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Construing Experience in Tourism Discourse:

A Corpus-based Study of Transitivity System

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A thesis
submitted in partial fulfillment of the requirements
for the Degree of Doctor of Philosophy

November 2012

CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

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Abstract

The general aim of the present study was to investigate how the two fundamental experiences in tourism industry– image creation and image maintenance -- are construed through meaning by means of scrutinizing the deployment of transitivity resources in the texts selected from five selected registers related to tourism discourse. Hallidayan transitivity model was employed for the annotation of the process types and circumstances. Given the limitation of manual semantic annotation, the whole corpus, which is untagged, was used for comparative purpose. Typical realization forms of transitivity, i.e. typical verbs for process types, and typical adverbs, prepositional phrases for circumstantial transitivity, were used as the key words for corcondancing. Basically, the discussion was conducted on the findings from the annotated texts, and the concordancing results were also used as supporting evidences.

The investigation of the process types found in the annotated clauses (around 6 thousand), indicates that the differences are salient between three image-creation registers and two image-maintenance registers in the following aspects in related to three major process types: 1) for the relational clauses, the image-creation registers have a strong preference for relational: attributive: intensive type of clauses to entertain the persuasive elements in the texts, while the image-maintenance registers favor identifying clauses to decode concepts or make definitions; 2) for the mental clauses: the image-creation registers prefer perceptive and emotive clauses, while image-maintenance registers prefer cognitive clauses in construal of 'knowing' experiences; 3) in the image-creation texts, a majority of processes are employed to construct the meaning of 'dynamic space' in the sense of position and movement that is realized in motion verbs, while in the image-maintenance texts, the 'space' is characteristic of being static, with motion verbs being nominalized. In line with the examination of the nuclear transitivity, the investigation of circumstantial transitivity shows that a clear contrast was identified in the deployment of all circumstances in varied degree, for example, a similar pattern of construing 'space' in nuclear transitivity was

observed in circumstantial transitivity. This implies the internal relationship between the deployment of nuclear transitivity and that of circumstances.

This current research is an attempt to prove Halliday's conception that "our discourse as a whole will pattern quantitatively according to the probability profile of the grammar" (Halliday, 2009:292). This present study will be of many benefits: theoretically, it reiterates that registerial variation is manifested in the relative frequencies of the functions that are exploited in the structures. The transitivity profiles obtained from the analysis can be used to enrich the global profile of the transitivity systems of English language. Practically, this study might help to raise the tourism practitioners' awareness of registerial variation and enable them to manipulate the language of tourism more effectively to serve the tourism industry. Pedagogically, it would be useful to both students of tourism who opt for a semiotic approach to interpret the tourism discourse, and students of linguistics to understand how meaning in relation to a specific discourse is construed with grammatical resources.

Acknowledgements

I would like to thank the following people, without whom this research would have been impossible to be completed:

To Dr. Xu Xunfeng, my chief supervisor, for his guidance, suggesting me to look into the tourism discourse from the perspective of systemic functional linguistics; for his warmth and patience, his everlasting encouragement when I were faced with difficulties.

To Professor Christian Matthiessen, my co-supervisor, for providing endless professional excitement in his lectures and in our weekly discussions about how 'space' is construed in language together with Professor Michael Halliday, Dr Xu and Dr Kazuhiro Teruya.

To other faculty members of the Department of English, especially, Professor Winnie Cheng, Dr Stephen Evans, Dr Gail Forey, Dr Marvin Lam, Dr Li Lan, Francis Low, Professor David Qian, Carmen and her administrative team, for their help, encouragement and support on all fronts.

Finally, I am deeply indebted to my wife, and my sweet daughter for their understanding, support and love.

Thank you all from the bottom of my heart!

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Abbreviations

B&R	Brochures & Rough Guides
FT	Forum Texts
JA	Journal Articles
Ord	Ordinances
Tra	Travelogues
SFG	systemic functional grammar
TEC	Tourism English Corpus

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Chapter One

Introduction

1.1 Theoretical assumptions for the construal of experience

With the recognition of the construction of experiences as knowledge, Halliday & Matthiessen (1999:1) put forward a new way of interpreting experiences, by which our experience of the world around us and inside us is interpreted and represented by semiotic means, essentially by means of language. This is because we are always engaged in the construal of experience and the behavior of meaning whenever we are speaking, writing, listening and thinking,. In the course of meaning, 'grammar is the central processing unit of language, the powerhouse where meanings are created' (Halliday, 1985/1994:15; Halliday & Matthiessen, 2004:21). The perspective of construing experience in grammar is based on the following two fundamental assumptions in systemic functional grammar: one is that *"language is a meaning potential"* (Halliday, 1973:55) and the other is that *"the overall meaning potential of a language is organized by the grammar on functional lines"* (Halliday, 2003:18). With the former assumption, language was modeled as stratified with three internally tangent circles, with the inner circle representing 'expression', and the outer two circles representing 'content': the outer circle representing 'semantics', and the middle, 'lexicogrammar'. The inter-stratum relation is realization, in other words, semantics is realized in grammar, and grammar is in turn realized in phonology or graphology (c.f. Figure 2 in Halliday, 1979/2002:197; Fig. 1-1 in Halliday & Matthiessen, 1999:5). The latter assumption pinpoints 'grammar' as the locus and 'functions' as the variables/resources for the depiction of language as a meaning potential.

The meaning potential assumption presumes that language embodies a paradigmatic relationship and can thus be modeled in system networks that have both a vertical dimension and a horizontal dimension. The horizontal dimensions decide the delicacy of the system, while the vertical dimensions represent various combinational possibilities. It is the interplay of these two dimensions that decides the extreme complexity of language. Halliday (1973:26) defines "meaning potential" as "simply the list of possible messages, as a set of options," from which selections are made and realized in syntagmatic forms. He points out that many of the selections from the options take place in fairly restricted contexts where the options are limited and the meaning potential is, in fact, rather closely specifiable. The nature of *specifiability* decides that certain options typically come into play in a specific context and become prototypical and definable patterns of selections that occur in lexicogrammar.

Aligned with the interpersonal metafunction, which enacts the social relationships through language, language construes experience through ideational metafunction by categorizing and configuring it as a 'figure' in clauses (Halliday & Matthiessen 1999:8). In making meaning, each choice from the meaning potential will incur certain reactions of one or more components within the 'figure'. All the contextualized selections taken together as a semiotic reaction to a certain social interaction give the shape to a text or discourse. The contextual limitation is not abstract. It is reflected in three aspects: first, what is taking place; secondly, who are taking part; and thirdly, what part the language is playing. These three variables constitute what we usually call a "register" and determine the scope within which meanings are selected or rejected, and the forms that are used for their expression.

The metafunctional components of language are represented as patterns of language use, which constitute the resources for creating meaning. These components refer to the three descriptively distinct, yet naturally integrated elements, viz. the ideational, the interpersonal and the textual. The ideational and the interpersonal functions construe the eco-social reality together: the former represents our experiences in the real external and internal world; the latter enacts the social relationship or acts out the interpersonal encounters that are essential to our survival. The textual function organizes the experiential and interpersonal meaning in language that can be read and heard in an 'input' manner, and spoken and written in an 'output' manner. Each of the three metafunctions has its own realizational system. The major systems of the ideational metafunction includes the experiential-related system of transitivity and the logical-related system of expansion and projection; those of the interpersonal metafunction are the systems of mood and modality; the theme-rheme system and the information structure realize the textual meaning potential.

This present study has no ambition to present how meaning is construed through all the semiotic experiences, but merely attempts to show how and to what degree the selections from the specific meaning potential, namely, the system of transitivitys, affect the registerial variation in a particular field of language use, i.e. the tourism discourse. It consists of the identification and interpretation of the semantic relations involved and the ways in which the social realities are construed in lexicogrammar with respect to people's experiences within the tourism discourse.

1.2 Why transitivity? Why corpus?

To answer the first question, I would like to quote an exchange from the interview of Halliday by Thibault (1987:618).

> Paul, J. Thibault: Transformational-generative approaches to grammar are primarily concerned with form – form relations. Systemic-functional theory is concerned with the relations between grammatical forms and their patterns of social use. How would you characterize this relation?
>
> M.A.K. Halliday: […] I think that we can use some of our insights into the forms of the grammar to help us towards an understanding of how people construct social realities, and an obvious example would be transitivity. […] By looking at grammar – by understanding the nature of the system – we can get quite a lot of insight into our social construction of reality.

In his answer, Halliday clearly points out that transitivity is the form of grammar for us to understand how people construct social realities, our experiences of the world. This constitutes the real starting point for the current study: construing the experience in the field of tourism discourse not through social activities, which construct our knowledge of tourism, but in reverse by means of meaning in grammar, in particular, the experiential grammar, in which the transitivity systems play a central role.

Insofar as the second question is concerned, it is, in principle, related to the problem of methodology for this study and may be answered from the two aspects: to begin with, there is a natural connection between the systemic functional grammar and the

corpus approach in that they both foreground the study of natural language or language in use and focus on the lexicogrammar with the former starting from the grammatical end while the latter from the lexical end. Halliday (in Halliday, 2005a (Webster, Ed.)) calls attention to the fact that grammar is a probabilistic system in that it presents language as choice. He points out that the system, as a closed set of options with defined condition of entry, is clearly quantifiable in the terms of information theory: it is possible to assign probabilities to the various terms in a system on the basis of observed frequencies in a substantial body of text (2005a:xx). *Frequency* in text, as Halliday (1991/2005a:45) states elsewhere, is the instantiation of probability in the system. Systemicist never ignore the importance of corpus in theoretical construction, (e.g. Halliday & James,1993; Matthiessen, 1999, and many others).

The other related aspect is concerned with the distinct structures of the syntagmatic presentations of the three major systems under the lexicogrammar. Halliday (1979/2002:209ff) borrows Pike's insight into the patterns of language as "particle", "wave" and "field" to distinguish among experiential, interpersonal and textual structures. It is the experiential meaning that is modeled in constituency (particle-like). The structures of the experiential grammar set up as an organic configuration of discrete elements. As is shown in the cited examples in Section 2.3.2.5, there is a one-to-one relationship between the components (groups and phrases) of the clause and the functional roles they play in the process except the conjunctives and modal adjuncts which represent logical meaning and interpersonal meaning respectively, which are beyond the concern of the present study.. Technically, these clear-cut particles, of forms of meaning, secure the reliability of the frequency recording, which is the basis of corpus-based study.

Among the modes of meaning, it is the study of transitivity that is most suitable for a corpus-based approach. First of all, with the constituent structure and the natural "constituency/function" conflation: such as nominal group/Actor or Goal; verbal group/Process type; adverbial group and prepositional phrase/Circumstances, etc., the semantic annotation in metalanguage and the subsequent concordancing of the annotated corpus become feasible and the authenticity is guaranteed. A good case in point is Matthiessen's (1999) work on an opportunistic text sample, wherein he gives a full-scale transitivity analysis of more than two thousand clauses. In this study, Matthiessen annotated the texts in terms of process types and circumstances and carried out a very meaningful discussion mainly based on the frequencies of these semantic categories.

In contrast, the interpersonal meanings are construed prosodically, by intonation (field-like). Even when they are lexicalized, they tend to disperse themselves throughout the discourse, rather than being enumerated item by item. As Martin (1992:527) remarks that the interpersonal systems can be viewed as non-discrete, involving gradient rather than categorical distinctions. For example, in their description of the appraisal system, Martin and White (2005) add "graduation" as one of the three simultaneous dimensions, indicating that all the interpersonal meanings register the gradient character, featuring topology rather than typology. This development of "graduation" may culminate in Hood's (2004) discussion of academic writing.

Lastly, the textual meanings are presented periodically (wave-like), setting up the flow of discourse as a series of smaller and larger wave-like movements. The methods include Halliday's (1985/94) Theme-Rheme model dealing with the rhetorical structures of clauses, and Martin and Rose's (2003) MacroTheme-MacroNew model which extends the explanation to the discourse end. It follows that it will be fairly difficult, if not impossible, to annotate the interpersonal meaning and textual meaning in the corpus of a large scale because the segmentation of analytical units is not an easy task, let alone automaticalization. There is no doubt that a regular segmentation of the data is the starting point of any corpus-based search and research.

It might be because of the aforementioned reasons, as we are aware of, description of transitivity have been more constrained within the clauses than the descriptions of interpersonal meaning and textual meaning are able to be extended across the clauses or the whole text. On the one hand, Eggins and Slade (1997) apply the mood and modality scheme to the investigation of the exchanges in casual conversations; Ventola (1987) examines speech function and exchange in the service encounter texts; Martin (1995a, b; 2000; 2004) and others (White, 2002; Macken-Horarik, 2003, to name a few) have extended the interpersonal meaning amazingly and developed the appraisal frameworks for discourse analysis. On the other hand, many of the studies of textual meaning are closely related to text structure instead of clausal structure for pedagogical purposes (Martin & Rose, 2003). For example, Ghadessy's (1995) provides a collection of studies of different types of English texts in terms of thematic systems; Hasan (1984; 1989) and Martin & Rose (2005) developed genre theories from the attendance of textual meaning, to name only a few. The relative scarcity of

applying experiential grammar to the investigation of discourse, or a large scale of data, gives birth to one of the purposes of the current research.

1.3 Research objectives and scope of the study

The present research focuses on the tourism texts that constitute the one-million-word Tourism English Corpus (TEC) with five sub-corpora, each representing one register or text type, including brochures & rough guides, forum texts, journal articles, ordinances, and travelogues. In order to compare the deployments of transitivity among the five registers, there are two basic objectives. The starting point is to analyze the texts clause by clause and annotate the constituents in terms of their functions involved in the transitivity systems, in particular, the functions in the process types system, and those in the circumstantial system, based on the Hallidayan model of transitivity (Halliday, 1985/94; Halliday and Matthiessen, 2004; Matthiessen, 1995). As a result, we hope to bring out a semantically or functionally annotated corpus of tourism texts for theoretical construction.

The second objective is to reveal how the grammatical resources are employed in construction of social reality with respect to certain social contexts, or to investigate the relationship between the deployment of language resources and the registerial variation. The contextualization of language as a system interacting with other social semiotic systems is a distinguishing feature of systemic functional linguistics. Thompson and Hunston (2006:4) point out that there are two ways of modeling context: one is to identify and classify those aspects of social context that influence speakers' use of available language resources. The tradition of systemic functional linguistics has it that registers, or the forms of the variation of language in use, exist *a*

priori. This is, in fact, the principle we followed when we were collecting the data and assumed that particular texts we collected belong to a particular register mainly by recognizing the source of the texts and the categorization of the texts by the author. The other way is to view the process from the other direction or from the 'inside' of language: to identify and classify those aspects of language features that construe the social contexts. The present research aims to investigate how people construe experiences in different registers and relates it to the ways people interact with each other and contribute to the whole discourse.

1.4 Research questions

To achieve the aforementioned objectives, through detailed analysis of the randomly selected clauses in in terms of the selections in both nuclear transitivity system (Chapter Six) and circumstantial transitivity system (Chapter Seven), the general question to address comes into form -- how the social experiences with regard to tourism discourse are construed through the transitivity systems? The following four tentative questions concerning probabilities and relations emerge as being subsumed under the general one and need to be answered in this research:

1. What are the probabilities of the occurrences of transitivity features, or what is the deployment of process types, and the circumstantial roles across the five registers? What are the similarities and differences of the profiles of transitivity? This question is designed to depict a general picture of the transitivity deployed in the corpus and to rationalize the possible different patterns across the registers. (See discussions in Chapter Six and Seven)

2. How are the language resources with regard to nuclear transitivity employed in different registers? How are the business-related social functions of image creation and image maintenance are established? What is the interrelationship across the five registers under the same discourse of tourism? (Seed discussion in Chapter Six).

3. What are the deployments of circumstances across the five registers? Do the 'peripheral' features of the circumstantial transitivity affect the construal of experiences with circumstantial transitivity resources in tourism discourse? Is there a similar pattern to that presented with nuclear transitivity? (See discussion in Chapter Seven).

4. Given that fuzziness is the nature of language on the one hand, but the annotation calls for clear-cutness, how can we resolve the dilemma arising from the analysis or annotation of the clauses characteristic of being indeterminate to categorize? (See discussion in Chapter Five).

1.5 Significance of this study

One of the significant results of the current research is an annotated corpus resulting from careful and detailed grammatical analysis of the tourism texts in terms of features of the transitivity systems. It will not only provide the data for the present research, but also a resource available for further development and for consultation by other grammarians and text analysts. Taking the manual analysis into consideration, the corpus will possibly be valuable to be applied in machine learning, and in the end, to facilitate the development of automatic analysis system.

Second, drawn on the systemic functional linguistics framework, this present research tentatively approaches a large amount of data at one time, and may be able to exemplify the way in which corpus approach and semantic analysis complements with each other well in the background that the systemic functional linguistic research has been criticized for "the amount of data analyzed" being "comparatively small" (Thompson and Hunston, 2006:2).

Thirdly, the research can also be of pedagogical importance. For example, the profiles of relative frequencies of the transitivity system vividly present the differences across registers. This, among others, will help to raise the students' awareness of the registerial variation in the interpretation of tourism discourse or in the learning of Tourism English as an ESP course.

Chapter Two

Functional approaches to transitivity

2.1 Introduction

In 1996, the 23rd UWM Linguistics Symposium, a significant conference entitled "Functionalism and Formalism in Linguistics", was held at the University of Wisconsin-Milwaukee. The goal, as Moravcsik and Wheatley, the chief coordinators of the conference, introduce, was "to bring together linguists of opposing approaches to linguistic inquiry – functionalists and formalists – and determine exactly to what extent these approaches differ and how they might complement each other" (1999:1). As a result, a two-volume book with the same title as the conference was published two years later. This proceeding includes 87 papers that were presented at the conference with the topics ranging from theoretical positioning to case studies. Although this conference was only concerned with formalism and functionalism researches in the United States, many fundamental and principal distinctions came under discussion. Noonan (1998), the author of one of the three functionalist position papers submitted for this dialogue, provides a set of basic assumptions underlying the approach to linguistic analysis that has come to be known as West Coast Functionalism (WCF). Although his paper receives criticism from Abraham (in the same volume) for obtaining "a rather partial, and somewhat lopsided, position in the overall functionalist scenario"[i] (Abraham 1998:55), Noonan has clearly pointed out some important principles of functionalism by anatomizing and comparing it with the classic structuralism model, with which "the formal grammar shares a great deal"(Nicholas 1984)[ii]. The points of view characterizing differences between structuralism and functionalism were pithily summarized in each section. Among

others, the following features of functionalism are more closely related to the current research:

[1] Categories are non-discrete rather than discrete. This feature has been manifested in different closely related terms used by different functionalists, e.g. prototype, family resemblance, radial, gradualness, fuzziness, topology, etc.

[2] Grammar is not assumed to be modular; but it is assumed that the same sorts of principles operate throughout the grammar, e.g. there is no strict division between lexical items and schemas.

[3] Data derived from actual language is favored, e.g. textual and discourse data, as opposed to data derived from the analyst's intuition, though most of these data are not ruled out in principle.

[4] Statistical data are allowable, as are considerations of frequency, e.g. events instantiated with enough frequency to acquire a cognitive status independent of the contexts in which they may be used.

It follows from the above listed features that non-discrete categorization, module-free modeling, text-orientation, as well as being open to statistical investigation are some of the major principles shared by different of approaches of functionalism and can serve as the criteria through which we will filter out the variety of approaches to transitivity for review. Insofar as transitivity is concerned, these four features are closely related to the aspects of the research strategy adopted in this research. Briefly, points 1 and 2 are associated with our understanding of the nature of transitivity, with the fuzziness being specially attended in Chapter V; point 3 is consistent in all schools of functionalism in their consideration of the nature of language and supports our data

collection of texts of actual language use, while the last point concerns the method we adopt, i.e. our discussion is both qualitative and quantitative based on the frequencies of choices from transitivity systems.

Although all the functional approaches share the basic tenets "by rejection of the claim that the linguistic system should be studied independently of the cognitive, sociocultural and temporal factors that at least partially motivate it and also by rejection of the claim that syntax is autonomous from semantics and pragmatics" (Butlter, 2006:703), they also exhibit a number of varied characteristics. Taking into concern the theme of the present study, we can very briefly examine how the major functionalist approaches deal with the relationship between 'language' and 'society'. As observed by Butler (2006), Dik's (e.g. 1997) Functional Grammar concentrates on 'the instrumentality of language', by which language is in the first place conceptualized as an instrument for social interaction; Van Valin's Role and Reference Grammar (e.g. Van Valin, 1993; Van Valin & LaPolla, 1997) prioritizes cognitive over sociocultural explanation. In comparison, Halliday's Systemic Functional Grammar (e.g. Halliday, 1978; 1985/1994; Halliday & Matthiessen 2004) has always been concerned more with social and cultural motivations than any other functional theory. For West Coast functionalists (e.g. Givón, 1993, 1995 ; Bybee & Hopper, 2001; Hopper & Thompson, 1980), as Butlter (ibid, 703) put it, considerable weight is given to the frequency of particular items, which represent the flexible responses of language to the context in which it is used.

To narrow down the scope of investigation into how dealing with transitivity in functionalism. As Matthiessen (1999) applauds, two contributions to the

understanding of transitivity stand out as particularly significant and seminal within functional linguistics – those of Halliday (1967/8; 1985/1994; Halliday & Matthiessen, 2004) within systemic functional linguistics and Hopper & Thompson (1980) within American West-Coast Functionalism. These two key studies were hailed mainly for two common features: 1. both provide a systematic account of transitivity as a meaning making resource pertaining to certain discourse features in functional terms; 2. Both emphasize the paradigmatic organization of the interpretation of transitivity, and recognize the importance of 'cluster of properties', or 'relative frequency' in the understanding of discourse from the perspective of transitivity analysis. Now let's turn to Hopper and Thompson's seminal consideration of transitivity and other related studies under the general umbrella of WCF in Section 2.2 below.

2.2 WCF approaches to Transitivity

2.2.1 Cardinal Transitivity: Hopper and Thompson (1980, 1982): *Transitivity in Grammar and Discourse*

Hopper and Thompson's (1980) contribution consists in these three considerations: 1) that discussion of transitivity is centered on clauses rather than merely verb senses; 2) that transitivity is considered to be a continuum along which various points cluster and tend strongly to co-occur, and so transitivity is measured to be more or less transitive, rather than a dichotomy between transitive and intransitive; 3) that the foci of high and low transitivity in narrative texts correlate with such two discourse functions: foregrounding and backgrounding. These points will be presented in more details below.

1). Hopper and Thompson recognize that transitivity should be understood to be a global property of an entire clause, a relationship which obtains throughout a clause rather than restricted to one constituent or pair of constituents. Based on this presupposition, they propose ten pairs of contrastive high and low parameters, which they think are pertaining to transitivity. Each pair of parameters represents one variable for the measurement of transitivity (see Table 2.1).

Table 2.1 Classification of transitivity features (Hopper & Thompson, 1980: 252)

	High	Low
A. Participants	2 or more participants, A and O.	1 participant
B. Kinesis	action	non-action
C. Aspect	telic	atelic
D. Punctuality	punctual	non-punctual
E. Volitionality	volitional	non-volitional
F. Affirmation	affirmative	negative
G. Mode	realis	irrealis
H. Agency	A high in potency	A low in potency
I. Affectedness of O	O totally affected	O not affected
J. Individuation of O	O highly individuated	O non-individuated

It should be pointed out here that Hopper and Thompson have generated these parameters from different bases, e.g. Feature A is only concerned with the structural composition, while the other features are of more semantic orientation. At the same time, features A to G could hardly be said to be on a scale, e.g. the number of participants (Feature A) in a clause is always expected to be at least one and at most three Participants in English; the items B-G and J show a common feature of polarity between positive and negative dichotomically rather than a degree scaling from high to low or vice versa, as mostly encoded in the features H and I.

With these features, Hopper and Thompson states that when they are taken together, the clauses can be characterized as more or less transitive: the more features a clause has in the "high" column in A-J, the more transitive it is. They illustrate this point with examples like (1),

(1) a. *Jerry likes beer*

b. *Jerry knocked Sam down*

According to their analysis, (1)b demonstrates at least five properties at the High end (see (2) below), while 1a has only one, i.e. Participants = 2 participants, and all the other features involved in (1)b are missing or at the Low end. Thus, clause b is more transitive than clause a.

(2) Kinesis: action

Aspect: telic

Punctuality: punctual

Affectedness of O: total

Individuation of O: high; referential, animate, and proper

Since the presence or absence of an Object is only one of the parameters (*viz.* Feature A) in their scheme, the limiting attention of transitivity only based on the verbs in traditional grammar, and the view of dichotomizing verbs into transitive vs. intransitive in terms of the presence or absence of an Object (e.g. SVO vs. SV sentences) are ostensively rejected as they stated:

> "And just as a clause may have an overt second participant, and still be aligned with the intransitive clause, so also it may lack a second participant, and yet have Transitive feature. Because **Transitivity is not dichotomous, but is a continuum (**my emphasis), it follows that clauses lacking an overt O must be locatable somewhere on this continuum; but it does not necessarily follow that such clauses are situated at the extreme intransitive end." (Hopper and Thompson, 1980: 266)

This principle is further illustrated in the following examples (3) and (4).

(3) *Susan left.*

Kinesis: action.

Aspect: telic.

Punctuality: punctual.

Volitionality: volitional.

(4) *Jerry likes beer.*

Participants: two.

Based on the conditions, they conclude that the former has a higher degree of transitivity be it that it has an intransitive structure (SV) in traditional grammar, due to the fact that the rate of the respective properties of high transitivity in (3) and (4) is four to one but not otherwise. Hopper and Thompson note that these component features of Transitivity co-vary extensively and systemically with morphosyntactic processing. They present a vast number of examples originated from different

languages showing morphosyntactic affinities among various components of Transitivity. For example, they find that the "O-marker" "*A*" in Spain in Example (5) indicates that the Object is not only human or human-like, but also referential, as opposed to merely definite. Thus, with this O-marker "*A*", the Individuality of the clause (5)b is sharpened and hence a higher Transitivity in this respect:

(5) a. *Busco mi hat*

I seek my hat

"I'm looking for my hat."

b. *Busco A mi amigo.*

I seek my friend

"I'm looking for my friend."

The other co-variations include the suffix "*-koo*" on O with definiteness in Hindi; the Chinese aspectual feature – the *ba-structure* – fronting the O; the ergative case signaling the perfectiveness in Tibetan, etc. With these pervasive morphosyntactic affinities in all the languages, Transitivity will become "a crucial notion for understanding a very wide range of correlations which recur in the grammars of languages" (Hopper and Thompson, 1980:279).

Although the scalar notion of transitivity has been widely recognized (e.g. Kalmάr, 1982; Tsunoda, 1985; Olsen & Resnik, 1997; Medina, 2003, to name just a few.), Hopper and Thompson have been criticized for regarding the ten transitivity parameters as equally important in terms of their relevance to the morphosyntactic manifestations of high or low transitivity or at least failing to decide which of them

could be of more importance than the others. For example, Tsunoda (1985) argues that different parameters are manifested in different areas of grammar and thus they need to be ranked in terms of their relevance to morphosyntactic correlates. In manifesting a transitive case frame, for instance, he argues that (I) Affectedness is crucial, but (E) Volitionality and (H) Agency appear to be irrelevant. Medina (2003) combines some of the components and keeps six parameters (e.g. Participants, Agentivity, Object and affectedness, etc.) as the most objective ones in the measurement of *cardinal Transitivity*[iii]. Furthermore, he prefers the notion of "prototypical transitivity" to "cardinal transitivity" and defines it as follows:

> The prototypically transitive clause describes a telic state of affairs with a well-defined inherent terminal point, where a controlling volitional agent initiates an action (presented as bounded), which results in the total affectedness of a highly individuated object (i.e. definite and referential) (Medina, 2003:354).

2). Hopper and Thompson (1980, 1982) recognize the scalar property of transitivity and assume that every effective clause can be located at a certain place along the continuum according to how many properties of high or low transitivity it embraces. They believe that transitivity should be explained in terms of degree, i.e. more or less transitive, rather than in terms of truth, viz. in the binary terms of being transitive or intransitive, which is characteristic of the traditional approaches to transitivity (e.g. Lyons, 1968, Quirk, et al, 1972/1985, etc.). This preference recalls the fundamental differes between functionalism and formalism or structuralism debating whether the grammar is characteristic of discreteness or non-discreteness.

Methodologically, the binary view of transitivity invites an analytical method and interprets the verb *per se* based on the conditions of its surrounding components, e.g. whether the verb is followed by an object or not. In contrast, Hopper and Thompson claim that there exists an extensive and systematic co-variation of the component features mainly derived from semantics and pragmatics and hypothesize that "If two clauses (a) and (b) in a language differ in that (a) is higher in Transitivity according to any of the features 1A-J, then, if a concomitant grammatical or semantic difference appears elsewhere in the clause, that difference will also show (a) to be higher in transitivity" (1980: p.255). In other words, the grammatical or semantic markings of transitivity would co-vary in the clause in the same direction with respect to cardinal transitivity (1982: 4). The co-varying characteristic of cardinal transitivity thus requires a statistical approach to determining the degree of the transitivity in the clauses. Noticeably, statistical correlation between the general degree of Transitivity resulting from the relative morphosyntactic processing and discourse functions become the main concern in discourse analysis in terms of cardinal transitivity theory.

3) Hopper and Thompson stress that the real significance of the identification of the universal devices which reflect the degree of transitivity lies in the capability of transitivity being correlated with communicative function at discoursal level. They emphasize that the co-variation of independent semantic properties and morphosyntax would be of little significance without relating to a functional framework as they state:

> In other words, we assume that a linguistic universal originates in a general pragmatic function, and that the universal is not explained until this function has been isolated and related to the universal. Without the connection to a

communicative function, the separate components of the Transitivity relationship have only an arbitrary relationship to each other; we lack a reason why these semantic-grammatical components, rather than others, should be selected. (1980:280)

Drawing on the grounding theory[iv], Hopper and Thompson recognize through the investigation of three texts a general tendency that clauses with more high transitivity features occur in foregrounded discourse, while those with fewer high transitivity features occur in backgrounded discourse. In addition, each high transitivity feature also correlates with foregrounding, as summarized in the statistics in (Table 2.2) (1980:288).

Table 2.2 Statistics of transitivity features in relation to fore/backgrounding (Hopper & Thompson, 1980: 228)

		Foreground	Background
(A)	Participants	76%	18%
(B)	Kinesis	88%	49%
(C)	Aspect	88%	27%
(D)	Punctuality	55%	10%
(E)	Volitionality	76%	36%
(F)	Affirmation	100%	92%
(G)	Mode	100%	66%
(H)	Agency	--	--
(I)	Object Affectedness	39%	12%
(J)	Object Individuation	--	--
Average of all features		78%	39%

Hopper and Thompson state that “foregrounding” is not marked absolutely but indicated and interpreted on a probabilistic basis; and the likelihood that a clause will receive a foregrounded interpretation is proportional to the height of that clause on the scale of transitivity (Hopper and Thompson, 1980:284). Following the same suit,

Kalmár (1982) tests the validity of Hopper and Thompson's claims for Czech language and also provides many statistic counts (see Table 2 to 10 in his paper.)

To sum up, Transitivity forms a cline in Hopper and Thompson's model, determined by the various morphosyntactic affinities with the component features of Transitivity. Transitivity is the feature of the clause rather than the verb. It is not only determined by the effective transfer of the action from an Agent (A) (subject) to the Patient (O)(object), but by a number of interconnected semantic dimensions (e.g. its telicity, volitionality, etc.). Among other grammatical properties, transitivity plays the central role in the grammaticalization of discourse functions, viz. foregrounding and backgrounding in narrative discourse. Transitivity with its scalar property provides an entry to statistical observation of discourse. Hopper and Thompson's multifactorial, scalar view has been refined and developed by many other researchers. In the sections to come, Tsunoda, Givón and DeLancey are selected for further attention.

2.2.2 Affectedness scale: Tsunoda (1985) *Remarks on Transitivity*

In line with Hopper and Thompson (1980), Tsunoda (1985) also presents a scalar system of case marking frames exemplified in 10 languages and proposes a transitivity scale under three conditions, i.e. in terms of transitive case frames, affectedness, and four syntactic processes. First of all, Tsunoda presumes that there are three widely attested case patterns: (a) nominative-accusative pattern, (b) ergative-absolutive pattern and (c) neutral pattern. Each case pattern has its corresponding transitive case frame, and hence NOM-ACC, ERG-ABS and NOM-NOM respectively. For instance, English has a nominative-accusative pattern, and thus has a NOM-ACC transitive frame. Take *kill* for example, its transitive frame will be NOM

kill ACC. For the other case patterns such as NOM-DAT and NOM-LOC, Tsunoda designates them as non-transitive.

It seems that Tsunoda's all-or-none distinction between transitive and non-transitive case frames contradicts what he calls "the affectedness hierarchy", by which he assumes that transitivity of the two-place predicates can be arranged in a decreasing order in the following terms based on "affectedness":

> Type 1: Direct effect on patient (subtype 1A: resultative; 1B: non-resultative)' → Type 2: Perception → (Subtype 2A: patient more attained; 2B: patient less attained) Type 3: Pursuit → Type 4: Knowledge → Type 5: Feeling → Type 6: Relationship → Type 7: Ability. (Adapted from his case-marking table in p.388)

On the one hand, the author claims that "a transitive case frame must involve prototypical transitive verbs" and only verbs subsumed under subtype 1A are prototypical. This excludes the verbs subsumed under all the rest types of meaning as transitive. On the other hand, however, he acknowledges the gradient feature of transitivity in terms of "affectedness" in the following terms: The patient is affected at the left end of the table, but it tends to be less and less affected as we move towards the right end. Thus, the patient is more affected in Type 1…than in Type 2…and so on. In addition, the order of degree of affectedness also seems subjective and problematic. For example, when he compares the two subcategories of Perception: 2A and 2B, he cites Catford (1975:34) and claims that "In Type-2, the patient of, say, *see* 'to form a complete visual image' is more affected than that of *look.*" Clearly, this

result arises from what point of view you are taking. The reason is that when volitionality or intention is taken into consideration, the degree of transitivity would be naturally reversed, i.e. 2B may be more affected than 2A. In addition, it seems hard to speculate that one can form a complete visual image by "*seeing*" but can't by "*looking*". From a different perspective, Givón (1993: 109) relates the verb *see* and other mental verbs to Dative subjects and thus "less transitive".

The four syntactic processes Tsunoda proposes refer to passivization, antipassivization; reflexivization and reciprocalization. Tsunoda claims that they are more easily applied in Type 1, but that they are less likely to apply as we move on to the right end. However, the apparent problem is that these syntactic processes are applicable differently in different languages, for example, passivization in English can apply in Type 1 through 5, but not in Type 6 and 7, while, as mentioned in the paper, in Warrungu, a language spoken in Australia, antipassivization, reflexivization and reciprocalization can only apply in Types 1, 2 and 3, but not in any other type. Apparently, these four syntactic processes are in nature in consistent with the morphosyntactic process of Hopper and Thompson but more restricted in application.

To sum up, Tsunoda attempts to set up a scalar model of Affectedness. Nevertheless, his assumption of transitive case frames and his resort to syntactic processes seem to go in the other direction, in other words, it tends to capture transitivity as something discrete rather than non-discrete.

2.2.3 Prototypicality: Givón (1984, 1990,) *Syntax I & II*; (1987) *Beyond Foreground and Background*; (1993) *English Grammar*.

Givón (1984: 12ff.) describes that the prototype theory is a "hybrid solution" to bridge, or a "compromise" between, the two extremist approaches to looking at semantic/cognitive/functional space within the Western tradition: one is the Platonic point of view considering "categories of the understanding" as discrete, absolute and pristine (Chomsky 1965, 1968; Bickerton 1981; Russell 1905, 1919; Carnap 1947, 1959, etc.), as shown in Diagram 12 (Givón, 1984:13); the other is represented by "late" Wittgenstein (1953), who holds that categories are not discrete and absolute but rather fuzzy-edged and contingent upon the context/purpose of their use and a "family resemblance" relation may hold between the various members of the same category, see Figure 2.1 (ibid).

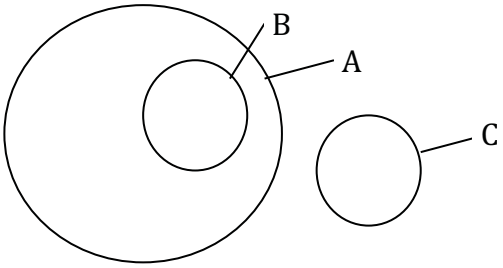


Figure 2.1 Discrete categories

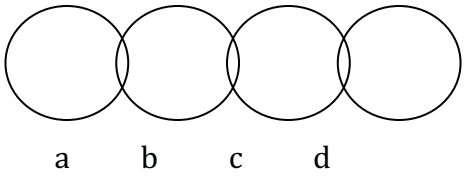


Figure 2.2 Fuzzy-edged categories

In Figure 2.1, A is the criteria property determining categorical membership. B possesses the property and hence a member of this category, while C does not possess the defining property and thus a non-member. Therefore, the distinction between the categories is clear-cut and discrete. In Figure 2.2, however, *a* may share properties with *b, b* may share some properties with *c,* and an analogy may also be drawn between *c* and *d,* etc. Category *a* and *d* may share no properties at all. There exist fuzzy areas between the properties. The categorization of membership in these fuzzy areas hinges on context.

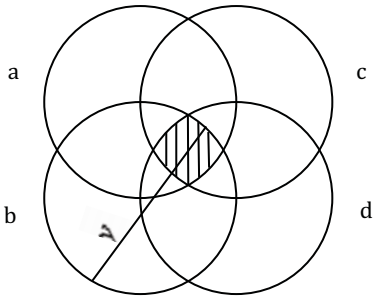


Figure 2.3 Prototypical categories

The linguists (e.g. Lakoff 1987; Lakoff and Johnson 1980; Ross 1972; Givón 1984, 1993; among others) agree that there is a great measure of categoriality in human language, e.g. lexical items, morphemes, and syntactic constructions. They also notice the fuzziness between categories. However, they think that the fuzziness registers as a non-discrete continuum space rather than "family resemblance" displayed in Figure 2.2, and that "categories within the continuum space are formed at intersections of a number of – sometimes many – 'characteristic' or 'typical' features/properties, properties that tend to coincide statistically/probabilistically, but do not always coincide absolutely" (Givón 1984:14). The intersection can be diagramed as Figure 2.3 (ibid).

The shaded area in Figure 2.3 represents members possessing all four "characteristic" properties. They are the *prototypes,* "the most typical" members of the category, which display the greatest number of those properties. If we draw a line *y,* starting from the central prototypical area outwards, it will cross the areas with overlapping of 4 properties to 1 property in turn. This line can stand for the continuum line (space) on which the categories change from "the most typical" (prototypical) to "the least typical" (non-prototypical). The categorical continuum may thus be characterized by degree of prototypicality. It is noteworthy that this prototypical model might imply a pyramid-like or hierarchical structure of the distribution of categories, which questionably reflects the real categorization of language. In his later works, Givón (1995:228) clearly points out:

> The majority of members display a great number of the clustered features. They thus closely resemble the prototype. In statistical terms, such members distribute within close proximity of the population's mean. But a minority of the membership may display fewer of the characteristic features; they are less like the prototype, and are further away from the population's mean.

Based on the prototype theory, Givón (1993) defines both prototypical transitive clauses and prototypical transitive verbs in semantic terms as follows:

> [1] Semantic definition of the prototype transitive clause:
>
> a. Agentivity: The subject is a *deliberately acting agent*
>
> b. Affectedness: The direct object is *a concrete, visibly affected patient*
>
> c. Perfectivity: The verb codes a *bounded, terminated, fast-changing* event that took place in *real time*. (p.100);
>
> [2] The prototype transitive verb is thus characterized correspondingly by three features
>
> a. Subject: The subject is a *volitional, acting agent*
>
> b. Object: The object is a *concrete* patient that registers the *physical effects* of the agent's action
>
> c. Verb: the event coded by the transitive verb is a *bounded, fast-changing action*. (p.106)

The semantic features of the prototype transitive clause in [1] are encoded in the four scales of transitivity-related properties Givón proposed earlier (1984:153n). They are the agentivity scale, the patienthood scale, the perfectivity scale and the referentiality/topicality scale. Out of the four scales, Martínez (1999:26) argues that only the patienthood scale characterizes the transitive pattern exclusively, while the other three scales reflect some generality in all types of clauses.

The compromising view of combining the syntactic and semantic definitions of transitivity has also been taken up by Taylor (1989), who maintains that a construction should be viewed as "the pairing of a specification of form with a specification of meaning" (Taylor, 1989:198) and formulates the transitive construction as the formula "NP1 Vtrans NP2", where "NP1" and "Np2" stand for the subject and direct object, and "Vtrans" refers to a transitive verb. In its prototypical instantiations, both NPs have specific reference, while the verb is realis, i.e. affirmative and indicative, and in a reporting tense (either present or past)" (Taylor, 1989:206).

Givón (1984:17n) points out that the prototype interplays with "metaphoric extension" in order to "assign a new category to every new context" or generate less or non-prototypes of categories, which are sensitive to context and, in principle, potentially infinite. He says that metaphoric extension operates bi-directionally. For example, an indirect object (in Givón's terms, the object following a preposition) can be *promoted* to "direct object" and becomes "more important". Thus the affectedness has also increased.

(6) *semantically literal*	*viewed as metaphoric patient*
He rode *on* the horse	He rode the horse
[horse is location]	[horse is patient]
[horse is less controlled]	[horse is more controlled]
[horse is less affected]	[horse is more affected]

(Givón 1984:20)

The opposite process is also possible in the grammar of transitivity. The prototypically transitive can be *demoted* to be less prototypical by various means, such as omission of the object, nominalization of the verb, etc.:

(7) *prototypically transitive*	*metaphorically demoted patient*
a. He ate *the fish*	He ate (regularly)
b. We hunted *the deer*	We went deer-hunting
c. He drank *the beer*	He drank (a lot)
d. He collected *the garbage*	He is a garbage-collector

(Givón 1984:21)

2.2.4 Cognitive approach: DeLancey (1987): *Transitivity in Grammar and Cognition*

DeLancey investigates the significance to linguistic and cognitive theory of some semantic and morphosyntactic parameters in connection with transitivity, which are suggested by Lakoff (1977) and Hopper and Thompson (1980) respectively. With the acceptance of Hopper and Thompson's viewpoints that a clause which has one of the short list of semantic features (cf. Section 2.2.1, Table 1 above) will be morphosyntactically more like a canonical transitive clause than an otherwise

identical clause which lacks that features, and that transitivity shows a high degree of correlation with foregrounded information in narrative and procedural discourse, DeLancey argues that it is easier to explain the discourse phenomena identified by Hopper and Thompson in terms of the prototype semantic model suggested by Lakoff[v]. Further, he proposes that the use of discourse context in interpreting sentences in connected discourse amounts to using the discourse context as a substitute for real-world context. Accordingly, he concludes that the semantics of both clause- and discourse-level constructions are rooted in a level of cognitive representation prior to either of them, in other words, both semantic and discourse-functional facts are "reflections of the underlying cognitive schemata, rather than being derivative one from another." This point is illustrated by a discussion of the difference between two motion verbs *come* and *go*:

(8) Earl Richard is a-hunting *gone*

(9) He rode till he *came* to his lady's house

DeLancey expounds that the use of *go* and *come* here marks locus of action. While the latter typically describes a motional event involving motion toward the location of the speech act, or location whose position is clear to the speaker or hearer, the former describes motion oriented in any other direction, which is less identifiable without specifying. Thus, he claims it is "the use of 'come' in narrative to establish a center of attention" (DeLancey, 1987:57). In this way, he stresses that categorizing has recourse to cognition.

As far as transitivity in discourse is concerned, DeLancey argues that the correlation between transitive clauses and foregrounding in discourse reflects the cognitive salience of the event type coded by such clauses based on the familiar distinction between *event* and *state.* It follows that:

> It is therefore not the case that the morphosyntactic expression of transitivity is informed by its discourse function, nor that the discourse patterning can somehow be explained in terms of linguistic aspects of the clause type, but rather both directly reflect aspects of cognitive categorization. (DeLancey, 1987:56)

With respect to Hopper and Thompson's statistical presentation of the correlation, DeLancey criticizes that there lacks a constant coding relation between any one of the transitivity parameters and foregrounding. He points out that although Hopper and Thompson's investigation of English data shows a high rate of occurrence of transitivity parameters (by an average of 78%, cf. §2.2.1, Table 2) in foregrounded clauses, a huge 39% occurrence of high transitivity is still identified in backgrounded clauses as well. He also proves his argument in Tomlin's (1983) terms that if there were direct causal relationship between presence of transitivity and foregrounding, the figures of that feature should approximate 100% (high transitivity) and 0 (low transitivity).

By means of suggesting the feasibility of a cognitively-based semantic account of transitivity complex, DeLancey argues that a number of Hopper and Thompson's statements about the discourse function of various transitivity parameters can be

rephrased as psychological rather than purely linguistic. That is, among others, events can be understood as encoded in the salience of the speaker or hearer's perception rather than morphosyntactic features. However, Halliday and Matthiessen (1999: x) assert that cognition should be explained by reference to linguistic processes rather than vice verse.

To sum up, the WCF approaches conformably subscribe to the fundamental tenets, as discussed in Section 2.1 (p.20). Although they are different in many aspects, they all put great emphasis on the way of categorizing transitivity as characteristic of non-discreteness and statistically profiling the correlation between transitivity and discourse. It should be noticed that many WCF approaches make more attempt to uncover the universal features of transitivity among different languages, or to deal with what Halliday (1973, 1989) calls the 'dialectal' variation, but less attempt to identify the 'diatypic' (or regiter) variation. It is Halliday (1967/8; 1985, 1994, Halliday & Matthiessen, 2004) who has brought us a revolutionary understanding of how the social reality can be interpreted in a 'natural' grammar. As Butler (2006:701) comments, 'Halliday has always been concerned more with social and cultural motivations than with those related to psychological/cognitive processes: indeed, the social dimension is more strongly developed in SFG than in any other functional theory."

Chapter Three

Systemic functional approach to transitivity

3.1 Introduction

The functional approaches recognize that transitivity is the central property of language use and involves all the components of the clauses (Hopper, 1980) and that the *centrality* or *prototypicality* of the categorical status characterizes *a matter of degree*. This stance opens up the possibility to statistically explore transitivity in a broader context, as aforementioned. A good case in point is Hopper and Thompson's investigation of transitivity in narrative discourse. However, as aforementioned, their approach is criticized to be "still too ingrained in the abstract, ontological levels of language. Its relationship to the real world is still not clear and the function that its complex transitivity table plays in the description of actual situations is diffuse" (Calzada, 1999:45).

In systemic functional linguistics, function is one of the two fundamental components of the theory, the other one being system. Transitivity, as aforementioned, is located in the experiential function. Although Matthiessen (1995) also distinguishes between nuclear transitivity and circumstantial transitivity (see Section 3.3.4 for more details), the distinction is not made based on external factors to language and the functions themselves do not take the burden of value degree as they are in WCF. Instead, systemic functionalists (Martin & Matthiessen, 1990) put more emphasis on the systemic typology and topology of transitivity resources in order to display the prototypicality of the functions in systemic functional model. Different from the WCF

approaches, which define some factors carrying higher value of transitivity than others, so that transitivity is always located at a continuum demonstrating a topological feature. In contrast, SFG prioritizes the typological view of transitivity over the topological view on the ground that the typological patterns will be more explicitly related to register variation. The prototypicality in SFG is concerned with topology, or the fuzziness of categorization of the different patterns of transitivity, which serves as an important driving force for the development of a more delicate description of grammatical systems.

3.2 System and structure

As pointed out by Robins (1953:109), Firth has indicated how system and structure should be distinguished. However, Halliday holds that the two is both distinct and related. In no surprise, Halliday's stress on the integration of system and structure[vi] is in accordance to what Harris criticizes the orthodox linguists of their dwelling on the dichotomies – "language vs. parole, system vs. use, synchronic vs. diachronic and linguistic community vs. individual speaker" (1997:235). In contrast, Halliday's theory of grammar is "at one and the same time an interpretation of the system and an interpretation of the texts that are engendered by that system" (Thibault, 1987:611). "System" is conceived to be the underlying model, from which the "structure" is derived and instantiated the selections of the options from. The system-structure circle constitutes the internal forms of the language, while the notion of "metafunction" captures the relationship between the internal forms and its use in contexts of social action, which is what is usually called "semantic". Semantic is treated as a third level distinct from the system-structure circle (Halliday, 1981:15) and is seen to be located

at the interfacing level between context and lexicogrammar in the stratified model of language (Halliday, 1973; Martin, 1992; Halliday & Matthiessen, 1999).

Transitivity within systemic functional grammar has consequently been largely broadened in its purview and is pertaining to semantic, system and structure all at once. In the first place, transitivity is considered as the major constituent of meaning-making resource used for the construal of our **real experience** in the world in terms of what we do and see and how we interact with the world. It is always simultaneously stranded with the other two sorts of resources: mood and modality, and theme-rheme, etc., to construe the other two types of meaning: interpersonal and textual (Halliday, 1985, 1994a; Matthiessen, 1995a). In the second place, transitivity is shaped as a *system*, a sub-system of lexicogrammar, affecting not only the verbs serving as processes but also the entities as participants and the peripheral elements as circumstances (Halliday, 1985, 1994; Matthiessen, 1995; Halliday and Matthiessen, 2004). Within the system, under any entry condition, the options are contrasting with each other. In this sense, the grammar of transitivity is also a part of "choice" grammar to be realized in configurational structures, in which the "functions" (e.g. Actor, Goal, etc.) play their own roles.

As realization of the experiential metafunction, the interplay of the transitivity system and the instantiation of the choices from the system represents the manageable part of the semiotic space semiotising our experiences of the real world around us and that of our inner mind. The manifestation of this part of semiotics is the manageable set of "process types" and "circumstances" at the level of lexico-grammar, as stated in Halliday and Matthiessen (2004):

> Thus as well as being a mode of action, of giving and demanding goods-&-services and information, the clause is also a mode of reflection, of imposing order on the endless variation and flow of events. The grammatical system by which this is achieved is TRANSITIVITY (original emphasis). The transitivity system construes the world of experience into a manageable set of PROCESS TYPES. Each Process type provides its own model or schema of construing a particular domain of experience as a figure of a particular kind. (p.170)

> …typically, they occur freely in all types of process, and with essentially the same significance wherever they occur….As far as meaning is concerned, we used the expression 'circumstances associated with' or 'attendant on the process', referring to examples such as the location of an event in time or space, its manner, or its cause; and these notions of 'when, where, how and why' the thing happens provided the traditional explanation, by linking circumstances to the four WH- forms… (p. 260)

In systemic functional grammar, "lexico- (lexis)" and "grammar" (Halliday, 1961) are considered as a whole and existing in the same continuum. Clause is located at one end at which general process is realized as a "figure"[vii], i.e. the configuration of a process (verbal sense), participants and attendant circumstantial elements. Within the clause, each component represents a selected option from the system, with one selection conditioning and constraining the other. At the other end, "lexis" is taken as the "most delicate grammar" (Hasan, 1987). Subsystems of transitivity encoded in the verbal groups can be represented on the "scale of delicacy" (Matthiessen, 1995, 2010; Tucker, 1996; Neale, 2002).

In Halliday's model[viii], "the clause is the locus of transitivity"; "each clause constitutes a particular process with no one having priority over the other" (Halliday, 1979:77). Discrimination between "transitive" and "intransitive" becomes only a small part in the overall picture of transitivity systems: it is only overtly related to the particular pattern of transitivity – the "material" process. In the meantime, the features identified in previous approaches, viz., "prototypicality", "centrality" or "transitive degree", have also received much attention, concerning which Halliday has recognized and defined the feature of "indeterminacy" or "fuzziness" (1993). It explains that the process types may be blended into a circular continuum (c.f. Fig. 3.4 on Page 70), which shows that "behavioural" blends "material" and "mental"; "verbal" blends "mental" and "relational"; and "existential" blends relational and "material". Martin and Matthiessen (1995) propose another way that the transitivity system can thus be modeled both typologically and topologically. In this model, the classical clear-cut categorization and the inherent indeterminacy seem to de-contradict and complement each other. The indeterminacy will be further explored in Chapter Six. Some other semantic features are redefined and reshaped into the SFL transitivity system, for instance, the features, "agentivity" and "affectedness", have been reinterpreted in the *agency system* under the *ergative system*, a complementary interpretation to transitivity with regard to the construal of experience.

The rest of this section will be divided into two parts: one deals with transitivity in systemic model, the other in functional model. It must be clearly stated that the distinction drawn here does not mean that "function" and "system" are two separated components in the framework of systemic functional grammar. Rather, they are integrated with the pair of notions "instantiation" and "realization". One possible

reason for the distinction is that there is a *de facto* difference between these two components in several aspects. Firstly, they cover different range of the language system. In the stratified model of language, "systems" exist at every stratum, like, phonological systems, grammatical systems, semantic systems, and so on. Transitivity system is only a small part of the "system networks", but inherently related to the others. Secondly, they are realized in different axis: transitivity system is realized in the axis of *choice* (paradigm), while transitivity functions entering into a configuration (figure) is realized in the axis of *chain* (syntagm)[ix]. Thirdly, the options of the transitivity system together with those of mood system and thematical system simultaneously determine the clause structure. In other words, functions in the clause are fully derivable from system of options in the three major systems: each one of these sets of options by itself can determine a different set of structural functions. For example, Actor, Goal and Beneficiary are functions derived from the transitivity; Subject, Predicator and WH-element from Mood; and Theme, Rheme from Thematic options, etc. Thus, when transitivity system is singled out for description, it presupposes that the other two systems work simultaneously, while their functions are particular to each group to realize the options of their choices from the systems.

The other reason might be that the first two editions of Halliday's biblical book *Introduction to Functional Grammar* (IFG) (1985/94) are devoted to the "functional" part of systemic functional grammar, as the author puts it very clearly in the preface to the first edition, "Since it was being written specifically for those who are studying grammar for purposes of text analysis, I did not include the systemic part: that is, the system networks and realization statements […]" (1985: x). He also clearly denies that the naming of "functional grammar" has deviated from the motif of the theory as

systemic-functional grammar. Thus, it is not surprising, in the revised third edition (Halliday & Matthiessen 2004), many figures of systems are added especially for summary purposes, which is an extremely meaningful attempt to gap what some other systemicists (e.g. Fawcett, 2004) criticize as a "striking discrepancy" between Halliday's statement that the system networks have priority, and the unavailability of systemic descriptions. As a matter of fact, Matthiessen (1995a) produced an important work, *Lexicogrammatical Cartography: English Systems (LCES henceafter),* in which the author relies on the systems of English grammar as its organizing principle. These different orientations at least suggest that it is feasible to separately present the description of language system and language structure in related to transitivity although they are in nature the two sides of a coin. The following review will follow this distinction and examine the evolution of the notion of transitivity with development of systemic functional linguistics in a rough chronological order.

Section 3.3 will cover the main features concerned with transitivity in the systemic part of systemic functional grammar. The description of transitivity from the systemic perspective constitutes the most important part of Halliday's early conceptualization of systemic-functional model, which is presented in his seminal work *Notes on Transitivity and Theme in English* that was finished in three years (1966-1968). This is known as a big step in Halliday's conception of transitivity and the whole framework of systemic functional grammar. Section 3.4 concentrates on the notion of transitivity from the perspective of "function", also originated in Halliday's works published in the 1960's, which was not fully developed until the publication of IFG in 1985.

3.3 Transitivity in the Systemic Model

3.3.1: Halliday (1961, 1964, 1969a, 1969b): From "Scale-and-Category" grammar to "Systemic Grammar (SG)".

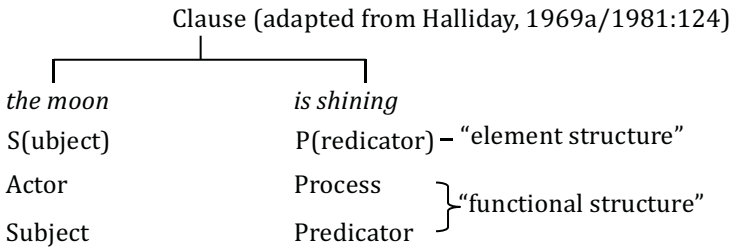
In the previous section, we attempted to delimit the boundary between systemic grammar and functional grammar for the convenience of reviewing, and reasoned out the distinction from three perspectives. The tradition to distinct between system and function for description purpose can also be traced in Halliday's drawing on Hjemslev's idea of "system and process", the inheritance of the term "system" used by Firth, his later indebtedness to the works of Malinovsky, Firth, Whorf and Bernstein especially with respect to the idea of "function in context" and "socio-semiotics".

From a retrospective point of view, two collections of papers chart the development of systemic functional grammar during the two decades: the 1960s and 1970s. Kress (1976) and Halliday and Martin (1981) present to us a clear development of Halliday's conceptualization of the theory currently known as systemic functional grammar. In *Categories of the Theory of Grammar* (1961), Halliday intends "to suggest…the fundamental categories of that part of General Linguistic theory which is concerned with how language works at the level of grammar" (1961/76: 37). He says: "The relevant theory consists of a scheme of interrelated categories which are set up to account for the data, and a set of scales of abstraction which relate the categories to the data and to each other" (ibid). This refers to the *Scale-and-Category* (S&C) theory, which turns out to be the cornerstone of the systemic grammar. In this model, Halliday for the first time put forward four categories (i.e. *unit, structure, class* and *system*) and three scales of abstraction (i.e., *rank, exponence and delicacy*).

Halliday defines *unit* as "the category set up to account for the stretches (of language activity) that carry grammatical patterns" (1961/76:57). This notion has already occurred in another paper in which he states that there are two universal units in all languages: the "sentence" and the "word", and three more in English: the "clause" and "group" between the previous two units, and the morpheme below the *rank* of word. So "the term *rank* is used for the position of the unit in the hierarchy" (1960:7). It represents a relation of "*consist of*", "from top (largest) to bottom (smallest), each consists of one, or more than one, of the units next below (next smaller)" (1961/76:57). Thus sentence is said to "consist of" clauses, and clause to "consist of" words. Thus the concepts of "unit" and "rank" are inseparable. The full set of units proposed for English is: sentence (replaced by "clause complex" in Halliday's later works), clause, group/phrase, word and morpheme. Each rank becomes the point of origin for a system in the system network.

Halliday states that "In grammar the category set up to account for likeness between events in successivity is the *structure.* If the relation between events in successivity is syntagmatic, the structure is the highest abstraction of patterns of syntagmatic relations (1961/76:59)". It seems to be in this respect that Halliday's S&C was regarded as a "grammar of syntax" (Fawcett, 2000; Neale, 2004). But different from the other syntactic grammars, Halliday's recognized the multivariate nature of the syntax. Halliday recognizes two types of structure: one is that of an arrangement of elements ordered in "places", i.e. in linear order; the other is of different elements being distinguished by some "relation" (1961/76:59). This relation in the clause is designated as that of "function" later as he points out "The terms 'element (of structure)' and function (in structure)' are not synonymous, […] The components of a

structure are referred to as ELEMENTS; but each element is a bundle of one or more FUNCTIONS" (Halliday, 1969a/1981:124). Thus, for example, the structure of the clause *the moon is shining* can be presented as:



The *class* "is that grouping of members of a given unit which is defined by operation in the structure of the unit next above," and accounts for "the fact that it is not true that anything can go anywhere in the structure of the unit above itself" (Halliday, 1961/76:61). For example, the element "the moon" belongs to the "nominal" class of the unit "group" and functions in the "clausal" structure as S(ubject) and C(omplement) as well. The *class* is set up to account for a paradigmatic relation. It refers to the fact that all the nominal class can be used as S and C, in other words, for the structural element S or C, one member is selected from the finite group of items "at risk" under certain conditions.

The scale of *delicacy* is related to class as well as structure. With delicacy, Halliday refers to the class members in a one/one relation to the structural elements in "primary structure" as belonging to the "primary" class. If the class can occur at two places in a grammatical structure, but some group members can only occur at one place, they are not co-extensive with the other group members that occur at the other place. Thus the class can be differentiated more delicately, and hence the "secondary" class. Noticeably, "delicacy" becomes a crucial notion in Halliday's later works in relation

to system network, in which delicacy corresponds to the ordering of systems from left to right by means of entry conditions.

Halliday designates *system* as the category accounting for "the occurrence of one rather than another form among a number of like events" (1961/76:67). At this stage, system is only treated as one of the four fundamental categories at the same level of language. As Fawcett notes that "it [It] was in fact Halliday's later changes to the status of this concept that fundamentally altered the theory set out in 'Categories'into Systemic Functional Grammar" (2000:20). The changes are reflected in Halliday's later works (1964, 1966, 1969b, 1974), among which the article entitled *Some Notes on "Deep" Grammar* (1966) is one of the most significant attempts. In this article, Halliday redefines the notion "system" and puts great emphasis on the paradigmatic axis and its relation to function. Halliday states that "the system may be glossed informally as a 'deep paradigm', a paradigm dependent on functional environment […]. A system is thus a representation of relations on the paradigmatic axis, a set of features contrastive in a given environment" [original emphasis] (1966/2002a:110). At this moment, the importance of the "paradigmatic relations" became juxtaposed with that of "syntagmatic relations". This position, however, was soon rejected. The paradigmatic relations had become so important in the theory that Halliday could write:

> The grammar is based on the notion of choice […] The speaker of a language, like a person engaged in any kind of culturally determined behaviour, can be regarded as carrying out […] a number of distinct choices.

> […] The grammar of any language can be represented as a very large network of systems. (1969d/76:3)

This has become one of the fundamental principles of the systemic grammar. Halliday stresses later that "One of the things that distinguishes systemic grammar [from other functional grammars] is that *it gives priority to paradigmatic relations* **[**my emphasis]: it interprets language not as a set of structures but as a network of SYSTEMS, or interrelated sets of options for making meaning" (1994a:15).

Up to this point, there is the last notion – *exponence* – to deal with. This term is defined as "the scale which relates the categories of the theory, which are categories of the highest degree of abstraction, to the data (1961/76:71). This notion is renamed as "realization" later and indicates a symbolic relationship between content and expression. SFG is in nature a "realizational" grammar as Halliday (1994a:15) states:

> The grammar, in this broader sense of lexicogrammar, is the level of "wording" in a language. The wording is expressed, or REALIZED, in the form of sound or writing; […] the wording REALIZES patterns of another level "higher than" itself – but still within the system of language: the stratum of SEMANTICS [original emphasis].

S&C is the immediate source from which SG develops. Following Firth's system-structure theory, "system" and "structure", or "syntagmatic" and "paradigmatic" relations are juxtaposed in S&C. In SG, "system" is elevated from the four categories and given priority; the most abstract representation at any level is in paradigmatic

terms, while syntagmatic organization (or "structure") is interpreted as the "realization" of paradigmatic features. In addition, as Halliday (1994b: 4505) concludes, the other notions retained include "rank", "realization", and "delicacy". "Rank" is constituency based on function, and hence "flat", with minimal layering; "delicacy" is a variable of paradigmatic focus, with ordering form more general to more delicate; "realization" is the relation between the "strata" or levels, or a multistratal semiotic system – and, by analogy, between the paradigmatic and syntagmatic phases of representation within one stratum.

During the following two decades or so after the publication of his seminal paper S&C, Halliday (1963, 1964, 1966, 1967, 1969a, b, c, d) and his colleagues (Hudson, 1965, 1981; Hudson, 1974; to name a few) keep on rectifying and enriching the systemic grammar. Butler (1989:2) has charted this history very well in chronological order in the table entitled *Systemic Linguistics 1960-1988*.

3.3.2 Halliday (1964): English System Networks: Transitivity

Halliday's early attempts to the "systems" of language, such as the S&C theory turn out to be abstract and abstruse. This has been criticized (e.g. Butler, 1985:25) as "poorly exemplified". In 1964, however, Halliday came up with a series of figures showing the various system networks, which are presented in Kress (1976) under a single section entitled *English System Networks.* The system network indicating how transitivity might be modeled is reproduced at Figure 3.1.

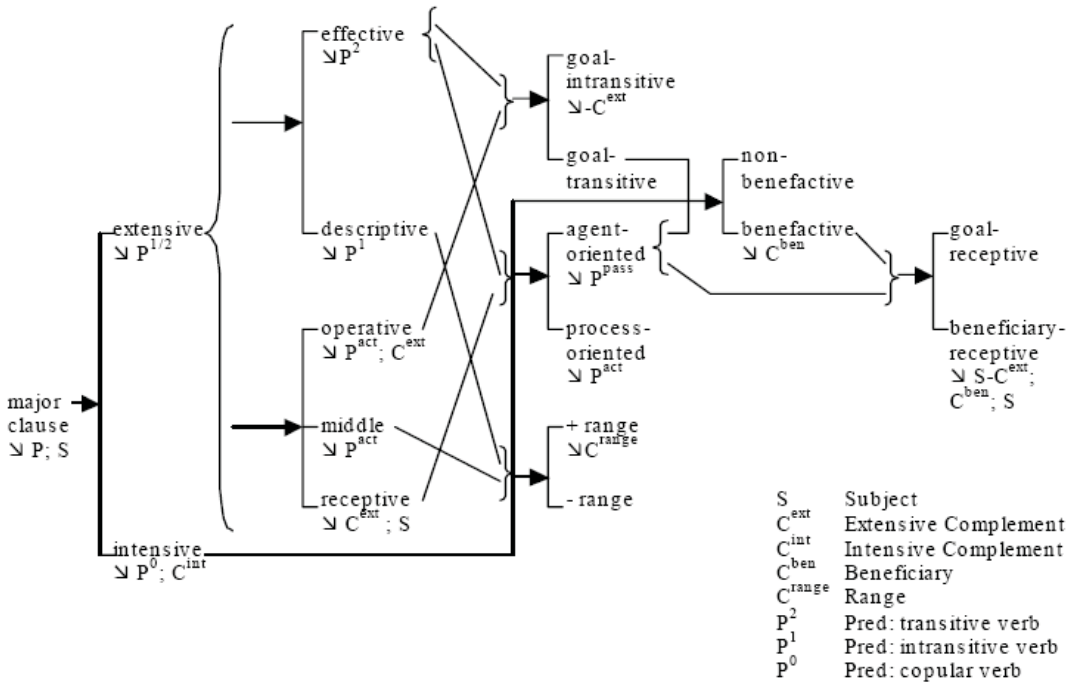


Figure 3.1 'Systems of the Clause: Transitivity' Halliday 1964/76:110

Figure 3.1 indicates some crucial points. Firstly, the clauses are divided into the "extensive" and "intensive" clauses. The extensive group is associated with clauses of "action", the intensive with clauses of "being". Similar to other approaches, the "extension of action" is also the starting point of origin of transitivity in earlier SFG. Secondly, the mixed labeling with syntactic symbols – S, P, and C – and semantic symbols clearly indicates the influence of both the traditional "syntactic transitivity" and "semantic transitivity" (Martínez, 1999:17) on Halliday's conceptualization of a systemic one at the moment. This approach is apparently inherited from the S&C theory, wherein the use of one or more superscripted features to a structural element is "an attempt to mapping the 'relations' into the structure". As will be shown, it is maintained till the 1967/68 paper (see the clause types *i* to *ix* in the next section). Thirdly, this figure reflects Halliday's insightful and innovative view of transitivity, which makes him stand out among the other functionalists. This is due to the fact that

he represents transitivity in a "system". The system shows a cline of delicacy. When one traverses the system, the starting point is the least delicate, that is, the leftmost item. For example, when "extensive" is selected, then you need to choose for the "extensiveness" between "effective" and descriptive"; and simultaneously for the "voice" among "operative" "middle" and "receptive"; if "effective" and "operative" are selected, then two further options – goal-intransitive and goal-transitive – are to be distinguished, etc. This not only sets transitivity into the system networks of English language[x], but also prepares the way for future expansion of transitivity system, e.g. the addition of Process types.

3.3.3 Halliday (1967/8/2005b): Notes on transitivity and theme in English, Part 1, 2&3

On many occasions, Halliday (Thibault, 1987:602, Halliday, 1994:4505) owes his indebtedness to J. R. Firth and Hjemslev for the view of language as a system. He asserts that "the grammar takes the form of a series of ***system networks***" (original emphasis) (1967/2005b:5). To strengthen the systemic orientation, a full list of notational conventions for systemic description is also provided in this seminal paper in the first instance (1967/2005b:6). He starts the discussion with delimiting "transitivity" in a way different from any other previous approaches, either syntactic or semantic. He writes, "The transitivity systems are concerned with the type of process expressed in the clause, with the participants in this process, animate and inanimate, and with various attributes and circumstances of the process and the participants" (1967/2005b:7). He also alludes that a similar pattern of transitivity can also be found at a lower level, when he continues by saying that "None of these is necessarily restricted to expression by transitivity in the clause; process and

attribution, for example, may both be expressed in the nominal group, as in *a moving target, a happy girl* (ibid).” This aspect has been very well advanced in Cardiff grammar (Fawcett, 1980, 1987, 2000).

Halliday reiterates that the underlying description (of transitivity) is in terms of features, not of structure. These limiting features (being “limiting” because many more features are identified later) refer to the grammatical features, such as “ergative”, “nominative”, and “accusative”, as well as the semantic features including “extensive”, “intensive”, “effective”, etc. (see Figure 3.2 below). In addition there are some “informal” semantic terms, like “Actor” “Goal”, “Attributant” and “Attribute”, etc. In order to distinct them from grammatical features, the first letters of these semantic terms are in capital forms. In contrast to the 1964’s model, the two groups of semantic terms play different roles in their representation of the transitivity system, the terms of the first group are used only to present the transitivity in system, as indicated in Figure 3.2, or bracketing.

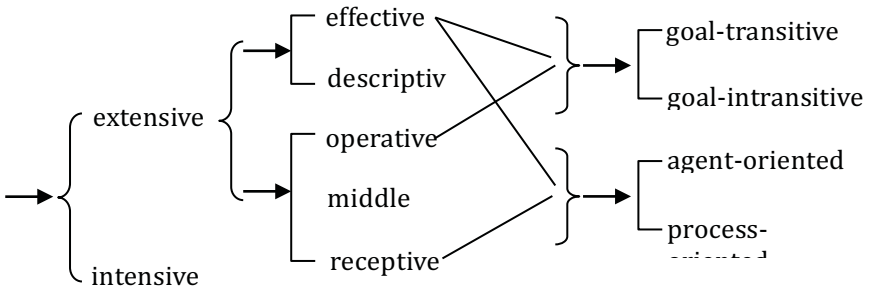


Figure 3.2 ‘Action’ transitivity (from Halliday, 1967/2005:16)

When compared with Figure 3.1, the striking difference is the detachment of the element labels for “structure” from the system networks. The significance of this detachment can never be overstated in that it not only predicts the future dominance

of systemic description of the grammar of clauses in English, but also the grammar is first and foremost a meaning (semantic, but structural) potential.

The "informal" semantic terms do not appear in the system any more, but only be mapped into the structure. Interestingly, only these "informal" terms are retained in the syntagmatic presentation of transitivity in later works of systemicists, see Section 3.3 below. S, P, and C, as noted above, are the elements of structure. Their positions in the syntagm are stable, as shown in the clause types below. Halliday takes an *a posteriori* approach and meticulously checks out all the possible combinations of clause types in terms of the extension ability. Finally, he identifies nine clause types as reproduced below (Halliday, 1967/2005:17):

(i) {extensive : {effective: I_1, goal-transitive /operative: I_1}}

$S^{erg}P^{2,\ act}C^{ext}$ *She washed the clothes*

(ii) {extensive : {effective: I_2, agent-oriented / receptive: I_2}}

$S^{acc}\ P^{2,\ pass}$ *The clothes were washed*

(iii) {extensive : {descriptive / middle}

$S^{nom}\ P^{1,\ act}$ *The prisoners marched.*

(iv) {intensive}

$S^{acc}\ P^{0,\ act}C^{int}$ *She seems happy.*

(v) {extensive : {descriptive / operative}

$S^{erg}\ P^{1.act}C^{ext}$ *He marched the prisoners.*

(vi) {extensive : { descriptive / receptive }

$S^{acc}\ P^{1,\ pass}$ *The prisoners were marched*

(vii) {extensive : {effective / middle}

$S^{nom}\ P^{2,\ act}$ *She washed (sc. "herself")*

(viii) {extensive : {effective: I_3, goal-intransitive / operative : I_3}}

$S^{erg}\ P^{2,\ act}$ *She washed (sc. the clothes)*

(ix) {extensive : {effective: I_4, process-oriented / receptive: I_4}}

$S^{acc}\ P^{2,\ act}$ *The clothes washed*

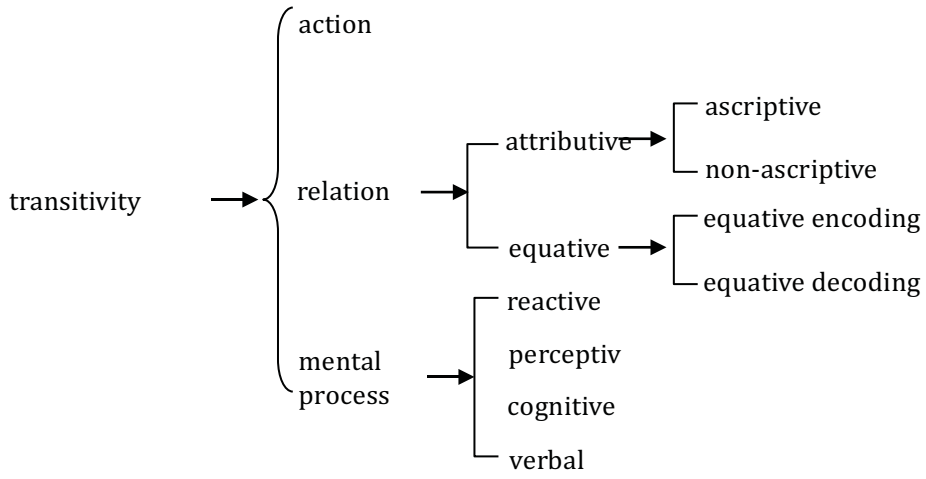
(* ":" indicates hierarchy; "/" simultaneity, and "I" marks an intersection. For other notional conventions, see the list in the lower right corner of Figure 3.1 above)

In addition to the breakdown of the integrated presentation of transitivity system (1964) into three types: system, bracketing, and structure, Halliday (1967/68/2005:19) rearranges the nine clause types in a Y-shaped matrix, with an intention to contrast these clause types from different perspectives. This is a meaningful attempt to represent the system otherwise. However, as Fawcett notes (2000), this multiform presentation of transitivity is to be very quickly abandoned by Halliday.

This "quickness" is proved in Part 3 of the 1967/68 paper. We can see that only "system" from among the four forms is retained in this part. It is in this part that Halliday departs from the "nuclear transitivity" (the only field covered by other theories) and sets out to expand the scope of transitivity. He points out that "it (transitivity) can be seen to be part of a wider domain extending over the whole of the experiential component of clause organization and embracing the full set of structural functions: not only Actor and Goal, or their equivalents, but also (all the newly identified circumstantial elements in Part 1 including) Beneficiary, Range, Attribute, Instrument, Manner, Time, Place …" (1968/2005:112). This attitude sets off both a

"deep" investigation of the "Actor-Goal" analysis, and an "extensive" exploration into the ways to represent the experiential meaning. The "deep" investigation results in Halliday's keen perception of the relationship between the systems of transitivity, theme and mood (this is particularly treated in Part 2 and Part 3); and also his introduction to and insightful finding of the complementary "ergative" model for interpreting transitivity. The ergative model will be handled in Section 3.3.5 below. The "extensive" exploration leads to Halliday's addition of two other fundamental process types – the mental and relational processes – into the transitivity system. The system networks can thus be simply reshaped in Figure 3.3. Syntagmatic descriptions of the processes are to be seen in Section 3.3.3.2 and 3.3.3.3 respectively.

Figure 3.3 transitivity system network (adapted from Halliday, 1969/1976:172)



Up to this point, we will move to the "ergative" model, which Halliday believes to turn up in all process types in English language (1994:164).

3.3.4 Halliday (1966, 1967/68, 1970, 1985/94); Davidse (1992): the complementarity between the transitive model and the ergative model.

Looking back to the clause types listed above, we can at least group (i), (ii) and (ix); and (iii), (v) and (vi) respectively. For convenience of discussion, the latter group is reproduced as follows:

(9) a. *He marched the prisoners.*

b. *The prisoners were marched.*

c. *The prisoners marched.*

Experientially, it is "the prisoners" who marched in all the three cases, so they are the same ideationally-based. However, with the transitive analysis, as can be seen in the corresponding clause structures listed above, the functions labeled to "*the prisoners*" are different: they are a "complement", "accusative" and "nominative" respectively; or "Goal", "Actor" and "Actor" in Halliday's (1985) later terms.

In order to resolve this ambiguity, Halliday introduces the ergative model to generalize the three types of action, whereby the process is structured on the basis of just one variable, the "affected", known as the "Medium" latter. According to Halliday, it is the "Medium" that relates to the source of the process: to tell if the process is brought out from within or from outside. In this way, "*the prisoners"* in all the three clauses is regarded as the "Medium", through which the action is actualized. In contrast to the transitive model, which is concerned with the extension of the action, the ergative model concerns with causation or instigation, i.e., whether the action is instigated by an external actor, like Examples 9a and b, or by the "affected" itself. In this model, the Medium is the sole obligatory participant. Halliday predicts that the ergative system can generalize all process types and asserts that the "Medium

+ Process" nucleus is "the predominant pattern" in modern English (Halliday, 1967/68:15). Noticeably, this is in direct contrast with the typological perspective (e.g. Anderson, 1976; Dixon, 1978) from which the languages are distinguished between ergative and nominative ones based on the case-marking system. English is not considered as an ergative language but a nominative language.

Davidse (1992:118) comes to grips with the differences between the transitive and ergative system and finds out among others within the transitive paradigm, the Goal has no semantic relation to the process, i.e. the process is done to it, but it cannot "do" the process itself. The Goal is thus an "inert" affected participant. While within the ergative model, the Medium co-participates in the process with the Agent: the Medium itself does the action, as well as something is done to it. This difference can be illustrated in the examples below:

(10) John threw the ball

(11) a. John opened the door

b. The door opened

With the *do-probe,* as Halliday (1985) does, we can say "what John did with the ball was throw it", but not "what the ball did was throw it". By contrast, both "what John did was open the door" and "what the door did was open" are acceptable. Thus, Davidse concludes clause (10) is transitive, while clauses 11a and b is an ergative pair. By this comparison, among other conditions, Davidse suggests the grammar of material processes is Janus-headed: that is, it is governed by the two distinct systems of transitivity and ergativity.

3.3.5 Matthiessen (1995a): Nuclear transitivity and circumstantial transitivity

Fawcett (2004) points out that despite the undoubted importance of "systems" in SFG, Halliday himself (except 1964/76) has published remarkably few full sets of system networks. This may be due to the two possible reasons: for one reason, Halliday devoted his early works to the conceptualization of the "ineffable" grammatical categories. This can be seen in his rectification and reshuffling of some fundamental notions such as the elevation of "system". The other reason might be that Halliday privileges the "functional" part of SFL and finds it more appropriate to present the "functional grammar" in "structure" than in "system". Halliday explains about the scarcity of "systems" in the foreword to *An Introduction to Functional Grammar* (IFG) that "it was being written specifically for those who are studying grammar for purposes of text analysis, I did not include the systemic part (1985:x)". In that book, the systems have been put back since all the functional structures are considered to be "derived from" them. If the short of presenting system networks in Halliday's writing were regarded as a weak point, LCES (1995a) would then be proved as extravagant in this respect in which he presents an abundance of networks. Just as the name "cartography" indicates, figures (systems), graphs and tables pervade this book; some of them are familiar to us, but many are new. Undoubtedly, Matthiessen has succeeded in showing the readers with a very clear pictorial image of English systems, which are in nature extremely abstract.

Matthiessen treats human experience in the real world as a series of "phenomena", which can be abstracted out by means of the experiential metafunction, and then decomposed and configured into grammar via the transitivity system. In line with Halliday's (1985/1994) functional foundations, Matthiessen divides the domain of

experience into a field of consciousness, a field of happening and doing and a field of being and having, but he depicts the fields of experience slightly. He distinguishes between the internal and external consciousness as Halliday does not. This leads to four major domains of experience in his model, which are respectively governed by four process types, namely, material, mental, relational and verbal. Creatively, Matthiessen (1995a:207) has integrated the ergative system by name of "Agency" into the transitivity system networks and makes the Agency system a simultaneous one with the system of process types. This has advanced Halliday's (1985/94) treatment of the ergative system: the ergative system is not simply considered as complementary to the transitivity system, but an indispensable part of the system network. Consequently, the presentation of the intersection of agency/ergativity and process type can be one-tier in replacement of two-tier in that the two systems are integrated, for example,

They played tennis.

Medium/ Actor	Proc.	Range

The news made her very happy.

Agent/ Attributor	Proc.	Medium/ Carrier	Range/ Attribute

(Matthiessen, 1995a:208)

In terms of the participants' degree of involvement in the process, Matthiessen designates the process type system plus the Agency system to be the "nuclear transitivity" system. The "circumstances", such as CAUSE and MANNER etc., tend

to be more independent from process type and Agency. They are treated as 'circumstantial transitivity and posited to be at a cline with the nuclear transitivity (1995a:206). Matthiessen (1995a:200) shows the different involvement of the participants in the process in comparison with those in the circumstances in such examples:

> *The farmer shot at* the duckling: *The farmer shot* the duckling.
> *The door opened because of* the wind: *The wind opened* the door.
> *He heard about* the news: *He heard* the news.

He points out that they differ in at least two aspects: on the one hand, it is the participants rather than the circumstances that have the potential to become Subject; on the other hand, semantically, the participants are more affected by the action than the circumstances. Since the "nuclear transitivity" and "circumstantial transitivity" will be taken up again in details in Section 3.3.3.4, through 3.3.3.6. We will turn our focus onto another important aspect discussed in LCES – this concerns what Halliday (1995/2005a) calls the "indeterminate" or "fuzzy" features of natural language.

Matthiessen recognizes four major process types and points out that for each process type, there are some prototypical cases: the core types of doing & happening, saying, sensing, and being & having (1995a:221-228). These can be differentiated by means of the probes depending on such conditions as tense selection, types of participants, and possibility of projection, etc. However, there are also more borderline cases which might have the features of two different prototypical process types. This indeterminacy may go between two prototypical types, and hence two possible

interpretations available. Matthiessen illustrates this point in the following two situations:

(1) The similar meanings can be presented with different process types,

It warmed up (material)

It grew warmer (relational); Second, (Matthiessen, 1995:221)

(2) The same clause can be explained differently.

The teacher / taught / the student /English (cited from Halliday, 1976)

⇨ Actor + Process + Goal + Range (from causative perspective)

⇨ Sayer + Process + Receiver + Verbiage (from ergative perspective)

The above types of ambiguity can often be resolved in their contexts. The more indeterminate cases lie in the typological model of process types. In passing, this has already been implied in the systemicists' disagreement with how many process types can be involved to cover the semantic "space", for example, Halliday has three in his early writings (e.g. 1967/68; 1976, etc.), but six from 1985 on; Matthiessen (1995a) has four; while Fawcett (1980) recognizes as many as ten process types. For this research, we will follow Halliday's model, which has also been acknowledged by Matthiessen when he revises the IFG in 2004. In LCES, Matthiessen classifies these indeterminate cases under five semantic domains: the domain of existence, enhancement, extension, elaboration and conscious processing and tabulates all the possible intersections of domains and process types (see Table 4-12a in LCES, pp. 24-225). Typologically, Halliday (1985/94; with Matthiessen, 2004) recognizes three types of processes: verbal, behavioural, and existential (see, Section 3.3.3.4-6 below).

For the discussion of indeterminacy in other systems, see Martin and Matthiessen (1995). Matthiessen also compares the typological and topological presentations of the process type system (see. Figure 7.1)

The third and last characteristics of Matthiessen's model of transitivity system is that he pushes Halliday's framework for "relational" transitivity towards lexical output, thus near the goal of "lexis as most delicate grammar". For each major process type, Matthiessen will provide a table of "subtype" of Process or "verb sense" in Fawcett's terms. Since lexis is not the focus of this research, it will only be referred to in the proper context.

3.4 Transitivity in the functional model

3.4.1. Metafunctions

As aforementioned, function is a fundamental concept of the theory of systemic functional grammar. The functions in the syntagmatic configurations are manifested in the clause as the realization of options simultaneously selected in the three systems of transitivity, mood and theme. Within the theory, *clause* is the central processing unit in the lexicogrammar in the sense that it is in the clause that the three fundamental meanings: ideational, interpersonal and textual are stranded into an integrated grammatical structure. For the range of the three functions, Thompson (2004: 30) summarizes as follows:

- We use language to talk about our experience of the world, including the worlds in our own minds, to describe events and states and the entities involved in them [ideational].

- We also use language to interact with other people, to establish and maintain relations with them, to influence their behaviour, to express our own viewpoint on things in the world, and to elicit or change theirs [interpersonal].

- In using language, we organize our messages in ways that indicate how they fit in with the other messages around them and with the wider context in which we are talking or writing [textual].

It is the transitivity system that constitutes the principal realizing system that construes human experience of the outside world and inner world into a manageable set of process types. In Halliday's (1967) seminal writing "*Notes on Transitivity and Theme, Part 1*", he provides a limited description of process types (limited, when it is in comparison with his later related description in Halliday, (1985/1994a) and Halliday and Matthiessen (2004). In this paper, Halliday has already introduced the "factual-notional structure of the clause in its entirety. In other words, all those features of the clause that contribute to the linguistic representation of the speaker's experience (1966/1976: 159). Here, he recognizes processes concerned with "doing", relating to action, 'thinking', to perception, and "being", to description and identification. They constitute the three major process types and later labeled as "material", "mental" and "relational" processes respectively. The agents or goals of the process, e.g. Actor, Attributor, etc., are inherent. In other words, when the process types are decided, the participants will be autonomously involved.

3.4.2. Halliday (1985/94), Halliday and Matthiessen (2004): *An Introduction to Functional Grammar*

First of all, it will be useful to briefly recapture what has already been made explicit by Halliday about the different process types in IFG in that they constitute the basic criteria for us to distinguish one clause from another in terms of transitivity. Halliday recognizes three main process types, namely, material, relational and mental. They are the prototypical forms of three different kinds of experience. Different from all the other functional approaches, which hold the views that transitivity is to be distinguished between "transitive" and "intransitive" or that each clause can be located at a particular place along the cline of transitivity in terms of degree with reference to some external factors, Halliday and Matthiessen (2004: 171) point out that "There is no priority of one kind of process over another" and that process types are represented as a continuous semiotic space, but the continuity is not between two poles, it is round in a loop. The underlying and fundamental reason is that in systemic functional grammar, the transitivity system is treated as a pool of options (or functions or semiotic resources) to be exploited for construing experience, rather than only a grammatical structure or semantic qualities embodied in syntagmatic organization. This semiotic space is diagrammed in Figure 3.4.

However, the distinction between the categories is far from clear-cut. As Halliday and Matthiessen (2004: 172) state, "The regions have core areas and they represent prototypical members of the process types; but the regions are continuous, shading into one another, and these border areas represent the fact that the process types are fuzzy categories." The fuzziness has been noticed a few years earlier (e.g. Halliday, 1995, 1996, 2002a; Martin & Matthiessen, 1995, etc.). The notion of fuzziness is more related to system networks and computational studies and will be retaken in

Chapter VI. At the moment, we shall briefly present the grammar of the six process types as separated categories in the rest part of this section.

3.4.3. Halliday and Matthiessen (1999; 2004): PROCESS TYPES

The transitivity structure consists, in principle, of three components: participants, process and circumstances, among which, participants and process are obligatory and constitute the "experiential center". Halliday and Matthiessen (2004) recognize the distinction between these two elements in deep grammar and find that these two elements construe two complementary facets of a *quantum of change*[xi] – transience and permanence – in terms of time, with the former being encoded in process and the latter in participants. In contrast, circumstances are optional and constitute their own system. In other words, process is time bound and is to be finited, while the participants is time-free.

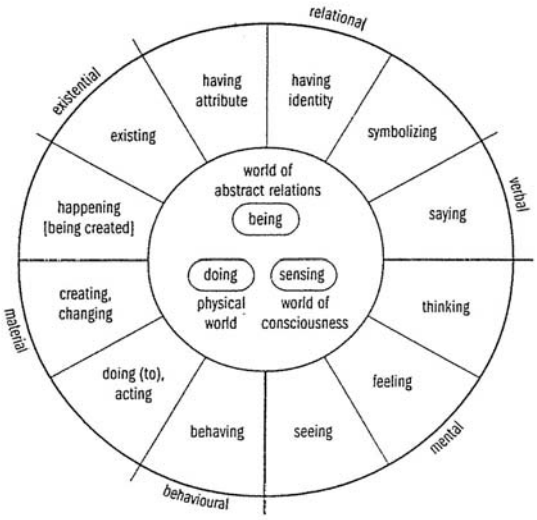


Figure 3.4 Types of process in English (Halliday & Matthiessen, 2004:172)

For a detailed account of the participant functions, see Table 5(18) in Halliday (1994a: 166). Next, I am going to give a more detailed account of the process types under this section. If the resources of the examples are not specified, they are all taken from Halliday and Matthiessen (2004).

3.4.3.1 Material Process

Material Process has to do with the experience of actions and events around the world, i.e. things happening or people doing things. The basic elements involved in a material process are Actor, Process and Goal. One dimension that Halliday and Matthiessen recognize to distinguish types of material processes is to see whether the action is "directed at" the Goal (representing as the "doing-type" clauses) or confined to the Actor (representing as the "happening-type" clauses). The former, in traditional terms, is considered as "transitive", while the latter "intransitive". Apparently, Actor is inherent in both clause types, either intransitive or transitive, while Goal is only inherent in the "transitive" clauses. This angle constitutes the "impact" entry in the system of material process and captures the same property as what Hopper and Thompson, and other linguists (cf. § 2.2.1-2) have identified as "affectedness".

Material Process characterizes the construal of "quanta of changes" as unfolding through distinct phases of time, with at least one initial phase and a separate final phase. The final phase of the unfolding is the outcome of the process. There are also two general properties to the outcome. One is that the outcome is a "coming into being". Clauses associated with this property are called "creative" clauses by Halliday and Matthiessen (2004, noticeably, the notions of "creative" and "transformative" do not appear in the earlier two versions). The other property is that the outcome is the

change of some aspect of the existing Actor ("intransitive") or "Goal ("transitive"). The related clauses are called "transformative" clauses. Since in whatever phase of unfolding, the clause could be either "transitive" or "intransitive", we can thus have four types of doing at this time (see Table 3.1).

Table 3.1 Types of doing: creative/transformative (Halliday & Matthiessen 2004: 184)

	intransitive	**transitive**
creative	Actor + **happen**	Actor + **do**
	What happened? e.g. *Icicles formed*	What did they do? e.g. *They built a house*
transformative	**happen to** + Actor, Actor + **do**	**happen to** + Goal; Actor + **do to** + Goal
	What happened to the icicles? – *They melted*	What happened to the icicles? – *The sun melted them.*
	What did Henry do? – *He ran away*	What did they do to Henry? – *They chased him away*

Within the material clause system (see Halliday and Matthiessen, 2004: 183. Fig. 5-9), the two functions – Actor and Goal – realize transitivity at the high level, as indicated in Table 2.1 above. While other participant roles, including Scope, Recipient, Client and Attribute enter the system in delicacy. These elements seem to be added into the systems and so more types of doing can be obtained as follows (see. p.189, Table 5(6)):

A. "Intransitive, creative" + **Scope (entity)** + **Client**

   e.g. *He played **us a tune**.*

B. "Intransitive, transformative: elaboration" + **Scope (entity)**

   e.g. *They played **the piano.***

C. "Intransitive, transformative: elaboration" + **Scope (process)**

   e.g. *They played **a game of tennis.***

D. "Intransitive, transformative: enhancement" **+ Scope (entity); + Place**

e.g. *She crossed **the room.***

*She crossed (the room) **into the opposite corner***

E. "Transitive, creative" + **Goal** + **Client:**

e.g. *They built **me a house**, or They built **a house for me***

F. "Transitive, transformative: elaboration" + **Attribute (resultative)**

e.g. *They washed the plates **clean.***

G. "Transitive, transformative: elaboration" + **Role (Product)**

e.g. *They cut it **into cubes***

H. "Transitive, transformative: extension" + **Recipien**t; +**Accompaniment**

e.g. *They gave **him** a house.*

*They provide the villagers **with food.***

I. "Transitive, transformative: enhancement" **+ Place**

e.g. *She threw it **across the room.***

Apparently, there are some inherent limits concerning the delicacy of the subsystems and the interaction of the options. For example, the "transformative" type of clauses covers a much wider range than the "creative" type. This is due to the fact that in "transformative" clauses, the outcomes of transformation usually need further depiction. These clauses are further distinguished between elaborating, extending and enhancing. In this way, they begin to shade into the relational clauses (cf. the relational process section below) and the circumstantial system (cf. Section 3.4.5). As noted in Halliday and Matthiessen (2004: 191), Fawcett (1988) treats clauses under *Type F* above as relational rather than as material. This kind of indeterminacy reflects the fuzzy nature of language.

Another characteristic of material process is the unmarked selection of the present-in-present tense (or *present progressive* in traditional grammar) rather than simple present. Thus, the clauses 1b and 2b are rare and should be attended with special interpretation.

(1) a. What is Mary doing at this moment?

* b. What does Mary do at this moment?

(2) a. She is watching television.

* b. She watches television. (Quirk et al, 1985: 199)

The present-in-present tense corresponds to the fact that the material process construes the quantum of change as unfolding through time. This implies duration between the initial and the final phases.

3.4.3.2. Mental Process

While "material" clauses are concerned with the outer experience of the world, "mental" clauses are concerned with the experience of our consciousness: thinking, feeling, wanting and perception. Halliday (1968/2005) recognizes two main participant roles in this process type, viz. "Senser" and "Phenomenon". In contrast to Actor, being either a conscious being or non-conscious in the material clauses, Senser is highly confined to be an entity with consciousness, typically a human being or an entity endowed with consciousness in a figurative way. However, there is no limitation to the other participant, Phenomenon. It can be a phenomenon of experience – a "thing" or a "nominalization", for example:

(3) Do you **want** *lasagna*? – Oh, I **hate** *lasagna*.

(4) Where Amnesty **found** persistent abuses.

Or it can be a "macrophenomenon", an act that is associated with the clauses of perception, and sometimes emotion.

(5) He **saw** the car speeding.

(6) He **likes** the car speeding.

The Phenomenon can also be a "metaphenomenon", or a "fact" which is typically related to the clause of emotion and perception; or an "idea" which is associated with the clauses of cognition (typically proposition) and desideration (typically proposal). The difference between them is that the "fact" exists in its own right as a semiotic phenomenon and can impinge on the Senser. Grammatically, the "fact" can be made Subject and be theme-predicated in a mental clause (see Example 7). In contrast, the "idea" is "projected" as a representation of the content of thinking, believing, presuming and so on. It cannot be subjectified or theme-predicated in the same way except that it is otherwise construed (see Example 8b & c). In fact, projection of this kind is more concerned with the logic meaning, the combination of the projected idea with the primary mental clause. The projection of an idea in mental clauses is analogous to "quoting" or "reporting" clauses of verbal process (cf. Verbal Process below).

(7) a. I'm not surprised [[he died thinking the novel was a failure.]]

b. [[(That) he died thinking the novel was a failure]] does not surprise me.

(8) a. I don't **believe** that endorsing the Nuclear Freeze initiative is the right step for California CC.

* b. [[that endorsing the Nuclear Freeze initiative is the right step for California CC]] is not **believed** by me

c. [[that endorsing the Nuclear Freeze initiative is the right step for California CC]] is unbelievable to me

In Halliday's (1968/2005:127) early discussion, "verbalization" is taken as one of the sub-types of mental process, mainly due to the two facts that before we say something, we must think, and that the verbal sense of saying can also project. It projects a report, e.g. *he said he was coming*. As is shown in Fig 3.1, verbal process has been relocated in the borderline between mental process and relational process in Halliday's later works. In addition to the difference in selecting a *phenomenon*, Halliday and Matthiessen (2004) have recognized some other criteria for distinguishing the type of sensing: for example, directionality (equal to *voice* in Halliday, 1994a), gradability and potentiality (related to interpersonal meaning and appraisal) and metaphorical modality (related to interpersonal metaphor).

In contrast to material process, the unmarked tense for the mental clauses is the simple present, for example:

(9) a. She likes the gift.

* b. She is liking the gift.

(10) a. Do you know the city?

* b. Are you knowing the city?

Just like the simple present tense being able to occur to a material clause as a marked use, the present-in-present tense can also occur to a mental clause, but this is less frequent and carries a special interpretation.

3.4.3.3. Relational Process

Halliday (1968/2005:37ff.) establishes relational process in the realm of transitivity through his discussion of the copular verb "be" and his insistence on the fact that "a verb will often be assigned to more than one transitivity class" (1968/2005:43). As a matter of fact, it is for the first time that the "copular" clauses have not been separated from the transitivity system[xii]. In his discussion, Halliday divides the copular verbs into four classes, among which two belong to the relational types: one class means "can be characterized as, has the attribute of being", the other means "identifies or is identifiable as, can be equated with". These constitute the two current modes: the "attributive" and the "identifying" (see Table 3.2 below). Following the transitivity system set out for the discussion of material process, Halliday maintains that the relational clauses cannot only be "intensive", i.e. in the form of "*x* characterizes *y*", with the voice being only active, but can also be "extensive effective", involving the opposition between "operative (active)" and "receptive (passive)" as material clauses. This is exemplified by the five interpretations of the clause "*John is the leader*" below. Since the lexical verb "be" itself has no passive form, an agnate verb "represent" is borrowed to manifest the covert difference.

Intensive

What is John? "what characterizes John?" (1) John is the leader

		Operative	receptive
Extensive			
Which is John?	"which does John represent?"	(2) John is the **leader**	(3) the **leader** is John
(Which = Complement)		John represents the **leader**	the **leader** is represented by John
Which is John	"which represents John?"	(4) the **leader** is John	(5) John is the **leader**
(Which = Subject)			

(Adapted from Halliday (1967/2005:40))

Cutting through the two modes, three types of relational clauses are recognized. They are intensive, circumstantial and possessive (Halliday 1985/1994a). The intensive clauses construe a relationship of "ascription" or "assignment", with an entity having some quality ascribed (attributive) or assigned (identifying) to it. The circumstantial processes construe a relationship between the two entities as time, place, accompaniment, manner, cause, role, matter or angle, and the possessive clauses construe a relationship of having or possession. Each type has its attributive and identifying modes, and thus the principal types become six, as shown in Table 3.2

In relation to our real life, the attributive clauses construe the relationship of "*class-membership*", for instance, *Sarah* can be considered as a member of the class of the wise people in the clause *Sarah is wise.* Here *Sarah* is labeled Carrier and *wise* Attribute. The Carrier is always a nominal group, while the Attribute can be a nominal group, typically indefinite or with an adjectival as the Head, or an adverbial group in the circumstantial type. The sequence of the two participants in the attributive clauses is not reversible, hence such clauses as *wise is Sarah* or *a piano has Peter* are

unacceptable. The exception is when the process is circumstantial and the Attribute is locational, for example, *at the center* in *at the center is Alice Springs.* This is referred to as "inversion" in traditional grammar.

Table 3.2 The principal types of relational process (adapted from Halliday 1994a: 119)

mode: / type:	attributive	identifying
Intensive	Sarah is wise	Tom is the leader; the leader is Tom
Circumstantial	the fair is on a Tuesday	Tomorrow is the 10th the 10th is tomorrow
Possessive	Peter has a piano	the piano is Peter's Peter's is the piano

The identifying clauses construe the "*identity*" relationship, i.e. one entity (Identifier) serves to identify the other (Identified). There is a relationship of "equation" between the two participants, and thus the sequence of the two entities is reversible. Halliday points out that being reversible does not mean a tautology, but involves the directionality of coding: the opposition between encoding and decoding. To illustrate the difference, Halliday has introduced the notions of "Token (labeled as "Variable" in 1967)" and "Value". As a result, the varied examples of "*John is the leader"* (2) – (5) can be reinterpreted as follows:

	operative				receptive		
(2) John	is	the **leader**	* (3) the **leader**	is	John
Identified/	Process:	Identifier/	Identifier/	Process:	Identified/
Token	active	Value	Value	passive	Token
Subject		Complement	Subject		Complement

(4) the **leader**	is	John	(5) John	is	the **leader**
Identifier/	Process:	Identified/	Identified/	Process:	Identifier/
Token	active	Value	Value	passive	Token
Subject		Complement	Subject		Complement

As Halliday and Matthiessen (2004:234) notice, the Token-Value structure tends to dominate in certain highly valued registers where the construal of the meanings is inherently symbolic, e.g. scientific, commercial, political and bureaucratic discourse. A summary of relational clauses can be found in Halliday and Matthiessen (2004:249f. Table 5(22))

3.4.3.4. Behavioural Process

As mentioned in Section 3.1 above, behavioural, verbal and existential processes are those located on the borderlines between the three major process types. About the status of these three process types, the linguists have not been in complete accord. In the beginning, Halliday (1967/8) just recognizes the three major process types, with "verbalization" subsumed under mental process, and "material" being represented by the three types of directed action, non-directed action and ascription. Matthiessen (1995a) recognizes four major process types and subsumes behavioural process under the material one, existential under the relational one. As Halliday (1988/2004:186) correctly puts it, "As always, it is difficult to find an appropriate term for the grammatical category. We have to understand it in the context of the relevant systemic contrast."

As shown in figure 3.4, behavioural process is recognized to be located between material and mental processes. It construes the physiological and psychological

behaviour, like breathing, coughing, smiling and dreaming, etc. Like material process, the usual unmarked tense for behavioural process is present-in-present, e.g. *he is laughing.* Nevertheless, it is also usual to say *why do you laugh?* in the tense of simple present, which suggests its connection with mental process. Although the behavioural process cannot project indirect speech or thought, it can introduce a direct speech, especially in fictional narrative as "*he chided*..." in Example 11:

(11) "Come, come" he **chided** with a sardonic smile as Julia **frowned** her incomprehension

From the perspective of participation, Matthiessen (1995) further separates behavioural processes into two groups. One group is of "intro-active" behaviour involving only one Behaver, typically, those processes that are confined to the self, e.g. *he hid himself behind the tree.* The other group is of "interactive" behaviour involving the co-participation of two conscious beings, e.g. *Henry and Anne chatted* or *Henry chatted with Anne.* The participant that comes after the process is analogous to the Scope of a "material" clause. It is called Behaviour, such as *her incomprehension* in the example above or the agnate nominal group *a song* in *she sang a song*.

3.4.3.5. Verbal Process

Verbal clauses are concerned with saying. The *Sayer* can be a conscious speaker as *Marie* in *Marie still blames herself for Patrick's death?* A nominal group that denotes a symbolic source, like the notice in the notice tells you to keep quiet can also realize it. In this respect, verbal processes might be more appropriately called "symbolic"

processes in that the Sayer can be anything that puts out a signal, like *the study says, the news reports*, etc. Actually, Martin and Matthiessen subsume both verbal and mental processes under the same category – semiosis as illustrated in Figure 3.5

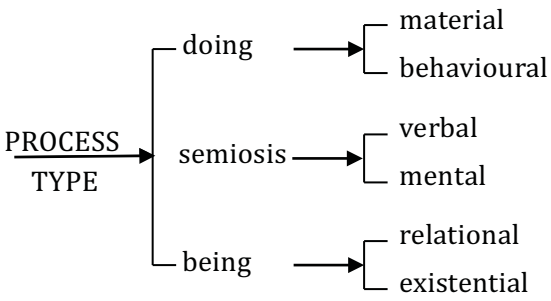


Figure 3.5 Process typology (Martin & Mattiessen 1995:363)

It is worth noting that the choice of the Sayer between as a conscious being and as a non-conscious being is closely related to tense selection. When the Sayer is a non-conscious being, i.e. a symbolic source, the tense of the clause can only be simple present. The "present-in-present" is unlikely: *the notice is telling*...would not occur. In this case, the verbal clause is more like a "relational" one. When the Sayer is a conscious being, the tense selection is more like that of a material process. Thus the first example can be expressed as *Marie is blaming herself for Patrick's death.* At this moment, the verbal process is closer to a material or behavioural process. It is from this particular perspective that verbal process is considered to be located between "relational" and "material/behavioural" processes.

Verbal clauses are also similar to a particular type of mental clause as mentioned above. These clauses can quote and report and are often used to develop accounts of dialogue or report. They are close to the projection of an idea with a mental process as illustrated in Examples 12 and 13. These two projected clauses are of proposition.

They project information. The other type of clauses projects goods-&-services, like order, promise or requirement, see Example 14. It seems that projection is able to directly interface the transitivity system and clause complexing, or the construal of experiential meaning and the construal of logical meaning.

(12). John said “I’m hungry”.

(13). John said he was hungry.

(14). John asked his wife to prepare dinner.

3.4.3.6. Existential Process

Existential clauses present that something exists or happens. The constructional nucleus of existential clauses consists of an existential process and an Existent, which is the only participant in this type of process, like *a dog* in Example 15. Unlike the other types of clauses, there is no possibility for this nucleus to “go through” to the right. However, it usually “opens up” from the left, so as to relates it to a weak *there* as Theme or Subject. The “there” makes no difference to the transitivity in that it cannot be an agent, or a patient (affected). Unlike participants and circumstances this existential *there* cannot be queried, theme-predicated or theme-identified. Thus the responses *a, b*, and *c* in Example 15 are unacceptable. However, this thematic status of *there* can be probed by a tag question as in 15*d.* Meanwhile, when the circumstantial element is thematic, the Subject *there* may be omitted as in 15*e*, but it will appear in the tag if there is a tag question.

(15). There is a dog on the sofa.

* a. Where is?

* b. It is there that a dog on the sofa.

* c. Where (What) is a dog on the sofa is there.

d. Isn't there?

e. On the sofa is a dog, isn't there?

Fawcett (1987:156) treats the thematic *there* as a "thematic build-up", a thematic device that announces that the substantive theme in the process of "being" is coming shortly. Davidse (1999) argues that "there" can function in some way as the anticipatory pronoun "it". It is apparent that the existential *there* does not refer to a concrete location as the deictic *there* and *here* do in Example 16 and 17. In these two examples, *your car* is the subject and here/there are adjunct whereas in the existential construction in 18, existential *there* is the subject and *a car* the complement.

(16). Your car is there/There is your car, isn't it?

(17). Your car is here/Here is your car, isn't it?

(18). *A car is there/There's a car, isn't there?

(Davidse 1999:236)

Existential clauses typically have the verb *be*; in this respect they resemble "relational" clauses. In Figure 3.1 above, we can see "existential" process is juxtaposed with "relational" in presenting the relation of "being". In addition, there are many other verbs. Halliday and Matthiessen (2004:258) generalize three groups of existential verbs: the neutral group encoding the meaning of "existing" and "happening", e.g. *exist, remain, arise, occur*, etc.; the group embodying some circumstantial feature, such as *follow, ensue, sit, stand,* etc.; and the abstract group

with a few verbs like *erupt, prevail,* etc. Davidse (1992b; 1999) distinguishes existential clauses between the "stative" aspect (*be, exist* etc.) and the "dynamic" aspect (occur, arise, appear, etc.) of "occurrence". In some sense, the stative clauses are more related to the "relational" clauses, while the dynamic ones to the "material".

To sum up, the six different primary process types have their own distinctive configurations. Although all the process types are of equal importance to be used in construing experience, they make distinct contributions to the construction of text: different process types are "favoured" by different text types (Matthiessen, 1999:14-15). One of our main attempts in this study is to investigate how the process types are distributed in the tourist texts of different registers.

3.4.5 Circumstantial Transitivity

As we have seen in Section 3.3.4, Matthiessen (1995) has set the "circumstantial transitivity" apart from the "nuclear transitivity: the system of process type and the agency". This is because "typically, the circumstantial elements occur freely in all types of process, and with essentially the same significance wherever they occur" (Halliday and Matthiessen, 2004:259-60). Fawcett (1987:138) also notes that there is a prime distinction between participant and circumstantial roles, such that the participant roles are specified by the transitivity network and the circumstantial roles are specified in a set of networks that are separate, though in some cases independent. Halliday and Matthiessen (2004:260) identified three differences between circumstances and participants: first, the circumstances are defined as the elements "associated with" or "attendant on" the process; while the participants are the "source" or the "affected" part of a process, and thus inherent; second, circumstances

in the mood grammar are the Adjuncts, whereas the participants can be either Subjects or Complements; third, their typical realisational forms are also different: circumstances are typically expressed by adverbial groups and prepositional phrases, while participants by nominal groups.

Although a circumstantial element is comparatively more independent than the participants in relation to the process types as a whole, it cannot stand on itself as process. It is in nature parasitic on the process. In this sense, the circumstantial elements or the circumstantial transitivity in Matthiessen's terms construes the experience together with the nuclear transitivity. Semantically, they are concerned with the notions of "when, where, how and why". Matthiessen (1995) identifies the agnation between the system of circumstantial transitivity with the logic-semantic relations and categorizes the circumstantial elements with the same motifs as follows: (i), enhancing circumstances (ii), extending circumstances (iii), elaborating circumstances and (iv), projecting circumstances. For the reason of space limitation, only a synoptic summary of circumstances is provided in Table 3.3. A detailed and more comprehensive summary of circumstantial transitivity can be seen in Halliday and Matthiessen (2004:236-63).

Table 3.3 A synoptic summary of circumstantial transitivity (adapted from Halliday, 1994:328)

	type	*wh*-item	examples of realization
enhancing	Extent	how far? how long? how many times?	for
	Location	where? when?	at, in, on…; at, until, since…
	Manner	how? what like? how much?	by, through…; in a … manner, separately…; like,

			unlike…; to a high/low…degree…
	Cause	why? what for? who for?	Because of, due to…; for the sake of…; in favour of….
	Contingency	why?	in case of…; short of…; despite, in spite of.
extending	Accompaniment	who/what with?	with, without; as well as
elaborating	Role	what as? what into?	as, in the form of…; into
projection	Matter	what about?	about, concerning…
	Angle		according to…

The circumstantial systems are simultaneous with the system of process types. Nevertheless, it does not mean that all circumstances are equally probable with all types of processes. On the contrary, certain combinations such as *material (process): motion (circumstance)* and *verbal or mental (process): matter (circumstance)* are much more likely than other combinations (Matthiessen: 1999). Further, frequencies of the selections of circumstances will also vary from one text to another, and, importantly, from one register to another. This forms the other important area I am going to investigate: how the resources of circumstantial transitivity are deployed in different registers and what is the importance of circumstantial transitivity for the interpretation of discourse (see further discussion in Chapter Six).

3.4.6 Summary

The great merit of Halliday and his collegues' contribution to the understanding of transitivity in language lies in the fact that he has not merely avoided the traditional dichotomic description of transitivity by presenting an integrated typological and topological view of transitivity systems, but more importantly, systemicists have greatly expanded the realm of experiential grammar by delineating Nuclear

Transitivity, which is realized in six process types, and Circumstantial Transitivity, which is realized are realized by various circumstance types. With no doubt, the Hallidayan model is so rooted in social interaction and so comprehensive that it becomes the most powerful theory for people to interpret how people use language to construe social experiences.

Chapter Four

Data and Methodology

4.1 Introduction

In this section, first of all, I am going to present the relationship between systemic functional linguistics and corpus linguistics regarding their common grounds with the intention of explaining why a corpus-based approach is recommended for a semantic study from the function-oriented perspective. Then, I am going to show how the data were collected; how the tourism corpus is processed; and how the corpus was annotated and what are the problems to be solved, and so on.

4.2 System and corpus

As it was suggested in Section 1.2, systemic functional linguistics and corpus linguistics tend to converge in some sense, as is suggested by Thompson and Hunston (2006:1) that "Systemic functional linguistics is increasingly concerned with methods of quantifying linguistic features, and corpus linguistics is becoming more intent on developing theories to account for its findings". When we take a retrospective look at these two influential and insightful linguistic theories in this era, we can see a lot of complementarity between them.

As is well known, the two key contributors to the development of the two important linguistic theories -- M. A. K. Halliday and John Sinclair --, inherit from J. R. Firth the same fundamental ideas about language. The first essential common ground is that both approaches investigate natural language or language in use. Both agree that

natural language is the direct representation of social interaction. However, their starting point is different, the functionalists start with the construction of various interrelated theoretical models in order to capture what the language could be, while the corpus linguists start with a large number of forms of the lexis and expect to derive the patterns of language use by making use of the computer readable data. The former takes a deductive approach, while the latter, inductive. In other words, the functionalists attempt to build up a dictionary of grammar from the investigation of individual texts in order to predicate what is going on in the infinitude of language use; while the corpus linguistics attempt to retrieve patterns from the 'sizable' textual data, "with as little attention as possible to theory" to "rebuild a picture of language and meaning (Sinclair 1992:6)". In passing, what is 'sizable' has changed considerably over the 40 years or so since the compilation of the first corpus in early 1960s

The second common ground lies in the conception of lexis and grammar being in the same continuum called 'lexicogrammar' by Halliday (1985/1994), and 'lexical grammar' by Sinclair (2000). In systemic functional grammar, lexis is the most delicate grammar. This point can be illustrated in the fact that a large portion of *Introduction to Functional Grammar* is contributed to the grammar 'below clause'. Sinclair (2000: 192) suggests that 'this initial division of language patterning may not be fundamental to the nature of language, but more a consequence of the inadequacy of the means of studying language in the pre-computer age' and 'lexis is not the residue of a grammatical description, but a different way of describing the same events (198)'.

Halliday (1992/2005a) further discloses the distinction between the systemic functional linguistics and corpus linguistics when he recalls in this way:

> In the early 1960s John Sinclair and I plotted to collect a corpus of spontaneous English conversation. […]. We work together on problems of grammar and lexis […]. But when we both moved and went in separate ways. Sinclair is by nature a lexicographer, whose aim is to construct the grammar out of the dictionary. I am by nature a grammarian, and my aim (the grammarian's dream, as put it in 1961) is to build the dictionary out of the grammar (p. 78)

The seemingly paradoxical goals of a grammarian whose aim is to build a dictionary and a lexicographer whose aim is to construct a grammar establish a solid complementarity between these two theories. Though, the 'dictionary' and 'grammar' in both approaches do not completely have the same connotations. In systemic functional linguistics, the 'dictionary' is represented as a model of language, depicting the 'grammar' as both 'system networks' and configuration of 'functional roles', or both a paradigmatic relationship and a syntagmatic representation of the choices of meaning in the networks. Corpus linguists do not attempt to construct a too theory-oriented grammar in the same sense of IFG or transformational grammar. At least, at this stage, corpus linguistics prefer "corpus-driven" studies to "corpus-based" (Togonini-Bonelli, 2001, Sinclair, 2004) approach in order to uncover the patterns of language use (e.g. Hunston & Francis, 1996, Pattern Grammar).

The third point is concerned with their attitude towards the quantitative features of language use. It cannot be exaggerated to put it that quantity is the life of corpus linguistics. The 'pattern' in corpus linguistics refers to the regular collocations or phraseology that are characteristic of high probability of 'occurring together' within a certain context. In other words, a pattern can only be established out of its high frequency in the corpus. As a matter of fact, all the key conceptions are frequency-based, like collocation, colligation, semantic prosody, keywords, keyness, etc. Corpus linguistics views language as an unfathomable pool of instances of occurrence. The way to investigate has recourse to sampling and the starting point is to observe the patterning of "collocations" and "colligations[xiii]" to form the theories of language description, such as Sinclair's (1991; 1996) "units of meaning" and Hoey's (2005) "lexical priming". Systemic functional linguists relate quantitative features to the options in the 'systems'. Systemcists view language as meaning potential that can be represented as system networks with sets of options, each mapping a successive series of possible realizations of meanings with weighted probabilities of occurrence. Systemic grammar is thus also known as a 'choice' grammar. Choice is behavior of meaning. Probability is nature in language use and is an important index of the diatypic or registerial variation.

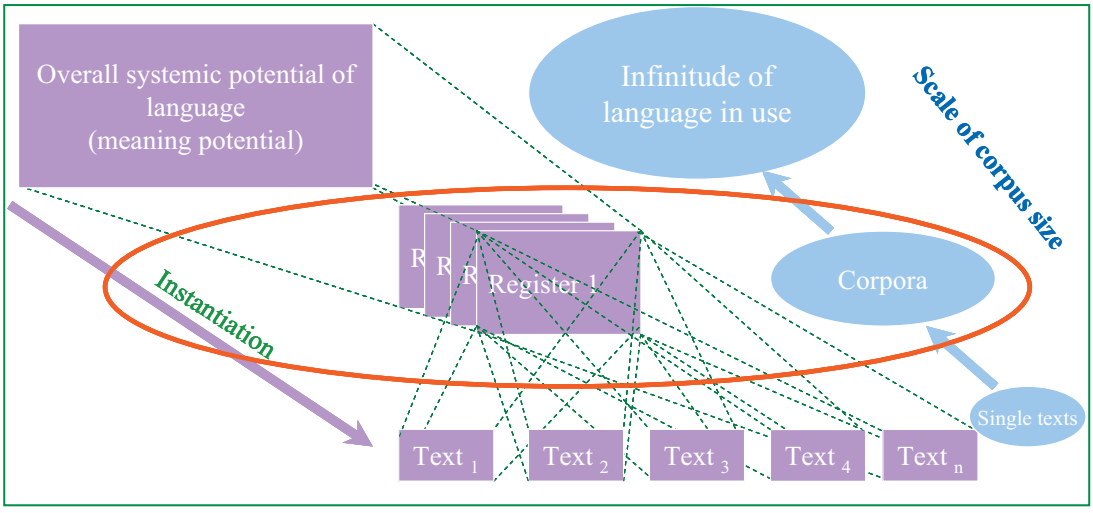
Although the corpus-based exploration of language in systemic functional terms has been documented two decades ago (e.g. Halliday & James, 1995; Matthiessen 1995, 1998), the combination of functional theory and corpus-based approach is a very recent phenomenon in the pursuit of the nature of language. That explains why Buter (2004) stated that it is time for the functionalists to take on board the findings of corpus-driven linguistics in order to fulfill the aims set for themselves. In this

research, systemic functional grammar is retained as the theoretical framework. Corpus linguistics not only provides the method for data collection, the way for processing text analysis, but also serves as a complimentary method for the interpretation of the large-scale data. I will further explain the basic principles I followed in the creation of the Tourism English Corpus (TEC henceforth).

4.3 Register hypothesis and corpus approach

Register and corpus are aligned here with the intention of throwing light on the relationship between the research purpose and the methodology that was adopted to reach the research objectives. These two concepts are comparable by means of referring to their status in the stratification of language in terms of theory and in term of size respectively (see Fig 4.1). As Wu (2009: 13) puts it, "the corpus is located at the instance end of the cline of instantiation, and it is a systematic collection of textual instances, so it is possible to move along the cline of instantiation from particular instances to make generalizations about sets of instances in terms of register, about sets of linguistic systems, or about the overall systemic potential."

Fig 4.1 Cline of instantiation and scale of corpus size



Halliday & Hasan (1989: 38-39) defines register as "a configuration of meanings that are typically associated with a particular situational configuration of field, mode, and tenor'. 'But since it is a configuration of meanings, a register must also, of course, include the expressions, the lexico-grammtical and phonological features, that typically accompany or realise these meanings. In the same vein as Matthiessen et al (2010: 136) state that "The meaning potential of a language is the distillation of innumerable (instances) acts of meaning; it is the semantic system of a language, located at the potential pole of the cline of instantiation", a register is the distillation of innumerable texts that are characteristic of similar semantic configuration.

Halliday adopts the term register to refer simply to the effect of context on language and he points out the registerial variation is featured by the probabilistic nature of language. He says:

> "I would see the notion of register as being at the semantic level, not above it. Shifting in register means re-ordering the probabilities at the semantic level…whereas the categories of field, mode and tenor belong to one level up. These are the features of the context of situation; and this is an interface. But the register itself I would see as being linguistics; it is a setting of probabilities in the semantics" (Halliday, interviewed by Thibault, 1987:610).

Register is at the interface of language and context. It is the gateway through which we can observe the context of situation, or the real world through the language use or to interpret the construal of experience through the employment of meaning resources. In the stratification model in terms of systemic functional linguistics, register is

located in the middle level between the meaning potential realized through language systems and the wording potential realized by the lexicogrammar in texts (see Fig 4.2, Matthiessen, 2013:2).

From the end of 'system', we can identify in the registerial level several macro registers (Matthiessen & Teruya, 2004), under which there are many more registers, while from the end of 'instance', we can identify the same number of text types as registers. Actually, register and text type are the two sides of the same coin.

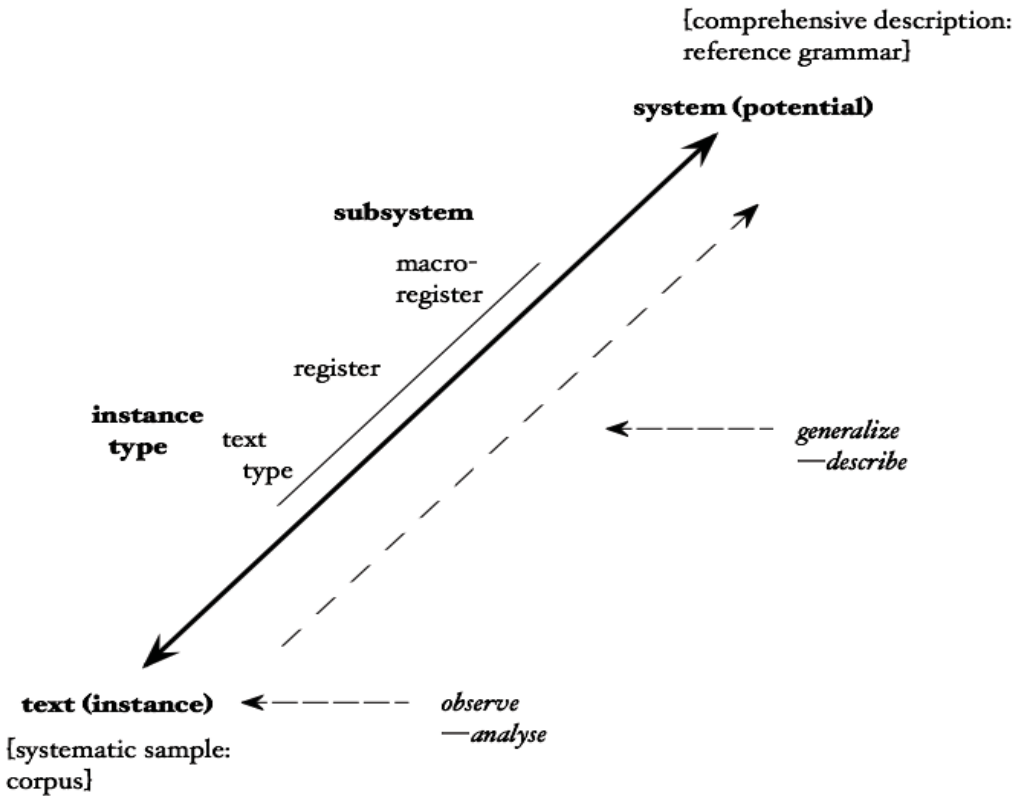


Fig 4.2 Complementary approaches: text analysis, system description (Matthiessen 2013: 2)

Register/text type correlation has been a very important principle to follow in order to archive the texts and to achieve the balance in the compilation of TEC, A quick survey of the construction of the major corpora shows that almost all of the corpora targeting general English study follow this principle in data collection, but register is

sometimes defined in other names, like genres, domains, and styles. For example, British National Corpus organizes the texts in the name of 'domains' (Lee, 2009), and Biber et al (1999) produced the lengthy grammar book, *Longman Grammar of Spoken and Writtern English*, with an investigation of 37,244 texts under four registers of English language. For the present study, I archived the texts according to registers with reference to the 'register cartography' drawn by Matthiessen & Teruya (2007) in terms of systemic functional linguistics. Five principal registers in relation to the two key activities – image creation and image maintenance – in tourism discourse were selected for text archival.

When taking into consideration of the size of the language to be investigated, I am going to put the corpus between single texts and the infinitude size of language in use. Although, an ideal corpus is the one that contains all the texts, it is hopeless to reach that goal in that the language users as a collective are producing texts every moment. Fortunately, the numerous corpus-based researches show that a sizeable corpus could be big enough to be used to answer most of the questions with the facilitation of the advanced computer technology for the corpus compilation. Methodologically, it might be safe to conclude that it is very natural to investigate the registerial variation by digging out information from a corpus.

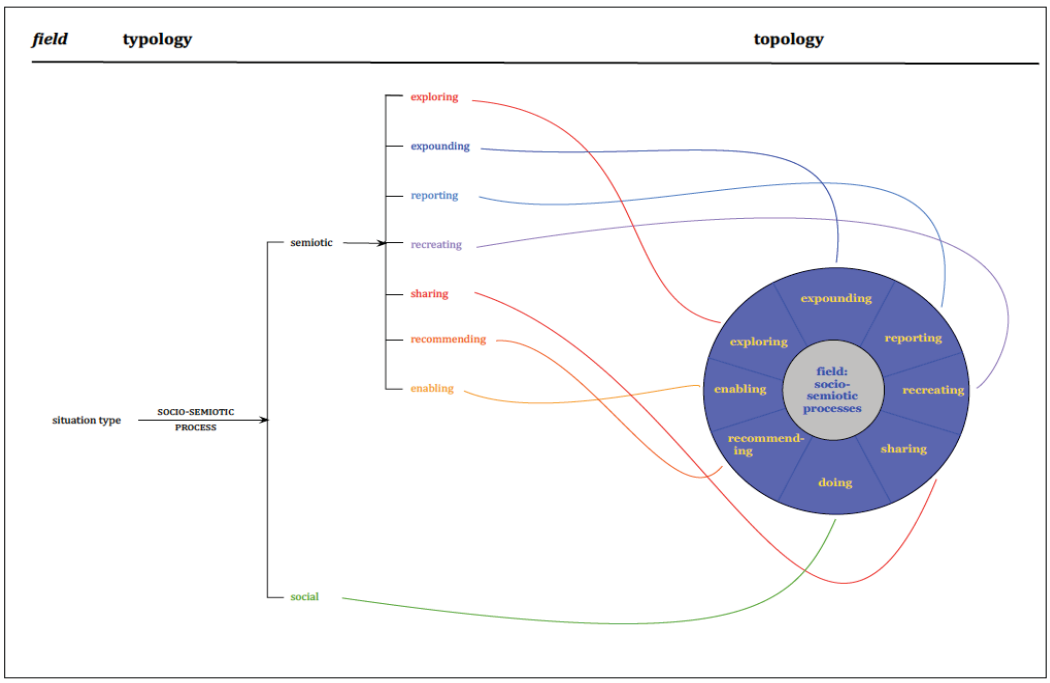
4.4 The Tourism English Corpus

4.4.1 Data description

TEC consists of about one million words subsumed under five macro registers, each register being supposed to represent an important aspect of the tourism business that contributes to the two major tasks as aforementioned. These five registers are located

in the registrial cartography (Matthiessen & Teruya, 2007), as reshuffled in Figure 4.3 (Matthiessen, 2013). In this model, the eight social domains are presented in both a typological and a topological way. Typologically, the 'doing' register is separated as a social register from the other seven registers as semiotic ones. The 'doing' register is not a usual field for language investigation, but it can provide a sound basis for situational discourse study (e.g. Gu, 2006, 2009), which is beyond the concern of this research. Apart from that, TEC does not include the 'exploring' and 'reporting' registers either in that these two registers are somewhat distant from promotion only to the positive end in the names of image creation and image maintenance in tourism discourse. As a result, the following five registers were selected for current study, each being realized in a particular text type: recommending realized in brochures and rough guides, sharing in forum texts, expounding in journal articles, enabling in ordinances and recreating in travelogues (c.f. Table 4.1)

Fig 4.3 Registerial cartography presented typographically and topographically (Matthiessen 2013: 8)



Under the register of 'recommending', texts were collected from brochures and rough guides. These are the texts through which the tourism industry tries to attract customers by the construal of attractive destinations and facilitate the tourists by the construal of 'space' as observed by Matthiessen (1999). The register of 'recreating' consists of the travelogues, the stories written by the in-the-trip and after-trip tourists, who give an account of their travelling experiences and reveal how they feel like the destinations. The storywriters are sometimes arguably tourist practitioners or those paid to promote the destinations by tourism industries. The register of 'sharing' is made up of forum posts in the corpus. The tourist forums are the very location where most of the prospective tourists, especially those backpackers, will seek information of the destinations. The legal ordinances, instances of the 'enabling' register, represent the national or local government's policy on the tourism business, regulating the rights and responsibilities of the business practitioners and the tourists as well. Finally, the 'expounding' register is instantiated through Journal Articles by which the tourism researchers articulate their various concerns. These five registers are roughly balanced in tokens or running words, each made up of about one fifth of the 1-million-word Tourism Corpus (see Table 4.1).

Table 4.1 Composition of Tourism English Corpus

Registers	**Text types**	**Topics involved**	**Num. of texts**	**tokens/percentage**
Recommending	Brochures and rough guides	Destination attractions; hotel service; food…	199	216,068/19.2%
Sharing	Forum posts	Attractions; hotel service; transportation…	487	213,676/19.0%
Expounding	Journal articles	Destinations; economic factors; language…	45	215,025/19.1%
Enabling	Ordinances	Rules and regulations	48	260,092/21.2%
Recreating	Travelogues	Destination attraction; hospitality; personal comments…	43	220,721/19.5%
	Total			1,125,582

In the course of data collection, two other principles are faithfully followed. The first principle is concerned with the source of the texts. Basically, all the texts were written by the people from the "inner circle" and "outer circle", but not "expanded circle" English speaking countries or regions (Kachru, 1992). Second, all the texts were processed by abiding by the TEI (Text Encoding Initiative) standard before the semantic annotation in terms of the transitivity systems. As a result, each individual text in this corpus consists of two parts, a header, containing meta-information about the text (e.g. title, date, source, type, etc.) to guarantee its authenticity but not for transitivity analysis, and the body text (McEnery and Wilson, 1996: 26-28). This example below is taken from the sub-corpus of academic texts (Table 4.2):

Table 4.2 Organization of a sample text

<website=http://www.hotel-online.com/Neo/Trends/AsiaPacificJournal/AsiaPacificTourismOutlook_1997.html; downloaded date=2:31pm 29th June, 2004; area=AP; text type=academic; Chinese=no> **[Source; Date; Region; Text type; Chinese translation]**
<Asia Pacific Tourism Industry: Current Trends and Future Outlook> [***Title***]
<by Amrik Singh (Amrik Singh is an instructor, Department of Parks, Recreation and Tourism, University of Utah, Salt Lake City, Utah - email: amrik.singh@health.utah.edu)> [**Author and other information**]
The Asia and Pacific region will be the focus of the worldwide tourism industry in the new millennium. Over the last decade, tourist arrivals and receipts rose faster than any other region in the world, almost twice the rates of industrialized countries. [….] [**Body text**]

4.4.2 Manual annotation of the corpus

For this present research, 6,217 clauses taken from the body texts of the five registers were annotated in terms of process types, which are estimated to cover fifty thousand words, about one twentieth of the whole corpus. In addition, 1,000 cases of circumstances were annotated, with 200 cases for each register. My ultimate goal is to finish up the annotation of the whole corpus, but it seems the majority of the corpus has to be left for future work due to the fact that all the annotation has to be manually conducted, which is extremely time-cost. Fortunately, the system-friendly corpus annotation workbench, UAMCT (formerly known as Systemic Coder), developed by Mick O'Donnell (2002-2012) turns out to be of great help to facilitate the annotation work. The main advantage of this software includes a customizable platform for the users to construct their own schemes for annotation purpose. The annotation consists of three procedures, namely, clausal segmentation – creating schemes -- coding. These codings, at last, will be statistically calculated with the built-in statistical programs.

For the current research, two schemes were developed for the annotation with regard to nuclear transitivity and circumstantial transitivity based on models proposed in Halliday and Matthiessen (2004) and Matthiessen (1995) (see Appendices 3 & 4). Since the participant roles are inherent in the process (Matthiessen, 1995), they are not located as a simultaneous system in the scheme although the investigation of the realisational forms of the participant roles is also very important. Instead, because the annotation, or analysis of the process types realized in the clauses takes up a big portion of the research effort, an emergent concern was called into close attention, i.e. the indeterminate nature of transitivity especially concerning the nuclear transitivity. Being fuzzy or indeterminate does not mean impossibility for annotation, but it does

incur much greater efforts in working on the transitivity systems in greater delicacy, which is beyond the research purpose of the present study. However, fuzziness is the first problem to encounter at the commencement of annotation and deserves an extended discussion. An elaborated discussion is presented in next chapter.

With regard to the annotation, the "clause", whether independent or dependent (either paratactic or hypotactic), is the locus in which process, participants and attendant circumstances are involved. The detailed analysis and annotation are thus carried out in light of the constituency of each clause. Since what needs to be counted in the coded corpus are the semantically annotated abstract functions exploited in the clauses rather than the strings of words, which are the usual units of analysis in most corpora and able to be tagged in terms of part-of-speech (POS tagging) automatically, each coding represents a careful semantic analysis of the way in which the related experiences are construed as a result of choices from the transitivity systems. The constituency-based semantic analysis leads to the element-based, or more exactly function-based, annotation. Nevertheless, "element" and "function" are not really synonymous in SFG. Elements here refer to the groups, prepositional phrases or *wh*-elements, which realize the options located in the systems. An element can realize one function or a bundle of three functions derived from the three metafunctions. For example, a nominal group realizes the conflation of the function Actor in the transitivity system with Subject in Mood system and Theme in Thematic system. On the other hand, within the transitivity system, one type of element is also likely to realize different functions, sometimes in a metaphorical way (see Table 4.3).

Table 4.3 Functions and elements of realization within the transitivity system

Function	Element	Examples
Participant roles: e.g. Actor, Goal, Range, Senser, Carrier, etc.	Nominal groups; (sometimes) Wh-elements	*the little boy* killed *a wild boar* *he* rode *his motor bike* to work *what he did* is wrong
Process	Verbal groups	the wind *flew* the kite she*'s been working* for 10 hours
Circumstances	Adverbial groups or Prepositional phrases	they drove *300 miles a day* she lives *with her grandparents*

As Halliday (1994:29-30) puts it, the purpose of functional labeling is to provide a means of interpreting grammatical structure, in such a way as to relate any given instance to the system of the language as a whole. The labels are not assigned in a random fashion to each structure as it happens to appear; they are the outcome of an interpretation of the language in terms of language systems. Let me take the annotation of the following clause for example:

> *The relaxing Garden Café offers diners plentiful choices from the daily buffets and international menu.*

This clause is a configuration of Process: *offers* + three participants: *the relaxing Garden Café*; *diners;* and *plentiful choices*, with *diners* being the beneficiary in this process, and a circumstance of location, that is, *from the daily buffets and international menu*. The experiential analysis is shown in Table 4.4. UAMCT defines that the analysis takes two steps. The first step is to decompose the configuration of the clause into elements, or in O'Donnell's term, to segment the clauses according to the functional roles the constituents possibly play; second, to choose from the scheme (system) the functional options for each element. The analytical process is thus just a

reverse one of creating meaning, which starts from the system (unconsciously) and end in constituents of the clause that are manifested in clauses.

Table 4.4 Systemic and structural analysis and annotation of a material clause

	The relaxing Garden Café	offers	diners	plentiful choices	from the daily buffets and international menu
material: transitive: transformative: creative: effective: locative: spatial	Actor/Medium	Process	Beneficiary	Goal	Location
	nominal group	verb group	nominal group	nominal group	prepositional phrase

This clause presented in Table 4.4 shows a distinct example in tourism texts – that of 'persuasion' by offering services in a material process. As a model of persuasion, besides the positive evaluation, the doer or Actor, *the relaxing Garden Café,* a practical service unit in the destination; the Beneficiary, *the diners* (the tourists in a bigger context); and the Scope: the Goal, or what can be served, *plentiful choices* are clearly specified to represent the attraction. The process represents the nucleus of 'serving' with *offers* specifing their intention of covert persuasion and the three adjectivals *relaxing, plentiful,* and *international* used in the participants as evaluative resources for overt persuasion. With respect to Agency, this clause constitutes an effective clause, with *plentiful choices* being the medium + the Process: *offers*. Such a configuration helps to foreground the service or what can be offered, indicating the high quality of its hospitality at the destination. The interpretation of Agency is closely related to the investigation of participant roles in the system of ergativity, which is not a concern of this present study.

4.4.3 Deconstruction of texts, reconstruction of experiences

Applying systemic functional linguistics to the deconstruction of texts can make explicit “the relations between meaning constructed at clause level and meanings at the ‘larger' levels, e.g. text, which in turn can be systematically related to the specified elements of the context (i.e. register)” (Harvey, 1993:25). The experiential metafunction, in particular, allows us to deconstruct clauses and reconstruct experiences: it abstracts out phenomena and organizes them into configurations rather than treating them as unanalyzed wholes (Matthiessen, 1995:194). The analytical process of experience reconstruction has much to do with a series of unconscious choices by the text producers from the paradigmatic ordered features in the transitivity systems. It is these choices that embody the probabilistic nature of transitivity and correlate with the registerial variation.

The investigation of the probabilistic feature involves firstly the development of a quantitative profile of the transitivity resources employed in TEC by examining how frequently different features or functions in transitivity systems are realised in the texts. Such profiles are an inherent feature of registers, which instantiate the meaning potential and are realized in lexicogrammar. And thus we can safely say the quantitative profile is the profile of the register other than anything else. Secondly, this quantitative profile is generated out of relative frequencies and is subject to qualitative interpretation of the transitivity features of the clauses.

In particular, the aims can be approached by means of: 1) analyzing the transitivity features of the randomly selected clauses and determining the frequency of the instantiation of the transitivity systems of process types and circumstances in the

corpus; 2) comparing the transitivity profiles of different registers across the five registers and identifying similarities and differences in their employment of transitivity resources. 3) interpreting the relationship between the registerial variation based on the findings at step 2 and the realization of the two discourse functions -- image-creating function and image-maintenance function, or the realization of different social purposes.

4.4.4 Coping with indeterminacy in analysis

Indeterminacy or fuzziness is an inherent property in the categorization of grammar. Halliday (1996/2002:399ff) identifies four types of indeterminacy: (a) clines, (b) blends, (c) complementarities, and (d) probability. They are different because they need to be examined from different perspectives. *a* and *b* are concerned with delicacy and examined from the perspective of topology; while *c* and *d* are related to categorization and examined from the point view of typology (Martin & Matthiessen 1995). Noticeably, here probability is used in different sense from the one used above. It does not start from the category, but from the other end. In other words, the category is not established *a priori*, but changed because of a certain degree of probability. It is this part of indeterminacy that brings out the nuance of registerial variation as far as delicacy is concerned. In this study, I am going to deal with the indeterminacy with regard to probability by recording those indeterminate process types in the corpus. A more detailed account for indeterminacy is provided in Chapter Five.

4.5 Non-annotated corpus-based survey of key verbs/words: a complementary perspective

As mentioned above, a reliable interpretation depends on a complete annotation of the corpus in terms of all transitivity systems, i.e. a full analysis of all the process types

and circumstances employed in all clauses in the TEC, but we have to rely on the analysis of a small sample of clauses taken from each of the five registers at the current stage in this research due to the heavy work of manual analysis and time limit as well. As shown in Table 4.5, there is a loss of balance in the selection of clauses for process type analysis. This is because at the commencement of the corpus annotation, I paid more attention to the persuasive and academic texts to do a case study. In order to avoid the skewedness of the results, on the one hand, the results will be compared by percentage in order for standardization. On the other hand, a complementary corpus-based approach was adopted from the end of lexis by means of identifying the key verbs and nominalized verbs standing for the process types in each sub-corpus (see Appendixes 2-1 -- 2-5), which have achieved a balance in terms of words (see Table 4.1 and 4.5). The same complementary approach was adopted to interpret the deployment of circumstances in Chapter Seven due to the limited size of the annotated cases in spite of a rigid observation of the balance principle in number.

Table 4.5 Samples of investigation and methods of analysis

Corpus	Texts	Words	Method
Annotated	R1: 1257 clauses	45,329	Manual analysis of process types and circumstances with the use of the software, UAMCT
	R2: 657 clauses	3,511	
	R3: 3452 clauses	74,156	
	R4: 377 clauses	9,653	
	R5: 474 clauses	3,262	
	C1: 199 texts	216,068	Concordancing the selected key verbs for analysis of process types and circumstantial elements for analysis of circumstantiality with the use of the software, WordSmith.
	C2: 487 texts	213,676	
	C3: 45 texts	215,025	
	C4: 48 texts	260,092	
	C5: 43 texts	220,721	

Notes: R=register; C=sub corpus; R1/C1=Brochures and rough guides, R2/C2=Forum posts, R3/C3=Journal articles, R4/C4=Ordinances, R5/C5= Travelogues

Chapter Five

The nature of indeterminacy in transitivity system

5.1 Introduction

This chapter is directly concerned with what I did 'behind' the thesis report, i.e. the problem I continually encountered during the annotation of the corpus. While tagging the process types of the clauses, a confronting problem emerges very often: on the one hand, a clear and accurate tag is supposed to be given to the clauses being annotated; on the other hand, there always exist many a fuzzy cases, which may show a mixture of properties of different process types. Thus, the problem of how to tag fuzzy clauses comes in order. It is necessary to mention, the same problem exists in the annotation of circumstances, but much easier to deal with due to the less abstraction of circumstantial types than process types. Essentially, fuzziness tagging is nothing more than a process of defuzzifying the indeterminate grammatical categories. Defuzzifying does not mean to force any categorical decisions; rather, it is a step to locate the fuzzy cases in a particular semantic position in their own right. Reliable annotation calls for a consistent principle for tagging, especially, for the annotation of the fuzzy cases. Apparently, accurate tagging will only result from a thorough understanding of the nature of fuzziness in language. This chapter mainly serves to provide an overview of how indeterminate process types are described in SFG by reviewing how fuzziness is instantiated in experiential grammar, including the typology of fuzziness, the models for locating different process types and the approaches for defuzzifying the indeterminate process types. In addition, types of fuzzy clauses were summarized in a casual way and presented with some preliminary discussion in Appendix 5.

5.2 Fuzzy grammar

The tradition has it that a fuzzy grammar concerns the recognition of the existence of the blurred areas in grammatical categories, which is against the classical Aristotelian distinct categorization. In the short history of modern linguistics, many approaches have been developed to model the fuzziness in grammar from different perspectives. As presented in Aarts et al (2004), Labov sheds doubts on the traditional categorization from a cognitive point of view and argues in this way: "instead of taking the categorical view for granted and concentrating on problematic cases, linguists must go beyond that view, must focus on the process of categorization itself and turn their attention to the nature of the boundaries between categories" (ibid: 4). Rosch (1978) proposes the famous 'prototype theory', which has been recognized in a lot of later writings about English grammar (e.g. Langacker 1987, Givon 1993). Fuzziness has also been modeled in Quirk (1985) and Hopper and Thompson (1982) in the name of gradience.

5.3. Systemic functional linguists as 'fuzzy grammatics'

5.3.1 Fuzzy grammatics

When Halliday (1995, reprinted in 2005:227) proposes systemic functional linguistics as 'fuzzy grammatics', he means two aspects. In the first instance, in that particular context concerning intelligent computing, he means systemic functional linguistics is applicable to model fuzziness in language with computer thanks to its presentation of such distinctive properties of grammars as 'comprehensive', 'extravagant', 'telescopic', 'non-autonomous', 'variable' and 'indeterminate'. Whereas, the more fundamental stance concerning 'fuzziness' *per se* is the recognition of fuzziness or indeterminacy being inherent in grammar in that its categories are typically fuzzy and

each category denotes a fuzzy set; the realizational relation between the two strata -- semantics and grammar -- is blurred; the grammar and lexis form a cline of delicacy; and the system and instance forms a cline of instantiation. Apparently, fuzziness not only exists in the grammar of language but also in the science of grammar, viz. grammatics. This echoes Labov's view that the process of categorization is subject to fuzziness.

5.3.2 Typology of fuzziness in grammar

Halliday and Matthiessen (1999:549-550) identify five basic types of indeterminacy particularly in the ideation base. They consist of ambiguities, blends, overlaps, neutralizations, and complementarities:

a. Ambiguities are instantiated in the clauses where two mutually exclusive meanings can be identified in the same wording. Halliday (ibid: 226) points out that the distinction in meaning is obscured by identity of form. This is thus distinction between two meanings (as product) in the same form rather than within the meaning (as process). This is the most obvious type of indeterminacy and can be easily defuzzified in the context or co-text of speaking. Taking the rhetorical function into consideration, they are more likely to appear in humorous discourse, but few cases will occur in such a corpus of tourism texts characteristic of being informative and promotional, which tends to refrain itself from ambiguity. Ambiguity usually incurs implied meaning, but not a shift of process type. For example, when a businessman says 'I like you so much', he may mean he likes his counterpart's money instead of the person. In whatever sense, here, the process can be treated as 'mental: emotive'.

b. Blends are also instantiated as two different meanings encoded in the same wording, but in an opposite manner. They are blended into a single whole, with both meanings being acceptable. A case in point is the blend between certain effective: passive mental processes and attributive relational ones, e.g. *I was hurt by that*. The clause could be mental when the functional role of '*I'* is Sensor, or material when '*I*' is the victim of an attack.

c. Overlaps are the borderline cases that have the features from two or more different categories. Typical examples are behavioural processes such as *listen, watch, smile* etc. The other two process types, viz, verbal and existential also have borderline features and are modeled in Halliday's color spectrum model (Halliday & Matthiessen, 2004: 172). Overlapping types are more complex than ambiguous and blending types because there are always chances for an alternative understanding. The fuzziness of this type may be resolved by seeing "from above", i.e. taking register into account. For example, the behavioural processes occurring in instructional texts will be more material-oriented than mental-oriented.

d. Neutralizations usually result from grammatical metaphor by which a nominalization, for instance, will neutralize the finite clause into a Thing. In the clause, "*Failure will make him sad"*, the nominalized "failure" may indicate a condition, if he fails or a time when he fails. In this case, the logical meaning has been encoded into a participant.

e. Complementarities are typically found in the experiential semantic space in English grammar. A very noticeable complementarity is that between the transitive and

ergative construal of experience. Davidse (1999) has emphasized and extended the explanation of this feature in grammatics.

5.3.3 Modeling fuzziness in nuclear transitivity

To understand the indeterminacy defined in systemic functional linguistics, we need to be clear about how systemicists model the nuclear transitivity or arrange the six process types in the semiotic space first. In this respect, three models come into view.

5.3.3.1 Halliday (1994), Halliday & Matthiessen (2004:172): color spectrum model

The color spectrum model of process types presents the core transitivity in a very neat way from a typological perspective （c.f. Figure 3.4 above）. Avoiding the potential of marginalizing or even excluding some process from the experiential semiotic space in the traditional prototypical-peripheral model, Halliday gives each process type in this chart an equal area or status. As noted by Halliday, there is not a problem for one process type being more important than another. Even the three process types that are said to be located on the borderline of other process types occur equal spaces as the other process types. These borderline process types are behavirour (between material and mental), verbal (between mental and relational) and existential (between relational and material). In this model, fuzziness is manifestly related to *Type c* – overlapping.

5.3.3.2 Martin and Matthiessen (1995), Matthiessen (1995): typological and topological complementarity model

In recognition of the limitation of the typological description of grammatical categories and the co-existence of typological and topological relationships between the categories of process types, Martin and Matthiessen (1995) developed topology as a complementary orientation to typology in dealing with categorization. In their model, the four 'prototypical' process types, i.e. material, relational, mental and verbal are used to define the semantic space. Between certain processes types, the topological semantic spaces were represented by corresponding topological parameters. For example, between material and verbal, the topological parameter, *behavioural:saying* as activity indicates the process having the property of verbal process or process of saying and the property of material process, or process of doing (cf. Fig 17 that is presented in Martin & Matthiessen 1995:372). This model very nicely combines the typological and topological perspectives, classification and gradience, prototype and fuzzy sets in a single design. This typological-topological model has been visualized in Matthiessen (1995:1877) (represented in Figure 5.1 below) and also applied to illuminate the inter-relationship among the registerial categories (cf. Figure 4.3 above)

In the typological-topological model, systemic categorization from typological perspective is kept as a starting point for tidying up the order of the experiential semiotic space. In contrast, in Hopper and Thompson's (1982) cardinal transitivity model, transitivity as a whole is put on a cline of gradience and each clause "competes" for its degree of transitivity based on ten pairs of factors. The fact that many counterexamples were identified against their model (e.g. Tsunoda 1985) indicates that setting up the semiotic space with categories is still of great necessity. In the prototypical-topological model, prototypical processes manifest all the features

characteristic of that category, while the borderline cases manifest features of different process types. They constitute the fuzzy sets around the prototypical category and shade into each other at the same time (see Figure 5.1).

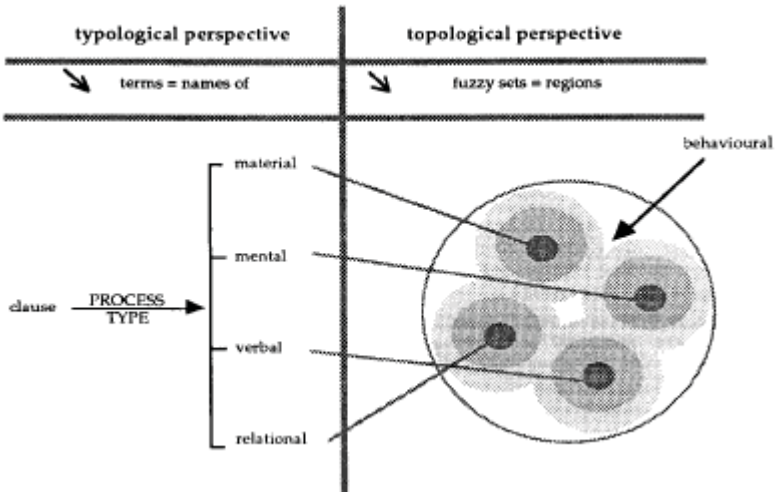


Figure 5.1. Fuzzy implementation of system networks (Matthiessen 1995:1877)

5.3.3.3 Davidse (1999): paradigmatic model

Davidse (1999) elaborates on the experiential grammar at two levels. At the general or most schematic level, rather than working with the traditional transitive-intransitive model, she works with Halliday's effective-middle model in order to avoid a bias towards 'transitivity'. She frames the experiential space between the effective constellation: *Agent* . *Process* . *Affected*, and the middle constellation: *Medium* . *Process*. The area in between is not scaled up into 'lowly or highly transitive', as in Hopper and Thompson's cardinal model. Rather, the clause constellations in between are considered to be a scrambling of categories. It is within this in-between space that the 'cryptotypes' inhabit. 'Cryptotype', drawn from Whorf, is a notion used to build up an opposition to 'prototype' in her discussion. Cryptotypes are covert grammatical categories that are difficult to define both in terms of their realization and their value. Thus, Davidse suggests comparing the 'behaviour' of different but related units and

structures with regard to specific grammatical choices. This is actually one of the ways in which the covert or fuzzy categories can be clarified. Apparently, there is not a lack of criteria in this respect in the writings of systemic functional grammar.

Davidse's model is also characteristic of its paradigmatic structures and its delicacy at the specific level. Taking her discussion of meteorological processes as an example, Figure 5.2 shows that a delicate continuum from prototypical intransitive to ergative pseudo-effective is construed to accommodate the variation of the meteorological processes.

Figure 5.2 The intransitive – ergative pseudo-effective continuum

Paradigm	examples
intransitive	It's raining
	It's thundering
transitive pseudo-effective	It's raining cats and dogs
(ranged structure):	It's raining big drops
transitive effective	It's practically ripping the trees out
non-ergative	It's pouring
ergative pseudo-effective	It's dripping water form every pipe

5.4 Defuzzifying the indeterminate clauses: two perspectives

Now let's turn to the key problem about how to defuzzify the indeterminate cases. From a broader perspective, Halliday (2005a: 230-238) proposes three procedures for modeling fuzziness, namely, *systemizing*, *networking*, and *quantifying*. Modelling fuzziness in computing meanings actually starts from the result end of the process of text analysis, while the annotation with the help of computer, i.e. the software, starts from the other end, i.e. the recognizing activity or defuzzifying the clauses before it is

possible to decode fuzziness. Thus, the three procedures in modeling fuzziness constitute the general approaches in defuzzifying the indeterminacy in grammar in this current study, with each procedure corresponding to a certain approach, viz. systemizing equals to analysis; networking to the fine-tuning of the schemes (systems) used for semi-automatic analysis; and quantifying to calibration of the tagging based on the statistic results.

For systemizing, grammatics models proportionality in grammar in terms of prototypical categories. However, the systemic proportionality of categories is always an idealized categorization in that the boundaries of the system are always indeterminate. Yet, "'systemizing' does not mean forcing categorical decisions; it means setting up proportionalities which best reveal the latent meaning potential that is involved." (ibid: 232). The latent meaning potential, in other words, the indeterminate categories, as suggested, should or could be examined from a trinocular vision, viz. meaning or function, form and related systems within the grammar. The principle is that the meaning of the category is a compromise of them all. Examples *a* and *b*, are taken from TEC. Looked at 'from above', both clauses seemingly belong to 'mental/verbal activity'. The question is whether there is any difference between them.

a. future research should explore specifically which components in their experience is lacking, be they accommodations, activities, food, transportation, or some combination.

b. The next section explains our method, including descriptions of the instrument, sample and procedures used in this exploratory study.

When looked at from below, i.e. from syntax. Although each clause has two participants, clause *a* has a rankshifted participant – an embedded clause or a projected fact in that it can be referred to as '*that*' or '*it*', but cannot be substituted with '*so*' (for the difference between 'reference' and 'substitution', refer to Halliday and Hasan, 1976, and Davidse 1999:378). This rankshifted constituent arguably functions as a phenomenon/range. And the clause constellation could thus be *Senser* . *Process* . *Phenomenon*. In contrast, the participant, 'our method' in clause *b* is more likely to be the medium in that, following Davidse (1999), the first participant in clause *b* mostly functions as a 'setting' (this is also close to realization of the experience, i.e. a section of the article coming next) rather than an 'agent (a Senser or a doer)' and thus clause *b* has a different constellation of '*Setting / Process / Medium*'. The trinocular vision in some sense endorsed the traditional corpus approach we adopted as an complementary approach, by which the process types and circumstances can be examined 'below' the clause. In other words, the focus was on the forms. Meanwhile, it also endorsed the association of the grammatical features with the experiential meaning that in turn ultimately realizes the social functions that constitute the context (see discussion in the following two chapters).

For networking, grammatics models 'delicacy'. Since the language system is open-ended and also a highly elastic multidimensional semantic space, to defuzzify the indeterminacy within the same semantic space is to determine what functions in the system network are involved in the clauses. The more delicate the system network is, the more accurate the tagging will be. As for how delicate the system networks (or the schemes of transitivity used for annotation in the present research) should be, it depends on the research purpose. Generally speaking, a grammar-oriented research

will involve a more complicate modeling than a discourse-oriented research. Delicate system networks of transitivity can be found in some major works on systemic functional grammar reviewed in this article. An ideally suited scheme should be based on the related proportion of the transitivity system networks in terms of degree of delicacy.

For quantifying, grammatics models probability in grammar. Quantifying is the basic approach to scale up the transitivity properties (e.g. Hopper & Thompson 1982) and also an effective approach to map the grammar resources (e.g. Matthiessen 1999; 2006). Probability of functions in the system or employed in texts is instantiated by relative frequency. This also provides us with a way in which the degree of fuzziness can be measured or compared not only 'globally' with regard to the language system, but also 'locally' with regard to the fuzziness of grammatical features of certain clause, and the nuances between different text types or registers.

From the practical perspective, the more handy and operative approach is to sort out the criteria for the identification of prototypical categories first and then set up the fuzzy areas by means of comparison by following the aforementioned principles. For the functional labeling of experiential grammar, Halliday & Matthiessen (2004, Chapter 5) provide many criteria, or probing questions for establishing prototypical and unmarked cases. Matthiessen's (1995:1876) tabulation of the major criteria used for separating the borderline behavioural process from material and metal shows a good example in case.

5.5 Summary

In this chapter, a top-down approach was adopted to review how the fuzziness is construed in grammar and particularly in the experiential grammar. The typology of fuzziness and the main models in terms of IFG in mapping fuzziness in nuclear transitivity were reviewed. Three approaches were introduced with reference to Halliday's proposal about how to model fuzziness in computing meaning. The two-stepped strategy was proposed for practical annotation and was well observed in our analysis of the clauses in order to achieve a highly qualified and reliable annotated corpus in terms of transitivity systems from the perspective of systemic functional grammar. However, the dilemma was not so easily resolved, and the fuzzy clauses were stored for the future use in order for modeling fuzziness (see Appendix 5).

Chapter Six

Construing experiences in nuclear transitivity

6.1 Introduction

6.1.1 Selected models of tourism discourse study

Tourism discourse is in nature multifaceted and multimodal. Traditional models (e.g. Hall, 1984) focus on tourism from a marketing perspective and regard tourism as a multidimensional activity involving ethnography, economy, publicity, communication, and so on. Gartner (1993) proposed a (information) sender-based model and drew attention to the credibility and market penetration of tourist information for image formation. According to this model, for example, brochures supply high market penetration but low credibility. The solicited organic information, or the information sought from those who have already visited the destinations provides high credibility but low promotional value. The organic information, spoken as it is, is highly similar to the forum texts in our corpus. In his model, travelogues are located on the middle of the continuum running from *low* to *high* in terms of credibility or vice versa in terms of market penetration or promotion, see Figure 6.1. Interestingly, this information-source continuum ranging from the overt induced resources to the solicited organic sources, is in accordance with the point of view I am taking, i.e. a reader's or a language user' perspective. The market penetration continuum on the left of the figure is considered from the interest of the tourism industry; while the credibility continuum on the right might be considered from the readers' benefit. This model implies that no matter overt, covert, or organic sources of

information in the tourism discourse, they all have the value of image formation to a certain degree.

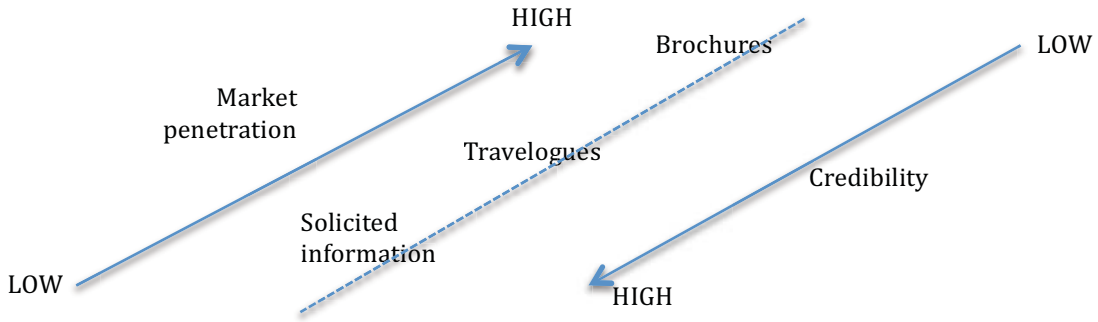


Fig 6.1 Mode of image information (adapted from Dann 1996:137)

Dann's (1996, 141-169) approach is multisemiotic-oriented. He incorporated the media of the language of tourism into the stages of trip and clearly presented tourism discourse as multimodal involving written, audio, visual and sensory media. With no doubt, this point of view has been strongly supported by today's more and more popular internet-based resources of image formation in the numerous tourism-related websites. The multimodality in tourism discourse has been attracting more and more attention recently, e.g. Matthiessen (1999) presented the construal of space grammatically in language and visually in images and on maps in topographic procedures. Urry (2005) presents the organization of 'land' under tourist gaze. Papen (2005) discussed the graphic design in promotional brochures, to name only a few.

6.1.2. Image formation and image maintenance

Whatever semiotic resources are employed, there is little chance for people to ignore the importance of *image formation* in tourism industry in that all the

efforts the tourism practitioners make is to satisfy their clients so as to make profits. If the process of image formation is most of the time unidirectional in the pre-Internet era under the control of and with the only efforts of the tourism industry, it has definitely become multidirectional during the Internet era. Apart from websites, such social network systems as forums, blogs, twitter, instant messengers, and so on, are all exploited to fulfill the purposes of promotion by tourist service providers. On the other hand, it is the same significant for the government to maintain the tourism market, ultimately, the image of tourism industry, since this industry has been bringing in substantial revenue and more. The daunting task of *image maintenance* is mainly fulfilled by the legal and the academic institutions from outside tourism industry. The former enforces the order of tourist market, while the latter provides market predication and solution to problems of attracting visitors, among others.

The image maintenance function of researches on tourism discourse lies in the focus on the problems the tourism industry encounters during the course of image creation, as clearly stated by an Australian author named Laurie Murphy (1999) in a journal article collected in TEC:

> *Individuals' images or perceptions, at least partially derived from their attitudes toward a destination's perceived attributes, have been linked to destination preference and selection. As a result, most attempts to understand and predict destination choice include measurement of the importance of various destination attributes and the extent to which various alternatives are perceived to possess those attributes. (Text BA03)*

This viewpoint is echoed in the conclusion section of Rob Law (2004) who states in this way:

> *…this research can potentially benefit researchers and policy-makers in Hong Kong and worldwide. Tourism researchers could apply the forecasting techniques that produced the most optimal results to their future examinations in tourism demand forecasting particularly in the context of an unexpected environmental change. (Text BA01)*

Image formation constitutes the social interaction between the tourism industries and the before-trip prospective tourists; the tourism industries and the on- and after-trip clients; and between the before-trip prospective tourists and after-trip tourists as well. It is all about how the tourism industry pictures the destinations and guides the potential clients before their trip, how the tourists share their traveling experiences by means of making comments, telling stories and giving warning of some unpleasant sites as well. Consciously or unconsciously, the visitors' experience sharing and comments help to create an authentic and reliable image of the destination for the potential tourists. When appropriately manipulated, this part of discourse can serve the tourism industry's promotional purposes very well (Chen & Xu, 2007, 2010). On the contrary, the image maintenance discourse is far away from the real concern of both on-trip tourists and prospective tourists. It is scarcely possible for a potential tourist to read the ordinances or research papers on a certain destination before he starts the trip. However, this ignorance does not affect image maintenance as a fundamental part of tourism discourse, as they are in

fact the guidance for tourism industries and their practitioners by regulating their behaviours.

6.1.3. From social to semiotic

Basically, image formation and image maintenance are two social processes. From the standpoint of systemic functional linguists, all social processes are realized in semiotics -- the higher level of meaning systems, as social semiotics is a product of the social process. As Halliday & Matthiessen put it (1999:3), language as a semiotic system serves "as the foundation of human experience, and meaning as the essential mode of higher-order human consciousness". We construe our social experiences in language, or vice versa we interpret language within a sociocultural context: "(in order to understand linguistic structure) we have to proceed from the outside inwards" (Halliday 1978:4). My concern in this research will be restricted to the social semiotic aspect of the tourism discourse. To be exact, I am going to investigate how the experiences of image creation and image maintenance are realized in experiential grammar, or in other words how the grammatical resources selected from the transitivity systems are deployed across the five related registers. For image creation, I assume that *brochures and rough guides can be regarded as encoding overt persuasion, travelogues covert persuasion,* and *forum posts as facilitating persuasion.* For image maintenance, I assume that *ordinances can be regarded as regulation* and *journal articles as metaphorical diagnosis, or exploration of the problems and affordance of solutions*. Constrained by my research focus, I will only investigate the written tourism discourse and focus particularly on how the various experiences are construed through the experiential meaning with the intention to explore the relationship

between the patterns of meaning in different registers and the objects of communication of each register.

6.1.4 Structure of the rest of this chapter

In the following sections, I will first present a general profile of the nuclear transitivity across the five registers and relate it to the general description of the transitivity systems behind. In the second step, I will present the findings in the analysis of each register and carry out the discussion one by one from image creation to image maintenance. The five registers will be examined respectively in terms of process types with more emphasis on their differences, or the features characteristic of the examined texts. Due to the manual analysis of limited clauses, I will also refer to key verbs in each sub-corpus, the verbs that stand out as predominant in the corpus with high keyness (Bondi & Scott, 2010). It is highly conceivable that it is able to build up a general profile for each register by referring to lexical choices because there is a very high correlation between the meaning of the verbs and the process types they are able to act as.

6.2. Nuclear transitivity across the five registers: a general profile

Fig 6.2.1 presents a general profile of the process types identified in the a little bit more than 6,000 clauses. This profile is generated from the average percentage of the addition the five registers shown in Fig 6.2.2 through 6.2.6. Figure 6.2.1 shows that relational and material clauses are the two major resources used to construe experiences in tourism discourse, with relational overtaking material by the rate of a little more than 10%. Mental clauses take up

a little less than 10 %, yet still more than the total of the rest three process types. Scanning through the five figures below, it is found that relational clauses dominate the process types in all five registers. But the difference is more significant in Brochures and Rough Guides (see Figure 5.2.2), where the difference achieves the biggest discrepancy of 30%.

In terms of material clauses, Ordinances has the highest portion, reaching 40%. Except Brochure and Rough Guides, the other three registers all have sizable material clauses ranging from 30% and 40%. It is a little bit unexpected that Forum Texts and Travelogues have more mental clauses. It is predicated that a large portion of mental clauses in these two registers would be the type of perception since more visiting experiences are expected to be shared in this two registers. According to Appendix 1, Journal Articles contain a good number of mental clauses, although the share is not high. Further discussion will be conducted in Section 6.5. Verbal and existential clauses are not salient in any of the five registers. Behavioural clauses are rare in the whole corpus.

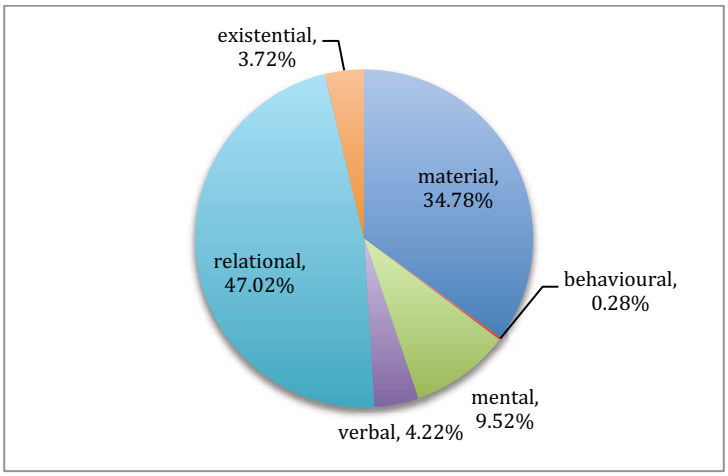


Fig 6.2.1. Relative frequencies of process types across the five registers

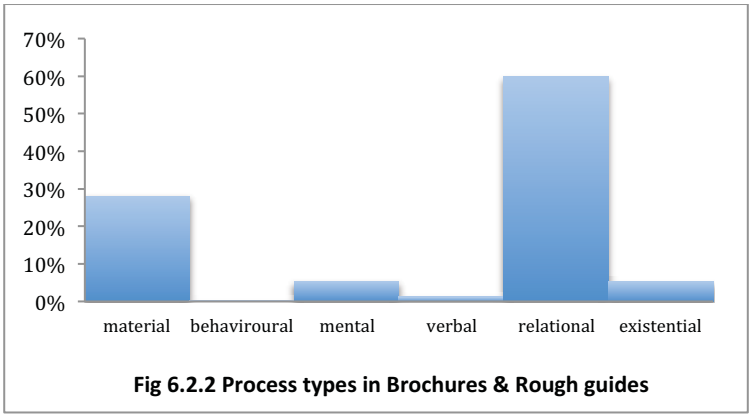


Fig 6.2.2 Process types in Brochures & Rough guides

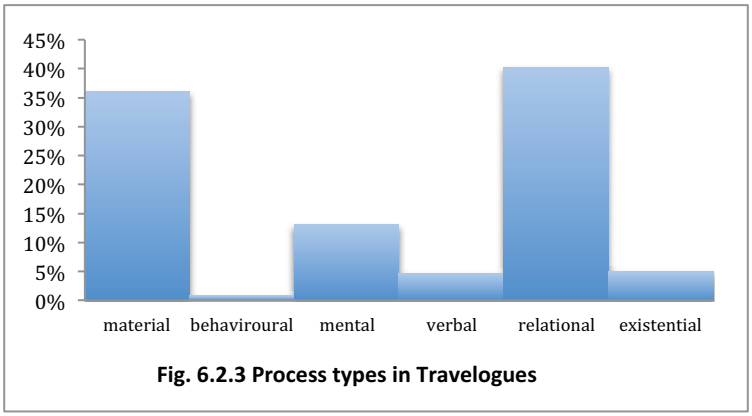


Fig. 6.2.3 Process types in Travelogues

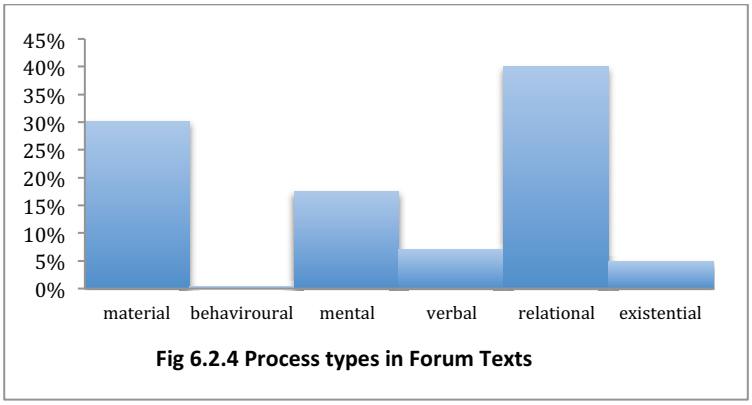


Fig 6.2.4 Process types in Forum Texts

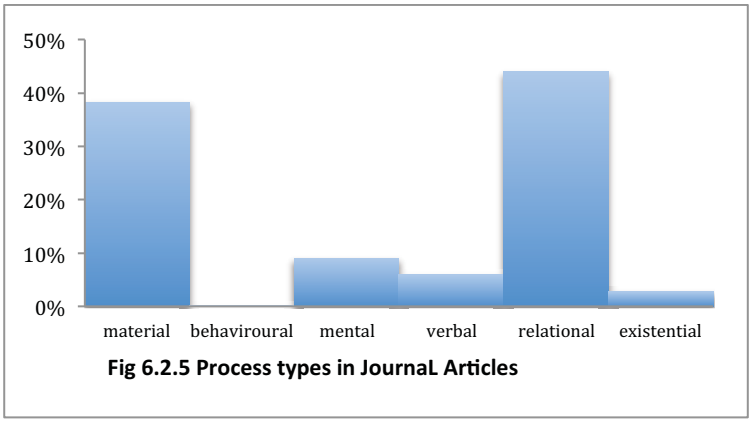


Fig 6.2.5 Process types in JournaL Articles

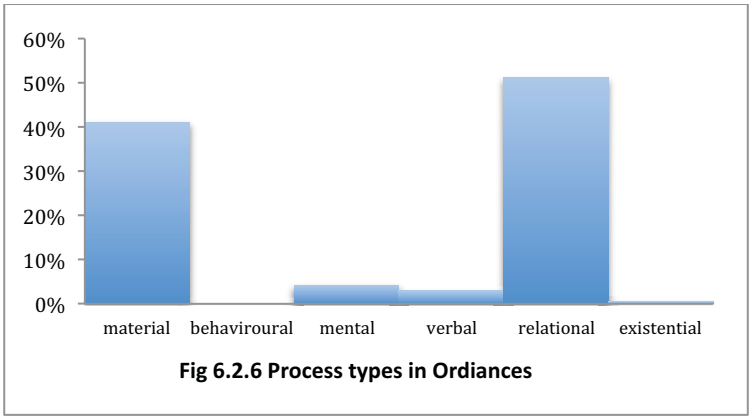


Fig 6.2.6 Process types in Ordiances

6.3 Brochures & Rough Guides

Construing persuasion in rough guides means how the experience of persuasion is grammaticalized in language, or, how to construe a believable and reliable attraction for the prospective tourists with the employment of the ideational meaning resources. Construing persuasion is not mysterious at all. When a peddler is selling his goods or wares on the street, he may choose to cry out, to sing out or to hold a sign with some eye-catching stuff, or whatever, he is actually employing semiotic resources to persuade the pedestrians. We may compare the different ways of employing meaning resources in different registers to the different approaches a peddler is taking for the purpose of persuasion. Though, construing experience in tourism discourse is much more complicated. By now, I can only focus on the very specific aspect of the construal of experience, namely, the nuclear transitivity or process types. The circumstantial transitivity and its correlation with the central transitivity in each register will be touched upon, but a closer and meticulous observation has to be left for Chapter Seven.

It is very reasonable for me to start with Brochures and Rough Guides since they constitute a typical register of persuasion related to image creation in tourism

discourse. The term, persuasion, as it were, is strongly oriented towards the interpersonal aspect of meaning, which is typically realized through the employment of interpersonal resources (e.g. Martin, 1995a, O'Halloran, 2012). Persuasion, however, is not only enacted interpersonally, it is at the same time ideationally construed, textually modulated and visually presented on brochures, newspapers, Internet, etc. Drawing on Matthiessen's (1999) insightful observation of transitivity as a resource for construing space in rough guides, I will focus on the deployment of process types by asking such questions: why relational clauses stand out (see Figure 6.2.2 & Appendix 1) as the major process type in the annotated clauses of Brochures and Rough Guides? How can the deployment of nuclear transitivity of this particular register be related to its discourse function?

First of all, I will scan the list of key verbs obtained through the investigation of keyness with the help of the software Wordsmith 5.0 developed by Mick Scott, with the intention to have a general picture of what is going on as presented in this sub-corpus. I mainly examined the verbs with high keyness because verbs are the very word class to realize processes. The key verbs are shown in Appendix 2-1. It is not difficult to notice the lack of overt persuasive words, or the words that easily incur personal evaluation. Unexpectedly, the verbs that can project ideas, like *found, heard, thought*, and that can indicate desires, like *determined, like, wanted* are all located in the group of verbs with negative keyness. This tendency can satisfactorily explain the low frequency of mental clauses occurring in brochures and rough guides

On the contrary, the verbs that construe space are prominently used. Out of the 23 key verbs, there are 8 'spatial' verbs, with 6 being related to 'space' or static space: *located, situated, overlooking, surrounded, lies* and *dominated;* and 2 being related to 'motion' or dynamic space: *runs* and *depart*. The verb 'run' is metaphorically used as showing directions rather than swiftly moving one's body. In this context, as the examples indicate in Fig 6-3, the verb, *run*, construes both spatial distance and temporal distance, being collocated with the circumstantial elements indicating 'space (e.g. *along, from…to…, between…and…*)' and 'duration (e.g. *every 30 minutes*). These verbs used to construe 'static space' and metaphorical 'dynamic motion' are most likely instantiated in *relational: identifying: circumstantial* clauses, for example, "*dominates*" in "*The Potala, a vast white and ochre fortress, dominates the Lhasa skyline",* and *"lies"* in *"The bulk of Tibet, both in population and land size, lies outside the TAR"*. It is also very remarkable that the circumstantial transitivity is frequently employed to construe 'space', as the preposition phrase "*over a shopping arcade*" in *"The hotel is built over a shopping arcade."*

Fig 6.3. Concordances of the key verb, *run, construing 'space'*

In comparison, the 'identifying clauses' constitute only a small part of the relational clauses (about 25%). As a persuasive discourse, there is a more important type of relational clause that directly creates a sense of persuasion. The *relational: attributive: intensive* clauses open the door for sensing to become Attribute and Process (Halliday & Matthiessen 2004: 224-5). It is this type of clauses that entertain the evaluative resources – attitude, desideration, emotion, and obligation – in abundance. There are almost 80% of the relational clauses are attributive, of which over 70% are intensive. Table 6.1 gives some examples with the evaluative elements in italic.

Table 6.1 Examples of *relational: attributive: intensive* clauses entertaining evaluation

Quality attribute	• The tropical island is *still largely unspoiled.* • the Federal Hotel is *elegant* with a warm ambience. • it is *easy* and *inexpensive* to get around to explore the many places of interest.
Entity attribute	• Lhasa, the heart and soul of Tibet and an object of devout pilgrimage, is still *a city of wonders*. • Phuket is *a well-established beach resort* off Thailand's southern coast.

There are only a little bit more than 5 percent clauses are mental, almost the same as existential clauses. However, among the small number of mental clauses, the perceptive type strikingly takes up nearly a half (45.90%). This percentage is also the highest across the five registers. This tendency properly represents the fact that the function of brochure and rough guides is to lead the reader to perceive the attractions in the destination, like '*can spot*' in *Bird-watchers can spot cranes, ducks, bustards, egrets, swans and herons in the country's lakes and nature reserves* (Text CA17).

There are around 5% existential clauses, not many but the most among the five registers. Existential clauses are used to introduce a place or something that deserves the visitor's attention. The 'existent' is the single participant in this kind of clause. In Brochures and Rough Guides, the existents are very often realized by a nominal group introducing an '*attraction'*, like "*a world-class Spa*" in "*There is a world-class Spa offering different aromatic treatments, sauna, cool dip, steam bath and 25-metre lap pool"* and the nominal group with a post-modifier introducing everything provided in the room in "*There are 887 stylish air-conditioned rooms with bath, shower, TV, telephone, mini-bar, in-room safe, hairdryer, tea and coffee-making facility."* The postmodifier, either an embedded clause or a prepositional phrase, sometimes are used to specify the 'existent's' function as the non-finite clause in the clause "*there is also a bar serving refreshing cocktails and snacks."* Very frequently, an existential clause contains a distinct circumstance of time or place. A good example is the clause "*In Tibet, there are many festivals throughout the year that attract the faithful as well as curious onlookers.*" In this clause, the place "*In Tibet*", the time "*throughout the year*", the plural deictic "*many*" and an embedded post-modifier clause altogether enhance the existent "*festivals*".

6.4 Travelogues

As indicated in Figure 6.1, brochures and rough guides are located at the end of the continuum of image information, providing 'high market penetration' but 'low credibility'. The image of description is very often suspiciously too positive to be true because of being often exaggerated. People may use them more for information, like transportation and hotel, to arrange their itinerary for the trip than for enjoying the reading. In order to read about the destination, or to

spiritually experience the destination in advance, prospective tourists may prefer travelogues to rough guides because they can avoid the annoying advertisements for one thing. For another, they may feel more sympathetic about the story developed from a first-person perspective adopted by the travel writers.

According to my analysis of the limited number of clauses (474), the deployment of the material and relational processes has a rough balance in Travelogues (each around 40%) and the mental processes are also more used than in Brochures and Rough guides (see Figure 6.2.3 above). When the investigation is put in a larger context by identifying the key verbs occurring in the sub-corpus of Travelogues that consists of about 30,000 clauses (see Appendix 2-5), the picture of processes seems to be more balanced among the three major process types. The key verbs were identified and classified into process types in Table 6.2.

Table 6.2 A general profile of nuclear transitivity in Travelogues

Process	**Sub-types**	**Key verbs obtained from the corpus**	**Percentage in the annotated texts**
Material	spatial	went, got, walk, drove, stopped, started, turned, left, arrived, came, returned, rode, ran	36.08%
	non-spatial	took, bought, ate, tried, spent, waiting, gave, picked, met, closed, kept, fried	
Mental	perceptive	saw, looked, noticed, watched	13.08%
	emotive	liked, felt	
	desiderative	decided, wanted, remind	
	cognitive	found, knew, thought, figure	
Relational		was, were, seemed, got, ended, exhibit	40.30%
Verbal		said, told, asked, talked, called, spoke	4.64%
Behavioural		checked, Sat, sleep, wandered	0.84%

Being similar to Brochures & Rough guides, the perceptive clauses are also most popular in Travelogues, but when comparing across the registers, it is found the *emotive* clauses in travelogues behave the most actively at the rate of a little bit less than 30 percent with two other image creation registers following it: Brochures & Rough guides, 25% and Forum Texts 24.30%. The emotive clauses are very limited in the image maintenance register, with less than 10 percent in Journal Articles and zero in Ordinances. Of the emotive clauses, many of them are principal with a *Senser + Process + Phenomenon* structure, but there are also a few idiomatic mental processes and a few more located on the borderline between mental and material, or mental and relational. Some examples are given in Table 6.3 below.

Table 6.3 Types of emotive clauses

principal	• as most places don't *mind* you bringing in your own stuff • We can *enjoy* delicious foods like right photos which I had in a popular restaurant in Sha-tin. • it helps that I *love* Chinese food!
idiomatic	• and his works and his attitude towards entertainment will continue *to touch a string in more people's hearts* forever. • I could *loosen up my mind*, apart from the bustle of the city.
Mental-material	• many fashionable shops and cafes there *attract* people. • *Lured* primarily by the romantic grandeur of Angkor Wat
Mental-relational	• We *felt* a little strange buying these items normally used for worship as souvenirs,

6.5 Forum Texts

Tourism forums, as a channel for asynchronous communication, provide an opportunity for the prospective tourists and the after-trip tourists or the tourism practitioners to 'talk' keyboard-to-keyboard. Metaphorically, there are two streams mixed in the flow of communication: one is the 'soliciting' stream and the other is the 'delivery' stream. The 'soliciting' stream consists of the prospective tourists' questions, doubts and worries full of such expressions like, '*Anyone knows?*" "*Please suggest*", "*I'd appreciate it very much if…*", used to solicit tourist information about destination, hotel, restaurants, prices and so on at the start, and many 'thanks' in the end. The 'delivery' stream contains the pieces of information, like a website, a bus route that are copied from somewhere else; and snatches of experiences, which are not necessarily of the enjoyable kind. Very often, they also give warnings, for example,

> *After checking in, paying up front, she climbed into her (hopefully) welcome bed, pulled back the neatly made bedspread, only to find the sheets covered in FRESH VOMIT!* (Text EC01)

> *If this is how Best Western treat their customers, they don't deserve any. DO NOT CHECK INTO BEST WESTERN HOTELS ANYWEHERE! (in original bold)* (Text EC01)

Seemingly, Forum Texts has a very similar deployment of nuclear transitivity to that of Travelogues as indicated in Figure 6.2.3 and 6.2.4 above. Transitivity analysis is conducted at the highest level of abstraction, which forms an organic

part of the meaning creating resources. In order to interpret the result of transitivity analysis, we have to take either of the two approaches or two together for different purposes: one is to stick to the system by handling the great delicacy of it first; the other is to adopt a trinocular perspective (Halliday & Webster, 2009, Chapter Nineteen), 'from above', 'from below' and 'from roundabout'. This trinocular principle is applied to identify the 'semiotic address' (Butt, 2005:103) of certain grammatical features, but it is a good reference to interpret grammatical phenomenon.

'From above', the difference between forum texts and travelogues has been assumed and prescribed by language users, as a travelogue will not or not be able to be posted in a forum thread, at the same time snatches of story shown on the forum threads are not elaborated enough as a travelogue. When we were collecting data from the Internet, we just took this difference for granted. From roundabout, the interpretation can be related to the interpersonal and textual system. It is easy to differentiate forum texts and the other two text types above by looking at the Subject, or the addresser or addressee represented by pronoun. The result clearly indicate the dialogic feature of forum texts with a very active use of *I* and *you*, the narrative feature of travelogues with a very high frequency of *I* and absence of the second person, and the instructive nature of Brochure and Rough Guides with the absence of first person and preference of *you*. From below, Brochure and Rough Guides employs more factual verbs to construe '*space*' for the reader as discussed above, while the forum texts tend to construe a mixed '*attitude*' of willingness and hesitation by using a lot of modal verbs, like *wi*ll, *can,*

want, think and so on. Travelogues tend to construe 'activity' of the travellers, so the action verbs, like *go, get, take, walk, drive, stop*, achieve very high keyness.

It is interesting to find that among the types of sensing about 45% are cognitive. This is surprisingly much higher than that in Brochures & Rough guides (16.18%) and Travelogues (19.35), and closer to the image maintenance registers that have about 60 % cognitive clauses. When I checked the examples, I found that some of them are pseudo cognitive, like "*I think*" in "*I think you would like Langkawi!*", and "*I guess*" in "*I guess there might be better but we found it good for the price*". Both mental projecting clause serves as interpersonal grammatical metaphor indicating 'uncertainty', and thus convey more interpersonal meaning than experiential meaning. The other expressions identified include "I suppose", "I doubt", and "I believe".

6.6 Journal articles

Having a quick glance at the key words obtained from the sub-corpus of Journal Article (see Appendix 2-3), I was very much impressed by the verbs and nominalizations related to semiotic activity, or the expounding of unknown truth in the field of tourism. Below I attempt to roughly subsume all the key words related to mental activities under the mental clause system in Table 6.4 The order of occurrence reflects the value of the keyness of the related words.

It is not difficult for us to make a reasonable judgment that cognitive action has been highlighted in journal articles. This point can be strongly supported by my detailed analysis of the process types of the randomly selected journal articles

from the corpus of tourism. According to my analysis, a little more than 60% of the mental clauses are 'cognitive', with 'perceptive' taking up about 19%, 'desiderative', 14.5%, while 'emotive', only 7%. Appendix 2-3 clearly shows that the majority of the key words in relation to mental activity, either verbs or nominalizations, are located in the cognitive domain.

Table 6.4 Key mental verbs and nominalizations in Journal Articles

	verbs	Nominalized verbs
perceptive	perceive, survey	finding, perception, observation
cognitive	consider, attract	study, analysis, research, planning, survey, understanding
desiderative	expect	expectation
emotive	N/A	N/A

By having a closer look at the key words other than verbs, it is easy to be noticed that, with tourism industry under investigation, the researchers focus on the problems of *planning*, *development*, *management, benefit, motivation, consumption, and visitation (these key words are in the order of keyness)*. It is highly noticeable that grammatical metaphor contributes a lot to the formation of relational clauses in journal articles, as shown in the following examples.

The growth of adventure travel has been accompanied by an enormous variety and availability of adventure travel products in international travel and tourism.

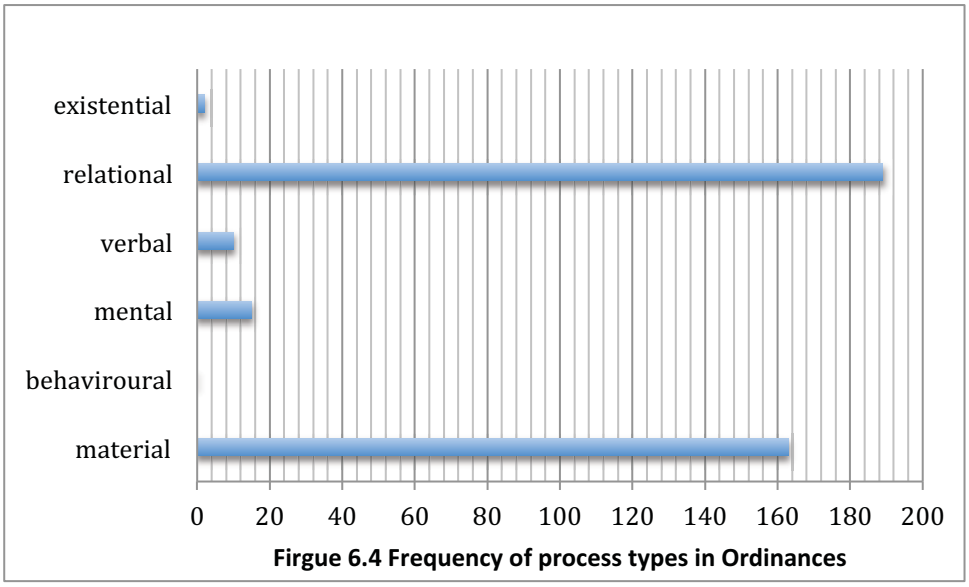
this study identifies six major components - activity, motivation, risk, performance, experience, and environment.

Halliday & Matthiessen (2004:657) pointed out that the concept of grammatical metaphor enables us to bring together a number of features of discourse, which at first sight look rather different from each other. Grammatical metaphor turns out to be the vital grammatical resources for journal articles and ordinances to share to create a sense of formality.

6.7 Ordinances

As is shown in Appendix 1, Material clauses (43.01%) and Relational clauses (49.87%) stand out as the two major process types in Ordinances and thus the other process types become very rare. The frequency of the process types is diagramed in Figure 6.4 below. Except existential clauses, mental, verbal and behavioural processes all involve an agent respectively represented as a Senser, a Sayer or a Behaviour. These agents are apparently not encouraged to be shown in legal laws. Those who are actually addressed in Ordinances are certain groups of interest and related industries, like 'tourism practitioners', 'tourism accommodation establishment', 'holiday premises' or 'catering establishment'. This attests the saying that 'the law is emotionless!' just because it only tells you 'what is what', and 'what should or should not be done'. It is these two contents that make the true sense of regulation.

The experience of 'what is what' is realized in relational clauses. According to our analysis, there are two principal types of relational process types in the ordinance texts.



Firgue 6.4 Frequency of process types in Ordinances

The most prominent type might be *relational: attributive: intensive.* The Attribute is characteristic of being defined by reference to an entity or a quality, and typically with the modal operator, *shall*, in the sense of high-valued obligation as exemplified in Clauses 1-3 in Table 6.5. This can be clearly supported by the highest keyness of the three verbs, *shall*, *may* and *be* identified in the corpus (see Appendix 2-4). Besides, the intensive causative clauses of *verbal assignment* are also popular. The typical verb selected for this type of process is "*appoint*", as used in "*Any person may be appointed a member of any such committee" (Example 4, Table 6.5).*

The second type is the *relational: identifying: intensive: decoding* type, exploited to 'define' terminologies or confine the interpretation. Sometimes, possessive clauses are also used for alternation (see Table 6.5 examples 3-4). This formulaic

"something means something" pattern is the very grammatical form used to instantiate this type of function. In practice, it helps to guarantee the formality and seriousness of the legal ordinances (see Examples 5-7).

Table 6.5 Examples of process types in Ordinances

Process type			**Examples**	**Counts in the corpus**
Relational	attributive: intensive	1	The Authority *shall be* a body corporate with perpetual succession and an official seal	be (3406)
		2	Subject to subsection (7), a member of the Authority whose term of office expires by the effluxion of time *shall be* eligible for reappointment to the Authority.	
	causative: assignment: verbal or mental ass	3	References to …in the memorandum or articles of association of any company and relation to function transferred by section 38 *shall*, on and after the establishment day, *be construed as* references to the Authority.	appoint (412), take, construe
		4	"The Minister shall, by order, *appoint* a day to be the establishment day for the purposes of this Act ."	
	identifying: intensive: decoding	5	hotel operator" means a natural person who operates, keeps or manages a licensed hotel or who is otherwise in control of a licensed hotel	mean (582)
		6	"appointed day" means the day appointed for the coming into operation# of Part II;	
	identifying: possessive	7	"license" has the same meaning as given to it by the Act	has
material	transitive: transformative	8	This section does not affect the power of the Chief Executive under section 10(3) of the amended Ordinance to remove a person from the office…	Most of the key verbs are associated with power
	transitive: creative	9	…made a voluntary arrangement within the meaning of the Bankruptcy Ordinance (Cap 6) with creditors	
	intransitive: transformative	10	A member of the Authority may resign from office by notice in writing given to the Minister	
	intransitive: creative	11	the Deputy Chairman shall act in the office of the Chairman pending the appointment of a new Chairman.	

The experience of 'what should be done' is construed as the core meaning of the ordinances by means of material clauses. Different from 'what can be done' and 'what may happen' identified in the three types of texts of persuasion, the voice in Ordinances is much more demanding. As a matter of fact, of the 155 material clauses, except a dozen of them indicating the resignation or holding office of a certain official without a goal or range in the clauses, all the rest (over 90%) material clauses are transitive. Belonging to the register of enabling, there is always an authority asking/demanding the readers to follow the prescribed actions in the text. One more modal operator, namely, *must,* which achieves a fairly high keyness in Ordinances according to our investigation of all the texts (see Appendix 2-4), is now involved in stressing the meaning of obligation, see Examples of material clauses range from 8 to 11 in Table 6.5.

It is interesting to find that except *be* and *mean* achieve a very high keyness and rank top 10 in the corpus, many other verbs that are listed in the 100 key verbs have been nominalized. Among others, the verbs and nominalizations can be classified into two groups. One group is concerned with the development of the legal texts, including, *specified, referred, mentioned.* The great majority of the key verbs or nominalizations forms the second group pertaining to power and authority: *regulation, offence, approval, authorized, warrant, force, comply, appeal, consent, decision, appointment, permit, grant, licensed, refuse, determine, establish, investigation, repealed, levy, gazette, perform, convicted, certified, delegation, governing, request, possession, contravenes, and so on.* Certainly, everything happens in this slice of discourse is on tourism. Thus, the following words

deserve high keyness in Ordinances too: *travel, compensation, operation, possession, protection,* and so on.

6.8 Summary

In this chapter, I first presented the selected models of tourism study relative to image creation and image maintenance for tourism industry. Then I investigated the five registers of tourism with reference to the construal of the aforementioned two social processes by displaying a profile of the deployment of transitivity resources and analyzing the characteristics of each register based on the analysis of more than six thousand clauses and the identification of the key verbs and nominalizations used in each register. These five registers altogether contribute to construe experiences in tourism industry. Their similarities and differences in the deployment of nuclear transitivity resources are identified within and across image creation and image maintenance and summarized as follows:

1). The *relational: attributive: intensive* type of clauses are the vital resources for tourism practitioners to construe "persuasion" for image creation, while the image maintenance registers favor both attributive and identifying clauses, since the latter has an important function of 'decoding'.

2). The image formation registers are more concerned with 'perception' of and 'emotion' to the destinations, while the 'cognitive' clauses are preferable for the registers of image maintenance.

3). The material processes are more exploited to construe “space” in image creation registers, especially in brochures and rough guides, while they are preferred in image maintenance registers to construe “explanation” in research articles and “regulation” in ordinances.

It can be safely concluded that, apart from the image creation discourse that exhibits both overt and covet persuasive intentions (Chen & Xu, 2007, 2010), the ordinances then tend to persuade practitioners to abide by the laws for this profession and journal articles aim to provide the tourist practitioners with scientific evidences and suggestions about what need to be done. In this sense, both image creation and image maintenance registers are persuasive to some degree. Working with the evaluative resources, the transitivity resources are also exploited to construe the experiences of persuasion.

Chapter Seven

Construing experiences in circumstantial transitivity

''quis, quid, quando, ubi, cur, quem as modum, quibus adminiculis''

-- Augustine

7.1 Introduction

7.1.1 Why circumstantial transitivity?

The types of circumstances from the perspective of systemic functional grammar has been simply outlined in Table 3.3 and 1,000 circumstances were analysed and annotated based on the framework of circumstantial transitivity system provided in Halliday & Matthiessen (2004: 262-3). Being characterized as a 'peripheral' system with an 'attendant' status in the clause, in comparison with with the 'nuclear' process type, or the combination of process and medium, may sometimes give us such an impression that "they (Circumstances) do not represent a part of the make-up of the situation" (McGregor 1992:142), and "we need only the logical relationships of enhancement, elaboration and extension, and not the ideational roles of circumstance as well (ibid: 139)".

McGregor was correct that the logical relationships exist between clauses in a clause nexus, but he ignored that they also exist within clauses. According to Halliday & Matthiessen (2004: 383-4)), the logical-semantic relation runs through the grammar at different ranks, i.e. between clauses in clause complexes,

and under clauses in group complexes and word complexes by way of parataxis or hypotaxis in 'univariate structure. For any type of logico-semantics entailed in circumstantial transitivity, agnates can be found above and below the clause in terms of logical semantic relations, for example, the circumstance of projection, *'according to Echtner and Ritchie (1991, 1999)'* in Example *a* below is restated in the clause complex in Example *b* as "*Echtner and Ritchie (1991) concluded that…*" and then in a nominal group, "*Echtner and Ritchie's image dimensions*" in Example *c* in the same research article, labeled BA03 in the corpus.

a. <u>According to Echtner and Ritchie (1991, 1993)</u> destination image is comprised of three dimensions; attribute vs. holistic, functional vs. psychological, and unique vs. common, and is best measured using a combination of structured and unstructured methodologies. (Text BA03)

b. <u>Echtner and Ritchie (1991) concluded that</u> destination image research has indicated a preference for structured methodologies, using Likert or semantic differential scales, and therefore has not addressed holistic image. (Text BA03)

c. By examining the elements of Australia's image with reference to <u>Echtner and Ritchie's image dimensions</u> some interesting insights can be gained (Text BA03)

Within a clause, the logical semantic relation lies between the nuclear transitivity and circumstantial transitivity. In this sense, they form a similar univariate structure as complexes above and below the clause do. Just like clause complexes are opportunistic in the text, the logical semantic relation is also opportunistic

within a clause, that is to say, it occurs only when a circumstance is needed to be involved in the clause. Generally speaking, circumstances are much more pervasive than clause nexuses. This is related to one of the fundamental features of language, namely, probability. It might be assumed that the deployment of the logical semantic relations between nuclear transitivity and circumstantial transitivity determines the registerial variation to some degree due to its opportunistic nature, or the registerial variation might be predicted based on the investigation of the deployment of the circumstantial transitivity.

Matthiessen (1995: 327ff) wisely promotes the categorization of circumstantial elements, by which circumstances are only treated in terms of their constituent status in clauses, to the conception of circumstantial transitivity, by which he echoes Halliday's (1985, 1994/2000: 213) viewpoint that "prepositional phrase is a minor clause." The circumstantials or the combination of the preposition and the participants is recognized as entailing a process on the one hand, on the other hand, the choices of meaning of a certain circumstance is systemic. The underpinning principle of relating the circumstances with the nuclear combination is nothing else but logical semantic relation. The recognition of this principle makes the explanation of the agnate phenomena of circumstances more reliable, although reservation is kept for the status of adverbials, which realize circumstances but can only be understood as 'minor transitivity' by looking at the agnates of adverbials in the forms of prepositional phrases, for example, '*reportedly'*, can be thought to be, '*according to the report*', '*quickly*' means '*in a high speed*', etc. In grammar, circumstantial transitivity is regarded as "the resource for expanding the processes or the combination of the process and

participants along various dimensions; phenomena are represented as attendant on rather than involved with the process" (ibid: 327). In discourse, the semantic organizations realized by logico-semantics construe the 'contextualising' experiences concerning time, space, manner, cause and so on. McGregor's denial of the ideational roles of circumstances is *de facto* problematic when we have a look at the origin of circumstances.

7.1.2 Origin of the conception of circumstances

According to Roberstan (1946), the notion of 'circumstances' was first highlighted in religious discourse in relation to rhetoric of confession. The seven questions, as quoted in the subtitle, were recorded in confessional manuals for the reference of the novice priests. Roberstan reported the seven questions as 'circumstances' in his article in this way:

> The Greek rhetorician Hermagoras, ranked by Isidore of Seville among the founders of the art, divided the materials of rhetoric into two parts: thesis and hypothesis. A thesis involves an abstract, general question; whereas a hypothesis involves a question concerning concrete particulars. The loci of any hypothetical question are seven **circumstances**, which St. Augustine, who is our authority for this feature of Hermagoras' rhetoric, quoted as follows: *quis, quid, quando, ubi, cur, quem as modum, quibus adminiculis*.

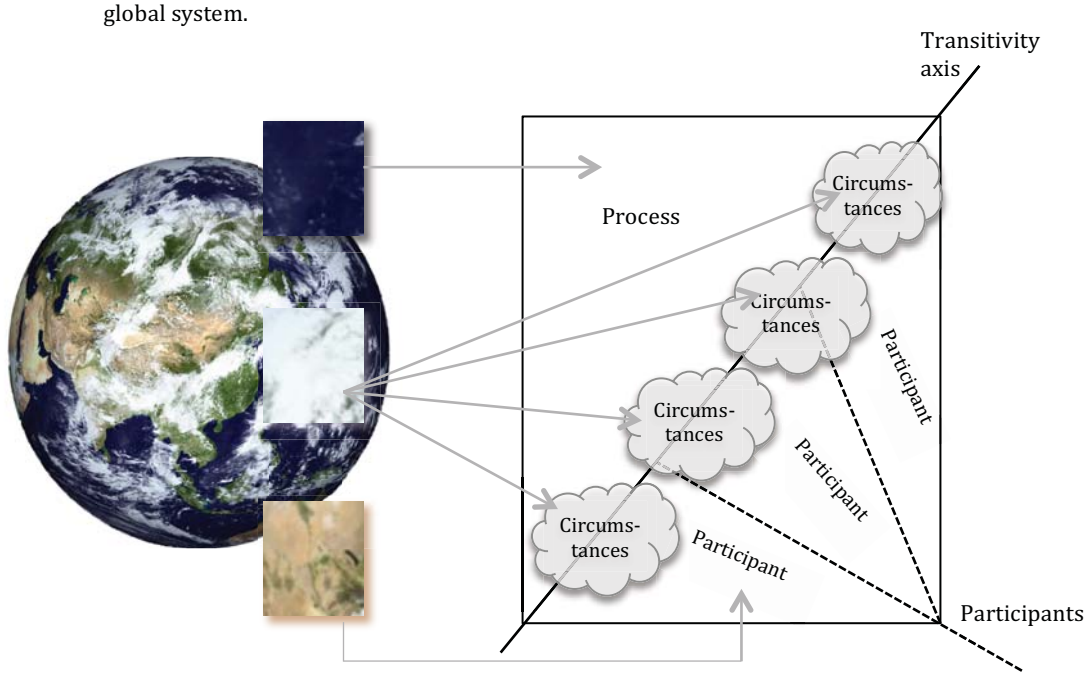
Apparently, this early definition of circumstances in rhetoric is more general but it very directly reveals the importance of circumstances in construing

experiences. The tradition to phrasing circumstances into questions has been well inherited by means of *wh*- probes in Halliday & Matthiessen (2004). This is well presented in Table 5(28) in Halliday & Matthiessen (2004: 262-3).

7.1.3 Participants, process and circumstances

The importance of circumstances can also be understood by looking at the relationship among the three elements of the clauses: a process, one to three involved participants and one or more optional circumstances. The relationship among these three kinds of constituency can be metaphoricalised as the relationship among land, water and cloud in a global environment. When the earth is seen, for example, from the astronaut's vantage point at the International Space Station or on the moon, it appears to be a huge body of blue water, patches of continents and some dotted floating white clouds in the sky. Process is like the water, flowing in time and space in the atmospheric cycling system; participants are like continents, locating at their own positions and circumstances are like clouds, scattering here and there in a seemingly irregular but inherently regular manner, otherwise, it would not be possible for people to forecast the weather (see Figure 7.1).

Figure 7.1 The relation among process, participants and circumstances: a metaphor to the global system.



Just like the global system, the semantic configuration of participants, process and circumstances is also internally dependent on each other. The processes are unfolding in time as going-on activities, accomplishments, achievements or states (see Vendler, 1967: 97-121 on "Verbs and Times"). The process constitutes the cornerstone of an event in a clause in that it is the process that involves the participants and anchors the circumstances. If the water disappeared on earth, the atmospheric system would not exist, like the Mars. Similarly, if the process is not determined, the participants and circumstances could be located nowhere. Every clause entails one process, one or two participants, sometimes three when causation is involved, and one or a few opportunistic circumstances. According to Matthiessen (1999: 41), the average number of circumstances per clause is around 33%, in other words, there may be one circumstance every three clauses. This is because the experience construed by circumstances can be incorporated in process and participants, like the clouds turning into raindrops or the water being vaporized into the air. The following two examples shows how the

circumstances are incorporated in the verb of motion, *grovel*, and the verb of thinking, *expect* as defined in the dictionary:

a. grovel:

to move *along the ground* (space) *on your hands and knees* (means).

Run: to move *quickly* (quality)

b. expect:

to think about something (projection) that happens in the future (location: time)

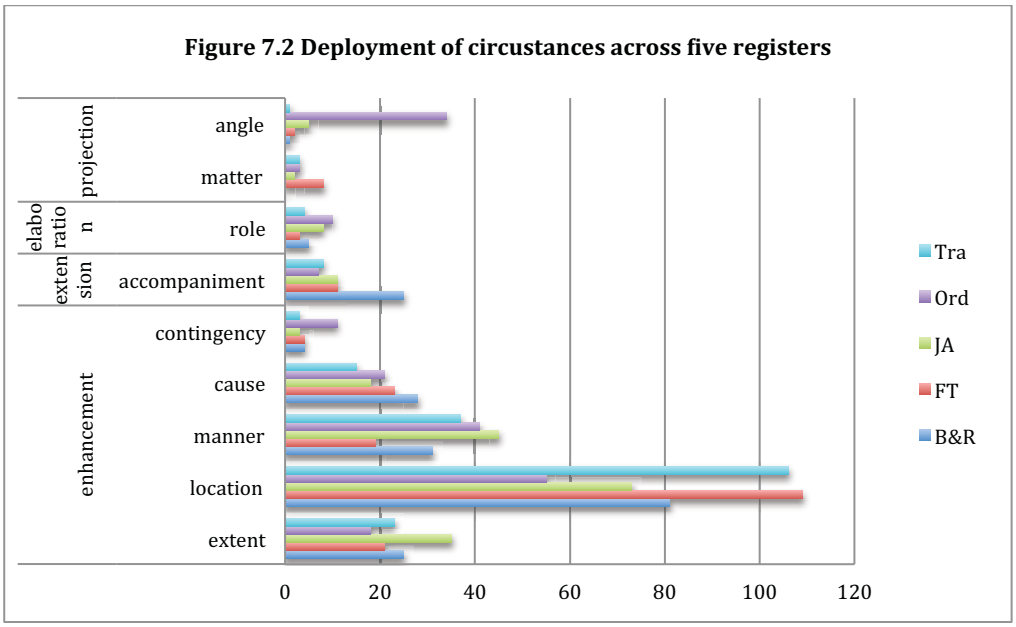
For more verbs of inherently directed motion, refer to Levin (1993: 263-4) and Matthiessen (1995: 347). Matthiessen (1995) also clearly illustrated the agnates of circumstance in participants in Fig. 4-34 (p. 328) and Table 4-42a (pp.333-4) presented in LCES.

Being opportunistic in construing experience, circumstantial transitivity becomes one of the critical aspects to determine the registerial variation because the probability generates the differences in frequency, which is the very index in depicting and predicting the registerial variation in terms of logical metafunciton at the group level. In the following sections, the investigation is mainly focused on the differences of the five registers in construing experience based on the examination of the deployment of circumstances.

7.1.4. The structure of the rest of this chapter and the method

The discussion of the deployment of the circumstantial transitivity is to be conducted the other way round in contrast with the discussion of the construing experience in core transitivity above. The discussion will focus on the frequencies of all the types of circumstances at the first-order nine sub-systems ranging from *angle* to *extent* (see Figure 7.2), across the five registers. Based on the accumulation of the selection of different circumstances in this general profile, the weight of the types of circumstances employed in the small sample of tourism texts is in such an order as location (42.6%) – manner (17.3%) – extent (12%) – cause (10.5%) – accompaniment (6.2%) – angle (4.3%) – role (3%) – contingency (2.5%) – matter (1.6%). The difference of each circumstance is found among the five registers to varied extent. Apparently, the more frequent the circumstances achieve and the more prominent the difference is, and the more effort is called for interpretation. The discussion will roughly follow this order. Due to the limitation of the number of annotated circumstances, the corpus-based approach will also be adopted from a complementary angle.

Figure 7.2 Deployment of circustances across five registers



7.2 Location

Location is responsible for the construal of spatial and temporal location at which the process is unfolding. Time and space are the two indispensable prerequisites of all human experiences and activities. In English, time is first and foremost represented as the tense and aspect systems of verbal groups, indicating the *stages of time*, namely, past, present or future, and *state*, finished or unfinished. But if the exactness of time is to be taken into consideration, the circumstances of time are needed to actualize and contextualize the unfolding of the process. Apart from that, because there is not such a system as tense to define the space of the verbal groups as predicates, except the limited groups of verbs of motion, as aforementioned, mostly the construal of spatial location relies on the circumstances of space. This might be the reason why there is a similar skewedness towards the choice of spatial location across the five registers, ranging from about 70 % to about 85% (see Table 7.1). Ordinances and Travelogues have achieved comparatively higher percentages of temporal location, taking up nearly 30% for ordinances and 25% for travelogues.

Table 7.1 Location: space and time

	B&R		FT		JA		Ord		Tra	
	N=81		N=109		N=73		N=54		N=106	
space	68	83.95%	88	80.73%	59	80.82%	38	70. 37%	79	74.53%
time	13	16.05%	21	19.27%	14	19.18%	16	29. 63%	27	25.47%

Ordinances are more sensitive to time than the other registers, although both temporal and spatial locations are not so much favorable in Ordinances as in

other registers (See Figure 7.2). As legal texts, there is no room for the misunderstanding of the time when the law is to be enforced, a few examples are given below:

a. This section expires at midnight on 31 December 2010 or such later date as the Legislative Council may by resolution determine. (Text AA01).

b. "Hong Kong Tourist Association Ordinance" means the Ordinance known as the Hong Kong Tourist Association Ordinance (Cap 302) that was in force immediately before the appointed day. (Text AA01)

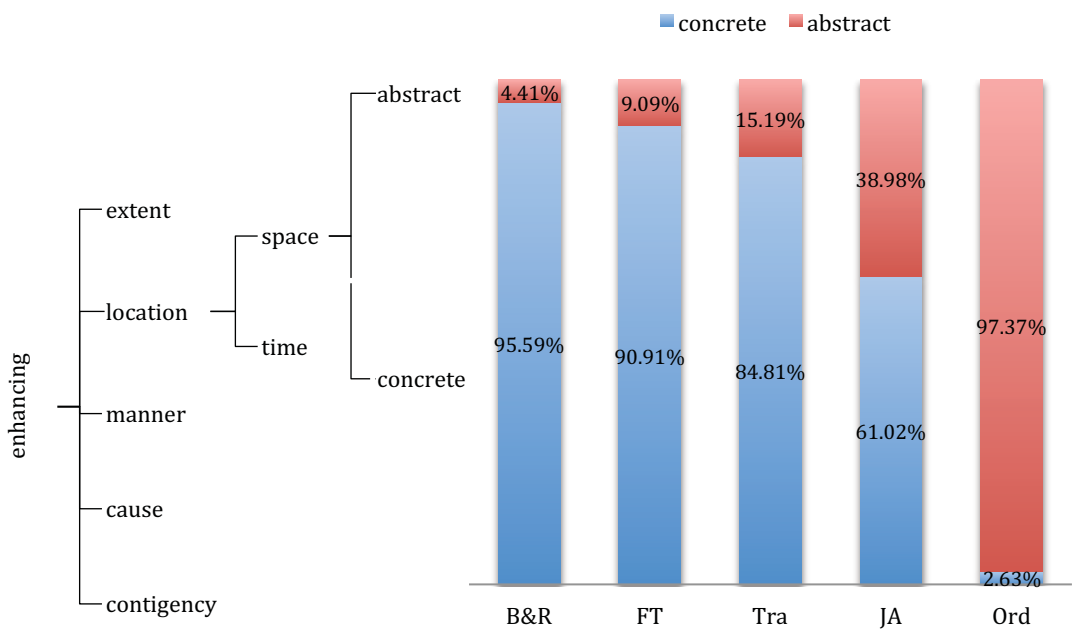
The reason for Travelogues is different, though. Travelogues is a sort of narration by giving an account of the writer's personal traveling experience. Usually, he or she will locate the readers in time and space at the very beginning of his or her story, as exemplified in Example *c* below, and strings his or her activities with a timeline throughout the narration, see Example *d*.

c. I have been to Hong Kong two times. The first was for the concerts of Leslie Cheung, my favorite artist, in April 2001. And the second was just for a vacation staying at my friend's room in August 2002. (Text DA07)

d. This morning was a bit nerve wracking. I was up late last night packing and then woke up early, filled with nervous energy.

Another important factor in relation to space is the distinction between abstract and concrete. There is a clear difference between the image-creating registers and the image-maintaining registers in terms of their selection of abstract space or concrete space. The image creation is to create an attractive image for the destinations and the hospitalities, which is mostly represented in physical forms, like a city, a hotel or an attraction, etc. In contrast, the image maintenance varies in the selection of space, for example, research articles will focus on destinations, but they will cover many other areas, for example, the tourist market and economy. Ordinances focus on the image of the tourism practitioners instead of the destinations and the concrete space is almost absent in this register (see Figure 7.3). A few examples of the abstract space in image-maintaining registers are presented in Excerpts *e-g*:

Figure 7.3. Space type: abstract or concrete



e. Despite Singapore's open economy, and its vulnerability to external shocks and import leakages, tourism has made a significant contribution to output, employment, and income. (Text BA00)

f. Billions of dollars are being poured into the tourism infrastructure to accommodate a burgeoning Asian tourism industry. (Text BA00)

g. (2) Accordingly, references to the old Board-

(a) in any agreement, arrangement or contract or in any record or in any deed, bond or instrument;

(b) in any process or other document issued, prepared or employed for the purpose of any proceeding before a court, tribunal or similar body; and

(c) in any other document whatever (other than an enactment) relating to or affecting any property, right or liability of the old Board that vests in the new Board under section 37,

are taken as from the appointed day as referring to the new Board in whatever terms as may be appropriate in the circumstances and to the extent that it is consistent with this Ordinance. (Text AA01)

The other factors in the system of location – definite or non-definite, near or remote, rest or motion, absolute or relative – are directly or indirectly related to the previous two distinctions. For example, due to the irrelevance of concrete space in Ordinances, the 'relative space' is absent in it.

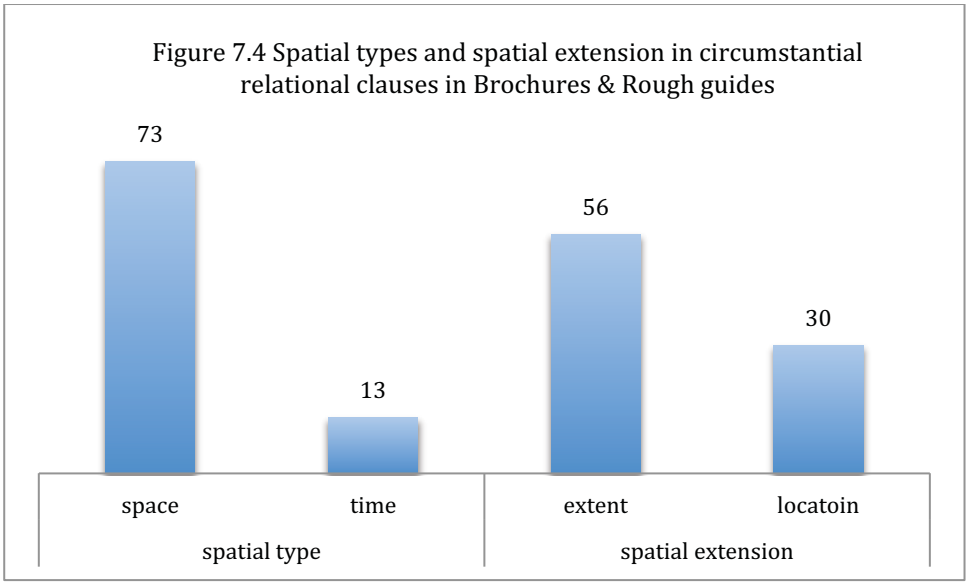
7.3 Extent

Extent is the other important resource to construe space and time. But it is not about the points, but about the range, namely, the distance in space and the duration and frequency in time. As indicated in Figure 7.2, there is not a salient difference among the five registers in terms of their percentages in its own register, namely ranging from around 12% to 20% (c.f. Appendix 6). Compared with Location, the selection of Extent is less active (see Figure 7.2). Of all the types of circumstances, 12% is related to Extent. It is interesting to notice that the construal of extent favors relational clauses. In the investigation of all the 110 relational: circumstantial clauses in Brochures & Rough guides, nearly 80% of the attributive and identifying circumstances are concerned with space and time (see Table 7.2). Further, of the 83 cases in relation to space and time, almost two thirds belong to the Extent type (see Figure 7.4 below).

Table 7.2 Types of circumstances in relational clauses in Brochures & Rough guides

	N=110	
space	73	67.27%
time	13	11.82%
manner	6	5.45%
cause	2	1.82%
contingency	1	0.91%
accompaniment	5	4.55%
role	9	8.18%
projection	0	0.00%

Figure 7.4 Spatial types and spatial extension in circumstantial relational clauses in Brochures & Rough guides



A few examples of the agnates of spatial and temporal circumstances in relational clauses are given below, ranging from Excerpts *a-d* :

a. Not only is Khao Lak blessed with natural beauty but it is also easily combined with Phuket which is about a 90-minute drive away (spatial: extent) and krabi which is a 2-hour drive away (spatial: extent). (Text CA23)

b. The beautiful islands of Phi Phi are just 48 kms from Phuket. (Text CA23)

c. The island is still in the early stages of development (temporal: extent) (Text CA23)

d. Khan et al. (1995) estimated that tourism contributed 11.9% to Singapore's GDP (spatial: location) in 1992 (temporal: location). (Text BA00)

7.4. Manner

Manner construes the way in which the process is unfolding by reference to the means enabling the process, the quality of it, the similarity to an entity or the extent to which the process is involved. The typical probe to manner is '*in what manner*'. Circumstances of manner are typically related to actions and activities, although all processes are unfolding in a certain manner. The inactivity of realization of circumstance of manner in adverbs or prepositional phrases might be due to the fact that the circumstantial meaning of manner tends to be metaphoricalised in the nominal groups as an Epithet, like "*excellent*" in the clause "*He is an excellent tennis player"*. Compare it with its agnates:

He is an excellent (Epithet) tennis player.

- *He plays tennis excellently. (Circumstance: manner)*
- *He plays tennis in an excellently manner. (Circumstance: manner)*

The meaning of manner is also very often encoded. A good case in point is the verbs of behavior, as shown in Table 7.3 below.

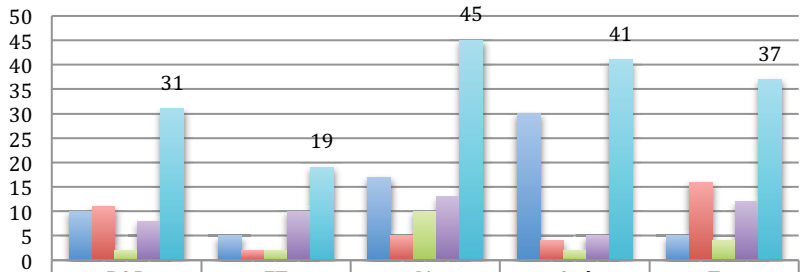
Table 7.3 Agnates of quality inherent in verbs of behavior (adapted from Levin, 1993)

Behavior	Verb	Explanation
walking	limp	to walk painfully or unevenly, as a result of an injury
	stroll	to walk in a slow and leisurely way
	stagger	to walk with difficulty, from side to side
looking	stare	to look at sth in a fixed way for a long time
	glare	to look at sb angrily
	glance	to look quickly to the side
	gaze	to look far away into the distance
drinking	sip	to drink slowly, a little at a time, enjoying the taste
	slurp	to drink noisily

	gulp	to drink and swallow quickly in great mouthfuls
laughing	snigger	to laugh unpleasantly at sb else´s misfortune
	giggle	to laugh in a silly way
breathing	gasp	to breathe in quickly and loudly in surprise
	sigh	to breathe out with disappointment or contentment

Based on the result of the analysis, the employment of manner in each register can be ordered in this sequence: Journal articles (45) – Ordinances (41) – Travelogues (37) → Brochures & Rough guides (31) – Forum texts (19) (see Figure 7.5).

Figure 7.5 Circumstances of Manner



	B&R	FT	JA	Ord	Tra
means	10	5	17	30	5
quality	11	2	5	4	16
comparison	2	2	10	2	4
degree	8	10	13	5	12
Total	31	19	45	41	37

If the registers are replaced with the corresponding macro registers presented in Table 4.1, namely, Expounding → Enabling → Recreating →Recommending → Sharing, it will be found, and already attested in the previous discussion, that the image-maintaining registers favor a little bit more the construal of manner in circumstantial transitivity than the image-creating registers do in general. However, this conclusion is quite slippery because the difference of frequency is not very significant and the data analysis is too limited. Furthermore, it should

also be reiterated that being inactive in the construal of explicit manner in circumstantial transitivity does not mean that the construal of manner is not important in the image-creating registers. In fact, all the 80 cases of verbs of behavior incorporating manners identified in the whole corpus are located in the three image-creating registers, for example, *stroll, stare,* and *gasp* in the following examples:

a. Very so often someone will stroll through the courtyard. (Text DC03)

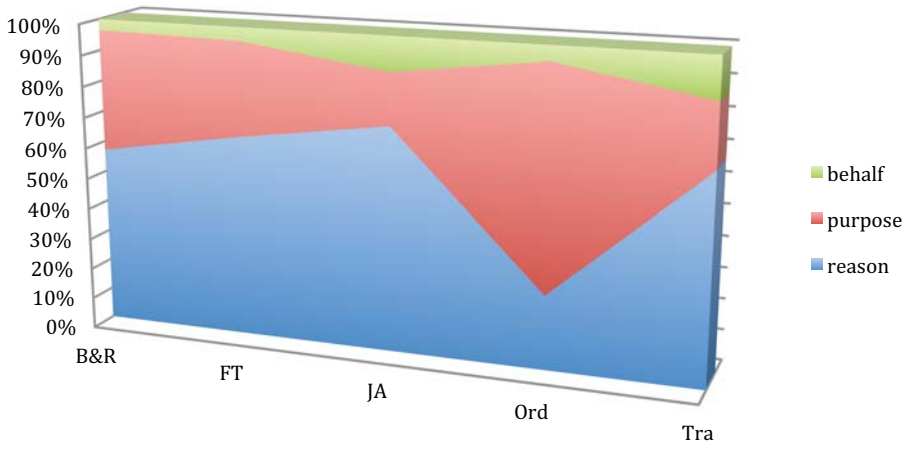
b. Evil looking gargoyles stare from every corner of the cathedral giving it a definite medieval air. (Text DB01)

c. In the early evening we went to a Chinese acrobatic show, with a troupe of about 25 kids and young adults who did aerial acrobatics, juggling, balancing and unicycle tricks that made us gasp. (Text DA17)

7.5 Cause

Cause construes either the reason for the event to take place, or the intention behind the process, or for whom the process takes place. They are known as reason, purpose and behalf in the sub-enhancing system of cause. The agnates of reason in verbal group include 'lead to', 'result in/from', 'arise from/out of', etc.; while in clause complexes, 'because' is the typical linker to construe the logic meaning of reason. The agnates of purpose in clause complexes include 'in order to', 'because of', etc. The deployment of the circumstances of cause identified in the 200 annotated cases is presented in Figure 7.6.

Figure 7.6 Circumstances of Cause



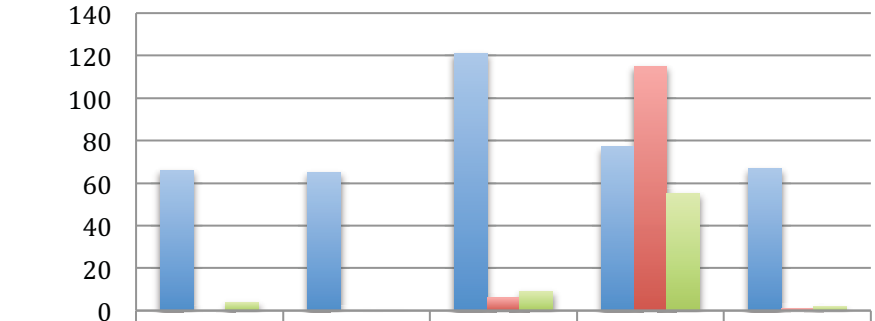
The general tendency is that among the three types of cause, reason is most favored by all the registers except Ordinances. Instead, Ordinances prefers the construal of 'purpose'. This result is partially confirmed by the survey of the unambiguous prepositions of reason, purpose and behalf (Notes: the selection of prepositions is based on Table 5(28) presented in Halliday & Matthiessen, 2004: 262-3)(see Table 7.4 below).

Table 7.4 Prepositions of Cause

Type of cause	Prepositions
Reason	because of, as a result of, thanks to, due to, for want of, for/by reason of
	out of*, through*, for*
Purpose	for the sake of, for the purpose of, in the hope of
	for*
Behalf	on behalf of, in favour of
	for*, for the sake of*
Note: * These prepositions are ambiguous because they can also construe meaning other than 'cause'. Thus they are not used at the nodes for concordance in the survey.	

Figure 7.7 shows that 'reason' is favored by all registers based on the survey of the six prepositional complexes, whose meanings are not subject to variation. If the cases that are realized in the simple prepositions, like 'for', 'with' (see Section 7.11 for further discussion of these two prepositions) etc., there should be a higher percentage of reason across the registers. However, the tendency of the deployment of the three types of 'cause' is clear across and with the registers.

Figure 7.7 Frequency of the types of Reason across the corpus



	B&R	FT	JA	Ord	Tra
reason	66	65	121	77	67
purpose	0	0	6	115	1
behalf	4	0	9	55	2

Different from all the other registers, in which only reason stands out saliently, Ordinances favors the construal of 'purpose' more than 'reason' and 'behalf', although the latter two also achieve fairly high percentages. This can be explained that the laws are made for 'explicit purposes' by making the 'reasons' less implicit, two examples are taken from Ordinances with tags:

a. (6) The legal claims including present, future, actual and contingent claims by or against the old Board, including any accrued right of appeal, judicial and administrative proceedings instituted by or against the old Board (Cause: behalf)

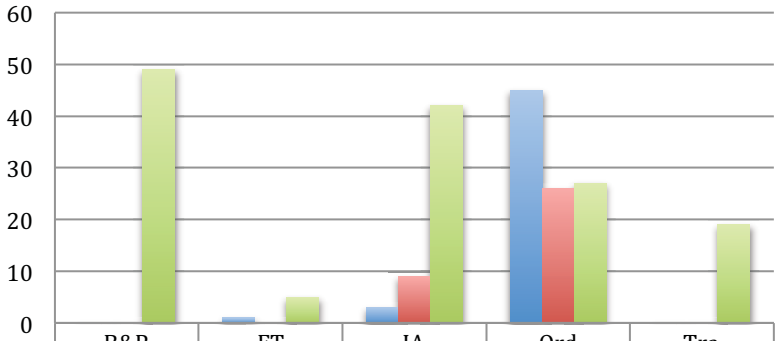
that existed immediately before the appointed day do not abate by reason of the commencement of Part II (Cause: reason). They may be continued or enforced by or against the new Board (Cause: behalf). (Text AA01)

b. … (b) in any process or other document issued, prepared or employed for the purpose of any proceeding (Cause: purpose) before a court, tribunal or similar body; … (Text AA01)

7.6 Contingency

Following the same suit, a survey of the occurrences of the unambiguous prepositions realizing condition, default and concession: the three subcategories of 'contingency' due to the very limited number of cases identified in the small samples. The nodes used for concordancing the whole corpus include condition: '*in case of*' and '*in the event of*'; default: '*in default of*', '*in the absence of*' and concession: '*despite*' and '*in spite of*'. The result of the corpus-based survey is shown in Figure 7.8 below.

Figure 7.8 Frequency of the types of Condition across the corpus



	B&R	FT	JA	Ord	Tra
condition	0	1	3	45	0
default	0	0	9	26	0
concession	49	5	42	27	19

As indicated in the figure, Forum Texts is characteristic of a very limited number of conditional circumstances. Forum Texts record the asynchronous communication between the (prospective) tourists who are interested in the visit to certain destinations, concerned with their plans about the tour routes or worries about the hospitalities, and so on. The initials of the exchanges in these possibly 'prolonged conversations' are usually short by means of questions or queries, while the follow-ups of the answerers are in more details, mainly for the construal of space (c.f. Table 7.1 above) for the prospective tourists. In this sense, the answerers are authoritative in offering information rather than hesitant by conditioning his or her statement.

In contrast, it is extremely important for Ordinances to construe every possible contingency by means of conceding, conditioning or de-conditioning. The principal rule for the legal texts is to take into consideration of all possibilities that the law should or should not be enforced. The circumstances are the very resources that the lawmakers can depend on, just like the priests can rely on the classical seven questions to trace the sins of the sinners. Thus a very high circumstantial density becomes a norm for the legal discourse, as exemplified in the following excerpt.

Restriction on future financial commitments

The Board shall not without the Chief Executive's approval in any financial year enter into any contract ||if expenditure under the contract together with all other contracts previously entered into is likely to involve expenditure by the Board in

any subsequent financial year under any major head of expenditure [specified by the Board under section 17B] of an amount or aggregate amount exceeding the amount in the estimate of expenditure [approved by the Chief Executive under section 17B] for the same major head of expenditure for the financial year in which the contract is entered into (and not transferred to any other major head by the Board) together with any other sum [transferred to that head by the Board during that financial year](other than a sum transferred from any unallocated balance or surplus shown in the estimates for that financial year). （Text AA01）

7.7 Accompaniment

Accompaniment construes the meaning of joint participation in the process. The circumstance is agnate to the linker used to plus the second participant in a paratactic nominal group complex with the meaning of 'and', 'or', or the negatives, 'and not'. Unlike the role of the participants in the complex, the participant in a circumstance of accompaniment is unable to become the Subject, thus it can only play an accompanying role and the real Subject has been foregrounded to be solely responsible for the process. For example, '*Koh Samui'* in Example *a* and '*the rooms'* in Example *b* below are the only focus in each clause, although it is actually the '*white sandy beaches*' and '*crystal clear waters*' that are beautiful, and it is the equipment that makes the rooms elegant. Because the participant of the clause and those occurring in the prepositional phrase forms a 'whole-part' relationship, the *with- phrases* in these two clauses can be arguably understood as 'because of'. In contrast, the accompaniment status of 'with them' in Example *c* is very clear because in this context, the presence of 'them' is the only factor enabling the speaking, not vice versa.

a. Koh Samui, just an hour's flight from Bangkok, is a beautiful, tropical island with long stretches of deserted white sandy beaches and crystal clear waters. (Text CA23)

b. The rooms are elegant and spacious with air-conditioning, bath, separate shower, walk-in closet, TV, telephone, high speed internet access, compact disc and tape player, hairdryer, bathrobes, slippers and a deluxe range of bathroom amenities. (Text CA23)

c. I have tried to speak with them but the staff at the Ramada will not even make a presence of listening. (Text EC01)

In general, the construal of accompaniment is not salient in our analysis of the selected 200 cases. Nor is the Role discussed in next section if only based on the limited analysis. A corpus-based investigation with a close investigation of the sample concordances is called for to help to throw light on how the meaning of accompaniment is construed across the registers. The typical preposition to realize 'accompaniment' is '*with'*, but, just like many other simple prepositions, e.g. *for*, it also entails some other meanings, like 'reason', 'condition', etc. It is necessary to distinguish the meaning of accompaniment from the others in the results before doing the concordance in the corpus

7.8 Role

Role specifies the role or capacity in which a participant is involved in the process. It consists of the 'depictive' role, named as 'guise' in the circumstantial system, which is typically realized by 'As a/an xxx", and the 'resultative' role,

named as ‘product’ that is typically realized by the preposition ‘into’ in pertinent to the process of changing of the form of the related participant, e.g. *turn, change, translate*, etc. Due to the reason aforementioned, the investigation is conducted by means of concordancing the whole corpus. The result is presented in Table 7.5 below.

Table 7.5 Deployment of Roles across the registers

		B&R	FT	JA	Ord	Tra
guise		174	64	410	372	85
product	physical	9	1	4	0	9
	virtual	4	0	8	0	3

As shown in Table 7.5, the construal of role as product is not favoured by the tourism discourse. In fact, it is totally absent from Ordinances and only one case was found in the Forum Texts. As for the very limited number of ‘products’, Journal Articles tends to construe virtual ‘products’ and outs & Rough Guides and Travelogues tend to construe physical ‘products’.

In comparison, the Role was construed as ‘guise’ abundantly across the registers, with the image-creating registers achieving salience. However, the difference in the way of construing ‘guise’ between Journal Articles and Ordinances is very noticeable. On the one hand, in Journal Articles, the processes that collocate with the realizational forms of “roles as guise” are mainly concerned with cognition and research activities and realized by the following verbs respectively:

Cognitive verbs:

See…as…, perceive….as…, consider…as…, and other verbs such as *regard, conceive, recognize, define, interpret, and view*.

Research-related Material verbs:

Use…as…, model…as…, adopt…as.., and other verbs, like, *present, define, treat, and feature*

Thus roles in guise in Journal Articles are more likely to occur in mental clauses and then material clauses related to academic actions, and then others. However, the processes in which the roles are involved in Ordinances are characteristic of being 'material', e.g. *carry on, act, use, appoint*, etc. Interpersonally, they prefer modulation, typically realized by the highly register-correlated modal verb '*shall*' or *'shall not'*. Thus the configuration of a material process plus modulation plus a role represented in such expressions as 'as a tourist', has stressed the sense of 'enforcing' the ordinances and the responsibility of participants in the process.

On the other hand, in Journal Articles, the roles are largely represented as the focuses of study, results of investigation, factors influencing the study, and various other entities related to research, like *tourist destination/attraction*, *measure/means/method*, and the interesting phrase '*as a result*', among others. The 'result' is most likely construed as a real 'role' in this register, but more likely a metaphorical one in other registers and is often regarded as a textual signal indicating the end of a discussion.

a. He told reporters, 'I believe that the Civil Rights Museum has great potential for our community in establishing Birmingham as a tourist attraction.' (Text BC01)

b. As a tourism initiative, 'the Trail of the Great Bear is committed to the well-being of the region's habitats and communities, by promoting a greater understanding and appreciation of the resources upon which it is based'. (Text BC07)

While in Ordinances, a majority of the roles refer to such physical agent roles as 'travel or tourist agents/wholesalers (122 cases), officers/director/legal producer/ employee of the Board/members of the authority (or committee, Board, penalty, council) (75 cases), or tourist guide (43 cases), among others. Likewise, two examples are given below:

a. *(1) If, on the application of the Director, the Tribunal is satisfied after inquiry that a person who carries on business as a travel agent has repeatedly engaged in unjust conduct, the Tribunal may order the person to refrain from engaging in unjust conduct in the course of carrying on that business as a travel agent. (Text AA05).*

b. *9)a) No person who has not been registered as a tourist guide or whose registration as a tourist guide has been suspended shall for reward, whether monetary or otherwise, act as a tourist guide. (Text AD05)*

Lastly, the promotional register of Brochures & Rough Guides is more formal in style than Forum Texts and Travelogues. Since it has a clear intention to promote the destination, it seems to be more serious than the other two image-creating registers in dealing with roles. The corpus-based investigation shows that it has exceeded Forum Texts and Travelogues in double in the employment of 'roles'. However, the difference in types of roles and processes among these three registers turns out to be not as significant as that between Journal Articles and Ordinances. The roles construed in these registers are mainly concrete, mainly concerning either destinations or tourists. The processes are mainly material ones in relation to the tourist's or the speaker's activities.

7.9 Projection

Projection is construed as the attribution of an idea to responsibility of a 'Sayer' or a 'Senser'. It can be represented either by a projecting clause complex or by a circumstantial projection. When we say 'according to somebody', we are shifting the vantage point of our own to somebody's. Which construes the Angle either of a 'Sayer' or of a 'Senser', the former is called 'source' and the latter 'viewpoint' in the circumstantial system. They constitute the agnates of the projecting clause in the clause complex. The projected clause is manifested as a 'matter', which is only related to verbiage, because when I say 'tell me more about Hong Kong', it is just because you said something about Hong Kong earlier, or I heard somebody else talked about it. It is not because I know you are thinking about Hong Kong at the moment when I ask you about it. Otherwise, that would be magical or unreal. But when the question is addressed to the speaker himself, the 'matter' is related to the 'phenomena', in cognitive clause, like '*think about*', emotive clause '*worry*

about', desiderative clause, '*long for*' and the arguable '*look forward to*', but not in perceptive clause, which is related to space, e.g. '*look at*', '*listen to*', '*look around for*', etc.

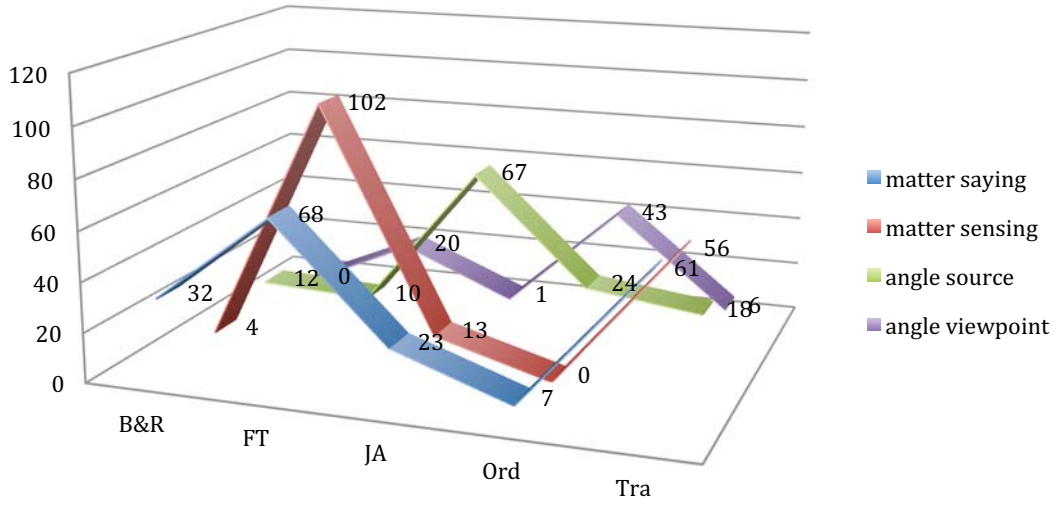
According to the analysis of the 200 cases, Ordinances stands out as the register that favors circumstantial projection in relation to 'angle' (see Appendix 6). In order to test the result and explore how circumstantial transitivity is employed across the five registers, some nodes of collocating verbs are selected to examine the behavior of the two active projecting prepositions – *about* and *of* – in construing the meaning of Matter. The nodes used for concordancing the corpus have been filtered out of 65 saying verbs (c.f. Levin 1993: 207-212), and 60 sensing verbs (cf. Halliday & Matthiessen, 2004: 210) based on the very basic principle that the collocation between the related verbs and the focused prepositions can be identified. The collocation has been proved to be fairly limited and the result is listed in Table 7.6 below for the purpose of a close investigation of the concordances. One of the important reasons for the limit of collocations between the mental and verbal process, and the circumstantial transitivity is the nominalization of the process, which in turn, leads to the grammatical metaphoricalisation of circumstantial transitivity into a post-modifier of the related nominal group, e.g. "*complaint about the failure"* in "*The periods within which the consumer must make any <u>complaint about the failure</u> to perform or the inadequate performance of the contract".*

Table 7.6 Prepositions of projection

Types	**Sub-type**	**Agnate in clause complex**	**Prepositions**
Matter	saying	verbiage	(ask/complain/say/talk/speak/warn/accuse) + about/of; with reference to
	sensing	phenomena	(think/worry) about; (think) of; concerning
Angle	source	Sayer	according to, in the words of
	viewpoint	Senser	in the view/opinion of, in someone's view/opinion, from the standpoint of, from someone's point of view

The nodes used in search of concordances of the circumstances of Angle are prepositional complexes, whose meanings and functions are relatively fixed instead of being so slippery as the simple prepositions. The search result of concordances of the four types of circumstantial projection across the five registers is presented in Figure 7.9.

Figure 7.9 Deployment of circumstantial projection



As indicated in Figure 7.9, the result obtained from the examination of the small sample of 200 circumstances turns out to be only partially correct. Although the conclusion that Ordinances favours the 'angle' type of circumstantial projection, which is agnate to the projecting clause in a clause complex, the other features across the five registers were not covered due to the insufficient data analysis. The concordance-based analysis brings out the fairly contrastive features between the image-creating registers and the image-maintaining ones. The former is characteristic of their similar preference for the matter type circumstances, while the latter features the angle type of circumstantial projection.

The difference between angle and matter is in grammar related to the distinction between the agnate projecting clause and projected clause in clause complexes respectively (Matthiessen, 1995, Halliday & Matthiessen, 1999, 2004). Angle construes either the source of the proposition, i.e. *who said this?* or '*whose idea is it?* It is related to either the Sayer or the Senser of the projecting clause. Journal Articles favours the construal of angle because in the academic context, a researcher will very often cite from peer researchers about what they 'said' in the literature. Thus, 'according to someone' is just the circumstantial projection of the verbal projecting clause realized by verbs of 'saying', e.g. *point out*, *state, say*, *claim,* etc. The Sayer can either be the researcher or a semiotic product, like, 'the paper' in '*the paper says…*' Thus, in academic writing, 'according to Halliday (1985)', is only an alternative of 'according to IFG (Halliday, 1985)'. Besides, the mental projecting clauses realized by verbs of 'thinking', e.g. *think, believe, agree,* etc., are represented in circumstances in terms of '*in someone's opinion', 'in the*

view of', etc. (c.f. Table 7.6). This is relatively less favoured in Journal Articles than in Ordinances. In Ordinances, the complex preposition, *in the opinion of,* is typically used to construe the viewpoint. The Senser could be an authoritative person or organization, see the examples below.

a. *An order under this section may contain such incidental, supplemental and consequential provisions as may, in the opinion of the Minister, be necessary to give full effect to the order Matter construes. (Text AB00)*

b. *Subject to section 14, Tourism New South Wales may, in making a grant or loan, or in agreeing to enter into a guarantee, impose such conditions as, in the opinion of Tourism New South Wales, are appropriate.*

The preference for the construal of Matter by the image-creating registers is very salient and fairly consistent between Forum Texts and Travelogues (c.f. Figure 7.9 above). Matter is directly related to Verbiage in the verbal projection and Phenomenon in the mental projection and indirectly to the Sayer and Senser. In the construal of Matter, the existence of the Sayer or Senser is either explicit or implicit. Forum Texts and Travelogues belong to the first type. In travelogues, the first-person pronouns, *I* and *we*, are abundantly used because it is a style of personal account, while in forum texts, as aforementioned, is a type of a synchronous conversation, so plenty of first- and second-person pronouns are in use. In contrast, Brochure & Rough Guides aims to provide information for the readers rather than to communicate with them. So the persons are not directly involved in the discourse.

The explicit Sayer and Senser have strong possibility of incurring projection in circumstantial transitivity, which is located between the rank of clausal projection and mental or verbal clauses, see Example *a-d* below. In contrast, the inexplicitness of Sayer and Senser will limit the use of this particular logico-semantics of projection as a whole, including inter-clausal and circumstantial. The only type of circumstantial projection that is favoured in Brochure Texts and Rough Guides is in imperative form or in passive voice, as shown in Example *e* and *f*.

a. If you are asking about the MOST stable part of the ferry/ship, it would be the CENTER. (Text EC00)

b. It's really an off-road bike and probably not the best choice for the city but you can't complain about the price. (Text DA03)

c. fantastic street processions by all the bonfire societies (the blazing tar barrels are a sight to behold!). but dont wear anything that might catch fire and if you are worried about your hair cover it up or it will get singed -coz there are sparks flying everywhere! it could potentially be a bit scary for young kids too, … (Text EB01)

Mark was somewhat worried about finding a room at 8:30 PM, but there were a lot of vacancies. (Oh, we had decided to stay in Flagstaff because the weather forecast for the Canyon was better later). (Text DC06)

e. Please ask your consultant for further tours available in Cambodia or beach extensions from Bangkok. (Text CA22)

f. What can be said about London that hasn't been said so many times before? (Text CB21)

One significant difference between the emphasis on the construal of Angle and Matter is concerned with the voice, or how the speaker locates him/herself in the discourse. By means of dependence on Angle, or the source of the information and the viewpoint of the third party, the speaker is lowering down his voice, either to make his statement appear to be more objective and more of intertextuality as in Journal Articles, or completely impersonal and of authoritativeness as in Ordinances. By way of focusing on Matter, the speaker treats himself as the source of information, and thus the question is no more concerned with 'who says or thinks' but 'what is said or thought'. In nature, this difference is first of all related to Tenor in registerial terms.

7.10 annotation and concordance

This additional section to the chapter is not a further discussion concerning the how the registerial variation is determined by the difference of deployment of circumstantial transitivity across the five sub-corpora, rather, it is aimed to highlight the possible problems in the analysis of circumstantial transitivity, to propose some solutions, and ultimately to reiterate the importance of a corpus-based approach in the endeavor to deal with the fuzziness in transitivity analysis as an amendment to the discussion in Chapter 5.

In geneal, most of the complex prepositions have a clear-cut meaning and many of them were used in this research as probes for searching the examples of related circumstantial transitivity. However, most of the simple prepositions, which are mostly derived from the conception of space, are notoriously fuzzy and call for extensive attention in analysis. Unfortunately, the use of simple prepositions is ubiquitous in the texts, which increases heavy burden to our analysis. One approach is to filter the collocates of the preposition if the research purpose is to study a particular meaning of it, as carried out in the previous investigation of the two prepositions, *about/of*, for their meaning in relation to projection. For example, the very small group of verbs - *ask/complain/say/talk/ speak/warn/accuse* (c.f. Table 7.6 above) – were in fact filtered out from 65 verbs of saying listed in Levin (1993). The standard is very simple by searching for the concordances of the collocation between about/of and each verb in the corpus. Thanks to Mick Scott again, this seemingly daunting work turns out to be easy to complete.

Prior to the examination of a particular function of a specific preposition, the researcher is possibly required to decide what meanings of it are employed in the discourse. The relative questions especially pertinent to registerial variation include two questions: 1) what is the frequency of a particular function in the circumstancical transitivity system across different registers? and 2) what are the frequencies of different functions of a circumstance employed in a particular register? It is not easy to answer either of these two questions based on the analysis of a couple of clauses. In order to answer the first question, we can rely

on the corpus annotation of the particular circumstance, while in order to answer the second question, the 'reading-concordance' strategy (cf. Sinclair 2003) is highly recommended.

7.11 Summary

At the beginning of this chapter, the attempt was made to recognise the significance of circumstantial transitivity in the construal of experiences in the second order to the nuclear transitivity by reference to the evolution of the concept in history, and the development of the concept from "circumstantial elements" to "circumstantial transitivity" within the systemic functional theory. The inter-relationship between the nuclear transitivity and the circumstantial transitivity was compared with which between clauses in clause complexes in order to establish the probabilistic feature of circumstantial transitivity. The metaphor of the global system was made to illustrate the relationship among process, participants and circumstances, and indirectly demonstrates the opportunistic feature of circumstances.

Sections 7.2-10 constitute the main body of this chapter, with each section focusing on the deployment of one particular type of circumstance across the five examined registers. The similarities and differences were identified based on the probabilistic feature of the circumstantiality obtained from the analysis of the limited sample of randomly selected 1000 circumstances, with equal 200 cases selected from one register. Having in mind the limitation of the analysis due to the small size of the sample, the concordancing approach was also adopted for testing the result in terms of complementarity.

The investigation presents a fairly clear contrast between the image-creating and image-maintaining registers in the deployment of space (c.f. Section 7.2, on Location, Section 7.3, on Extent) with the former favouring the construal of 'concrete' space, while the latter 'abstract'. Similarly, differences between these two groups of registers were also identified in the deployment of Manner (cf. Section 7.4). As far as Cause is concerned (c.f. Section 7.5), Ordinances stands out as very different from the other four registers. Ordinances employs all the three kinds of Cause abundantly and has a stronger tendency to construe Purpose in contrast with the other registers, especially Journal Articles, which intends to construe Reason. Ordinances behaves very similarly in the selection of Contingency by showing a tendency to construe all the three types of Contingency, while the others tend to mainly involve only one type (c.f. Section 7.6). No significant difference was identified in the deployment of Accompaniment (c.f. Section 7.7). For the deployment of Role (Section 7.8) and Projection (c.f. Section 7.9), the discussion was mainly based on the concordances of the selected prepositions because of the very limited number of cases were identified in the small sample. It turns out to be very effective to find out the differences between the image-creating and image-maintaining registers in the deployment of both resources by means of the complementary corpus-based approach.

To conclude, although the circumstantial transitivity construes experience in the second order in that it is attendant to the nuclear transitivity, the use of the different types of circumstances is highly related to registerial variation, and thus

the interpretation of the similarities and differences in the use of circumstances is similarly significant for our understanding of human's discourse practice.

Chapter Eight

Conclusion

8.1 What has the current study demonstrated?

This present study was to present a corpus-based investigation of the tourism discourse by means of comparing the deployments of the related functions of nuclear transitivity and circumstantial transitivity in the five registers. The focus is the specific discourse of tourism, but the investigation is strictly into the grammar, in particular, the transitivity systems in English language. Based on both the annotated part of corpus and the entire TEC, the probabilistic features were highlighted and frequencies of related grammatical features were obtained from the analysis of the texts contained in the TEC.

In order to determine a theoretical framework for analytical purposes, two models that are closely relevant to quantifying transitivity were reviewed in the beginning. One model is the WCF represented by Hopper and Thompson (1982) and others. Their contribution to the quantitative understanding of transitivity lies in their recognition of the gradience, centrality or prototypicality of transitivity in clauses, their rejection of the traditional dichotomy between ‘transitive’ and ‘intransitive’. They proposed measuring criteria to find out how transitive a clause is and how the transitivity resources can be exploited to feature discourse. Although WCF is friendly towards the interpretation of discourse in terms of transitivity and probability, the limitation of this approach is apparent, as discussion in Chapter Two..

The present study relies on The Experiential Model produced by M.A.K Halliday for the analysis of the randomly selected clauses. Hallidayan model is more powerful for a global interpretation of the locally instantiated texts because in this theory transitivity is conceived both hypotactically as resource and paratactically as constructions, and the interpretation of the structure can be directly orientated towards the language system; on the other hand, in systemic functional linguistics, there is a clear-cut association with transitivity at different strata of the language model: at the stratum of form, the verbal groups realize nuclear transitivity, preposition phrases and adverbial groups realize circumstantial transitivity; at the clausal level, there are process types and circumstances, the analysis of which constitutes my starting point for the present study; at the semantic level, transitivity analysis is related to field, or the subject matter. It is field that instantiates the real social experiences that are construed in language. Apparently, with this model, the interpretation of transitivity is to be full and more significant.

Then the corpus approach was introduced. The research purpose of investigating the quantitative features of transitivity systems in tourism discourse has predetermined that the study must be corpus-based. The corpus approach has been applied for the present study in two ways: first, a great effort was made to conduct corpus annotation in terms of transitivity systems, Before the annotation, the corpus was carefully designed based on the register typology developed by Matthiessen & Teruya (2007). At last, five registers, representing the two social processes of image creation and image maintenance in tourism discourse, were selected for invetigation. For each register, about 200,000 words of related texts were collected from the Internet and other resources around the world in order to achieve both registerial and ethnographic

balance. Careful analysis of process types and circumstances were conducted and manual annotation was carried out with the use of Corpus Tool 2.82 developed by Mick O'Donnell. Second, the corpus-driven approach has also been applied to identify the key verbs and nominalizations through the "Keyness" function provided by Wordsmith Tools 5.0. These key words prove to be very useful in a complementary way for drawing a general profile of deployment of transitivity resources in the entire corpus.

In order to cope with the indeterminate cases encountered during the analysis, Chapter Five was contributed to this issue of indeterminacy. Halliday's conception of probability as the nature of language was particularly reviewed. The other two important models are Martin & Matthiessen's typological and topological model and Davidse's paradigmatic model. All the three models help to shed lights on how to annotate fuzzy clauses.

8.2 What are the findings and implications of the present study?

The investigation of the employment of process types indicates that the differences are magnificent between image creation and image maintenance registers: 1) the image creation registers has a strong preference for *relational: attributive: intensive type of clauses* to entertain the persuasive elements, while the image maintenance texts has a comparatively stronger preference for *identifying* clauses to decode concepts; 2) the image creation texts prefer *perceptive* and *emotive* clauses, while image maintenance texts prefer *cognitive* clauses; 3) in the image creation texts, a majority of processes construe the meaning of 'space' in the sense of movement or position, while the image maintenance are characteristic of nominalization.

The study will be of many benefits: theoretically, it reiterates that registerial variation is manifested in the relative frequencies of the functions that are exploited in the structures. The profiles of process types obtained from the analysis of tourism discourse can be used to enrich the global profile of the transitivity systems of English language. Practically, this study might help to raise the tourism practitioners' awareness of registerial variation and enable them to manipulate the language of tourism more effectively to serve the tourism industry. Pedagogically, it would be useful to both students of tourism who opt for a semiotic approach to interpret the tourism discourse, and students of language who are interested in construal of experiences in relevance of tourism industry out of meaning.

8.3 What are the limitations of the present study?

Although a general profile of the deployment of transitivity resources was presented in the current study and a close examination was conducted on the five sub-corpora respectively, there are still many limitations to be remembered. The limitations are related to the size and coverage of the annotation of the corpus, the types and depth of analysis undertaken and the generalisability of the findings.

As presented in Section 4.4, the tourism corpus has a size of over one million words and a sensible balance was maintained at the stage of data collection. However, strictly speaking, the five text types, representing five registers in the present study, can only be regarded as five sub-registers because a register is more abstract and has a wider coverage. Taking the register of sharing for example, except for the forums, there are many other channels for before-trip and after-trip tourists to exchange information, for example, the instant messengers. The emergence of easy wireless

access via mobile phones, ipads and mini laptops has enabled the on-trip tourists to join in the information sharing process by means of online chatting, twittering, photo-taking, and so on. The texts produced through such channels are expected to be more spoken-like and more authentic. If not for the commercial confidentiality, the annual reports of tourism industry are definitely interesting to cover. In one word, if the tourism discourse is to be observed, the more registers are covered, the more comprehensive the understanding can be.

In relation to corpus, there is another issue to be solved, that is, the limited annotation. Unlike the part-of-speech tagging, which is based on the form of lexis and able to do automatic annotation of one million words in no time, the annotation of texts in terms of transitivity systems is manual based on semantic analysis clause-by-clause. This is because the semantic annotation of the segments is varied based on the context. For example, in the two clauses "*I had lunch*" and "*I have a book*", the verb *have* means differently and belongs to different process types: the former is material, while the latter relational. Unfortunately, all the semantic annotation has to be based on manual analysis so far and automatic annotation is still to be awaited. Limited annotation will inevitably lead to less reliability of the result. By the way, it is reported in the email-list, *sysfling*, that Mick O'Donnell has achieved some development in automatic annotation of transitivity. Breathtakingly expecting his success!

In relation to annotation are the two schemes that are applied in the software UAMCT for annotation purpose. The schemes, as shown in Appendix 3 & 4, were derived from Halliday & Matthiessen's (2004: Chapter V) transitivity systems. The research focus is confined in the investigation of how the experiences are construed in experiential

grammar. An analysis of other features, especially interpersonal meaning would also be of great interest when dealing with persuasive discourse. We (Chen & Xu 2009, 2011) made attempt to investigate the evaluative resources used in the promotional tourism texts and found it very exciting to explore how the tourism practitioners take advantage of the interpersonal resources to persuade the before-trip tourists and to manipulate the after-trip tourist discourse for promotional purpose. If the construal of experiences and the enabling of actions were investigated together to find how they jointly realize the purpose of persuasion, the interpretation of tourism discourse would be more convincing and valuable.

8.4 What are future works on this study?

The most urgent future work comes out of this thesis is the need to finish the annotation of the one-million-word tourism corpus, firstly, in terms of a more comprehensive and more fine-grained transitivity system in greater delicacy in order to move further towards the lexical end of the lexicogrammatical continuum, for example, to include the system of agency and the system of participants into the schema for purpose, which constitutes a very important aspect of discourse analysis. An example was shown in Section 5.5 concerning a touch of the choice of subjects in the clauses. Secondly, it will be extremely meaningful to relate the investigation of the construal of experience to the ways by which the social interaction is established between the author/speaker and reader/listener, or the tourism practitioners and tourists, the post-tourists and prospective tourists, the tourism observers and the operators by investigating how the interpersonal meaning is enabled. This is very important for us to fully understand the tourism discourse as both persuasion and regulation. The investigation from social semiotic perspective will be very

significantly complementary to the abundant exploration from marketing perspective. The future work can also go in the other direction, that is, to make use of the various functional profiles for modeling a more comprehensive and more delicate grammar for English language.

Notes:

[i] As Noonan stated clearly in his paper, "…the members of this group (WCF) have

[ii] Nichols (1984), among others, holds the view that "formal and structural grammar shares a great deal, and in fact formal grammar is a recent out growth of the structural tradition represented by, for example, Bloomfield" (p.97)

[iii] Mezina (2003) explains the notion of Cardinal Transitivity as the aggregate of the ten parameters proposed by Hopper and Thompson. It was not clearly defined but can be inferred that Cardinal Transitivity should refer to the strongest transitive state as Hopper and Thompson stated like "the more transitive it is – the closer it is to Cardinal Transitivity". Zyzik (2006) interprets this notion as "a punctual, telic event in which a volitional agent transfers an action totally to a definite or referential object".

[iv] Hopper and Thompson (1980:280) formulate the distinction between foreground and background in these terms: "That part of a discourse which does not immediately and crucially contribute to the speaker's goal, but which merely assists, amplifies, or comments on it, is referred to as BACKGOUND. By contrast, the material which supplies the main points of the discourse is known as FOREGROUND."

[v] See Lakoff (1977). A similar prototype model was proposed by Givón (1984) and discussed in Section 2.2.3 above.

[vi] The basis for the Firthian distinction between system and structure is the original Saussurean-Hjelmslevian paradigmatic-syntagmatic generalization, which will apply to any semiotic systems, any systematic form of behaivour (Thibault, 1987:605).

[vii] Halliday and Matthiessen (1999) come up with a set of terms capturing the nature of ideational based meaning in relation to cognition. Among others, the set of element, figure, sequence and phenomenon is basic. A phenomenon is the most general experiential category - anything that can be construed as part of human experience. The phenomena of experience are of three orders of complexity: elementary (a single element), configurational (configuration of elements, i.e. a figure) and complex (a complex of figures, i.e. a sequence). Structurally, they are roughly correspondent to constituent, clause and clause complex.

[viii] As Martin (1981:136) noted, the systemic approach has developed into three main streams during the seventies, represented most clearly in the work of Halliday, Hudson, and Fawcett respective. The focus of Halliday's studies is socio-semiotic, that of Hudson is syntactic and Fawcett's approach is more towards a cognitive model. In this research, Halliday's model is followed.

[ix] For the notions of “chain” and “choice”, see Halliday (1963, pp.5-15, reprinted in Kress, 1976, Halliday and Webster 2002a). “chain” has been rarely used in the later literature of SFL for the grammar is in nature a “choice" grammar

[x] In addition to the transitivity system, Halliday (1964/76:101-135) provides a large number of system networks concerning tone, clause, and group in this paper.

[xi] As Halliday and Matthiessen (1999: 512) point out, the basic component of all experience is change, i.e. when something changes form one state to another, it projects itself onto our consciousness. A quantum of change construes in lexicogrammar as a figure, namely, a configuration of a process, participants and any attendant circumstances

[xii]Quirk et al (1985) set “copular verbs” as a parallel class to “intransitive verbs” and “transitive verbs”. Thus, the copular clauses are outside the transitivity system.

[xiii] As Hoey (2005: 42-3) notes that Firth defines it as the grammatical relations; Halliday uses it to mean the relation holding between a word and a grammatical pattern, thus creating a midway relation between grammar and collocation.

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Appendix 1 Process types of the annotated clauses in the Tourism Corpus

Project:	Brochures & Rough guides			Forum Texts			Journal articles			Ordinances			Travelogues	
Feature	Percent	N		Percent	N		Percent	N		Percent	N		Percent	N
PROCESS-TYPE	N=1257			N=657			N=3452			N=382			N=474	
material	28.08%	353		30.29%	199		38.18%	1318		42.93%	164		36.08%	171
behaviroural	0.16%	2		0.30%	2		0.09%	3		0.00%	0		0.84%	4
mental	5.41%	68		17.50%	115		9.01%	311		3.93%	15		13.08%	62
verbal	1.19%	15		7.00%	46		5.94%	205		2.88%	11		4.64%	22
relational	59.90%	753		40.03%	263		44.00%	1519		49.74%	190		40.30%	191
existential	5.25%	66		4.87%	32		2.78%	96		0.52%	2		5.06%	24
IMPACT	N=353			N=199			N=1318			N=163			N=171	
intransitive-(non-impacting)	50.71%	179		71.86%	143		25.34%	334		12.80%	21		56.73%	97
transitive-(impacting)	49.29%	174		28.14%	56		74.66%	984		87.20%	143		43.27%	74
TYPE-OF-DOING	N=353			N=198			N=1318			N=163			N=171	
transformative	90.93%	321		99.50%	198		88.32%	1164		81.10%	133		95.91%	164
creative	9.07%	32		0.50%	1		11.68%	154		18.90%	31		4.09%	7
TYPE-OF-SENSING	N=68			N=115			N=311			N=15			N=62	
perceptive	45.59%	31		12.20%	14		18.97%	59		6.67%	1		35.48%	22
emotive	25.00%	17		24.30%	28		7.40%	23		0.00%	0		29.03%	18
desiderative	13.24%	9		18.30%	21		13.50%	42		33.33%	5		16.13%	10
cognitive	16.18%	11		45.20%	52		60.13%	187		60.00%	9		19.35%	12
PHENOMENIZATION	N=68			N=115			N=311			N=15			N=62	
specified	98.53%	67		95.70%	110		98.07%	305		100.00%	15		93.55%	58
unspecified	1.47%	1		4.30%	5		1.93%	6		0.00%	0		6.45%	4
SPEC-TYPE	N=67			N=110			N=305			N=15			N=58	
thing	73.13%	49		57.30%	63		68.85%	210		60.00%	9		65.52%	38
act	8.96%	6		11.80%	13		1.31%	4		6.67%	1		18.97%	11
fact	10.45%	7		4.50%	5		7.54%	23		26.67%	4		3.45%	2
idea	7.46%	5		26.40%	29		22.30%	68		6.67%	1		12.07%	7

Appendix 1 Process types of the annotated clauses in the Tourism Corpus

Project:	Brochures & Rough guides			Forum Texts			Journal articles			Legal texts			Travelogue	
Feature	Percent	N		Percent	N		Percent	N		Percent	N		Percent	N
VERBAL-TYPE	N=15			N=46			N=205			N=11			N=22	
activity	73.33%	11		34.80%	16		6.34%	13		45.45%	5		40.91%	9
semiosis	26.67%	4		65.20%	30		93.66%	192		54.55%	6		59.09%	13
ACTIVITY-TYPE	N=11			N=16			N=13			N=5			N=9	
talk	27.27%	3		50.00%	8		0.00%	0		40.00%	2		33.33%	3
targeting	72.73%	8		50.00%	8		100.00%	13		60.00%	3		66.67%	6
SEMIOSIS-TYPE	N=4			N=30			N=192			N=6			N=13	
projecting	25.00%	1		63.30%	19		69.79%	134		16.67%	1		61.54%	8
non-projecting	75.00%	3		36.70%	11		30.21%	58		83.33%	5		38.46%	5
PROJECTING-TYPE	N=1			N=19			N=133			N=1			N=8	
quoting	0.00%	0		5.30%	1		3.76%	5		0.00%	0		12.50%	1
reporting	100.00%	1		94.70%	18		96.24%	128		100.00%	1		87.50%	7
REPORTING-TYPE	N=1			N=18			N=128			N=1			N=7	
indicating	100.00%	1		83.30%	15		94.53%	121		100.00%	1		57.14%	4
imperating	0.00%	0		16.70%	3		5.47%	7		0.00%	0		42.86%	3
NON-PROJECTING-TYPE	N=3			N=11			N=58			N=4			N=5	
indicating	33.33%	1		0.00%	0		5.17%	3		0.00%	0		20.00%	1
imperating	66.67%	2		100.00%	11		94.83%	55		100.00%	4		80.00%	4
MODE-OF-RELATION	N=753			N=263			N=1519			N=190			N=191	
attributive	77.95%	587		91.60%	241		57.14%	868		60.53%	115		74.35%	142
identifying	22.05%	166		8.40%	22		42.86%	651		39.47%	75		25.65%	49
TYPE-OF-RELATION	N=753			N=263			N=1519			N=190			N=191	
intensive	70.12%	528		72.20%	190		70.70%	1074		67.37%	128		75.92%	145
possessive	15.27%	115		15.60%	41		13.69%	208		20.00%	38		10.99%	21
circumstantial	14.61%	110		12.20%	32		15.60%	237		12.63%	24		13.09%	25

Appendix 2-1: Key Verbs with positive keyness in Brochures and Rough Guides

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P	Lemmas
1	include	272	12.79%	445	4.11%	190.62	2.08234E-16	
2	located	209	9.82%	332	3.07%	152.47	4.81162E-16	
3	is	3219	151.32%	12942	119.58%	137.93	7.12665E-16	
4	built	172	8.09%	289	2.67%	116.06	1.44783E-15	
5	dining	106	4.98%	139	1.28%	97.65	3.10249E-15	
6	are	1585	74.51%	6102	56.38%	93.04	3.8872E-15	
7	known	170	7.99%	331	3.06%	91.09	4.2986E-15	
8	offer	284	7.05%	279	2.58%	86.72	5.46092E-15	offer[150] offers[134]
9	designed	80	3.76%	133	1.23%	54.79	8.90374E-14	
10	situated	71	3.34%	109	1.01%	54.16	9.75665E-14	
11	overlooking	55	2.59%	76		47.74	3.08085E-13	
12	lies	48	2.26%	63		44.17	7.60846E-13	
13	receive	67	3.15%	120	1.11%	41.10	2.23231E-12	
14	surrounded	54	2.54%	84		40.49	2.92399E-12	
15	runs	60	2.82%	105		38.13	1.13584E-11	
16	dominated	38	1.79%	50		34.87	6.01012E-10	
17	enjoy	109	5.12%	281	2.60%	32.50	9.01591E-09	
18	explore	58	2.73%	114	1.05%	30.57	2.9289E-08	
19	depart	38	1.79%	56		30.53	2.99232E-08	
20	bustling	29	1.36%	34		30.03	3.96873E-08	
21	blend	28	1.32%	32		29.72	4.68661E-08	
22	equipped	39	1.83%	61		29.03	6.82526E-08	
23	visit	205	9.64%	668	6.17%	28.69	8.21145E-08	

Appendix 2-1: Key Verbs with positive keyness in Brochures and Rough Guides

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P	Lemmas
1	include	272	12.79%	445	4.11%	190.62	2.08234E-16	
2	located	209	9.82%	332	3.07%	152.47	4.81162E-16	
3	is	3219	151.32%	12942	119.58%	137.93	7.12665E-16	
4	built	172	8.09%	289	2.67%	116.06	1.44783E-15	
5	dining	106	4.98%	139	1.28%	97.65	3.10249E-15	
6	are	1585	74.51%	6102	56.38%	93.04	3.8872E-15	
7	known	170	7.99%	331	3.06%	91.09	4.2986E-15	
8	offer	284	7.05%	279	2.58%	86.72	5.46092E-15	offer[150] offers[134]
9	designed	80	3.76%	133	1.23%	54.79	8.90374E-14	
10	situated	71	3.34%	109	1.01%	54.16	9.75665E-14	
11	overlooking	55	2.59%	76		47.74	3.08085E-13	
12	lies	48	2.26%	63		44.17	7.60846E-13	
13	receive	67	3.15%	120	1.11%	41.10	2.23231E-12	
14	surrounded	54	2.54%	84		40.49	2.92399E-12	
15	runs	60	2.82%	105		38.13	1.13584E-11	
16	dominated	38	1.79%	50		34.87	6.01012E-10	
17	enjoy	109	5.12%	281	2.60%	32.50	9.01591E-09	
18	explore	58	2.73%	114	1.05%	30.57	2.9289E-08	
19	depart	38	1.79%	56		30.53	2.99232E-08	
20	bustling	29	1.36%	34		30.03	3.96873E-08	
21	blend	28	1.32%	32		29.72	4.68661E-08	
22	equipped	39	1.83%	61		29.03	6.82526E-08	
23	visit	205	9.64%	668	6.17%	28.69	8.21145E-08	

Appendix 2-2: Key verbs with positive keyness in Forum Texts

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P	Lemmas
1	go	693	34.47%	1080	9.98%	565.52	5.3277E-18	
2	have	2035	74.76%	3830	35.39%	537.18	6.27947E-18	have[1503] i've[212] haven't[35] had[273] ive[12]
3	will	2002	43.28%	1705	15.75%	513.73	7.24603E-18	will[870] won't[80] would[805] you'll[157] i'll[90]
4	get	818	35.76%	1390	12.84%	433.71	1.25272E-17	get[719] getting[99]
5	know	465	21.94%	606	5.60%	416.57	1.42872E-17	know[441] known[24]
6	can	1336	48.00%	2263	20.91%	412.06	1.48048E-17	can[965] can't[114] could[257]
7	do	1606	29.84%	1131	10.45%	376.34	1.99392E-17	do[600] don't[448] doesn't[56] dont[54] don't[448]
8	want	410	20.39%	593	5.48%	365.60	2.19403E-17	
9	think	412	17.66%	534	4.93%	302.24	4.14508E-17	think[355] thinking[57]
10	going	371	18.45%	651	6.02%	258.45	7.07523E-17	
11	like	583	29.00%	1348	12.46%	255.83	7.32919E-17	
12	am	650	15.17%	474	4.38%	249.51	7.99314E-17	am[305] i'm[345]
13	are	1929	85.11%	6102	56.38%	210.57	1.45335E-16	are[1711] you're[218]
14	try	228	11.34%	334	3.09%	200.23	1.74166E-16	
15	stay	530	15.87%	626	5.78%	187.67	2.20477E-16	stay[319] stayed[107] staying[104]
16	check	211	10.50%	323	2.98%	175.81	2.80553E-16	
17	recommend	151	7.51%	183	1.69%	162.28	3.78975E-16	
18	find	297	14.77%	615	5.68%	159.75	4.02334E-16	
19	might	254	12.63%	478	4.42%	159.57	4.04084E-16	
20	take	437	21.74%	1118	10.33%	154.22	4.60391E-16	
21	is	3664	151.76%	12942	119.58%	135.16	7.728E-16	is[3051] it's[552] isn't[61]
22	help	204	8.36%	265	2.45%	134.85	7.79899E-16	help[168] helps[36]
23	need	212	10.55%	427	3.95%	119.47	1.28113E-15	
24	fly	174	5.47%	147	1.36%	107.00	2.05639E-15	fly[110] flying[64]
25	see	367	18.26%	1033	9.54%	101.95	2.5503E-15	
26	agree	93	4.63%	115	1.06%	97.98	3.0549E-15	
27	hope	124	4.58%	129	1.19%	84.91	6.06291E-15	hope[92] hoping[32]
28	spend	115	5.72%	203	1.88%	79.38	8.56013E-15	
29	should	227	11.29%	583	5.39%	79.34	8.58376E-15	
30	please	97	4.82%	151	1.40%	79.14	8.69584E-15	
31	buy	106	5.27%	188	1.74%	72.67	1.38305E-14	
32	look	374	8.21%	382	3.53%	72.12	1.44379E-14	look[165] looking[209]
33	suggest	83	4.13%	125	1.15%	70.51	1.64336E-14	
34	say	109	5.42%	210	1.94%	65.99	2.44304E-14	

35	appreciated	57	2.84%	67		63.07	3.25749E-14	
36	drive	157	7.56%	362	3.34%	62.71	3.37928E-14	drive[152] drove[5]
37	love	121	4.43%	157	1.45%	61.49	3.85201E-14	love[89] loved[32]
38	thank	57	2.84%	69		61.31	3.92619E-14	
39	be	1704	84.76%	7420	68.56%	60.06	4.52186E-14	
40	depends	58	2.89%	73		60.03	4.53646E-14	
41	visit	230	11.44%	668	6.17%	58.52	5.42928E-14	
42	ask	82	4.08%	149	1.38%	54.27	9.60196E-14	
43	live	107	5.32%	230	2.13%	53.85	1.02298E-13	
44	remember	63	3.13%	95		53.44	1.08929E-13	
45	rent	62	3.08%	93		52.92	1.18054E-13	
46	advance	85	4.23%	161	1.49%	52.84	1.19572E-13	
47	enjoy	118	5.87%	281	2.60%	48.69	2.5237E-13	
48	leave	102	5.07%	240	2.22%	43.14	1.04741E-12	
49	let	73	3.63%	147	1.36%	41.14	2.19949E-12	
50	save	45	2.24%	65		40.15	3.43804E-12	
51	pass	82	4.08%	179	1.65%	40.12	3.49244E-12	
52	booked	48	2.39%	75		38.98	6.48634E-12	
53	wondering	39	1.94%	52		38.02	1.22961E-11	
54	miss	51	2.54%	88		36.34	6.22329E-11	
55	cheers	30	1.49%	33		35.28	3.85576E-10	
56	avoid	65	3.23%	135	1.25%	34.76	8.09952E-10	
57	read	68	3.38%	145	1.34%	34.72	8.91465E-10	
58	walk	152	7.56%	466	4.31%	32.84	7.0948E-09	
59	heard	61	3.03%	127	1.17%	32.48	9.11005E-09	
60	tell	66	3.28%	148	1.37%	30.70	2.72205E-08	
61	doing	69	3.43%	163	1.51%	28.94	7.15979E-08	
62	sounds	36	1.79%	58		28.12	1.11208E-07	
63	google	22	1.09%	22		28.06	1.14468E-07	
64	wait	49	2.44%	100		27.00	2.00688E-07	
65	close	99	4.92%	281	2.60%	26.85	2.16511E-07	
66	forget	32	1.59%	51		25.34	4.76936E-07	
67	heading	45	2.24%	92		24.72	6.60082E-07	
68	interested	56	2.79%	129	1.19%	24.72	6.61483E-07	
69	reply	22	1.09%	26		24.22	8.58614E-07	

Appendix 2-3: Key verbs and nominalized verbs in Journal articles

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P	Lemmas
1	study	534	17.72%	389	3.59%	430.48	1.28362E-17	study[366] studies[168]
2	analysis	192	9.29%	195	1.80%	234.80	9.88162E-17	
3	research	233	11.28%	294	2.72%	232.51	1.02262E-16	
4	planning	266	12.88%	410	3.79%	211.17	1.43855E-16	
5	variables	166	8.04%	166	1.53%	205.66	1.58158E-16	
6	based	217	10.50%	309	2.86%	189.63	2.12248E-16	
7	growth	160	7.75%	185	1.71%	174.11	2.90872E-16	
8	perceived	141	6.83%	145	1.34%	170.58	3.1397E-16	
9	increase	148	7.16%	164	1.52%	167.58	3.35645E-16	
10	survey	175	6.34%	138	1.28%	155.21	4.49266E-16	survey[131] surveys[44]
11	forecasting	122	5.91%	124	1.15%	149.07	5.2499E-16	
12	expenditure	150	7.26%	208	1.92%	135.12	7.73803E-16	
13	used	295	14.28%	687	6.35%	119.91	1.26175E-15	
14	increased	106	5.13%	118	1.09%	119.51	1.27968E-15	
15	influence	123	5.95%	160	1.48%	118.85	1.30953E-15	
16	were	803	38.87%	2689	24.85%	114.21	1.55015E-15	
17	experience	261	10.26%	442	4.08%	106.77	2.07593E-15	experience[212] experienced[49]
18	forecast	154	4.45%	100		106.00	2.14348E-15	forecast[92] forecasts[62]
19	development	245	11.86%	565	5.22%	101.62	2.58769E-15	
20	definition	84	4.07%	100		88.85	4.84782E-15	
21	impact	97	4.70%	137	1.27%	85.55	5.84125E-15	
23	implications	69	3.34%	72		82.42	7.04733E-15	
24	considered	116	5.62%	199	1.84%	79.75	8.35315E-15	
25	using	121	5.86%	217	2.01%	77.98	9.40382E-15	
26	listing	63	3.05%	65		75.99	1.08048E-14	
27	identified	68	3.29%	81		71.88	1.47154E-14	
28	presented	67	3.24%	79		71.53	1.5131E-14	
29	findings	62	3.00%	70		68.98	1.86841E-14	
30	changes	93	4.50%	154	1.42%	67.16	2.19341E-14	
31	associated	84	4.07%	129	1.19%	66.96	2.23363E-14	
32	measure	147	2.76%	65		62.83	3.33845E-14	measure[57] measured[29] measures[61]
33	management	123	5.95%	258	2.38%	61.26	3.95001E-14	
34	defined	69	3.34%	100		59.04	5.0965E-14	
35	reported	54	2.61%	64		57.36	6.273E-14	

36	understanding	56	2.71%	70		56.40	7.11462E-14	
37	focus	103	3.20%	96		56.23	7.28427E-14	focus[66] focused[37]
38	interviews	43	2.08%	44		52.23	1.31972E-13	
39	perceptions	42	2.03%	42		52.02	1.36711E-13	
40	distribution	49	2.37%	59		51.25	1.55892E-13	
41	needs	61	2.95%	93		49.07	2.33725E-13	
42	discussed	45	2.18%	52		48.98	2.37839E-13	
43	attribute	41	1.98%	43		48.76	2.49028E-13	
44	benefit	73	3.53%	128	1.18%	48.63	2.55469E-13	
45	evaluation	49	2.37%	63		47.93	2.96086E-13	
46	education	55	2.66%	79		47.56	3.21017E-13	
47	oriented	45	2.18%	55		46.37	4.22829E-13	
48	increases	39	1.89%	41		46.28	4.3198E-13	
49	perception	37	1.79%	37		45.83	4.8359E-13	
50	decisions	52	2.52%	74		45.45	5.32268E-13	
51	are	1424	68.93%	6102	56.38%	45.00	6.01323E-13	
52	increasing	44	2.13%	56		43.50	9.33842E-13	
53	preferences	38	1.84%	42		43.12	1.05542E-12	
54	attention	50	2.42%	72		43.11	1.05975E-12	
55	emphasis	43	2.08%	54		43.10	1.06079E-12	
56	commitment	39	1.89%	45		42.51	1.29747E-12	
57	conducted	55	2.66%	87		42.21	1.44372E-12	
58	motivation	66	1.65%	34		42.11	1.49926E-12	motivation[34] motivations[32]
59	included	86	4.16%	185	1.71%	40.88	2.45676E-12	
60	structured	32	1.55%	32		39.63	4.47425E-12	
61	accessibility	33	1.60%	35		38.86	6.98126E-12	
62	derived	42	2.03%	57		38.75	7.47802E-12	
63	consumption	34	1.65%	38		38.19	1.09113E-11	
64	response	45	2.18%	67		37.27	2.28266E-11	
65	expectations	37	1.79%	47		36.65	4.29636E-11	
66	participation	37	1.79%	47		36.65	4.29636E-11	
67	selected	37	1.79%	47		36.65	4.29636E-11	
68	generated	31	1.50%	33		36.38	5.9073E-11	
69	hypothesis	30	1.45%	31		36.14	8.21097E-11	
70	addition	89	4.31%	208	1.92%	35.89	1.19436E-10	
71	integrated	32	1.55%	36		35.72	1.56883E-10	
72	develop	127	2.13%	67		35.45	2.63672E-10	develop[44] developed[83]

73	projected	30	1.45%	32		35.15	5.30163E-10	
74	interviewed	28	1.36%	29		33.66	3.63986E-09	
75	measurement	28	1.36%	29		33.66	3.63986E-09	
76	movement	39	1.89%	58		32.35	9.96681E-09	
77	examine	75	1.84%	56		31.87	1.35741E-08	examine[38] examined[37]
78	compared	54	2.61%	103		31.62	1.5784E-08	
79	shown	110	2.23%	80		31.01	2.27829E-08	shown[46] shows[64]
80	adopted	36	1.74%	52		30.92	2.39349E-08	
81	indicate	122	1.94%	63		30.87	2.46365E-08	indicate[40] indicates[38] indicated[44]
82	positioning	27	1.31%	30		30.49	3.06756E-08	
83	analyzed	25	1.21%	26		29.95	4.15005E-08	
84	listed	45	2.18%	80		29.37	5.67337E-08	
85	attempt	34	1.65%	49		29.28	5.96413E-08	
86	noted	39	1.89%	63		29.12	6.52007E-08	
87	estimate	104	1.69%	52		29.06	6.70844E-08	estimate[35] estimated[69]
88	observations	25	1.21%	27		28.97	7.07217E-08	
89	visitation	24	1.16%	25		28.71	8.12227E-08	
90	provide	139	6.73%	422	3.90%	28.24	1.04042E-07	
91	choice	101	4.89%	276	2.55%	28.07	1.14169E-07	
92	suggests	31	1.50%	43		27.91	1.24427E-07	
93	estimation	23	1.11%	24		27.47	1.56588E-07	
94	expected	52	2.52%	106		27.24	1.76467E-07	
95	represented	34	1.65%	52		27.24	1.76683E-07	
96	attract	34	1.65%	53		26.59	2.48401E-07	
97	presence	34	1.65%	53		26.59	2.48401E-07	
98	explained	29	1.40%	40		26.27	2.9358E-07	
99	expressed	27	1.31%	35		26.18	3.081E-07	
100	control	85	4.11%	224	2.07%	25.97	3.43374E-07	
101	discussion	31	1.50%	46		25.78	3.79422E-07	
102	existence	32	1.55%	49		25.60	4.17145E-07	

Appendix 2-4: Key verbs in Ordinances against the Corpus of Tourism Texts

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P	Lemmas
1	shall	2650	108.41%	2659	24.57%	2702.05	4.21217E-20	
2	may	1893	77.44%	2694	24.89%	1288.34	4.05363E-19	
3	be	3406	127.84%	7420	68.56%	783.64	1.899E-18	be[3125] being[281]
4	application	509	20.82%	548	5.06%	481.73	8.91313E-18	
5	means	582	23.81%	734	6.78%	461.63	1.023E-17	
6	notice	451	18.45%	488	4.51%	424.58	1.34264E-17	
7	travel	1098	44.92%	2313	21.37%	371.43	2.08237E-17	
8	regulations	374	15.30%	394	3.64%	361.81	2.27103E-17	
9	offence	351	14.36%	352	3.25%	356.46	2.38593E-17	
10	specified	297	12.15%	310	2.86%	289.96	4.77043E-17	
11	registration	214	8.75%	227	2.10%	205.52	1.58542E-16	
12	regulation	207	8.47%	213	1.97%	204.95	1.60139E-16	
13	approval	204	8.35%	208	1.92%	203.80	1.63397E-16	
14	must	396	16.20%	684	6.32%	198.97	1.78202E-16	
15	compensation	198	8.10%	204	1.88%	195.79	1.88916E-16	
16	apply	345	9.33%	277	2.56%	188.90	2.15227E-16	apply[228] applies[117]
17	referred	198	8.10%	219	2.02%	182.07	2.46448E-16	
18	operation	178	7.28%	196	1.81%	164.44	3.60422E-16	
19	authorised	275	5.77%	141	1.30%	143.53	6.08867E-16	authorised[141] authorized[134]
20	warrant	142	5.81%	144	1.33%	142.60	6.24577E-16	
21	force	170	6.95%	205	1.89%	142.06	6.34069E-16	
22	comply	140	5.73%	141	1.30%	141.53	6.43366E-16	
23	paid	197	8.06%	270	2.49%	140.53	6.61755E-16	
24	appeal	189	7.73%	255	2.36%	137.63	7.18944E-16	
25	conduct	144	5.89%	156	1.44%	135.31	7.69319E-16	
26	registered	135	5.52%	140	1.29%	132.61	8.34226E-16	
27	consent	130	5.32%	130	1.20%	132.33	8.41526E-16	
28	decision	198	8.10%	304	2.81%	120.33	1.24353E-15	
29	appointment	112	4.58%	120	1.11%	106.44	2.10419E-15	
30	carrying	131	5.36%	163	1.51%	105.50	2.18839E-15	
31	carry	249	6.14%	208	1.92%	105.34	2.20359E-15	carry[150] carries[42] carried[57]
32	permit	114	4.66%	127	1.17%	104.01	2.33136E-15	
33	exceeding	104	4.25%	107		102.96	2.4393E-15	

34	appoint	412	4.09%	100		101.78	2.56864E-15	appoint[100] appointed[312]
35	grant	108	4.42%	118	1.09%	100.58	2.71055E-15	
36	considers	93	3.80%	99		88.97	4.81605E-15	
37	require	382	4.79%	153	1.41%	88.66	4.8995E-15	require[117] required[265]
38	hold	120	4.91%	166	1.53%	84.54	6.19834E-15	
39	licensed	117	3.52%	90		83.71	6.51403E-15	licensed[86] licensing[31]
40	issue	304	5.07%	184	1.70%	79.23	8.64389E-15	issue[124] issued[180]
41	report	107	4.38%	148	1.37%	75.39	1.12845E-14	
42	refuse	107	2.99%	75		72.37	1.41646E-14	refuse[73] refused[34]
43	provide	514	8.35%	422	3.90%	71.75	1.48748E-14	provide[204] provided[310]
44	determine	207	4.01%	134	1.24%	70.11	1.6992E-14	determine[98] determined[109]
45	establish	243	3.56%	109	1.01%	69.48	1.79051E-14	establish[87] established[156]
46	includes	184	5.36%	223	2.06%	67.45	2.13732E-14	includes[131] incurred[53]
47	investigation	85	3.48%	108		66.74	2.27911E-14	
48	repealed	64	2.62%	64		65.14	2.65001E-14	
49	renewal	68	2.78%	73		64.49	2.82216E-14	
50	levy	63	2.58%	64		63.15	3.23039E-14	
51	gazette	62	2.54%	62		63.10	3.24596E-14	
52	fit	102	4.17%	159	1.47%	60.56	4.26975E-14	
53	relates	65	2.66%	71		60.55	4.27677E-14	
54	make	901	12.56%	789	7.29%	59.99	4.55677E-14	make[307] made[594]
55	requirement	128	2.66%	73		58.79	5.25338E-14	requirement[65] requirements[63]
56	perform	62	2.54%	67		58.40	5.50708E-14	
57	cause	91	3.72%	135	1.25%	58.16	5.67082E-14	
58	written	83	3.40%	118	1.09%	56.34	7.17965E-14	
59	trust	76	3.11%	104		54.31	9.54734E-14	
60	convicted	54	2.21%	55		53.99	1.00171E-13	
61	signed	68	2.78%	88		52.20	1.32734E-13	
62	give	368	7.32%	403	3.72%	51.37	1.5276E-13	give[179] given[189]
63	certified	50	2.05%	50		50.89	1.66121E-13	
64	delegation	50	2.05%	51		49.92	1.98348E-13	
65	compliance	54	2.21%	60		49.40	2.1904E-13	
66	governing	51	2.09%	54		49.05	2.34519E-13	
67	thinks	52	2.13%	57		48.26	2.76065E-13	
68	request	66	2.70%	89		48.08	2.86611E-13	
69	lease	62	2.54%	80		47.77	3.06664E-13	
70	possession	57	2.33%	69		47.41	3.31901E-13	

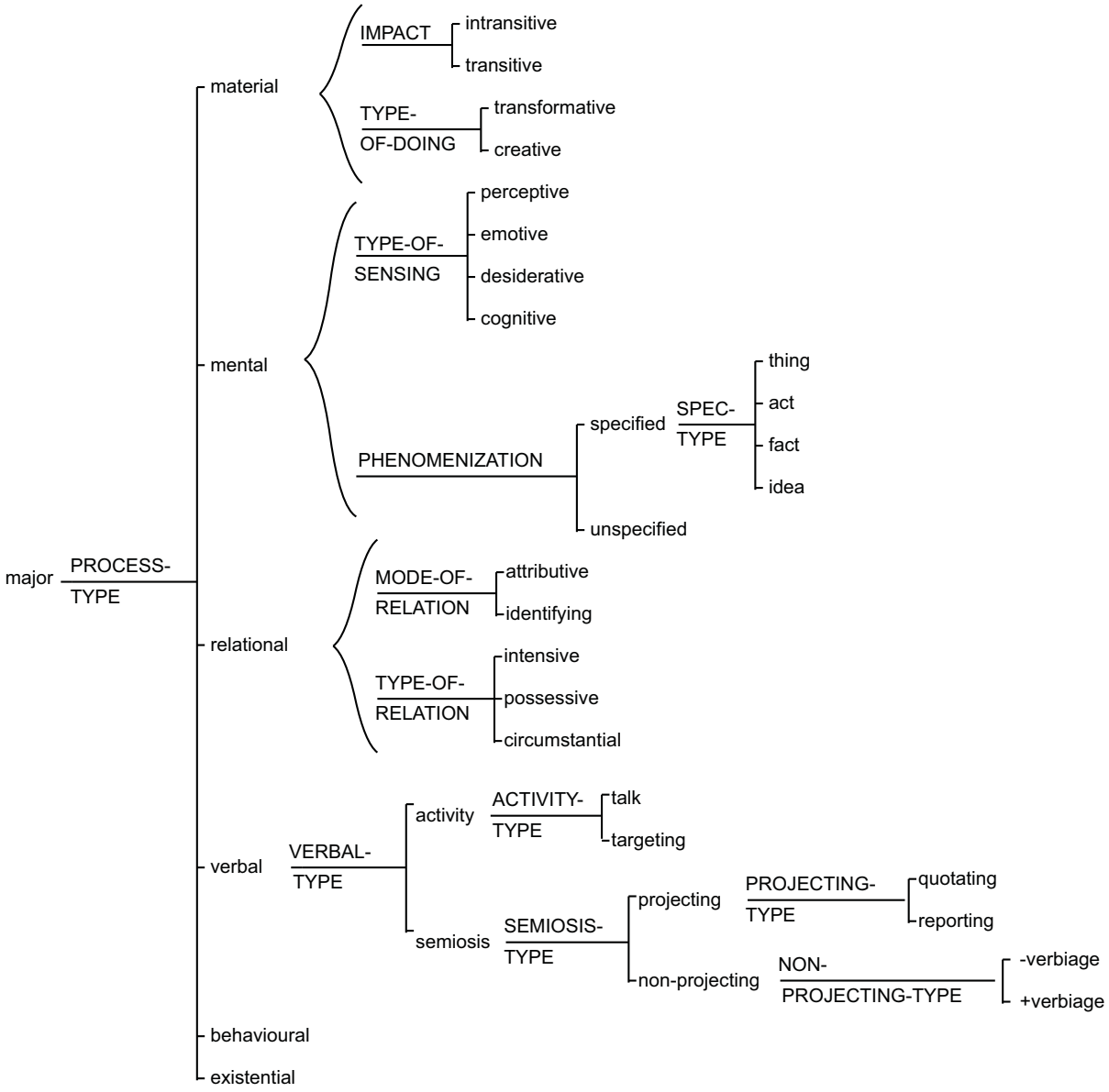
71	transferred	50	2.05%	54		47.12	3.53848E-13	
72	approve	257	1.92%	48		46.87	3.7571E-13	approve[47] approved[210]
73	inserting	47	1.92%	48		46.87	3.7571E-13	
74	assigned	54	2.21%	63		46.84	3.77922E-13	
75	suspend	88	1.88%	46		46.82	3.80063E-13	suspend[46] suspended[42]
76	fails	52	2.13%	59		46.51	4.08511E-13	
77	enter	174	3.72%	156	1.44%	46.29	4.31064E-13	enter[91] entitled[83]
78	record	69	2.82%	99		46.24	4.36211E-13	
79	submit	79	1.92%	49		45.92	4.72685E-13	submit[47] submitted[32]
80	conferred	46	1.88%	47		45.85	4.81075E-13	
81	operate	77	3.15%	121	1.12%	45.15	5.77052E-13	
82	construed	45	1.84%	46		44.83	6.29822E-13	
83	received	84	3.44%	141	1.30%	44.29	7.35021E-13	
84	judge	47	1.92%	51		44.08	7.80943E-13	
85	consultation	45	1.84%	48		42.96	1.11306E-12	
86	enactment	45	1.84%	48		42.96	1.11306E-12	
87	published	99	2.70%	98		42.13	1.49047E-12	published[66] quorum[33]
88	enforcement	44	1.80%	47		41.94	1.59705E-12	
89	committed	51	2.09%	63		41.42	1.95693E-12	
90	believes	43	1.76%	46		40.93	2.40761E-12	
91	delegate	71	1.64%	40		40.71	2.64934E-12	delegate[40] delegated[31]
92	arrangements	52	2.13%	67		40.13	3.46848E-12	
93	promotion	75	3.07%	125	1.15%	40.01	3.67812E-12	
94	added	68	2.78%	107		39.79	4.12192E-12	
95	classification	51	2.09%	66		39.15	5.86567E-12	
96	revoke	68	1.55%	38		38.67	7.83828E-12	revoke[38] revoked[30]
97	performance	89	3.64%	168	1.55%	37.92	1.3288E-11	
98	commenced	39	1.60%	41		37.78	1.47768E-11	
99	ensure	60	2.45%	90		37.73	1.5362E-11	
100	annex	38	1.55%	39		37.71	1.57014E-11	
101	hearing	49	2.00%	64		37.18	2.48672E-11	
102	omission	41	1.68%	46		37.12	2.63671E-11	
103	prescribe	332	1.60%	42		36.87	3.40157E-11	scribe[39] prescribed[264] prescribing[29]
104	regulate	36	1.47%	36		36.64	4.3592E-11	
105	does	185	7.57%	475	4.39%	36.25	7.01008E-11	
106	suspension	40	1.64%	46		35.25	4.06136E-10	
107	determination	38	1.55%	42		34.96	4.45643E-10	

108	mentioned	93	3.80%	188	1.74%	34.40	1.55559E-09	
109	cancelled	43	1.76%	54		34.24	1.93987E-09	
110	contemplated	33	1.35%	33		33.58	3.89917E-09	
111	contravenes	33	1.35%	33		33.58	3.89917E-09	
112	engaged	42	1.72%	54		32.50	8.99558E-09	
113	vote	47	1.92%	67		31.78	1.43459E-08	
114	expiration	33	1.35%	35		31.69	1.52059E-08	
115	undertaking	33	1.35%	35		31.69	1.52059E-08	
116	notify	64	1.31%	33		31.60	1.59895E-08	notify[32] notified[32]
117	violation	32	1.31%	33		31.60	1.59895E-08	
118	employment	71	2.90%	132	1.22%	31.16	2.08925E-08	
119	publication	35	1.43%	40		31.06	2.21147E-08	
120	amendments	32	1.31%	34		30.67	2.76747E-08	
121	prosecution	30	1.23%	30		30.53	2.99315E-08	
122	requiring	34	1.39%	39		30.05	3.91873E-08	
123	impose	107	1.31%	35		29.76	4.58759E-08	impose[32] imposed[75]
124	inspect	32	1.31%	35		29.76	4.58759E-08	
125	regard	55	2.25%	91		29.70	4.75339E-08	
126	renew	31	1.27%	33		29.65	4.87408E-08	
127	elected	39	1.60%	51		29.55	5.16438E-08	
128	aforesaid	29	1.19%	29		29.51	5.26093E-08	
129	undertake	34	1.39%	40		29.21	6.18538E-08	
130	consist	37	1.51%	47		29.06	6.73057E-08	
131	served	87	3.56%	185	1.71%	28.71	8.09366E-08	
132	protection	43	1.76%	62		28.62	8.52584E-08	
133	amend	158	1.15%	28		28.50	9.09893E-08	amend[28] amended[130]
134	deem	143	1.15%	28		28.50	9.09893E-08	deem[28] deemed[115]
135	refusal	28	1.15%	28		28.50	9.09893E-08	
136	remove	34	1.39%	41		28.40	9.55806E-08	
137	accompanied	47	1.92%	73		28.06	1.14902E-07	

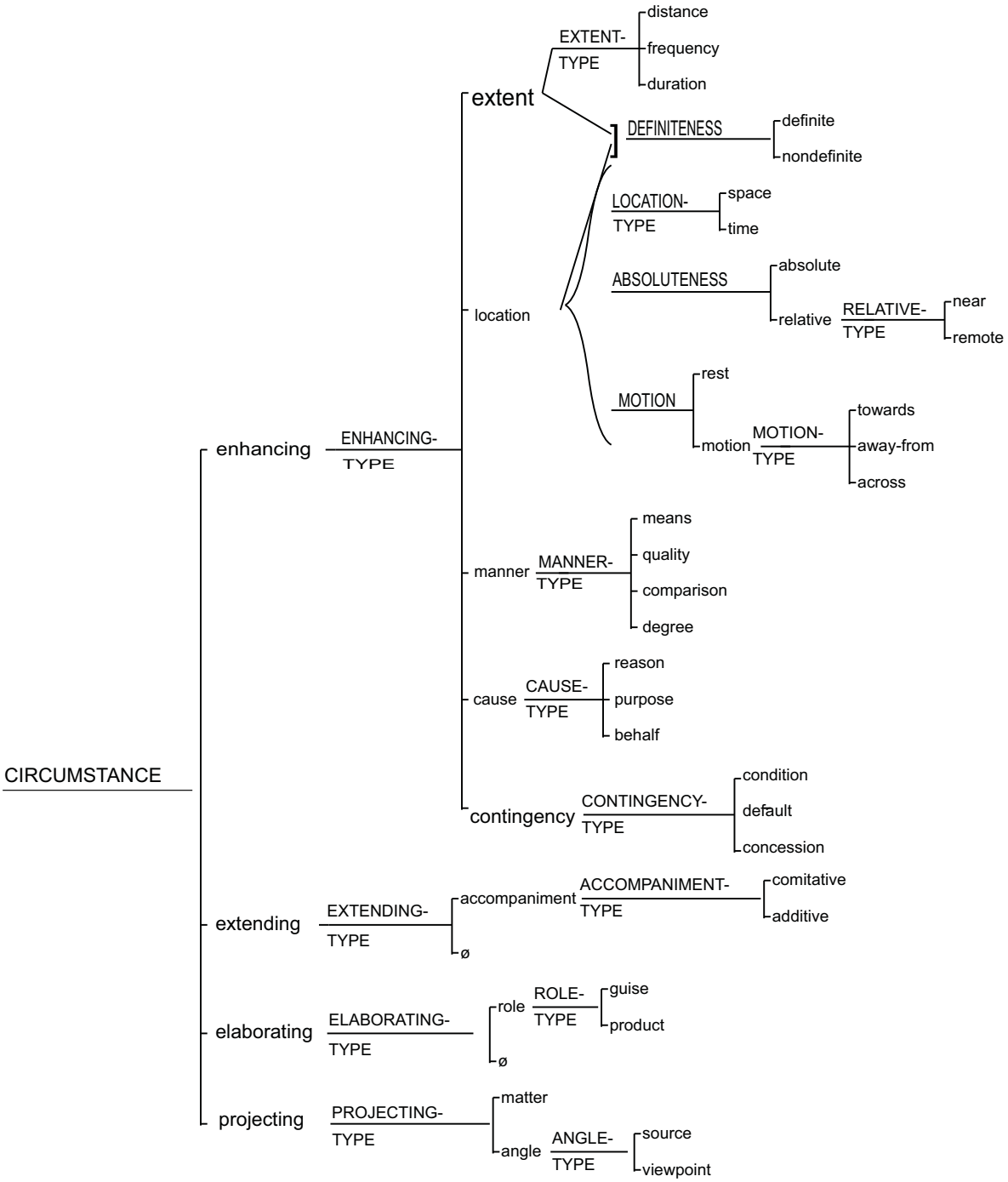
Appendix 2-5: Key verbs with positive keyness in Travelogues

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P	Lemmas
1	was	3383	149.03%	5916	54.66%	187019.71%	1.29221E-19	was[3241] wasn't[142]
2	were	1289	59.27%	2689	24.85%	58468.67%	4.79045E-18	
3	went	458	21.06%	575	5.31%	42991.68%	1.28907E-17	
4	got	1001	20.37%	601	5.55%	38122.66%	1.91096E-17	got[443] get[450] getting[108]
5	took	365	16.78%	481	4.44%	32469.46%	3.25671E-17	
6	walked	574	11.50%	262	2.42%	28051.28%	5.34038E-17	walked[250] walk[207] walking[117]
7	drove	314	9.75%	218	2.01%	24196.17%	8.89488E-17	drove[212] driving[102]
8	decided	217	9.98%	268	2.48%	20718.74%	1.54007E-16	
9	saw	701	9.75%	276	2.55%	19111.67%	2.06264E-16	saw[212] see[417] seeing[72]
10	stopped	336	8.18%	198	1.83%	18887.01%	2.15371E-16	stopped[178] stop[158]
11	seemed	156	7.17%	185	1.71%	15535.08%	4.47674E-16	
12	said	230	10.58%	379	3.50%	15386.42%	4.64539E-16	
13	looked	288	6.53%	171	1.58%	13919.25%	6.87283E-16	looked[142] look[146]
14	could	461	16.51%	816	7.54%	13626.75%	7.47958E-16	could[359] couldn't[102]
15	started	153	7.04%	204	1.88%	13423.66%	7.94347E-16	
16	turned	135	6.21%	172	1.59%	12462.05%	1.07501E-15	
17	left	184	8.46%	320	2.96%	11363.16%	1.58428E-15	
18	wanted	136	6.25%	195	1.80%	10944.82%	1.8627E-15	
19	arrived	130	5.98%	180	1.66%	10913.78%	1.88588E-15	
20	bought	113	5.20%	144	1.33%	10428.32%	2.30428E-15	
21	came	152	6.99%	253	2.34%	10019.94%	2.75758E-15	
22	found	240	11.04%	542	5.01%	9234.94%	4.02699E-15	
23	mark	89	4.09%	111	1.03%	8406.73%	6.37422E-15	
24	headed	81	3.72%	94		8243.31%	7.04147E-15	
25	told	104	4.78%	173	1.60%	6860.96%	1.92975E-14	
26	ate	152	2.90%	72		6509.42%	2.66104E-14	ate[63] eat[89]
27	tried	151	3.54%	108		6364.41%	3.07098E-14	tried[77] trying[74]
28	asked	106	4.87%	190	1.76%	6244.48%	3.47601E-14	
29	spent	108	4.97%	198	1.83%	6136.06%	3.90581E-14	
30	knew	61	2.80%	73		6017.02%	4.46342E-14	
31	talked	47	2.16%	48		5395.26%	1.00715E-13	
32	thought	95	4.37%	183	1.69%	4967.01%	2.0791E-13	
33	ended	67	3.08%	112	1.03%	4388.19%	8.29031E-13	

Appendix 3 Process type scheme used for annotation of process types



Appendix 4 Circumstance scheme used for circumstantial annotation



Appendix 5

Types of fuzzy clauses in process type analysis with preliminary discussion

Type 1 Idioms

Type 2 Material or relational

Type 3 Material or relational: *base on…; compared to… etc.*

Type 4 Relational or mental: *cater to; satisfy; meet (demand, need etc)*

Type 5 Mental or material

Type 6 Relational or mental

Type 7 Process of semiosis or being

Type 8 Pro-form substitution: ‘as’, ‘do’, ‘so’ and others

Type 9 Verbal or mental

Type 10 Verbal or material

Type 11 Verbal group complex or clause complex

Type 12 Phrasal verb: divide it or not?

Type 13 The empty ‘It’.

Type 14 Material: creative or transformative

Type 15 Relational: assignment: *view ... as ...; consider…as…; etc*

Type 1 Idioms

1. Unlike previous generations, this generation of primarily young travelers **are intent on enjoying** the fruits of their labor.
2. Policymakers in countries that experience a decline in their market share **are concerned to identify** the variables underlying it。
3. how much loss of privacy **are** we **willing to tolerate** as a society?
   Discussion: be + adjectival + non-finite verbal group
   When non-finite verbal groups are used as a necessary part of an idiom, although it is possible to treat the idiom as a relational process, it also seems reasonable to treat the verbal groups as the focus where the process type for the whole clause can be decided. As for Example 1-3, if they are treated as relational processes, they could hardly be differentiated, but if we draw our attention to the non-finite verbal groups, the processes will vary a lot. Possibly, every process type can occur.

4. It **is** an indication that the growth of tourism in the Asia Pacific region in the next decade **will be nothing short of** spectacular.
5. By the end of 2002, the IOC **was** more confident about the progress Athens had made, but still **concerned about** whether everything would be finished on time.
   Discussion: be + adjectival + prepositional phrase
   The prepositional phrase can be taken as a postmodifier to the adjectival and this kind of idioms can only be treated as relational.

6. The Asian financial crisis **has drawn worldwide attention** because of its significant economic impact on local economies, especially on the economy of a tourism-dependent destination.
7. He or she must **pay attention to** preserving others' face
8. The purpose of the trip also **plays a role in** affecting traveler's information search behavior. C.f. make a decision, give an answer
9. Chinese people maintain a ledger in their mind **keeping track of** who owes them favors and whom do they owe.
10. To accommodate the demand for air travel, airlines in the region **will take delivery of** more than US$100 billion worth of aircraft.
11. who **can take their pick** from traditional Chinese temples, a spectacular ruined cathedral, pastel villas, old forts and islands that once harboured pirates.
12. However, Law and Au's study was based on pre-1997 data, which **did not take account of** the large decrease in the number of Japanese visitor arrivals after 1996.
13. Ticketless travel **will find its way into** the major hubs in Asia this year.
14. Adding a personal touch to sales efforts **will go a long way**.
15. Future research for other crisis-affected countries would extend this study to **shed light on** understanding the impact of the financial crisis on visitation.
    Discussion: verbal group + nominal group

This type of idioms seem to be the most loose one since for most of them, the nominal group can be qualified, quantified or modified. For some of them, the nominal group can even be thematised, e.g. 6, 7, and 8; or the verb group has an empty meaning, like "keep", and "take" in Clause 9, 10, 11 and 12. We tend to treat these idioms as a Material process, regarding the nominal groups as Range. For some others, e.g. Clause 12, 13, 14 and 15, they have a stronger metaphorical meaning than the others in this group and apparently, the nominal group cannot be thematised either. So it is questionable if the idiom as a whole could be analysed as a process or it could be divided into two parts: process + participant?

16. Sparta, however, **wasn't prepared to play second fiddle**
17. and prices of hotel rooms **tend to go through the roof**.

Discussion: fixed idioms

Different from the previous idioms, this kind of idiom has a meaning that cannot be derived as a whole from the conjoined meanings of its elements. Since when doing transitivity analysis, the elements function as nominal group, verbal group or else play their role in the configuration semantically and separately, either as Process or Participants, it is possibly wrong to divide the fixed idioms like 16 and 17 into two parts, i.e. Process + Participant. The subsequent problem arises immediately. If they can only be taken as a single element, what type of process could they be assigned to?

Type 2 Material or relational?

18. Seasonality **has been accommodated** (= 'dealt with'? Passive voice; Relational: attributive; circumstantial?) in the two models ranked first and second.
19. A trend towards this end **is** strongly **supported** (When the clause indicates spatio-temporal meaning, 'support' functions as 'Relational: identifying; circumstantial' (H&M 2004: 243). In this clause, 'support' seems to mean 'prove'. Can the agentive prepositional phrase, 'by…' be treated as an Assigner or an Actor if it could be taken as a Material process?) by the anticipated relative decrease in the cost of transportation.
20. Thus, the current study **allows for** (= 'make a possibility or provide a possibility for'? Relational: assignment; identifying?) a preliminary examination of those push and pull factors specific to Alaska.
21. Ultimately this study **allows for** examination of variables that can be loosely identified as "push and pull factors."

22. the asset **can withstand** (='stand up to'; Relational: attributive; circumstantial?) heavy visitation,
23. you **will face** (Is 'you' a 'doer' or a 'carrier'?) a very interesting phenomenon.

24. Chinese cultural values **were classified** into five orientations: man-nature orientation, man-himself orientation, relational orientation, time orientation, and personal activity orientation.
25. Many studies have been conducted **to classify** people who engage in leisure and tourist activities **into** different types.
    Discussion: Material + Goal + Role (into…)
    or Relational: assignment: identifying; circumstance? ('People' comprise 'different types' or vice versa)

26. While some tourism researchers have studied the Asian financial crisis and its impact on the tourism industry (Leiper and Hing, 1998; Pine, Chan and Leung, 1998; Prideaux, 1999), they **failed to link** the crisis **with** tourism demand forecasting.
    Discussion: associate…with…; correlate…with…; connect…with…; relate…to… etc.
    It seems unsuitable to treat the "with phrase' as a circumstance in that the circumstance is usually optional and thus can be removed freely. However, if it is removed from any of these structures, the clauses will have an incomplete meaning. In this sense, they can not be Material processes. But if we treat them as relational, it seems one new category can be added to Table 5(20) (see H&M 2004: 243), namely, 'accompaniment, identifying'. Noticeably, when the passive voiced is used, the verb always turned into an adjectival.

Type 3 Material or relational: *base on…; compared to… etc.*?

27. **Based** on 1988 input-output tables, Khan et al. (1995) estimated that tourism contributed 11.9% to Singapore's GDP (Gross Domestic Product) in 1992
28. **Based on these trends**, the implications for tourism marketers can be elaborated
29. **Based on** the framework, hypotheses are presented to stimulate future research.
30. These figures are **based on** research completed in 1993 and 1994 (State of Alaska, 1994 a-f), the last time the state gathered such data.
31. These taboos **are** mainly **based upon** religious beliefs and superstition.
32. The variables used in the stepwise regression were selected **based on** prior research findings.
    Discussion: elliptical; relational: attributive

33. there was a further 7.99% decrease in 1998 **compared to** 1997 (HKTA, 1997-1998).
34. This represented an increase of almost ten percent **compared to** 1993.
35. In 1990, about 52 percent of the adult population were reported as being married, as **compared to** 41.2 percent who were single;
    Question: elliptical; material?

Type 4 Relational or mental: *cater to; satisfy; meet (demand, need etc)*?

36. **To accommodate** the demand for air travel, airlines in the region will take delivery of more than US$100 billion worth of aircraft.
37. Both the tourism and the arts industries have standardized their product **in order to satisfy** consumer demand.

38. Asians are more likely to travel in groups and families, more travel products and services, such as tour packages that incorporate activities, must be designed **to cater to** their needs.
39. Billions of dollars will be spent in capital investments **to meet** the increasing demands of a burgeoning tourism and hotel industry.
40. For instance, tours for families could be organized **to meet** the needs of this segment of the market by providing opportunities for the families to share their activities through prearranged packages.
41. In essence, the level of professionalism of the tourism industry must be upgraded **to meet** the needs of a new generation of tourists
42. More single people require newer and more innovative types of tourism activities **to cater to** the aspirations of this new generation of consumers.
43. Some have a dominant tourism focus, while others **cater** primarily **to** the needs of the local community.

    Discussion: For these verb groups, when they occur in an independent clause, like 48, a clear relationship can be identified as 'A caters to B', 'B' is usually a nominalization encoding 'desideration', e.g. demand, need, etc. However, when they are used in dependent clauses, like 41 to 47, only one participant occurs in the clause although we can imagine participant A is what the dependent clause is all about. This may be the difficult point for us to treat them as relational clauses.

Type 5 Mental or material?

44. the type of economic value under consideration **must be defined** precisely.
45. Readers who are interested in the theoretical concepts and technical operations of the chosen tourism forecasting techniques **can refer to** other references for details of these techniques.
46. While some tourism researchers **have studied** the Asian financial crisis and its impact on the tourism industry (Leiper and Hing, 1998; Pine, Chan and Leung, 1998; Prideaux, 1999), they failed to link the crisis with tourism demand forecasting.

    Question: more mental or more material?

Type 6: Relational or mental?

47. To support this growth, US$553 billion in capital investments **will be needed** for the infrastructure and superstructure.
48. Normally, a long lead-time **is needed** to plan and develop tourism-related facilities and infrastructure
49. this simply requires a comparison of the economic value of tourism at sites before and after they were designated as World Heritage, and at similar but unlisted sites over the same time period. Data from unlisted control sites **are needed** since visitor numbers at WHAs may be affected

    Discussion: These clauses are more likely to be relational in that adverbs of degree, i.e. extremely, greatly, can be used before 'needed'.

Type 7: Processes of semiosis or being?

50. future research should **explore** specifically which components in their experience is lacking, be they accommodations, activities, food, transportation, or some combination.
51. prior studies **have not** specifically **examined** the existence and nature of the corporate culture-performance relationship in the hospitality sector.
52. The next section **explains** our method, including descriptions of the instrument, sample and procedures used in this exploratory study.
53. The current study found that winter visitors were significantly more likely to use the Internet than were the summer visitors. Apparently this is **explained** by the fact that major users of the Internet in Japan include the young and students.
54. The final section of this paper **summarizes** the findings and **outlines** practical implications.
55. the opposite end of this dimension **entertains** more relaxed enforcement of rules and regulations and is more accepting of deviations.
56. A follow-up question **inquired** as to whether they would recommend the trip to a friend.
57. A follow-up question **examined** additional purchases once in Alaska;
    Discussion: This type of clauses usually occurs in the abstracts and conclusion sections of journal articles or books. Although the verbs have the meaning of speaking or thinking, they imply a sense of 'being about', thus they are better to be taken as 'relational' processes.

Type 8 Pro-form substitution: 'as', 'do', 'so' and others.

58. In so far as can be determined from available data, any significant increases in the growth of visitor numbers at WHAs seems to have coincided more closely with periods of major environmental controversy rather than the date of WH listing as such, though there are too many other factors and inadequate data to establish this pattern definitively. **If so,** it seems that the tourism industry of today should be indebted to the conservation activists of the past not only for protecting one of their primary resources, but also for advertising it.
59. For many sites, historical time series of visitor numbers are lacking and data on visitor origins and expenditure **even more so.**
60. chances are you won't have much need for public transport. But if you **do**, you'll find that the city's sparkling new metro system has made getting around the centre of Athens far less painful than it used to be.
61. Technological developments have significantly impacted the travel industry in the Asia Pacific region and <u>will continue to **do so**</u> over the next decade.
    Discussion: the word 'so' in these clauses refers back to an idea, event, quality, or situation etc that has just been mentioned, while 'do' refers back to an action. 'So' is treated as a semiotic entity. Its function changes along with the process before it, i.e. 'do', an elliptical relational verb, 'think, believe…', 'say' etc.

62. That is, travelers who stay longer on their trips tend to consume more **and vice versa.**
    Question: should 'and vice versa' be taken as a Circumstance?

63. The Asian currency and economic crises in late-1997 have apparently affected the forecast performance of the models for arrivals from Malaysia, **as reflected** in the substantial increase in RMSE for the first and second quarters of 1998.
64. Thus, there was overlap with the exception of special events for the winter visitor and wildlife for the summer visitor and, **as might be expected,** seeing an Alaska summer for the summer visitors and seeing an Alaska winter for the winter visitors.
65. **As indicated** in Figure 1,…
66. **As hypothesized,** no strong evidence is found to support any of the alternative definitions as an appropriate and comprehensive definition of adventure travel.
67. **As** previously **stated,** accurate forecasts **can assist** tourism professionals to make better decisions.

    Discussion: when 'as' is used to refer to what has been said or mentioned, it usually co-occurs with some verbs meaning 'saying and thinking'. It is usually taken as a 'Phenomenon: thing' or a 'Verbiage'

Type 9 Verbal or mental?

68. It **is proposed** that the historical data of individual series of international tourism demand for Australia by Hong Kong, Malaysia, and Singapore first be tested for unit roots using the Augmented Dickey–Fuller (ADF) test, following which the various smoothing models can be used for forecasting.
69. At the same time, we must **acknowledge** that our study is limited by a small sample
70. There could well be a role for UNESCO in **encouraging** collection and analysis of such data globally,
71. The authors gratefully **acknowledge** assistance received from the staff of the US Travel Service.

    Question: more verbal or more mental?

Type 10 Verbal or material?

72. In particular, special functions and features offered by Expedia are examined and **commented**.
73. foreign visitors **respond** more readily to the World Heritage designation than to the just the national park' term.
74. For example, in 1995, the Korea National Tourist Corporation **used** its "Discover Korea: A Different Asia" campaign **to emphasize** the differences that South Korea had to offer over other Asian countries; its unique traditional culture, delicious cuisine, exceptional shopping, and four distinct seasons.

    Discussion: when a human participant is involved or implied in the action, the verbs 'comment, emphasize, respond' are more likely to be verbal than a material.

Type 11 Verbal group complex or clause complex?

75. As hypothesized, no strong evidence **is found to support** any of the alternative definitions as an appropriate and comprehensive definition of adventure travel.
76. In Chen's study (2000b), Japanese and Korean leisure travelers **were found to rely** more **on** printed materials

The higher performing hotels also **are seen to have** significantly higher organizational integration

Discussion: they seem to be projecting verbal group complexes in that there is only one single time reference in the verbal groups; meanwhile, the clauses can be rewritten as "It is found, seen that…", with the key experiential meaning focused on the second verb. In this sense, these projecting verbal groups seem to be closely related to the meaning of 'study, experiment, etc', i.e. the relative frequency may be skewed to scientific, or academic discourse.

77. Many Japanese visitors also **chose to visit** Hong Kong before the hand over to China. Malaysia experienced a decline in arrivals, primarily from its Asian markets, due to health-related concerns of a cholera outbreak.
78. These relations **have served** effectively **to control** social behavior in society (Moise, 1995).

    Discussion: In the complexes 'choose to do, serve to do', semantically, the focus is 'do' rather than 'choose' or 'serve'. They may constitute paratactic verbal group complexes.

Type 12 Phrasal verbs: divide or not?

79. Iso-Ahola (1986) lamented on the lack of broad theoretical conceptualizations in tourism (traditionally understood as 'leisure') research, arguing that research has **focused** too much **on** practice and often does not address theory.
80. As prior tourist information search behavior studies **have** mainly **focused on** segmenting travelers.
81. Tourism marketers **must focus on attracting** these high yield markets by differentiating their products and customizing them to individualized needs.

    Question: For loosely combined phrasal verbs, like 'focus on sth; focus too much/attention/efforts on sth', shall we take 'focus on sth' as an integrated element, but divide 'focus' and 'on' when some elements are inserted and treat the 'on sth' part as a circumstance?

Type 13 The empty 'It'

The 'that'-clauses are taken as fact projections, or embedded clauses which functions at the second order of semantic structure, viz. the finite clauses have been rankshifted as a constituent in the main clause. In common, all the 'that'-clauses in these cases can be 'fronted' as Subject or Thematised markedly. In contrast, locutions and reports are projections

82. **It can be suggested** that adventure travel products or services should be developed.
83. **It is also expected** that future studies and practices may depend to a certain extent on how this definition is used to explore its empirical applications
84. **It is assumed** that the nation of 'adventure' had its origin in past leisure or recreation studies and that the volumes of literature generated in the past 25 years could provide a framework for constructing further theory and conceptualizations extended to the adventure travel industry for empirical application..

85. **It is** still **recommended** that an integrated approach be adopted to both the constructs, 'adventure' and 'travel.'
86. In the near future, it **is anticipated** that more services and functions will be provided to the cyber-travelers.
87. In addition, **it should be noted** that the motives for participation in adventure travel are also interrelated with activities.
    Discussion: 'it' in these clauses has an empty meaning. It is good to take it as a factual carrier in such a clause as "It is necessary that…". In the above clauses, I think, "it" is used mainly to enable a passive voice in the primary clause, that is, there is always an implied 'sayer' or 'senser'. Thus, I am wondering if we can leave out the analysis of 'it', and take the clauses as clause complexes with the 'that-clause' being projected?

88. **it is** this bundled test **that** is most valuable for both economic and policy considerations.
    Discussion: Different from the previous group, the fixed structure is used to emphasize participant or circumstance (interpersonal-oriented?). It can be removed without destroying the structure and the main meaning of the clause. Possibly, the structure as a whole can be ignored in transitivity analysis.

Type 14 Material: creative or transformative?

89. the USA **began** retaliatory air strikes against selected military targets of the Taliban regime and the Al Qaeda terrorist organization in Afghanistan.
90. Chinese New Year (or Spring Festival) **starts** on the first day of the lunar calendar, which usually falls in February.
91. to indicate which information sources **triggered or inspired** their interest to travel to Alaska
92. Liberalization of aviation policies **have** also **sparked** the creation of new carriers and subsidiaries of major carriers such as Silkair (Singapore), Dragonair (Hong Kong), and Sempati (Indonesia).
    Discussion: it seems hard to have a clear-cut distinction between 'creative' and 'transformative'.

Type 15 Relational: assignment: *view … as …; consider…as…; etc*?

93. They **view** taking public action **as** extreme behavior.
94. In the 1970s, bicycles, sewing machines, and watches were **considered** luxury items.
95. Favors done for others are often **considered** what may be called "social investments,"
96. Multi-cultural scenarios **might be perceived as** different people living together harmoniously.
97. because they **are branded as** World Heritage.
98. Business travelers **perceived** the 'Corporate travel department' **as** having the highest level of influence.
99. most business travelers **trust** their own personal experience **as** more accurate, appropriate and reliable.

100. the U.S. and other Western countries **has** consistently **identified** corporate culture **as** having a major impact on employee retention and motivation

101. These plans **are seen as** being useful for guiding the everyday functioning of the organization.

102. Averaging methods **compute** a forecast **as** an average of past observations, with equal weighting given to each observation.

Question: the verbs in this group are considered as assigning verbs. The problem is whether the word 'as' should be grouped into the second participant or not? If it is grouped into the second participant, will the type of the assigned relational process be an intensive one or a circumstantial one?

Appendix 6. Circumstances in the sample texts (each register with 200 cases)

	Brochures & Rough guides		Forum Texts		Journal articles		Ordinances		Travelogues	
Feature	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
CIRCUMSTANCE-TYPE	N=200		N=200		N=200		N=200		N=200	
enhancing	169	84.50%	176	88.00%	174	87.00%	146	73.00%	184	92.00%
extending	25	12.50%	11	5.50%	11	5.50%	7	3.50%	8	4.00%
elaborating	5	2.50%	3	1.50%	8	4.00%	10	5.00%	4	2.00%
projection	1	0.50%	10	5.00%	7	3.50%	37	18.50%	4	2.00%
ENHANCING-TYPE	N=169		N=176		N=174		N=146		N=184	
extent	25	14.79%	21	11.93%	35	20.11%	19	13.01%	23	12.50%
location	81	47.93%	109	61.93%	73	41.95%	54	36.99%	106	57.61%
manner	31	18.34%	19	10.80%	45	25.86%	41	28.08%	37	20.11%
cause	28	16.57%	23	13.07%	18	10.34%	21	14.38%	15	8.15%
contingency	4	2.37%	4	2.27%	3	1.72%	11	7.53%	3	1.63%
EXTENT-TYPE	N=25		N=21		N=35		N=19		N=23	
distance	13	52.00%	0	0.00%	3	8.57%	1	5.26%	3	13.04%
duration	9	36.00%	15	71.43%	30	85.71%	16	84.21%	16	69.57%
frequency	3	12.00%	6	28.57%	2	5.71%	2	10.53%	4	17.39%
DEFINITENESS	N=106		N=130		N=108		N=73		N=129	
definite	84	79.25%	119	91.54%	99	91.67%	58	79.45%	114	88.37%
nondefinite	22	20.75%	11	8.46%	9	8.33%	15	20.55%	15	11.63%
LOCATION-TYPE	N=81		N=109		N=73		N=54		N=106	
space	68	83.95%	88	80.73%	59	80.82%	38	70.37%	79	74.53%
time	13	16.05%	21	19.27%	14	19.18%	16	29.63%	27	25.47%
SPACE-TYPE	N=68		N=88		N=59		N=38		N=79	
abstract	3	4.41%	8	9.09%	23	38.98%	37	97.37%	12	15.19%
concrete	65	95.59%	80	90.91%	36	61.02%	1	2.63%	67	84.81%
ABSOLUTENESS	N=81		N=109		N=73		N=54		N=106	
absolute	75	92.59%	106	97.25%	73	100.00%	54	100.00%	99	93.40%
relative	6	7.41%	3	2.75%	0	0.00%	0	0.00%	7	6.60%
RELATIVE-TYPE	N=6		N=3		N=0		N=0		N=7	
near	5	83.33%	1	33.33%	0	0.00%	0	0.00%	4	57.14%
remote	1	16.67%	2	66.67%	0	0.00%	0	0.00%	3	42.86%
MOTION	N=81		N=109		N=73		N=54		N=106	
rest	65	80.25%	81	74.31%	62	84.93%	42	77.78%	85	80.19%
motion	16	19.75%	28	25.69%	11	15.07%	12	22.22%	21	19.81%

Appendix 6. Circumstances in the sample texts (each register with 200 cases)

	Brochures & Rough guides		Forum Texts		Journal articles		Ordinances		Travelogues	
Feature	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Direction	N=16		N=28		N=11		N=12		N=21	
towards	5	31.25%	11	39.29%	7	63.64%	6	50.00%	12	57.14%
away-from	6	37.50%	11	39.29%	4	36.36%	6	50.00%	5	23.81%
across	5	31.25%	6	21.43%	0	0.00%	0	0.00%	4	19.05%
MANNER-TYPE	N=31		N=19		N=45		N=41		N=37	
means	10	32.26%	5	26.32%	17	37.78%	30	73.17%	5	13.51%
quality	11	35.48%	2	10.53%	5	11.11%	4	9.76%	16	43.24%
comparison	2	6.45%	2	10.53%	10	22.22%	2	4.88%	4	10.81%
degree	8	25.81%	10	52.63%	13	28.89%	5	12.20%	12	32.43%
CAUSE-TYPE	N=28		N=23		N=18		N=21		N=15	
reason	16	57.14%	15	65.22%	13	72.22%	5	23.81%	10	66.67%
purpose	11	39.29%	7	30.43%	3	16.67%	15	71.43%	3	20.00%
behalf	1	3.57%	1	4.35%	2	11.11%	1	4.76%	2	13.33%
CONTINGENCY-TYPE	N=4		N=4		N=3		N=11		N=3	
condition	1	25.00%	0	0.00%	1	33.33%	8	72.73%	0	0.00%
default	1	25.00%	1	25.00%	0	0.00%	3	27.27%	0	0.00%
concession	2	50.00%	3	75.00%	2	66.67%	0	0.00%	3	100.00%
EXTENDING-TYPE	N=25		N=11		N=11		N=7		N=8	
accompaniment	25	100.00%	11	100.00%	11	100.00%	7	100.00%	8	100.00%
ACCOMPANIMENT-TYPE	N=25		N=11		N=11		N=7		N=8	
comitative	18	72.00%	11	100.00%	8	72.73%	7	100.00%	6	75.00%
additive	7	28.00%	0	0.00%	3	27.27%	0	0.00%	2	25.00%
ELABORATING-TYPE	N=5		N=3		N=8		N=10		N=4	
role	5	100.00%	3	100.00%	8	100.00%	10	100.00%	4	100.00%
ROLE-TYPE	N=5		N=3		N=8		N=10		N=4	
guise	5	100.00%	3	100.00%	6	75.00%	10	100.00%	4	100.00%
product	0	0.00%	0	0.00%	2	25.00%	0	0.00%	0	0.00%
PROJECTION-TYPE	N=1		N=10		N=7		N=37		N=4	
matter	0	0.00%	8	80.00%	2	28.57%	3	8.11%	3	75.00%
angle	1	100.00%	2	20.00%	5	71.43%	34	91.89%	1	25.00%
ANGLE-TYPE	N=1		N=2		N=5		N=34		N=1	
source	0	0.00%	0	0.00%	1	20.00%	34	100.00%	0	0.00%
viewpoint	1	100.00%	2	100.00%	4	80.00%	0	0.00%	1	100.00%