)	2 <R.D.<3 (approx Act)	Discourse Old (approx Fam)	UnId	Ref	TyId	Total
Independent	47	1	1	0	0	0	49

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The single independent pronoun coded as familiar seems to be a case of miscoding; it should in fact be activated:

8.a) | Mea | yaen | ba | **gayow.** |
| | then.3.sg | go.3.sg.intr | ref | 3.du.ref |

b) | Suul |
| | return.intr |

c) | ma | kea | feek | boechii | niig | ni |
	and	perf.3.sg	pick.up.tns	small	fish	relpro
	kea	liiq.				
	perf.3.sg	kill.tns				

d) | Boechii | niig | ni | ba | m'uuth |
	small	fish	relpro	stat	sharp.intr
	rachangalean.				
	thorn/spike.3.sg.poss				

e) | Qeree | yib | i | rugöy | ea | |
	h.prx.FM	come.3.sg.intr	inf	poke.tns	idf	
	rachangal	riy	ko	fa	rea	looth
	spike	locpro	to	def	sg	eel

f) | mea | buukey | looth | nga | wean. |
| | and.3.sg | hook.tns | eel | to | outside |

g) | Buukey | looth | nga | wean |
| | hook.tns | eel | prep | outside |

h) | ma | **yow** | koel |
| | and | 3.du | catch.tns |

"(a) One of **them (du)** left. (b) It returned (c) and it had picked up a little fish that it had killed. (d) A little fish with sharp spikes. (e) Here, it comes to poke the spikes there into the eel (f) and hooks the eel outside. (g) Hooks the eel outside (h) and **they (du)** catch it."
(Anon 1999)

In this case, the referential distance between the dual pronoun at (h) and its antecedent at (a) is seven clauses, which results in the pronoun at (h) being coded as familiar. The pair of dolphins are in fact the central topic of the episode, strongly suggesting that this is a miscoded activated pronoun.

Thus, as expected, independent pronouns require at least activation. Recall however that pronouns tend to be produced and interpreted with respect to the first part of the quantity implicature, which means that they tend to be marked with a form which

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corresponds to their maximal cognitive status. In other words, independent pronouns ought to be reserved for entities which are activated but not in focus, if Q1 applies in this case. The data in Table (5) above does not reflect this prediction. The independent pronouns are in fact far more likely to be maximally in focus than to be merely activated.

One obvious explanation for this is the interplay between noun phrase form and tense-mood-aspect. Yapese has morphosyntactic constraints on pronoun use; one set of TMA markers takes independent pronouns, and the complementary set takes clitic pronouns. This constraint does not, however, account for all of the in focus independent pronouns in my data.

There are three common patterns of independent pronoun use which, when considered in concert, lead to the conclusion that my methodological approximation has miscoded activated pronouns in a contrastive function as being maximally in focus. First, an independent pronouns may be found with a clitic pronoun TMA marker (note that the converse is never true; clitic and zero pronouns are not found with independent pronoun TMA markers). Second, there are instances in which an independent pronoun is found in the fronted focus position with a predicate which includes a clitic pronoun. These are invariably first person. Third, an entire noun phrase may be fronted and followed by a predicate which includes an independent pronoun.

The use of independent pronouns in an environment where a clitic pronoun would be expected is rare, but does occur. In example (17), the full pronoun marker *yaed* is found in a clause which is zero-marked for TMA (the expected VP is expect *ra loegeed)*.

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9.

Ma	nap'an	ea	suul	fa	chii
and	once	FM	return	def	dimin
piin,	ma	**yaed**	**loeg**	ni	
girl	then	3.pl.nom	send	cmp	
ngea	yaen	i	l'iing	ea	raen
inc.3.sg	go.3.sg.intr	inf	draw	idf	water
u		luweed.			
from	well.				

"And once the girl returned, then **they sent** her to go to draw water from the well."
(Brugger & Lukubyad 1978)

Of note is the fact that the reference of *yaed* in this example excludes the girl; the reference of *yaed* contrasts the group of brothers from the other referential possibility, a group which includes all four of the children. This explicit marking of contrast suggests that the referent is not in fact in focus, but merely activated.

The next example is taken from the interview with Sherri Manna' about her schooling in the 1950s on Yap. The interviewer is Angela Y. Kenrad. Critical to understanding this example is the fact that this interview was the first interview that was conducted in the study and was framed as a practice run for interview techniques. Earlier in the interview there has been some confusion and repair over turn-taking resulting from the participants' unfamiliarity with the context. Sherri Manna' has just finished talking about the language situation in Yapese schools, and concludes her turn. Ms. Kenrad perceives that her turn as the interviewer is next:

10.

AYK:	Maang	ea,	maang	ea	'um
	what	FM	what	FM	non-pres.prog.2.sg
	fil	ni	rig	ba	'adaag?
	learn.tns	relpro	ints.2.sg	stat	like.tns

"What, what did you learn that you really liked?"

SM:	I	**gaag?**[9]
	DM	1.sg.idp

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"Me?"

Ms. Manna' has not realized that it is her turn, and begins by asking "me?" in order

to establish that she is in fact the intended addressee of the previous question. This seems

like good evidence that she is in fact not in focus at this point – however as a speech

participant she must be at least activated.

A similar example from the same interview illustrates the use of a fronted

independent pronoun with a clitic in the predicate:

11. | **Gaeg** | ea | gu | 'un | nga | sikuul |
|---|---|---|---|---|---|
| 1.sg.idp | FM | 1.sg | join.intr | to | school |
| u | | mission, | Saint | Mary's. | |
| of | mission | Saint | Mary's | | |

"**Me**, I went to the mission school, Saint Mary's."

Again, there has been confusion with respect to turn-taking, and this utterance employs a

syntactic strategy which ensures that the interlocutors are not misled into searching for a

in focus entity for the unstressed clitic pronoun.

Finally, fronting may involve a full noun phrase followed by a pronoun:

12. | **Chiitinangin** | ea | **bitiir** | **ngea** | **bitiir** | ea |
|---|---|---|---|---|---|
| mother | idf | child | and | child | FM |
| ri | yow | ba | chuguur. | | |
| ints | 3.du.nom.idp | stat | close.intr | | |

"A mother of a child and her child, they are very close."
(Anon 1999)

Because the fronted NP and the pronoun are coreferential clausemates, the pronoun is

coded as in focus (R.D. <1). Mechanical coding, however, is not sensitive to the niceties

of this particular syntactic structure, which acts to introduce a new NP into the

discourse.[10] The pronoun is clearly not of the same status as it would be if the NP were

not necessary for its interpretation; I thus regard such cases as activated entities miscoded as in focus.

Table 6 summarizes the minimal cognitive status required for the various pronouns:

Table 6: Minimal Cognitive Status Required for the Use of Pronouns

In Focus	ø Clitic pronouns Reduced independent pronouns
Activated	Independent pronouns
Familiar	
Uniquely Identifiable	
Referential	
Type Identifiable	Generic second person singular Indefinite pronoun ø with indefinite antecedent

4. Determiners

Common nouns in Yapese are obligatorily modified by a determiner. The determiner class includes the articles *fa* + restrictor/classifier, *ba, ea*, and the inalienable possession marker. These four items are in complementary distribution in Yapese. In addition to this class, a number of other items may modify the reference of the noun phrase, including pre-nominal and post-nominal restrictors of reference, classifiers, quantifiers and numerals.

4.1. Fa: Familiar

The definite article *fa* always appears in conjunction with a pre-nominal numeral marker, which belongs to the word class that I have called *restrictors* (see below), or with a classifier.

13.   fa   pi   n'ean
         def   pl   thing

"the things"

14.　　*fa n'ean

15.　　fa　　　　kea　　　　naech
　　　　def　　　　clsfr　　　　sheoak
　　　　"the sheoak"

16.　　*fa naech

In Ballantyne (2004), I hypothesized that entities marked by the definite article *fa* were at least uniquely identifiable, based on Gundel, Hedberg and Zacharski's claim that unique identifiability "is a necessary condition for all definite reference" (1993: 277). Based on my original working assumption that familiarity was achieved by dint of previous mention, there are uniquely identifiable but discourse new, i.e. less than familiar entities, marked by *fa* in my data. A closer look, however, suggests that entities with the definite article must be at least familiar.

Table 7 below summarizes the cognitive status for entities marked with *fa* just in case the status familiar is viewed as equivalent to discourse old.

Table 7: Distribution by Highest Cognitive Status of Entities Marked by the Definite Article *fa*

In Focus	Activated	Discourse Old	Uniquely Identifiable	Referential	Type Identifiable	Total
30	32	39	5	0	0	106

(χ^2=57.77, p≤0.001, distribution is significant)

A closer examination of the discourse new, definite items – that is, those which are uniquely identifiable in Table 7 – suggests that although they are discourse new, they are in fact present in memory, making them familiar.

Example (17) is the first question of an interview – it is in fact the first utterance of the discourse.

17.　　Mu　　　　weliy　　　　boech　　　　marunga'agean　　　　ea
　　　　2.sg　　　　tell　　　　some　　　　about.3.sg　　　　idf

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dapael	ngea	**fap**	**noechii**	**na'un**	ni
dapael	and	def.pl	some.pl	house	relpro
ba	ri'?				
stat	locpro				

"Can you tell us a bit about *dapael* (menstrual houses) and **the houses** that are there?

Although it is new to the discourse, both of the participants understand that the customs of *dapael* are the subject of the interview, and hence the houses in question are familiar (and perhaps even activated).

At least one of the discourse new uses of *fa* appears to be an attempt to refer to a familiar entity which fails and is repaired, in this case by a gesture. Mr. Walter Chieng is explaining how each of the different kinds of canoe has the same type of sail.

18.
Go'	ri	ta'reeb	ea	ya'an,	
only	ints	one	idf	appearance	
ni	fa	rea	n'ean	ni	ba
relpro	def	sg	thing	relpro	stat
dalip	ea	...	ya'an,		
three	idf		appearance		
fa	rea	n'ean	ni	arogon	
def	sg	thing	relpro	way.3.sg.poss	

((makes a triangular shape with his fingers, describing a sail))
"Really only one shape, of **the thing** that has three ... appearance, the thing like this"

The first *fa* marked noun phrase, "the thing that has three ..." refers to a triangle – the shape of the sail. Although triangle shapes have not previously been mentioned in the text, it is certainly plausible for the speaker to assume that the triangular shape of a sail is present in memory when sails are the topic of discussion.

Similar remarks can be made about the other instances of discourse-new *fa*; in all cases, *fa* marked NPs refer to an entity which is conceivably familiar.

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The results in Table 7 additionally are consistent with Gundel Hedberg &
Zacharski's finding that full definite noun phrases tend to be sensitive to the second part
of the quantity maxim: "Do not make your contribution more informative than is
required" (Grice 1975). As definiteness is sufficient for the identification of the entity in
question, further information on its cognitive status is unnecessary, and as predicted,
definite noun phrases are almost equally likely to refer to entities which are in focus or
activated as they are to refer to familiar entities. Unlike the five languages considered in
their sample, however, Yapese requires at least familiarity for the use of the definite
article. Only two of the languages that they considered have definite articles (English and
Spanish) – in both cases, use of the definite article merely requires unique identifiability
(Gundel, Hedberg and Zacharski 1993: 284).

4.2. Ba: Referential

Referentiality is achieved when "the speaker intends to refer to a particular object
or objects" (Gundel, Hedberg & Zacharski 1993: 276), and furthermore intends that the
addressee either create or retrieve a representation of the entity. In other words, the
interlocutors know of the existence of the entity, but unlike the case with identifiable
referents, they may not be aware of its actual instantiation. The indefinite article *ba* is
associated with entities which are at least referential. *Ba* is used to indicate one item from
a group or pair, for the first mention of a persistent entity, and for indefinites which are
unique but not identifiable. Table 8 shows its distribution in text.

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Table 8: Distribution by Highest Cognitive Status of Entities Marked with the Referential Indefinite Article *ba*

In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type Identifiable	Total
3	3	4	2	56	0	68

(χ^2=60.69, p$\leq$0.001, distribution is significant)

Table 8 also indicates that this marker is constrained by Q1: the vast majority of instances of *ba* NP are not only at least referential, they are maximally referential.

The form *ba NP* is used when the speaker wishes to refer to a single item from a set. In this use, the speaker makes it known that only one element from the set is selected, but the particular instantiation of the element is left unspecified, as in example (19).

19.   ... mea   suruy   fa   rea   gaaf   i
        and.3.sg   push.tns   def   sg   clsfr   idf
        wul   nga   **ba**   **rabaaq**   i
        feather   with   ref   side   NPC
        loelugean.
        head.3.sg.poss
        "... and it pushed the feather with **one side** of its head."
        (Anon. 1999)

Example (20) shows a specialized usage of this construction with a pronoun, where *ba gayow* means 'one of those two'.

20.   Mea   yaen   **ba**   **gayow**.
        then.3.sg   go.3.sg.intr   ref   du.idf
        "Then one of those two left."
        (Anon. 1999)

Ba NPs are used for items which are unique but not necessarily identifiable.

21.   Maa   pagoofaan   u   **ba**   **chabol**   u
        hbt   breathe.intr   from   ref   hole   prep
        dakean   loelugean.
        on.top   head.3.sg.poss
        "They (dolphins) breath from **a hole** on top of their heads/ It breathes from **a hole** on top of its head."
        (Anon. 1999)

In this example, each blowhole is associated with one dolphin, however no particular blowhole is referred to.

Speakers frequently use *ba NP* forms when introducing an entity for the first time. This use is reminiscent of English indefinite *this* (Gundel, Hedberg & Zacharski 1993: 276) as found at the onset of a joke or anecdote: *So, this guy walks into a bar ...*

22.

Qeree	yib	i	taaw	nga	**ba**
s.prx.FM	come.3.sg.intr	inf	reach.intr	prep	ref
kea	**naech**	ni	ba	gaaq	
clsfr	she-oak	relpro	stat	big	
kean.					
clsfr.dmn					

"Here, he came to **this she-oak**, a big one there."
(Brugger & Lukubyad 1978)

In a similar vein, one finds *ba* NPs used to switch from generic mention of some entity to mention of a specific entity named with the same noun. In the excerpt below, the preceding discussion has been of generic properties of dolphins. To illustrate a point, the writer moves to an anecdote about a specific dolphin:

23.

Reeb	ea	rraan	ma	qeree
one	idf	day	then	s.prx.FM
qii	faafeal	**ba**	**guwchiig**	
non.pres	play.intr	ref	dolphin	

"One day, there was **a dolphin** playing"
(Anon. 1999)

Finally, *ba* NP may be used in a predicate of resemblance or identity. In example (24), Mr. Walter Chieng is explaining the basic structure of the canoe type called *buleal*:

24.

Ma	buleal	ea	daariy	qawochean, ...
and	buleal	FM	has.none	eyes.3.sg.poss
ni	gowa	woed	**ba**	**dabiy.**
AdvP	as.if	resemble	indef	bowl

"And a *buleal* has no eyes (stern protrusions) ... as if it looked like **a bowl**."

And in (25), *ba* NP is used to express identity.

25. Wan'ug ea   **ba**   **kaan** ...
   mind.1.sg.possFM   ref   ghost
   "To my mind, it's **a ghost** ..."
   (Brugger & Lukubyad 1978)

The instances of *ba* N of statuses greater than referential appear to come from several

sources, including verbatim repetition, which promotes an entity to at least familiar in my

methodology, cases in which it is unclear whether reference is to a previously mentioned

entity or to the generic category, and instances similar to (19) above in which *ba* refers to

an underspecified member of a group but which are additionally modified by *raa* 'each'.

I conclude that these exceptions are due to an insufficiently sensitive methodology, and

that *ba* N is more highly constrained by Q1 than Table 8 indicates.

4.3. Ea: Type Identifiable

The status of *ea* as a determiner requires some further justification. Jensen et al. use

the term "noun phrase connector" for *ea*, and tentatively consider the possibility of its

being a determiner:

> Since ... *ea* is not used before the definite article *fa*, and since it is also not used
> before the indefinite article *ba*, it is possible to consider *ea* as a type of article itself.
> This possibility will not be explored here, but it may easily be seen that if there are
> three different words of the type called "article," we could simply say that an article
> must be used with a noun phrase, and that the article is either *fa*, *ba* or *ea*."
> (YRG: 157)

The difficulty in analyzing *ea* is twofold – first, it is polysemous with both the

focus marker *ea* and the discourse marker *ea*, and second, it is omitted in certain

phonological environments.

Fronted noun phrases in Yapese are followed by the focus marker *ea*:

26. Guwchiig   **ea**   maa   paer   u
     Dolphin   FM   hbt   settle.intr   from
     madaay.
     ocean
     "Dolphins live in the ocean."
     (Anon 1999)

Yapese also uses the discourse marker *ea* for a variety of purposes. The investigation of

the function of this marker is beyond the scope of the present work, but in the example

below it is used to pause the narrative and heighten the dramatic tension:

27. Nga   ni   taliiliy   naag   **ea ...**   **ea ...**
     inc   idfpro   nurture   tns   DM   DM
     ea ...   mea   yaen   i   yim'.
     DM   then.3.sg   go.3.sg.intr inf   die.3.sg.intr
     "And they cared for her, **and ... and ... and ...** she died."
     (Brugger & Lukubyad 1978)

The second factor which obscures the status of *ea* as a determiner is the fact that at first

glance, it does not appear to be in complementary distribution with the other determiners.

There is no apparent determiner on the nouns *guwchiig* 'dolphin' or *madaay* 'ocean' in

(26) above. The complementary distribution is only apparent when one takes

phonological factors into account. *Ea* is never found (i) after a vowel-final word and (ii)

in sentence initial position. This can be stated as a more generally: (i) Yapese prohibits

VV sequences across word boundaries and (ii) prohibits V initial clauses. Once this

phonological constraint is taken into account, it becomes clear that *ea* is in fact in

complementary distribution with *fa, ba* and the inalienable possessive marker. These

items form the natural syntactic class of determiners in Yapese.[11]

    Ea alone, that is, without the use of restrictors, classifiers or quantifiers, is used for

generics, for nouns which do not refer to an individuated entity, for nominalized verbs,

and for other indefinites.

Ea NP is used for generic reference as in (28) below:

28.
Maa	pagoofaan	ea	guwchiig	ni	
hbt	breathe.intr	idf	dolphin	AdvP	
l'agruw	fa	dalip	yaay	u	laen
two	or	three	times	from	inside
reeb	ea	meent'.			
one	idf	minute			

"**Dolphins** breathe/ **A dolphin** breathes two or three times per minute."
(Anon. 1999)

Ea is also used for nouns which do not refer to an individuated entity. Nouns in this set are typically mass nouns in English. The set includes items such as *raen* 'water', *ggaan* 'food' and *salpiy* 'money'.

29.
... ni	ngea	yaen	i	l'iing	ea
cmp	purp.3.sg	go.3.sg.intr	inf	draw	idf
raen	u	luweed.			
water	from	well			

"... in order to go to draw **water** from the well"
(Brugger & Lukubyad 1978)

In my data these types of nouns are unattested with either definite *fa* or referential *ba*.[12]

Nominalized verbs are also marked as non-referential in Yapese.

30.
mea	yib	ea	m'aar	ko	fa
then.3.sg	come.3.sg.intr	idf	sick.intr	prep	def
rea	piin	ni	niinaeq	rooraed.	
sg	woman	relpro	mother	3.pl.poss	

"Then **a sickness** came to the woman who was their mother."
(Brugger & Lukubyad 1978)

Ea signals merely that an entity is at least type identifiable. Table 9 shows the distribution of all instances of *ea* NP:

Table 9: Distribution by Highest Cognitive Status of Entities Marked with the Indefinite Determiner *ea*

In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type Identifiable	Total
145	77	110	136	86	98	652

(χ^2=16.85, p≤0.01, distribution is significant)

Unlike the case for *ba* NPs, *ea* NP does not appear to be sensitive to Q1. One might

expect that this is due to the fact that the data in Table 9 includes those noun phrases

which are marked with modifiers which require a higher cognitive status; for instance, by

including NPs of the form *ea* N *neam* 'that N' (such additional modification is not

permitted with *ba*). Table 10 shows that lack of sensitivity to Q1 is the case even for

unmodified NPs marked with *ea*. The data in Table 10 is arrived at by removing the cases

in which *ea*-marked NPs are also marked with restrictors, classifiers, quantifiers,

numerals or relative clauses.

Table 10: Distribution by Highest Cognitive Status of Entities Marked with *ea* and No Other Modifier

In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type Identifiable	Total
102	56	85	66	50	89	448

(χ^2= 14.23, p$\leq$0.025, distribution is significant)

Gundel, Hedberg and Zacharski find that for the three languages in their sample

which have indefinite articles (English, Spanish and Chinese), indefinites tend to be

sensitive to Q1 and are generally not found with entities greater than type identifiable.

Unlike Yapese *ea*, however, the indefinite article in each of those languages is

historically derived from the numeral *one*. The case for Yapese *ea* more closely

resembles their finding for bare nouns in Russian, Chinese and Japanese, which are

distributed across entities of varying cognitive statuses and are sensitive to Q2. Their

findings for Q1 sensitive indefinite articles bear far more resemblance to the pattern

found above for Yapese *ba* N (Table 8).

4.4. Inalienably Possessed Nouns

Because inalienable possession is in complementary distribution with the determiners *fa*, *ba* and *ea*, inalienably possessed nouns are included here with my discussion of determiners. The subset of Yapese nouns which take inalienable as opposed to alienable possessors are obligatorily possessed, even in cases where their possessor is not referential. This next example is from a discussion of the difficulty of testing the intelligence of ocean-dwelling animals like dolphins. The possessor of the noun *rogon* 'its way' is not referential in this context (although the possessum is referential).

31. Reeb   i   **rogon**   ea   nga   ni
    one   idf   way.3.sg.poss   FM   inc   idfpro
    sikeeng   naag   ea   man'ay   ko
    test   tns   idf   brain   of
    guwchiig.
    dolphin
    "One way (of it), they will test the brain of the dolphin."
    (Anon 1999)

Because of this obligatory possession, the presence of inalienable possession marking on a noun is not a particularly good predictor of cognitive status. Inalienably possessed nouns must be at least referential, but are likely to also occupy statues higher than referential. Table 11 shows their distribution in text.

Table 11: Distribution by Highest Cognitive Status of Inalienably Possessed Nouns

In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type Identifiable	Total
24	8	14	55	31	0	132

(χ^2=46.07, p≤0.001, distribution is significant)

To summarize, four items comprise the determiner class in Yapese. The definite determiner *fa* requires entities which are at least familiar. Use of an inalienably possessed noun is only possible when the referent is at least referential. These markers are sensitive to Q2. This means that they are typically not restricted to entities which are maximally

familiar, and occur freely with entities of higher status. The indefinite determiner *ba*

marks entities which are at least referential and is sensitive to Q1, tending not to mark

entities of higher status. It is used for unique but not identifiable indefinites, including

one item from a pair or a set and for novel mentions of entities which will become

persistent. Finally the indefinite *ea* is used for entities which are at least type-identifiable,

and because it is sensitive to Q2, may be freely used with entities of any cognitive status.

5. The Yapese Determiners and Perceptual Symbolism

I turn now to an outstanding question from Chapter 5; namely whether or not a

perceptual symbol system can handle this kind of diversity within systems of reference. I

wish to argue that it can, and put forward the following specific proposals:

- *Ea* 'indefinite' is an instruction to run a type-token mapping for an object (nominal);
- *Ba* 'indefinite' is an instruction to create a novel type-token mapping;
- The definite article *fa* is an instruction to run a non-novel simulation.

I assume that each of these markers are themselves stored as simulators, and that the

perceptual component of the simulations that they run is introspective in nature. My

arguments for each will be fleshed out in turn, with relevant theoretical machinery

introduced as necessary. Inalienable possession is excluded from this analysis, as it has a

rather different semantics, requiring a more complex simulation linking the possessed

item to the possessor. Although my analysis of the determiner forms is theoretical rather

than empirical, I conclude by outlining a testable prediction with regards to the

interaction of discourse entities with foregrounded events in the situation model.

5.1. Ea 'indefinite'

I propose that *ea* is a perceptual symbol involving a simulator which generates a simulation of the perceptual experience of performing type-token mapping on nominal expressions. Type-token mapping within the perceptual symbol framework is accomplished when a perceptual input, in this case the N marked by the determiner *ea*, is successfully bound to a simulator in memory. Barsalou illustrates this process with a visual example of identifying a jet plane in the sky (1999: 596). The perceiver attends to the perceptual input, and this attention is accompanied by an increase in activity in the simulators which are linked to such perceptual input; in the case of a jet in the sky, simulators which are involved with information about the various visual components (shape, size, movement, etc) of a jet. "A simulator becomes increasingly active if (1) its frame contains an existing simulation of the individual or, (2) it can produce a novel simulation that provides a good fit" (Barsalou 1999: 596). The resulting representation of a jet is a fusion of the perceptual input and the simulator, and this kind of type-token constitutes a simple proposition about the object – that is "it is true that this object is a jet".

For *ea*, then, the perceptual basis for the symbol is the introspective perception of performing such a mapping. A precedent for introspection as part of the perceptual system emerges from Barsalou's analysis of abstract notions such as *truth*, for which the perceptual component consists of a comparison of the events in the simulation of the world to the events in the simulation of the proposition under consideration. Under my analysis, processing of *ea sikoekii* 'a plane' proceeds as follows. First, the input *ea sikoekii* is attended to. The input *ea* triggers activation of the simulator which

schematizes the experience of performing a type-token mapping over an object, and *ea* is bound to this simulator. Additionally, the input *sikoekii* activates simulators which are linked to perceptual features of the input (auditory, in the case of speech or visual, in the case of writing). A representation of a plane is thus activated.

Two predictions flow from this analysis. First, since the very act of processing a nominal expression requires a type-token mapping, *ea* NP should be suitable for use with any noun, other factors being equal. Second, since there appears to be an element of redundancy built into this system, we should expect to find languages in which nouns which are similar to those signaled by Yapese *ea* would be rendered unmarked.

The first prediction is confirmed by the data. Recall from Table 9, above, that *ea* Ns are fairly equally distributed across entities of all cognitive statuses, that is, *ea*-marked nouns are sensitive to the first part of the quantity maxim. *Ea*-marking is not restricted to nouns which are *merely* type-identifiable, but can be applied to nouns which are *at least* type-identifiable – which every noun in fact is.

If all nouns are processed via type-token mapping, and if *ea* signals that type-token mapping should take place, there is of course a redundancy in the system. This redundancy in and of itself is not evidence that the analysis is mistaken (redundancy after all pervades language, and furthermore *ea* specifically signals that this mapping be applied to a noun). It does predict, however, that there will be languages in which this redundancy does not appear. This is also the case. In Gundel, Hedberg and Zacharski's sample, four of the five languages (Chinese, Russian, Spanish and Japanese) have instances of at least type identifiable nouns which are (i) zero-marked and (ii) sensitive to Q1 (1993: 291-2).

5.2. Ba 'indefinite'

I have argued that *ea*-marking is a perceptual symbol which activates a simulator linked to experiences of mapping types to tokens. *Ba* marked nouns are also involved in type-token mapping, but *ba* signals additionally that this mapping must be novel. Again, I assume an introspective perceptual component – that creating a novel simulation requires a different neurological pattern to retrieving a simulation, and that this neurological pattern is available via introspection. Recall that *ba* Ns are at least referential, and that *ba* signals such items as an unspecified member of a pair or set, a newly introduced N that will be persistent, or an N which is unique but not identifiable. For each of these types of N, a novel simulation is required – such Ns are not identifiable and thus cannot be retrieved from memory.

As for *ea*-marked nouns, successfully binding the input to the simulator results in predication. The additional information that *ba* Ns are novel, however, means that *ba*-marked nouns participate in complex predication. In the case of an example like *ba sikoekii*, the simple predication that "it is true that *sikoekii* represents an airplane" is embedded within the predication "x is a novel representation", to give the complex predication NOVEL (AIRPLANE (*ba sikoekii*)). This complex predication works in exactly the same way as does complex predication over multiple properties of perceived objects in the world "[t]he productive combination of adjectives, nouns, verbs, and other linguistic elements corresponds to the productive combination of perceptual symbols for properties, events, processes and other conceptual elements" (Barsalou 1999: 594).

Again, the behavior of *ba* Ns with respect to quantity implicatures and distribution over other cognitive status is predicted. If *ba* signals that a novel representation must be created, we do not expect to see *ba* marking on nouns which are of a higher cognitive status; we particularly do not expect to see those of a status of familiar or above to be marked by *ba*. And indeed, *ba* is sensitive to the first part of the quantity maxim; *ba* tends to be reserved for those entities which are both minimally and maximally referential. The question of whether languages generally require at least referential forms to follow the Yapese pattern of sensitivity to Q1 is however unresolved. Gundel, Hedberg and Zacharski have no cross-linguistic evidence to bring to bear, as the only language in their sample which contains a form which requires at least referentiality is English (indefinite *this*), and the number of tokens are insufficient to draw a clear conclusion.

5.3. Fa 'definite'

Finally, the perceptual component of *fa*, which signals that an entity is at least familiar, is comprised of the introspective simulation that the noun so modified is recognizable – that a simulation for this individual has been run before. The processing of entities which are of familiar or higher statuses is comparable to the recognition (but not the construction) of a representation of a unique individual.

Recall from Chapter 5 Hurford's (1999) argument that the basis of conceptualizing or recognizing a unique individual rests on the introspective property of having never yet recognized another individual in the world with properties identical to the currently represented individual. Rather than being a predicative relationship, however, this introspective property is linked to the simulator for that individual in much the same way

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as is other perceptual information such as size, shape, color, sound, etc. is linked to simulators for objects in the world. I propose therefore that the input *fa* triggers activation of simulators which contain memories of *sui generis* introspection, and that this set of possible inputs is then pared down after the activation of further properties instantiated by the noun.

An emergent property of the fact that *fa*-marked nouns activate simulations of known individuals is that representations of such nouns have the potential to be more constrained and elaborated than mere type-token mappings, novel or otherwise. My representation of *a doctor* may be neutral with respect to gender, age, hair color, and other perceptual properties – or more likely, it may invoke stereotyped properties such as gender which are easily overridden in the presence of contrary evidence (Carreiras et al. 1996). My representation of the individual *Dr. Smith*, however, constrains these possibilities such that I represent her as a woman in her late thirties with blonde hair and an office on 23rd Street.

Again, this analysis makes a predication with regard to the behavior of *fa*-marked nouns vis-à-vis quantity implicatures. Both in focus and activated entities are also familiar, and hence *fa*-marking should be sensitive to the second part of the quantity implicature – that is, *fa*-marking should not be restricted to those items which are maximally familiar. Again, this is true for Yapese data (Table 7) – nouns marked with *fa* refer to entities which are familiar, activated or in focus.

6. Implications of this Analysis

I have suggested that the perceptual component of *ea* is that it activates a simulator which is linked to the introspection of type-token mapping. The simulator for *ba* additionally contains the information that *ba* Ns are novel, and results in a complex predication. Finally, *fa* activates a simulator which contains the information that the entity in question is an individual, and the perceptual component of the simulator for *fa* activates the introspective experience of conceiving an individual. The activation of simulators related to individuals, furthermore, gives rise to a more constrained and elaborated representation than does mere type-token mapping.

It is important to make clear the status of this analysis. I have intended to show that it is *theoretically possible* to view determiners as perceptual symbols, which is rather different from demonstrating that determiners are in fact perceptual symbols. One possible problem with my analysis is that it relies heavily on the concept of introspection as a perceptual experience. Introspection may be an overly powerful concept within this framework, and further empirical work is required to fully investigate the extent to which such introspective simulators exist within cognitive systems.

A more approachable direction from which to test this hypothesis comes from considering the kinds of inferences and elaboration that I predict surround entities with various markings and at various cognitive statuses. Degree of complexity of predication and elaboration which accompanies each of the determiners which I have considers maps neatly onto their minimal degree of accessibility. *Ea*-marking signals merely the simple proposition involved in type-token mapping, and *ea* signals merely type identifiability. NPs involving *ba* require a more complex predication, binding the simulator activated to

the noun to a complex simulator involving both type-token mapping as well as the introspective component that the noun in question is novel. Finally, *fa*-marked nouns, which are at least familiar, activate simulations of recognized individuals, which I have argued produce more elaborate and constrained representations than mere type-token mapping.

This mapping between accessibility and the elaboration and complexity of the symbol is continued for in focus and clitic pronoun-marked entities. Recall from above that all entities marked by a clitic pronoun are in focus and that furthermore in focus entities are highly likely to be marked by a pronoun. I presume that if an entity is in focus, a simulation of that entity is currently active. In focus entities, furthermore, because of either their recent mention or their status as protagonists or topics, are likely to be involved in the most elaborate predications of any entity in discourse, because new information about their properties, actions or situation is continually being presented.

This line of reasoning, which posits that more highly accessible or topical entities are more likely to simulate an increased sensation of immersion than are less highly accessible or topical entities because the former give rise to more elaborated representations, rests on the assumption that mental representations of perceived objects varies in terms of the complexity of predications bound to their simulations. Evidence from attention and visual processing of objects seems to bear out this assumption – there is evidence that objects which are not attended to explicitly have representations which are not fully fleshed out.

In a series of experiments, Rock et al. (1992) show that preattentive perception of objects is possible, and furthemore, that such preattentive perception may give rise to a

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representation which encodes some but not all of the information contained in representations of objects which are attended to and more fully cognized. In Rock et al.'s experiments, subjects were tested on their recall of elements which were processed without explicit attention. Subjects were presented with a visual array consisting of a cross figure constructed from intersecting horizontal and vertical spars, and asked to report which was the longer spar. After a series of training trials, a variety of small objects were added to the display without prior warning. After subjects performed the reporting task with respect to spar length, they were asked to recall any changes that they had noticed in the display. Results of these experiments suggest that "the presence of one or more stimulus objects and their locations are preattentively perceived, as is their color, but shape is not" (Rock et al. 1992: 502). Mack & Rock (1998a) report on similar experiments in which motion and numerosity of unattended objects are also perceptible preattentively.

Later work stemming from these original experiments has tended to focus on the phenomenon known as *inattentional blindness*, that is, seeing without perceiving (for a short contemporary review of work in this field, see Mack 2003). These experiments concentrate on the phenomena whereby almost 25% of the Rock et al. (1992) subjects report seeing no other objects in the field except for the attended-to cross. Although work on inattentional blindness has not explicitly investigated the kind of impoverished or underspecified representation reported upon in Rock et al. (1992), there are intriguing remarks in several of the experiments carried out in this field which suggest that preattentive processing may give rise to a partial or less than fully elaborated representation of some stimulus.

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In experiments reported in Mack & Rock (1998b: 116-38), the investigators were concerned with the degree to which meaningful stimuli could override the inattentional blindness effects. They took stimuli which had been shown to be unseen by some viewers in earlier experiments (such as the small objects added to the cross trials) and compared them to meaningful stimuli such as words or the first name of the subject. Subjects were able to overcome the inattentional blindness effect when the unattended stimuli was their own first name. More interesting for our present purposes are the results which show that in cases where less meaningful words (other first names or common nouns) are presented as unattended stimuli, there are a substantial number of participants who report that they saw something, but were unable to identify the stimulus. In other words, these subjects represent the presence of an object, but their simulation is not sufficiently elaborated such that they can name the object. Recent experiments by Kubovy, Cohen & Hollier (1999) also show that aspects of visual objects can be processed without focal visual attention. In these experiments, subjects were presented with square five-by-five displays of objects which varied in terms of both color and shape. Trial arrays were presented for varying lengths of time, but all trials were presented for a duration of between 33 and 250 msecs. Crucially, this time interval is too short for the focusing of attention on a subpart of the array (Kubovy, Cohen & Hollier 1999: 201). In some trials, homogenous color, shape, or color-and-shape regions appeared in the array; for example, two adjacent rows of black squares. Subjects were instructed to indicate a positive response when a homogenous region appeared in the display. The experimenters find that subjects can detect boundaries between regions preattentively using color, shape, and integrated color-and-shape information.

Although these experiments have not definitively discovered exactly which elements of visual perception may be processed preattentively (for instance, results from Kubovy, Cohen & Hollier (1999) regarding shape are at odds with results from the Mack et al. (1992) findings), they do converge on the finding that certain aspects of visual information may be perceived and cognized without a full elaboration or identification of the object in question, and also report that such objects are fully perceived and recognized when they are presented within the focus of attention.

Those entities in language which have the most elaborated representations, then, are likely to more closely resemble the cognition of perceived entities in focal attention than do less elaborated representations. Such rich representations are, if immersed experience is reflected in the imagined world, more likely to be intimately involved in the continuously updating situation. Just as I am more likely to have a richer perceptual representation of some object which is salient to unfolding events in my immediate environment, objects which are elaborately specified are more likely to be mentioned at the most salient points in the narrative. Chapter 8 will test this notion.

7. SPATIAL DEIXIS IN YAPESE

Two notions about the status of objects in the discourse world were examined in Chapter 5. The first, considered in detail in Chapter 6, concerned the theoretical question of whether or not systems of referentiality could be handled by perceptual symbol systems. The aim of this chapter is to test a more concrete hypothesis from Chapter 5; namely that social accommodation will interact with spatial orientation to give rise to systems where entities marked as hearer proximal will be more accessible than those marked as speaker proximal.

In Chapter 5, I considered various experimental evidence converging on what has come to be known as the spatial distance effect. The spatial distance effect is the phenomenon whereby objects which are represented as more spatially distant from the current deictic center (as defined by the position of the protagonist) are also retrieved from memory less quickly (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). In an effort to understand the relationship between this effect and spatial deixis in natural language, I also considered a number of studies investigating the accessibility of deictic demonstratives. The net result of this review is that while there is some evidence to suggest that items which are linguistically marked with distal forms pattern with less accessible entities, there are also some conflicting data which suggests that under certain circumstances, distal forms may be preferred for more accessible entities (Fillmore 1975, Piwek & Cremers 1996, Botley & McEnery 2001, Strauss 2002). I proposed that these data can be explained by an

interaction between the accessibility of spatially proximal forms and conventions regarding ownership of information.

Information which is closely associated with and activated by the speaker may be referred to by proximal forms by that particular speaker:

1.   My neighbor has a dog. This/ That dog kept me awake last night.
      (Gundel Hedberg & Zacharski 1993: 279)

Information which belongs equally to the conversants may be highly accessible, but cannot be marked with a proximal form if it has been activated by, and hence belongs to, some other speaker:

2.   A: I think that my novels are better than his.
      B: I agree with that (statement)/?? this (statement).
      (Gundel Hedberg & Zacharski 1993: 288)

In all of the systems considered to date, however, the only options available once the proximal form is reserved for speaker-activated uses are terms which signal distance from both the speaker and addressee. In English, for instance, in order to signal that some item is not proximal to the speaker, the only other available demonstrative is the distal *that*. English data cannot tell us whether speakers prefer to use *that* (N) over *this* (N) for more accessible entities (Strauss 2002) because (a) they prefer to use a form which does not signal that the item "belongs" to the speaker, or (b) they prefer to use a form which signals that the item is spatially distant. Evidence from tripartite deictic systems with proximal/medial/distal contrasts (e.g. Spanish and Japanese) indicates that distal forms are preferred for less accessible entities (Gundel Hedberg & Zacharski 1993). Teasing apart the contribution of spatial and social contributions to the preferred accessibility conventions, however, faces the same problem as dual-contrast systems. The medial

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term, which signals lack of proximity to the speaker, also signals distance from both the speaker and the addressee.

Yapese has a tripartite spatial deictic system, which marks (i) proximity to the speaker; (ii) proximity to the addressee and (iii) distance from both speaker and addressee. Table 1 presents this system in full.

Table 1: Spatial Deictics in Yapese (YRG: 116 – 20)

	Locatives				Demonstratives
		Allative	Emphatic	With assimilation after *u* 'at/from'	
proximal to speaker	*qaraay*	*nga raay*	*raay*	*roey*	*neey*
proximal to hearer	*qaer/qer*	*ngear*	*yer*	*wur*	*niir*
distal	*qaraam*	*nga raam*	*raam*	*roem*	*neam*

For a partial treatment of the morphophonemic relationships between the forms, readers are referred to Jensen et al. (1977b: 119-20).

The patterning of spatial distance and accessibility in experimental investigations and in pragmatic work on other languages (Gundel, Hedberg & Zacharski 1993) suggests that distal forms will tend to occur with less accessible entities. I thus predict distal forms will be used with the least accessible entities in Yapese. The Yapese system is furthermore ideal for testing the interaction between social and spatial distance as it pertains to accessibility. If non-proximal forms are used for more accessible entities precisely because they are situated within the shared conversational space and not exclusively within the spatial orbit of the speaker, we should expect to find the hearer proximal form used for the most accessible discourse entities in Yapese. This chapter tests these hypotheses by first considering the behavior of deictic demonstratives in

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Yapese. The methodology is identical to that described in Chapter 6. I find that for deictic demonstratives which combine with lexical nouns, distal forms may be used with less accessible entities than speaker proximal forms may be, which in turn may be used with less accessible entities than those with which the hearer proximal forms occur. Results from proform use of deictics is less clear. Converging evidence from the textual and evaluative patterning of locatives in narrative however bolsters the case that the hearer proximal form is used to evoke the shared representation held by both the speaker and addressee(s).

Before considering the accessibility of deictic demonstratives in Yapese, I first briefly describe their syntax. Demonstratives are restrictors in Yapese; in the interests of a complete description of the language, I analyze the other members of this class with respect to accessibility. The behavior of classifiers is briefly described – classifiers in many ways pattern like restrictors, but are in fact nouns in Yapese. I then present the evidence which supports the idea that the hearer proximal form is used for more accessible entities than other demonstrative forms. The behavior of locatives at key points in narrative is summarized and I suggest that the hearer proximal is used at strategic points in narrative to direct the attention of the addressee(s) to the shared representation of the narrative world. The chapter concludes by summarizing the givenness hierarchy analysis of Yapese, and examining possible ways in which accessibility might correlate with salience in narrative.

1. Restrictors and Classifiers

1.1. Restrictors Modifying Lexical Nouns

Yapese demonstratives belong to a class which I call *restrictors*. The system of restrictors interacts with the determiner system, and demonstratives may increase the minimal cognitive status inferred for a determined noun. Restrictors function to restrict the reference of a noun in some fashion, and always co-occur with a determiner, although they are precluded from appearing with *ba* 'referential'. The class is made up of number markers, which occur prenominally, and the postnominal demonstratives and alienable possessive markers.

The class of pre-nominal restrictors is used in noun phrases with the definite determiner *fa* or the indefinite determiner *ea*. They do not occur with either the referential marker *ba* or with inalienably possessed nouns. The class consists of the number markers *rea* 'singular', *gäl* 'dual' and *pi* 'plural'. Note that these are distinct from numerals.

3. fa   rea   looth
    def   sg   eel
    "the eel"

4. fa   gäl   malaang
    def   du   graves
    "the two graves"

5. fa   pi   bitiir
    def   pl   children
    "the children"

The class of post-nominal restrictors includes the deictic demonstrative markers and the alienable possessive markers. Post-nominal restrictors also do not occur with noun phrases in *ba*. Demonstratives do not occur with *fa*-marked noun phrases unless the head of the NP is a proform classifier or numeral marker.

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6. | *fa | gäl | pagäl | neam |
    |------|-----|-------|----------|
    | def | du | boy | dist.dmn |

7. | fa | gäl | neam | ea | pagäl |
    |-----|-----|----------|-----|-------|
    | def | du | dist.dmn | idf | boy |

    'those two boys' (lit 'the two of them there, boys')

The demonstratives, but not the alienable possessive markers, occur with inalienably possessed noun phrases – a noun phrase cannot be both alienably and inalienably possessed. In noun phrases which permit a pre-nominal restrictor (i.e. noun phrases with *fa* or *ea*), the presence of a post-nominal restrictor requires either a pre-nominal restrictor or a classifier.

8. | fa | pi | qurwaech | rook' |
    |-----|-----|----------|-----------|
    | def | pl | hats | 3.sg.poss |

    'his/her hats'

9. *fa qurwaech rook'

10. | ea | rea | naqun | neam |
    |-----|-----|-------|----------|
    | idf | sg | house | dist.dmn |

    'that house'

11. *ea naqun neam

Finally, the post-nominal restrictors are not mutually exclusive. A noun phrase may take both an alienable possessive marker and a demonstrative.

12. | ea | rea | duug | roog | ney |
    |-----|-----|--------|-----------|-----------|
    | idf | sg | basket | 1.sg.poss | s.prx.dmn |

    'my basket here'

1.2. Classifiers Modifying Lexical Nouns

Classifiers in Yapese behave in some respects like pre-nominal restrictors, in that their presence may license a post-nominal restrictor. Unlike restrictors, however, classifiers are nouns.

Nouns modified by classifiers appear in an appositive construction similar to that used for relationships of possession and part-whole relationships. In such a construction, each noun requires its own determiner.

	Possession			
13.	walaagean		ea	chiitinangin
	sibling.poss.3.sg		idf	mother
	"mother's sibling"			

	Part-whole relationship			
14.	ea	doew	ea	guwchiig.
	idf	skin	idf	dolphin
	'skin of the/a dolphin'			
15.	ea	fidik'	ea	lumar
	idf	inside	idf	dark
	'inside of (the) dark'			

	Classifier			
16.	ba	yael'	ea	buw
	ref	clsfr	idf	betel nut
	'a betel nut'			

1.3. Restrictors and Classifiers as Proforms

Both the number markers and the classifiers may be used anaphorically in Yapese as proforms. In such uses, the number marker or classifier appears as the head of the noun phrase, and behaves syntactically as a common noun, requiring a determiner and optionally taking postnominal restrictors.

In the following example *qawochean*, 'eyes' refers to the 'eyes', or bow protrusions, of a canoe, and the classifier *ley* is a classifier for sticks.

17. nib   non'   qawochean   u   ba   **ley**
    idfpro.prog   insert   eyes.3.sg.poss   in   ref   clsfr
    ngea   ba   **ley**,
    and   ref   clsfr
    "one is inserting the eyes **one** by **one**"

And in (18), the plural marker *pi* refers to canoes which were previously *buleal*, a plain style of canoe without bow protrusions, but become *thowqab*, a more elaborated style, with the addition of the aforementioned eyes.

18. kea   thilthil   ya'an   ea   **pinneaq**.
    perf.3.sg   change.redup   appearance   idf   pl.s.prx
    "the appearance of those ones is changed"

Data is sparse for proform numeral markers (only three appear in my corpus). Proform classifiers behave as common nouns. They require a determiner, they may take post-nominal (although not the number marking pre-nominal) restrictors, they may take quantifiers and they may be modified by relative clauses.

19. ea   **chaaq**   niir
    idf   clsfr   h.prx.dmn
    'that one (person)'

20. qurngin   ea   **tiney**
    all   idf   plclsfr.sprx
    'all of these'

21. fa   **bi** neam   ni   kea   yim',
    the   sgclsfr.dist   relpro   perf.3.sg   dead
    'the one there which has died'

There is a small set of classifiers which are only used as proforms and never occur in the appositive construction. This class includes the common noun classifiers *ti* (singular) and *bi* (plural) as well *qa*, the indefinite classifier for humans.

2. Accessibility: Number Markers, Alienable Possessive Markers, and Classifiers

In the interests of a complete description of the reference system of Yapese, before

I turn to the question of deictic demonstratives and accessibility, I will briefly outline the

minimal cognitive statuses required for the use of the rest of the referentiality system of

Yapese, namely number marking, alienable possession and classifiers.

The presence of alienable possessors or number markers requires that the noun in

question be at least referential. Table 2 summarizes the pertinent data. Since restrictors

are always combined with a determiner, it is not expected that they display the kind of

tight grouping around a single status expected in the case of those markers of reference

sensitive to the first part of the quantity maxim, and indeed they do not. The results for

number markers include a small sample of number marker proforms (n=3), discussed

with the classifier proforms below.

Table 2: Distribution by Highest Cognitive Status of Nouns Marked with Alienable Possessors and Number Markers.

	In Focus	Activated	Discourse Old	Uniquely Identifiable	Referential	Type Identifiable	Total
Nouns with alienable possessors	5	11	10	22	5	0	53
Nouns with number markers	23	27	29	10	4	0	93

(For alienable possessors, $\chi^2 = 16.89$, $p \leq 0.01$, distribution is significant. For number markers, $\chi^2 = 32.14$, $p \leq 0.001$, distribution is significant)

Table 3 shows the distribution of classifiers in text, distinguishing between those

classifiers which appear in the appositive NP construction and those which refer by

means of the classifier alone. For ease of comparison to the classifier proforms I also

include the small sample of number marker proforms.

Table 3: Distribution by Highest Cognitive Status of Classifiers and Number Marker Proforms

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type Identifiable	Total
Appositive NP construction	16	10	19	12	11	0	68
Classifier proform	32	4	8	7	20	0	71
Number marker proform	0	2	1	0	0	0	3
Total	48	14	27	19	31	0	139

(For appositive NP construction, $\chi^2=14.17$, $p\leq0.25$, distribution is significant; for classifier proforms, $\chi^2=29.06$, $p\leq0.001$, distribution is significant; for number marker proforms, $p\leq1$, distribution is not significant.)

This data shows that classifiers of both types are required to be at least referential. The data to hand indicates that number markers in the proform construction are at least familiar; however, the number of tokens is so few that a firm conclusion cannot be drawn on this point. Classifiers in the appositive NP construction are fairly well distributed across higher statuses. The fact that they occur in concert with a variety of other modifiers (determiners, demonstratives, etc), however, means that the influence of the quantity maxim is unclear in this case. Of note is the fact that in the proform construction, the classifiers tend to be concentrated at opposite ends of the givenness hierarchy; the majority of classifiers are either maximally referential or maximally in focus, with fewer tokens in the middle ground. It may well be the case that this reflects a split in the classifier class (perhaps along the lines of the distinction between those classifiers permitted in the appositive construction and those found only in the proform construction). The type to token ratio is however too low for definite conclusions to be drawn.

3. Accessibility and Deictic Demonstratives

Table 4 presents the approximate cognitive statuses of NPs with deictic

demonstratives in Yapese:

Table 4: Distribution by Highest Cognitive Status of NPs Marked with a Deictic Demonstrative

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type Identifiable	Total
Hearer Proximal	2	2	2	0	0	0	6
Speaker Proximal	19	4	5	0	0	0	28
Distal	13	6	4	9	0	0	32
Total	34	12	11	9	0	0	66

These data support the hypothesis that the distal form may appear with entities of lower

cognitive status than the proximally marked forms.

Gundel Hedberg & Zacharski (1993) distinguish between instances of pronominal

demonstratives and demonstrative determiners, finding that the former tend to require a

higher cognitive status cross-linguistically than do the latter. Yapese is unlike the

languages considered in their sample in that the demonstrative is not a determiner.

Neither does Yapese use demonstratives pronominally. The Yapese construction which

most closely resembles the pronominal demonstratives studied by Gundel Hedberg &

Zacharski is the use of a demonstrative in a proform construction, as in (16) above, or

with a classifier as in (22), which involves the classifier *qa*, used for people.

22.   ma   dea   thap   ko   **fa**
         and   pst.neg.3.sg   reach.intr   prep   **def**
         qa neam
         clsfr.dist
         "And it didn't reach **that person**."
         (Brugger & Lukubyad 1978)

Despite these differences, Yapese does in fact show a distinction between the minimal cognitive status required for a demonstrative which modifies a lexical noun phrase and the minimal status required for a demonstrative proform. Highest cognitive statuses of noun phrases including a demonstrative are given in Tables 5 and 6.

Table 5: Approximate Distribution by Highest Cognitive Status of Demonstratives in the Proform Construction

	Hearer Proximal	Speaker Proximal	Distal	Total
In Focus	1	14	6	21
Activated	0	3	2	5
Familiar	0	0	0	0
Uniquely Identifiable	0	0	0	0
Referential	0	0	0	0
Type Identifiable	0	0	0	0
Total	1	17	8	27

Table 6: Approximate Distribution by Highest Cognitive Status of Demonstratives in the Lexical Noun Construction

	Hearer Proximal	Speaker Proximal	Distal	Total
In Focus	1	5	7	13
Activated	2	1	4	7
Familiar	2	5	4	11
Uniquely Identifiable	0	0	9	9
Referential	0	0	0	0
Type Identifiable	0	0	0	0
Total	5	11	24	40

Demonstratives in the proform construction must be at least activated; those in the lexical noun construction must be at least uniquely identifiable.

For the proform construction, the referents of both speaker proximal and distal proforms must be at least activated. The fact that only a single hearer proximal token appears in my data means that the best that can be said for these data is that they do not contradict the hypothesis to hand.

The picture is fortunately clearer for the lexical construction. Close examination of the two hearer proximal marked NPs coded as familiar suggests that these are in fact miscoded, and should be regarded as activated. The first comes from the text *Dapeal: ea pii dapeal niir* 'these *dapeals*" (last mention at U-8). Despite the distance of mention, this is of course the most central topic in this discourse. The second is from *L'Agruw I Maabgol*, and concerns a reference to *ea pii ggaan niir* 'these foods' (last mention U-6) in the context of a discussion where the protagonist is accused of stealing the food in question. Table 7 reanalyzes the data from Table 6 in light of these adjustments.

Table 7: Revised Distribution by Highest Cognitive Status of Demonstratives in the Lexical Noun Construction

	Hearer Proximal	Speaker Proximal	Distal	Total
In Focus	1	5	7	13
Activated	4	1	4	9
Familiar	0	5	4	9
Uniquely Identifiable	0	0	9	9
Referential	0	0	0	0
Type Identifiable	0	0	0	0
Total	5	11	24	40

(x^2= 19.54, p≤0.01, distribution is significant)

I thus hypothesize the following minimal cognitive statuses for felicitous use of demonstratives in Yapese:

Table 8: Summary of Minimal Cognitive Status Required for Use of Deictic Demonstratives

	Hearer Proximal	Speaker Proximal	Distal
Proform Construction:		Activated	Activated
Lexical NP Construction:	Activated	Familiar	Uniquely Identifiable

The data from the proform construction are not conclusive at this point. The data from the lexical noun construction, however, support both (i) the hypothesis that distal marking may accompany forms of lesser cognitive status than proximal marking and (ii) that speaker proximal marking may accompany forms of lesser cognitive status than hearer

proximal marking. Further evidence for the special status of the hearer proximal forms comes from the use of locative markers at key points in narrative.

4. The Locative *Qer* in Narrative

Locative markers are used with an ostensive function in Yapese narrative, to point toward the shared storyworld at particular intervals in which the listener is encouraged to pay close attention. The most frequently found form is *qer* (~*qear*) 'hearer proximal' (there are 34 uses of *qer* in the narrative portion of my corpus, as compared to 7 tokens of *qaraay* 'speaker proximal locative' and 10 of *qaraam* 'distal locative'). *Qer* has a variety of related functions in Yapese narrative. It may be used as a locative indicating the spatial orientation of an object; at a boundary instantiating a spatial or temporal shift in the deictic center; at major boundaries of narrative constituents and at episodic boundaries within constituents; in evaluative clauses; and in clauses where it combines evaluative and textual functions. I wish to argue that these extensions of the basic locative function constitute an evaluative device. Specifically the device acts to re-iterate the presence of the shared narrative space and points out new salient qualities of that shared space.

4.1. Locative Uses

Locatives may simply be used to indicate the spatial orientation of an object.

23.	Ba	qaraay	ba	teebel.
	stat	s.prx	ref	table

"Here is a table."

24.	Ba	qear	ba	teebel.
	stat	h.prx	ref	table

"There is a table (near you)."

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25.   Ba   qaraam   ba   teebel.
       stat   dist   ref   table

       "There is a table (over there)."
       (YRG: 119)

4.2. Spatial or Temporal Shifts in the Deictic Center

As well as indicating a static spatial relationship, *qer* may also be used when a clause expresses a spatial shift. In example (26) below, the clause immediately follows the protagonist's bidding goodbye to her brothers. The deictic center shifts from the family's house to the gravesite of the children's parents.

26.   Ma   **qer**   ea   yaen   fa   chii
       then   **h.prx**   FM   go.3.sg.intr def   dimin
       piin   ngea   yaen   i   taaw   ko
       girl   and   go.3.sg.intr inf   reach.intr to
       fa   gäl   i   malangean ea
       def   du   NPC   stone.du.poss NPC
       yaam' ...
       death
       "Then **there**, the girl went, and she reached the two graves ..."

The shift may also be temporal without any spatial movement. The clauses preceding example (27) take place in the evening.

27.   Ma   **qer**   ea   faqän   i
       then   **h.prx**   FM   when   subcl
       kadbuul   ni   ka   ra   qod   gaed,
       morning   subcl   perf   3.nom   awake.intr pl.nom
       mea   gaqar   fa   chii   piin
       then.3.sg say   def   dimin   woman
       ngooraed ...
       3.pl.dat
       "Then **there**, in the morning when they woke up, the girl said to them ..."

In these instances, the locative form refers to the spatial or temporal locus of the story-world, and reminds listeners to look to that location in order to update their representation of the narrative world.

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4.3. At Episodic Boundaries

As might be expected, shifts in the temporal or spatial deictic center frequently correspond to the beginning or end of an episodic unit in narrative. *Qer* is found not only at episodic shifts within the complicating action, but also at boundaries of major narrative constituents. The following examples come from the text *Beaq Ni Ba Moqon Ngea Ba Raan' I Moongkii* (A Man and Some Monkeys).

The orientation section of this text is in two parts. The first part is an introduction to the main character, whose character is indicated by means of a series of habitual clauses which describe his daily work. Example (28) begins the second part of the orientation.

28.
Qer	**ea**	**reeb**	**ea**	**rraan**
h.prx	**FM**	**one**	**NPC**	**day**
mea	leam	naag	ni	ngea
then.3.sg	think	tns	cmp	inc.3.sg
feek	ea	pi	qurwaech	rook'
take.tns	idf	pl	hats	3.sg.poss
neam	nga	maarket.		
dist.dmn	to	market		

"**There, one day** he thought that he would take his hats to market."

The next series of clauses follow the character as he decides to set out on his journey, providing the motivation for the complicating action. Although they constitute clauses on the narrative timeline, they are low-focus foreground, involving stative verbs (*leam* 'think', *paer* 'settle, sit', *qadaag* 'want') and irrealis clauses foreshadowing the protagonist's intentions.

As the narrative shifts to into the complicating action, we again find *qer* (in this instance conjoined with the focus marker and represented *qeree*).

29.
Qeree	yib	i	feek	fa	pi

h.prx.FM	come.3.sg.intr	inf	pick.up.tns	def	pl
qurwaech	rook'	ni	gubiin ...		
hats	3.sg.poss	relpro	all.of.them		

"**There** he went and picked up all of his hats ..."

Within the complicating action, *qer* is found at episodic boundaries, often coinciding with a spatial and temporal shift. At the beginning of this excerpt, the protagonist has just arranged his hats to his satisfaction on the carrying pole, and is preparing to set out from his home.

30.a.

Mea	yib	i	chuw	nga
then.3.sg	come.3.sg.intr	inf	move.intr	from
taanggin	ngea	yaen.		
under	inc.3.sg	go.3.sg.intr		

b.

Ba	maal'aaf	ea	gi	ni	baay
stat	far.intr	idf	loc	relpro	exist
ea	maarket	riy.			
idf	market	locpro			

c.

Qeree	yib	i	taaw	nga	ba
h.prx.FM	come.3.sg.intr	inf	reach.intr	to	ref
kea	naech	ni	ba	gaaq	
clsfr	naech tree	relpro	stat	big	
kean ...					
clsfr.dmn					

"(a) He came up from underneath it [the carrying pole, i.e. he hoisted it on his shoulders] and set off. (b) It's a long way, where the market is. (c) **There**, he reached a she-oak, a big one ..."

The clause with *qer* marks the boundary between the first major episode of the complicating action (the man's preparations for leaving) and the second, where he dozes off under the tree.

The resolution wraps up the complicating action and provides closure to the narrative events. Again, *qer* marks this transition:

31.a.

Qeree	yib	i	kunuy	fa	rea
h.prx.FM	come.3.sg.intr	inf	collect.tns	def	sg
moqon	fa	pi	qurwaech		
man	def	pl	hats		

b.   ngea   feek
         inc.3.sg   pick up.tns

c.   ngea   yaen   nga   maarket   ni   ka
         inc.3.sg   go.3.sg.intr   to   market   AdvP   perf
         rii   falaen'.
         ints   happy/pleased

"(a) **There** the man came to collect the hats, (b) he picked them up (c) he went to market, very happy."

As with temporal or spatial shifts, a shift in the episodic structure of the narrative is marked by an ostensive demonstration that the listener ought to direct attention to the story-world in order to follow the shift.

4.4. Evaluative Functions

In addition to its function as a marker of textual boundaries, *qer* may have an evaluative function in Yapese narratives. There are a number of lexical items which repeat throughout *L'Agruw i Maabgol* to indicate the destitute straits of the family: *goqo* 'alone, only'; *gaafgow* 'pitiful, unfortunate, poor'; *kireebaen'* 'sad'. Clauses which evaluate the state of the family are typically presented with *qer*:

32.   **Qer**   ea   paer   fa   pi
      h.prx   FM   settle.intr   def   pl
      bitiir   ni   yaed   walaag   ni   goqo
      children   relpro   3.pl.nom   siblings   relpro   only
      ka   yaed   ni   ka   ri
      perf   3.pl.nom   relpro   perf   ints
      ra   gaafgow   gaed.
      3.nom.non-sg   pitiful.intr   pl.nom
      "**There**, the children, who are siblings, who are alone, who are really pitiful, settled down."

33.   **Qer**   ea   ra   paereed   ni   goqo
      h.prx   FM   3.nom.non-sg   settle.intr.pl   AdvP   alone
      ka   yaed.
      also   3.pl.nom
      "**There**, they settled down, alone."

4.5. Combined Evaluative-Textual Functions

Finally, *qer* can be found in clauses that simultaneously combine textual and evaluative functions. In the next example *qer* simultaneously indicates the switch to the coda as well as the evaluation of the sad and pitiful state of the children.

34.a.	**Qer**	ea	yib	mea	yib	
	h.prx	FM	come.3.sg.intr	then.3.sg	come.3.sg.intr	
	i	weeliy	saalapean		ngaak'	fa
	inf	tell	what.happened		3.pl.dat	def
	gäl	i	chaaq	ni	walaagean.	
	du	NPC	those	relpro	brother.3.sg.poss	
b.	Ma	**qer**	ea	ra ·	paereed	
	then	h.prx	FM	3.nom.non-sg	settle.intr.nom.pl	
	ni	ka	rii	kireebaen'	raed	
	AdvP	perf	ints	sad	3.pl	
	ma	ku	ka	ra	gaafgow	gaed.
	then	still	perf	3.nom.non-sg	pitiful.intr	pl.nom

"**There** he comes, he comes to tell those two brothers of his what happened. Then **there** they settled down, really sadly, and they were still pitiful."

The preceding examples illustrate the extensive functions of the hearer proximal locative in Yapese narrative. It occurs substantially more frequently in text (34 tokens) than do either the speaker proximal (7 tokens) or the distal (10 tokens). This use of the hearer proximal form mirrors its use as a demonstrative; the hearer proximal form is used by the speaker to focus attention on the shared quality of the emerging situational representation. By eschewing the form which indexes the speaker's own space in opposition to that of the addressee(s), the speaker is engaged in an interactional move designed to offer the hearer a stake in the narrative space.

The evidence from both narrative uses of *qer* as well as evidence as to minimal cognitive status required for demonstratives modifying lexical nouns supports both of the

hypotheses advanced in Chapter 5. Distal forms require less accessibility than do proximal forms. The highest minimal cognitive status is required for the hearer proximal form, which doubly marks both spatial accessibility and shared ownership by all of the conversational participants. This function of the hearer proximal signaling the shared conversational space is reflected in its use as a device at key points to signal to the addressees that they should attend to updating their model of the narrative world.

5. Summary of Minimal Cognitive Statuses Required for Selected Noun Phrase Forms

These results complete the analysis of minimal cognitive status required for felicitous use of an NP form in Yapese. The complete set of results is summarized in Table 9.

Table 9: Summary of Minimal Cognitive Statuses Associated with Noun Phrase Forms in Yapese

NP Form	Minimal Status Required for Use
ø pronoun Clitic pronoun Reduced independent pronoun	In Focus
Independent pronoun Demonstrative proform Hearer proximal demonstrative	Activated
fa NP	Familiar
Speaker proximal demonstrative Distal demonstrative	Uniquely Identifiable
ba NP Possessed N Classifier Number marker	Referential
ea NP Generic second person Indefinite pronoun ø with indefinite antecedent	Type Identifiable

In Chapter 6, I suggested that variation in the minimal required cognitive status for referring expressions, particularly with regard to pronominality and determiners, corresponds to the degree to which the simulation of some discourse entity is bound to elaborative predications. I proposed furthermore that more highly salient real life entities are cognized with more elaborated representations. For some subset of discourse entities then, the greater their minimal cognitive status (as inferred from their form), the more their representation resembles representations triggered by real life objects. Such representations are likely to give rise to an enhanced sensibility of immersion in the narrative.

It seems likely that at those points at which a narrator aims to enhance the experience of the narrative simulation by foregrounding key events, the narrator will also wish to enhance the perceptual experience of objects in the narrative world. Chapter 8 tests this proposition.

6. Conclusion

This chapter has considered the use of spatial deictics in Yapese. I began by describing the syntactic class of restrictors to which deictic demonstratives belong, and described the minimal cognitive status required for alienable possessive marking, the number markers and for classifiers. I then turned to the minimal cognitive status required for the use of deictic demonstratives. Deictic demonstratives may occur as proforms or as forms which modify a noun. Deictic proforms are required to be at least activated, but my corpus data does not describe a clear picture for distinctions between the various deictic forms. For the demonstratives which modify nouns, distal demonstratives require that the

entity be at least uniquely identifiable, speaker proximal forms that it be at least familiar, and hearer proximal forms that it be at least activated. These results support the hypotheses advanced in Chapter 5.

I then looked to the use of locatives as evaluative devices and markers of textual structure in narrative. The hearer proximal form appears to be used here as a signal to engage the addressee in the narrative. As is the case for demonstratives, I analyze the hearer proximal as a way for speakers to avoid casting the talk as exclusively within their own personal orbit and to allow them to give addressees a stake in the narrative.

8. REFERRING EXPRESSIONS AND NARRATIVE FOREGROUNDING

In Chapter 4, we saw that Yapese, like many of the world's languages, uses its tense-mood-aspect system to signal the textual structure of narrative. I argued that those TMA markers which are more likely to be used at salient, important and foregrounded points of the narrative have semantic content which indexes the experience of salient and important events. Chapter 4 also established a correlation between reference and narrative foregrounding. Those TMA markers which are the most highly backgrounded are also the subset of TMA markers which are prohibited from occurring with clitic pronouns. In Chapter 6, I showed that clitic pronouns require a higher minimal cognitive status than do independent pronouns. Clitic pronouns must be in focus, whereas independent pronouns need only be minimally accessible. The current chapter aims to test whether reference effects more generally correlate with the textual divisions in prominence signaled by the tense-mood-aspect system.

My hypothesis in Chapters 3 and 4 is that tense-mood-aspect variation in narrative is strategically motivated in such a way that the TMA marking conventionalized for high points of narrative gives rise to a sense of greater immersion in that narrative. Most narrative clauses lack overt TMA markers, and this zero-marking convention ally signals that the clauses are sequentially ordered. This sequential ordering indexes the experience of perceiving events in the order in which they occur. If a narrator wishes to package an event as more highly foregrounded, he or she will employ the inceptive marker *nga*, which also may signal a semantics of result or intention. Experimental evidence has shown that events which are perceived as connected causally or via a chain of goal-

satisfaction are more tightly connected to each other than events which are not so linked, (Duffy et al. 1990, Singer et al. 1992, Hallordson & Singer 2002, Rinck & Bower 2004, Trabasso & Suh 1993, Suh & Trabasso 1993, Albrecht & Myers 1995, Lutz & Radvansky 1997, Radvansky & Curiel 1998) reflecting our experiences of the constituent grouping of events which we perceive in the world. Finally, the combination *ka qu* 'perfect non-present' is used to report events at the narrative peak. My contention is that this is an example of Fleischman's (1990) notion of "frame-breaking" in narrative. The non-present tense explicitly flouts the norms and expectations associated with high points of narrative, and I argue that this pragmatic reversal indexes the surprising nature of events which are "reportable" (in the sense of Labov (1972)).

Turning to the domain of reference, Chapter 4 finds that there is a distinction between the permissibility of clitic pronouns dependent upon the class of TMA marker. Clitic pronouns are not permitted with the progressive *bea*, the habitual *maa* and the stative *ba:* markers which are used for the most heavily backgrounded clauses in narrative. And in Chapter 6, I find an accessibility distinction between clitic and independent pronouns. Using Gundel Hedberg & Zacharski's givenness hierarchy framework (1993, inter alia), I find that clitic pronouns require that their referent be at the current center of attention, the highest cognitive status represented on their scale. Independent pronouns are required to be merely activated; that is, available in current working memory.

In Chapters 6 and 7, I extend the givenness hierarchy analysis to capture an extensive component of the range of referring expressions in Yapese. Particular attention is paid to the article system (Chapter 6) and to the system of deictic demonstratives

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(Chapter 7). Drawing on theoretical considerations addressed in Chapter 5, Chapter 6 also claims that the Yapese article system is not inconsistent with the theoretical architecture posited within Barsalou's (1999) perceptual symbol system. I propose that the articles of Yapese can be arranged on the givenness hierarchy according to their minimal required cognitive status. Moreover, within the article system at least, those forms which require higher minimal cognitive status also are bound in more complex simulations, under a perceptual symbol systems account of determiner semantics. Evidence that there is variation in terms of the amount of information encoded in representations of percepts, and hence in the number of simulations predicated of them, comes from the study of visual processing and attentional blindness (Rock et al. 1992, Mack & Rock 1998b, Kubovy, Cohen & Hollier 1999). The perceptual symbols model predicts that concepts will behave in a parallel fashion.

Experimental evidence in the situation model paradigm suggests that comprehenders closely track information which relates to protagonists (Morrow, Leirer & Altieri 1992, Carreiras et al. 1996, Albrecht & O'Brien 1995) and findings from investigation into spatial distance effects suggests that protagonists have special status in tracking progress through imagined worlds (Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). These results point to a state of affairs in which information about protagonists is highly salient, and the most highly elaborated representations (and hence the most complex predications) apply to protagonists. The special status of pronouns in Centering Theory (Grosz, Joshi & Weinstein 1983/1995), which has proved to be an accurate means of automatically

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resolving pronoun reference, suggests that protagonists and other highly topical

participants are strongly associated with pronouns.

Together, these lines of evidence converge on the notion that (i) more highly

accessible noun phrases tend to be bound to greater numbers of predicate simulations and

(ii) the perceptual symbols to which highly accessible noun phrases refer share properties

with perceptual representations of perceived objects at the center of attention. Thus, just

as highly salient events in narrative invoke an enhanced degree of immersion in the

narrative, the same holds for highly accessible discourse entities.

Two major proposals thus emerge from the current work so far:

(i) Narrators strategically vary tense-mood-aspect marking in order to simulate a
sensation of greater enhancement in the narrative at key narrative points; and
(ii) Referring expressions also vary in such a way that the concepts associated with
salient referring expressions exploit properties of percepts of salient.

If it is true that narrators use variation in TMA morphosyntax to simulate degrees of

enhancement in the narrative world, we might expect the events with the highest degree

of immersion to be accompanied by referring expressions which also situate the

comprehender more squarely in the narrative world. This chapter is devoted to testing this

hypothesis.

1. Previous Proposals Connecting Reference Marking and Tense-Aspect

The notion that there might exist some correlation between noun phrases and tense-

aspect marking is not novel. Perhaps the most well-known work on this subject is Hopper

and Thompson's (1980) piece on semantic transitivity. Hopper and Thompson argue that

semantic transitivity exists on a cline from highly transitive to highly intransitive clauses.

Highly transitive clauses tap in to the transitivity prototype (Rice 1987) of a deliberate actor causing some kinetic change in state upon some highly individuated object (Langacker's (1986) "billiard ball" notion of highly transitive actions). Hopper and Thompson posit ten syntactic and semantic features which tend to correlate with highly transitive clauses. In the domain of event marking, these include aspect as well as kinesis, punctuality, affirmation, mode and volititionality. Nominal features include the number of participants, the agency of the subject, and the individuation and the affectedness of the object. It is proposed that these ten features tend to travel together, and that if a particular feature is explicitly marked in a language and furthermore correlates with a (syntactic) transitivity distinction, the presence of the feature will always pair with the more (semantically and syntactically) transitive alternate. Hopper and Thompson further argue that highly transitive clauses tend to correlate with the narrative foreground.

Subsequent studies testing Hopper and Thompson's hypothesis have tended to focus more on the syntactic rather than the discourse foregrounding claims. The volume *Studies in Transitivity* (Hopper & Thompson 1982) contains a collection of papers which test the transitivity hypothesis; notable for our purposes is Kalmár's (1982) paper on Czech which points out the importance of quotatives in the narrative foreground. Exceptions in recent years include Lindvall's (1998) comparison of transitive clauses in Greek, Polish and Swedish, as well as Heimerdinger's (1999) exploration of foregrounding in Biblical Hebrew. Heimerdinger's definition of foregrounding departs somewhat from the core notion of iconically ordered clauses. Lindvall finds a robust cross-linguistic correlation between perfect aspect (which tends to be the default aspect

for narrative foregrounding) and definite objects on the one hand, and imperfect aspect and indefinite objects on the other.

Although the current project has focused on the core notion of foregrounding rather than transitivity, a number of Hopper and Thompson's features find a reflection in my analysis. Verbal features like perfectivity and volitionality are in the same spirit as my analyses of iconicity and goal-satisfaction. Subject agency clearly has links with the privileged status of the protagonist, and individuation (of objects) compares to referentiality.

Instead of considering transitivity as an intermediate link, however, I directly compare foregrounded clauses with foregrounded entities. I begin by considering the correlations between degree of foregrounding and accessibility of subjects. A comparison of subjects alone has advantages over other potential methodologies. First, a comparison of subjects to subjects ensures that any accessibility information which may be contributed via grammatical role is rendered moot.[1] Second, the vast majority of clauses in my sample have subject noun phrases; to compare entities which occupy some other role in the clause diminishes the sample size. I consider the correlation between type of TMA marker and subject accessibility over two sets of broad overlapping classes – (i) independent versus clitic pronoun TMA markers and (ii) within narrative, narrative clauses versus non-narrative clauses. Continuing to restrict the investigation to clauses which are part of a narrative text, I go on to compare the three broad divisions of foregrounding within narrative. I then look at distinctions within the narrative foreground proper. Finally, I extend the investigation to non-narrative text and consider these three broad distinctions in non-narrative genres.

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For each of these various viewpoints on the problem, it is consistently found that the greater the degree of foregrounding, the more likely that subjects will be at the higher end of the accessibility scale. When foregrounding is lowest, there is some evidence which suggests a greater degree of subjects at the lower end of the accessibility scale.

Under the subject-to-subject comparison, results are most clear. I then turn to the comparison of objects and a brief investigation of the correlation between deictics and degree of foregrounding. Because the sample sizes for each of these variables is far smaller, results are much less definitive.

2. Methodology

To recapitulate, the hypothesis at hand is the following:

That noun phrases which are more highly accessible will tend to occur in more immersed TMA contexts.

The idea of a more or less immersed TMA context was investigated in detail in Chapter 4. Table 1 summarizes the findings of Chapter 4. I split the TMA markers into three broad classes; those which occur with narrative clauses (foreground); those which do not occur with narrative clauses but may take clitic pronouns (high focus background); and those which may not take clitic pronouns (background). Those TMA markers which occur in narrative clauses furthermore stand on an implication scale; markers to the right imply the presence of those markers to their left. This scale corresponds to the degree of salience of the clause in the narrative.

Table 1: Taxonomy of TMA Markers in Yapese

May not take clitic pronouns	Background	*bea*	'progressive'
		ba	'stative'
		maa	'habitual'
May take clitic pronouns	High Focus Background	*ka*	'perfect'
		qu	'non-present'
		nga qu	'inceptive non-present'
		daa	'past negative'
		daa + r	'negative progressive'
		daab	'negative habitual'
		raa	'irrealis'
	Foreground	zero marking > *nga* 'inceptive' > *ka qu* 'perfect non-present'	

(Note: Excluded from this table are the priorative marker *qa*, the definite future *baey*, and the stative *ma*. Justification for the exclusion from the investigation can be found in Chapter 4.)

Table 2 (which reproduces the data in Table 9, Chapter 7) presents the minimal

cognitive statuses required for select types of referring expressions in Yapese.

Table 2: Minimal Cognitive Statuses Associated with Noun Phrase Forms in Yapese

IN FOCUS	ACTIVATED	FAMILIAR	UNIQUELY IDENTIFIABLE	REFERENTIAL	TYPE IDENTIFIABLE
ø pronoun, clitic pronoun, reduced independent pronoun	Independent pronoun, demonstrative proform, hearer proximal demonstrative	*fa* NP	Speaker proximal demonstrative, distal demonstrative	*ba* NP, possessed N, classifier, number marker	*ea* NP, generic second person, indefinite pronoun, ø with indefinite antecedent

Each main clause in the corpus was first coded as belonging to one of two broad

genre classes – it was either part of a narrative text or a non-narrative text. There are 756

main clauses in my corpus; of these, 240 are part of a narrative. Clauses were also coded

for TMA marking. TMA markers fall into three classes, shown in Table 1 above. Zero-

marked stative verbs, which behave in somewhat different fashion to non-stative verbs,

were assigned to the high focus background category – although zero-marking means that

these verbs may take clitic pronouns, they are not found in narrative clauses. The verbs in

question include *baay* 'to exist' (and its non-present counterpart *qimmoey*), *qaraay* and *raay* 'to be, to have', *paer* 'to stay, sit, remain, live, settle down' (YED: 49) and *boed/boel/woed/woel*[2] 'to resemble'.

To assess the correlation between TMA marking and referring expressions, I restrict my initial enquiry to subjects and objects of main clauses. Subjects and objects of main clauses were coded for both the form of the referring expression and the highest cognitive status of that expression. Clauses without subjects were thus excluded from my sample – such clauses include false starts and interjections (in the spoken component of the corpus). Clauses using the conventionalized polite question form *raa yog* were also omitted: example (1) shows such a structure, which comes from the first question in an interview:

1. Raayog
    irr.can

ni	nga	mu	weliy	ea	mit'
cmp	inc	2.sg.nom	relate	idf	types
ea	m'uw	ngea	mit'	u	roy
idf	canoe	and	types	in	here
u	Waab?				
in	Yap				

"Is it possible that you describe the kinds of canoes and their types here in Yap?"

In this structure, the content of the question is contained within a complement clause. The main clause is the irrealis-marked verb *yog* 'to be able to', which has no referential subject.

In total 645 clauses were considered in the current sample. Of these, 168 had direct objects. Numbers of clauses in narrative and non-narrative genres are summarized in Table 3.

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Table 3: Numbers of Clauses with Subjects and Objects by Genre

	Narrative	Non-Narrative	Total
Subjects	232	413	645
Objects	77	91	168

Because of the nature of the givenness hierarchy, noun phrase form and minimal cognitive status do not always correspond. I thus consider correlations between TMA class and both noun phrase form and minimal cognitive status. I use the following mutually exclusive taxonomy of noun phrase forms, presented below along with their minimal required cognitive status:

Table 4: Taxonomy of Select NP Forms and Minimal Cognitive Status

NP Form	Minimal Cognitive Status
Clitic & zero pronouns	In Focus
Independent pronouns	Activated
fa 'definite' marked NPs	Familiar
Inalienably possessed NPs	Referential
ba 'referential' marked NPs	Referential
ea 'indefinite' marked NPs	Type-Identifiable

A small number of NPs were excluded as they do not fit with this taxonomy. These included incorporated nouns (8), wh-words (1), quantifier-headed NPs (6), and the pronoun *beaq* 'somebody' (6). 35 classifier or numeral headed forms were also excluded.

For each clause in my sample, then, I noted (i) whether the clause was part of narrative or non-narrative text; (ii) its TMA marking and the class of the TMA marker; (iii) the form and maximal cognitive status of the subject; and (iv) the form and maximal cognitive status of the object, if an object was present.

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3. Results

3.1. Subject Accessibility Distinctions Between Independent and Suffixing TMA Markers

Yapese shows a distinction in referring expressions allowed with independent pronoun TMA markers and the suffixing pronoun TMA markers (see Table 1 above). Only suffixing pronoun markers may take clitic pronouns. Both independent and suffixing pronoun makers may, however, take zero third person singular pronouns. Independent pronouns, moreover, may occur with both independent pronoun TMA markers and suffixing pronoun TMA markers, although their use in the latter case is rare and tends to be restricted to contrastive environments.

As the distinction between independent pronoun TMA markers and suffixing pronoun TMA markers is so salient in Yapese (by which I mean that it is sufficiently salient that it gives rise to a split in syntactic patterning), we should expect to find a marked distinction between referring expressions which occur in these two classes. Table 5 shows the distribution of noun phrase subjects dependent upon whether or not the clause may take a clitic pronoun. Note that for the irrealis marker *raa*, which varies in terms of the class to which it belongs, it is assumed that a clitic pronoun is possible unless evidence was found to the contrary. Equational clauses are furthermore assumed not to take clitic pronouns. All p-values refer to chi-square tests; percentages are rounded to one decimal place.

Table 5: Subjects by Select NP Form and Suffixing or Independent TMA Marker

	Clitic or Zero Pronoun	Independent Pronoun	*fa* 'definite'	Inalienably Possessed	*ba* 'referential'	*ea* 'identifiable'	Total
Clause may take clitic subject	307	12	36	6	16	42	419
Percentage	73.3%	2.9%	8.6%	1.4%	3.8%	10.0%	100%
Clause may not take clitic subject	25	51	2	9	3	69	159
Percentage	15.7%	32.1%	1.3%	5.7%	1.9%	43.4%	100%
Total	332	63	38	15	19	111	578
Percentage	57.4%	10.9%	6.6%	2.6%	3.3%	19.2%	100%

(χ^2= 242.21, p≤0.001, distribution is significant)

There are 25 instances of "clitic or zero pronouns" which occur with independent

pronoun TMA marking; these are invariably zero pronominals. Table 5 shows that clitic

or zero pronouns occur far more frequently with suffixing pronoun TMA markers than

with independent pronoun TMA markers – this is of course predicted by the syntax.

Rather more interesting, however, is the behavior of *ea*-marked NPs. Recall from Chapter

4 that *ea* 'indefinite' is hypothesized to signal that at type-token mapping should be

performed, and that NPs of this sort are assumed to have the least elaborated

representations. Table 5 thus shows preliminary support for the hypothesis that highly

backgrounded TMA marking will tend to occur with less highly elaborated nominal

representations.

Because of the syntactic constraints on pronoun marking, Table 5 cannot tell us

about the opposite end of the scale – do suffixing pronoun TMA markers tend to occur

with more highly elaborated NP representations? Table 5 does not distinguish between

those independent pronouns which are contrastive, maximally activated, and hence

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presumably less elaborated (because they have recently been re-introduced to the center

of attention), and those independent pronouns which are in focus but are required by the

syntax to take independent pronoun form. Table 6 represents similar data, but

characterizes noun phrases in terms of highest cognitive status rather than NP form. Note

that the forms excluded from Table 5 due to their bad fit with the taxonomy are included

in Table 6.

Table 6: Subjects by Highest Cognitive Status and Suffixing or Independent TMA Marker

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type-Identifiable	Total
Clause may take clitic subject	282	31	23	21	31	53	441
Percentage	63.9%	7.0%	5.2%	4.8%	7.0%	12.0%	100%
Clause may not take clitic subject	77	18	20	30	16	43	204
Percentage	37.7%	8.8%	9.8%	14.7%	7.8%	21.1%	100%
Total	359	49	43	51	47	96	645
Percentage	55.7%	7.6%	6.7%	7.9%	7.3%	14.9%	100%

(χ^2= 47.46, p≤0.001, distribution is significant)

The percentage of in focus entities which are found with independent pronoun TMA

markers is higher than is the percentage of zero or clitic pronouns found in the same

construction. Nonetheless, the percentage of in focus subjects with the independent

pronoun TMA markers is significantly lower than that found with suffixing pronoun

TMA markers. Assuming that in focus status is a better measure of the highest degree of

elaborated representation than is pronoun form, Table 6 shows that the most highly

elaborated representations are less likely in the less foregrounded TMA configurations.

The correlation between the least elaborated representations and the most highly

backgrounded TMA marking also holds when cognitive status is used as a measure.

21.1% of subjects in independent pronoun verb phrases are maximally type-identifiable; compare only 12.0% in suffixing pronoun verb phrases.

3.2. Subject Accessibility Distinctions Within Narrative

The results from Tables 5 and 6 lend support to the hypothesis at hand. These results, however, are pertinent to the broad distinction between highly backgrounded clauses and the balance of clauses across a range of genres. More compelling evidence would come from a comparison of iconic sequential clauses to background clauses in narrative.

Table 7 compares the distribution of NP forms in narrative clauses (including quotations) with non-narrative clauses. Non-narrative data is excluded.

Table 7: Subjects by Select NP Form and Narrative/Non-narrative Clauses

	Clitic or Zero Pronoun	Independent Pronoun	*fa* 'definite'	Inalienably Possessed	*ba* 'referential'	*ea* 'identifiable'	Total
Narrative Clauses	106	2	17	3	5	8	141
Percentage	75.2%	1.4%	12.1%	2.1%	3.6%	5.7%	100%
Non-Narrative Clauses	49	4	14	1	6	10	84
Percentage	58.3%	4.8%	16.7%	1.2%	7.1%	11.9%	100%
Total	155	6	31	4	11	18	225
Percentage	68.9%	2.7%	13.8%	1.8%	4.9%	8.0%	100%

(For zero or clitic pronouns, $\chi^2 = 10.85$ p≤0.001, distribution is significant. Distribution is not significant for other categories)

These results are similar to the distinctions between clitic and independent TMA markers, although the differences are not as sharp. Narrative clauses tend to have fewer subjects marked with the indefinite marker *ea* than do non-narrative clauses, although this distribution is not significant, in part because there are so few clauses in narrative which take *ea*-marked subjects. Narrative clauses also have a far greater percentage of clitic or

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zero pronouns than do non-narrative clauses, but as before, using NP form as a measure

may be influenced by the syntactic distribution of clitic pronouns. Table 8 compares

narrative to non-narrative clauses in terms of maximal cognitive status of their subjects:

Table 8: Subjects by Highest Cognitive Status and Narrative/Non-narrative Clauses

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type-Identifiable	Total
Narrative Clauses	107	10	9	6	8	4	144
Percentage	74.3%	6.9%	6.3%	4.2%	5.6%	2.8%	100%
Non-Narrative Clauses	55	11	8	3	9	2	88
Percentage	62.5%	12.5%	9.1%	3.4%	10.2%	2.3%	100%
Total	162	21	17	9	17	6	232
Percentage	69.8%	9.1%	7.3%	3.9%	7.3%	2.6%	100%

(For in focus entities $\chi^2 = 9.89$, $p \leq 0.01$, distribution is significant. Distribution is not significant for other categories)

Again we see a distinction in the likelihood of a class of clauses to take a in focus subject.

Narrative clauses are more likely to take in focus subjects than their non-narrative

counterparts. These results support the hypothesis that narrative clauses, which are more

likely to give rise to an enhanced simulation of the event, are also more likely to have

more elaborated and hence more enhanced subjects. The picture for type-identifiable

subjects is less clear – there are far fewer merely type-identifiable subjects in narrative

than in the corpus as a whole. Note however that comparing the distribution of maximally

referential subjects shows that such subjects are more common (although the distribution

is not significant) in non-narrative clauses than in narrative clauses, again supporting the

hypothesis.

Tables 9 and 10 bring out the tripartite division of clauses in narrative which was

elucidated in Chapter 4. Narrative clauses, which are those clauses which occur in iconic

sequential order, are compared with not only high-focus background clauses, that is,

those non-narrative clauses with suffix pronoun TMA marking, but also with highly

backgrounded non-narrative clauses, which take independent pronoun TMA marking.

Table 9: Subjects by Select NP Form and TMA Class

	Clitic or Zero Pronoun	Independent Pronoun	*fa* 'definite'	Inalienably Possessed	*ba* 'referential'	*ea* 'identifiable'	Total
Foreground	106	1	17	3	5	8	140
Percentage	75.7%	0.7%	12.1%	2.1%	3.6%	5.7%	100%
High Focus Background	44	0	14	0	6	6	70
Percentage	62.9%	0.0%	20.0%	0.0%	8.6%	8.6%	100%
Background	5	5	0	1	0	4	15
Percentage	33.3%	33.3%	0.0%	6.7%	0.0%	26.7%	100%
Total	155	6	31	4	11	18	225
Percentage	68.9%	2.7%	13.8%	1.8%	4.9%	8.0%	100%

(For clitic or zero pronouns, $\chi^2 = 57.77$, $p \leq 0.001$, distribution is significant. For definite NPs, $p \leq 0.01$, distribution is significant. Distribution is not significant for other categories.)

Table 9 shows that when the level foregrounding increases, the number of NP subjects

which are expressed as zero or clitic pronominals also increases. Conversely, when the

level of foregrounding decreases, the percentage of *ea*-marked subjects increases,

although the results are not statistically significant because of the lower number of

tokens. Again, a comparison of zero or clitic and independent pronouns does not

necessarily capture the distinction between the most highly elaborated entities in the

narrative, due to the syntactic facts of Yapese. Table 10 presents a similar division in

terms of highest cognitive status.

Table 10: Subjects by Highest Cognitive Status and TMA Class

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type-Identifiable	Total
Foreground	106	10	9	6	8	4	143
Percentage	74.1%	7.0%	6.3%	4.2%	5.6%	2.8%	100%
High Focus Background	46	10	8	2	7	0	73
Percentage	63.0%	13.7%	11.0%	2.7%	9.6%	0.0%	100%
Background	10	1	0	1	2	2	16
Percentage	62.5%	6.3%	0.0%	6.3%	12.5%	12.5%	100%
Total	162	21	17	9	17	6	232
Percentage	69.8%	9.1%	7.3%	3.9%	7.3%	2.6%	100%

(For in focus entities, $\chi^2 = 47.79$, $p \leq 0.001$, distribution is significant. For maximally familiar entities, $\chi^2 = 6.82$, $p \leq 0.5$, distribution is significant. Distribution is not significant for other categories.)

When narrative clauses, high focus background and low focus background are compared in terms of the maximal cognitive status of their subjects, we again find that the narrative clauses tend to take subjects with higher maximal cognitive status. The distinction between high focus background (i.e. non-narrative clauses with suffixed pronoun TMA marking) and low focus background (non-narrative clauses with independent pronoun TMA marking) is not pronounced. Of interest also is the fact that there are no sharp distinctions in terms of maximally type-identifiably subjects (probably because of the paucity of tokens), although the number of maximally referential subjects increases, albeit in a non-significant distribution, as the foregrounding decreases.

I consider finally degrees of accessibility distinction within the narrative foreground. Tables 11 and 12 compare zero marked clauses with clauses in *nga* 'inceptive' and *ka qu* 'perfect non-present'. In Chapter 4 I argue that these stand on a scale from least foregrounded or salient narrative clauses to most highly foregrounded. If my hypothesis regarding NP accessibility is correct, we would expect to see higher percentages of the most accessible NPs (clitic and zero pronouns, in focus) co-occurring with the most highly foregrounded TMA marking. (Note that the discrepancy between

the total number of forms considered in Tables 11 and 12 (n=125) and the total number of

narrative clause forms in Tables 9 and 10 (n=140 and n=143 respectively) is due to the

fact that Tables 11 and 12 exclude direct quotations.)

Table 11: Highly Foregrounded TMA Markers by Select Subject NP Form

	Clitic or Zero Pronoun	Independent Pronoun	*fa* 'definite'	Inalienably Possessed	*ba* 'referential'	*ea* 'identifiable'	Total
Zero marking	60	0	17	3	5	4	90
Percentage	66.7%	0.0%	18.9%	3.3%	5.6%	4.4%	100%
nga 'inceptive'	30	0	0	0	0	0	30
Percentage	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
ka qu 'perfect non-present'	5	0	0	0	0	0	5
Percentage	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Total	85		17	3	4	4	125
Percentage	68%	0.0%	13.6%	2.4%	3.2%	3.2%	100%

(For zero marking, $\chi^2 = 61.49$, $p \leq 0.001$, distribution is significant. For *nga* 'inceptive', $\chi^2 = 50.00$, $p \leq 0.001$, distribution is significant. The chi-square test is not suitable for the distribution of *ka qu*.)

Table 12: Highly Foregrounded TMA Markers by Highest Cognitive Status of Subject

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type-Identifiable	Total
Zero marking	61	9	8	6	7	1	92
Percentage	66.3%	9.8%	8.7%	6.5%	7.6%	1.1%	100%
nga 'inceptive'	29	0	0	0	0	1	30
Percentage	96.7%	0.0%	0.0%	0.0%	0.0%	3.3%	100%
ka qu 'perfect non-present'	5	0	0	0	0	0	5
Percentage	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Total	84	9	8	6	6	2	125
Percentage	67.2%	7.2%	6.4%	4.8%	4.8%	1.6%	100%

(For zero marking, $\chi^2 = 50.99$, $p \leq 0.001$, distribution is significant. For *nga* 'inceptive', $\chi^2 = 39.61$, $p \leq 0.001$, distribution is significant. The chi-square test is not suitable for the distribution of *ka qu*.)

The majority of zero-marked narrative clauses have subjects which are expressed by zero or clitic pronominals and also have in focus subjects. As the foregrounding increases, this majority becomes virtually unanimous. But for a sole type-identifiable subject of a *nga* clause, all of the subjects of clauses in *nga* and *ka qu* have both clitic or zero pronoun subjects which are in focus. (The clause in question has as its subject the impersonal pronoun *ni*, which is never referential.)

The results so far converge on supporting the hypothesis that clauses which give rise to the simulation of an enhanced immersion in the narrative world by dint of their event semantics also tend to evoke immersion in the narrative world via their type of subject noun phrase. I have considered various contrasts between types of clauses which I predict give rise to more or less immersion in the narrative situation. Clauses which take independent pronoun TMA markers are less likely to give rise to an immersed sensibility than are clauses which take suffixing pronoun TMA markers. In narrative, within the class of suffixing pronoun TMA markers, non-narrative clauses are less likely to give rise to an immersed sensibility than are narrative clauses. And finally, within narrative clauses, the forms *nga* 'inceptive' and *ka qu* 'perfect non-present' are more likely to immerse the addressee within the narrative situation than are zero-marked narrative clauses.

The more highly elaborated and constrained a representation of some entity in the imagined world of discourse, the more the representation resembles the perception of a highly salient object in the real world of perception. Noun phrases vary from in focus, clitic and zero pronouns, at the highly elaborated end of the scale, to merely type-identifiable entities and those entities which are marked by the type-token matching

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indefinite *ea*. My results consistently show that the more highly foregrounded a class of clauses, the more likely they are to have both clitic and zero pronominal and in focus subjects. Conversely, those clauses with the least elaborated subjects, including *ea*-marked and maximally referential or type-identifiable entities, tend to be clauses which are the least salient on the foregrounding cline. The difference between the strong and statistically supported pattern for clitic and zero pronominals/ in focus entities on the one hand and the weaker results from *ea*-marked/ type-identifiable expressions on the other is most likely due to the fact that such forms are generally dispreferred as subjects, and hence the number of tokens is too small to observe significance. Thus, for subjects at the extremes of the accessibility/elaboration scale, the hypothesis is supported.

The results above, however, do not show a smooth increase in accessibility and elaboration as the degree of foregrounding increases. That is, it is not the case that, for instance, maximally uniquely identifiable entities, or entities marked with inalienable possessors, tend to either increase or decrease smoothly as foregrounding increases. A number of factors may account for this patterning. First, the sample for both non-pronominal entities and those entities which are not in focus is much smaller than clitic and zero pronouns and/or in focus entities in all cases. It may be the case that a larger sample of Yapese narrative would bring out a more defined smooth curve. Second, NP form does not stand in a one-to-one relationship with accessibility. For *fa* 'definite' and inalienably possessed NPs in particular, NP form is not a good predictor of highest cognitive status – recall from Chapter 6 that these forms tend to be sensitive to the second part of the quantity maxim which predicts that explicit information about cognitive status is unnecessary and superfluous. *Ea* 'indefinite' NPs are also sensitive to Q2, however

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these forms do tend to show a consistent decrease in their occurrence as foregrounding increases; again the sample is small, and these results are not so robust as the finding for zero and clitic pronominals. The patterning of *ea* NPs may additionally be complicated by the fact that these forms frequently occur with modifiers such as demonstratives, number markers, classifiers and possessive makers which increase the required minimal cognitive status of the entity. Nonetheless, it is still true that those entities with lower maximal cognitive status are more frequent among clauses with a lesser degree of foregrounding in narrative.

In Tables 5 and 6, we saw some evidence to suggest that the accessibility distinctions between independent pronoun TMA markers and suffixed pronoun TMA markers may apply more generally and not just in narrative clauses. I turn now to a brief exploration of accessibility distinctions in non-narrative text.

3.3. Subject Accessibility Distinctions in Non-narrative Text

Are the correlations between TMA class and noun phrase form and accessibility restricted to the environment of narrative? The evidence appears to indicate that they are not. Tables 13 and 14 compare TMA markers by classes with noun phrase form and maximal cognitive status, respectively, of subject NPs. Note that there are in fact no instances of *ka qu* in the non-narrative portion of my corpus, and so the foregrounded TMA markers are restricted to zero-marking and clauses in *nga* 'inceptive'.

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Table 13: Subjects by Select NP Form and TMA Class in Non-narrative Text

	Clitic or Zero Pronoun	Independent Pronoun	*fa* 'definite'	Inalienably Possessed	*ba* 'referential'	*ea* 'identifiable'	Total
Foreground	67	6	0	1	1	8	83
Percentage	80.7%	7.2%	0.0%	1.2%	1.2%	9.6%	100%
High Focus Background	89	5	1	3	4	20	122
Percentage	73.0%	4.1%	0.8%	2.5%	3.3%	16.4%	100%
Background	20	46	2	7	3	64	142
Percentage	14.1%	32.4%	1.4%	4.9%	2.1%	48.5%	100%
Total	176	57	3	11	8	92	347
Percentage	50.7%	16.4%	0.9%	3.2%	2.3%	26.5%	100%

(χ^2= 138.62, p≤0.001, distribution is significant)

Table 14: Subjects by Highest Cognitive Status and TMA Class in Non-narrative Text

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type-Identifiable	Total
Foreground	60	4	1	2	4	18	89
Percentage	67.4%	4.5%	1.1%	2.2%	4.5%	20.2%	100%
High Focus Background	68	5	3	10	12	31	129
Percentage	52.7%	3.9%	2.3%	7.8%	9.3%	24.0%	100%
Background	64	16	20	29	13	39	181
Percentage	35.4%	8.8%	11.0%	16.0%	7.2%	21.5%	100%
Total	192	25	24	41	29	88	399
Percentage	48.1%	6.3%	6.0%	10.3%	7.3%	22.1%	100%

(χ^2= 45.46, p≤0.001, distribution is significant)

Tables 13 and 14 show that correlations between types of TMA marking and both NP form and accessibility are not restricted to narrative texts. The likelihood that the subject will be a zero or clitic pronominal increases as the clause is marked by forms which are used for narrative foregrounding, and there is a concomitant decrease for the use of *ea* NPs. A similar increase applies for in focus entities as subjects of clauses which have TMA marking of the same form as that employed for foregrounded portions of narrative. There is no parallel decrease in terms of the likelihood that subjects will have a low maximal cognitive status, however. This is for the most part due to the fact that there

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are far greater numbers of impersonal *ni* or *yi* subjects in non-narrative text than is found in the narrative texts in my sample.

The fact that there appears to be a correlation between TMA class and accessibility of subject in non-narrative texts raises some interesting questions – what sorts of structural factors come to bear in terms of creating patterns of greater and lesser saliency in genres other than narrative? How are situation models constructed for such texts? Are there cross-genre (or even cross-linguistic) universals with respect to the types of events which are judged as salient? It is not the goal of the current work to answer these questions, but rather to propose them as directions for further research.

This finding with respect to non-narrative genres also goes partway toward answering a question which I have not posed so far, namely the problem of the diachronic processes which led to the current state of affairs in Yapese. The distinction between independent pronoun TMA markers and suffixing pronoun markers is well motivated by the conditioning effects of narrative structure. Independent pronoun markers are found with those clauses which are the most highly backgrounded in narrative. This synchronic explanation, however, does not address the way in which variation in the environment of narrative structure came to condition this split. If correlations between accessibility and TMA marking were found only in narrative text, we ought to be able to account for how a split between independent and clitic pronouns, which was motivated by the structural environment in narrative, managed to cross genre boundaries and appear as a fully grammaticized split throughout the language. Such an account would require a generation of speakers acquiring the language to generalize a pattern restricted to narrative into the rest of the language. Absurdly, this would require positing a generation of Yapese

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children whose primary language data consisted of a good deal of narrative input and not much else.

The finding that there are correlations between accessibility and TMA marking outside of narrative saves us from such convoluted arguments. If a certain set of TMA markers tend to occur more often with in focus subjects, and a second set are more likely than that first set to occur with maximally accessible subjects, then the stage is set for such tendencies to translate to grammaticization of complementary environments. It is entirely plausible to posit a generation of Yapese speakers whose primary linguistic data involved such a skewing of maximally activated subjects in the environments of *maa* 'habitual', *bea* 'progressive' and *ba* 'stative' that these speakers reinterpreted the trend as a grammatical constraint. Although we are not yet in a position to explain why this correlation occurs outside of narrative, my exploration of its salience within narrative text forms a good point of departure for further research on the subject.

4. Foregrounding and Object Accessibility

To this point, I have considered only the accessibility of subjects. Restricting the investigation to subjects has several obvious advantages. First, a far greater number of clauses have subjects than have noun phrases standing in other grammatical roles. Second, comparing subjects to subjects (as opposed to a wholesale comparison of all NPs in my sample) ensures that any contribution that grammatical role might make to topicality is evenly weighed across all items in the sample. This second advantage applies also to a comparison of objects, however the sample of direct objects in my corpus is much smaller (n=168) and for narrative, there are only 77 direct objects in the sample.

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Because the sample for objects is smaller than that for subjects, I have not separated text

by genre in my investigation of objects. Tables 15 and 16 show object marking by NP

form and highest cognitive status respectively.

Table 15: Object Nouns by Select NP Form and TMA Class

	Clitic or Zero Pronoun	Independent Pronoun	*fa* 'definite'	Inalienably Possessed	*ba* 'referential'	*ea* 'identifiable'	Total
Foreground	25	2	11	12	0	18	68
Percentage	36.8%	2.9%	16.2%	17.6%	0.0%	26.5%	100%
High-focus background	25	0	5	6	0	16	52
Percentage	48.1%	0.0%	9.6%	11.5%	0.0%	30.8%	100%
Background	6	4	1	2	0	23	36
Percentage	16.7%	11/1%	2.8%	5.6%	0.0%	63.9%	100%
Total	56	6	17	20	0	57	156
Percentage	35.9%	3.8%	10.9%	12.8%	0.0%	36.5%	100%

(χ^2= 29.47, p≤0.001, distribution is significant.)

Table 16: Object Nouns by Highest Cognitive Status and TMA Class

	In Focus	Activated	Familiar	Uniquely Identifiable	Referential	Type-Identifiable	Total
Foreground	30	5	12	7	11	7	72
Percentage	41.7%	6.9%	16.7%	9.7%	15.3%	9.7%	100%
High-focus background	28	9	9	8	5	2	61
Percentage	4.9%	14.8%	14.8%	13.1%	8.2%	3.3%	100%
Background	20	2	1	3	9	2	37
Percentage	54.1%	5.4%	2.7%	8.1%	24.3%	5.4%	100%
Total	78	16	22	18	25	11	168
Percentage	46.4%	9.5%	13.1%	10.7%	14.9%	6.5%	100%

(Distribution is not significant.)

The results in Tables 15 and 16 are inconclusive. Despite the statistical significance

of the correlation between NP form and TMA type, there is no smooth curve indicating

that objects are more or less accessible depending upon the foregrounding of the TMA

marker. The only exception to this generalization is that *ea*-marked objects tend to

increase in likelihood as foregrounding decreases.

5. Accessibility, TMA Marking and Deictics

I finally briefly consider the distribution of deictic restrictors in Yapese. My

hypothesis predicts that hearer proximal deictics (which require the greatest degree of

accessibility) will be more likely to occur when the clause is highly foregrounded and

that distal deictics will be more likely to occur when the clause is highly backgrounded.

For each NP modified by a deictic restrictor, I record the TMA marking on the clause to

which it belongs. Note that some deictics occur in subordinate clauses – in these cases,

TMA marking in the subordinate clauses was recorded. Table 17 shows the distribution

of noun phrases modified by a deictic in terms of TMA class.

Table 17: NPs with Deictic Restrictors and TMA Class

	Hearer Proximal	Speaker Proximal	Distal	Total
Foreground	4	4	6	14
Percentage	28.6%	28.6%	42.9%	100%
High-focus background	0	6	11	17
Percentage	0.0%	35.3%	64.7%	100%
Background	2	18	15	35
Percentage	5.7%	51.4%	42.9%	100%
Total	6	28	32	66
Percentage	9.1%	42.4%	48.5%	100%

(χ^2= 10.58, p≤0.05, distribution is significant)

It appears from Table 17 that hearer proximal deictics are more likely when the clause is

highly foregrounded. Table 17 also shows that it is in fact the speaker proximal

demonstrative which increases in frequency when backgrounding increases. No clear

pattern emerges from the distribution of distal demonstratives. Two caveats are in order

here. First, the number of deictics in my sample is fairly small (n=66), so despite the

significance of the results, this sample may not be representative. Second, because the

overall number of deictics is so small, direct comparison of items by grammatical role is

impossible. Grammatical role cannot thus be ruled out as a feature which affects this distribution.

6. Conclusion

This chapter tests the hypothesis that enhanced immersion at highly foregrounded points of narrative applies to both events and entities in the text. I compare the distribution of three classes of TMA markers to both noun phrase form and maximal cognitive status. I find that for entities in subject position, there is a significant increase in the likelihood that the entity will be (i) a zero or clitic pronominal and/or (ii) in focus, as the degree of foregrounding increases. This result is the strongest evidence for my hypothesis. The tendency is furthermore true in both narrative texts and non-narrative texts, suggesting that the grammaticalization of the split in TMA classes did not have solely narrative origins. At the lower end of the accessibility scale, there is a weak tendency for the likelihood of maximally type-identifiable and/or *ea*-marked subjects to increase as foregrounding decreases. These tendencies are in general not statistically significant. This is due in part to the fact that entities with a low degree of accessibility are dispreferred as subjects.

No clear picture of the correlation between accessibility and foregrounding emerges from the distribution of objects. For deictic restrictors, it appears that hearer proximal forms increase in likelihood and speaker proximal forms decrease in likelihood as foregrounding increases. These results are not however definitive as the number of tokens is small.

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The clearest evidence for my hypothesis emerges from the patterning of subjects. This is unsurprising given the fact that topicality is a contributing factor to subjecthood in a wide range of languages.

9. CONCLUSION: THE TEXTURE OF TEXT

Yapese storytellers draw on the morphosyntactic resources provided by their language to construct richly textured narratives which strategically immerse the audience more deeply in the narrative world at crucial turning points of narrative structure. I have shown that the system of tense-aspect-mood marking and the referential system work in concert to vivify the experience of narrative. My contention is that the variation in these systems has the potential to give rise to representations of the narrative world which simulate perceptual experience to a greater or lesser degree, and furthermore that narrators strategically manipulate this variation in order to enhance the experience of the narrative world at key points in narrative structure.

Barsalou's (1999) perceptual symbol systems model provides the framework for understanding the way in which representations triggered by linguistic input have an experiential component. This model claims that a simulation, that is, the mental representation of a concept apprehended by language, shares key neurological properties with the representations of concepts apprehended by the senses. When one hears a word (such as "dog" or "blue"), understanding meaning rests on the fact that neural pathways which are involved in the perception of such items are retrieved from memory and reactivated. To understand meaning is to re-experience sensory memory.

One key advantage of the perceptual symbol model over other semantic or semiotic frameworks is its explicit account of what exactly constitutes meaning, and how meaning comes to be understood. In contrast to what Barsalou calls amodal accounts of meaning, perceptual symbol systems provide an explicit account of how abstractions are derived

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from multiple exemplars of a concept in such a way that perceptual information is preserved and drawn upon when the concept is activated, either by a new example perceived by the senses or by a linguistic trigger. Perceptual accounts of meaning furthermore explain a range of other data from neural pathology, and are more constrained and less powerful than amodal explanations (Barsalou 1999).

A more narrow focus on narrative, rather than meaning in general, comes from the situation model framework for narrative understanding (Barclay & Franks 1972, Johnson-Laird 1983, van Dijk & Kintsch 1983, Kintsch 1998, Zwaan & Radvansky 1998, inter alia). The key idea of this framework is that users of language integrate information from within the text and from their general knowledge of the world to construct a representation of a situation. It is this representation, rather than a word-for-word recall of the text, which is drawn upon to integrate new information about the imagined world and to remember the events of the text. Contemporary research into the situation model framework has focused on five key areas of the situation which the comprehender must keep track of in order to understand the unfolding narrative. These are: time, space, causation, motivation, and finally person and object based information.

A fertile point of contact between Barsalou's (1999) perceptual symbol systems and the situation model is Zwaan's (2004) immersed experiencer framework. Within this framework, the construction of the situation model for a particular narrative involves perceptual symbols which reactivate experience in such a way that the comprehender has a vicarious experience of the events, characters and settings of the narrative world. Zwaan's framework incorporates experimental evidence about the experience of events,

characters and settings in the real world to make predictions with regard to what will stand out in the memory of a comprehender as central to the text.

In the domain of events, experimental evidence has shown that events in narrative which are iconically ordered, connected by cause-and-effect networks, or connected via goal-satisfaction chains, are more rapidly processed and more easily accessible than events in other configurations. The iconicity hypothesis (Zwaan 1996; see also Fleischman 1990, Dowty 1986) predicts that events which are related in an order iconic with their occurence are more easily processed and accessed than events which are presented in muddled or reversed order. This hypothesis is verified by a number of experimenters (Ohtsuka & Brewer 1992, Begsten & Vonk 1995, Zwaan 1996, van der Meer et al. 2002). A packaging of events in iconic order taps into the experience of the order of those events in the world.

Work by Zacks and Tversky (2001) and Zacks, Tversky and Iyers (2001) suggests that when individuals experience connected events they impose a hierarchical and partonomic framework upon the events. That is, events and subevents are grouped in constituent fashion. And experimental evidence from narrative processing shows that events connected causally (Duffy et al. 1990, Singer et al. 1992, Hallordson & Singer 2002) and by chains of goals or intentions (Rinck & Bower 2004, Trabasso & Suh 1993, Suh & Trabasso 1993, Albrecht & Myers 1995, Lutz & Radvansky 1997, Radvansky & Curiel 1998) again are more rapidly processed and more easily accessed as a unit than events which are not so connected. I propose that this processing advantage is motivated by the fact that the individual events in such chains are members of the same partonomic unit, and furthermore that such units tend to presuppose or index strict iconicity. The

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greater ease with which chains of connected events are integrated into the situation, then, is a reflection of the degree to which such chains simulate a perceptual experience of perceiving groups of connected events. The ability to impose a coherent event partonomy on the events of the narrative, and the fact that such inferencing resembles the processing of events as they are perceived by the senses, means that points in narrative at which such chains of events emerge give rise to an enhanced immersion in the narrative world.

In the domain of reference, experimental evidence points to two general findings. First, the evidence suggests that not only is information about protagonists and objects key in constructing the situation model (Morrow, Leirer & Altieri 1992, Carreiras et al. 1996, Albrecht & O'Brien 1995) but that protagonists have privileged status in the model (Wilson et al. 1993). Second, one of the most striking findings in support of the situation model framework is the phenomenon which has come to be known as the spatial distance effect. The spatial distance effect (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000) refers to the finding that comprehenders take longer to access entities which are at a greater distance from their current standpoint in the imagined world. Critically, the effect is independent of recency of mention. The presence of such an effect is strong evidence for the idea that comprehenders construct a spatially based mental representation of the imagined world. Just as objects may be more or less spatially distant and hence more or less in the frame of attention in the perceived world, the vicarious experience of objects in the narrative world varies in terms of their distance from the current deictic center.

These insights from the immersed experiencer framework and the associated experimental evidence are a platform from which to reassess evidence from

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textlinguistics and pragmatics regarding the structure of narrative and the variation of referring expressions.

Since the late 1970s, a tradition of research which focuses on analyzing entire texts, particularly narrative texts, has uncovered various patterns which are used to increase or decrease the prominence of elements of the story. A key tool in this tradition is the distinction between the narrative foreground and background; the former is most often defined as the sum of iconically ordered clauses which constitute the skeleton of the plot. The foreground/background distinction may be marked with morphology expressly dedicated to this purpose. Languages of this type discussed in the literature include Kickapoo and other mesoamerican languages (Jones & Jones 1979) and Biblical Hebrew (Longacre 1976, den Exter Blokland 1995, Heimerdinger 1999, Heller 2004). A second common strategy is for languages to co-opt the tense-aspect (-mood) system to signal distinctions of foregrounding. This system is found for Old French (Fleischman 1985, 1990), Bafut (Mfoyam 1994), American English (Schiffrin 1981), Australian English (Engel & Ritz 2000), Lachixio Zapotec and Rabinal Achí (Jones & Jones 1979) and Tokelauan (Hooper 1998).

Close examination of the kinds of TMA marking used to signal foregrounded and highly foregrounded events shows a close correlation between the semantics of tense-aspect involved in enhanced foregrounding and the types of events which are predicted to give rise to a greater degree of immersion in the situation model. The use of the perfect as a marker of narrative foreground is perhaps the most common cross-linguistic pattern. The conventional interpretation of narrative perfect is that events in the perfect are sequential and iconically ordered. In European languages (Old French, Fleischman

(1990), American English, Schiffrin (1981)), the historical present, which has an imperfective semantics, is used for highly foregrounded events. The imperfective semantics indexes the perception of experiencing an event as it is unfolding. Tokelauan makes use of the inceptive marker, which has a present tense semantics, to indicate highly foregrounded narrative clauses (Hooper 1998); again, this indexes the present-time experience of perceived events.

Yapese belongs to the class of languages which signal variation in narrative foregrounding using the tense-mood-aspect system. TMA markers in Yapese fall into two natural classes. Independent pronoun TMA markers are prohibited from taking clitic pronouns. In the independent pronoun construction, the pronoun precedes the TMA marker. Independent pronouns contrast three persons (first, second, third), three numbers (singular, dual, plural), and display an inclusive/exclusive contrast in the first person non-singular. The presence of an independent pronoun precludes subject agreement on the verb. With suffixing pronoun TMA markers, in contrast, the TMA marker precedes the clitic pronoun. Clitic pronouns neutralize the dual/plural distinction and are accompanied by post-verbal subject agreement which preserves this information.

In addition to the distinction between independent pronoun TMA markers and clitic (suffixing) pronoun TMA markers, Yapese also distinguishes between TMA marking which can occur with those clauses which are iconically ordered on the narrative timeline (narrative clauses), and those which are not (non-narrative clauses). Narrative clauses may be zero marked, they may take the inceptive marker *nga* or they may take the perfect non-present *ka qu*. The presence of *ka qu* implies the presence of *nga* which in turn

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implies the presence of zero-marked clauses. Table 1 summarizes the classes of TMA markers present in Yapese.

Table 1: TMA Marking in Yapese

Background		High Focus Background		Foreground
Independent Pronoun		Clitic Pronoun, Non-narrative Clauses		Clitic Pronoun, Narrative Clauses
bea	'progressive'	*ka*	'perfect'	zero marking >
ba	'stative'	*qu*	'non-present'	*nga* 'inceptive' >
maa	'habitual'	*nga qu*	'inceptive non-present'	*ka qu* 'perfect non-present'
		daa	'past negative'	
		daa + r	'negative progressive'	
		daab	'negative habitual'	
		raa	'irrealis'	

Chapter 4 examines these markers and their patterning in narrative structure in detail. I claim that those markers which are found at higher points of narrative salience index the perceived experience of events to a greater degree, leading to an enhancement of the vicarious experience of the narrative world at key points in the narrative structure. Within the foreground proper, zero marking conventionally signals iconicity in Yapese narrative. The inceptive marker *nga*, which is used for marking events of greater salience than the baseline foregrounding of zero-marked events, involves the semantics of causality and intentionality; dimensions which are predicted by the experimental evidence to be highly salient. Finally the peak marker *ka qu* is an instance of what Fleischman (1990) has called pragmatic reversal – the phenomenon of reversing the pragmatic norms of narrative in the most highly salient clauses. I suggest that this pragmatic reversal is an indexing of the "surprise" factor which makes events worthy of being told in narrative form.

Indexing of perceptual experience is also a property of high focus background

TMA markers. Events in the non-present *qu*, which signals that the audience should

initiate a secondary deictic center, are iconic within that center. The perfect marker *ka*

indexes the sequential nature of perceived events. Finally I argue that the balance of high

focus foregrounding markers gain salience due to their evaluative component. The irrealis

and the negatives are instances of evaluative comparators (Labov 1972).

Given that clauses in narrative vary their degree of immersion in the narrative

world in terms of their event semantics, a fruitful line of investigation is to consider

whether variation in the form of noun phrases has similar effects. Such an enterprise of

course requires a methodology for examining taxonomies of noun phrases and the degree

to which certain types of noun phrases might enhance immersion in the narrative world.

Pragmatic theories of noun phrase accessibility deal with correlations between the

degree of accessibility or givenness of a particular discourse entity and its form. My

major theoretical tool in this enterprise is Gundel, Hedberg and Zacharski's (1989, 1993,

2001) givenness hierarchy. Chapters 6 and 7 deal with the givenness hierarchy analysis of

pronouns and determiners (Chapter 6) and restrictors, including deictic restrictors

(Chapter 7). Major findings of this investigation are summarized in Table 9, Chapter 7,

repeated below as Table 2.

Assessing the degree to which the forms on this hierarchy index the perception of

objects requires an account of their semantics in the perceptual symbol framework. In

Chapter 6 I put forward such an account, arguing that for determiners, the higher the

required minimal cognitive status, the greater the number of predicate relationships the

symbol is involved in. Predicate relationships provide information constraining and

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elaborating the reference of the symbol. Representations of pronouns, which are associated with protagonists and other topical referents, are the most likely to have the greatest numbers of simulations bound to their representation and hence are the most elaborated and constrained representations in the text.

Table 2: Summary of Minimal Cognitive Statuses Associated with Noun Phrase Forms in Yapese

NP Form	Minimal Status Required for Use
ø pronoun Clitic pronoun Reduced independent pronoun	In Focus
Independent pronoun Demonstrative proform Hearer proximal demonstrative	Activated
fa NP ('definite')	Familiar
Speaker proximal demonstrative Distal demonstrative	Uniquely Identifiable
ba NP ('indefinite') Possessed N Classifier Number marker	Referential
ea NP ('indefinite') Generic second person Indefinite pronoun ø with indefinite antecedent	Type Identifiable

The amount of information which is predicated of a perceived object varies depending upon whether that object is in the current center of attention. Evidence from literature on inattentional blindness (Rock et al. 1992, Mack & Rock 1998a, 1998b, Kubovy, Cohen & Hollier 1999, Mack 2003) shows that representations of objects outside the focal region of attention can be highly underspecified.

In Chapter 8, I examine the correlations between object/protagonist accessibility and narrative foregrounding. The major finding is that for subjects at the high end of the accessibility scale, the accessibility of the subject does vary in the predicted fashion as

foregrounding increases. Highly foregrounded clauses have a greater proportion of in focus subjects and a greater proportion of zero or clitic pronominal subjects than do high focus background clauses, which have a greater proportion in turn than background clauses. Thus, systems of referentiality and event semantics work in concert to produce an enhanced experience of being within the imagined narrative world at high points of narrative structure.

The results are not clear at this point for object noun phrases or for those noun phrases modified by a deictic restrictor. Despite there being no strong finding with regards to correlations between deixis and foregrounding, my investigation of deixis in Yapese is valuable for its contribution to understanding the intersection of spatial and social information when deictics modify noun phrases in discourse.

Spatial distance effect experiments show that when an entity is imagined as being in closer proximity to the current deictic center, it is more quickly retrieved from memory (Morrow et al. 1989, Wilson et al. 1993, Rinck & Bower 1995, Rinck et al. 1996, Rinck et al. 1997, Rinck & Bower 2000). It might be expected, then, that when systems of deixis are employed to package entities in discourse, highly proximal deictics will tend to signal more highly accessible entities than do distal ones. Evidence from the study of text, however, belies this claim (Botley & McEnery 2001, Piwek & Cremers 1996, Strauss 2002). In particular, the work of Strauss (2002), coupled with observations by Gundel, Hedberg & Zacharski (1993) suggests that the social features of space may have as much to do with the patterning of deictics as does pure spatial distance.

Yapese is an ideal language in which to test these effects, as it separates social features of space from merely spatial features. Yapese has two markers of proximity; a

hearer proximal and a speaker proximal, in addition to a distal marker. In other language in which deixis has been examined from the point of view of accessibility, proximity to the hearer is conflated with distance. For such languages it is impossible to tell whether the preferred use of less proximal forms for more accessible entities is due to the socio-spatial configuration of speaker and addressee or whether it is truly at odds with the results showing spatial distance effect.

As predicted, the deictic which is used with the most highly accessible forms in Yapese is the hearer proximal. The hearer proximal activates a semantics of proximity without situating the entity in the personal space of the speaker, and hence the use of the hearer proximal avoids the problem of proximal forms assigning "ownership" of the item to the speaker. Corroborating evidence from the use of locatives to signal the episodic structure of narrative confirms the notion that the hearer proximal form is used to direct the attention of the addressee to the shared interactional space of the narrative world.

Despite the fact that the current project was unable to find correlations between narrative foregrounding and objects or deictics, the major finding with regard to the patterning of subjects in narrative is strong evidence for the notion of enhanced immersion in narrative. At high points of narrative structure, the audience is deeply immersed in the narrative in the domain of event semantics and in the domain of reference. Events at key points are iconically ordered, often have a semantics of intentionality or causality, and may signal pragmatically that they are surprising or noteworthy. The entities involved in carrying out these events tend to be at the center of current attention and to have rich representations encoding information about them which has accumulated as the narrative progresses. This combination of entities and events

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work in concert to enhance the vicarious experience of the imagined world of narrative for the audience.

APPENDIX: PRONOUNS AND AGREEMENT MARKERS

1. Independent Pronouns

	sg	du	pl
1 inc	gaeg	gadow	gadaed
1 ex		gamow	gamaed
2	guur	gimeew	gimeed
3	qiir	yow	yaed
indef		gayow	gayaed

2. Clitic Subjects

	sg	pl
1 inc	gu	da
1 ex		ga
2	mu	mu
3	ø	ra
indef	ni	

1.1 Reduced Independent Pronouns (Singular)

1	2	3
gu	ga	ii

3. Clitic Objects

	sg	du	pl
1 inc	-eeg	-dow	-daed
1 ex		-mow	-maed
2	-eem	-meew	-meed
3	ø	-row	-raed

4. Indirect Object Pronouns (Dative Series)

	sg	du	pl
1 inc	ngoog	ngoodow	ngoodaed
1 ex		ngoomow	ngoomaed
2	ngoom	ngoomeew	ngoomeed
3	ngaak'	ngoorow	ngooraed
indef	ngooyiy		
imper	ngaay		

5. Genitive Pronouns
5.1. Inalienable, Suffix Possession

	sg	du	pl
1 inc	-g	-dow	-daed
1 ex		-mow	-maed
2	-m	-meew	-meed
3	-n	-row	-raed
indef	-y		

5.2. Alienable Possession

	sg	du	pl
1 inc	roog	roodow	roodaed
1 ex		roomow	roomaed
2	room	roomeew	roomeed
3	rook'	roorow	rooraed
indef	rooyiy		
imper	riy		

6. Subject Agreement Markers

	Transitive Verb	Intransitive Verb
dual	-eew	gow
plural	-eed	gaed

NOTES

Notes to Chapter 1

1. In Zwaan's framework these are specified as intonation units; however the elucidation of what exactly counts as an intonation unit is rather thin.

2. This line of argumentation is not, however, akin to the amodal gestaltist proposals concerning visual representations and foregrounding. Proposing that the underspecificity of representations is a cross-modal feature is not an instance of an amodal abstraction.

Notes to Chapter 2

1. 5 132 speakers of Yapese were recorded by the 2000 FSM census (FSM Division of Statistics 2002).

2. Although the exact heritage of Palauan is unclear, Zobel (2002) proposes that it shares innovations with a group that he dubs "nuclear Malayo-Polynesian", which includes all of the Malayo-Polynesian languages except some languages of the Philippines, northern Sulawesi, and north-east and interior Borneo.

3. These texts are included with the kind permission of PALM, Pacific Area Learning Materials.

4. There are in fact no monkeys on Yap.

5. In order that accommodation for a non-fluent learner not influence the language of the interviews, I was present as an observer but apart from some preliminaries and thank-yous, I do not speak on the tapes.

6. In my sample, only objects which are coreferential with the subject are found in the independent form. My sample is however to small to extrapolate this as a general rule.

7. Jensen et al. (1977b) analyze *roo-* as a preposition meaning 'of, from', but this analysis is untenable, since the form does not occur independently. They offer the example:

(i)   Kea   feek   rook'
            perf   take.tns
            "He took it from him"

I submit that this is literally glossed as "He$_i$ took his$_j$ one", and that there is no reason to suspect that *rook'* is an ablative rather than a genitive in this example.

Notes to Chapter 3

1. The terms *sjuzhet* ("discourse" or "plot") and *fabula* ("fable" or "story") emerge from the Russian Formalist school of literary analysis.

2. Fleischman notes that it is a specific type of iconicity which applies here, namely diagrammatic iconicity: "it is the relationships of the signs to one another that mirrors the relationship of their referents" (1990: 131). The concept of diagrammatic iconicity originates with Peirce (1932).

3. Intriguingly, the distinction between future events, prior events and unrelated events decreases as the probe onset time decreases. At a medial onset time, probes describing future events are rejected more slowly, but there is no difference between prior or unrelated events. At fast onset times, no distinction is found across the three categories.

4. Note that Carreiras et al. (1997) do not present the Spanish language materials that were used for the test; tense-aspect information is inferred from translation. I assume that if the materials were sufficiently different in Spanish to warrant mention, the authors would draw attention to this fact.

5. A particularly striking results obtained by Duffy et al. (1990) (and replicated in some aspects of the Singer and Hallordson (1992) trials) is that clauses which are very closely causally connected tend not to be so well recalled as those which are only moderately closely connected. They attribute this distinction to the fact that very closely connected events are less likely to require bridging inferences to account for the causal connection, where as moderately connected events require such inferences; and furthermore that the presence of bridging inferences creates a stronger connection between a pair of events, in effect leading to a proliferation of networks connected the two events, and hence to better performance on recall.

6. Note that the pattern of the most temporally proximal (i.e. later) event being viewed as have greater causal weight does not apply to causal chains. That is, if event A causes event B which causes event C, event A is viewed as having greater causal weight than event B (Johnson, Ogawa, Delforge & Early 1989, Vinokur & Ajzen 1982).

Notes to Chapter 4

1. There is some variation in the use of number suffixes which I note in passing but have not fully investigated. First, the dual markers do not appear in all contexts in which they would be expected. Second, Jensen et al. claim that "if a subject number marker is used the object pronoun suffixes may not be used. Instead, the independent personal pronouns are used" (YRG: 203). This is contradicted by examples in my data.

(i)   ... ra   chugöliyeew   **raed** ...
         3.nom.non-sg   raise.tns.du   3.pl.acc
         "...they (du) raised them(pl) ..."

2. (ii)   Ka   **qa**   ni   pirqeg   bayaay   nii
          perf   prior   idfpro   find.tns   again   cmp
          qayuweeg   ea   guwchiig   ea   girdiiq   ko
          help.tns.sg idf   dolphin   idf   people   to
          fitaeq.
          fish
          "It was found that dolphins help people to fish."
Note that Stella Kolinski's free translation does not express the meaning that this event happened prior to another event.

3. It is tempting to advance a composite morphology (or at least a reconstruction) for *baay* involving the stative marker *ba* – however, such a reconstruction would have to account for the geminate in the past tense form *qimmoey* (presumably from *qu*). No such analysis comes to mind.

4. The phrasal verb *qun ... u dakean* (lit. to accompany atop) means 'to follow'. Note also that *mea* 'then.3.sg' is inflected to agree with the noun phrase *ba gadaed*. *Gadaed* is the first person plural inclusive independent pronoun; *ba* is a referential article. The construction *ba gadaed* means 'one of us', where the referent is not coreferential with the speaker, hence the third singular inflection.

5. Note furthermore that iconicity is achieved without the presence of a co-ordinating conjunction (at both 20(b) and 20(e). This is hence not an instance of deletion of TMA material under conjunction.

6. Micronesian languages have the conjunction *nge* 'and, but' (found in Trukese, Woleaian, Ulithian, Carolinian) Jackson (1986:221), which is the best candidate that I can find for borrowing into Yapese to become the inceptive marker *nga*. For *nge* to become *nga*, however, it would require either (i) unexplained vowel shift from short /e/ to /a/; or (ii) vowel lengthening to give *ngea*, which then could be reanalyzed as

nga + *i*, the third person singular fused form. An assumption that a form like *nge* has underlying length is not implausible; Yapese *ngea* 'inceptive third person singular' is unstressed and the vowel is often realized as short in running speech. More problematic is the fact that the form would require analogizing from the third person singular *ngea* to *ngu gu* (inceptive first person singular) and *nga mu* (inceptive second person singular) while *?*ngea gu* and *?*ngea mu* were still extant forms. Such a shift would be plausible if the third person singular were much more frequent than the other forms – however this seems unlikely.

Finally Yapese has the conjunction *ngea*, but it is restricted to NP conjunctions; so it is unlikely to have turned into an inceptive marker as it is not found in environments suitable for reanalysis.

7. The idea of unexpected events emerges from the notion of "estrangement" – a concept from the Russian Formalist school of literary analysis which describes the literary technique of making familiar things unfamiliar in order to draw attention to them

8. And a caveat on the caveat; it may well be the case that certain literary texts which are concerned with an artistic exploration of the structural properties of language may employ strategies of pragmatic reversal throughout. Amis' (1992) *Time's Arrow*, for instance, presents events in reverse order. The point that such texts require the existence of conventions to flout still stands.

Notes to Chapter 5

1. English, Japanese, Mandarin Chinese, Russian and Spanish.

2. Note that the GH has no separate category for inferrables. In most cases, inferrables cannot be referred to by pronouns and thus are not activated or in focus:

> A: Did you see the McIntyre's new house? I haven't seen it yet.
> B: It's very nice, although the front door/*that front door/*it is a particularly loud shade of magenta.

There are cases in which the link between the inferring entity and the inferrable is sufficiently strong that the inferrable may become activated and is licensed to be referred to by a pronoun:

> There was not a man, woman or child within sight: only a small fishing-boat standing out to sea some distance away. Harriet waved wildly in its direction, but THEY either didn't see her or supposed that she was merely doing some reducing exercises.
> (Gundel, Hedberg & Zacharski 1993: 282)

Examples like these suggest that there is no distinct maximal cognitive status corresponding to Prince's inferrables.

3. It is not entirely clear, however, that these instructions are non-narrative. By Labov's definition of a narrative minimally consisting of two clauses which cannot be reordered without changing the order of the events, the instructions presented to the subjects might well be considered narrative, although of a non-canonical sort: Imagine that you are in the library/ Imagine that you walk into the laboratory/ Imagine that you walk from the laboratory into the wash room (Rinck et al. 1996: 46).

4. Russian is excluded from this analysis as there were no examples of distal demonstratives in Gundel, Hedberg & Zacharski's sample of Russian NPs (1993: 292).

5. Referential distance is a measure of the number of clauses which intervene between the mention of some entity and its last mention in the text (Givón 1983).

6. 0.8 for "direct" anaphora and 0.72 for "indirect" anaphora, which appears to be a notion close to inferrable, in Prince's sense.

7. The tripartite division of information into ideational, textual and interpersonal is from Halliday & Hasan (1976).

8. "Most topical entity" is here shorthand for "backward looking center".

Notes to Chapter 6

1. A substantial part of the givenness hierarchy analysis of referring expressions in Yapese in this chapter and the next was previously published as Ballantyne (2004).

2. It should be noted that multiple entities can be in focus concurrently. Gundel (1998) objects to Centering Theory (Grosz, Joshi & Weinstein 1995, inter alia) on the basis that it does not allow for multiple entities at the current center of attention. The Centering Theory model is based on the assumption that there is a single entity in each clause which is the "center", that is, the most salient entity in the clause. It is entirely plausible that there are finer grained distinctions of cognitive status which are not relevant to form, in the sense that no language (or at least none of the languages to which the givenness hierarchy has been applied) has a form which requires an entity to be at a higher status than in focus in order for that form to mark some referring expression. In other words, some in focus entities may be more salient than others, but languages do not mark this distinction overtly through form. In fact, Gundel, Hedberg & Zacharski (1989) suggest that in focus is "more complex than the other cognitive statuses" (91).

3. Of some relevance to this investigation is the fact that this is a much larger sample than the number of forms considered by Gundel, Hedberg & Zacharski (1993) for any given language. Their largest sample size is 655 NPs (for English); for Chinese, the smallest sample, n=240.

4. Although some syntactic frameworks treat paradigmatic zeros and dropped topics as distinct categories, all zero pronouns are treated as equivalent in this analysis, in part because there is no definitive method to distinguish between these purported categories in running text.

5. *Casuarina equisetifolia*, also known as ironwood (Fosberg, Sachet & Oliver 1979).

6. Yuko Otsuka (pers. comm.) notes that Tongan has a constraint that requires that inanimate objects be expressed as null pronouns, and suggests the alternate analysis that a similar syntactic constraint might account for the data in (4). The Yapese data that I have available to me does not allow for a definitive finding as to whether this constraint operates in Yapese.

7. Ellipses from the original.

8. This example is unlike any addressed by Gundel, Hedberg and Zacharski in their work; and as far as I know, similar structures are not addressed in the literature on accessibility, presumably because this Yapese construction is typologically unusual – other languages tend to achieve similar functional ends by means of their voice system. One question that arises from such data regards the assertion that the givenness hierarchy is an implicational scale; there is certainly some sense in which the zero pronoun at (15) is type identifiable, in focus (and activated and familiar), but neither uniquely identifiable nor referential.

9. The form *gaag* is a variant of the first person singular pronoun *gaeg*.

10. Note that a rather more complex solution that simply disregarding clausemates is required; my method of coding does correctly predict that reflexive pronouns with a coreferential clausemate are in focus.

11. This argument for *ea* as a determiner originally appeared in Ballantyne (2004: 60).

12. As with English mass nouns, nouns in this set can refer to individuated entities in context (e.g. *Could you pass me those waters?* referring to bottles of water). Even in such contexts, however, the nouns are still marked with *ea*.

(i)   ea   pi   ggaan   niir
         idf   pl   food   h.prx.dmn
         "those foods (near you)"

Notes to Chapter 8

1. In Ballantyne (2004), I argued that highest cognitive status outweighs grammatical role in terms of topicality ranking – this does not, however, mean that grammatical role plays no part in assessing the topicality of an entity.

2. As far as I can ascertain, these forms are the same lexical item. YED lists the variants *boed* and *woed* (YED: 150).

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