APPLYING ENGLISH GRAMMAR

Functional and Corpus Approaches

Edited by Caroline Coffin,
Ann Hewings and Kieran O'Halloran

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The Open University

Contents

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Glossary

Compiled by Sarah North

active voice	In the active voice, the AGENT occurs before the verb as the SUBJECT, and the entity affected by the action occurs after the verb: *The police released the driver's name*. Compare PASSIVE VOICE.
actor	In a MATERIAL PROCESS, the actor is the PARTICIPANT that carries out the action: ***The security guard*** *checked all the baggage*. ***Swallows*** *fly south for winter*.
adjective phrase	A phrase with an adjective as its HEAD: *very **old**; **ready** for lunch*.
adjunct	Adverbial phrases, nominal phrases and prepositional phrases which contribute some additional (but non-essential) information to the clause. This information may be EXPERIENTIAL (*He walked **to the shops***), INTERPERSONAL (*he's **probably** walked to the shops*) or TEXTUAL (***so** he's walked to the shops*).
adverb phrase	A phrase with an adverb as its HEAD: *pretty **often**, **sooner** than you think*.
adverbial group	A term that may be used instead of ADVERB PHRASE (though some linguists draw a distinction between them).
affectedness	The degree to which an entity is presented as being acted upon, rather than an active AGENT.
agency	The degree to which an entity is presented as an active AGENT, rather than being acted upon.
agent	The doer of an action.
agentless passive	An agentless passive also known as SHORT PASSIVE is where the ACTOR or AGENT responsible for a process is not included: ***the demonstrators were shot***.
angle of representation	The particular way of viewing the world which is conveyed by the grammatical representations in a particular text.
apposition	A relationship where one piece of information restates or specifies previous information: *I need your contact details, **either a phone number or e-mail address**. This is Mr Robbins, **our assistant sales manager***.
article	A type of DETERMINER that signals definite or indefinite meaning: *the, a, an*.

aspect	A choice in the verb phrase that expresses time meanings, related to whether an action is finished or still in progress: *have eaten*, *was going*.
asserted evaluation	An asserted evaluation is an evaluation which is presented as being open to discussion or argument: *The journalist's remark was ill-informed*. Compare ASSUMED EVALUATION.
assumed evaluation	An assumed evaluation is an evaluation which is presented as something which is already accepted, and is therefore not up for discussion: *We will not respond to the journalist's ill-informed remark*. Compare ASSERTED EVALUATION.
attitude	The element of STANCE dealing with the expression of positive, negative or neutral meanings.
attributive adjective	An adjective functioning as a premodifier before a noun: *special skills*, *silent prayers*.
auxiliary verb	A closed set of verbs which specify the way in which the process of the VERB PHRASE is to be interpreted: *will have applied*, *was overtaking*, *may believe*, *is being used*.
behavioural process	Behavioural processes are mid way between MATERIAL PROCESSES and MENTAL PROCESSES. They are about actions experienced by a conscious being: *she sighed with despair*.
cataphoric reference	The use of a reference item to refer forward to something which follows in the text: *What you should do is this: unplug the cable at the back and …*
channel	The physical means by which a message is transmitted, e.g. telephone, print, e-mail, face to face. Channel is one aspect of MODE.
circumstance	Circumstances are the elements of a CLAUSE that add information about the situation surrounding the PROCESS: how, where, when, why, how long etc.: *Luckily we always keep a spare key in the garage*.
classifier	An element of the NOUN PHRASE that indicates the class or category of the HEAD word. It answers the question 'What type is it?', and is typically realised by an adjective: *solar energy*, or a noun: *an oil painting*.
clause	A unit of meaning built around a PROCESS. Every clause normally involves one process, one or more PARTICIPANTS, and perhaps also CIRCUMSTANCES. These elements are realized structurally as a VERB PHRASE plus other elements.
clause complex	CLAUSES can be linked together to form clause complexes. This occurs in two ways: COORDINATION and SUBORDINATION.
coherence	The way in which a TEXT holds together through links in meanings both within the text, and in relation to the

	wider context, including the background knowledge of the listener or reader. Compare COHESION.
cohesion	The way in which a TEXT holds together through grammatical and lexical features which link one part of the text with another. Compare COHERENCE.
co-hyponymy	The relation between items which are examples of the same SUPERORDINATE: *Roses* and *lilies* are both popular flowers.
colligation	The tendency for two or more words to occur with the same grammatical structure. For example, *want, prefer, intend, refuse* and *decide* colligate with the structure *to* + infinitive.
collocate	Collocates are words which tend to occur together in TEXTS, for example, *bed* and *breakfast*, *catch* and *bus*.
collocation	The tendency for two or more words to occur within a short distance of each other. A combination of LEXICAL WORDS which frequently occur together in texts is known as a collocation: *little* + *baby*, *small* + *amount*, *make* + *(a)* + *mistake*.
comparable corpora	In translation studies, comparable corpora are sets of naturally occurring texts in two or more languages which are similar in size, topic, etc. Compare PARALLEL CORPORA.
complement	In functional grammar a complement is defined as an element which could have been chosen as SUBJECT but was not. Typically it is realized as a nominal phrase: *He bought her some chocolates*. (cf. *some chocolates were bought for her* or *she was bought some chocolates*). There is however one kind of complement (attributive complement) that cannot become subject. Here the complement functions to describe the subject: *The chocolates were delicious*.
complement clause	A DEPENDENT CLAUSE controlled by a preceding verb, adjective, noun or preposition: *It should be easy to remember*.
concord	The requirement that the VERB PHRASE in a FINITE CLAUSE agree with the SUBJECT in terms of number and person: *he is* vs. *they are*.
concordance line	A line of TEXT displayed as the result of a search by a CONCORDANCER.
concordancer	A computer programme which can search a CORPUS to find and display particular words (or other strings of text).
concordancing programme	See CONCORDANCER.
congruent	A grammatical form is congruent when it encodes experience in the most natural way, with nouns for PARTICIPANTS, verbs for PROCESSES, adverbs and PREPOSITIONAL PHRASES for CIRCUMSTANCES, and CONJUNCTIONS for relations between processes.

conjunction	A type of FUNCTION WORD that connects CLAUSES (and sometimes phrases or words). Conjunctions are subdivided into COORDINATORS and SUBORDINATORS.
constituent	Groupings of words that form the building blocks of grammar.
context	Broadly speaking, context refers to the situation within which language is used. It has both a broad meaning and a narrow meaning (See CO-TEXT).
contraction	The reduction in spelling or pronunciation of a word: *isn't, I'll, he's.*
coordination	Connecting two or more clauses, phrases, words or other structures with equivalent status: *a paper in one hand **and** a bill in the other. You can walk **or** take a bus.*
coordinator	A FUNCTION WORD used to connect (or coordinate) two or more words, phrases or CLAUSES with equivalent status: *and, but, or.*
corpora	Plural form of CORPUS.
corpus	A collection of naturally occurring language data in the form of written and spoken TEXTS.
corpus-based grammar	A grammar which is based on the analysis of large amounts of naturally occurring data.
co-text	The TEXT that surrounds a particular language item. The term co-text can be used when we want to focus on the immediate linguistic context, rather than the broader sociocultural context.
critical discourse analysis	A multidisciplinary approach to TEXT analysis which investigates the way language acts to disseminate particular points of view or ways of thinking within society.
critical linguistics	A term sometimes used to indicate a more narrowly focused approach to CRITICAL DISCOURSE ANALYSIS.
declarative	A CLAUSE with subject-verb order, typically used to make statements: *They took the wrong turn. The battery's running out.*
deictic word	Deictic words are words that point to the situation in which the speaker is speaking, eg. *this, those, here, then.* In a noun phrase, the DETERMINER has a deictic function.
deixis	The use of DEICTIC expressions.
demonstrative	The DEICTIC expressions *this/these* and *that/those.*
deontic modality	The expression of a writer or speaker's judgment about levels of obligation. The Longman Grammar classifies this under personal modal meaning.
dependent clause	A type of CLAUSE that cannot stand alone, but is part of another clause: ***When I arrive**, I'll give you a call. You have to do it **even if it hurts**.* Also known as a subordinate clause.

describer   A describer (or epithet) is an element of the NOUN PHRASE
                      that describes some attribute or quality of the HEAD word. It
                      answers the question 'What like?', and is typically realized
                      by an adjective: *this **nebulous** picture, a **blue** haziness.*

determiner   A FUNCTION WORD that specifies the kind of reference a
                      noun has (e.g. definite, indefinite, negative): ***the** walls,
                      those experiences, **a** bell, **no** time.*

dialogic   A dialogic approach to language recognizes that the words
                      we use on any occasion are affected by what other people
                      have said before, and by our expectations about how other
                      people may respond to our words.

dialogue   A communication between two or more people, as opposed
                      to MONOLOGUE.

discourse analysis The analysis of stretches of language or TEXT with a focus
                      on meaning.

dummy *it*   The use of *it* not for reference, but simply to fill an empty
                      slot in the CLAUSE: ***It** was raining. **It**'s so easy to fall in love.*

dynamic verb   A verb that refers to an action or event: *swim, blow, smile,
                      collapse.* Compare STATIVE verb.

ellipsis   Ellipsis occurs when elements of a CLAUSE or phrase are not
                      expressed. These elipted elements can be reconstructed
                      from the CONTEXT: *A: I have to appease you. B: No you don't* ^

embedded clause   An embedded clause is one that no longer functions as a
(restrictive   clause in its own right, but as part of another CONSTITUENT:
relative clause)   *The key **that you need** is hanging behind the door.*

embedding   Embedding occurs when a phrase or clause is contained
                      within a higher level phrase or clause: *[reduction [in the risk
                      [of death [from job-related accidents]]]]*

end-weight   A preference in English word order, whereby more
                      complex elements of structure tend to follow less complex
                      ones.

epistemic   The expression of a writer or speaker's judgment about the
modality   likelihood of what they are saying. The Longman Grammar
                      classifies this under logical modal meaning.

epithet   See DESCRIBER.

ergative   Many verbs can be used both TRANSITIVELY and INTRAN-
                      SITIVELY. In these cases, we can sometimes distinguish
                      between an ergative use: *Rice grows*, and a non-ergative use:
                      Farmers grow rice in India. The subject in an ergative clause
                      could appear as the object in a TRANSITIVE clause.

existential clause A clause using *There* to indicate existence: *There's a fly in
                      my soup. There appears to be a mistake here.*

exophoric   The use of a reference item to refer to something in the
reference   situational context.

experience   In a MENTAL PROCESS, the experience (or phenomenon)
                      is the thing which is being sensed, felt, or otherwise

experienced: *The soup* smells wonderful. *The committee appreciates* **your hard work**.

experiencer   In a MENTAL PROCESS, the experiencer (or senser) is the PARTICIPANT (normally human) that undergoes the sensory or cognitive experience expressed by a verb: **He** smelled her perfume. **The committee** appreciates your hard work.

experiential   The experiential METAFUNCTION refers to meanings which represent the world of experience. For example, the utterance *it's raining* involves a representation of the current weather situation.

experiential theme   The first EXPERIENTIAL element in a CLAUSE, that is, the first PARTICIPANT, CIRCUMSTANCE, or PROCESS: *So presumably* **the meeting**'s been cancelled.

extraposition   The use of dummy *it* as the subject, where *it* refers to a COMPLEMENT CLAUSE, rather than to any PARTICIPANT: **It is now clear** that the design was faulty.

factive   A factive construction is one which presupposes the truth of the following CLAUSE: *I was surprised that they were late* (presupposes that they really were late).

field   The subject matter of the TEXT, and the type of activity involved. For example, the utterance *And Beckham scores!* has football as its subject matter, and is also likely to occur as part of a live commentary during a football match.

finite   The first AUXILIARY in a VERB PHRASE is referred to as the finite. The finite is either TEMPORAL (expressing tense) or MODAL (expressing degrees of certainty or obligation).

finite clause   A CLAUSE that has either present/past tense or a MODAL VERB.

fixed phrase   See LEXICAL BUNDLE.

foregrounding   Foregrounding elements gives them more than usual prominence.

function word   Function words (or grammatical words) are words that express grammatical relationships and classifications, such as DETERMINERS, CONJUNCTIONS, PREPOSITIONS, PRONOUNS and AUXILIARY VERBS. Compare LEXICAL WORDS.

genre   See TEXT TYPE.

given   Given information is information which the writer or speaker assumes is already known to the reader or listener. See also NEW.

goal   In a MATERIAL PROCESS, the goal is the PARTICIPANT towards which the action is directed: *The security guard checked* **all the baggage**. **My car**'s been stolen.

goods and services   A request for 'goods and services' involves asking somebody to provide something concrete (goods), or to act in a certain way (services): *Can you lend me a pencil? Can you give me a hand?* This can be contrasted with a request for information: *Can you tell me the time?*

grammatical metaphor	This occurs when a grammatical form is not CONGRUENT with the world of experience, for example, when a PROCESS and CIRCUMSTANCE are represented by a NOUN PHRASE rather than a verb and adverb: *They paused briefly* → *a brief pause*.
head	The required element in any phrase; for example, NOUN PHRASES have a noun (or PRONOUN) as the head: *the standard* **rules** *of behaviour*.
headword	The first element in each dictionary entry, the word that is looked up.
hedge	By hedging, a writer is witholding their complete commitment to the main proposition in a CLAUSE, e.g. *A student may well feel themselves obliged to …*
hyper-theme	One or more CLAUSES which occur initially in a paragraph (or section of TEXT), and help to indicate how the paragraph will be structured. The term 'topic sentence' is used with a similar meaning.
hyponymy	The relation between a general class and individual members of that class: **Roses** *and* **lilies** *are both popular* **flowers**. See also CO-HYPONYMY.
ideational	The ideational METAFUNCTION encompasses EXPERIENTIAL meaning and logical meaning, that is, expressions of logical relations.
ideology	A set of assumptions, beliefs and expectations held by members of a community concerning the way the world is and the way it ought to be.
idiom	A fixed expression with a meaning that cannot be determined from the individual parts: *kick the bucket.*
illocutionary act	See SPEECH ACT.
imperative	A CLAUSE with no subject, typically used for commands: *Wake up! Put your clothes on!*
incongruent	See CONGRUENT.
independent clause	A CLAUSE which can stand alone without being subordinate to another clause: *She* **wanted a new car** *but* **they couldn't afford it**. See also MAIN CLAUSE.
information-flow	The normal ordering of information in English discourse, moving from GIVEN information to NEW information.
interpersonal	The interpersonal METAFUNCTION refers to meanings which enact social relationships. For example, the utterance *Do you think it's raining* involves a relationship between the questioner and the hearer who is expected to respond.
interpersonal theme	Any INTERPERSONAL elements in a CLAUSE which come before the EXPERIENTIAL THEME: **Presumably** *the meeting's been cancelled.*

interrogative	A CLAUSE where the AUXILIARY VERB comes before the SUBJECT, typically used for questions: *Did they take the wrong turn? Is the battery running out?*
inter-register variation	The way in which language use varies in different REGISTERS.
intransitive	An intransitive CLAUSE involves only one PARTICIPANT. In terms of structure, the clause has a SUBJECT but no OBJECTS: **She** *slept a lot.* **Michael** *disappeared.*
intra-register variation	Intra-register variation is variation within a single REGISTER.
it-clause	A clause with *It* as the subject, where *it* refers to a COMPLEMENT CLAUSE, rather than to any PARTICIPANT: **It is now clear** *that the design was faulty.* See also EXTRAPOSITION.
key word in context	A way of displaying a particular word together with the context in which it was used (the words that occurred before and after). This method is typically used to show the results of a CONCORDANCER search.
KWIC	See KEY WORD IN CONTEXT.
lemma	See LEXEME.
lexeme	A set of grammatical words that share the same basic meaning, similar forms and the same word class: *leave, leaves, left* and *leaving* belong to the same lexeme. Also known as a lemma.
lexical bundle	A sequence of words which is used repeatedly in TEXTS: *take part in, as far as I know.*
lexical density	A measure of how much information is packed into a TEXT, calculated by dividing the number of LEXICAL WORDS by the total number of words.
lexical item	A unit of vocabulary.
lexical verb	Lexical verbs act as the MAIN VERB in a VERB PHRASE, indicating the PROCESS involved: *has been* **answered**, *was* **taken**, *may* **believe**. Compare AUXILIARY VERBS.
lexical word	Lexical words carry the main information content of a TEXT and belong to four grammatical classes: nouns: *Peter, Moscow, dictionary,* LEXICAL VERBS: *walk, think, pray,* adjectives: *hot, thirsty, angry,* and adverbs: *slowly, recently, often.* Compare FUNCTION WORDS.
lexicogrammar	The lexical and grammatical resources in a language from which speakers and writers can create meaning.
lexis	A technical term for vocabulary.
long passive	A CLAUSE with a PASSIVE VOICE verb phrase plus a by-phrase as AGENT: *The proposal was approved by the Project Coordinating Team.*
macro-theme	Similar to a HYPER-THEME, a macro-theme occurs at the beginning of a whole TEXT, and helps to indicate how it will be structured.

main clause	A term used to indicate an INDEPENDENT CLAUSE to which other DEPENDENT CLAUSES are subordinated: *The class was cancelled* because the teacher was ill.
main verb	The HEAD and final verb in a VERB PHRASE: *told*, have *had*, might be *seen*.
manner	A type of CIRCUMSTANCE indicating how or by what means something happens: *With a calculator* you can check your bills *easily*.
marked	A pattern that is not the most typical pattern, and therefore has some special meaning or function.
material process	Material processes construe external actions, both concrete: *catch, play, run*; and abstract action: *resign, **dissolve** a committee, **close** a meeting*.
mental process	Mental processes construe processes that go on inside the head, such as thinking and sensing – intellectual actions. They include cognition: *I **don't believe** you*; affection: *I **hate** injections*; and perception: *I **saw** the accident*.
metafunction	One of the fundamental types of meaning involved in all language use: EXPERIENTIAL, INTERPERSONAL, or TEXTUAL.
metalanguage	A language for talking about language.
method of development	A pattern in the selection of THEMES, by which a particular type of information is consistently THEMATIZED in a particular TEXT or text section, e.g. location in a tourist guidebook.
modal adjective	An adjective used to express modal meanings, either EPISTEMIC or DEONTIC: *likely, certain, necessary*.
modal adjunct	Modal adjuncts are clausal elements which add INTERPERSONAL meaning to the CLAUSE.
modal adverb	An adverb used to express modal meanings, either EPISTEMIC or DEONTIC: *possibly, definitely, of course*.
modal finite	See MODAL VERB.
modal verb	Modal verbs are AUXILIARY VERBS used to express EPISTEMIC or DEONTIC meanings: *He **may** be out. You **can't** smoke here.*
modality	The expression of a writer or speaker's judgment about the likelihood of what they are saying, or about levels of obligation. See also DEONTIC MODALITY, EPISTEMIC MODALITY.
mode	The nature of the TEXT as a communicative process, for example, whether written or spoken, spontaneous or scripted, monologue or dialogue.
mode continuum	The movement from more spoken-like to more written-like language. Also known as the speech-writing continuum.
monolingual corpus	A CORPUS consisting of material in only one language.

monologue   A sample of language produced by one speaker or writer, as
                    opposed to DIALOGUE.
mood   CLAUSES are often classified according to mood being divided
                    into IMPERATIVE, DECLARATIVE or INTERROGATIVE.
morpheme   A morpheme is the smallest structural unit that has meaning.
                    A word may consist of a single morpheme: *track*, *tennis*,
                    he, *after*, or it may include several morphemes: *come-ing*,
                    un-happi-ly.
morphology   The study of word structure.
multimodality   Multimodality refers to the use of a number of different MODES
                    of communication within a single TEXT (e.g. the use of images,
                    formatting, sound in addition to language).
multiple theme A multiple theme involves INTERPERSONAL and/or TEXTUAL
                    elements, as well as EXPERIENTIAL: ***But luckily the horse***
                    wasn't injured.
new   New information is information which the writer or speaker
                    assumes is not already known to the reader or listener. See also
                    GIVEN.
node   In concordancing, another term for KEY WORD.
nominal   Any word, phrase or CLAUSE that fills a NOUN PHRASE slot.
nominal group   See NOUN PHRASE.
nominalization Nominalization occurs when events and qualities are
                    represented as 'things', using an abstract noun instead of a verb
                    or adjective: *submit* → *submission*, *free* → *freedom*.
non-finite   A CLAUSE that has no tense and does not include a MODAL VERB:
clause   *We had to run **to catch the bus**. You can't make an omelette*
                    without breaking eggs.
noun phrase   A phrase with a noun or a PRONOUN as HEAD: ***we***, ***holidays***,
                    *all the right **answers**, the **man** in the moon*. Further
                    information may be given by premodifiers before the head,
                    and QUALIFIERS after the head. Also known as a nominal or
                    noun group.
object   The CLAUSE element that often occurs after the VERB PHRASE
                    and identifies who or what has been affected by the PROCESSES
                    realized by the verb. This entity is referred to as a COMPLEMENT
                    in functional grammar.
open corpus   A CORPUS which is being constantly expanded in order to
                    keep it up to date.
paradigmatic   Paradigmatic relations operate between one linguistic element
                    and the other elements that could replace it, as in:
                        fence
                        tree
                    My   *roof*   *was blown down in the storm*
                        shed
                        aerial
                    See also SYNTAGMATIC.

parallel corpora/ texts	In translation studies, parallel corpora are sets of naturally occurring TEXTS in their original language, and in translation. Compare COMPARABLE CORPORA.
participant	Participants are the elements of a CLAUSE that indicate who or what was directly involved in the PROCESS: *Did you get my letter? The sheep were nibbling the top of the hedge.*
participant role	The role played by a PARTICIPANT in a PROCESS: ACTOR or GOAL in a MATERIAL PROCESS, EXPERIENCER or EXPERIENCE in a MENTAL PROCESS, SAYER, RECEIVER or VERBIAGE in a VERBAL PROCESS, or TOKEN or Value in a RELATIONAL PROCESS.
passive voice	In the passive voice, the entity affected by the action occurs before the verb as the SUBJECT, and the AGENT is either omitted, or occurs in a by-phrase: *The driver's name was released (by the police).* See also PASSIVIZATION.
passivization	Passivization involves using a passive VERB PHRASE and a SUBJECT which is not the AGENT (neither ACTOR, EXPERIENCER, nor SAYER): *He was struck several times.* The effect of the passive is generally to give less prominence to the AGENT). See also PASSIVE VOICE and AGENTLESS PASSIVE.
persona	The way that individual writers represent themselves within a TEXT.
personalization	The degree to which the presence of the author is overtly represented in the TEXT, obscured or suppressed.
phenomenon	See EXPERIENCE.
positioning	The way that a text positions the writer or speaker as having a particular viewpoint on an issue. Strong positioning indicates an inflexible viewpoint, while soft positioning allows room for alternative views.
postmodification	The use of elements in a NOUN PHRASE which come after the HEAD word and modify it: *his impression of sunlight reflected in the water.*
postmodifier	See QUALIFIER.
pragmatic effect/force	The pragmatic effect of an utterance is the effect which it has on someone's feelings, beliefs or behaviour.
prepositional phrase	A phrase consisting of a preposition together with its associated NOUN PHRASE: *in the box, with his hands up, after the party.*
primary verb	One of the verbs *be, have,* and *do,* which can function as either AUXILIARY VERBS or MAIN VERBS.
process	The process is the element of the CLAUSE that indicates what is going on – the action, event, experience or relationship which is represented by the verb: *The chimney collapsed. This soup tastes fantastic. He wants a new bike.*
projected clause	In PROJECTION, the DEPENDENT CLAUSE which gives the report or quotation: *The forecast says it's going to rain.*

projecting clause	In PROJECTION, the MAIN CLAUSE which introduces the report or quotation: *The forecast says* it's going to rain.
projection	Projection involves reporting or QUOTING what people have said or thought.
pronoun	A FUNCTION WORD that typically fills the position of an entire NOUN PHRASE: *a straw hat* → *it*.
qualifier	A qualifier is any element in the NOUN PHRASE that follows the HEAD word: *the man **in the moon**, the lady **I bought the dog from**.* Also known as a POSTMODIFIER.
quantifier	A type of DETERMINER or PRONOUN that indicates the quantity of something: ***all** the answers, a **litre** of milk.*
quoting	A direct way of expressing what people have said or thought: *She said 'I am leaving', Alfred thought 'We will succeed'.* Also known as direct speech.
rankshift	Rankshifting is a process by which a structure is shifted down the rank scale, so that it operates at a lower level. See also EMBEDDING.
receiver	In a VERBAL process, the receiver is the PARTICIPANT who receives the message: *she told **me** a funny story.*
redundancy	The tendency for language to involve more than is strictly necessary to convey information. For example, the *-s* in *ten years* is redundant since *ten* already indicates plurality.
register process	A variety of language which is distinguished by its CONTEXT OF USE. This involves three main aspects: FIELD (subject matter and activity type), TENOR (social roles and relationships of the participants), and MODE (the nature of the text as a communicative process). All of these affect the lexical and grammatical features of the language used.
relational process	Relational processes construe the different ways of being and having, and relate PARTICIPANTS to each other. There are relational processes that relate a quality with another entity: *She **was** so small*; ones that identify: *She **is** the biology lecturer*; and ones that show possession: *She **has** a piano.*
relative clause	A type of DEPENDENT CLAUSE used to modify a NOUN PHRASE: *the report **that we discussed last week**, some of the people **who were waiting**.*
relator	A relator expresses a relation between CLAUSES, and is realized grammatically by a CONJUNCTION.
rheme	The part of a CLAUSE which is not THEME: *The meeting's **been cancelled**.*
rhetoric	The use of language in order to persuade others.
rhetorical function	See SPEECH ACT.

sayer	In a VERBAL PROCESS, the sayer is the participant responsible for the verbal process: *She told me a funny story.* ***This article says all you need to know.***
semantic prosody	The way in which apparently neutral terms come to carry negative or positive associations through regularly occurring in particular COLLOCATIONS.
semantics	The area of linguistics having to do with the meaning of language forms.
semi-modal verb	Multi-word verbs that share some of the characteristics of MODAL VERBS, *have to, be going to.*
semiotics	Semiotics is the study of all aspects of communication through signs and signal systems. Writing and speech are semiotic systems.
senser	See EXPERIENCER.
short passive	A CLAUSE with a PASSIVE VOICE main verb but no by-phrase; also called an AGENTLESS PASSIVE: *It was stolen.*
special purpose corpus	A CORPUS compiled in order to focus on a particular variety of language.
speech act	The communicative function associated with an utterance, for example, apology, request, complaint, greeting. Illocutionary act, illocutionary function, and rhetorical function are also used with a similar meaning.
speech-writing continuum	See MODE CONTINUUM.
spoken corpus	A CORPUS consisting of spoken material which has been transcribed.
stance	Overt expressions of personal attitudes or feelings towards the content of a CLAUSE. Stance involves both MODALITY and ATTITUDE.
stance adverbial	Adverbials that express speaker judgments of the proposition expressed by the rest of the CLAUSE: *It **definitely** is a trend.*
stative verb	A verb that refers to a mental state, attitude, emotion, perception, or state of existence: *know, feel, see, exist.* Compare DYNAMIC VERB.
subcorpus	A CORPUS contained within a larger corpus.
subject	The CLAUSE element that normally occurs before the VERB PHRASE in a clause, and agrees with it in terms of number and person: ***The boys** were just hanging around.* ***That's** something you don't often see!*
subordinate clause	See DEPENDENT CLAUSE.
subordination	The type of linkage that allows one CLAUSE to be embedded in or dependent on another clause: *I thought about it **after I sent the package**.*
subordinator	A FUNCTION WORD used to introduce SUBORDINATION: ***because** it was amazing, **if** he's going with me.*

superordinate   An item referring to a general class, as opposed to the individual members of that class: *Roses and lilies are both popular flowers*. See HYPONYMY.

synonymy   The relation between items with the same or similar meaning: *It was a **mistake**/an **error***.

syntagmatic   Syntagmatic relations operate across a stretch of language, between one linguistic element and the elements on either side, as in: *My + fence + was + blown + down + in + the + storm*. See also PARADIGMATIC.

syntax   The description of how words, phrases, and CLAUSES are constructed and combined in a language.

synthetic personalization   Acting in a way that suggests a personal relationship with others, when in reality no such relationship exists.

taxonomy   An organized classification system, typically found in scientific and technical fields.

temporal finite   The first AUXILIARY in a VERB PHRASE is referred to as the finite. The finite is either TEMPORAL (expressing tense) or MODAL (expressing degrees of certainty or obligation).

tenor   The social roles and relationships of those involved in a communication.

text   Any sample of language in a form that can be analysed (including transcripts of spoken language).

text type   A set of texts, written or spoken, associated with the same social purpose, for example, recipes, sermons, newspaper editorials, sports commentaries. Also known as genre. In functional linguistics the structure of a text as well as its social purpose and grammatical and lexical patterns are important criteria in defining the genre it belongs to.

textual   The textual METAFUNCTION refers to meanings which relate a message to its CONTEXT. For example, the utterance *But it's raining!* involves a contrast which would be relevant in a context where someone had suggested a barbeque.

textual cohesion   See COHESION.

textual theme   Any TEXTUAL elements in a CLAUSE which come before the EXPERIENTIAL THEME: ***And so** the meeting's been cancelled*.

thematic progression   The way in which each THEME in a TEXT relates to the preceding themes and RHEMES. A number of different patterns have been identified, including zigzag pattern, reiteration pattern, fan pattern.

thematized   A thematized element is one which has been placed in initial position in the CLAUSE.

theme   The departure point of a CLAUSE, realized in English by the part of the clause up to and including the first EXPERIENTIAL element: ***The meeting's** been cancelled*.

token   In a RELATIONAL PROCESS, the token is the person or thing being described: ***This room's** rather dark. The kindest person I know is **my grandfather***.

transitive	A transitive clause involves more than one PARTICIPANT: *A crowd* attacked **the prison**. **She** finished **the report** on time.
transitivity	Transitivity is a way of analysing CLAUSES in terms of an interaction between PARTICIPANTS, where the action 'passes' from one participant to another. It applies to MATERIAL, MENTAL and VERBAL PROCESSES, but not to RELATIONAL PROCESSES, which do not involve interaction.
translation corpora	See PARALLEL CORPORA.
type-token ratio	A measure of lexical variety, calculated by dividing the total number of different word forms (types) by the total number of words (tokens).
unmarked	Opposite of MARKED.
verb phrase	A verb phrase contains a LEXICAL or PRIMARY verb as HEAD, either alone or accompanied by one or more AUXILIARY VERBS.
verb(-al) group	A term that may be used instead of VERB PHRASE (though some linguists draw a distinction between them).
verbal process	Verbal processes construe the saying or reporting of things – verbal action: *I* **asked** *her a question. She* **complained** *that she'd been short-changed.*
verbiage	In a VERBAL PROCESS, the verbiage represents what is said: *She told me* **a funny story**. *This article says* **all you need to know**.
wh-interrogatives	An interrogative with a wh-question word like *what, why, where, when* or *how:* **What** *are you eating?*
wildcard	In computer searches, a wildcard is a symbol (such as *) used to find any character or combination of characters. For example, a search for *brea** will find *bread, break, bream* and *breath*.
word class	A class of words based on grammatical and semantic properties. Two major families of word classes are LEXICAL WORD classes (nouns, verbs, adjectives, and adverbs) and FUNCTION WORD classes (e.g. determiners, prepositions). Word classes are sometimes called 'parts of speech'.

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General Introduction

As you can tell from its title, this book is about the application of English grammar and specializes in 'corpus' and 'functional' approaches, approaches which are increasingly recognized as providing significant insights into English Language in action. As the chapters in this book show, they allow us to make observations that would not be possible through more traditional forms of grammatical analysis.

First, in order to see the kinds of illumination that a functional approach can provide, consider the following sentences:

> (a) Traditionally, fishermen used to catch 100,000 tons of fish per year in the North Sea.

> (b) The North Sea used to provide 100,000 tons of fish per year.

Above are two representations of the same 'slice' of reality i.e. *fishing in the North Sea*. In sentence (a) you can see that there is an action initiated by *fishermen*, the **subject** in traditional grammar and also here in functional grammatical terms, the **Actor** i.e. the person or people doing the action. You can also see that the natural world is referred to in a **prepositional phrase** – *in the North Sea* (referred to as a **Circumstance** in functional grammar) rather than being represented by an Actor. In sentence (b), in contrast, we have a representation where it is the natural world which plays the Actor role. Here the natural world is **not** relegated to the role of Circumstance and there is no human Actor.

The two sentences illustrate how grammatical choices may be related to different ways of viewing the world and thus, by extension, our mental habits. If you consider sentence (a), it could readily be tied to a perspective where humankind operates on nature, where nature is somehow separate from humans. Such a perspective could help to legitimize our domination of nature, taking 'resources' from it. Nature is just a 'place' where we obtain what we need. In an era where humans need to reflect on how this domination is affecting the planet, such a representation reaffirms traditional thinking.

Representations such as in sentence (b) which, in contrast, place nature instead of humans in a focal position and which move away from the idea that we dominate and exploit nature may help us change our mental habits with regard to the natural world. With the first representation we may be led to questions such as: *Why don't fishermen catch so much fish any more? Is it something to do with the fishing industry? Are there fewer fishermen these days?* With the second representation, we are more likely to ask nature-focused rather than human-focused

questions, for example: *What's the problem with the North Sea? Why doesn't the North Sea yield so much fish any more?* The questions show concern over the effects of the domination and consumption of nature. Different representations thus provide different orientations to the natural world with the result that different mental habits may be formed, confirmed or even changed.[1]

Above is an illustration of how we can analyse English grammar to illuminate the way in which different grammatical structures make different meanings about the world. Such an approach where grammatical items are labelled functionally (using terms such as Actor or Circumstance) is particularly well developed in a linguistic tradition known as systemic functional grammar. This tradition, which is discussed and exemplified in many of the chapters in this book, enables us to see how features of our everyday grammar 'condition our attitudes, to each other, to other species, and to the natural environment' (Halliday, 2002, 382–3).

Another way of exploring English grammar is to examine large electronic databases of language (referred to as **corpora**) using specially developed software. In order to see the kinds of insights that this approach offers, consider the data in Boxes 1 and 2. These boxes compare the kinds of lexical items (words and phrases) that typically occur with the word *migrants* in two different British newspapers. Lexical items that typically occur with other lexical items are known as **collocates**. In order to compile the list of collocates, researchers[2] consulted two large electronic databases of news reports appearing in:

(a) The *Sun*, a working-class-oriented tabloid newspaper. The database is referred to as the *sunnow* corpus and consists of 45 million words.

(b) The *Guardian*, a liberal, middle-class broadsheet newspaper. The database is referred to as the *guard* corpus and consists of 32 million words.

In Boxes 1 and 2, you will see collocates for all instances of *migrants* and then the number of times it features. What do these figures tell you?

No doubt you drew the conclusion that *migrants* receives greater differentiation in the *guard* than in the *sunnow* corpus. This is even more marked given that the *guard* corpus is 13 million words fewer. This may suggest that greater appreciation of the different types and circumstances of migrants, and thus sympathy for them, is afforded by The *Guardian*. You might also have observed that the rather loaded '*illegal* migrants' is used the same number of times in the *sunnow* corpus as the more interpersonally neutral '*economic* migrants'. In the *guard* corpus, by way of contrast, 'economic migrants' is used around six times more frequently than 'illegal migrants'.

In the corpus-based approach, illustrated above, specially developed software is used to search large electronic corpora. By enabling us to observe language in ways that would not otherwise be possible, corpus technologies have revolutionized the way we understand language. The revolution has resulted in a different quality of linguistic evidence, evidence which has led to new, exciting and unexpected discoveries about how language works. For example, as we saw above, such searches can reveal how the frequency and type of a lexical item may convey a hidden ideological meaning.

Box 1 Collocates for *migrants* **from the** *sunnow* **corpus**

economic 10	African 1	fellow 1	let 1	refugees 1
illegal 10	be 1	fewer 1	lorry 1	roll 1
of 8	behind 1	foil 1	many 1	Scots 1
the 8	but 1	how 1	million 1	seen 1
bogus 3	by 1	in 1	more 1	some 1
to 3	cheat 1	kick 1	new 1	tie 1
stop 2	ensure 1	legitimate 1	on 1	tunnel 1
Afghan 1				

Box 2 Collocates for *migrants* **from the** *guard* **news corpus**

economic 25	Albanian 1	frustrated 1	often 1	to 1
illegal 4	Asian 1	genuine 1	other 1	trafficking 1
peasant 4	Bangladeshi 1	in 1	passage 1	Turkish 1
returning 4,	bogus 1	Irish 1	rare 1	undocumented 1
Chinese 3	British 1	Jamaican 1	receive 1	unwashed 1
European 3	country 1	Jewish 1	songbird 1	we 1
child 2	desperate 1	Latino, 1	stricken 1	well 1
Kurdish 2	drift 1	many 1	summer 1	west 1
Madurese 2	early 1	Mexican 1	targets 1	when 1
	EU 1	million 1	them 1	where 1
	exiles 1	most 1		winter 1
	forcing 1	Muslim 1		
	former 1			

Structure of the Book

The book is divided into three Parts. In Part 1 you will be introduced to the key theoretical perspectives and methodological issues which underpin the functional and corpus-based traditions and you will see how these traditions can provide important insights into the differences between spoken and written English.

In Part 2, you will see how the two approaches can be applied at a more delicate or detailed level. Grammatical analysis with a functional orientation is used to contrast pairs of texts or small corpora. The texts analysed come from fiction, academic writing and medical histories. In addition, you will read about the link between grammar and the development of thought through a functional analysis of the language of a particular child.

In Part 3 we see how researchers can fruitfully bring together corpus and functional approaches to reveal how grammar and lexis create and transmit values, identities and ideologies. Research focusing on the ideological dimension of language use is known as critical discourse analysis (CDA). CDA has a long tradition of drawing on systemic functional grammar but has only relatively recently begun

to draw on corpus linguistics. As such, this section is unusual in presenting work on CDA which does this. But not only that, it is also unusual in presenting work in CDA which *brings together* the methodologies of corpus linguistics and functional grammar, demonstrating their combined potential for illuminating ideological perspectives, particularly in media texts. Given this focus and given the increasing value of empirical data, aside from being of interest to applied linguistics, the book will be of interest to those in other disciplines such as the humanities and media and cultural studies.

In selecting chapters for this Reader we have included both newly commissioned works and previously published work that illustrate the two methodological approaches to grammatical analysis and how they can be applied to deepen our understanding of language. The newly commissioned works have all been written with an advanced undergraduate audience in mind. The collection will also appeal to post-graduate scholars and academic staff interested in what these different traditions can bring to the study of English. The reader is expected to have some familiarity with traditional grammar and a basic knowledge of functional grammar would be an advantage. However, a glossary is provided to help those unfamiliar with some of the terminology.

Each Part has its own introduction which gives a brief outline of its chapters. Despite the progression in this book, no one chapter relies on knowledge of previous chapters. The chapters can therefore be read in any order and from any Part. We hope that the collection as a whole will stimulate interest and understanding of grammar as an applied tool not just for grammarians or language learners, but for all those interested in how language is organized to shape our view of events in the world. In particular, readers will find out how functional and corpus-based approaches provide ways of analysing and interpreting lexico-grammatical structures and patterns which can help us make sense of, and act on, social situations in real-life contexts. And by 'thinking grammatically' we would argue, human beings are in a good position to 'act grammatically' by, for example, developing better communication practices within education and other professions.

Notes

1 You will find out more about these ideas in Chapter 11 where Andrew Goatly uses similar examples.
2 You will find out more about these ideas in Chapter 15 by Kieran O'Halloran and Caroline Coffin.

Reference

Halliday, M.A.K. (2002) *On Grammar*. London: Continuum.

Part 1

Introducing Corpus Linguistics and Systemic Functional Grammar

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Introduction

    (a) Yeah but when you tread on them, they crunch.

    (b) The pest status of the cockroach derives mainly from an aesthetic abhorrence of what is regarded as a loathsome intruder.[1]

One of the above pieces of language is written and the other is spoken, both coming from real sources. If we didn't know the sources and had to say which was which, it wouldn't take us very long to decide. We'd no doubt say that (a) is more likely to be spoken and (b) more likely to be written. But to what extent would this be just an intuition about the typicality of a pattern? Up until relatively recently, it would be difficult to respond to such a question with anything other than saying that we're native speakers of English and in our experience this pattern is common in speech. But now, we are in a powerful position to be able to answer questions such as these. This is because in the last few years the technology has been developed for assembling huge corpora of English as well as the computational methods for searching them quickly. So by consulting a large corpus of spoken language, we can find out that our intuition was correct and that the grammatical pattern in (a) is more common in speech than in writing.

    In this Part, Chapter 2 by Ronald Carter draws on corpus studies to shed light on the nature of spoken grammar and how in many ways its patterns differ from those of writing. For example, Carter highlights how an extensive corpus examination reveals specifically spoken grammatical forms such as HEADS. These occur at the beginning of clauses in speech, e.g. in: *'That girl, Jill, her sister, she* works in our office'. From a written point of view, HEADS look suspect since they contain more than one grammatical subject. But this is to ignore their specific function in speech – to help listeners orient to a topic – a function not needed in writing where the information can be more drawn out without causing too much labour in the reader's processing. Indeed, it is due to the technological advances mentioned above that grammarians are in a stronger position to treat spoken grammar not as inferior to written grammar but as different in kind in a number of ways.

    Through using corpus investigation to examine spoken grammar and thus its differences from written grammar, Carter gives us something of a bird's-eye view of English. But as we descend a little in altitude, we can see very clearly with corpus study that there are interesting and surprising differences in English writing as well, differences that we may well not have been able to work out from intuition alone. Douglas Biber and Susan Conrad's Chapter 3 compares three different types of written English – academic prose, fiction and journalism, alongside one type of

spoken English – conversation. They show how an examination of corpus data reveals interesting and important differences between these registers. Indeed, some of the insights that corpus linguistics provides with regard to English grammar can have valuable applications. In English language teaching the progressive aspect (e.g. we *are sitting*) has traditionally been thought of as a common choice in conversation. However, Biber and Conrad's corpus investigation shows that the simple aspect (e.g. we *sit*) is twenty times more common in conversation than the progressive. Corpus research can, then, be useful in correcting perceptions among language professionals. Moreover, given the breadth and height with respect to English of studies such as Biber and Conrad's as well as Carter's, their evidence for variation in English allows us to see the following very clearly: there is no such thing as English in the sense of a uniform, monolithic entity.

Before you read the above two chapters, Elena Tognini-Bonelli usefully introduces you in Chapter 1 to some of the key concepts used in corpus linguistics, e.g. **collocation**, **colligation** and the interrelation between lexis and grammar. Not only are theoretical issues with regard to corpora probed here, such as how corpora are defined, but methodological issues are given attention too. You will also get a feel for the different purposes for which corpora can be used, e.g. in translation, and be introduced to the corpus software known as a concordancer. A concordancer is a crucial instrument in that it reveals patterns of lexico-grammatical meaning which, for the most part, users of English are only semi-consciously aware of.

The chapter by Tognini-Bonelli makes clear that having enormous databases of English can be very useful. A database in and of itself, however, can only point to *how* things are. A census database might tell us that families in the north of a country have on average something close to five children while in the south of a country families on average have something close to one child. So if we came across a family with seven children we might make the reasonable assumption that this family is more likely to be living in the north. But the census information cannot tell us *why* this is the case. We'd have to consider the differences in context, for example, are salaries bigger in the north than in the south enabling parents to have more children? We'd have to interpret the data by making meaningful connections with the context.

In the same way that the database tells us that sentence (b) at the beginning of this introduction is more likely to be written than spoken it cannot tell us why this is the case. To understand this properly, we have to understand the contexts in which we produce English and how these affect our grammatical choices. Chapter 4 by Jim Martin shows why systemic functional grammar is especially suited to illuminating why grammatical choices in English are functionally motivated in relation to context. He takes us to this conclusion by first providing an overview of other approaches to grammar which have a focus on English structure and then revealing why systemic functional grammar has real explanatory power in illuminating English as a resource for making meaning. For Martin, systemic functional grammar has significant applied benefits, for example, its capacity to assist language learners to communicate more effectively in different registers.

In essence, Martin's chapter, like the corpus linguistic chapters, takes a bird's-eye view on grammar. In Chapter 5, though, Michael Halliday looks at academic

English at a lower level of altitude than the corpus linguistic of Biber and Conrad by applying the approach that he pioneered – systemic functional grammar – to scientific English. Halliday argues that the difficulty many people have with scientific writing lies less with vocabulary, its 'jargon', but with its grammar. He uses the techniques of systemic-functional grammatical analysis for the purposes of problem-solving: coming up with practical grammatical insights as to why scientific writing can be so inaccessible and thus helping students to understand it.

These five chapters then provide you with ways into corpus linguistics and systemic functional grammar. More importantly, you will see in these chapters the applications and practical value of both approaches as well as the illumination they provide on the English language from a broad perspective.

Note

1 Source for spoken cockroach sentence is S. Eggins (1994) *An Introduction to Systemic Functional Linguistics*, London: Pinter Publishers. Source for written cockroach sentence is P.B. Cornwall (1968) *The Cockroach: A Laboratory Insect and Industrial Pest*, London: Hutchison.

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1 | Working with Corpora: Issues and Insights

Elena Tognini-Bonelli

1.1 Introduction

In the past few years we have witnessed a revolution in the way we perceive language; the insights that we are able to get from looking at text have radically and dramatically changed. The revolution has resulted in a different quality of linguistic evidence which has enabled us to make new, exciting and unexpected discoveries. They are unexpected because after scholars have been looking at language for centuries it was reasonable to believe that there was nothing much new to discover. The change came about because of the move from studying text to studying corpus. This was a move from basically observing and describing a single communicative event, a text, to accessing, with the help of a computer, a whole collection of texts, a corpus, and observing the repeated lexical and grammatical choices of a certain community of language users. Unlike researchers from the past, this new methodology does not rely on native-speaker intuition but is equally available to anyone with an attentive eye for detail.

So what does this switch of methodology entail? Why should what we see be, in many instances, radically different from what has been described and analysed so far? The change is two-fold. On the one hand, the way we can now look at text shows up the link between the individual instance of communication and the social tendency for a community of speakers to use particular patterns of language. On the other hand, the quantity of text we are able to access and observe in one go gives insights into the systematic patterning that is most frequently associated with a word, a phrase, a grammatical pattern or an idiom. With corpus evidence the old proverb 'no man is an island' acquires a new dimension and seems to fit words as well; it becomes obvious that it does not make sense to look at words or grammatical structures in isolation. The context in which they are embedded is not only important, it is vital in determining our understanding of their meaning and function.

In this chapter we will address some of the issues involved in working with corpora both from a theoretical and a methodological perspective. We will first discuss several definitions that have been given of a corpus with a view to identifying the key assumptions of this type of language work. We will consider whether working with corpora indeed provides a different platform of study for the student and the scholar alike. We will ask ourselves whether the type of observations made or the learning process undergone through analysing corpus evidence are qualitatively different from the ones provided by exposure to any number of complete texts.

1.2 What is a Corpus?

Here we will start by reporting some definitions that have been given of a corpus and we will try to identify the underlying principles that guide the linguists who choose to use a corpus as their evidence. Following every definition, we will briefly discuss a number of questions that are raised by the statement. We should be aware that the questions have been tackled in different ways by different scholars because corpus evidence as a new resource has attracted linguists from different linguistic traditions.

Let us start with a jocular definition that, nonetheless, brings home quite well the first characteristic that we expect a corpus to have: the quantity of the texts and their electronic format:

> On the face of it, a computer corpus is an unexciting phenomenon: *a helluva lot of text*, stored on a computer.
>
> (Leech, 1992: 106)

This definition of a corpus stresses *quantity* and *computerization*. Although these are fairly straightforward notions, there are several issues that need to be considered carefully. If we take the notion of quantity – how do we know what counts as enough or 'a helluva lot'? Some analysts work on corpora as small as a few thousands words while others look at 100 million words (e.g. The British National Corpus) or more than 500 million words (e.g. The Bank of English). More recently, people have started to use the World Wide Web as a kind of enormous, ever-evolving resource. Nowadays it is very easy for an individual to build up a corpus for his or her own needs. For example, a translator who wants to gather evidence of a very specific language variety from the Web is likely to build up a mini-corpus of that kind of text to get a quick idea of the specific register and terminology used. This type of use does not necessarily require a large quantity of texts and, indeed, it is usually the work of an individual scholar. On the other hand, a dictionary project will require access to a huge variety of texts in order to guarantee the representativeness of its statements in terms of a wide variety of text types. Such a huge database will need to be compiled and examined by many different people. The basic question is whether the quantity of text observed may make a difference to what we see and some studies in fact seem to prove that it does.

The issue of computerization is perhaps more important than one may think at first sight. The computer, used as a tool in corpus work, has primarily affected three areas: (1) the ability to access a large quantity of texts; (2) the speed of access and text-handling; and (3) the possibility of creating corpora for specific uses in real time.

The ability to access larger and larger corpora has been a direct result of advances in computer technology. Corpora in the 1960s and 1970 were considered large if they contained a million words. By the beginning of the millennium the technology had advanced to make storing and searching 500 million words relatively straightforward. The computer has thus become an essential part of the new sub-discipline of corpus linguistics. Its speed enables researchers to process, in real time, a quantity of information that could hardly have been imagined by a

team of informants working over decades even 50 years ago. As a tool, by its very nature, it has affected the methodological frame of the enquiry by speeding it up, systematising it, and making it applicable in real time to ever larger amounts of data. In this respect, the computer has made possible unrestricted access to the observation of language in use, and its analytic power has altered the nature of observation.

An important point related to the use of the new technology is the ease with which, at the click of a button, the linguist can now assemble corpora ad hoc, selected according to specific language varieties, genres, topics, etc., and the specific function of the analysis for a given application. This, of course, is not new to linguistic enquiry, but what used to be an analytic technique for just a few researchers has suddenly been made available for most people in the language business – teachers and students, translators and lexicographers alike. Nowadays, anybody who owns a computer is able to assemble materials from the Web, scan electronic databases on CD-ROM or connect to one by remote access. Down-loading electronic texts from distant sites is now comparable to photocopying an article or two from a journal. What this entails at a very practical level is an increasing *awareness of language variety*. This is, of course, very important for language scholars and later we go on to discuss some of the different corpora that can be used for different purposes.

In corpus work there is certainly no shortage of data: indeed, texts are so plentiful that it becomes imperative to evaluate them according to a typology or classification system. The theoretical shift brought about by the computer here, just by enabling sheer accessibility to lots of texts, is from a focus on the notion of central grammar, core lexicon and general rules to a more decentralized notion of contextual appropriateness, geographical and social variety, restricted language, idiolect and style.

Nelson Francis, the founding father of corpus linguistics, gives us another definition of a corpus where *representativeness* related to a specific target population appears as a key element:

> A corpus is a collection of texts assumed to be *representative* of a given language, dialect, or other subset of a language to be used for linguistic analysis.
>
> (Francis, 1982: 7)

The issue of representativeness is indeed a hot issue in corpus linguistics, particularly with regard to the different applications to which corpus work can be put. The question that arises here is: representative of what? Are we talking of the current state of a language, such as contemporary English, or of a language in its historical development? Corpora can represent either, but perhaps the main point to remember here is that they cannot be both at the same time. The decision as to what phenomenon we are aiming to describe has to be made explicitly and kept in mind when evaluating the results of an enquiry.

The issue of what components of language should be represented in a corpus is also of paramount importance. Should a corpus, for instance, include literary texts and poetry? A heavy literary component may skew our evidence towards stylistic

effects rather than the linguistic norm. Should spoken language be included as well as written, and in what percentage? Should translated text be included? Translated text is sometimes seen as displaying 'translationese' rather than authentic, naturally occurring language.

Leaving aside some possible reservations, in general, we expect a correlation between the component texts of the corpus and the real-life uses to which the language is put by a given community of speakers. Let us take the example of a teacher of English working with international students studying economics. If the teacher consults a general corpus to look for examples of the word *peg* hoping to expose students to patterns which are typical of the language of Economics, then he or she is likely to be disappointed. Expressions such as *off-the-peg clothes* or idioms such as *a square peg in a round hole* which are more frequent in general language are likely to occur in preference to *exchange-rate peg* or *to peg (a currency) to the dollar*, which is what he or she had been hoping to illustrate. The importance of relating specific language varieties to specific purposes and applications becomes very clear when we deal with corpus evidence.

In the case of the World Wide Web, the assumption of representativeness related to a target population does not hold. This does not mean that the Web cannot be exploited in order to select materials that will eventually make a corpus, but the basic requirement for a corpus is to be assembled according to a principled selection. And this is what is lacking from the Web. It has been pointed out that representativeness is really 'an act of faith', but there is no doubt that when we come to a corpus we are trying to characterize language in a certain way and we are projecting our observations on to a larger sample than the one we are actually studying. From this stems the importance of the points discussed above.

This leads us to another key assumption that certainly needs to be specified – the fact that the language we observe in a corpus is a resource of *naturally occurring language*. Let us consider another definition given of a corpus:

> A corpus is a collection of *naturally-occurring* language text, chosen to characterise a state or a variety of a language.
>
> (Sinclair, 1991: 171)

Here the authenticity of the texts is related to a specific real-life situation and a target population. However, the boundary between what can be defined as naturally occurring and what cannot is a difficult one. For example, consider the case of rehearsed language, e.g. a news programme broadcast by the BBC. Is it to be considered really authentic and naturally occurring? One may argue not. Similarly, in some published material, the text can be cut and re-written according to the demands of a publisher or of making it fit on the page. In both cases, we could say that these types of text display characteristics of 'mediated' language rather than naturally occurring language.

If, as we have seen above, we assume that a corpus contains naturally occurring language, we should consider another point. Natural language usually occurs in texts as complete speech events. In this respect another definition of a corpus brings up the issue of whether a corpus can/should be made of *a collection of samples*

rather than whole texts:

> A corpus is understood to be *a collection of samples of running text*. The texts may be in spoken, written or intermediate forms, and the samples may be of any length.
>
> (Aarts, 1991: 45)

Samples, we should note, are not necessarily whole texts, but fragments of text, usually of the same size (e.g. 500 words). The question of sampling really stems from the computer limitations of the 'early days'. Corpus linguists then had to make a selection of samples because the computer did not have the power to handle vast quantities of whole texts. Since then, however, several individuals and research teams have adopted the same choices with respect to sampling. These choices now seem to be theoretically rather than methodologically driven. One may wonder, for example, if language really is uniform across a text so as to justify sampling, or are there some differences, given different stages in discourse, such as introducing a point of view, offering alternatives, or concluding (cf. Swales, 1990)?

To conclude the points discussed above, we could sum up our discussion so far by saying that most people assume that a corpus is a collection of texts taken to be representative of a given language and put together so that it can be used to explain a language such as English and how it works. Usually the assumption is that the language stored in a corpus is naturally occurring, that it is gathered according to explicit design criteria, with a specific purpose in mind, and with a claim to represent larger chunks of language, and following some criterion of text type and register.

1.3 Different Ways of Using Corpora

In corpus work, like in all types of scientific enquiry, the starting point is actual authentic data. The bread and butter of a corpus linguist is a set of concordances – whether on-line, i.e. computerized, or on paper – where individual instances of a certain word, phrase or grammatical pattern are brought together with the key word or phrase in the middle for easy alignment. The KWIC format (Key Word in Context) offers only one line of context and allows simple alphabetization either to the left or to the right by the computer. KWIC illustrates that although we may use a language competently, we are often completely unaware of the patterns of linguistic detail that we are creating. This simple method highlights consistent patterns that surround the node, the word under investigation, that would not be easy to recognize without the help of the computer.

Let us consider one example. In a study considering the differences between the two adverbs *largely* and *broadly* (Tognini-Bonelli, 2001) this method identified a significant co-occurrence of *largely* with a set of adjectives and verbs which had negative 'semantic fields' that is, they carried negative meanings. In Box 1.1 we see very clearly that the word emphasized by *largely* always has a negative association, yet, there is no grammatical restriction that would account for this preference.

In contrast, *broadly* never occurs with this type of negative word and seems to prefer a set of words denoting similarity and agreement. The semantic field of

Box 1.1 Morphological and semantic negatives in the context of *largely*

by chance that the super-rich are	**largely**	**absent** from the list of devastated
and training. Labour, by contrast,	**largely**	**dismisses** the government's supply
single source of income. These have	**largely**	**dried up** in the wake of corruption
with more than 325 locations, has	**largely**	**eliminated** windmills and barn doors
rs. The streetcar companies now are	**largely**	**extinct**, but the anti-jitney laws
there is one aspect of his model,	**largely**	**ignored** by others, that might be m
gated for so long, blacks were left	**largely**	**illiterate** and without non-farmin
mercial banks, and – though this was	**largely**	**overlooked** – urged further flows of
Gary Condit from California. Having	**largely**	**shunned** the group, the Democratic
Kong have had enough. Legco, the	**largely**	**toothless** legislature, has vowed n
previous regime doled out large and	**largely**	**unaudited** sums to homeland administ
industries. 'The government seems	**largely**	**unconcerned** about such complaints,
The war caused one spectacular but	**largely**	**unforeseen** calamity: the mass flig
majority in the country, defeating a	**largely**	**unknown** Republican opponent. Repub
the 'hyenas of capital' will go	**largely**	**unread**. Management Focus: Just de
The dollar was slightly higher,	**largely**	**unruffled** by the release of the U.S
rural-based Zulu party, will be	**largely**	**untested**: no poll will be held in

words that carry negative meaning thus characterizes the adverb *largely* but not *broadly*, and identifies one of its main uses. The negative semantic field is realized at the level of the word by a negative prefix like *un-* as in *un*concerned, *un*foreseen, *un*known, etc. or simply by a word with a negative meaning like *absent*, *ignored*, *extinct*, etc.

This type of observation often comes to the analyst as totally unpredicted. It only becomes self-evident to the observer because the alphabetized concordance makes it easy to spot a large chunk of words starting with *un-* just after *largely*. Strangely enough, this use is something that we all seem to agree on after we have actually seen it on the concordance page. Yet, there is no grammar that states this systematic preference as a rule, nor is there a dictionary that tells us that this pattern constitutes one of the main uses of *largely*.

We may ask ourselves what happens when a rule of usage such as this one is not respected. We are not talking here of a 'mistake' proper. Rather, what is missing is the quality of *naturalness* in language. The potential danger for the unaware language student is the clash with a norm. The expectation of a native speaker, albeit subconscious, that *largely* will be associated with something negative creates an aura of negativeness even though the unwary student may have chosen a positive word to follow.

If we look at the way we have used corpus evidence from a methodological point of view, we note that the concordance, alphabetized to the right, showed up the prefix *un-* immediately following the adverb *largely*. A further step from the immediate patterning of word co-occurrence, or *collocation*, to the wider semantic area soon brought up other adjectives and verbs (*absent*, etc.) belonging to the same area

of meaning. In this the process was very much 'bottom-up', from the observation of the most immediate and repetitive pattern to hypothesis and generalization.

Working with corpora can also involve a more 'top-down' methodology where the linguist will start with certain given categories in mind and will look at the evidence from the corpus to see how frequent they are or whether they vary depending on the register, for example. The type of corpus work which is at the base of the *Longman Grammar of Written and Spoken English* (LGWSE) (Biber *et al.*, 1999) is a good example of this. The corpus – or rather corpora – were used to provide probabilistic evidence that a certain structure was more frequent in certain types of text rather than others. For example, considering modals, the LGWSE grammar tells us that *may* is far more common in academic writing than in conversation and that the use of the modal *may* with the meaning of possibility is more common than the use of *may* with the meaning of permission. This seems to be so both for conversation and academic English, but the preference is much more pronounced in academic English.

This evidence could not be accessed very easily before the advent of corpora and it is very valuable for students and teachers alike. We consider it here as a top-down approach because the category of modal *may* with the meaning of permission, as opposed to the one with the meaning of possibility, is something that the linguist already knows and the linguist comes to search the evidence with a very specific aim in mind: seeing the difference in frequency between the two or assessing their uses in different types of linguistic situations. The possible danger of the top-down approach is that you may not even notice what you are not expecting to see. So, going back to our example of *largely*, your search will indeed tell you about the different frequencies of given adverbs in different registers, but may not be open to discover the strong preference that *largely* has for negatives. Although the two approaches are at opposite ends on the bottom-up/top-down continuum, corpus work in general can be seen as a shift from the formal towards a more practical approach to language study.

1.4 Text and Context in Corpus Linguistics

We can identify several principles that bring together the different methodological strands within the discipline of corpus linguistics. The most important concerns the differences between looking at an individual text and a corpus, and second, the significance of context, or co-text as it is sometimes called. This 'contextual theory of meaning', formulated by the British linguist J.R. Firth, identifies words in context and not words alone as the conveyers of meaning.

1.4.1 Assumptions from text analysis

Given that a corpus is a collection of texts, the aim of corpus linguistics can be seen as the analysis and the description of language use, as realized in text(s). Corpus linguistics starts from the same premises as text-linguistics in that text is assumed to be the main vehicle for the creation of meaning. The question that arises, however, is: can we evaluate corpus evidence in the same way as we evaluate a text? In spite of the initial starting point which they share, one has to accept

Box 1.2 Views of text and corpus

A text	A corpus
read whole	read fragmented
read horizontally	read vertically
read for content	read for formal patterning
read as a unique event	read for repeated events
read as an individual act of will	read as a sample of social practice
coherent communicative event	not a coherent communicative event

that the two approaches are fundamentally and qualitatively different from several points of view (see Box 1.2).

Working within the framework of a contextual theory, we can say that a text exists in a unique communicative context as a single, unified language event mediated between two (sets of) participants. The corpus, on the other hand, brings together many different texts and therefore cannot be identified with a unique and coherent communicative event. The citations in a corpus are fragments of text and the significant elements in concordance lines are the patterns according to which certain words – and not others – are repeated. The patterns within concordance lines illustrate which words co-occur and are therefore likely to be selected together. This difference between text and corpus entails a different 'reading' of the two. The text is to be read horizontally, from left to right, paying attention to the boundaries between larger units such as clauses, sentences and paragraphs. A corpus, in the form of a concordance (examined at first in KWIC format with the node word aligned in the centre) is read vertically, scanning for the repeated patterns present in the co-text of the node.

The text has a function which is realized in a context of communication, but also extends to a specific context of situation and a specific context of culture; a text is interpreted above all in terms of the function it has in that context. The corpus, on the other hand, does not have a unique function, apart from the one of being a sample of language gathered for linguistic analysis.

The type of information one draws from a text is interpreted as meaningful in relation to the context in which it occurs. The type of information gathered from a corpus is evaluated as meaningful in that it can be generalized to the language as a whole (or to a specific variety of language), but with no direct connection with a specific instance or a specific context.

The series of contrasts between corpus and text outlined above has the purpose of differentiating two sources of evidence that may appear similar but that entail very different analytical steps. It is important to understand that a corpus contains text evidence and therefore, given a different methodological framework of analysis, it yields insights into the specific text as well. Corpus analysis, in fact, offers the researcher a privileged viewpoint on the evidence, made possible by the new ability to access simultaneously (a) the individual instance, which can be read and expanded on the horizontal axis of the concordance; and (b) the social practice

retrievable in the repeated patterns of co-selection on the vertical axis of the concordance. Here, frequency of occurrence is indicative of frequency of use and this gives a good basis for evaluating the profile of a specific word, structure or expression in relation to a norm.

1.4.2 Importance of contextual analysis

Speech events have to be apprehended in their contexts, as shaped by the creative acts of speaking persons.

(Firth, 1957: 193)

Corpus work, as we have seen above, starts from the assumption that a text is an integral part of its context – both at the linguistic and the wider cultural levels – and that the formalization of contextual patterning of a given word or expression is relevant to the identification of the meaning of that word or expression.

The relation of text to context is the same as the one of any item to its environment, and it persists when applied to smaller units of language than the sentence. When a clause, a phrase or a word (or even a smaller part of a word such as the prefix *un-*) is examined, each is found to occur in a context – and the linguistic co-text is at least as important as the wider cultural context. The assumption is that every linguistic item occurs in a context, and that context is highly relevant for the determination of the meaning of the item, whether it be a word or a sentence. A small-scale linguistic item, such as a word, relates principally to its role in its immediate linguistic context, while a large-scale item, such as an utterance, relates principally to its role in the context of culture. The distinction, however, is not absolute. An utterance may relate intricately to the previous utterances as well as to the wider context, and a single word might contrive a direct relationship with the context of culture as well as contributing to the structure and meaning of an utterance. But the point to establish here is that there is no intrinsic difference in the relationship between item and environment, whether it is the linguistic or the cultural context.

Reading corpus evidence therefore relies heavily on identifying the formal rules (both lexical and grammatical) that are associated with a certain word or structure. The formal patterns of co-occurrence that exist between two or more words lead us to identify a unit which is larger than one word because it encompasses the word itself and some of the most relevant items in its context. This larger unit is then associated with a specific meaning or function. Now, what does this process entail?

Here we will address two types of contextual relations that a given item can entertain with its environment. These are the ones that can be formalized by looking at corpus evidence. We will discuss first the notion *collocation*, the lexical tendency of a word to co-occur with another word. We will then consider another type of formal relationship, that is, the *syntactic patterning* associated with a word, structure or expression (*colligation*). Finally, we will briefly discuss one of the clearest insights offered by corpus work: the fact that lexical and grammatical choices appear to be very strictly and systematically *interdependent*.

1 Collocation: Collocation is the lexical patterning associated with a word or expression; it is a statement about the repeated co-occurrence of two or more

items and it is the most immediately visible patterning in an alphabetized con-
cordance. Firth was fond of saying: 'you shall know a word by the company it
keeps' (Firth, 1968: 180) and this is proved consistently true by corpus evi-
dence. The type of insights we can gain from observing systematically the col-
locational patterning of a word are often unexpected, even if they prove points
that, with hindsight, ring true to our intuitions.

We can demonstrate this by looking at the verb *face* as an example. In its
primary meaning, *face* is often defined in dictionaries as 'being turned in a cer-
tain direction', a quick look at the collocational patterning identifies as collo-
cates a set of words such as *grim, dilemma, obstacles, challenges, prospect, pressures,
competition, difficulties, problem, shame, task, threat,* etc. Each individual collo-
cate occurs frequently enough to be picked up as significant by a computer pro-
gram such as WordSmith Tools or MonoConc Pro (Scott, 1996; Barlow, 2002)
that has a tool to identify the most frequent collocates. However, taken together
all these words suggest a much wider pattern identifying what has been called
a *semantic prosody* (Louw, 1993; Sinclair, 1996, 1998; Tognini-Bonelli, 2001) of
negativeness: whatever you are likely to *face* is usually a very undesirable thing
or event. This type of information had not been available to the linguist until
the advent of corpora. It is the sheer quantity of the evidence that makes this
kind of insight possible and the connotation pervading the vast majority of the
uses of a word like *face* has now become tangible and observable.

2 Syntactic patterning (colligation): Firth, in addition to collocation, also pro-
posed another type of formal relationship between words, *colligation*. Colligation
is 'the interrelation of grammatical categories in syntactical structure' (1957:
183). So, as words co-occur and form collocations, grammatical categories
co-occur forming colligations (e.g. Article + Noun; Transitive verb + object;
etc.). Syntactic patterning (colligation) has traditionally been the main focus
of linguistic research and the grammatical relations between words and clauses
have attracted a lot of scholarship. However, it is necessary to identify and analyse
both collocation and colligation in order to make statements of meaning.

Collocation and syntactic patterning are both formal features of a text and
alphabetized concordance lines lend themselves remarkably well to the identifi-
cation of such patterns. However, before colligations can be identified, a corpus
has to be marked up or 'tagged' with grammatical labels indicating parts of
speech in order for the computer to identify and quantify them. There are many
computer programs that attempt to do this automatically but not entirely suc-
cessfully. When language is decontextualized and viewed only in terms of gram-
matical structure, it becomes rather ambiguous and a computer has problems in
assigning the right 'grammatical tag' to an expression. As a result, there is a need
to turn to the human grammarian to check the analysis provided by the com-
puter. Once this process of 'annotation', i.e. attaching grammatical labels to each
part of speech, has taken place, the analyst will be able to isolate specific syntac-
tic patterning in the corpus and evaluate it for frequency, text typology, etc.

The apparent ambiguity of language to a computer may remind us that, in
actual communication, language is not really ambiguous and people, in general,
communicate rather successfully. This leads us to our last point. In real life

grammar does not exist separate from lexis and it is their coming together in communication that allows people to understand each other without finding the task too arduous. The systematic interrelation between lexis and grammar is something that corpus linguistics has shown very clearly.

3 The interrelation between lexis and grammar: What is apparent every time we analyse a concordance is the impossibility of drawing a clear dividing line between what is traditionally defined as lexical and what is grammatical. As Francis (1993: 155) points out, the end result of corpus analysis will be that all major lexical items will be described not only for the meaning they carry individually, but also in terms of the grammatical structures they are most frequently found in. Similarly, all grammatical structures will also be described in terms of the key lexis and the phrases they are most commonly associated with.

This kind of interdependence between lexis and grammar is so common that it has to be considered as the rule rather than as an interesting coincidence. Such patterns must be accommodated within language descriptions and theories alike. What a lot of corpus work seems to be showing is that language is based on the co-occurrence of words and phrases in given grammatical structures more than we think. Words do not occur at random, they favour relationships with certain words and not others. They also tend to prefer certain grammatical functions and not others. It is perhaps this interrelation between lexical items and grammatical categories that is easily overlooked even by a trained eye. Linguists have traditionally kept lexis and grammar separate and yet it is through their constant interrelation that meaning is created. The computer and corpus can help us here because the boring alphabetization is done automatically and the most obvious patterns, the ones that are so easily ignored, are shown up by the concordance lines.

1.5 Different Corpora for Different Purposes

The decisions made in assembling a corpus, or the choice of what type of corpus to access depend on what use the corpus is going to be put to. In this respect, it might be better to talk of corpora in the plural rather than imply some kind of unique type of corpus, good for all purposes. We have briefly pointed to the issue of representativeness which concerns the corpus assembler above. Here, from the point of view of the corpus user, we will just mention some corpora, distinguishing them according to the function they can have and the insights they can offer for different types of linguistic enquiry. The list is limited but it gives an indication of the possibilities offered by the use of corpora in different applications.

1.5.1 Corpora and translation

In the field of multilingual resources, translation scholars and contrastive linguists prioritize different types of corpora depending on whether they are focusing on translation as a process, how different people go about the business of translating, or as a product, comparing the same text translated by different people. When working across languages it is advisable to consider the evidence of both *translation corpora* and *comparable corpora* because they have very different things to offer.

Translation corpora contain texts which stand in a translational relationship to each other, that is to say the texts can each be a translation of an absent original or one of them can be the original and the other(s) translation(s). A translation corpus can be used to shed light on the process of translation itself. The most common use of a translation corpus, however, remains the access to translations as products where the translated corpora reveal cross-linguistic correspondences and differences that are impossible to discover in a monolingual corpus. The original translation corpora were so-called 'parallel corpora', for example the bilingual, quasi-legal records such as the Proceedings of the Canadian Parliament. The software for aligning the texts so that each clause or sentence in both versions could be read side by side relied entirely on a close, sentence-by-sentence correspondence between the two texts.

Because of misgivings about the representativeness of strictly parallel corpora, and the poor range of choice of material translated in such a rigorous fashion, it has been customary to build up comparable corpora. The components of comparable corpora are chosen to be similar samples of their respective languages in terms of external criteria such as spoken vs. written language, register, etc. However, none of them are exact translations; no alignment is possible, but correspondences can be established among the main linguistic features of the corpora.

1.5.2 Corpora and varieties

In the field of language varieties an important milestone is the assembly of the *International Corpus of English* (ICE) which began in 1990 with the primary aim of providing material for comparative studies of varieties of English throughout the world. Twenty centres around the world are now making available corpora of their own national or regional variety of English, ranging from Canada to the Caribbean, and from Australia to Hong Kong. Each ICE corpus consists of spoken and written material put together according to a common corpus design. So the individual components of the ICE corpora can also be considered comparable in terms of size (they are all one million words long and contain 500 texts, each of approximately 2000 words), date of the texts (1990 to 1996), authors and speakers (aged 18 and over, educated through the medium of English, both males and females) and text categories (spoken, written, etc.). Each of the component corpora can stand alone as a valuable resource for the investigation of national or regional variety. Their value is enhanced, however, by their compatibility with each other.

1.5.3 Corpora and ESP

Earlier we mentioned the ESP teacher – the English teacher whose students need to learn a very particular variety of English. If we return to the example of the ESP teacher with students specializing in economics – it is now quite easy for that teacher to compile their own corpus of specialized texts. They can gain access to a CD-ROM of a specific newspaper or magazine such as *The Economist*. This will contain all published material within a certain time reference or according to a specific topic which can be a valuable corpus resource. Texts such as *The Economist* can be used in conjunction with concordancing software to identify

patterns that occur with field-specific terminology. This avoids the problem of focusing on general idioms such as *off-the-peg clothes* when your interest is in specialist uses such as *exchange-rate peg*. In teaching English and other languages for specific purposes it has been demonstrated that recognition of such formal contextual patterning can be of great help in the identification of meaning and the definition of terms. Hence the growth in the number of teachers compiling their own corpora of restricted or specialized varieties of language.

1.5.4 Learner corpora

Another type of corpus which specifically focuses on the teaching process and is particularly useful for error analysis is what is referred to as a *learner corpus* (e.g. Granger, 1994). This can be used to identify specific patterns in students' writing. It is a useful diagnostic tool for both learners and teachers and can be used to detect characteristic errors made by an individual student engaged in a specific activity. It also offers the possibility of identifying the text type and/or subject discipline where errors occur most frequently, enabling the teacher to pre-teach and thus pre-empt common errors. It encourages and enhances a shift towards learner autonomy, and, when proper guidance is given, it enables the language learner to become language researcher and to develop the skills required to identify, explain and rectify recurrent errors. A learner corpus can become a source of learning materials and activities. With the possibility of access to large corpora, newspaper collections, etc., students can compare across corpora and discover similarities and differences in native speaker and non-native speaker usage.

1.6 Conclusion

Working with corpora is an extremely rewarding and stimulating way to study language. One is constantly finding new things and having new insights. Guiding students through corpus evidence and witnessing their enthusiasm when they 'find things out for themselves' goes very much along with the discovery learning that is often advocated on theoretical grounds. However, when working with corpus data it is wise to be cautious, so we will conclude this brief look at the developing world of corpus linguistics with two warnings.

First, a corpus can prove anything and its opposite. Alongside many examples which demonstrate a pattern of usage, one often finds the odd instance, the funny example, going against this established pattern. How should such an odd instance be interpreted? One should always remember that in corpus work *frequency of occurrence* is of paramount importance and what one is always trying to describe is the norm of usage. Uses that go against it are to be evaluated as such and often become responsible for certain stylistic effects, just because of their deviance from the norm.

Second, do not assume that a corpus you are using is representative of language in general or any particular variety of language. Although a corpus builder assembles a corpus with representativeness in mind, this is not always possible and above all it can never be proved. The only guarantee for the analyst who wants to ascertain the validity of his or her analysis is that corpus work should ideally be comparative. This means that evidence from a specific-domain corpus should be compared

with evidence from a general purpose corpus or from other specific-domain corpora. If this is not feasible, then any findings should always be related back to the particular corpus on which they were based and not presented as more widely applicable.

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2 | Grammar and Spoken English

Ronald Carter

2.1 Introduction

The aims of this chapter are to present some recent research findings based on corpus evidence in order to illustrate some of the common grammatical patterns in speech and thus highlight some basic distinctions between spoken and written grammar.

2.2 Historical Background

2.2.1 Writing

For many centuries dictionaries and grammars of the English language have taken the written language as a benchmark for what is proper and standard in the language, incorporating written and often literary examples to illustrate the best usage. Accordingly, the spoken language has been downgraded and has come to be regarded as relatively inferior to written manifestations. Both in the teaching and learning of English and modern foreign languages and in both educational institutions and in society in general, oral skills are normally less highly valued, with literacy being equated almost exclusively with a capacity to read and write. In this respect the similarity of the words 'literature' and 'literacy' is revealing (see Williams, 1983; Bex, 1996; Carter, 1997). What is written and what is literate is accorded high cultural status. Even dramatic performances are valued and studied primarily as written text.

Many societies also value what is permanent over what is ephemeral. The capacity of the written language to generate enduring records of human achievement or of sacred significance, even when these records may have originated in oral discourse, is central to ascriptions of its value. At least until the advent of the tape-recorder and of sound and visual recordings speech was seen in social and cultural terms as much more temporally bound and was only 'recordable' as part of individual or folk-memory. In a related way, good writers have been identified for centuries and exemplars of excellence such as Samuel Johnson's *Rasselas* or Sir Thomas Browne's *Religio Medici* held up for imitation; similarly, classical rhetorical models have been available to demonstrate highly formal, often pre-planned and often public oratorical and debating skills. By contrast, there are few available models of the good conversationalist or of what is agreed to be successful

practice in less formal conversational exchanges. Even when spoken language has been preserved, it is in the form of a transcribed 'text' which, as we can see below (example on p. 28), provides its own kind of distortion of the communicative complexity of the original source and is often laid out in such a way as to highlight and to discredit its 'formless' character.

2.2.2 Speaking

Perhaps the greatest single event in the history of linguistics was the invention of the tape recorder, which for the first time has captured natural conversation and made it accessible to systematic study.

(Halliday, 1994: xxiii)

The spoken language has also been largely under-described and under-theorized within linguistic science. Examples of language for analysis have been based on the assumption that language consists of sentences and that, because of the essentially detached and context-free nature of written sentences, context can be more or less removed from the equation. The history of linguistics in the twentieth century has been largely a history of the study of detached written examples, with many of the characteristic features of spoken discourse dismissed as peripheral to the enquiry.

Linguists working within alternative traditions have taken a different path, especially in the past 20 years or so, and there has been a growing recognition of the importance of spoken language. Halliday (1994: xiii–xxxv), for example, argues that the potential of the language system is much more richly realized in spoken than in written discourse. For Halliday, it is the essentially unconscious nature of speech, the fact that the system is so mobile and in a constant state of flux, alert to context, responsive to the smallest and most subtle changes in its contextual environment which makes it so fascinating. Spoken language thus represents *language at full stretch*, so much so that even the most detailed, faithful and sympathetic transcription cannot hope to capture it.

2.2.3 The speech–writing continuum

There are of course many links between speech and writing. There are many written messages such as text messages on mobile phones, emails or communications on computer chat lines which work in a manner closer to spoken language. And most formal, public speeches, for example, are carefully crafted, written-to-be-spoken texts, even if they are often written to sound spontaneous and natural. Generally, different models have grown up for analysing spoken and written language and it is widely agreed that there is no simple, single difference between speech and writing. This point has been put well by Halliday (1989) and, more recently, by McCarthy (2001):

> The most useful way to conceive of the differences is to see them as scales along which individual texts can be plotted. For example, casual conversations tend to be highly involved interpersonally (detachment or distancing oneself by one

speaker or another is often seen as socially problematic). Public notices, on the other hand, tend to be detached, for example, stating regulations or giving warnings. But note we have to say *tend*; we cannot speak in absolutes, only about what is most typical. Speech is most typically created 'on-line' and received in real time. Writing most typically is created 'off-line', i.e. composed at one time and read at another, and there is usually time for reflection and revision (an exception would be real-time e-mailing by two computers simultaneously on-line to each other, one of the reasons why e-mail is often felt to be more like talk than writing). What is more, written discourses tend to display more obvious degrees of structure and organisation whereas talk can appear rather loose and fragmented, though this may be merely a perception of the researcher, and probably does not correspond at all to how the 'insiders' to a conversation experience things. These and other possible features of variation enable us to plot the characteristics of different types of discourse as 'more or less' typically written or typically spoken.

See also Carter and McCarthy (1997); Eggins and Slade (1997); McCarthy (1998) for similar exploration.

2.2.4 Computer corpora[1]

In the latter part of the twentieth century there have been very rapid advances both in audio-technology and in the development of tape-recorders and there are now extensive collections available of people speaking in both formal and informal contexts. Major collections of data include: the BNC (the British National Corpus), which now totals ten million words of spoken British English; the five-million word CANCODE (Cambridge And Nottingham Corpus Of Discourse of English) corpus held at Nottingham University; the spoken component of the 400,000,000 COBUILD corpus (Collins Birmingham University International Language Database) held at the University of Birmingham.

The spoken examples collected in these corpora are obtained in naturally occurring everyday contexts of use such as service encounters, workplace exchanges and family conversations, often involving intimate exchanges and personal narratives. The examples are sometimes collected without the knowledge but are not used without the permission of participants. People recorded in modern British corpora come from different regions of the country and careful preparation ensures a balance between the gender, age and social class of the speakers, a representativeness which means that the data recorded cannot be simply dismissed as examples of 'non-standard' dialects. The data collected on tape are then transcribed and made computer-readable so that very fast and sophisticated computer programs can then identify frequent or salient structures alongside the actual contexts in which they are used.

Inevitably, the presence of such forms causes difficulties for our descriptions of English grammar and leads to questions about what it is now possible to call 'standard' English, for such forms are standard in so far as they are used standardly by all speakers even if (for the reasons given above) these same forms do not appear or appear only very rarely in standard grammars.

2.3 A Sample Stretch of Talk

Looking at a transcript from an ordinary everyday stretch of conversation imme-
diately raises the problem of the frequent occurrence of units that do not conform
to the notion of well-formed 'sentences' with main and subordinate clauses.
Conversational turns often consist just of phrases, or of incomplete clauses, or of
clauses with subordinate clause characteristics but which are apparently not attached
to any main clause, though they clearly carry a sizeable share of the communicative
load. The example below shows some of the kinds of units frequently encountered in
a spoken corpus. Problematic areas for a traditional grammar are highlighted in bold:

[Speakers are sitting at the dinner table talking about a car accident that happened
to the father of one of the speakers.]

<Speaker 1>	I'll just take that off. **Take that off.**
<Speaker 2>	**All looks great.**
<Speaker 3>	[laughs]
<Speaker 2>	Mm.
<Speaker 3>	Mm.
<Speaker 2>	I think your dad was amazed wasn't he at the damage.
<Speaker 4>	Mm.
<Speaker 2>	It's not so much the parts. It's the labour charges for
<Speaker 4>	**Oh that. For a car.**
<Speaker 2>	Have you got hold of it?
<Speaker 1>	Yeah.
<Speaker 2>	**It was a bit erm.**
<Speaker 1>	Mm.
<Speaker 3>	Mm.
<Speaker 2>	**A bit.**
<Speaker 3>	That's right.
<Speaker 2>	I mean they said they'd have to take his car in for two days. And he says All it is is s = straightening a panel. **And they're like,** Oh no. It's all new panel. You can't do this.
<Speaker 3>	**Any erm problem.**
<Speaker 2>	**As soon as they hear insurance claim.** Oh. Let's get it right.
<Speaker 3>	Yeah. Yeah. **Anything to do with +**
<Speaker 1>	**Wow.**
<Speaker 3>	**+ coach work is er +**
<Speaker 1>	Right.
<Speaker 3>	**+ fatal isn't it.**
<Speaker 1>	**Now.** [CANCODE data]

Here we may observe the following general phenomena:

1 Here 'punctuation' is marked by the taking of turns between speakers rather
than by a transition from one sentence to another. These turns are not neat and
tidy, however. The speakers regularly interrupt each other, or speak at the same
time, intervene in another's contribution or overlap in their speaking turns.

2 The speakers *co-construct* each other's discourse. There is back-channelling (*Mm; Yeah*), in which speakers give supportive feedback to each other.

3 There are seemingly incomplete structures (*It was a bit erm … A bit*). Of course, 'incomplete' structures can be collaboratively completed by others or simply left as understood (one speaker says *'That's right'* even though the previous speaker has not said anything). Things are incomplete or unfinished only if the criteria for a written text are applied.

4 In this extract more than one speaker is involved. But the same features of conversational management apply whether the talk is multi-party or two-party.

The notion of sentence does not apply easily to the data:

1 There are indeterminate structures. Is the second *Take that off* an ellipted form of *I'll just take that off*? Is it an imperative? Is *All looks great* well-formed? What is the status of *And they're like?*. *Like*, for example, appears to function here to mark direct speech.

2 Ellipsis is common (*fatal, isn't it?*). Ellipsis occurs when words are omitted (here 'it's' or 'that's') because it is assumed that they can be understood from context or from shared knowledge between speaker and hearer.

3 There are phrasal utterances, communicatively complete in themselves, but not sentences (*Oh that. For a car. Any problem*).

4 'Subordinate' clauses which are not obviously connected to any particular main clause *As soon as they hear insurance claim* is a subordinate or 'dependent' clause but it is not subordinate to or dependent on any other clause.

5 There are words whose grammatical class is unclear (*Wow. Now.*). For example, *Wow* is possibly some kind of exclamation possibly made with reference to something that is seen (the arrival of food?) rather than something that is said. *Now* seems to be organizational or structural, functioning to close down one section of the conversation and to move on to another topic. Such 'discourse markers' connect one phase of the discourse with another.

These phenomena, which are perfectly normal in everyday talk, raise questions about the nature of basic units and classes in a spoken grammar, and the solution would seem to be to raise the status of the word, phrase and clause to that of (potentially) independent units, to recognize the potential for joint production of units, and to downplay the status of the sentence as the main target unit for communication. But the fact that well-formed sentences exist side-by-side with a variety of other types of units raises further questions too, which include: What status does the traditional notion of S(subject)V(verb)O(object) clause structure have in conversational data? Are the 'ellipted' utterances of conversation really just a reduced and partial form of the 'real' or 'full' grammar? Or are the well-formed sentences of written texts elaborated versions of the sparse and economical basic spoken structures, elaborated because they have less contextual support in writing and therefore necessarily must increase the amount of redundancy? (For further discussion, see McCarthy and Carter, 2001.)

There are no simple answers to these questions, but one's stance towards them can have major implications for what is considered correct or acceptable in a grammar. External evidence points us towards a socially embedded grammar, one whose criteria for acceptability are based on adequate communicability in real contexts, among real participants. It is evidence that cannot simply be dismissed as 'ungrammatical'; only a decontextualized view of language would sanction such a view.

2.4 Basic Forms of Spoken Grammar

Here are some of the most common examples of specifically spoken grammar forms. They are not selected at random but on the basis of an examination of the extensive computer corpora of spoken English of the kind outlined above. They are standardly spoken by users of British English throughout different regions, occupations and contexts of use by speakers of different ages, gender and social class and occupation:

1   Forms which are termed HEADS. They occur at the beginning of clauses and help listeners orient to a topic:

    The white house on the corner, is that where she lives?
    That girl, Jill, her sister, she works in our office.
    Paul, in this job that he's got now, when **he** goes into the office **he**'s never quite sure where he's going to be sent.
    A friend of mine, his uncle had the taxi firm when we had the wedding.
    His cousin in Beccles, her friend, his parents bought **him** a Ford Escort for his birthday.

2   Forms which are termed TAILS. They occur at the end of clauses, normally echoing an antecedent pronoun and help to reinforce what we are saying:

    She's a very good swimmer **Jenny is**.
    It's difficult to eat, isn't it, **spaghetti**?
    I'm going to have steak and fries, **I am**.
    It can leave you feeling very weak, it can, though, apparently, **shingles**, can't it?

3   ELLIPSIS in which subjects and verbs are omitted because we can assume our listeners know what we mean:

    Didn't know that film was on tonight. (I)
    Sounds good to me. (It, That)
    Lots of things to tell you about the trip to Barcelona. (There are)

    A: Are you going to Leeds this weekend?
    B: Yes, I must.   (go to Leeds this weekend)

    Ellipsis in spoken English is mainly situational, affecting people and things in the immediate situation.

4 DISCOURSE MARKERS. These are particular words or phrases which are normally used to mark boundaries in conversation between one topic or bit of business and the next, for example, items such as *anyway, right, okay, I see, I mean, mind you, well, right, what's more, so, now*. Thus, people speaking face to face or on the phone often use *anyway* to show that they wish to finish that particular topic or return to another topic. Similarly, *right* often serves to indicate that a speaker is ready to move on to the next phase of business.

Anyway, give Jean a ring and see what she says.
Right, okay, we'd better try to phone and see what they have to report.

5 ADVERBS and ADVERB PHRASES. In casual conversation in English there is evidence that the positioning of adverbials is particularly flexible and that this is brought about by the nature of real-time communication. For example, adverbials may occur after tags, and adverbs not normally considered amenable to final placement in written text regularly occur clause-finally:

*Spanish is more widely used, isn't it, **outside of Europe**?*
*I was worried I was going to lose it and I did **almost**.*
*You know which one I mean **probably**.*
[Speaker is talking about his job] *It's a bit panicky but I've not got any deadlines like you have **though**.*
*It should be a lot easier playing Poland after Germany, shouldn't it, **in a way**?*

The lesson here would seem to be that ordering of elements in the clause is likely to be different in spoken and written texts because of the real-time constraints of unrehearsed spoken language and the need in speech for clear acts of topicalization and such like to appropriately orientate the listener.

6 VAGUE LANGUAGE. Vague language includes words and phrases such as *thing, stuff, or so, or something, or anything, or whatever, sort of*. Vague language softens expressions so that they do not appear too direct or unduly authoritative and assertive. When we interact with others there are times where it is necessary to give accurate and precise information; in many informal contexts, however, speakers prefer to convey information which is softened in some way, although such vagueness is often wrongly taken as a sign of careless thinking or sloppy expression. A more accurate term should therefore be ***purposefully vague language***.

*I think I would **sort of** have a word with him about it.*
*I don't want the suppliers complaining about it **and stuff like that**.*
*Are we meeting at the cinema or in the restaurant **or whatever**?*
*It's made of aluminium or **that kind of thing** or perhaps tungsten.*

7 DEIXIS. Deixis describes the 'orientational' features of language and includes words and phrases which point to particular features of a situation. Deictic features occur in both written and spoken language but are more common in

spoken English where they function to locate an utterance spatially. Examples are words such as *this, these, that, those, here, there*. Deictic words are especially common in situations where joint actions are undertaken and where things can be seen by the participants.

Could **we** *just move* **that** *into* **this** *corner* **here**?

Temporal deictic words such as *now* and *then* and personal pronouns such as *I* and *we* are also common. They indicate the extent to which a speaker is close to or involved with something at the moment of utterance; they refer to who is speaking, who is included or excluded from the message. The following example contains deictics (in bold) which orientate the listener both interpersonally and in time and space.

Then *I'd like to pop in to* **that** *little shop* **over there**.
Look's like **that's the** *right one*.

Deictic words are likely to co-occur with ellipsis as both features tend to assume shared knowledge.

8 MODAL EXPRESSIONS. In most standard written grammars modality is described mainly in terms of modal verbs (e.g. *may, might, can, could, must, should, ought to*). In spoken English, however, the picture is more varied and *modal expressions* play a part in making sure that utterances don't sound too assertive or definite. Like vague language these modal expressions help to soften what is said. They include words and phrases such as: *possibly, probably, I don't know, I don't think, I think, I suppose, perhaps*. For example:

[Students talking to each other in a group. They all know each other well and are talking informally about how they have changed since coming to university.]

A: *But you don't notice so much in yourself, do you?* **I don't think so, on the whole**.
B: **I don't know**. *I* **definitely** *feel different from the first year*. **I don't think** *I look any different* **or anything**.
A: *You're* **bound to** *keep changing really, all your whole life,* **hopefully**.
B: **I don't know, I think** *it's* **probably** *a change coming away,* **I suppose**.

Modal expressions also help to encode shifts in stance and attitude towards what is said. So, an utterance may start definite but is then softened before the utterance is completed or starts tentatively, then becomes more definite before being softened again.

I **suppose** *it* **must be sort of** *difficult to phone* **or whatever**.
I feel they **maybe should** *resign* **really**.
We **maybe ought to perhaps** *have a word with him about it?*

9 SPOKEN CLAUSE STRUCTURE. Spoken English is for the most part spontaneous, on-line communication with only limited planning and thinking time. This is particularly marked in clause structure in spoken English by the

way in which clauses are chained together in a sequence with one clause unit added to another in a linear and incremental way. This does not allow speakers time to construct over-elaborate patterns of main and subordinate clauses. Much more common are *chains* of clauses linked by coordinating conjunctions (such as *and*) or by simple subordinating conjunctions such as *cos* or *so* which, in fact, often function to coordinate rather than subordinate information in a dynamic and listener-sensitive way. For example:

[The speaker is talking about her friend, Melanie, who was looking for a part-time job.]

*Well, no, Melanie's actually still a student **and** she still has ten hours of lectures a week, so she works in McDonald's in her spare time, **cos** she needs the money, **and** she works in McDonald's in Hatfield …*

[The speaker is describing a motor accident in which she was involved.]

*I was driving along talking to Jill **and** we'd, like, stopped at some traffic lights **and** then – bang – there was this almighty crash **and** we got pushed forward all of a sudden.*

When they do occur, subordinate clauses stand alone and function to highlight or to reinforce a topic, or function as a signal that another speaker may want to take a turn, thus keeping a dialogue 'open'. (The clauses are in bold in the examples below.)

*I can't angle it to shine on the music stand, and the bulb's gone, **which doesn't help**.* [keeps the dialogue 'open']

Such clauses often occur after a pause, or after feedback from a listener or to elaborate on what someone has just said. The clauses also comment on what has been said, often introducing an evaluative (positive or negative) viewpoint.

> *A: Well actually one person has applied.*
> *B: Mm.*
> *A: **Which is great**.* [reinforces the topic]
> *B: **though it's all relative, of course**.*

In these examples the *which*-clause seems more like a second main clause (indeed, *which* could be substituted by *and that* in both cases, with no loss of meaning. Speakers seem sometimes to recognize this fact, and main–subordinate 'blends' occur.

Thus, in the spoken language, clause complexes need re-assessment in terms of what is to be considered 'main' and what 'subordinate'. This principle applies not only to *which*-clauses but most notably also to clauses introduced by *because/'cos*, or *as* where the same indeterminacy applies.

So, if you were to do that's one of the things we agreed to do.

In written form the greater time allowed for shaping would probably allow a structure with a subordinate clause (*if you were to do that*), followed by a main clause (*then that's one of the things we agreed to do*). The blend is, however, communicatively complete, effective and easily understood.

A final example from *The Longman Grammar of Spoken and Written English* (Biber *et al.*, 1999), which draws on the spoken sections of the British National Corpus (BNC), reinforces a number of the above observations. It also shows how in spoken English clauses can be simply juxtaposed:

> *Sure we got there um at seven actually around six fifteen and class starts at seven and I went up in this building that was about five or six stories high and I was the only one there and I was the only one there I was. And I yeah I was thinking gosh you know is this the right place or may be everyone's inside waiting for me to come in there's nothing said you know come on in knock on the door and come in or anything like that.*

2.5 Informality and the Speech–Writing Continuum

It would be a mistake to assume, however, that these forms of grammar, though common in spoken English, are *exclusive* to spoken English. Though rare in written English, ellipsis, in particular, appears appropriately in written contexts and is especially common in faxes, email and internet communications. The relative immediacy of email communication means that informality is the preferred style and ellipsis marks both informality and a relative symmetry of relationship in the exchange:

> *Could you email Kyle Barber and ask him for a quote for a laptop? Said we'd let Tatchell have one for himself as part of the deal. Compaq or Toshiba. At least 420Mb hard disk and 16Mb RAM. Good deal, tell David. Worth the laptop. More in the pipeline.*
>
> *(Inter-company fax, 1997)*

For example, in the structure *Good deal, tell David* the omission of the relative *that* together with ellipsis of a subject and verb 'it is' (*Tell David that it is a good deal*) is a grammatical feature which is much more common in speech than in writing but is becoming standardized in many written communications. See Wilson (2000) for a range of examples from both literary (where it is commonly used for dramatic effect) and non-literary contexts.

Heads and tails occur increasingly in writing:

> *He's a man who loves to play tricks on people is **TV presenter Noel Edmonds**.*
>
> *(Daily Mail, 18 Dec. 1995)*

A more 'written' version of this sentence would be:

> *TV presenter Noel Edmonds is a man who loves to play tricks on people.*

But here the tail (*is TV presenter Noel Edmonds*) not only adds emphasis to the statement but it also imparts a specifically, informal character to the writing.

The following examples, taken from an advertisement for the Chrysler Jeep Cherokee (1995), indicate the spread of spoken clause structure into written text:

> In these parts, you'll need a car that'll keep you on the road as well as take you off it. **Which is why the locals drive a Jeep Cherokee ...**

> Instead of the usual soggy 4 × 4 handling, the Cherokee is taut and responsive. Not only does this make it safer to drive, it also makes it more exciting to drive.

> **As does the 4 litre engine under the bonnet.**

Advertisers make use of ellipsis and other spoken forms in their effort to achieve both impact and a casual, almost chatty informality in the promotion of their products. Journalists also achieve impact and get on a 'conversational' wavelength with their readers by using common spoken discourse markers and vague language as well as adverbs such as *definitely, certainly, exactly* which in this instance serve, as it were, as replies in conversational exchanges:

> **So** there I was sitting in Mick Jagger's kitchen while he went about making us both afternoon tea. **Well,** you can imagine how long it took to get him to talk about the band's latest album. **Exactly.** You've got it. Over two minutes. (*Daily Telegraph Magazine, 19 Sept. 1994*)

> He was talking about sport, Wimbledon, the World Cup, US Open Golf and that **sort of stuff.** (*Observer Magazine, 15 May 1997*)

> One of the **things** they decided on was action against illegal clamping of a hundred **or so** cars a day in the city centre. (*regional newspaper report, 1995*)

Note also that spoken grammar and vocabulary go together of course and in the above example the parallel use of informal lexis cannot go unnoticed where words such as *rough* (it), *soggy, pop in* illustrate a similar trend towards informality and intimacy.

At the present time there may also be a broader cultural explanation for the phenomenon of spoken forms entering written discourse. At the end of the twentieth century discourse has become more democratic. As society has become less formal and ceremonial in such domains as dress and social behaviour, so too the language has changed to more informal and symmetrical modes. People speak to each other more as equals and it is inevitable that they should also increasingly write to each other in similar ways, especially in contexts such as advertising or email communication where it is important not to talk down. As collections of recorded spoken data such as the British National Corpus develop and expand, so more evidence of this kind will come to light and so our descriptive grammars and dictionaries are being re-written in support of such evidence.

2.6 The Grammar of Talk: Nouns and the Speech–Writing Continuum

In the previous sections there was a brief overview of some of the main forms of spoken grammar identified by current corpus research. Section 2.5 has also shown

how such forms are appearing more widely in written texts. In this last section the focus is on a grammatical structure, that of the noun phrase, which is especially sensitive to changes in formality and which therefore registers in particular the relative spoken or written character of a discourse. For example, a noun can be pre-modified or post-modified and the degree of possible modification varies considerably according to context. The noun and noun phrase are key items along the speech–writing continuum; but the focus here should not exclude consideration of other forms of grammar such as, for example, clause structure. It is also worth pointing out here that pronouns cannot be pre- or post-modified and often therefore mark simplicity and informality in communication.

2.6.1 Noun phrase structure 1: simple and complex

In written English there is considerable potential for accumulating adjectives and noun modifiers before the head noun. This rarely in fact happens in everyday spoken English. For example, if the noun *house* is examined in headword position, we find 1379 occurrences of it in a 2.5 million-word sample of the CANCODE corpus. In these examples, where attributive adjectives occur, there is an overwhelming preference for a very simple structure of *determiner + one adjective + noun* configurations, such as:

> <Speaker 1>   Yeah it's **a big house**, six bedrooms
> It's **a large house**, lovely, just right

The longest adjectival structure which occurs with *house* is: *Detached four-bedroomed house*. However, in a mixed written corpus sample of the same number of words, it is not difficult to find more complex adjectival configurations:

> Living in **a big, dirty communal house** eating rubbish ...
> The **cosy lace-curtained** house ...

The point about these examples is not what *can* be said, but what *is* routinely said. Any speaker may clearly exercise the option to create a structurally complex noun phrase in spoken communication (e.g. in a public presentation), but in ordinary conversation he or she will probably be heard as at best rather formal and at worst as pedantic and bookish. Similarly, a writer may wish to create a more informal, interactive and dialogic style and will make such choices for different expressive purposes. See also COBUILD (1998), Biber *et al.* (1999), Carter *et al.* (2000).

2.6.2 Noun phrase structure 2: common complex patterns

The following noun phrase patterns (some of which are complex noun phrases and some of which are complex patterns which contain noun phrases) are all choices in spoken and written English but they are especially common in written English:

1 NP+*of*+NP   *The centre of the world's largest city* was blocked today by protesters.

2 NP+*of*+N/NP+ing-clause *Questions of guilt having been established*, the judge is now deciding on the sentence.

3 NP+*of*+NP+*wh*-clause *The captain of the team which had the best home record* was awarded the prize.

4 NP+*preposition*+NP structures, with a preposition other than *of*, are a little less frequent. *The growing scandal over the alleged sales of arms to Middle East countries* threatened to engulf the government's long-term stability.

5 NP+*that*-clause It was not *my intention that he should leave the club.*

6 NP+*to*-infinitive *The opportunity of a lifetime to travel* to Australia was too hard to turn down.

Sometimes these patterns are combined:

1 NP+*to*-infinitive+NP+*that*-clause They provided *examples to support the generalization that crime among school children was on the increase*.

2 NP+*of*+NP+*to*-infinitive She reaffirmed *the determination of her government to eliminate* all inner city poverty.

2.6.3 Noun phrase structure 3: nominalization processes

Another important structural feature of noun phrases is the process by which nouns are formed from verbs, adverbs and adjectives. For example:

> *fly-flight*
> *futile-futility*
> *excitedly-excitement*

Halliday (1998) points out how such a process of nominalization almost always results in making the resulting text more formal and gives an example sentence which is progressively more nominalized and thus made more overtly written in character. He also points out that spoken styles tend towards more verbal than nominal structures. The continuum from spoken and informal English to formal and written English with various intermediate stages is well-illustrated in the cline from sentence 1 to 5:

> 1 *Glass cracks more quickly the harder you press on it.*
> 2 *Cracks in glass grow faster the more pressure is put on.*
> 3 *Glass crack growth is faster if greater stress is applied.*
> 4 *The rate of glass crack growth depends on the magnitude of the applied stress.*
> 5 *Glass crack growth rate is associated with applied stress magnitude.*

Here speakers can choose a more informal style by selecting verbs such as *crack* or *grow*; but also have the choice of a more formal style by nominalizing these verbs (thus, *crack* (v) becomes *crack* (n) and *grow* (v) becomes *growth* (n). And so on. Needless to say, the packing and unpacking of noun phrases here involve other grammatical processes such as the use of the passive voice and personal pronouns.

2.7 Conclusion

By drawing on corpus evidence, this chapter has been able to show a number of differences between spoken English grammar and written English grammar, although it is important to realize there is no absolute distinction between the two. Recent developments in technology mean linguists are in a unique position, since the systematic study of language began, to be able to point to regular features of speech. This is very significant since, traditionally, assessments of the correctness of spoken English have been with regard to writing as the 'standard'. Often what was regarded as incorrect in speech was merely because it was incorrect from the point of view of writing and so it was not taken into account that to a certain extent speech has its own grammar. The developments in technology which enable us to pinpoint such a thing as spoken grammar are very significant for us as users of English. Having a knowledge of the nature of English spoken grammar will enable us to justify our own spoken choices against written choices and thus to assess whether a piece of speech is correct *in itself* rather than from the perspective of writing.

Acknowledgements

Note

1 This chapter draws on computer evidence but the nature of that evidence has been questioned by Owen (1994), among others, who points out that the precise nature of the data and its compilation into a corpus needs to be interrogated before claims can be made for frequency and typicality; for example, a corpus built entirely from newspapers (a relatively simple task these days) would, however large, be unrepresentative of the English language generally.

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3 | Corpus-Based Comparisons of Registers

Douglas Biber and Susan Conrad

3.1 Introduction

Speech has many different characteristics from writing. The most obvious difference is the physical mode of production. In addition, speech is usually interactive and speakers usually do not plan their language ahead of time. In contrast, writing is usually not interactive. In fact, writers are usually addressing a large audience, rather than a single reader. However, a writer can plan and revise the text as much as he or she wants. The final written text includes only the revised and edited language.

Chapter 2 by Ronald Carter dealt with some general differences between speech and writing. However, it would be misleading to suggest that all spoken texts are the same. Rather, spoken texts can differ from one another with respect to some of these same characteristics. For example, although a formal lecture is a type of spoken language, it is very different from conversation: it is carefully planned ahead of time, it is addressed to a large audience, it will probably not be interactive, and the speaker will usually want to communicate information about the world rather than telling us a lot of personal information.

Similarly, written texts can differ with respect to these characteristics. For example, email messages are a type of writing, but they are very different from textbooks: emails might not be edited or revised carefully; they probably will be written to a single person, who will respond; and they might talk about the personal feelings and activities of the writer.

We use the term **register** to refer to these different kinds of texts. Different cultures recognize different registers. One way to figure out the registers in a culture is to list the text categories that have names, such as 'letters', 'textbooks', 'email messages', 'newspaper articles', 'biographies', 'shopping lists', 'term papers', and 'novels'. Each of these registers differ in their characteristics. They are planned to different extents, interactive to different extents, and addressed to different kinds of audiences. They also have different topics, and they are written with different goals or purposes.

Registers are identified by non-linguistic or situational characteristics, such as the setting, the audience, interactiveness, and extent of planning. Registers can be described at different levels of specificity. For example, academic prose is a very general register. Research articles and textbooks are two more specific registers

within academic prose. Chemistry textbooks for lower division undergraduates is an even more specific register within the general register of textbooks.

Although registers are defined by their situational characteristics, it turns out that there are important linguistic differences among registers. This is because linguistic features serve important communicative functions, and therefore they tend to occur in registers with certain situational characteristics. For example, the use of first and second person pronouns (*I* and *you*) is a linguistic characteristic. Linguistic analysis of conversation shows that first and second person pronouns are extremely common in that register. This linguistic characteristic is associated with the normal situational characteristics of conversation. Speakers in conversation talk a lot about themselves, and so they use the pronoun *I* a lot. They are also interactive, talking to another individual person, and so they use the pronoun *you* a lot.

In contrast, newspaper articles have very few first and second person pronouns. These linguistic features are not needed because of the situation associated with a newspaper article: the writer of a newspaper article does not normally talk about his or her personal details, and does not address a specific individual reader. As a result, there is little need to use *I* or *you*.

In the present chapter, we explore some other important linguistic differences among registers, and explain how those differences in the language are related to situational characteristics. We compare four general registers: conversation, fiction, newspaper writing, and academic prose. These four registers illustrate some of the major ways in which language varies in systematic ways across situations of use.

Linguistic descriptions of a register are based on analysis of a collection of texts: a corpus. In the following section, we briefly introduce the methodology of corpus-based analysis. Then, in Section 3.3, we introduce the corpus of texts used for the analyses in this chapter.

Section 3.4 presents the linguistic comparisons of registers. We present three case studies: (1) the register distribution of content or lexical word classes (nouns, verbs, adjectives, and adverbs); (2) the use of verb tense and aspect in different registers; and (3) the use of *that*-clauses and *to*-clauses. Finally, in Section 3.5 we describe how these case studies illustrate general patterns of register variation found across a wider range of registers and linguistic features.

3.2 Corpus-Based Analyses of Registers

The linguistic description of a register can be based on **intuitions** or on **corpus-based analyses**, which are empirical studies of texts from the register. Most speakers of a language have intuitions: a sense of how a grammatical feature is used. These intuitions often include register differences, so speakers have the sense that selected linguistic features are preferred in particular registers. However, it turns out that these intuitions are often incorrect. As a result, we need empirical investigations of actual texts to accurately describe the preferred linguistic characteristics of a register.

For example, one of the most widely held intuitions about language use among English language teachers is the belief that the progressive aspect (as in 'He *is reading* a book') is the normal choice in conversation. As a result, traditional textbooks have often introduced the progressive in the very first chapter. However, corpus analysis shows that this intuition is wrong: rather, simple aspect verbs (e.g. *read*) are much more common in conversation than progressive verbs. We discuss these patterns in Section 3.4.2 below. Our purpose here is simply to illustrate how intuitions can be wrong.

In contrast to intuition, corpus-based analysis provides empirical methods for determining what features are common or rare. A corpus is a large, systematic collection of texts or text samples stored on computer. Corpus-based analyses have the following characteristics (see Biber *et al.*, 1998: 4):

1 They are empirical, analysing the actual patterns of use in natural texts.
2 They utilize a large and principled collection of natural texts: a corpus.
3 They make extensive use of computers for analysis, using both automatic programs and interactive techniques in which the user interacts with the computer (as users do with a spellchecker).
4 They depend on both quantitative and qualitative analytical techniques – that is, they are concerned with both counts of frequencies (quantitative analysis) and the way that the features are used (qualitative analysis).

Taken together, these characteristics result in a scope and reliability of analysis not possible otherwise. Corpus analyses are used to study the preferences that speakers or writers have for one grammatical choice over another. These analyses can specify the frequency of alternative structures and the conditions that are associated with their use.

There are many introductory textbooks for more comprehensive information on corpus linguistics (e.g. McEnery and Wilson, 1996; Biber *et al.*, 1998; Kennedy, 1998; Hunston, 2002; Meyer, 2002). The following sections illustrate the application of corpus methods to the study of register variation.

3.3 Conversation, Fiction, Newspapers, Academic Prose: A Comparison of Non-Linguistic Characteristics

As explained in Section 3.1, registers are different varieties of language that are associated with different situations and purposes. Table 3.1 summarizes the situations and purposes of the four registers compared here.

The most general distinction is mode: conversation is spoken, while the other three registers are written. Conversation is also distinguished from the written registers by being interactive and produced in real time. With respect to communicative purpose, the registers fall into three major categories: (1) conversation focuses on personal communication; (2) fiction on pleasure reading; and (3) newspapers and academic prose share a more informational purpose. However, even between newspapers and academic prose there are differences. Much of academic prose is more concerned with building an argument than newspaper

Table 3.1 Situational characteristics of four language registers

	Conversation	Fiction	Newspapers	Academic prose
mode	spoken	written	written	written
interactiveness and real-time production	yes	restricted to fictional dialogue	no	no
shared situation?	yes	no	no	no
main communicative purpose/content	personal communication	pleasure reading	information/ evaluation	information/ argumentation/ explanation
audience	individual	wide-public	wide-public	specialist

Table 3.2 Composition of the LSWE Corpus used for the register descriptions

Register	Number of texts	Number of words
conversation	3436	3,929,500
fiction	139	4,980,000
newspapers	20,395	5,432,800
academic prose	408	5,331,800

writing is. Further, academic prose has a more specialized audience than a newspaper, which is written with a wide audience in mind.

As the following sections show, registers have grammatical differences as a reflection of their different communication circumstances. That is, the circumstances of a register have direct associations with language forms that are common in the register. The four registers discussed here do not provide a complete picture of register variation in English. But they are major varieties that illustrate the kinds of linguistic differences found among a wider range of registers.

The register descriptions presented in the following sections are taken from the *Longman Grammar of Spoken and Written English* (Biber *et al.*, 1999). Those descriptions are based on analysis of the Longman Spoken and Written English Corpus, summarized in Table 3.2.

3.4 Linguistic Differences Among Registers: Some Case Studies

3.4.1 Content word classes

One of the easiest linguistic characteristics for register comparisons is the use of the basic part-of-speech categories: nouns, verbs, adjectives, and adverbs. Figure 3.1 plots the frequency of these word classes, showing important linguistic differences
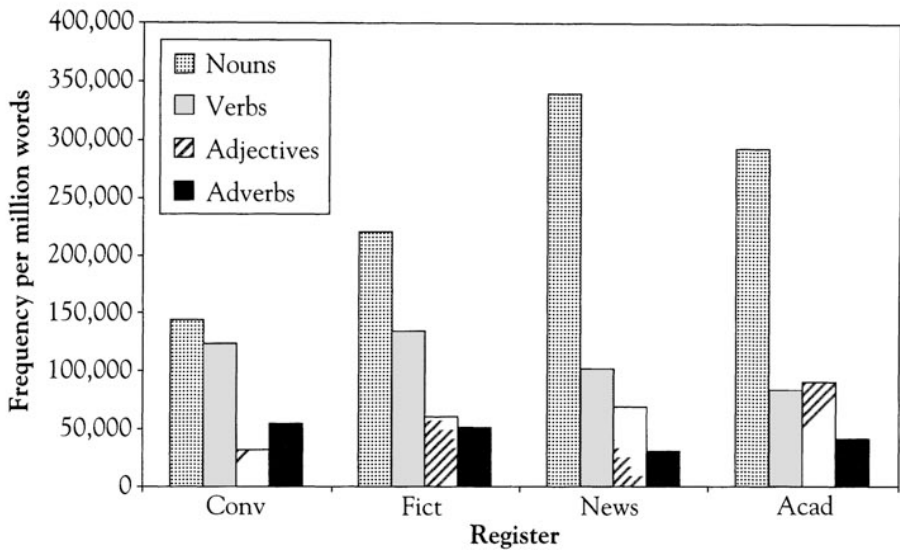
Figure 3.1 Content word classes across registers

Source: Based on Biber *et al.* (1999, Figure 2.2)

across the four registers in our study. The most obvious difference is for nouns: extremely common in newspapers and academic prose, but much less common in conversation. Verbs are less frequent overall, but they show the opposite distribution: more common in conversation than in newspapers or academic prose. Fiction is intermediate in the use of both nouns and verbs.

Adjectives and adverbs mirror the distribution of nouns and verbs: adjectives are most common in academic prose and newspapers, while adverbs are most common in conversation and fiction.

Text samples 1 and 2 illustrate these characteristics in conversation and academic prose:

> Text Sample 1. Conversation (At a dinner party)
> *Verbs are underlined italics;* **nouns are bold underlined**
>
> B: Hmm, *wait* until you *taste* this.
> A: What *is* it?
> C: Yum, **quiche**.
> B: *Wait* until you *taste* this.
> C: *Let* me *see*, am I gonna *sit* here or over there?
> B: I don't *know*. Whichever **way** you *want* to *do* it.
> A: This *looks* like nice **salad**. What *is* this, some **eggs**?
> B: Hmm. Okay. No *taste* it.
> A: What? *Taste* what? *I'm* not sure what that *is*. *It's* **egg**. I *think* that's what this *is*.
> B: Well, you have to *taste* it.

A: Ooh, this _is_ good. Mm, hmm. You didn't _put_ any **dressing** on.

B: I _know_. It_'s_ right there in that little **thing**. I _'m_ curious to _know_ what you _think_ of the **quiche**.

A: Hmm. Well I haven't _tasted_ it yet.

Text Sample 2. Academic prose sample
Verbs are underlined italics; **nouns are bold underlined**; _adjectives are bold italics_.

Table 7-5 _measures_ in several _different_ **ways** the **significance** of the _various_ **industry classifications**. **Column** 2 _indicates_ the _numerical_ and **percentage distribution** of the **business population** among the _various_ **industries**. **Column** 3 _shows_ in both _absolute_ and _relative_ **terms** the **portion** of the _national_ **income** _originating_ in the _various_ **industries**. Several **points** in Table 7-5 _are_ _noteworthy:_ A _large_ **number** of **firms** _is engaged_ in **agriculture**, but **agriculture** _is_ relatively _insignificant_ as a **provider** of **incomes** and **jobs**.

The core grammatical characteristics of these two text samples are strikingly different. The academic textbook sample has only seven lexical verbs. Verbs like _indicates, shows,_ and _are/is_ do not communicate much information; rather, their main job is to connect long and complex noun phrases, which convey most of the new information in the passage.

Newspaper prose has similar characteristics to academic writing. In fact, newspaper stories often employ even more nouns than academic prose, especially when companies, people, and their positions are described:

Text Sample 3. Newspaper sample
Verbs are underlined italics; **nouns are bold underlined**

Ariana's **board** _includes_ **Bernard Giroud**, who _started_ **Intel France** in 1971 and _left_ the **company** last **year** a corporate **vice president** to _become_ a **venture capitalist**, **Gerard Yon**, formerly **sales** and **marketing manager** of **Chorus Systemes**, the **microkernel house**, and now **president** of **VST**, a French **start-up** in electronic **document management**, and **Pascal LeVasseur**, technical **director** of **Dell France**.

In contrast, the conversation excerpt relies heavily on verbs and short clauses, a total of 30 main verbs in this short interaction. These verbs communicate much of the essential information: actions and events (_wait, taste_) and the speaker's mental states and attitudes (_know, want, think_). In contrast, only eight nouns occur in this conversation. Further, some of these nouns have almost no specific meaning (_way, thing_).

Instead of nouns, the conversation excerpt uses pronouns. Text Sample 1 is repeated below, with these pronouns marked:

Text Sample 1 repeated from above (conversation), with **pronouns marked as bold underlined**

B: Hmm, _wait_ until **you** _taste_ **this**.

A: What _is_ **it**?

C: Yum, quiche.

B: _Wait_ until **you** _taste_ **this**.

C: _Let_ **me** _see_, am **I** gonna _sit_ here or over there?

B: **I** don't _know_. Whichever way **you** _want_ to _do_ **it**.

A: **This** _looks_ like nice salad. What _is_ **this**, some eggs?

B: Hmm. Okay. No _taste_ **it**.

A: What? _Taste_ what? **I** _'m_ not sure what **that** _is_. **It** _'s_ egg. **I** _think_ **that** _'s_ what **this** _is_.

B: Well, **you** have to _taste_ **it**.

A: Ooh, **this** _is_ good. Mm, hmm. **You** didn't _put_ any dressing on.

B: **I** _know_. **It** _'s_ right there in that little thing. **I** _'m_ curious to _know_ what **you** _think_ of the quiche.

A: Hmm. Well **I** haven't _tasted_ **it** yet.

Figure 3.2 shows that this dense use of pronouns is typical of conversation. In fact, there are slightly more pronouns than nouns in this register. This pattern is very different from newspapers and academic prose, where nouns are many times more common than pronouns (as Samples 2 and 3 illustrate).

These basic differences in the use of word classes are related to basic situational differences among the registers. Conversation focuses on personal information and so uses the pronoun _I_ and verbs that express feelings and mental states. It is directly interactive and so it also uses the pronoun _you_. There is also a shared situation, so speakers can refer to that situation with third person pronouns without being explicit about the intended meaning. In contrast, newspapers and academic
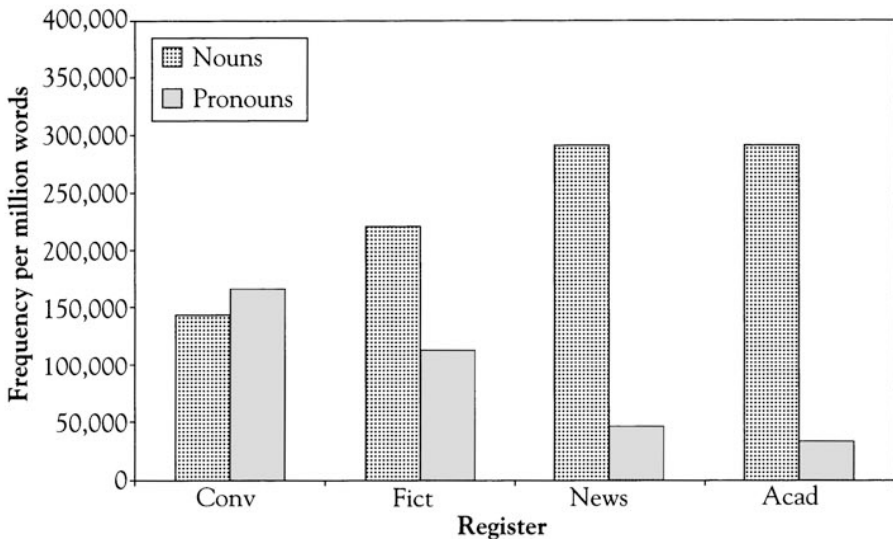

Figure 3.2 Nouns vs. pronouns across registers

Source: Based on Biber _et al._ (1999, Figure 4.1)

prose tend to use full nouns to avoid possible ambiguity. (Thus note the repetition of *agriculture* in the last line of Sample 2. If the pronoun *it* had been used here instead, readers might mistakenly assume that it referred to the noun *number*.)

3.4.2 Verb tense and aspect

Another basic linguistic feature that shows important register differences is verb tense. Figure 3.3 compares the use of present vs. past tense verbs across registers. In contrast to the use of nouns vs. verbs (Section 3.4.1 above), conversation and academic prose are surprisingly similar in their strong preference for present tense over past tense. Text Samples 1 and 2 in the last section illustrate this pattern: only one verb phrase in the conversation is past tense (*didn't put*) and none of the verbs in the academic excerpt are past tense. However, the preference for present tense reflects slightly different uses in these two registers. In both registers, present tense verbs are often used to describe states that exist at the present time. Conversation uses copular verbs like *be* and *look* for this purpose, while academic prose uses verbs like *become, change, develop, occur, include,* and *involve.* Conversation, though, has an additional common use for present tense verbs: to express personal attitudes or states with mental verbs like *think, want, know, see,* and *mean.*

In contrast, fiction shows a strong preference for past tense verbs. This is not especially surprising, since fiction focuses on the narration of past actions and events. Text Sample 4 illustrates the use of past tense verbs in fiction.
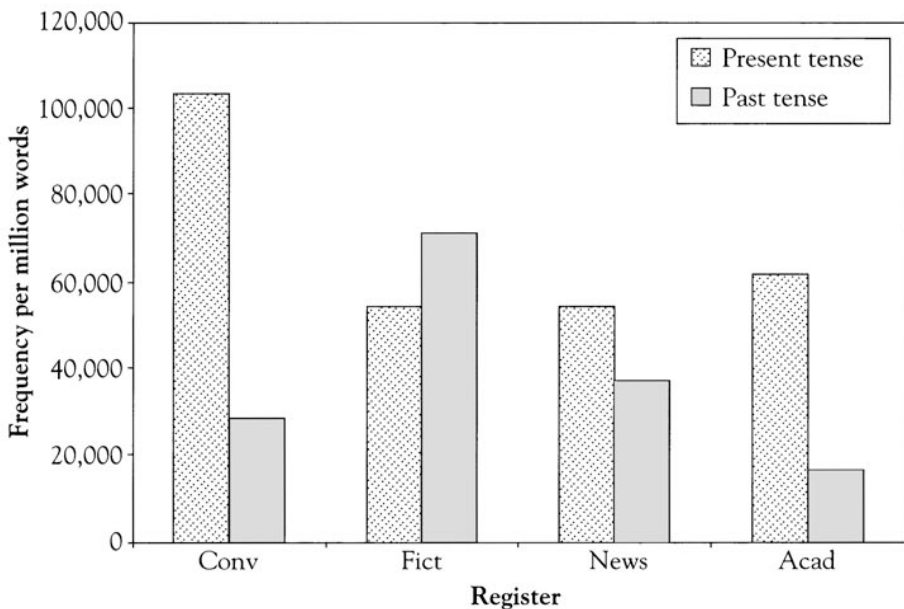

Figure 3.3 Present vs. past tense verbs across registers

Source: Based on Biber *et al.* (1999, Figure 6.1)

Text Sample 4. Fiction text sample
Past tense verbs are bold underlined.

Then one day Leon **announced** he **was leaving** home, at the age of sixty-two. Roman **had** dreams at night in which he **rounded** up pigs who **were** loose in the corn, and they **kept** Leon awake. So he **went** over the hill and **made** him a sod house in the meadow.

The use of tense in newspapers is more surprising. Because the 'news' is usually events that have already occurred, we might expect that newspapers would be like fiction in having a strong preference for past tense verbs. It is the case that past tense verbs are much more common in newspapers than in academic prose. However, Figure 3.3 shows that present tense verbs are more common than past tense verbs in newspapers. Sample 5 illustrates this pattern of use:

Text Sample 5. Newspaper text sample
Past tense verb phrases are bold underlined; *present tense verb phrases are italics underlined* (non-finite verb phrases are not marked)

A bill signed by Gov. Pete Wilson yesterday making it easier for the San Fernando Valley to split from Los Angeles may spark secession movements in other cities around the state. The governor's office **received** calls urging him to sign the bill from some residents of La Jolla, who *have complained* in the past about services provided by the city of San Diego. 'This bill *sends* a wake-up call to the entire state – city governments must become more accountable to the people they *serve*,' **said** Wilson. The measure, which *becomes* law Jan. 1, no longer *allows* a city council to unilaterally veto a secession proposal. A co-author of the bill, Assemblyman Robert Hertzberg, D-Sherman Oaks, **said** at a bill-signing ceremony that the San Fernando Valley's drive to form a new city *has* already *sparked* interest in three other Los Angeles communities – Wilmington, San Pedro and Hollywood. 'It really *deals* with this underlying issue of people wanting a closeness to their government, not necessarily less government,' **said** Hertzberg. After signing the bill, Wilson lightheartedly **thanked** Hertzberg and the other co-author, Tom McClintock, R-Simi Valley, for not mentioning that the state's last split **was** Coronado from San Diego.

Past tense verbs are used in newspaper stories for the same purposes as in fiction: to report past events. Many of these are speech act verbs, reporting what somebody *said*. However, the reports of these events are interspersed with statements giving commentary on the significance of those past events, and present tense verbs are common in those statements (e.g. verbs like *becomes, allows, deals*). In addition, newspaper stories include quotes of direct speech, which are similar to conversation in their preference for present tense. Finally, newspaper stories also use perfect aspect verb phrases with present tense to express past actions with continuing consequences (e.g. *have complained, has sparked*).

Similar to the register differences for verb tense, verb aspect also shows important differences across register. There are two marked verb aspects in English: progressive aspect and perfect aspect. For example:

	Present tense	Past tense
Progressive aspect	*is eating*	*was eating*
Perfect aspect	*has eaten*	*had eaten*

We have space here for only a brief consideration of their use, focusing on progressive aspect.

As noted above, English language teachers and materials writers often believe that the progressive aspect is the normal choice in conversation. This belief is sometimes reflected in the frequent use of progressive verbs in made-up dialogues. For example, consider the following conversation from *As I was Saying: Conversation Tactics* (Richards and Hull, 1987):

> Text Sample 6. Made-up dialogue from an English language coursebook
> **Progressive aspect verb phrases are bold underlined**
>
> Doctor: Hello Mrs. Thomas. What can I do for you?
> Patient: Well, I've **been having** bad stomach pains lately, doctor.
> Doctor: Oh I'm sorry to hear that. How long have you **been having** them?
> Patient: Just in the last few weeks. I get a very sharp pain about an hour after I've eaten.
>
> …
>
> Doctor: Well, I don't think it's anything serious. Maybe you eat too quickly. You don't give yourself time to digest your food.
> Patient: My husband **is always telling** me that.

As Figure 3.4 shows, it is correct that progressive aspect verb phrases are more common in conversation than in other registers. The contrast with academic prose is especially noteworthy: progressive aspect is rare in academic prose but common in conversation. However, as Figure 3.5 shows, it is not at all correct to conclude that progressive aspect is the normal choice in conversation. Rather, simple aspect is clearly the normal choice. In fact, simple aspect verb phrases are more than 20 times common as progressive verb phrases in conversation. Text Sample 1, in Section 3.4.1 above, illustrates the normal pattern – all 20 of the verb phrases in this interaction are simple aspect. In cases like this, we see how corpus research can correct mistaken perceptions that are widespread among language professionals.

3.4.3 *That*-clauses and *to*-clauses: the interaction of words, syntax, and register

That-clauses and *to*-clauses are the two most common types of complement clause in English. They are called **complement clauses** because they complete the meaning
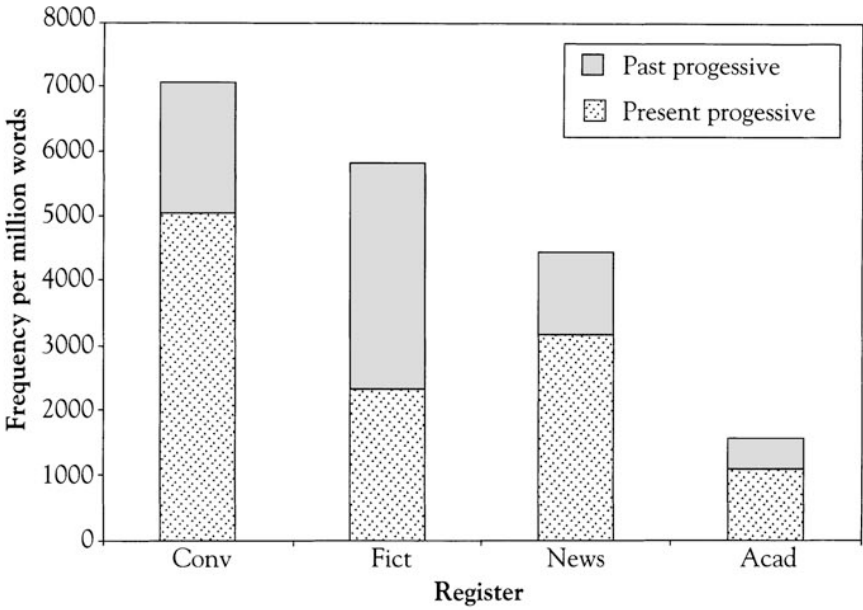
Figure 3.4 Progressive aspect verb phrases across registers

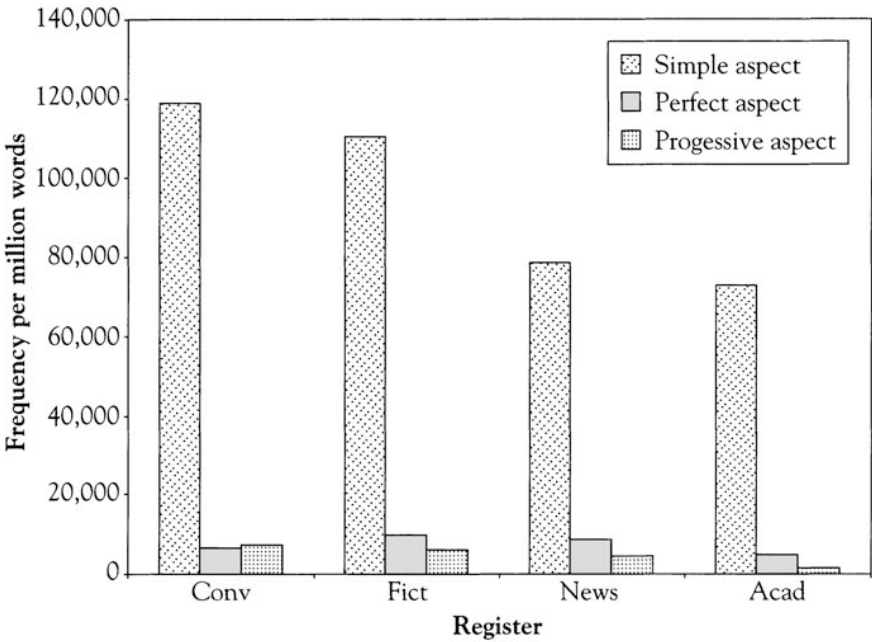Source: Based on Biber *et al.* (1999, Figure 6.4)

Figure 3.5 Simple, perfect, and progressive aspect verb phrases across registers

Source: Based on Biber *et al.* (1999, Figure 6.2)

of another element in the clause. Often, they complete the meaning of the verb, for example (complement clauses are underlined):

> I hope that I can go.
> I hope to go.

In these examples, the complement clauses complete the meaning of the verb *hope*. Alternatively, the complement clauses are said to be controlled by the verb. They serve as direct objects of the verb, telling what it is that I hope.

As these examples illustrate, *that*-clauses and *to*-clauses can sometimes be used in similar grammatical contexts with similar meanings. However, corpus analysis shows that these clause types are usually not overlapping in their use: they tend to occur with different sets of controlling verbs, in different registers, serving distinct communicative functions.

Figure 3.6 presents the overall distribution of each clause type across registers. Even at this general level of analysis, we are confronted with findings that show the importance of register – and that run counter to popular expectations. In particular, there is a widespread perception that dependent clauses are rare in conversation but common in formal written registers. However, *that*-clauses controlled by verbs show exactly the opposite pattern: they are most common in conversation and notably rare in academic prose. In contrast, *to*-clauses controlled by verbs have roughly the same frequency in conversation and academic prose, but proportionally they are the
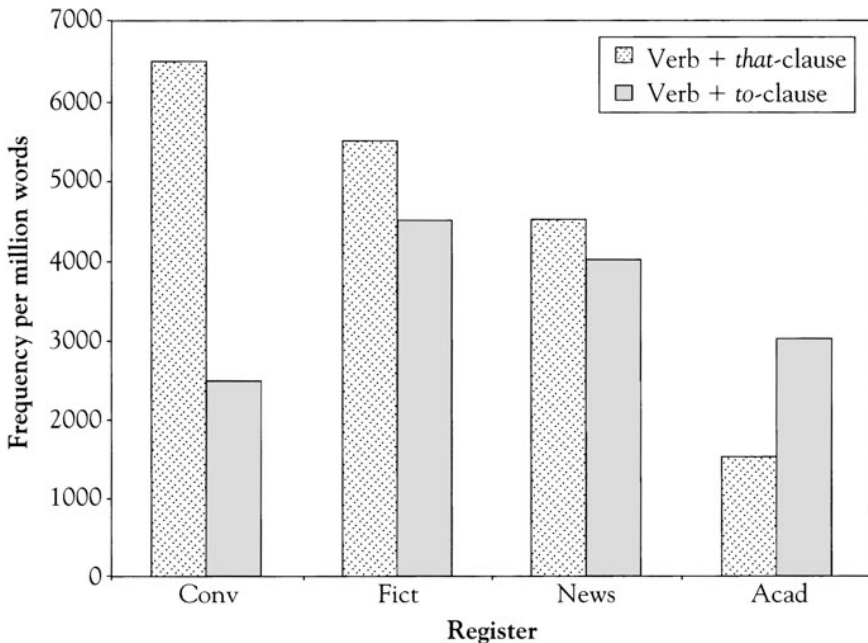

Figure 3.6 *that*-clauses and *to*-clauses across registers

Source: Based on Biber *et al*. (1999, Figures 9.6 and 9.11)

preferred choice in academic prose. *To*-clauses are considerably more frequent in fiction and news, where they are almost as common as *that*-clauses.

The patterns of use shown in Figure 3.6 raise several interesting questions. For example, why should some dependent clauses be more common in conversation than in written registers? What communicative functions are those clauses typically performing? Conversely, why should *that*-clauses controlled by verbs be so rare in academic prose, while *to*-clauses are much more common?

It is difficult to address such questions by a casual inspection of examples. An alternative approach, however, is to analyse the lexical associations for each type of complement clause in each register. That is, a corpus-based investigation can determine which verbs occur most often with each type of clause. These are called **lexico-grammatical patterns** because they show how lexical items (words – in this case, the verbs) are associated with the grammatical structures (the different types of complement clauses). It is unlikely that the verbs would occur randomly, and so analyses proceed based on the assumption that the most common controlling verbs will provide an indication of the typical communicative functions of each type of clause. In fact, it turns out that there are strikingly different lexico-grammatical patterns associated with each complement clause type and with each register, and that those associations can be explained in terms of the typical topics and communicative purposes of each register.

Many grammar books will identify *possible* lexico-grammatical patterns. They will note that a few verbs can control both *that*-clauses and *to*-clauses (e.g. *hope, decide*, and *wish*), but most verbs can control only one or the other type of complement clause (e.g. the verbs *imagine, mention, suggest, conclude, guess*, and *argue* can control a *that*-clause but not a *to*-clause; the verbs *begin, start, like, love, try*, and *want* can control a *to*-clause but not a *that*-clause). However, a corpus-based investigation is different because it focuses not on what is *possible*, but on the actual lexico-grammatical patterns of use. This perspective allows us to investigate the typical uses of each clause type (as opposed to the patterns that are grammatical in theory but might occur rarely in practice).

As Tables 3.3 and 3.4 show, the most common verbs controlling a *that*-clause constitute a completely separate set from the most common verbs controlling a *to*-clause, even though some of these verbs are grammatical with both types of complement clause. Further, these tables show important register differences, since the most common controlling verbs vary considerably from one register to the next.

Some of these verbs (such as *want* and *try*) are grammatically controlling only one type of complement clause, and they have strong lexical associations with that structural type. Other verbs – such as *think, say*, and *know* – are grammatically controlling both types of complement clause; however, these verbs have strong association patterns with only one clause type. Thus, although there is some overlap in the controlling verbs that are grammatical, corpus-based analysis shows that there is in fact very little overlap in the commonly occurring lexical associations.

Further, *that*-clauses and *to*-clauses are productive in different ways. *That*-clauses combine with relatively few verbs, from only a few categories of meaning (also called **semantic domains**) – mostly mental/perceptual verbs (e.g. *think, know, see, believe, feel*) or communication verbs (e.g. *say, suggest*). However, a few of those verbs are extremely common controlling *that*-clauses, especially the verbs *think, say*,

Table 3.3 Most common verbs controlling a *that*-clause

	Conversation	Fiction	Newspapers	Academic prose
think	********************	**********	***	*
say	************	*******	******************	**
know	*******	********	*	*
see	**	**	*	**
believe	*	**	***	*
find	*	**	*	**
feel	*	**	*	
show	*	*	**	***
suggest		*	*	**

Note: Each * represents *c*. 100 occurrences per million words.
Source: Based on Biber *et al.* (1999, Figures 9.2–9.5 and Table 9.2).

Table 3.4 Most common verbs controlling a *to*-clause

	Conversation	Fiction	Newspapers	Academic prose
want	**********	*******	****	*
try	**	****	***	*
like	**	**	*	
seem	*	****	*	***
begin		****	*	*
appear		*	*	**
continue		*	*	*
allow NP[1]		*	*	*
ask		*	*	
find NP		*		
expect NP			*	*
fail			*	*
agree			*	
BE expected[2]				**
tend				**
require NP				*
attempt				*
BE found				*
BE required				*

Notes: 1 NP indicates that a noun phrase occurs between the verb and the *to*-clause, as in *I would allow **the Press Council** to play its proper role.*
2 BE indicates any form of the verb *be* (i.e., making passive voice), as in *Heavy fighting was expected to break out soon.*
Each * represents *c*. 100 occurrences per million words.
Source: Based on Biber *et al.* (1999, Figures 9.13–9.16 and Table 9.8).

and *know* in conversation (and to a lesser extent fiction). The verb *say* controlling a *that*-clause is also extremely common in news.

In contrast, apart from the verb *want* in conversation, no individual verb is extremely common controlling *to*-clauses. However, there are a large number of different verbs that can control a *to*-clause, and those verbs come from many different semantic domains: mental verbs (e.g. *expect, find*), communication verbs (e.g. *ask, promise*), verbs of desire (e.g. *want, like*), verbs of intention or decision (e.g. *agree, decide, intend*), verbs of effort or facilitation (e.g. *try, attempt, allow, enable, fail, require*), aspectual verbs (having to do with the status of an action as beginning, in progress, or completed – e.g. *begin, continue*), and likelihood verbs (e.g. *seem, appear, tend*).

These differing patterns of lexical association help to account for the overall differences in register distribution between *that*-clauses and *to*-clauses. Conversational partners tend to use a relatively restricted range of vocabulary, but it is almost always appropriate to report one's own thoughts (*I think that …, I know that …*) or the speech of others (*he/she said that …*) with a *that*-clause. (Note that the complementizer *that* is usually omitted in conversation.) For example (*that*-clauses are underlined):

> *That*-clauses in conversation:
>> I think <u>he will</u>. Actually, I think <u>he's quite good</u>, don't you?
>> I know <u>it's sort of miserable</u>.
>> Maureen said <u>that Ryan was sick</u>.

Multiple occurrences of these verb + *that*-clause combinations are often used in close proximity, as in:

> He said <u>it was so difficult for him</u>. I think <u>it was a real shock for him</u>.

The verb *think* is especially common as a controlling element in conversation, accounting for about 30 per cent of all *that*-clauses in that register. In most cases, this verb is used as a hedging device to mark a proposition that the speaker is not entirely certain about (rather than reporting the actual 'thoughts' of the speaker). For example:

A: Is this plastic, or is it, perhaps, you know, resin?
B: I think <u>it's plastic</u>.

Because of the extremely heavy reliance on a few high frequency verbs as controlling elements – especially *think, say,* and *know* – *that*-clauses are very common in conversation.

Turning to the use of *to*-clauses in conversation, it is almost always appropriate to report one's own personal desires, and this is most commonly done using the single verb *want* as a controlling element. For example:

> *To*-clauses in conversation:
>> I wanted <u>to get rid of it</u>.
>> And then he said, 'I don't mean <u>to put pressure on</u>, but I just want <u>to get to know you</u>, we've got so much in common, and, uh, I want <u>to take you out for dinner</u> …'.

However, other uses of *to*-clauses are much less common in conversation, accounting for the generally lower frequency of this complement clause type in that register.

The three written registers show a very different pattern of use with the verbs controlling *to*-clauses: although no single verb is extremely common (except for *want* in fiction), there are a large number of verbs from different semantic domains that occur relatively frequently. *To*-clauses controlled by verbs are most common in fiction because it relies on a few high frequency verbs – especially *want*, *try*, *seem*, and *begin* – but also makes frequent use of a wide range of different verbs.

It is interesting to note that even the high frequency verbs controlling *to*-clauses in fiction are from four different semantic domains and thus represent different communicative functions: (1) *want* expressing personal desire; (2) *try* expressing effort; (3) *seem* as a marker of likelihood; and (4) *begin* as an aspectual verb. For example (controlling verbs are underlined):

> *To*-clauses in fiction:
>
> > She <u>wanted</u> to go to Mexico.
> > Before she went, Margotte <u>wanted</u> to kiss the old man.
> >
> > He probably <u>tried</u> to save it.
> > She was <u>trying</u> to divert his attention.
> >
> > It <u>seemed</u> to be a lot wilder than anything I remembered.
> > Toby <u>seemed</u> to be gone a long time.
> >
> > Then I <u>began</u> to laugh a bit.
> > Then I felt the post <u>begin</u> to slide upwards through my hands.

In sum, then, though many verb + complement clause combinations are possible, the corpus analysis reveals strong association patterns among the clause types, the verbs, and the registers. These patterns of use are tied to the function that each verb + clause combination serves in fulfilling a communicative need of the register, as well as to different levels of diversity in the communicative functions of the registers.

3.5 Conclusion

This chapter has provided a brief introduction to the use of corpus analyses for making comparisons among registers. In the past, register variation has been described with intuition or anecdotal evidence – both of which have been misleading at times. Corpus studies, in contrast, provide empirical evidence of how large numbers of speakers and writers adapt to the different communicative situations of different registers. Large-scale patterns are apparent on a variety of grammatical levels. Word classes, grammatical systems such as tense and aspect, and lexico-grammatical associations – such as between complement clauses and verbs – all give evidence of the ways that language choices can be adapted to meet the needs of different situations of use to our everyday lives.

Virtually all language users must adapt their language for different situations of use. Few people go through even a single day experiencing just one register – only

having casual conversations, or only reading a newspaper, or only writing an academic paper. Understanding register variation, therefore, is not a supplement to our understanding of grammar; it is central.

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4 | Grammatical Structure: What Do We Mean?

Jim R. Martin

4.1 Parts and Wholes

Let's start with the idea that grammar is about dividing things up. When I was in Hong Kong in 2001, shortly after the remarkable events of 9/11, I picked up a copy of a weekly life-style magazine and read its editorial, which included the following anecdote:

> Meanwhile (and we're not making this up), two Indian nationals on a flight from Singapore to Hong Kong were detained at Changi Airport after an American passenger said he heard one of the men calling himself a 'Bosnian terrorist'. (The man in fact said he was a 'bass guitarist'.)

A bit of light relief in troubled times (though not so light of course for the victims of this paranoia-driven misunderstanding).

Our writing system tells us that this story has parts. There are the words, of course, separated by spaces. And one of these 'words' itself has parts, separated by an apostrophe (*we're*); a grammarian would tell us that it's really two words (*we* and *are*) collapsed into one (an abbreviation). Beyond this, the words are grouped into larger units – some into quoted phrases ('*Bosnian terrorist*' and '*bass guitarist*'), some into parenthetical comments (*and we're not making this up*) and some into sentences (beginning with an upper case letter and ending with a full stop). Evolved as it has, English writing tells us then that language has parts and wholes, and that parts can be wholes (of smaller parts) and wholes can be parts (of bigger wholes). Grammar involves an explanation of how a language organizes this.

In some grammatical traditions dividing things up is all that grammar is. In the tradition which I will refer to as *a kind of formal linguistics* and associated with a school of American linguists in the first half of the twentieth century, especially Bloomfield, grammar analysis is essentially a bracketing exercise (Wells, 1947/1957). We take a clause such as the following ...

> two Indian nationals were detained at Changi Airport

... and group things together, either starting with the smallest things and working up in steps ...

> two Indian nationals were detained at Changi Airport
> two (Indian nationals) (were detained) at (Changi Airport)
> (two (Indian nationals)) (were detained) (at (Changi Airport))
> (two (Indian nationals)) ((were detained) (at (Changi Airport)))
> ((two (Indian nationals)) ((were detained) (at (Changi Airport))))

... or starting with the biggest bit and working down...

> two Indian nationals were detained at Changi Airport
> two Indian nationals / were detained at Changi Airport
> two Indian nationals / were detained // at Changi Airport
> two /// Indian nationals / were detained // at /// Changi Airport
> two /// Indian //// nationals / were //// detained // at /// Changi //// Airport

This tradition had a strong binary bias, by which parts are grouped in twos rather than in threes or more. So the whole clause we're working on would typically be divided in half, as above (instead of having three parts – *two Indian nationals* + *were detained* + *at Changi Airport*); and the first cut for *two Indian nationals* would involve two pieces (as above), not three (*two* + *Indian* + *nationals*). This preference for two rather than more parts has remained a strong one in grammars deriving from this tradition, such as the formal grammars associated with the school of linguists inspired by the well-known linguist, Chomsky, in the second half of the twentieth century.

4.2 Labelling

4.2.1 Class (category)

The analyses above tells us something about what clauses are composed of, but if we want to actually refer to the bits and pieces, we need some labels. The simplest kind of labelling tells us what kind of thing the bits and pieces are – terms like noun, verb, adjective, adverb, noun phrase, prepositional phrase, clause, and so on. Labels of this kind are referred to as *class labels* and tell us something about the potential of the labelled item to appear in different kinds of clause structure. In the formal linguistics just introduced, letters are often used instead of words as class labels ('N' instead of noun, 'V' instead of verb, 'A' instead of adjective, 'P' instead of preposition, and so on). This reflects the concern of those following Bloomfield to rigorously define classes in linguistic terms and distinguish themselves from traditional grammarians with their notionally defined[1] parts of speech (e.g. Chomsky's teacher Harris was an important influence in this regard; see Harris, 1946/1957; Bloch, 1946/1957; Pittman, 1948/1957). Using these abbreviations, the combinations of classes which a language uses can be stated as a kind of algebra. For *two Indian nationals* we can write A N N; for *at Changi Airport* we can write P N N, and so on. As long as classes are carefully defined, it doesn't really matter whether we use words (like noun) or letters (like 'N') to represent them.

Inspired by Chomsky's work in the 1950s and 1960s, linguists often make use of labelled diagrams to display structure (Chomsky, 1957). These diagrams represent the part/whole structure of grammatical units, with larger units at the top and

```
                              S
                 ┌────────────┴────────────┐
                NP                          VP
              ╱ │ ╲                   ┌──────┴──────┐
             ╱  │  ╲                 MV             PP
            ╱   │   ╲               ╱ ╲          ╱  ╲
           ╱    │    ╲             ╱   ╲        ╱    ╲
          ╱     │     ╲           ╱     ╲      P      NP
          A     A     N          Aux    V             ╱ ╲
         two  Indian nationals  were  detained   at  N   N
                                                  Changi Airport
```
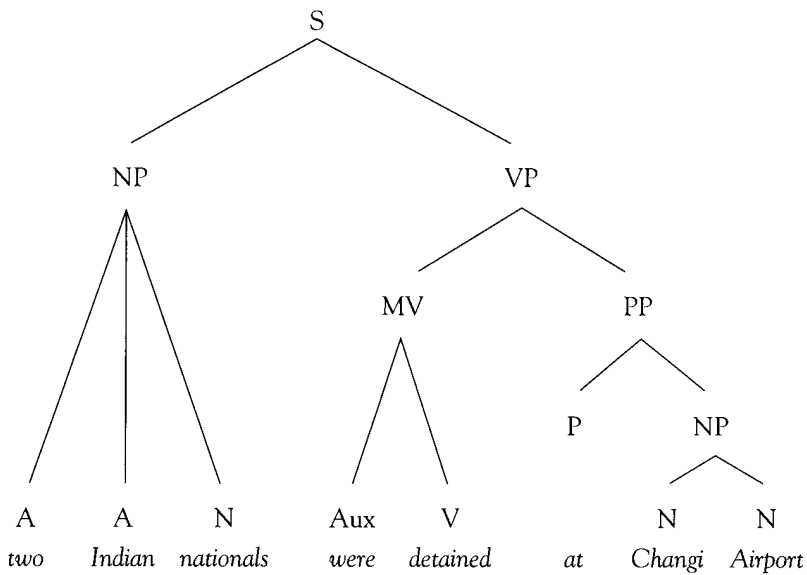
Figure 4.1 A tree diagram showing part/whole structure and class

smaller units at the bottom, and labels for classes of different sizes. The diagrams give us an overview of the structure of a sentence as a whole, something that is harder to get a sense of from a linear algebraic formula – such as S (NP (A A N) VP (MV (Aux V) PP (P NP (N N))) for the example in Figure 4.1. Here S = sentence, NP = noun phrase, VP = verb phrase, MV = main verb, Aux = auxiliary verb and the other letters as before.

In Figure 4.1[2] we've drawn this kind of diagram for the formal analysis we did of *two Indian nationals were arrested at Changi Airport*, adding the kind of letter labels used in early diagramming of this kind. This kind of representation is often referred to as a tree diagram; if it looks more like the roots of a tree than its branches to you, then imagine if you can the shape of the conifers (e.g. pine, fir, and spruce trees) outside linguists' windows in North America as they worked on images of this kind (or an upside-down tree if you prefer).

4.2.2 Function (relation)

The other kind of labelling used by grammarians tells us what something is *doing* in a particular structure, not just what class it is. These labels are called function labels, and include terms like Subject, Predicator, Complement and Adjunct. These labels make it easier to talk about grammatical relations between parts of a structure. For example, in English we sometimes have to take the number of the Subject (singular or plural) into account to make sure the right form of the verb follows – as with *was* vs *were* below and the Subjects 'an Indian national' or 'Two Indian nationals':

    an Indian national was detained (singular)
    two Indian nationals were detained (plural)

In English, this same function switches sequence with the same kind of verb to show mood – the difference between declarative (giving information) and interrogative (asking for information) for example:

> two Indian nationals were detained (declarative)
> were two Indian nationals detained (interrogative)

The Subject function is also important for analysing voice, since in the active it is the doer – but in the passive it is acted upon:

> the authorities detained two Indian nationals (active) – subject = doer
> two Indian nationals were detained by the authorities (passive) –
> subject = acted upon or done to (referred to as a 'goal' in functional
> grammar)

We can introduce function labels into our description alongside class labels, and include them in our trees. This means that in some respects our trees can be simpler. We don't have to insist on binary branching to make sure we can infer function categories from the shape of trees; we can simply include this information explicitly in a flatter (in the sense of broader) tree structure such as that in Figure 4.2.

It's still important to have class labels, of course, since the relationship between function and class is not one-to-one (not bi-unique). Most grammatical functions can be realized by more than one class, just as a given grammatical class can usually perform more than one function. Noun phrases[3] for example serve two different functions in Figure 4.2 – Subject and Complement. Conversely, the Subject function can be realized by either a noun phrase or a clause:

> The authorities upset the Indian nationals. [noun phrase Subject]
> Getting arrested like that upset the Indian nationals. [clause Subject]

Grammatical functions are referred to by some linguists as *relations*.

The same kind of complex relationship between class and function is found in noun phrases. Adjectives, for example, typically describe the head noun (and so can be intensified and compared):

> a nervous passenger   (a very nervous passenger)
> a brilliant guitarist   (an even more brilliant guitarist)
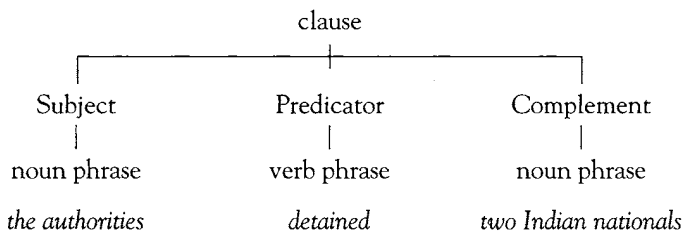
Figure 4.2 A tree structure including both function and class labels

And nouns typically sub-classify the head noun (and as classifiers don't accept intensification or comparison); note that linguists use the symbol '*' before an example to mark it as ungrammatical (as something that cannot be said in the language being described).

> a bass guitarist (*a very bass guitarist)
> an Indian passenger (*an even more Indian passenger)

But adjectives can be used to classify, for describing kinds of dog, disease, or sugar for example:

> red setter
> yellow fever
> brown sugar

And verbs can be used to describe. In the following examples the verbs *agitate*, *amaze* replace adjectives:

> an agitated passenger   (an extremely agitated passenger)
> an amazing guitarist   (an even more amazing guitarist)

And in other contexts verbs (e.g. *run* and *industrialize* in the examples below) are used to classify:

> running shoes
> industrialized nations

If, like Halliday, we label the describing function Epithet (that's Greek for describer) and the classifying function Classifier, then we can allow for the fact that Epithets can be realized by adjectives or verbs, that Classifiers can be realized by nouns or verbs, and that adjectives and verbs can function as Epithets or Classifiers as illustrated above.

Once again this means that we have more labelling in our tree diagrams (both function and class) but that the structure of our diagrams can be simpler (less branching). Double labelling for class and function in noun phrases is illustrated in Figure 4.3.
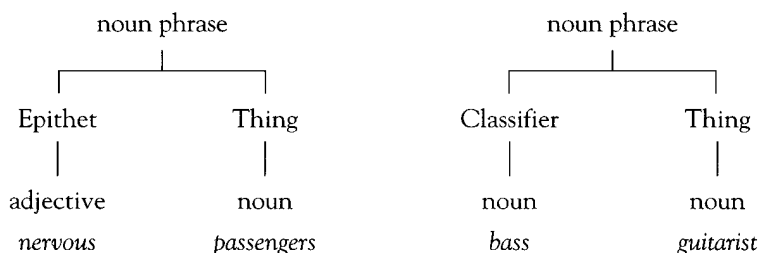
Figure 4.3 Class and function labelling in noun phrases

It is very important to keep in mind that if we label for both function and class, then we have to have distinct criteria not just for each label but more generally speaking for each set of labels. For the examples we're considering here we've insisted that Epithets can be intensified and compared whereas Classifiers cannot. Turning to classes, nouns are words which have singular or plural endings (*passenger/passengers*) and adjectives are words which have comparative morphology, i.e. different structures (*happy/happier, crazy/crazier, nervous/more nervous*). Of course, word classes cannot manifest this potential everywhere. As we have seen, we cannot intensify or compare adjectives when they function as Classifier (**yellower fever*), any more than we can pluralize a noun when it has the same function (**basses guitarist*). Classes, in other words, get defined with respect to their potential; functions, on the other hand, are defined in terms of the work they do in a specific structural configuration.

4.3 Multifunctionality (Tiers of Functions)

The issue of motivating labels brings us to some important crossroads in the development of grammatical analysis. One has to do with whether we use just class labels with more complicated trees or use class and function labels with simpler ones. This is one important difference between core formal theories (associated with Chomsky) and core functional ones (associated with Halliday, Dik, van Valin[4] and others). Another crossroads has to do with what kind of function labels we use.

Linguists interested in English and related Indo-European languages (such as French, German, Danish, Italian, Spanish, and so on), have tended to foreground functions such as Subject and Complement (or Object as it is often called). This makes it easier to talk about number, mood and voice as noted above, since in these languages (more in some than others) the Subject tends to agree with the verb in number (and sometimes gender), inverts with the verb to change mood (or signal a dependent clause) and swaps 'doer' and 'done to' roles with the Complement as voice changes from active to passive. Subject and Complement can also be used to explain reflexive pronouns, which are used in the Complement when it refers to the same thing as the Subject (but not when their identity is different):

> the Indian nationals incriminated themselves (by saying they were terrorists)
> the American passenger incriminated them (by saying they were terrorists)

For other languages, linguists have been drawn to different kinds of function label – in part because these properties of Subjects and Complements do not seem to apply, and in part because different kinds of relation are foregrounded.

Grammarians feel that studying different languages is very important because they have learnt from experience that grammar can vary in several respects from one language to another and they want to avoid making one language look too much like a language that has been analysed for a long time. Many European languages suffered from being modelled on Latin grammar for many centuries before linguists began to describe them systematically in their own terms. And currently there is the danger that English grammatical categories are being imposed on languages around the world. Because of this danger I'm going to do a little work on

Tagalog grammar here; Tagalog is spoken in the Philippines and is the basis for the national language there, often referred to as Filipino. I would also encourage those of you who speak a language other than English to think about how you might use the ideas in this chapter to describe your own language, including how they might need to be adapted to things that are different from English.

For Tagalog (Filipino), for example, Schachter and Otanes (1972) propose what they refer to as a Topic function instead of a Subject function. This Topic function is realized in the examples below by the *ang* phrase (and labelled 'T' in the morpheme by morpheme translation; examples based on Ramos, 1974). In Tagalog this phrase highlights for the listener or reader prominent information.[5] It is related to the verb with respect to the role it plays as 'doer', 'done to', 'source', etc. in the clause. Essentially the verb morphology changes to display the role of the Topic, which is signalled by *ang*:

> 'doer'/Theme:
>
> | h-<u>um</u>-iram | ang | tao | ng | pera | sa | bangko |
> |---|---|---|---|---|---|---|
> | borrowed | T | man | | money | | bank |
>
> 'The man borrowed some money from the bank.'
>
> 'done to'/Theme:
>
> | h-<u>in</u>-iram | ng | tao | ang | pera | sa | bangko |
> |---|---|---|---|---|---|---|
> | borrowed | | man | T | money | | bank |
>
> 'The man borrowed the money from the bank.'
>
> 'source'/Theme:
>
> | h-in-iram-<u>an</u> | ng | tao | ng | pera | ang | bangko |
> |---|---|---|---|---|---|---|
> | borrowed | | man | | money | T | bank |
>
> 'The man borrowed some money from the bank.'

The basic verb realizing the process is *hiram*, meaning 'borrow'; it comes out in different forms depending on the specific role of the *ang* phrase. In the first example, the *ang* phrase is doer, so the Process has the form *humiram*, with the infix *-um-*); the clause tells us that the *ang* phrase is both informationally prominent and the doer. In the second example the *ang* phrase is affected by the Process, and so we have a different form of the verb (*hiniram*, with the infix *-in-*). In the final example, to focus on the source of the money, we used *hiniraman*, with an infix *-in-* showing aspect (completed action) and a suffix *-an* showing that the *ang* phrase is the source of the money.

Schachter (1976, 1977) argues in some detail why this Topic function realized by the *ang* phrase is so different in kind from an English Subject that it needs a different name. Li and Thompson (1976) generalize this kind of argument for a range of languages, suggesting that languages can be more or less Subject or Topic prominent, typologically speaking when we are comparing one of them with another. In general, functional linguists try and select function labels that reflect to some degree the grammatical properties a function label is designed to describe; formal linguists are more conservative, preferring to deal with traditional functions such as Subject (if any function labels are in fact used at all).

The idea that different kinds of function labels may be appropriate for different languages depending on the work they are doing raises the question of whether or not different kinds of function labels could be used for the same language, depending on how we are looking at the clause. In order to describe the *ang* phrase and verb morphology in Tagalog, for example, we had to refer to the role the Topic was playing – as 'doer', 'done to' or 'source'. And these are obviously critical grammatical categories in Tagalog since verbal affixes (the infixes *-um-* and *-in-*, and suffix *-an*) vary according to these roles. So alongside Topic, designated by the *ang* phrase, we might in addition recognize 'doer', 'done to', and 'source' functions. If so, we could say that when the Topic combines with doer, the action verb takes the infix *-um-*; when Topic combines with 'done to' it takes *-in-*, and so on. In effect, what we'd end up with is two kinds of labelling, one motivated by informational prominence (Topic) and others based on the roles played by groups and phrases involved in a process. We'll come to how these roles – doer, done to, etc. – can actually be referred to in a moment.

Double function labelling of this kind is more common in some functional theories than others. Linguists of the Prague School (e.g. Danes, 1974) are well known for their concern, beginning in the first half of the twentieth century, to introduce function labels such as Theme (comparable to Topic above), oriented to informational prominence. In their work on what they called 'functional sentence perspective' they tried to move beyond reasoning based purely on morphology, agreement, inversion and the like to include corpus evidence of language as part of the motivation for having function labels. Partly inspired by their work, this and related reasoning was further extended by Halliday (e.g. 1994) and his colleagues in the second half of the century (Hallidayans began their work in London in the 1950s, and continued developing their ideas in Sydney, Australia, from 1975). This has resulted in a richer labelling system, involving three 'tiers' of function labelling, reflecting the different functions of constituents when probed from different points of view.

Since this rich semantically oriented function labelling has been so influential in functional and applied linguistics, we'll pursue it a little further here. If you are new to linguistics and are finding the terminology building up a little too quickly at this point in the chapter, you could skip directly to Section 4.4 and come back and finish this section at another time. Halliday's rich labelling system is rapidly becoming a kind of lingua franca for analysts interested in the contribution grammar makes to the meaning of a text, and you will need some familiarity with it if you pursue discourse analysis of one kind or another and some of its many applications in the first half of the twenty-first century.

Let's begin with the 'doer', 'done to', 'source' kind of labelling and think about how to grammatically motivate it for functions in the English clause.

Unlike Tagalog, English verbs do not provide us with very much overt morphology which we can use for distinguishing one role from another. Voice (active or passive) does tell us whether the Subject is a 'doer' or 'done to':

> Authorities detained two Indian nationals at Changi Airport.
> Two Indian nationals were detained by authorities at Changi Airport.

But English verbs do not distinguish morphologically between different kinds of 'done to', for example the *two Indian nationals* vs *a new ticket* below:

> The authorities issued two Indian nationals a new ticket.
> Two Indian nationals were issued a new ticket by authorities.
> A new ticket was issued by authorities.

Nor do English verbs distinguish morphologically between physical and mental activity.

> Authorities detained two Indian nationals at Changi Airport.
> Authorities saw two Indian nationals at Changi Airport.

Because of this implicitness, linguists working on role functions in English (e.g. Fillmore, 1968; Halliday, 1994) have developed a complementary kind of reasoning inspired by Whorf (1937/1956), an American linguist in the first half of the twentieth century who was much more interested in the relation between language and culture than his structuralist peers. This involves looking at what happens to various functions in closely related sentences to see what kind of evidence pops up. If we put *a new ticket* instead of *two Indian nationals* next to *issued* for example, we need to add the preposition *to*:

> The authorities issued two Indian nationals a new ticket at Changi Airport.
> The authorities issued a new ticket to two Indian nationals at Changi Airport.

So what look like two affected participants in the sentence turn out to be different kinds of 'done to' – something Halliday calls a Goal, a sub-type of participant in action clauses (*a new ticket*) and something he calls a Recipient or Beneficiary, another kind of participant (*two Indian nationals*).

Similarly if we change the tense, and imagine a reporter giving a live commentary on goings on at Changi Airport, then we'll discover that English uses different kinds of present tense for physical and mental activity:

> Authorities are detaining two Indian nationals right now at Changi Airport.
> I see two Indian nationals (being detained at this very moment).

For ongoing action English uses present continuous tense (*are detaining*), whereas simple present is deployed for mental activity concurrent with the moment of speaking (*see*).

As usual in linguistics, more criteria are better than one, so we might look for additional 'indirect' evidence that physical processes in English are different from mental ones. A further difference is that mental processes can report ideas, whereas physical processes do not:

> I see that authorities are detaining two Indian nationals.
> *Authorities are detaining that I see two Indian nationals.

Yet another difference is that the 'doer' in mental processes must be conscious, whereas in physical processes it need not be:

> The authorities/the traffic is detaining two Indian nationals.
> I/*the traffic sees that authorities are detaining two Indian nationals.

This kind of emergent criteria as we look from one related clause to another was referred to by Whorf as 'reactances'[6] (1938/1956: 89). Reactances enable us to move beyond explicit morphology (affixes) and structural interdependencies (e.g. number agreement, reflexives) among the parts of a particular clause and consider the potential of various parts of the clause. On the basis of the reactances reviewed here (and additional criteria not discussed) Halliday 1994 makes a distinction between material and mental processes, and uses distinctive function labels for each process type – Actor Process Goal Recipient for material processes, and Senser Process Phenomenon for mental ones. Actor, Goal and Recipient are all types of participant in physical processes (called material processes by Halliday), while Senser and Phenomenon (alternatively referred to as *Experiencer* and *Experienced*) are sub-types in mental ones. There are other types of Process (Verbal, Relational).

Participant	Process	Participant	Participant
Actor *authorities*	Material Process *Gave*	Recipient *two Indian nationals*	Goal *a new ticket*

Participant	Process	Participant
Senser *authorities*	Mental Process *Saw*	Phenomenon *two Indian nationals*

Following Halliday, we adopt the tradition of writing function labels with an initial upper case letter and class labels in lower case. In the examples just reviewed, the Actor, Recipient, Goal, Senser and Phenomenon functions are all realized by noun phrases, and the two Processes by verb phrases.

This kind of analysis exploring the role of different participants in relation to different kinds of process is referred to by Halliday as 'transitivity' (concerned with what Fillmore (1968) referred to as case relations). It constitutes a tier of functional analysis concerned with the way in which a clause constructs experience. Alongside material and mental processes, Halliday's functional grammar covers relational ones which deal with description, classification and identification. The anecdote we began with above was concerned with mistaken identity, and uses two clauses of this kind:

> he was a 'bass guitarist'
> one of the men calling himself a 'Bosnian terrorist'[7]

Formal grammars generally treat transitivity relations as semantics not grammar, probably because they tend to be realized through reactances rather than explicit

morphology in English and related Indo-European languages. As we've seen, however, the picture is radically different in a language like Tagalog where there is a good deal of overt morphology and structural interdependency focusing on participant functions in relation to the verb. Looking across language families, functional linguists like Halliday have decided that typological interests are better served by broadening the criteria for motivating grammatical functions than by exporting the study of participant roles to a more abstract level of semantic analysis in some languages (like English) and having to include them as grammar in others (like Tagalog).

Alongside the tier of role oriented function labels just introduced, Halliday also makes use of a set of function labels which look more like traditional ones – Subject, Finite, Predicator, Complement and Adjunct. These are of course motivated by complementary criteria. The Subject is the function that changes sequence with Finite to change mood (from declarative to interrogative as introduced above); these two functions are replayed in English tags, which can thus be used as a reliable diagnostic for Subject and Finite functions.

Subject	Finite	Predicator	Finite (tag)	Subject (tag)
two Indians	were	detained	weren't	they

Once the Subject and Finite are established, a Complement can be defined as a potential Subject (via a change in voice, as introduced above); and if a complete labelling is required, then the Predicator is the rest of the verb phrase minus the Finite, and everything else is an Adjunct.

Rather than seeing these as formal categories, Halliday argues that they are meaningful ones – since they position a clause in interaction as giving information (declarative), asking for information (interrogative) or demanding goods and services (imperative):

Two Indian nationals were detained at Changi Airport.   [declarative]
Were two Indian nationals detained at Changi Airport?   [interrogative]
Detain two Indian nationals at Changi Airport.   [imperative]

Beyond this, the Subject and Finite construct the arguability of the clause. The Subject is the nub of the argument (who or what we're arguing about) and the Finite grounds the argument (temporally, through tense; or modally, in terms of probability, usuality, inclination, obligation or ability). Saying that *two Indian nationals were* sets the stage for a different argument ...

Two Indian nationals were detained at Changi Airport.
– Were they?
– Yes, they were.
– They weren't really, were they?
– Indeed they were.

... than one negotiating *the authorities shouldn't*:

> The authorities shouldn't detain them.
> – Yes, they should.
> – No, they shouldn't, should they?
> ...

This kind of analysis exploring the role of clause functions to establish different kinds of interaction is referred to by Halliday as 'mood'.

Halliday's third tier of grammatical functions is oriented to information flow, and takes us back to the kind of labelling we introduced earlier when discussing Topic and informational prominence. This time round Halliday is worried about variations like those illustrated below, where the way in which information is distributed changes from one clause to another. As far as transitivity is concerned, we are saying the same thing (the 'content' stays the same); and as far as mood is concerned, the clauses interact in the same way as well (as declaratives giving information). But they all begin in different ways, with a pulse of informational prominence for which Halliday uses the Prague School term Theme:

> Two Indian nationals were detained at Changi Airport.
> At Changi Airport two Indian nationals were detained.
> It was at Changi Airport that two Indian nationals were detained.
> What happened at Changi Airport was two Indian nationals were detained.

This analysis sheds another light on why an English speaker chooses active or passive. Alongside constructing the nub of the argument, voice also makes one transitivity role more informationally prominent than another; in what is called 'agentless passive' the Actor role might in fact be elided altogether. The anecdote we're drawing on here did just this, leading off with a passive clause foregrounding the victims and not mentioning authorities – an appropriate choice in this case since the American passenger, not the authorities, was to blame for the wrongful arrest. The joke after all is at the American's expense, not that of the Singapore authorities.

Theme	Rheme
two Indian nationals	*were detained at Changi Airport*

Theme	Rheme
two Indian nationals	*were detained by authorities at Changi Airport*

Theme	Rheme
the authorities	*detained two Indian nationals at Changi Airport*

Goal	Process	Location
Theme *two Indian nationals*	Rheme *were* *detained*	*at Changi Airport*
Subject	Finite	Predicator	Adjunct
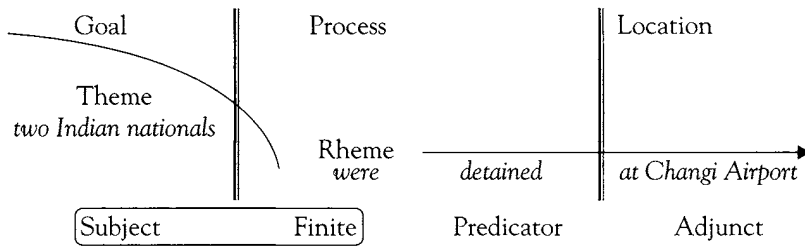
Figure 4.4 Complementary functional perspectives on a clause

A survey chapter of this kind is not the place to go into Halliday's functional tiers in more detail.[8] The main point we are making here is that once function labelling is deployed, then it has to be motivated. And there are different ways of motivating function labelling depending on how we look at the clause – the way we argue for function labels, in other words, depends on the kind of meaning we are looking at. Different kinds of meaning give rise to different kinds of criteria, which ultimately lead to tiers of structure (Participant and Process vs Subject and Finite vs Theme and Rheme). Halliday's general position is that clauses are concerned with three general types of meaning which he refers to as experiential, interpersonal and textual – and that looking at the clause from one or another of these points of view tells a different story about how to divide up the clause and label its parts. A crude outline of these different perspectives and the complementary ways in which they divide up an English clause is presented as Figure 4.4.

It is possible of course to privilege one of these perspectives, and insist that it alone is grammar and the others are something else (or restrict ourselves to classes, for that matter, reject functions completely and adjust the complexity of our trees accordingly). Bleached of interpersonal meaning and so treated as purely formal categories, Halliday's mood functions (Subject, Finite, etc.) are often treated as part of grammar in this way, with transitivity roles (participant functions) exported to semantics and questions of Theme moved to an even more abstract level of interpretation called pragmatics. But if our goal is to construct a grammar that deals directly with meaning, then it is best not to privilege one kind of meaning over another. This is especially the case when, from a typological point of view, all three types of meaning are built more and less explicitly into the morphology and structural interdependencies of one language or another. After all, we do not want to have to change our theoretical approach from one language to another just because of the way a particular language maps these different strands of meaning on to each other.

4.4 System (Paradigmatic Relations)

If you do read more on Halliday's approach to grammar you will learn that his style of functional linguistics is called systemic functional linguistics. In this section of the chapter I'll explain why it is called 'systemic'; if you've had enough at this point, just skip forward to Section 4.5.

As Figure 4.4 illustrates, looking at a clause from different points of view may lead us to recognize different kinds of structure depending on the kind of meaning

we are focusing on. But what these different kinds of structure have in common is that they encode differences in meaning. So alongside representing meaning in structure, functional grammarians like Halliday have also been concerned with showing the relation of one kind of structure, and thus one kind of meaning to another. For this they designed diagrams known as system networks to display what linguists call paradigmatic relations (choice relations), as a complement to tree diagrams, which as we have seen, display syntagmatic ones (chain relations). The idea of paradigmatic and syntagmatic relations in linguistics goes back to Saussure (1916), a Swiss linguist generally acknowledged as the father of modern linguistics; following him, paradigmatic analysis focuses on choice (what you say in relation to what you could have said), whereas syntagmatic analysis focuses on chain (the relations among the different parts of what you say).

Let's start with mood. When drawing system networks the basic idea is to take a set of examples of different moods and look carefully at how each mood is realized (taking any morphology, structural interdependencies and reactances into account). For English we can note that imperative below is different from the other two moods in that it has neither a Subject nor a Finite; the declarative and interrogative have both, but in a complementary sequence (as we saw above).

Two Indian nationals were detained at Changi Airport.	[declarative]
Were two Indian nationals detained at Changi Airport?	[interrogative]
Detain two Indian nationals at Changi Airport.	[imperative]

On the basis of these similarities and differences we could propose a mood network in which the first choice is between imperatives and the other two (called indicative); and then within indicative, we have a choice between declarative and interrogative. These oppositions are presented as Figure 4.5. The network in effect classifies clauses according to ways in which interpersonal structures make differences in meaning in dialogue. The choices in the network represent clause classes (imperative, indicative, declarative, and interrogative).

Note that in systemic choice diagrams we move from left to right[9] – from more general classes to more specific ones. In chain diagrams on the other hand, referred to as tree diagrams above, we move from top to bottom – from bigger units to smaller ones.

In another language, say, Tagalog, these mood options might be similar even though the way in which they are realized is quite different. Like English, Tagalog
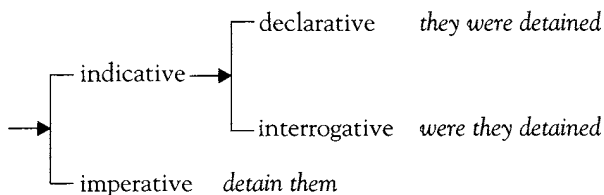
Figure 4.5 Two mood systems for English

uses a non-finite verb (with no tense or modality) to signal imperative (*maglaro* below); but unlike English it is usually explicit about the person responsible for carrying out the command (using the appropriate pronoun, e.g. *ka* for 'you' below). In interrogatives, instead of moving around a noun and verb, Tagalog simply inserts a question particle after the verb (*ba* below). Note in the examples that unless there is a good textual reason not to, Tagalog begins with the verb, regardless of mood ('T' indexes the Topic marker, as above).

naglaro	ang	bata		[declarative]
played	T	child		
'The child played.'				

naglaro	ba	ang	bata	[interrogative]
played	?	T	child	
'Did the child play?'				

maglaro	ka			[imperative]
play	T-2nd person singular			
'Play.'				

From these examples we can see that there is no interpersonal reason to propose Subject and Finite functions for Tagalog; mood does not work that way. Tagalog and English are quite different languages in this regard. But if we turn from structure to system, the two languages are very similar[10] – they make the same kinds of basic mood meanings, and we could in fact use the mood systems suggested for English above for Tagalog as well. Halliday's complementary structure and system perspectives enable us to show how the languages are similar and different at the same time. If we want to show explicitly how mood system and structure are related in English, then we can provide formal specifications along the following lines:

[imperative]	➘ (no Subject or Finite, Predicator only)
[indicative]	➘ Subject and Finite present
[declarative]	➘ Subject sequenced before Finite
[interrogative]	➘ Finite sequenced before Subject

For transitivity we can adopt the same network building strategy, focusing on voice relations:

Two Indian nationals were detained by authorities at Changi Airport.	[passive]
Authorities detained two Indian nationals at Changi Airport.	[active]
A bomb exploded at Changi Airport.	[middle]

Here we see the contrast between active and passive introduced above. In addition, as a third example, we have an 'intransitive' clause for which the choice of passive is not available. Halliday calls this clause type middle voice, since it involves just one inherent participant and so does not provide for alternative Subjects.

middle   *a bomb has exploded at Changi Airport*

active

  authorities detained two Indian nationals ...

effective

passive

  two Indian nationals were detained by authorities ...
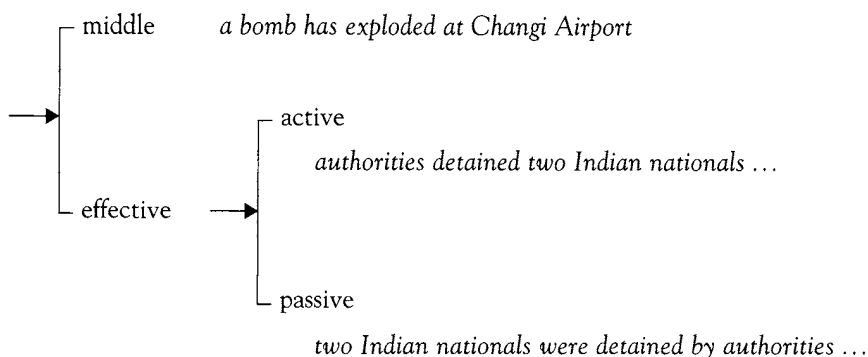
Figure 4.6 Two transitivity systems from English

The first two examples he refers to as effective clauses, for which an active vs. passive choice is available, see Figure 4.6.

The structural implications of these choices are as follows (note that we need to refer to mood functions to make voice options explicit):

[middle]   Actor is Subject; Process is active
[effective]   Actor and Goal present
[active]   Actor is Subject; Goal is Complement; Process is active
[passive]   Goal is Subject; Actor is 'by' phrase; Process is passive

To account for the so-called agentless passive (*two Indian nationals were detained at Changi Airport*), we'd have to add another system to the network (sub-classifying passives) and rework our rules relating system to structure so that Actors are not present when the agentless passive option is chosen. We'll set these extensions aside as an exercise for interested readers here.

Designing grammar around both system and structure provides us with a rich set of resources for exploring a corpus. Structurally we can ask questions about particular classes (e.g. noun, preposition, noun phrase, prepositional phrase, etc.) or class sequences (i.e. syntagms,[11] such as adjective noun, noun prepositional phrase); and in addition we can ask about functions (Subject, Complement, Actor, Process, etc.) or function structures (e.g. Subject Finite, Process Goal). Systemically we can ask questions about choices in system networks (imperative, interrogative, middle, etc.) and the way in which choices combine (e.g. active and imperative, interrogative and passive). Halliday has argued that all systems in system networks are either equiprobable (like middle vs. effective) or skewed on the ratio of roughly nine to one (like active vs. passive), an intriguing claim inviting further study. Canonical studies exploring corpora from the point of view of system are found in Nesbitt and Plum (1988; on clause combining), Plum and Cowling (1987; on tense) and Halliday and James (1993; on tense and polarity).

As a rule of thumb, it is easier to analyse a corpus for structure than for system, and within structure it is easier to explore class than function, and to investigate smaller units than larger ones. This is because moving from small units to larger

ones, from class to function and from function to system requires additional reasoning. Extra reasoning makes hand-analysis slower and computer-assisted analysis harder to automate. To cite a trivial example, if we were just interested in adverbs, we might quickly recognize *out* as an adverb in the following examples:

> Two Indian nationals were picked out.
> Two Indian nationals were thrown out.

But if we were interested in function, then we'd have to distinguish the Process realized by phrasal verb *were picked out* in the first example from the Process (*were thrown*) and following Circumstance of Location in space (*out*) in the second. For this reason we still know much less about systems and grammatical functions in corpora than we do about classes and class sequences (syntagms). But computer-facilitated corpus research is pushing in the direction of the analysis of functions and systems all the time.

4.5 Grammar for Meaning

Let's pull back a little and think about what this discussion means for people who want to use grammar – for language learners and their teachers, for example, or speech therapists, or information technology experts trying to program computers that automatically understand what you say and provide you with the services or information you require, or people training doctors to be more sensitive to patient's concerns.

We've seen that linguists adopt different strategies of grammatical description, which we might arrange along a scale from parsimonious to extravagant (from the Bloomfieldians at one extreme to functionalists, who are concerned with how actual communication unfolds, at the other). In this chapter we developed this scale as follows:

> bracketing
> bracketing and class labels[12]
> simpler bracketing, with class labels and function labels
> simpler bracketing, with class labels and tiered function labels
> simpler bracketing, with class labels and tiered function labels realizing systems

Basically what this comes down to is how much work we want our grammar to do for us. In functional linguistics we want a grammar that deals with meaning, because we want it to help us understand how speakers use their language and how the use they've made of it has shaped its organization over many many millennia. And there is an emerging consensus among functional theories that different kinds of meaning have to be taken into account, including what Halliday describes as experiential, interpersonal and textual orientations to the clause. This results in a richer grammar with more categories for grammar users to manage. But the pay-off is that the grammar is better adapted as a tool – for example, to help language learners use their knowledge about the language to use the language – to speak, hear, read, and write more effectively in different registers and genres. To take just one small example that came up in this chapter, if our grammar distinguishes between

material and mental processes then we can recognize which tense to use in English in which contexts (e.g. *I'm visiting because I like you very much*, not **I'm visiting because I am liking you very much* for something going on right now). This helps language learners not to sound like foreigners, just as it enables computers to recognize the difference between a statement about specific (*I'm visiting because I like you*) and habitual (*I visit because I like you*) activity.

To find out how these register and genres work of course we need to look at examples – at corpora – to see how they work. The richer the grammar, the more it will tell us about what is going on, and the more information can be made available for learning purposes. But as noted above, the richer the grammar, the harder it is to use in automated computer analysis and the more time-consuming it is to deploy by hand. Given the rate at which information technology is advancing, the exploration of corpora with ever richer grammatical descriptions is emerging as one of the most exciting research frontiers in functional linguistics and one which will increasingly inform language teaching and learning around the world. The critical thing is not to let technology get in the way of grammatical description. If grammars of meaning are what we need, then we need to develop them, regardless of how easy they are to compute at a given point in time.

Notes

1 An example of a 'notional' definition would be defining a noun as 'the name of a person place or thing'. Harris (1946, in Joos 1957: 145), on the other hand, concentrates on morphology and structural environment and so defines 'N' as 'morphemes which occur before plural *-s* or its alternants, or after *the* or adjectives'.

2 I've included the Aux as part of the MV in line with the formal analysis of this clause introduced above; in early Chomskian linguistics (generative grammar) Aux would be treated as an immediate constituent of a higher node (VP or S) because of the way it 'moves' in various moods and bonds with the Subject (see the discussion of Subject, Finite, and interpersonal meaning in functional grammar below).

3 From this point on in the chapter we'll use the term *verb phrase* to refer to the verb or group of verbs realizing the Process in a clause, excluding any Participants or Circumstances which follow; note that in formal grammars the VP (verb phrase) generally includes following NPs and PPs (as in Figures 4.1 and 4.2 above).

4 These three perspectives are exemplified in Halliday (1994), Nuyts *et al.* (1990) and van Valin (1993), respectively.

5 The Topic is usually definite (an 'identity recoverable' participant) and in addition realizes a text's method of development (its angle on its content), see Martin (1983).

6 Rose 2001 develops Whorf's reasoning in his systemic functional grammar of Pitjantjatjara, an indigenous Australian language.

7 This clause is an agentive one, related to non-agentive *he was a Bosnian terrorist.*

8 Our discussion of informational prominence in English in particular needs to be extended to take into account the function of Theme to sustain a topic (the method of development of a text), and also Halliday's Given and New functions (Halliday, 1994).

9 Compare biology, where sub-classification (taxonomy) is represented top-down, with more general classes on top of more specific ones.

10 Once we move to sub-types of interrogative and imperative, however, the languages do look different systemically as well, see Martin (1990) for discussion.

11 A syntagm is a sequence of classes (e.g. adjective noun); for Halliday it contrasts with structure which involves a configuration of functions (e.g. Epithet Thing).

12 In early generative grammar several layers of bracketing and class labelling were in fact deployed, arranged as deep, intermediate and surface structure and related by rules called transformations.

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5 | Some Grammatical Problems in Scientific English

M.A.K. Halliday

In any typical group of science students there will be some who find themselves in difficulty – who find the disciplines of physics, or biology, or mathematics forbidding and obscure. To such students, these subjects appear decidedly unfriendly. When their teacher tries to diagnose the problems the students are having, it is usually not long before the discussion begins to focus on language. Scientific texts are found to be difficult to read; and this is said to be because they are written in 'scientific language', a 'jargon' which has the effect of making the learner feel excluded and alienated from the subject-matter.

This experience is not confined to those who are studying their science in English. It often happens in other languages also that scientific forms are difficult to understand. But here I shall be concentrating on English; and it is important to stress that it is not only students of English as a Second Language (ESL) who find problems with scientific English – so also do many for whom English is the mother tongue. My impression is that, while these two groups – those for whom English is mother tongue and those for whom it is second language – may respond to scientific English in different ways, it is largely the same features that cause difficulties to both. For example, a pile-up of nouns as in **form recognition laterality patterns**, or **glass crack growth rate**, is hard to understand both for ESL and for EL1 (English as a First Language) students of science. The two groups may use different strategies for decoding these structures; but decoding strategies vary according to other factors also, for example the age of the learner. In so far as 'scientific English' presents special problems of its own, distinct from those of other varieties of English, the problems seem to be much the same for everybody.

In any case, in today's multilingual cities such as Birmingham, Toronto or Sydney, there is no clear line between first- and second-language groups of learners. A typical secondary-level science class may include monolingual English speakers at one end, students who have had almost no experience of English at the other end, with the remainder spread out all the way along the continuum in between. In this situation the teacher is forced to think of the problem in terms which apply to all. But this perspective is also relevant to countries such as those

of south and south-east Asia, where students will have been taught using a variety of different languages as their medium of instruction.

Once their attention has been directed on to the language, science teachers usually think of the difficulties first in lexical terms: that is, as difficulties of vocabulary. This is what is implied by the term 'jargon', which means a battery of difficult technical terms. The word 'jargon' often carries a further implication, namely that such terms are unnecessary and the same meaning could have been conveyed without them, in the everyday language of ordinary commonsense. And this is, in fact, one view of scientific language: some people think that it is an unnecessary, more or less ritualistic way of writing, and that science – scientific concepts and scientific reasoning – could just as well be expressed in everyday, non-technical terms. They refer to this other kind of language as 'plain English', 'simple words' and the like.

We could contrast this view with the opposite opinion, which is that science is totally dependent on scientific language: that you cannot separate science from how it is written, or rewrite scientific discourse in any other way. According to this view, 'learning science' is the same thing as learning the language of science. If the language is difficult to understand, this is not some additional factor caused by the words that are chosen, but a difficulty that is inherent in the nature of science itself. It is the subject-matter that is the source of the problem.

Usually, when sensible people can hold such opposite points of view, the reality lies somewhere in between; and this is certainly the case in this instance. It would not be possible to represent scientific knowledge entirely in commonsense wordings; technical terms are not simply fancy equivalents for ordinary words, and the conceptual structures and reasoning processes of physics and biology are highly complex and often far removed, by many levels of abstraction, from everyday experience. Hence the language in which they are constructed is bound to be difficult to follow. At the same time, it is often made more difficult than it need be; the forms of scientific discourse can take over, imposing their own martial law, so that writers get locked into patterns of writing that are unnecessarily complicated and express themselves in highly technical wording even in contexts where there is no motive for it. This is the point where we can justifiably talk about 'scientific jargon': where the writer is following a fashion by which he seeks (unconsciously, in all likelihood) to give extra value to his discourse by marking it off as the discourse of an intellectual élite.

It is important to arrive at a balanced view on this question, because we not only need to identify what the problematic features of scientific English are; we also need to try and explain them – to show what functions these things have in the discourse as a whole, and why they have evolved as part of the language of science. This will help us to know whether, in any particular passage, the features that made it difficult to understand were motivated or not – in other words, whether there is some good reason why the text has been written the way it is. Might it be precisely where the complexity is not motivated – where there was no reason for the writer to have adopted that particular wording at that stage in the argument – that the students are finding difficulties? It will take careful, well-informed classroom research to enable us to answer this last question; but we can suggest some explanations, of a general kind, for why these problematic features are found in scientific writing. The language of science, however much it may

become a matter of convention, or a way of establishing the writer's own prestige and authority, is not, in origin, an arbitrary code.

But in order to understand why scientific writing became difficult in certain ways, we shall need to get rid of our obsession with words. The difficulty lies more with the grammar than with the vocabulary. In the last resort, of course, we cannot separate these from each other; it is the total effect of the wording – words and structures – that the reader is responding to, and technical terms are part of this overall effect. Nevertheless technical terms are not, in themselves, difficult to master; and students are not particularly dismayed by them. It is usually the teacher who puts technical terms in the centre of the picture, because vocabulary is much more obvious, and easier to talk about, than grammar. But the generalizations we have to make, in order to help students cope with scientific writing, are mainly generalizations about its grammar. The problems with technical terminology usually arise not from the technical terms themselves but from the complex relationships they have with one another. Technical terms cannot be defined in isolation; each one has to be understood as part of a larger framework, and each one is defined by reference to all the others.

I shall suggest seven headings which can be used for illustrating and discussing the difficulties that are characteristic of scientific English:

1 interlocking definitions
2 technical taxonomies
3 special expressions
4 lexical density
5 syntactic ambiguity
6 grammatical metaphor
7 semantic discontinuity.

This should not be taken as a definitive listing of categories; all these features could be organized in different ways, or sub-divided further, and more could certainly be added. These are simply the headings that I have found useful as a framework for working on the problem. In what follows, I have drawn on various sources, but particularly on the work of my colleagues in Sydney: Charles Taylor's (1979) study of the language of high-school textbooks, with special reference to the problems of second-language learners; Martin and Rothery's (1986) discussion of writing in primary schools; Wignell, Martin and Eggins' (Chapter 8) analysis of geography textbooks at junior and secondary level; and Louise Ravelli's (1985) treatment of grammatical metaphor. My own analysis of scientific texts, reported on in a lecture series at the National University of Singapore, included material from four different points of origin: secondary and upper-primary science and mathematics textbooks from Australia; science lectures recorded at the University of Birmingham in England; writings from the *Scientific American*; and for a historical survey, works by Chaucer, Newton, Priestley, Dalton, Darwin, and Clerk Maxwell. I found it necessary to undertake this kind of historical study in order to investigate how, and especially why, the features that were causing such problems of understanding today had themselves originally evolved.[1]

5.1 Interlocking Definitions

Here is an example of how a series of definitions is presented to children in upper-primary school:[2]

> A circle is a plane curve with the special property that every point on it is at the same distance from a particular point called the **centre**. This distance is called the **radius** of the circle. The **diameter** of the circle is twice the radius. The length of the circle is called its **circumference**.

Here **circle, centre, radius, diameter**, and **circumference** all figure in a series of inter-locking definitions. Within this set, **circle, centre**, and **radius** are mutually defining: they are all used to define each other, through the intermediary of two other terms which are assumed to be already known, namely **distance** and **plane curve**. The remaining terms, **diameter** and **circumference**, are then defined each by reference to one of the first three; and here two other terms are assumed to be known and mastered, namely **length** and **twice**. The pattern of definitions is as in Figure 5.1. Now, there are certain difficulties here that are specific to this example: the notions of 'plane curve', of 'every point on a curve', and of 'the length of a circle'. Likewise, any example chosen would probably present special problems of its own. But at the same time the overall semantic structure is strikingly complex; and this is something that may be found anywhere in maths and science textbooks. The learner has first to reach an understanding of a cluster of related concepts, all at the same time, and then immediately use this understanding in order to derive more concepts from the first ones. Note that these relationships are set up by means of a grammatical construction which faces both ways: '*a* is defined as *x*', '*x* is called *a*' – both of which may occur in the same clause, as happens in the first sentence of the extract:

> *a* is defined as an *x* which has feature *y* which is called *b*
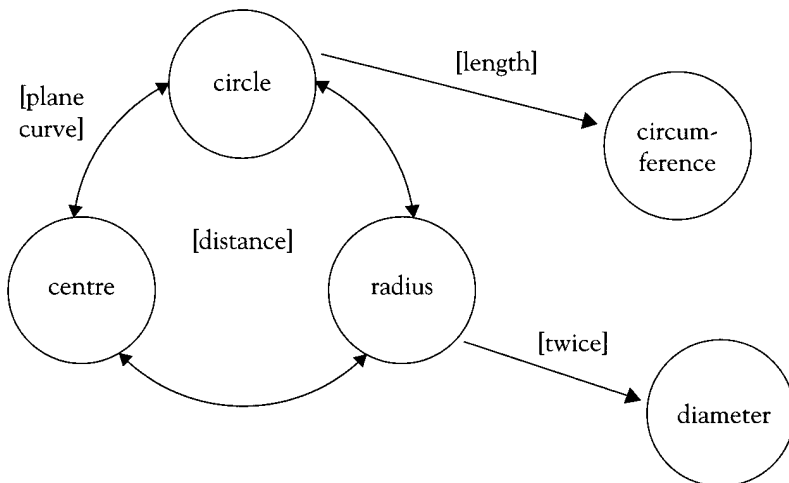
Figure 5.1 Interlocking definitions of five technical terms

Furthermore the 'hinge' element *y* is itself fairly complex grammatically:

> with the special property that every point on it is at the same distance from a
> particular point

Thus while a technical term poses no great problem in itself – there is nothing difficult about the *word* **diameter**, and its definition **twice the radius** is easy enough to understand *provided you know what the radius is* – a technical *construction* of this kind, in which the terms interlock and are used to define each other, does present the learner with a considerable intellectual task. Writers sometimes try to make the task simpler by adding further definitions, not realizing that in a construct of this kind the greater the number of things defined the harder it becomes to understand.

5.2 Technical Taxonomies

These are related to the last heading; but the complexity is of a different kind. In the natural sciences, technical concepts have little value in themselves; they derive their meaning from being organized into taxonomies. Such taxonomies are not simply groups of related terms; they are highly ordered constructions in which every term has a definite functional value. As Wignell, Martin and Eggins point out in their study of the language of high school geography, a technical taxonomy is typically based on two fundamental semantic relationships: '*a* is a kind of of *x*' (superordination) and '*b* is a part of *y*' (composition). Thus in their example of **climate**, climate is divided into certain *kinds* (Figure 5.2), and is composed of certain *parts* (Figure 5.3). It will be seen that the first is an 'either/or' relationship: 'every climate
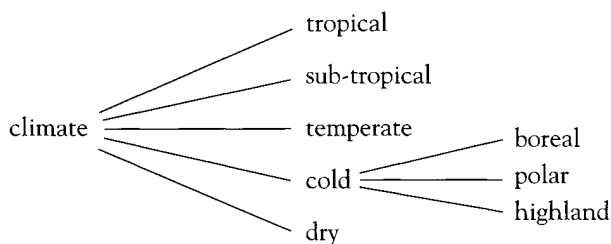
Figure 5.2 Kinds of climate (superordination)
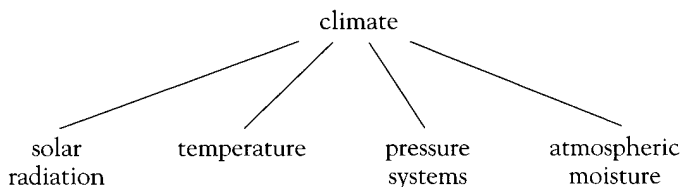
Figure 5.3 Parts of climate (composition)

is *either* tropical *or* sub-tropical *or* ...'; the second is a 'both + and' relationship: 'every climate is *both* temperature *and* solar radiation and ...'. (We have to stretch the meaning of **either** and **both** here so that they are no longer limited to just two.)

Three problems can arise with such constructions. The first is that these taxonomies can become very complicated, with many layers of organization built into them. The second is that they are usually not made explicit; there are often neither lists nor diagrams (the figures above do not appear in the textbook), so the student is left to work them out for himself from reading the text. The third problem is that the criteria on which these taxonomies are set up can also be extremely complex, so that they need to be described and explained in some detail.

It would be possible to make the reading matter more learner-friendly by dealing systematically with these three problems in turn: first introducing the terms in their taxonomic order (e.g. **there are five kinds of climate, namely ...**), then setting them out in lists or diagrams, and finally describing each category and, where possible, explaining it. In practice, the first and third steps are usually taken together, with the second one being left out; as a result, the way the taxonomy is presented is often grammatically very confusing, with no clear pattern of theme and information running through it. For example:

> ONE-CELLED ORGANISMS. Some organisms, such as the ameba and others in the culture you examined, are composed of only one cell. These organisms are said to be **unicellular**. Living in water, these animals are in close contact with the food, water, and oxygen they need. A one-celled animal takes in its own food. Along with this food, the animal also takes in some water. Additional water enters the animal cell by diffusion. The normal movement of the cytoplasm carries the food, water, and oxygen throughout the cell. Waste materials are eliminated directly to the outside of the cell. Most one-celled organisms can survive only in a watery environment.

It is very likely that the writer of this passage has been trying to make it more interesting for the reader by varying the order and the manner of presenting the categories to be learnt: the kinds of organism, the parts of the organism and so on. Thus every clause begins with a new theme: **some organisms, these organisms, living in water, a one-celled animal, additional water, the normal movement of the cytoplasm, waste materials, most one-celled organisms**. Unfortunately, while this kind of variation may be an admirable goal for a literary text, if scientific texts are written in this way they are much harder to read and to learn from. It is very difficult to construct the relevant taxonomies on the basis of this kind of writing.

5.3 Special Expressions

Some expressions used in mathematical language have a special grammar of their own, for example **solving the open sentence over D**. Here it is the expression as a whole that gets to be defined, rather than any particular word in it:

> If *D* is the domain of a variable in an open sentence, the process of finding the truth set is called **solving the open sentence over D**.

This is 'technical grammar', rather than technical terminology; it is not particularly problematic once it has been explained (provided the learner does not ask what happens if D is *not* the domain of a variable in an open sentence).

This kind of special grammar is more common in mathematics than in science; mathematicians have often had to stretch the grammar a little in order to say what they want. Already in Isaac Newton's writings we find some very long nominal constructions, like the following from the *treatise on Opticks*:

> The Excesses of the Sines of Refraction of several sorts of Rays above their common Sine of Incidence when the Refractions are made out of divers denser Mediums immediately into one and the same rarer Medium, suppose of Air, ...

– all of which is merely the Subject of the clause. This kind of stretching of the grammar is less usual in scientific discourse. However, the language of science has brought its own innovations, stretching the grammar in ways which are at first sight less obvious but which, partly because they are less obvious, tend to cause greater difficulties of comprehension. Here is an example from an upper primary-school textbook:

> Your completed table should tell you what happens to the risk of getting lung cancer as smoking increases.

The **table** is, of course, a table of figures; that is understood. But how does a table **tell you** something? – tables do not talk, even tables of figures. And what kind of an object is a **risk**, such that we can ask **what happens** to it? And what does **smoking increases** mean: that more smoke is put out by some combustion process? What kind of relationship is being expressed by the **as**: does it mean 'while' (time), 'because' (cause), or 'in the same way that' (manner)?

What is being illustrated here is not, in fact, a single phenomenon. It is a set of interrelated phenomena: features that tend to go together in modern scientific writing, forming a kind of syndrome by which we recognize that something is written in the language of science. But although these features commonly go together, in order to understand the problems they pose to a student we will need to separate them out; and this will occupy the next three headings. The present section will serve as a bridge leading into them, because when we see them in their historical perspective they do constitute a special mode of expression that evolved in scientific discourse, although we are now so used to them that we no longer think of them as special. It is only when they occur in a fairly extreme form that they stand out, as in the following (taken from an abstract):[3]

> [These results] are consistent with the selective perceptual orientation hypothesis if it is assumed that both word recognition and concurrent verbal memory produce more left than right hemisphere activation and that in the case of mixed lists in the present study this activation had not dissipated on form recognition trials.

5.4 Lexical Density

This is a measure of the density of information in any passage of text, according to how tightly the lexical items (content words) have been packed into the

grammatical structure. It can be measured, in English, as the number of lexical words per clause.

In the following examples, each of which is one clause, the lexical words are in bold type; the lexical density count is given at the right:

(a) But we never did anything very much in **science** at our **school**.   2
(b) My **father** used to **tell** me about a **singer** in his **village**.   4
(c) A **parallelogram** is a **four-sided figure** with its **opposite sides parallel**.   6
(d) The **atomic nucleus absorbs** and **emits energy** in **quanta**, or **discrete units**.   8

In any piece of discourse there is obviously a great deal of variation in the lexical density from one clause to the next. But there are also some general tendencies. In informal spoken language the lexical density tends to be low: about two lexical words per clause is quite typical. When the language is more planned and more formal, the lexical density is higher; and since writing is usually more planned than speech, written language tends to be somewhat denser than spoken language, often having around four to six lexical words per clause. But in scientific writing the lexical density may go considerably higher. Here are three clauses with a lexical density of 10–13, all from *Scientific American* (December, 1987):

(e) Griffith's **energy balance approach** to **strength** and **fracture** also **suggested** the **importance** of **surface chemistry** in the **mechanical behaviour** of **brittle materials**.   13
(f) The **conical space rendering** of **cosmic strings' gravitational properties applies** only to **straight strings**.   10
(g) The **model rests** on the **localized gravitational attraction exerted** by **rapidly oscillating** and extremely **massive closed loops** of **cosmic string**.   13

When the lexical density goes up to this extent the passage becomes difficult to read. Of course, the difficulty will also depend on the particular lexical items that are used and on how they are distributed in the grammatical structure; but the lexical density is a problematic factor in itself. In much scientific writing, almost all the lexical items in any clause occur inside just one or two nominal groups (noun phrases); compare examples (e)–(g) above, where this applies to all except one in each case (**suggested, applies, rests**). Perhaps the hardest examples to process are those which consist of strings of lexical words without any grammatical words in between, such as **Griffith's energy balance approach, cosmic strings' gravitational properties**; likewise those cited at the beginning of the chapter, **form recognition laterality patterns** and **glass crack growth rate**. Even where the words themselves are perfectly simple and well known, as in the last of these four examples, the expressions are not easy to understand. Another example was **the increasing lung cancer death rate**, which appeared in the same passage as the example quoted in the last section. Here, however, another factor contributes to the difficulty, that of grammatical ambiguity; and this leads us in to our next heading.

5.5 Syntactic Ambiguity

Consider examples such as the following:

(h)   Increased responsiveness may be reflected in feeding behaviour.
(j)   Lung cancer death rates are clearly associated with increased smoking.
(k)   Higher productivity means more supporting services.

All have a very simple structure: a nominal group, functioning as Subject, followed by a verbal group, followed by another nominal group with (in two instances) a preposition introducing it. If we focus attention on the verbal expressions, **may be reflected (in)**, **are ... associated (with)**, **means**, we find that they are ambiguous; and they are ambiguous in two respects. In the first place, we cannot tell whether they indicate a relationship of cause or of evidence. Is one thing being said to be the *effect of* another, or is it merely the *outward sign of* it? For example: in (h), does the feeding behaviour *demonstrate that* responsiveness has increased, or does it *change as a result of* the increase? In the second place, supposing that we can identify a relationship of cause, we still cannot tell which causes which. In (k), for example, is higher productivity *brought about by* more supporting services, or does it *cause* more supporting services to be provided? It may seem obvious to the writer, and also to a teacher, which meaning is intended; but it is far from obvious to a learner, and teacher and learner may interpret the passage differently without either of them being aware that another interpretation was possible.

The expression **are clearly associated with**, in (j), can also face in either direction: either 'cause' or 'are caused by'. *We* may know that smoking causes cancer, and hence that the more you smoke, the more likely you are to die from cancer of the lung. But this sentence *could* mean that lung cancer death rates *lead to* increased smoking: perhaps people are so upset by fear of lung cancer that they need to smoke more in order to calm their nerves. It is even possible that the writer wanted not to commit himself to a choice between these two interpretations of the statistics. But when we start to explore the meaning of this example more carefully, we find that it contains a great deal more ambiguity in addition to that which we have already seen in the verb.

For example, what does **lung cancer death rates** mean? Is it 'how many people die from lung cancer', or 'how quickly people die when they get lung cancer'? Or is it perhaps 'how quickly people's lungs die from cancer'? And does **increased smoking** mean 'people smoke more', or 'more people smoke' – or is it a combination of the two, 'more people smoke more'? Having reached some understanding up to this point, such as 'more people smoke ... more people die of cancer', we still do not know whether they are the same people or not – is it just the smokers who die more, or everyone else as well? Nor do we know whether the situation is real or hypothetical: is it 'because more people are smoking, so more are dying', or 'if more people smoked, more would die'? If we combine all these possibilities we have already reached some 50 possible interpretations, most of which were quite plausible; they are genuine alternatives faced by a human reader, not fanciful simulations of some computerized parsing program.

Where does this ambiguity come from? It arises from various sources. We have already referred to polysemous verbs like **mean, be associated with**; there are

probably between 1000 and 2000 verbs of this class in use in scientific English. But the main cause of ambiguity is that clauses are turned into nouns. That is to say, something that would in spoken English be typically expressed as a clause is expressed instead as a group of words centring on a noun. If I say **Mary announced that she had accepted,** I am making it clear who did what; but if I say **the announcement of Mary's acceptance,** you cannot tell: whether Mary made the announcement herself or someone else did; whether Mary was accepting (something) or being accepted; whether she had accepted/been accepted already or would accept/be accepted in the future. Thus the single nominal group **the announcement of Mary's acceptance** corresponds to many different wordings in the form of a clause: **Mary announced that she would accept, they announced that Mary had been accepted,** and so on. A great deal of semantic information is lost when clausal expressions are replaced by nominal ones.

Scientific writing uses very many nominal constructions of this kind, typically in combination with verbs of the type illustrated in (h)–(k) above. Both these features are, as we have seen, highly ambiguous, although we usually do not recognize the ambiguity until we try to re-word the passage in some other form. Here is a further example:

> (l) The growth of attachment between infant and mother signals the
> first step in the development of the child's capacity to discriminate
> amongst people.

Possible rewordings of this might be:

$$\left\{\begin{array}{l}\text{When}\\ \text{If}\end{array}\right\} \text{an infant and} \left\{\begin{array}{l}\text{its}\\ \text{a}\end{array}\right\} \text{mother} \left\{\begin{array}{l}\text{start to grow}\\ \text{grow more}\end{array}\right\} \text{attached to one}$$

$$\text{another,} \left\{\begin{array}{l}\text{this shows that}\\ \text{this is because}\end{array}\right\} \text{the child} \left\{\begin{array}{l}\text{is taking}\\ \text{has taken}\end{array}\right\} \text{the first steps}$$

$$\text{towards} \left\{\begin{array}{l}\text{becoming}\\ \text{becoming more}\end{array}\right\} \text{capable of} \left\{\begin{array}{l}\text{distinguishing}\\ \text{preferring}\end{array}\right\} \text{one person}$$

from/to another.

Combining these we get $2^7 = 128$ possible interpretations. But in this instance I find it difficult to opt for any one of them; none of the rewordings seems to be particularly convincing.

5.6 Grammatical Metaphor

The high lexical density and the ambiguity discussed in the last two sections are both by-products of a process I shall refer to as 'grammatical metaphor'. This is like metaphor in the usual sense except that, instead of being a substitution of one *word* for another, as when we say **you're talking tripe** instead of **you're talking nonsense,** it is a substitution of one grammatical class, or one grammatical structure, by another; for example, **his departure** instead of **he departed.** Here the

words (lexical items) are the same; what has changed is their place in the grammar. Instead of pronoun **he** + verb **departed**, functioning as Actor plus Process in a clause, we have determiner **his** + noun **departure**, functioning as Deictic plus Thing in a nominal group.[4] Other examples are **her recent speech concerned poverty** instead of **she spoke recently concerning poverty; glass crack growth rate** instead of **how quickly cracks in glass grow**. Often the words may change as well as the grammar, as in the last example where **how quickly** is replaced by **rate** – we do not usually say **glass crack growth quickness**; but the underlying metaphor is in the grammar, and the lexical changes follow more or less automatically.

I am not suggesting that there will always be some absolute, non-metaphorical form to which these grammatical metaphors can be related; metaphor is a natural historical process in language, and modes of expression involving different degrees of metaphor will always exist side by side. We can often take two or three or even more steps in rewording a grammatical metaphor in a less metaphorical, more congruent form; for example, we might say that 'cracking' is really a process – something happening – rather than a thing, so that **cracks in glass**, with **cracks** as a noun, is a metaphor for **glass cracks** with **cracks** as verb. As another example:

> (m) [The 36 class only appeared on this train] in times of reduced loading, or engine failure.

could be reworded as **when loadings were reduced, or the engine failed**; but we might then reword the first part over again as **when the load was smaller** or even **when fewer goods were being carried**.

What is the nature of this rewording? One way of thinking of it is by imagining the age of the reader, or listener. In talking to a nine-year-old, we would never say **in times of engine failure**; we would say **whenever the engine failed**. Notice that we have not had to simplify the vocabulary; there are no difficult words in the first version – it is the grammar that is difficult for a child. Similarly we would change **slow down the glass crack growth rate** to **make the cracks in glass grow more slowly**, or **stop the cracks in glass from growing so quickly**. What we are doing, when we reword in this way, is changing the grammar (with some consequential changes in vocabulary) by making it *younger*. Children learn first to talk in clauses; it is only later – and only when they can already read and write with facility – that they are able to replace these clauses with nominal groups.

As far as we can tell, this also reflects what happened in the history of the language. In English, and other languages of Europe, the older pattern is the clausal one; and it is based on certain principles of wording, which we might summarize as follows:

1 processes (actions, events, mental processes, relations) are expressed by verbs;
2 participants (people, animals, concrete and abstract objects that take part in processes) are expressed by nouns;
3 circumstances (time, place, manner, cause, condition) are expressed by adverbs and by prepositional phrases;
4 relations between one process and another are expressed by conjunctions.

For example:

parti-cipant	process	circum-stance	relation between processes	participant	process	circumstance
the cast	acted	brilliantly	so	the audience	applauded	for a long time
[noun]	[verb]	[adverb]	[conjunc-tion]	[noun]	[verb]	[prepositional phrase]

If this is now reworded metaphorically as:

the cast's brilliant acting   drew   lengthy applause   from the audience
          [noun]   [verb]   [noun]   [prepositional phrase]

a number of changes have taken place. The processes **acted** and **applauded** have been turned into nouns, **acting** and **applause**; the participant **the cast** has become a possessive, while **the audience** has become part of a prepositional phrase. The circumstances **brilliantly** and **for a long time** have both become adjectives inside nominal groups; and the relation between the two processes, showing that one of them caused the other, has become a verb, **drew**. This makes it sound as though acting and clapping were things, and as if the only event that took place was the cause relation between them (… **acting drew** … **applause**). All these changes illustrate what is meant by grammatical metaphor.

This kind of metaphor is found particularly in scientific discourse, and may have evolved first of all in that context. It is already beginning to appear in the writings of the ancient Greek scientists; from them it is carried over into classical Latin and then into medieval Latin; and it has continued to develop – but to a far greater extent – in Italian, English, French, German, Russian and the other languages of Europe from the Renaissance onwards. And although it has spread across many different registers, or functional varieties, of language, in English at least the main impetus for it seems to have continued to come from the languages of science.

Why did scientific writers, from Isaac Newton onwards, increasingly favour such a mode of expression? – one in which, instead of writing 'this happened, so that happened', they write 'this event caused that event'? These were not arbitrary or random changes. The reason lies in the nature of scientific discourse. Newton and his successors were creating a new variety of English for a new kind of knowledge; a kind of knowledge in which experiments were carried out; general principles derived by reasoning from these experiments, with the aid of mathematics; and these principles in turn tested by further experiments. The discourse had to proceed step by step, with a constant movement from 'this is what we have established so far' to 'this is what follows from it next'; and each of these two parts, both the 'taken for granted' part and the new information, had to be presented in a way that would make its status in the argument clear. The most effective way to do this, in English grammar, is to construct the whole step as a single clause, with the

two parts turned into nouns, one at the beginning and one at the end, and a verb in between saying *how* the second follows from the first.

What I am presenting here is a very simplified account; there are, obviously, countless variations on the pattern described above. Nevertheless these variants all derive from the basic principle of organizing information into a coherent form that suited the kind of argumentation that came to be accepted as 'scientific'. Here is a contemporary example, taken from the *Scientific American*:

> The atomic nucleus absorbs and emits energy only in quanta, or discrete units. Each absorption marks its transition to a state of higher energy, and each emission marks its transition to a state of lower energy.

Notice how, in the second sentence, each clause consists of (i) a 'taken for granted' part, nominalizing what has been said before (**the atomic nucleus absorbs energy** → **each absorption; the atomic nucleus emits energy** → **each emission**); (ii) a 'new information' part, pointing forward to what is to come, and also nominalized (**its transition to a state of higher/lower energy**); and (iii) the relation between them, in the form of a verb (**marks**). Frequently the 'taken for granted' part summarizes the whole of a long previous discussion; for example, the same article contains the sentence:

> The theoretical program of devising models of atomic nuclei has of course been complemented by experimental investigations.

This has exactly the same pattern; but here the 'taken for granted' part (**the theoretical program ... atomic nuclei**) is referring back to many paragraphs of preceding text.

If we reword these so as to take the metaphor out, the entire balance of the information is lost. For the last example we might write:

> We devised models of atomic nuclei, in a program of theoretical [research], and in addition of course we investigated [the matter] by doing experiments.

But this would give us no indication that the first part was a summary of what had gone before, or that the last part was going to be taken up and developed in what followed. What is equally important, it would fail to make it clear that each step – devising theoretical models and investigating experimentally – is to be understood as a unity, a single phenomenon rather than an assembly of component parts.

It would be wrong to give the impression that in developing this favourite type of clause structure, and the grammatical metaphor that made it possible, the scientists were guided by any conscious planning. They were not. Newton and his contemporaries did discuss the best ways of constructing a scientific paper, and they tried to regulate the use of vocabulary for building elaborate taxonomies, especially in biology (and taken up later on in chemistry); but they were not aware of their own use of grammar, and these forms evolved naturally in response to pressure from the discourse.[5] It is only when we analyse this discourse grammatically, using a functional grammar, that we can appreciate how the patterns relate to what the scientists were trying to achieve.

I have not presented the detailed grammatical analysis here; it would need too much space. But it is helpful, I think, to bring out the nature of grammatical metaphor, and the sense in which these forms can be said to be metaphorical, because almost every sentence in scientific writing will contain some example of it, and it does present problems to the learner. This is partly a question of maturity: students well into secondary school may still find it difficult to comprehend, even if they have been educated throughout in English medium.[6] For those who are taking up English just as a language for science and technology, the problem may be greater or less depending on the degree and kind of grammatical metaphor found in the language(s) they have used as medium of education before.

It seems likely that part of the difficulty arises, however, because these metaphorical expressions are not just another way of saying the same thing. In a certain sense, they present a different view of the world. As we grew up, using our language to learn with and to think with, we have come to expect (unconsciously, until our teachers started to give us lessons in grammar) that nouns were for people and things, verbs for actions and events. Now we find that almost everything has been turned into a noun. We have to reconstruct our mental image of the world so that it becomes a world made out of things, rather than the world of happening – events with things taking part in them – that we were accustomed to. Some of the problem may even be ideological: the student may want to resist this view of reality that he feels is being imposed on him by the language of science. It is worth noting, in the connections, that the scientists themselves are now becoming dissatisfied with the language they use in their writings. They too feel that it has gone too far in this direction, and that if they are to continue to develop new ideas in science they will need to return to less nominalized forms of expression.[7]

5.7 Semantic Discontinuity

This is my final heading; I am using it to point out that writers sometimes make semantic leaps, across which the reader is expected to follow them in order to reach a required conclusion. Let me discuss just one example:

> In the years since 1850, more and more factories were built in northern England. The soot from the factory smokestacks gradually blackened the light-coloured stones and tree trunks.
> Scientists continued to study the pepper moth during this time. They noticed the dark-coloured moth was becoming more common. By 1950, the dark moths were much more common than the light-coloured ones.
> However, strong anti-pollution laws over the last twenty years have resulted in cleaner factories, cleaner countryside and an increase in the number of light-coloured pepper moths.

The first two paragraphs are rather straightforward but in the third paragraph, problems arise. Taken as a whole, it is a typical example of the structure described in the last section: two processes, with a logical connection between them. The sense is 'a happened, so x happened', expressed metaphorically in the form of 'happening

a caused happening *x*' (**strong anti-pollution laws … have resulted in cleaner factories …**). We might reword this part as:

> Over the last twenty years, [the government has passed] strong laws to stop [people] polluting; so the factories [have become] cleaner …

We saw above that the main reason for choosing the metaphorical form was that 'happening *a*' was something that had been presented before, and so here was being referred to as a whole, as a kind of package or summary of what was to be taken for granted and used as a point of departure for the next step in the argument. However, in this instance happening *a* has not been presented before; this is the first time we have heard of any 'anti-pollution laws'. So the reader has to: discover that it is new information; decode it; and use it as a stepping-off point for understanding something else.

But let us suppose that the reader has coped with this difficult assignment. He now comes to 'happening *a*' and finds that this is a coordination of three processes, all of them presented metaphorically: **cleaner factories, cleaner countryside and an increase in the number of light-coloured pepper moths**. Rewording this, he begins to understand:

> … the factories have become cleaner, the countryside has become cleaner, and there are more light-coloured pepper moths than before.

– that is, the moths have also become cleaner: only a few of them are now affected by dirt in the air. But that is not at all the intended message. What the reader is supposed to do is to insert another logical relationship between each pair of these resulting processes, and then draw a highly complex conclusion from them:

> … the factories have become cleaner, [so] the countryside has become cleaner, and [so] there are getting to be more of the light-coloured pepper moths [because they don't show up against clean trees, and therefore do not get eaten by the birds as much as they did when the trees were dirty].

In other words, the learner is expected to work out for himself the principle of natural selection.

This is a particularly problematic example. The language is highly metaphorical, in the sense of grammatical metaphor; the first part of the sentence is misleading because it suggests that we know about the 'strong anti-pollution laws' already, and in the second part the reader is required to perform two complicated semantic leaps – inserting the two causal connectives, and working out the implications of the second one. But it is not uncommon to find semantic discontinuities of one kind or another in scientific writing; the specialist has no trouble with them – but for learners they are an additional hazard. Of all the kinds of difficulty discussed in these few pages, this is the one a teacher can do least towards helping students to solve. The teacher can give a few illustrations, and warn the students to be on their guard; but every instance seems to be unique, and it is hard to find any general principles behind them all.

5.8 Conclusion

Most of the features described under these seven headings could in principle occur independently of each other. But they are all closely related, and, excepting perhaps those mentioned under 'Special Expressions' (in mathematics), they tend to cluster together as characteristics of scientific discourse. I have tried to show that they are not arbitrary – that they evolved to meet the needs of scientific method, and of scientific argument and theory. They suit the expert; and by the same token they cause difficulty to the novice. In that respect, learning science is the same thing as learning the language of science. Students have to master these difficulties; but in doing so they are also mastering scientific concepts and principles.

At the same time, it must be said that many of those who write in the language of science write it very badly. They leave implicit things that need to be made explicit, create multiple ambiguities that cannot readily be resolved, and use grammatical metaphor both inappropriately and to excess. The language thus becomes a form of ritual, a way of claiming status and turning science into the prerogative of an élite. Learners who complain that their science texts are unnecessarily difficult to read may sometimes be entirely justified. And we are all familiar with those who, not being scientists, have borrowed the trappings of scientific language and are using it purely as a language of prestige and power – the bureaucracies and technocracies of governments and multinational corporations.[8] In bureaucratic discourse these features have no reason to be there at all, because there is no complex conceptual structure or thread of logical argument. But they serve to create distance between writer and reader, to depersonalize the discourse and give it a spurious air of being rational and objective.

In my view the best tool we have for facing up to this kind of language, criticizing it where necessary but above all helping students to understand it, is a functional model of grammar. This enables us to analyse any passage and relate it to its context in the discourse, and also to the general background of the text: who it is written for; what is its angle on the subject matter; and so on. Grammatical analysis is a fairly technical exercise, and not something that students can be expected to undertake for themselves unless they are specializing in language. But science teachers (provided they can be persuaded to discard traditional prejudices about grammar!) may find it interesting and rewarding to explore the language of their own disciplines; and also, where this applies, to compare scientific English with scientific registers that have evolved, or are now evolving, in the major languages of the region in which they work.

Notes

1 See entries in the References for Taylor (1979), Martin and Rothery (1986), Ravelli (1985). Primary texts for the historical survey were Geoffrey Chaucer, *A Treatise on the Astrolabe* (1391); Isaac Newton, *Opticks* (1704); Joseph Priestley, *The History and Present State of Electricity* (1767); John Dalton, *A New System of Chemical Philosophy* (1827); Charles Darwin, *On the Origin of Species* (1859); James Clerk Maxwell, *An Elementary Treatise on Electricity* (1881). Texts from the *Scientific American* were Hamilton and Maruhn, 'Exotic atomic

nuclei' (July 1986); Michalske and Bunker, 'The fracturing of glass', Vilenkin, 'Cosmic strings' (December 1987). For the University of Birmingham studies see King (in prep.). The work from which the present chapter is mainly derived was presented in lecture form in Halliday (1986).

2 Sources for the upper-primary/lower-secondary science and mathematics texts quoted in this chapter are McMullen and Williams (1971); Intermediate Science Curriculum Study, (1976); Parkes *et al.* (1978); Vickery *et al.* (1978). The taxonomies of climate are from Sale *et al.* (1980).

3 From the Abstract to Hellige (1978).

4 For the analysis of the grammar, see Halliday (1985), Chapters 5 and 6.

5 For the evolution of the scientific article, see Bazerman (1988). For an account of the work of the scientific language planners at the time of Newton, see Salmon (1966, 1979).

6 See Lemke (1982, 1983) for the results of a detailed investigation of the teaching of science in American high schools. For discussion of science education in Britain, with reference to the language of science, see White and Welford (1987).

7 This point is discussed briefly in Chapter 6 of Halliday and Martin (1993).

8 For an analysis of the nature and function of technocratic discourse, see Lemke (1990).

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Part 2

Getting Down to Specifics with Corpus and Functional Approaches

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Introduction

Example 1

Photographs of 16 famous people, politicians, heads of state, actors etc., recognition of whom was expected for her educational level, were presented individually. She recognized only President Kennedy the first time, but not on subsequent occasions. From a live line-up of 2 very familiar persons and 6 strangers, she could not pick out her sister or the examiner, when they were silent and motionless.

Example 2

On the walls of the apartment there were photographs of his family, his colleagues, his pupils, himself. I gathered a pile of these together, and, with some misgivings, presented them to him. What had been funny, or farcical, in relation to the movie, was tragic in relation to real life. By and large, he recognized nobody: neither his family, nor his colleagues, nor his pupils, nor himself. He recognized a portrait of Einstein, because he picked up the characteristic hair and moustache; and the same thing happened with one or two other people. 'Ach, Paul!', he said, when shown a portrait of his brother. 'That square jaw, those big teeth, I would know Paul anywhere!' But was it Paul he recognized, or one or two of his features …?

These two extracts are discussing a similar medical condition but they are written in very different styles and for different purposes. Example 1 is a traditional academic report written by a medical doctor for others in a similar field. The patient is subject (the Actor in functional terms) of most sentences but is not named. The sentences follow similar patterns of noun phrase (she) + verb (mental processes such as *recognize, could not pick out*) + noun phrase (e.g. *her sister, the examiner, everybody familiar*). Example 2 is also written by an expert medical doctor, but it is addressed to a wider audience – to those who are interested non-specialists as well as to those who are experts in the field. Instead of just using a repetitive sequence of similar sentences to give details, this example is written more like a narrative, a story. Both the patient and the doctor are participants in what is happening (*I gathered…; He recognized…*). There is reported dialogue, and most importantly there is comment from the writer (*What had been funny, or farcical, in relation to the movie, was tragic in relation to real life …; But was it Paul he recognized, or one or two of his features … ?*).

Examples 1 and 2 are written texts, both are in the field of medicine and both are detailing the case histories of a patient with a similar condition. We can therefore categorize them as in the same medical register (see Chapter 3 by Biber and Conrad). However, this broad-based categorization does not indicate that the authors have chosen to present the material in different ways. By looking more closely at the grammar of texts we can see how features vary systematically not just between written or spoken texts, but *within* different registers. Looking at variation within particular registers is a key theme of this section. By narrowing our focus and using different types of texts or corpora, grammatical analysis is able to be more specific and to show not just the broad brush characteristics of a register, but the fine detail of texts written for different audiences and for different purposes.

In Part 1 the concept of register was introduced by Biber and Conrad through looking at texts grouped under the headings of academic prose, conversation, news and fiction. They undertook their inter-register comparisons using techniques of corpus analysis. In line with our narrower focus in Part 2, in the first chapter in this section Ann and Martin Hewings look into just one of these registers – academic prose – and again use corpus techniques. By taking just one grammatical structure, they investigate how it functions in contrasting collections of academic prose. They demonstrate what we can call intra-register variation – variation within a single register.

Chapter 7 by Hilary Hillier looks at grammatical features which shed light on two versions of the same fiction text. So we have here another of the registers of Biber and Conrad – fiction – but the analysis is specifically aimed at finding out in what ways an original story by Charles Dickens differs from a simplified version. Hillier does this by making a detailed study of both clause and noun phrase structure. Her examination of the grammar is conducted using mostly traditional grammatical labelling but is situated within a functional framework. The analysis itself demonstrates a very clear methodology for textual comparisons using a non-corpus based approach.

Discussion in an on-line computer conference is analysed using both corpus and functional approaches in Chapter 8 by Ann Hewings and Caroline Coffin. They apply a combination of corpus and functional analysis in a comparison of university students' on-line discussion and essays. Links are made between the registers of conversation and academic prose and intra-register variation within academic prose is highlighted. The quantitative analysis enabled by the use of corpus techniques is supplemented by a qualitative account using systemic functional grammar of how the conference messages are structured. Lessons for managing interaction in this new media are considered.

Systemic functional analysis is used in Chapter 9 to look at a very specific example of the register of conversation – the developments in language of a child through to age 5. Using a longitudinal case-study approach Clare Painter records the speech of her son as he gains knowledge of the complexities of the language system and simultaneously uses language to reflect on the world. Through an examination of these spontaneous spoken conversations Painter infers changes in 'meaning potential'. She makes explicit links between grammatical sophistication and the growing ability of the child to make sense of the world around him.

The final chapter in this Part is by Gill Francis and Annaliese Kramer-Dahl, and the examples at the beginning of this introduction were taken from their data. The chapter is based on a much longer academic article which demonstrated the ability of analysis using systemic functional grammar to show how texts which are apparently similar can vary significantly in the way they function to represent people, ideas, activities, and relationships. By looking at the way many aspects of grammar interrelate, Francis and Kramer-Dahl are able to specify how the different texts achieve different purposes and how this reflects the aims and character of individual authors.

Part 2, then, is designed to illustrate that while we can group texts into broad register categories on the basis of their grammar, we do not have to stop at that point. Grammatical analysis can also be used to show up the variation within registers. This can be accomplished through more specifically focused corpus study and detailed grammatical analysis. What we find by becoming more specific is that grammar is a remarkably flexible tool which allows us to communicate subtleties of meaning that we may not be consciously aware of. It takes detailed analysis to bring these subtleties to consciousness so that we can understand and reflect on them.

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6 | Impersonalizing Stance: A Study of Anticipatory 'it' in Student and Published Academic Writing

Ann Hewings and Martin Hewings

6.1 Introduction

Language allows speakers and writers to communicate information and, equally importantly, to express opinions and attitudes. Traditionally, however, academic writing has been seen as presenting information in an objective way which avoids the intrusion of personal opinion and focuses on the research activity being reported. The common occurrence of passives in scientific writing is a frequently quoted example of this type of language use. This view of academic language ignores the ongoing debates between researchers and the importance of persuading other members of the academic community of the importance of research findings or views on the subject (Latour and Woolgar, 1979; Bazerman, 1988; Swales, 1990). It downplays the writer's stance towards the research that he or she is discussing. To avoid such oversimplification, we can consider academic writing as composed of both the information or content matter under discussion and as reflection on that content. The latter involves markers of stance such as *certainly*, *probably*, *likely* and modals and semi-modals such as *should*, *must*, *need to*. These grammatical devices allow writers to express attitudes, assessments, and judgements on the propositional content that they are writing about, i.e. to project their opinion. Through such expressions, the writer influences how the reader interprets and evaluates the content matter.

In this chapter we focus on one particular grammatical device for the expression of stance: clauses in which the subject is placed at the end of the clause and *it* inserted in the normal subject position. The terms *anticipatory 'it'* and *extraposed subject* are used here to refer to these two elements (Biber *et al.*, 1999) although 'preparatory it' or 'dummy it' are used elsewhere (e.g. Jespersen, 1933; Hasselgård *et al.*, 1998). To illustrate, compare the following pairs of sentences, one with and the other without extraposed subjects:

	ai	That these results are provisional must be emphasized.
and	aii	*It must be emphasized* that these results are provisional.
	bi	To acknowledge the differences is important.
and	bii	*It is important* to acknowledge the differences.

For convenience, the term *it*-clause will be used below to refer to the type of antici-patory *it*-clause exemplified in (a*ii*) and (b*ii*) which are followed by extraposed subjects.

Both non-rhetorical and rhetorical motivations for the choice of *it*-clauses over non-extraposed variants, where they exist, can be identified. A *non-rhetorical* motiv-ation rests on the assumption that longer subjects are more commonly located at the end of the clause. Quirk *et al.* (1985: 1392) claim that 'for clausal subjects the postponed position is more usual than the canonical position before the verb', while Bloor and Bloor (1995: 167) observe that 'other things being equal, the longer and more complicated the clause, the more likely it is to be extraposed'. Hasselgård *et al.* (1998) argue that the use of anticipatory *it* accords with their 'information principle' – the tendency in English to present information within a sentence in the order 'given' to 'new' – and their principle of 'end weight' – the tendency to place relatively long and heavy elements, typically carrying a high information load, towards the end of the sentence. A. Hewings (1999) has argued, however, that non-rhetorical motivations are rarely sufficient to account for the selection of an *it*-clause in any particular case.

A number of *rhetorical* motivations for the selection of *it*-clauses, where a reader is being persuaded to accept an opinion, or positioned to see it as a matter of common sense, have also been noted. First, Quirk *et al.* (1985: 1114) mention the use of comment clauses – including *it*-clauses such as *It is said*, *It is reported*, *It has been claimed* – as hedging devices which 'express the speaker's tentativeness over the truth of the matrix clause'. The *it*-clause itself distances the writer from the content expressed in the following *that*-clause and choice of the reporting verb allows great freedom in accepting, rejecting or remaining neutral about the proposition expressed (Thompson, 1994). Second, *it*-clauses with adjective complementation (e.g. *It is surprising*, *It is important*), what in systemic functional linguistics would be called 'projecting clauses', allow the writer to encode an evaluation which then influences how the subsequent *that*-, *to*-infinitive, or *wh*- clause is to be interpreted (Francis, 1993; Hunston and Sinclair, 2000). Third, the choice of *it*-clauses over a construction with a personal pronoun (e.g. *It is proposed*, rather than *I propose*) can also allow the writer to depersonalize opinions. In this way, the writer presents an opinion as object-ive, distanced from the writer, and thus less open to negotiation (Martin *et al.*, 1997).

It-clauses have been found to be relatively frequent in academic writing when compared with other registers. Biber *et al.* (1999), for example, observe that *it*-clauses followed by extraposed *that*-clauses (as in (a*ii*) above) are moderately common in academic prose and written news reports, but rare in fiction and conversation, while *it*-clauses with an adjective followed by extraposed *to*-clauses (as in (b*ii*) above) are rare in conversation, moderately common in fiction and written news reports, but common in academic writing. The adjectives preceding the *to*-clauses often express the stance of the writer with regard to possibility, necessity/importance and personal or other evaluations (Biber *et al.*, 1999: 985). We argue that they are a feature of academic writing that functions to express opinions and to comment on and evaluate propositions while allowing the writer to remain in the back-ground. Such strategies add to the impression of the presentation of objective, impersonal knowledge.

It-clauses, while being rhetorically useful, cause problems for non-native speakers, such as those in the research reported below, who are required to produce academic prose in English. As many languages have no counterpart to anticipatory *it*-clauses (Jacobs, 1995), this is perhaps not surprising. Problems include both grammatical errors and errors of appropriacy. The chapter compares the use of *it*-clauses in a corpus of student dissertations written as part of the Masters in Business Administration programme at the University of Birmingham with *it*-clauses in a corpus of published academic texts taken from the field of Business Administration. We begin by specifying more precisely what we take to be within the bounds of this investigation, and present a classification of anticipatory *it*-clauses based on their rhetorical function. Using this classification, we go on to present a quantitative and qualitative comparison of *it*-clauses in the two corpora. Although lexico-grammatical errors are noted in passing, our primary focus is on the *choice* of *it*-clauses and what an examination of this can tell us about the process of interaction between writer and reader in academic text beyond the transfer of content information.

6.2 The Investigation

6.2.1 The data

The investigation examines *it*-clauses in two computerized corpora of text. Although corpus analysis is now well established in applied linguistics research, comparative studies of learner and native speaker language are more recent. Perhaps the largest-scale work is by Granger and her associates on the International Corpus of Learners' English, a collection of comparable corpora of English texts written by different native speaker groups (e.g. Granger and Tyson, 1996; Granger, 1997; and various papers in Granger, 1998). Smaller-scale research has also been conducted with corpora of English texts produced by learners. Flowerdew (1998) compares the use of markers of cause and effect in essays written by Chinese speakers on the topic of environmental pollution with those in a published text on global warming. Also working with Chinese speakers, Green *et al.* (2000) compare topic-fronted devices and logical connectors in sentence-initial position in a corpus of students' academic writing with texts written by native speakers from the LOB and BROWN corpora. The particular strength of corpus analyses such as these is that it makes feasible the examination of large quantities of text. Thus, it is possible to generalize from findings with greater confidence than when a relatively small sample of texts is examined.

The two corpora used in this analysis are referred to below as *Jourcorp* (Journals corpus) and *Discorp* (Dissertations corpus). *Jourcorp* comprises 28 papers from three journals from the early 1990s: *The Journal of General Management* ('gm' after the extracts below – ten papers), *The Journal of Business Research* ('br' – nine papers) and *International Marketing Review* ('mr' – nine papers). *Discorp* comprises 15 dissertations written during the 1990s by non-native speakers as the last component of their MBA programmes at the University of Birmingham. Details are given in Table 6.1. The material was scanned into a computer and the two corpora accessed using concordancing software in *WordSmith Tools* (Scott, 1996).

Table 6.1 Details of *Jourcorp* and *Discorp*

Corpus	No. of texts	Length of texts: range (in words)	Average length of texts (in words)	Total size of corpus (in words)
Jourcorp	28 papers	from 1834 to 8620	4415	123,633
Discorp	15 dissertations	from 9235 to 24,102	13,559	203,389

A corpus of academic journal articles was selected for comparative purposes, rather than another genre such as textbooks, on the basis that it represents the model of writing style that the students concerned are most commonly urged to aspire to in their dissertations. This occurs both in English language classes, where extracts from published articles are a frequent source of model illustrative material, and explicitly in the advice given to students at the beginning of the course from the Birmingham Business School. Clearly, however, the two genres are not identical with respect to content, organization, and readership, and this needs to be borne in mind in making comparisons. The three particular journals were selected because articles from them occur frequently on the reading lists given to MBA students.

Discorp differs from many other corpora of learner English in that it comprises texts that may have gone through a number of drafts and are likely to have had input in one form or another, both on content and language, from fellow students and tutors, who may be native speakers. However, our focus of attention is not primarily the errors that students make and how these can inform a better understanding of second language acquisition. Rather, we are concerned with the finished products of the writing process, here in the form of submitted dissertations and published journal papers, and the distinctions that remain between them.

6.2.2 Methods

Clearly, clause-initial *it* can perform a wide variety of grammatical functions. Here we exclude from consideration clauses in which initial *it* functions as pronoun, in cleft sentences (e.g. 'It was on examination of the corpus that differences were observed'), and as dummy or prop *it* (e.g. 'It's raining'). We also exclude cases in which *it* anticipates a following object clause where there is an intervening necessary clause element (Biber *et al.*, 1999) (e.g. 'I put it to you that the argument is incorrect') as in such cases there is no alternative to extraposition. However, we include constructions such as 'It seems' and 'It appears' which, while they 'have all the appearance of clausal extraposition' (Quirk *et al.*, 1985: 1392), have no non-extraposed variant unless some expansion is added such as 'seems reasonable' or 'appears certain'.

A number of stages were gone through to arrive at the classification of anticipatory *it*-clauses presented below. First, we isolated all such clauses in the two corpora using concordancing software and each of us independently produced a preliminary classification of a sample of these clauses. At this stage we excluded from

consideration *it*-clauses that presented propositional content; that is, with a predominantly experiential function (see Halliday, 1994). For example:

(1) Through the examination of Tables 4 to 8, *it is possible* to discover the underlying driving forces that account for the differences between high- and low-performing exporters. (*br9*)

(2) *It emerged* from the various responses that the dominating sectors include the electronics industries, household products … (*gm5*)

We also excluded the relatively few instances in which *it*-clauses had a textual, or text-organizing, purpose, referring to other parts of the text, as in:

(3) *It was pointed out in chapter one* that Kenya has a mixed economy in which the public and private sectors complement each other. (*dis11*)

We were left with those *it*-clauses which had an interpersonal function; for example, commenting on, evaluating, or hedging the following clause. We compared our classifications, and negotiated a new framework which combined features of both. While we did not refer during this process directly to other classifications of stance-like functions by Vande Kopple (1985), Crismore *et al.* (1993) and Hyland (1999), we were familiar with these, and similarities between their classifications and ours are evident, with some of their terminology being adopted. Using this framework, we went on to classify the whole of the data independently, reaching agreement on around 85 per cent of cases and agreement on the remainder after discussion. Further minor modifications were made to the framework, resulting in that presented in the next section.

6.2.3 A classification of anticipatory *it*-clauses as indicators of writer stance

The classification of *it*-clauses is shown in Table 6.2.

Hedges withhold the writer's full commitment to the content of the extraposed subject. (For a more general discussion of hedging see, for example, Lakoff, 1973; Hyland, 1994, 1998; Crompton, 1997; Varttala, 1999.) In the first category (1*a*) we include hedges in which the writer uses a variety of modality markers to give an indication of the degree of probability, value or necessity of the content. In the second (1*b*), writers indicate the non-factual status of a proposition by marking it as being their suggestion, contention, argument, assumption, and so on.

Attitude markers express the writer's attitude towards the content of the extraposed subject. We distinguish between those (2*a*) in which the writer identifies information as worthy of particular attention and those (2*b*) which express an evaluation, indicate a value judgement or provide an assessment of how the content compares with expectations.

Emphatics emphasize the force or the writer's certainty in the content of the extraposed subject. We distinguish three sub-categories of emphatics. The writer may (3*a*) indicate that a conclusion or inference should be drawn, without mitigating this through hedging. Effectively, the reader is told that her or she, too, must reach this conclusion from the evidence provided. We make a distinction between items

Table 6.2 Classification of *it*-clauses

Interpersonal functions of *it*-clauses	Sub-categories	Example realizations
1 hedges	1a likelihood/possibility/ certainty; importance/value/ necessity, etc.	it is likely; it seems improbable; it would certainly appear
	1b what a writer thinks/assumes to be/will be/ was the case	it could be argued; it seems reasonable to assume; it was felt
2 attitude markers	2a the writer feels that something is worthy of note	it is of interest to note; it is worth pointing out; it is noteworthy
	2b the writer's evaluation	it is important; it was interesting; it is surprising
3 emphatics	3a the writer indicates that a conclusion/deduction should be reached; that a proposition is true	it follows; it is evident; it is apparent
	3b the writer strongly draws the reader's attention to a point	it is important to stress; it should be noted; it must be recognized; it is essential to understand
	3c the writer expresses a strong conviction of what is possible/important/ necessary, etc.	it is clear; it is impossible; it is safe to assume; it would be strongly desirable
4 attribution	4a specific attribution (with a reference to the literature)	it has been proposed (+reference)
	4b general attribution (no referencing)	it is estimated (+no reference)

in 2*b* in which the writer simply identifies material as noteworthy and those in 3*b* in which the reader's attention is forcefully drawn to some point. We group items in which the writer expresses a strong conviction of what is possible, important, or necessary in category 3*c*.

Attributions are used to lead the reader to accept the writer's judgements as being soundly based. A distinction is made between **specific attributions** (4*a*), which have references to literature attached to them, and **general attributions** (4*b*), which have no such references.

While we found the classification reasonably easy to apply, it is worth noting one consistent area of difficulty in order to assist researchers who may wish to adopt the framework in their own investigations. Although we found it useful in

general to distinguish between category 2b Attitude markers: the writer's evaluation, and 3c Emphatics: the writer expresses a strong conviction of what is possible/important/necessary, etc., placing particular instances in one or other group was occasionally problematic. We have taken adjectives such as *clear, impossible*, and *necessary* as indicative of a 'strong conviction' and therefore in 3c, while adjectives such as *important, interesting* and *surprising* do not indicate such strength of conviction and are therefore in 2b. Clearly, the precise boundary between them is subjective.

6.3 Findings

Table 6.3 presents the number of occurrences of *it*-clauses in the two corpora in each category. Two sets of figures are given: the number of occurrences and, in brackets, the number per 1000 words, allowing direct comparison.

Overall, the student writers make more frequent use of *it*-clauses (86 per cent more based on the figures per 1000 words) than published writers. However, this greater use is not consistent across the four functional categories. While student writers make greater use of *it*-clauses in indicating attitude (28 per cent more), emphatics (91 per cent more) and attribution (113 per cent more), they make less use of *it*-clauses in hedging (17 per cent less). To explore these differences in more detail, we will now look at each of the four categories in turn.

6.3.1 Hedges

Hedges in category 1a are similar in *Discorp* and *Jourcorp* both in terms of frequency and form. In both corpora, the predominant patterns are *it is* + *adjective* and *it may*

Table 6.3 Frequency of occurrence of *it*-clauses in the two corpora

		Jourcorp No. (No. per 1000 words)	*Discorp* No. (No. per 1000 words)
1 hedges	1a	20 (0.16)	17 (0.08)
	1b	31 (0.25)	53 (0.26)
	Total	**51 (0.41)**	**70 (0.34)**
2 attitude markers	2a	9 (0.07)	14 (0.07)
	2b	39 (0.32)	87 (0.43)
	Total	**48 (0.39)**	**101 (0.5)**
3 emphatics	3a	7 (0.06)	31 (0.15)
	3b	15 (0.12)	34 (0.17)
	3c	18 (0.15)	59 (0.29)
	Total	**40 (0.32)**	**124 (0.61)**
4 attribution	4a	18 (0.15)	13 (0.06)
	4b	1 (0.01)	53 (0.26)
	Total	**19 (0.15)**	**66 (0.32)**
Total		**118 (0.95)**	**361 (1.77)**

be + adjective as in:

(4) *It is likely* that in collectivist societies, professionals, as they are, will not see themselves as distinct from managers. (*gm8*)

(5) *It may be practical* to balance this kind of trade item so that the company may maintain an 'evidence account' of all transactions. (*dis9*)

Differences are, however, more apparent in category 1*b*. The majority of these hedges can be placed into one of three groups: those which include *appears* or *seems* (e.g. *it appears*), those which include a modal verb (e.g. *it can be argued*), and those in which hedging is marked through another verb (e.g. *it is argued, it is contended*). The numbers within each group in the two corpora are given in Table 6.4.

Table 6.4 Classification of category 1*b* items

Corpus	*it + appears/ seems*	*it + modal + main verb*	*it + main verb*
Jourcorp	12	4	11
Discorp	12	14	26

In the first group, the main pattern in *Jourcorp* is *it + appears*, with eight of the 12 occurrences, as in:

(6) *It appears* that the services currently performed well by export intermediaries are not perceived as germane or helpful to small firms who do (or desire to) export their products to foreign markets. (*mr7*)

In the remaining four, *it seems* is followed by one of the adjectives *clear, likely* or *reasonable* (two occurrences):

(7) That is, *it seems clear* that as insider holding proportions increase, capitalization ratios decrease. (*br4*)

Of the 12 occurrences in *Discorp*, only three use *it + appears*, and a further three use *it seems + adjective*. The remaining six, half of the total, include a pattern not found in *Jourcorp – it seems that*:

(8) In terms of training by multinationals, *it seems that* different studies have shown different results. (*dis2*)

(9) In terms of employing local staff, *it seems that* this phenomenon is getting better nowadays because multinationals have begun to employ a very significant proportion of local staff in managerial grades ... (*dis2*)

The effect of this is to suggest indecision about the statement made in the *that-*clause. In (8), for example, while we might reasonably expect the writer to be able to form a view on whether 'different studies have shown different results' or not, the inclusion of 'it seems that' suggests a reluctance or inability to do so.

Of the small number (four) of examples in *Jourcorp* of *it*-clauses with modal verbs, three include *can* (*it can be argued/anticipated/expected*) and the other includes

could (*it could be anticipated*). In contrast, the majority (nine) of the 14 examples of this type in *Discorp* include *may* as in:

> (10) All having been said, *it may be concluded* that the role SMEs play in both the social and economic development of Third World countries should be given prominence in those developing countries where it is lagging behind ... (*dis12*)

> (11) *It may be said* that its biggest handicap in terms of expansion is lack of expertise and lack of trained personnel. (*dis5*)

This use of *it may* certainly does occur in academic writing. However, it is interesting to note its absence in *Jourcorp* – and, indeed, its rarity in our examination of a larger corpus of academic writing not reported here – and contrast it with its relative frequency in *Discorp*. We suggest that its relative infrequency in published writing is a consequence of its ambiguity. In such contexts, 'may' might imply 'can' (*it can be concluded; it can be said*), suggesting the writer's support for the following proposition, or it might imply 'may or may not', suggesting that the writer at least has reservations about the validity of the proposition. 'It can', however, has no such ambiguity.

The most significant difference between *Discorp* and *Jourcorp* in the third group (*it + main verb*) is in the use of the verb *argue*. Of the 26 instances of this pattern in *Discorp*, *argue* is found 17 times, yet there are no occurrences in *Jourcorp*. Examples from *Discorp* include the following:

> (12) *It is argued* that such involvement in the development of the nation gives the trade unions better bargaining power with the employers and government. (*dis15*)

> (13) *It is reasonable to argue* that governments perceive that the firms in which local nationals hold a significant equity interest are more subject to their control than those which are entirely foreign. (*dis3*)

It should be remembered that in these and all similar examples, it is the *writer's* argument that is being presented, so that the highlighted sections in the examples above might be glossed as 'I argue', and 'It is reasonable for me to argue'. If we look more widely at the use of the verb *argue* in *Jourcorp*, of the 18 occurrences (including *argue, argues* and *argued*), 15 have a subject other than the author, as in 'academics continue to argue', 'Futures proponents argue', and 'As Ferguson (1981) argues'. In only three cases is the writer the subject, and in two of these a contrast is presented between what the writer argues and what others have argued:

> (14) We would argue, however, that only conglomerates organized on classical hierarchical lines are approaching the ends of their useful lives ... (*gm7*)

This suggests that in *Jourcorp* there is a tendency to use *argue* to report the views of others rather than those of the writer. The exception is when the writer's view is presented which is in some way counter to the views of others, previously reported. In contrast, the student writers display a tendency to use *argue* to introduce their own views and claims in a neutral rather than contrastive way.

6.3.2 Attitude markers

Items in category *2a* are similar in *Discorp* and *Jourcorp* both in terms of frequency and realization. Most include one or more of the words *worth(y)*, *note* or *interest*:

> (15) *It is interesting to note* that Western State of Nigeria (1972, pg. viii) identify the following as the seven characteristics that small-scale industries, whether household, craft or factory, possess. (*dis12*)

> (16) *It is worth noting* that a number of interviewees alluded to the lack of trust between industry participants. (*mr6*)

In *Discorp*, the two most frequent means of using *it*-clauses in marking something of note, both occurring three times, are *it is observed* (meaning 'I observe') and *it is noted* (meaning 'I note'):

> (17) *It is observed* that in practice there is a strong link between national culture and organisational culture. (*dis4*)

> (18) *It is noted* that Matsushita does not fire people, it regularly rotates those in trouble into other jobs. (*dis4*)

While neither of these is found in *Jourcorp*, the corpus may simply be too small to include instances of them.

Attitude markers in category *2b* are primarily of the form *be/become + adjective*, often with some modification of the adjective, as in *it is relatively easy* or *it is very important*. Modal verbs are sometimes used, as in *it would be desirable* or *it should not be surprising*. To compare attitude markers, we begin by listing those adjectives used in this way more than once in each corpus, together with their frequency of occurrence:

Discorp	*Jourcorp*
difficult (19)	difficult (11)
important (18)	surprising (5)
easy (12)	easy (4)
surprising (7)	important (4)
desirable (3)	unrealistic (2)
wise (3)	useful (2)
appropriate (2)	
pointless (2)	
useful (2)	

Interestingly, then, the student writers and their published counterparts show similarity in their choice of adjectives in this pattern, with the four most frequent adjectives being the same, although not quite in the same order of frequency, in the two corpora. However, some of the adjectives used less frequently by the students seem somewhat incongruous in academic text, as in:

> (19) *It is amazing* that Yamazaki has built four such plants when most of the world's machine tool producers have not even planned, much less built, their first. (*dis7*)

(20) *It is strange* that at times 'smallness' and 'outmoded techniques' are often treated as inseparable. (*dis12*)

(21) *It is pointless* to install a just-in-time inventory system if the suppliers cannot deliver the inventory at the specified time and in the specified volume. (*dis7*)

(22) *It is wise* to allow plenty of time and to make use of all possible sources of information. (*dis13*)

Differences in the modification of adjectives are hard to detect with any degree of conviction, given the small number of occurrences. In *Jourcorp* there are only seven types of adjective modification, none of which occur more than once: *more (difficult)*, *increasingly (important)*, *very (difficult)*, *all too (easy)*, *relatively (easy)*, *seldom (practical)* and *somewhat (surprising)*. In *Discorp* there are 14 occurrences but only six types, with the most frequent modification with *very* and *rather* (*very (important, difficult, etc.) (6)*, *rather (difficult) (3)*).

The general impression, then, is that differences in the use of *it*-clauses as attitude markers are largely quantitative rather than qualitative. Both student and published writers employ them for similar communicative purposes, but students employ them significantly more frequently.

6.3.3 Emphatics

Not only is there a much greater number of *it*-clause emphatics in *Discorp* relative to *Jourcorp*, but on numerous occasions the student writers appear to overstate the validity of their claims in such clauses.

For example, from category 3a there are seven instances of 'it is true that' and five instances of 'it is a fact that' as in:

(23) *It is true* that exploitation eventually will lead to increases in the explicit factors effecting the domestic industry adversely. (*dis14*)

(24) *It is a fact* that MNEs concentrate their activities in particular developing countries and hence the same case apply for their employment, in relatively few countries. (*dis2*)

Other similarly strident phrases from *Discorp* include: *it can correctly be stated that*, *it is a certain thing that*, and *it is undisputed that*. *It*-clauses in the same category in *Jourcorp* are, by comparison, understated:

(25) On the whole, *it can be concluded* that the transaction cost approach is successful in explaining percent foreign ownership in a joint venture partnership with China. (*br3*)

(26) … *it can be shown* that those American and British companies which do invest substantially have been at a significant advantage in terms of cost of capital in relation to their counterparts in West Germany and Japan. (*gm2*)

Other items in this category fall into two main patterns: *it is important to + verb* (two in *Discorp* and four in *Jourcorp*) and *it + modal + passive verb* (14 in *Discorp*

and ten in *Jourcorp*). The first pattern, then, is relatively infrequent in the student dissertations while the second is relatively frequent. Of particular note here is the choice of modal verb in the second pattern. In *Jourcorp*, nine out of ten include *should*, and seven of these are *it should be noted* as in:

(27) *It should be noted*, however, that these strategy classifications do not necessarily suggest which strategies and programmes might be most productive under any given set of circumstances. (*mr2*)

The exception is the use of *must* in drawing attention to a limitation of the analysis presented:

(28) However, *it must be recognized* that most industries in the analysis experienced low or average inflation rates during the test period (1975–1977). (*br5*)

In *Discorp*, however, while *should* is again the most frequent modal in this pattern, occurring nine times, there are three examples of *must* and two of *have to*, as in:

(29) *It must be emphasized* that investment of human resources by providing training is today a top management priority. (*dis9*)

(30) *It has to be realised* that one of the more important changes that have taken place in the thinking of development economists in the last few years has been the shift in the analysis of the effects of foreign investments on Developing Countries. (*dis2*)

The strategic purpose of these and similar cases in *Discorp* would seem to be to convince the reader that he or she must also accept the validity of the statement that follows. However, in neither of these examples – and they are representative of the other cases – would it seem vital to the writer's argument that the statements should be accepted, or indeed that any reasonably knowledgeable reader would question their validity in the first place. The student writers appear, then, to draw particular attention to points where no such strategy is needed.

It is perhaps in category 3c, where this overstatement becomes most pronounced. To demonstrate this, it will be useful to begin by listing the adjectives, together with their frequencies, used here in the pattern *it* + *is/become* + *adjective*.

Discorp	Jourcorp
necessary (10)	clear (6)
obvious (10)	essential (2)
clear (9)	inevitable (2)
essential (5)	necessary (1)
impossible (6; includes 1 not possible)	not possible (1)
crucial (2)	possible (1)
vital (2)	evident (1)
inevitable (1)	unrealistic (1)

critical (1)	vital (1)
difficult (1)	
imperative (1)	
unacceptable (1)	
undeniable (1)	

In *Discorp*, the predominant use of this pattern in this category is to present the implications for business practitioners of what students have observed in their dissertation projects. The following are typical:

(31) ... British companies should not have the dream that there are a billion Chinese out there and what a huge market this could be for any individual product. *It is necessary* to have a more realistic appreciation of dimensions of the Chinese market, the market constraints and problems. (*dis13*)

(32) *It is crucial* that management of multinational banks has centralised access to vital information on all bank activities in relation to customers that require centralised data processing. (*dis9*)

(33) Therefore, *it is essential* to try to minimize the adverse effects of dealing with foreign markets and on the other hand to gain maximum benefit from comparative advantages. (*dis14*)

While a similar purpose is found in a small number of examples in *Jourcorp*, as in:

(34) ... given the critical role that strategy plays in forming corporate impression of him, *it is essential* that the CEO takes an active and central role on the strategic planning group. (*gm4*)

its main use is in labelling some feature of a present situation as 'clear', 'evident', etc. or indicating some consequence of a change or development:

(35) As governments become more pragmatic and remain less ideology-driven, *it is inevitable* that many of the traditional beliefs about the role of the economy and private enterprises will change. (*mr5*)

The primary use of this pattern in the student dissertations, therefore, seems to be as a component of impressing upon the reader the value of their research, claiming that their findings have significant consequences for the establishment of good business practice.

6.3.4 Attribution

The most notable difference in attribution using *it*-clauses is that in *Discorp* there is far greater use of general attribution, without reference to sources, than in *Jourcorp*. The following examples are illustrative of what student writers do:

(36) With referring to the speeches of these leaders of British industries *it is generally agreed* that there are a lot of inherent problems concerning the marketing strategy and organisation of many British companies in developing competitive overseas markets, such as China. (*dis13*)

(37) *It has been argued* that industrialisation can only take place if
manufactured products can find an export market. (*dis5*)

While both *it is generally agreed* and *it has been argued* also occur in *Jourcorp* (twice
and once, respectively), in all cases sources are cited to support the claim. For
example, in (38) references are given using the author–date system and in (39)
references are provided in an endnote:

(38) *It also is generally agreed* that a consumer's perception of quality of a store's
merchandise is related to the patronage of that store (Jacoby and
Mazursky, 1985; Olshavsky, 1985). (*br8*)

(39) *It has been argued*, for example, that the once limited regulation of private
industry in Britain had resulted from normative social control provided
by a trust in the self-regulating nature of the professions [23]. (*gm8*)

6.5 Conclusion

One of the main impressions created when reading the dissertations is that the
student writers make a much greater and more overt effort to persuade readers of
the truth of their statements than do the published writers. The analysis of *it*-clauses
presented here is suggestive of how this comes about. *It*-clause emphatics and
attitude markers in *Discorp* are much more frequent compared with *Jourcorp*.
These emphatics in particular suggest that the students tend to state propositions
more forcefully than is appropriate. As evidence for this we have noted the use of
phrases such as 'It is true that …' and 'It is a fact that …'; the use of 'must' and
'have to' as in 'It must be emphasized …' and 'It has to be realized …'; and the
selection of adjectives such as 'necessary', 'crucial', 'essential' when suggesting the
implications of findings. While *it*-clause attitude markers display this tendency
less clearly, overstatement is also indicated in choice of adjectives in, for example,
'It is amazing …' and 'It is pointless …'. The relative infrequency of *it*-clauses in
hedging may be part of the same phenomenon: if statements are hedged less, then
this suggests that students are making stronger claims for their validity.

It should be remembered, of course, that *it*-clauses are only one of the mech-
anisms, albeit an important one, by which hedging, emphasis and attitude are real-
ized in these texts. (For a more detailed account of these other mechanisms see, for
example, Hyland, 1999.) If, however, our findings are indicative of a more general
tendency for student dissertation writers to try harder to persuade readers than do the
writers of journal articles, it is interesting to speculate on why this should be. The
three journals investigated here explicitly state their intended readership as includ-
ing 'academics', 'students', 'policy makers', 'top managers' and 'senior executives'.
For MBA students writing dissertations, the readership is rather more complex
(M. Hewings, 1999). They are also generally required to analyse some business
context in order to make policy recommendations to some hypothetical practi-
tioner at company, industry, sector, or governmental level. At the same time, how-
ever, they are producing an academic document that is to be assessed by their
supervisor and, perhaps, the external examiner of the course. Given this, students
may well feel themselves obliged to convince this real and hypothetical readership

that they are making a significant contribution through their dissertation in the (probably mistaken) belief that the more significant the contribution, the more their work will be valued, and that the more forcefully their contribution is presented, the more likely the readership is to be persuaded that it is significant. Clearly, further work needs to be undertaken to provide additional support for this suggestion.

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7 | Researching the Grammar of a 'Literary' Text

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This chapter represents a revised and shortened version of Chapter 2 in
H. Hillier (2004) *Analysing Real Texts: Research Studies in Modern English
Language*

7.1 Introduction

This chapter focuses on 'literary' narrative. Specifically it compares a short extract
from two different versions of the same novel, *Bleak House* by Charles Dickens.
The first is from the original nineteenth-century text, as published by Oxford
University Press, and the second from a simplified Guided Reader, written by
Margaret Tarner, published in the twentieth century by Heinemann and intended
for learners of English. The broad aim of the study is to compare the different lin-
guistic choices made when expressing the same basic content and at the same time
to gain some insight into what might constitute a 'literary' text.

7.2 Background to the Study

As Carter states (1982a: 4): 'As readers of literature we are involved first and fore-
most in a response to language'. That response frequently stays at the intuitive level,
however, and even if attempts are made to locate it in particular features of the
language, the process can often be both impressionistic and selective. Carter argues
that a principled and systematic analytical approach based on a detailed know-
ledge of the workings of the language system has the capacity to provide 'insight-
ful awareness of the effects produced by literary texts'.

The language of Dickens has long been popular with linguists for precisely this
purpose (see, for example, Mason, 1982; Leech and Short, 1983; Page, 1988; Fowler,
1989; Weber, 1989; Simpson, 1993; Carter *et al.*, 2001). Indeed, the opening para-
graphs of *Bleak House* are celebrated in both literary and linguistic circles, being a
favourite text selected by university teachers to demonstrate how linguistic analy-
sis can enhance awareness of and admiration for Dickens' creation of atmosphere.
A recent instance is an insightful discussion of paragraphs one to four by Carter *et al.*
(2001: 139–43), which focuses principally on the effects of the use of verbs, particu-
larly non-finite verbs.

A comparison of original and deliberately simplified versions of particular liter-
ary texts has already been shown to be a useful strategy in pursuit of comparable
goals. Freeborn *et al.* (1993: 209–12), for example, analysed two versions of an extract
from a Sherlock Holmes story, suggesting that the simplified version would be

easier to read for a learner of English and adequate to convey the basic narrative. However, they concluded that Conan Doyle's more complex style is an insepar-able part of his creation of highly plausible characters in Holmes and Watson: the simplified version was 'quite inadequate for a convincing rendering of place, char-acter and dialogue' (1993: 212).

It is not, of course, suggested that 'complexity' is, in itself, a necessary concomitant of a 'literary text', still less that complex effects can be created only by complex grammatical structures (however these might be defined). Indeed, the work of Ernest Hemingway, for example, is famous for its 'simple style' and the way that that style may be used for highly complex ends (Carter, 1982b: 67–8). Nevertheless, for some writers – Dickens among them – a close and detailed 'complex versus simple' comparison would seem likely to be illuminating. In pursuit of this aim, therefore, this study asks the following broad questions:

1 How might these particular (original and simplified) texts differ in terms of their relative complexity/simplicity?
2 What do the differences suggest about the way Dickens appears to create some of his literary effects?
3 What do the findings of this study suggest about what might constitute a 'liter-ary' text?

7.3 Design of the Study

7.3.1 The controlled variables

The controlled variables are:

(a) **Mode**: The language is **written** in each case and is intended to be processed by the eye (i.e. the graphic channel is used). It is being regarded as an 'unmarked' instance of written language: the communication is entirely one-way (the reader comes to the text as a finished product and cannot share in text cre-ation) and writer and reader inhabit separate environments (there is no visual contact between them).
(b) **Field**: The **purposeful activity** engaged in is the consumption by the reader of (an extract from) a fictional narrative, a story intended to delight, divert and entertain its audience. The basic experiential **content** of the story is essen-tially the same: each text represents paragraphs taken from the opening pages of the respective books, and these paragraphs provide an atmospheric descrip-tion of the London setting for the story which is to follow.

7.3.2 The varying variables

The Heinemann Guided Reader contains the following preamble:

> The Heinemann Guided Readers provide a choice of enjoyable reading material for learners of English. The series is published at five levels – Starter, Beginner, Elementary, Intermediate and Upper. Readers at **Upper Level** are intended as an aid to students which will start them on the road to reading unsimplified books in the whole range of English literature.

On the basis of this preamble, therefore, the deliberately varying variable relates to aspects of:

(c) **Tenor**: The **participants** in each case are the respective writers and readers of the particular texts: Dickens and his intended readers compared with Tarner and her intended readers. The Heinemann text is a version of the original Dickens text adapted to meet the needs of a specifically targeted readership – those who are learners of English 'at Upper Level' – principally non-native speakers of English. The adapted text can therefore be regarded as having some degree of educational purpose in addition to its overall one of diversion and entertainment as specified under Field.

The century in which the different texts were actually produced, the identity of the writer in each case and his or her gender are possible additional factors which could be regarded as determining Tenor relations. These, however, have not been regarded as of primary significance in the current study. The overriding concern under Tenor is the addressee relationship, the relative status differences as these affect the writer's interaction with the reader (Gregory and Carroll, 1978: 49–50). In the original text the relationship may be presumed to be one of approximate equality: Dickens is writing for an audience very like himself. In contrast, the declared aim of the Tarner text is to modify the original in recognition of the (lower) proficiency in English of the target audience. This was therefore the principal focus of attention in designing the study.

7.4 Description of the Data

The texts chosen for analysis are:

Text A: The fourth and fifth paragraphs (108 words) from the beginning of Chapter 1 of Bleak House by Charles Dickens:

> The raw afternoon is rawest, and the dense fog is densest, and the muddy streets are muddiest, near that leaden-headed old obstruction, appropriate ornament for the threshold of a leaden-headed old corporation: Temple Bar. And hard by Temple Bar, in Lincoln's Inn Hall, at the very heart of the fog sits the Lord High Chancellor in his High Court of Chancery.
>
> Never can there come fog too thick, never can there come mud and mire too deep, to assort with the groping and floundering condition which this High Court of Chancery, most pestilent of hoary sinners, holds, this day, in the sight of heaven and earth.
>
> (Dickens, 1998: 12).

Text B: The third and fourth paragraphs (70 words) from the beginning of Chapter 1 of Bleak House by Charles Dickens as retold by Margaret Tarner for Heinemann Guided Readers:

> Cold, mud and fog filled the streets of London. And the fog was thickest and the mud was deepest near Lincoln's Inn, the very heart of London. The Lord High Chancellor was there, sitting in his High Court of Chancery.

> Some of the fog had got into the courtroom too. Perhaps a little fog and mud
> had got into the minds of the people in the High Court of Chancery.
>
> (Tarner, 1992: 4)

Two short paragraphs were thus chosen as the basis for Text A and for the comparative analysis. Identifying directly comparable paragraphs in the Tarner version of the book was not in fact entirely straightforward: simplification could not easily be done on a sentence-for-sentence, or even perhaps paragraph-for-paragraph, basis. It is arguable in fact that the first sentence of the first paragraph and at least part of the second paragraph of Text B are close in content and spirit to parts of the very extensive paragraphs in Dickens which immediately precede and follow the extract in Text A. For reasons of economy of scope, however, it was decided to focus on just these two selected pairs of paragraphs and to regard them as constituting suitable texts for current purposes.

7.5 Specific Hypothesis

It was expected that the status of the target audience would be the overriding factor in influencing linguistic choices in the two texts, in particular the goal of simplification in Text B. The continuation of the Heinemann preamble already quoted declares 'structure control' to be one of its aims, aspiring to limit both length and complexity of sentences and the use of complex nominal groups and embedded clauses. It seemed, therefore, that it would be most fruitful to explore contrasts in structural choices made within sentences (and clauses), and within nominal groups/noun phrases. Text A would be expected to display greater complexity than Text B in both of these areas.

It will be noted that the preamble uses the term 'nominal group' (from systemic functional linguistics) for what some linguists (e.g. Crystal, 1996) call a noun phrase. The latter term will be used here for what is in fact the same rank of structure.

7.6 The Grammatical Framework for this Study

The framework summarized here is intended to assist in reliable identification of the relevant features which are to form the basis for analysis – in this case sentences, clauses and noun phrases. The framework is inevitably highly condensed, and can only provide signposts to full explication of the relevant areas. It has been adapted from parts of Crystal (1996), and page references to the original source are given below in brackets. Supplementary reference is made at the analysis and commentary stage to the work and insights of others as appropriate, particularly Quirk *et al.* (1985). Readers are urged to follow up these references.

7.6.1 Sentences

For the purposes of this specific analysis (of written-down literary texts) the simplest criterion for identifying the **sentence** will be regarded as being adequate: a stretch of language which begins with a capital letter and ends with a full stop. (See Crystal, 1996: 30–1 for a discussion of the limitations of this definition for some texts.) A sentence can be broken down into one or more sets or clusters of

patterned elements (**clauses**), so that a **simple sentence** will consist of one clause and a **multiple sentence** of more than one clause (Crystal, 1996: 32–3).

Clauses within a multiple sentence can have either equal or unequal status. In a relationship of coordination, clauses have equal and potentially independent status (thus forming a **compound** sentence), and these clauses are usually linked by a coordinating conjunction such as *and, or, but* (Crystal, 1996: 196–7). In **complex** sentences the relationship is one of subordination, where one clause (the subordinate, dependent or embedded clause) relies grammatically on – or is embedded within – another clause (the main, or superordinate, clause). (For Crystal, 'subordinate', 'dependent' and 'embedded' are used as alternative labels for the subordinated clause, though systemic functional linguistics (see Bloor and Bloor, 1995: 153–74) reserves 'embedded' for so-called 'rankshifted' clauses occurring within 'groups'.) Relationships between clauses may be signalled via a range of markers having a range of meanings (Crystal, 1996: 200 ff.), examples being subordinating conjunctions such as *although, if, when.* Subordinate clauses can be embedded within other clauses (including another subordinate clause), either by replacing, and acting as, an *entire* clause element or by appearing as *part* of a clause element (see following sub-sections).

7.6.2 Clauses

There are five basic elements which go to make up a clause, and each element tends to express a particular kind of meaning (Crystal, 1996: 36ff.):

1 **Subject (S)**: usually identifies who or what as the 'topic' of the clause, *usually* appearing before the verb (V); it controls the form of the verb (most evident with verbs in the present tense). S elements can be realized by **noun phrases** (including pronouns) and some subordinate clauses (Crystal, 1996: 52–3).
2 **Verb (V)**: the most obligatory of all the clause elements; it expresses some kind of action or process; it can be realized only by a verb phrase. All the other elements can be related to the V element in some way (Crystal, 1996: 48–51).
3 **Object (O)**: identifies who or what has been directly affected by the process realized by the verb, usually appearing after the V element. Realized by **noun phrases** (including pronouns) and some subordinate clauses (Crystal, 1996: 54–5).
4 **Complement (C)**: adds information about another clause element (S or C). Realized by **noun phrases** (including pronouns), adjective phrases, some subordinate clauses (Crystal, 1996: 56–9) and some prepositional phrases. (Note: systemic functional linguistics (see Bloor and Bloor, 1995: 47–8) uses the term 'Complement' for what Crystal and traditional grammar call 'Object'.)
5 **Adverbial (A)**: expresses a wide range of meanings, most frequently acting as 'adjunct' in the clause and relating directly to the process realized by the verb, such as where, when, how, why. Most are optional, though some verbs – for example *put* – require an A element to complete their meaning. Given their role in contributing a wide range of information to the clause, more than one A element can occur in a clause. They can appear in different positions within the clause, though some are more restricted than others. They may be realized by adverb phrases, prepositional phrases, some **noun phrases**, some subordinate clauses (Crystal, 1996: 60–1; 172–9).

7.6.3 Noun phrases

Noun phrases appear in all shapes and sizes (Crystal, 1996: 104ff.), and it will be apparent from the preceding sub-section that they can realize a wide range of clause elements. Each noun phrase consists essentially of a noun or noun-like word (it can be a pronoun) which acts as centre or **head** of the phrase, and while it can occur on its own it is more often accompanied by other constituents which cluster around the head. Noun phrase structure can be characterized as follows:

1 The **head**: the obligatory item; most frequently a noun, traditionally regarded as naming some entity, whether concrete or abstract, count or non-count (Crystal, 1996: 108–27). The head controls the concord, or agreement, with other parts of the clause.
2 One or more of a set of **determiners**: appearing before the head, the principal one being the central determiner (e.g. definite article *the* or indefinite article *a(n)*). A range of other words can, however, act as predeterminers, appearing before the central determiner (e.g. *all*, *both*), and postdeterminers, appearing after the central determiner (e.g. cardinal and ordinal numerals like *three*, *third*) (Crystal, 1996: 128–35).
3 The **premodification**: appearing between the determiner and the head; frequently adjectives, though other word classes are possible, including participles (*-ing* and *-ed* forms) and nouns (Crystal, 1996: 136–7).
4 The **postmodification**: appearing after the head, but still within the noun phrase; usually prepositional phrases or clauses (clauses may be finite or non-finite) (Crystal, 1996: 138–43).

7.7 Method of Analysis and Manner of Presentation

Each extract was analysed according to the framework outlined in Section 7.5, first identifying sentences, clauses, and noun phrases (Texts A1 and B1) and then analysing the structure of each individual noun phrase (Tables 7.1 and 7.2). The analyses are presented as set out below.

7.7.1 Identification of sentences, clauses, and noun phrases

1 **Sentences** within each text are numbered and set out in sequence.
2 **Clauses** within each sentence are indicated by a system of double vertical lines. Individual clause elements are indicated by single vertical lines and designated S, V, A, and so on. Square brackets indicate embedded clauses and/or clause elements; superscripts S^1, S^2 'match' grammatical and notional subjects (in existential 'there' clauses); round brackets indicate where S elements occur within V elements. The displayed sentence and clause analysis is then summarized in linear form. (The chosen system of display has been adapted from that of Berry (1996). Further detail on how it was applied is given in the notes to the texts below.)
3 **Noun phrases** (including all embedded noun phrases) are individually identified and placed between curly brackets. Each 'highest level' noun phrase is, in addition, underlined.

The analysis is displayed in Texts A1 and B1 respectively. Annotations give support for various analytical decisions.

Text A1 – Dickens

        S   V   C   Cj   S   V   C

1. ‖ {The raw afternoon} | is | rawest, ‖ and | {the dense fog} | is | densest,

   Cj   S   V   C   -------------------------------

‖ and | {the muddy streets} | are | muddiest, ‖ near[a] {that leaden-headed old

---A-------------------------------

obstruction}, {appropriate ornament for {the threshold of {a leaden-headed old

----

corporation}}}: {Temple Bar} ‖ .[1]

    Cj   A   A   A

2. ‖ And | hard by {Temple Bar}, | in {Lincoln's Inn Hall}, | at {the very

              V   S   A

heart of {the fog}} | sits | {the Lord High Chancellor} | in {his High Court of

Chancery} ‖ .

    A   V (S[1])   S[1]   C   A   V (S[2])

3. ‖ Never | can (there) come | {fog} | too thick, ‖ never | can (there)

      S[2]   C   -------------------------------------
                                     V

come | {mud} and {mire} | too deep, [[to assort | with {the groping and

---A-------------------------------
A   O

floundering condition [[which | {this High Court of Chancery},

      S   V   A   A

{most pestilent of {hoary sinners}[b], | holds, | {this day}, | in {the sight

of {heaven} and {earth}}}]]]]. [2,3,4]

Summary of sentence/clause analysis – Dickens
Sentence 1: [SVC] + [SVC] + [SVC] A
Sentence 2: + AAAVSA
Sentence 3: [AV(S[1]) S[1]C] [AV(S[2])S[2]C] A
                         [VA[...OSVAA]][5]

Notes to Text A1 – Dickens

Sentences and clauses

1 Analysed as what Quirk *et al.* call 'interpolated coordination': there are three coordinated SVC clauses in sentence 1, with the A element standing <u>outside</u> the coordination structure and applying simultaneously to <u>all</u> of them (Quirk *et al.*, 1985: 950, 976–7).

2 Sentence 3 has another example of interpolated coordination, this time of comparative constructions where *too* expresses 'excess' (Quirk *et al.*, 1985: 1140–2), with the *to*-infinitive clause *to assort with* ... providing the comparative A element for <u>both</u> preceding clauses and expressing a blend of time and result (Quirk *et al.*, 1985: 1144–6, 1079, 1109). ... *to assort with* ... has been interpreted as meaning *to match, to agree (with)* ... (Cassell, 1998: 82).

3 Each of the coordinated clauses features existential *there*, which has been analysed as empty or 'dummy' <u>grammatical</u> subject (Crystal, 1996: 218–19) with the <u>'notional'</u> subject (here *fog* and *mud and mire* respectively) postponed until after the verb *(can) come* (Quirk *et al.*, 1985: 1403, 1408–9). The notation has followed Berry (1996) in assigning matching superscripts to each pair of grammatical and notional S elements to indicate their interdependence.

4 Round brackets are used to show that the grammatical subject occurs <u>within</u> the V element, the subject–verb inversion being brought about by the marked placing of the A element *Never* in first position (Quirk *et al.*, 1985: 1379–81).

5 The summarizing notation for sentence 3 is intended to show that the A element (see note 2 above) begins at *to assort with* ... and extends to the end of the sentence. It consists of a non-finite VA clause, with its own A element being a 'process adjunct of manner' (Quirk *et al.*, 1985: 556), answering the question 'how'/'in what way'. The A element is realized by a prepositional phrase (Crystal, 1996: 180–7), consisting of the preposition *with* followed by its complement *the groping and floundering condition which* ... The prepositional complement is a noun phrase which embeds an OSVAA relative clause.

Noun phrases

(a) The extensive A element at the end of sentence 1 (see note 1 above) is realized by a prepositional phrase consisting of the preposition *near* followed by a series of <u>three</u> noun phrases acting in apposition (Crystal, 1996: 144–5), with *that leaden-headed* ... and *appropriate ornament* ... being (highly negative) 'attributes' of the proper name *Temple Bar*. The 'highest level' noun phrase *appropriate ornament* ... has, of course, two embedded noun phrases within its postmodification, one inside the other, as indicated.

(b) *most pestilent of hoary sinners* in sentence 3 has been interpreted as a noun phrase in apposition to, and expressing an attribute of, the immediately preceding *this High Court of Chancery* (compare note (a) above). (Dickens aligns the lawyers who represent the *High Court of Chancery* with *hoary sinners*, thus implying his disgust at the potential for corruption inherent in the legal process.)

Text B1 – Tarner

S   V   O

1. ‖ {Cold}, {mud} and {fog} | filled | {the streets of {London}} ‖ . [1]

  Cj S V C Cj S V C

2. ‖ And | {the fog} | was | thickest ‖ and | {the mud} | was | deepest

-----------------A--

‖ near {Lincoln's Inn}, {the very heart of {London}[a]} ‖ . [2]

       S   V A -----------------------A-------

                        V   A

3. ‖ {The Lord High Chancellor} | was | there, [[sitting | in {his High Court

----

of Chancery}]]. [3]

   S   V   A   A

4. ‖ {Some of {the fog}} | had got | into {the courtroom} | too ‖ . [4]

   A   S   V   -----------------------------

5. ‖ Perhaps | {a little fog} and {mud}[b] | had got | into {the minds of {the

-------A---

people in {the High Court of Chancery}}} ‖ . [5]

Summary of sentence/clause analysis – Tarner
Sentence 1: SVO
Sentence 2: + [SVC] + [SVC] A
Sentence 3: SVAA[VA]
Sentence 4: SVAA
Sentence 5: ASVA

Notes to Text B1 – Tarner

Sentences and clauses

1 Three coordinated noun phrases are together acting as subject (S) (Crystal, 1996: 144, 196) of the verb *filled*.
2 An instance of 'interpolated coordination' (see note 1 to Text A1), this time of just <u>two</u> SVC clauses.
3 The non-finite VA clause *sitting* … has been analysed as an embedded 'subject-less supplementive clause' (Quirk *et al.*, 1985: 1123–7) realizing an A element occurring in final position in the main clause and 'supplementing' the space adjunct *there*. Quirk *et al.* note that 'there may be considerable indeterminacy

Table 7.1 Analysis of structure of noun phrases in Text A1 (Dickens)

sentence	determiner	premodification	head	post-modification	S/C
1	the	raw	afternoon		C
1	the	dense	fog		C
1	the	muddy	streets		C
1	that	leaden-headed old	obstruction		C
1		appropriate	ornament	for the threshold of a leaden-headed old corporation	C
1	[the		threshold	of a leaden-headed old corporation]	C
1	[[a	leaden-headed old	corporation]]		C
1			Temple Bar[1]		S
2			Temple Bar		S
2			Lincoln's Inn Hall		S
2	the	very[2]	heart	of the fog	C
2	[the		fog]		S
2	the[1]		Lord High Chancellor		S
2	his		High Court of Chancery[1]		S
3			fog		S
3			mud		S
3			mire		S
3	the	groping and floundering[3]	condition	which this High Court of Chancery, most pestilent of hoary sinners, holds, this	C

3	[this¹	High Court of Chancery]	day, in the sight of heaven and earth	S
3	[most pestilent	4		C
3	[hoary	sinners]]	of hoary sinners]	C
3	[this	day]		S
3	[the	sight	of heaven and earth]	C
3		[[heaven]]		S
3		[[earth]]		S

Notes

1 Proper names and titles such as those appearing in this text (and also Text B1) can arguably be analysed in different ways, for example as det + premod + head + postmod. It was decided to follow Crystal (1996: 111), at least to some extent, by regarding such constructions as consisting of a single headword, though with a separately analysed determiner. The latter decision was partly on the grounds of Dickens' own variation of determiner choice, as in his/this High Court of Chancery. It does not, of course, affect the simple/complex designation since either analysis would regard them as simple noun phrases.

2 very in sentence 2 is being used as a restrictive adjective rather than an intensifying adverb (Quirk et al., 1985: 431).

3 groping and floundering in sentence 3 are participles (Crystal, 1996: 136) which act in 'linked' coordination to premodify the headword condition (pp.196–8).

4 This analysis has regarded most pestilent of hoary sinners in sentence 3 as involving ellipsis, that is, the omission of elements which are recoverable from context (Quirk et al., 1985: 883–900). The head of the noun phrase (and perhaps a determiner such as the) is ellipted, and its interpretation is delayed, requiring reference to following text in the postmodification, that is to sinner/s or, possibly, hoary sinner/s. It thus involves 'cataphoric ellipsis'. (Quirk et al. note the 'stylistically marked effect that often results from cataphoric ellipsis' (1985: 895).)

as to the semantic relationship to be inferred' (1985: 1123), though they note that *-ing* clauses 'tend to suggest a temporal link' (1985: 1124).

4 *too* has been analysed as an 'additive subjunct', something additional to, and immediately following, the A element *into the courtroom* (Crystal, 1996: 174–5; Quirk *et al.*, 1985: 604–9).

5 *Perhaps* has been analysed as a 'content disjunct' (Crystal, 1996: 176–7) making an observation about the truth of the remainder of the clause or a value judgement about its content.

Noun phrases

(a) *the very heart of London* in sentence 2 has been regarded as being in apposition to, and expressing an attribute of, the preceding proper name *Lincoln's Inn* (see note (a) to Text A1).

(b) *fog* and *mud* in sentence 5 have been regarded as coordinated noun phrases having article and postdeterminer in common (*a little*), together acting as grammatical subject of *had got* (Crystal, 1996: 144, 196–9) (compare note 1 above).

7.7.3 Noun phrase structures

Each of the noun phrases identified in Texts A1 and B1 was analysed and categorized as either simple (**S**) or complex (**C**). The analysis follows Crystal (1996: 107) in classifying determiner plus head (or head alone) as a simple noun phrase. If other constituents are present this has been categorized as a complex noun phrase.

Tables 7.1 and 7.2 display the structures of the noun phrases in Texts A1 (Dickens) and B1 (Tarner), respectively, including all embedded noun phrases. Square brackets are used to indicate lower (embedded) levels as appropriate. As before, annotations support particular analytical decisions.

7.8 Presentation and Discussion of Results

Results are presented in the following sub-sections: first a qualitative discussion of the sentence and clause analysis (Section 7.8.1) and then both quantitative results and qualitative discussion for noun phrases (Section 7.8.2).

7.8.1 Sentences and clauses

Texts A1 and B1 show that the similarities and differences between the two extracts are at their clearest when sentence 2 of Tarner beginning *And the fog was thickest ...* is compared with sentence 1 of Dickens beginning *The raw afternoon is rawest* – Tarner parallels Dickens' approach when she uses a compound sentence which consists of 'interpolated coordination' of SVC clauses (see note 1 to Text A1) with a postponed A element, the latter realized by a prepositional phrase governed by *near*. Tarner, however, uses only t̲w̲o̲ interpolated coordinate clauses compared with Dickens' three, and – crucially – the delayed A element *near Lincoln's Inn, the very heart of London* contains relatively simple noun phrase structures compared with the multiple embeddings in Dickens (see further discussion in Section 7.8.2). The cumulative effect created by Dickens in this first sentence is inevitably somewhat dissipated in the Tarner version.

Table 7.2 Analysis of structure of noun phrases in Text B1 (Tarner)

sentence	determiner	premodification	head	postmodification	S/C
1			Cold		S
1			mud		S
1			fog		S
1	the		streets	of London	C
1			[London]		S
2	the		fog		S
2	the		mud		S
2			Lincoln's Inn		S
2	the	very[1]	heart	of London	C
2			[London]		S
3	the[2]		Lord High Chancellor		S
3	his		High Court of Chancery[2]		S
4			Some[3]	of the fog	C
4	[the		fog]		S
4	the		courtroom		S
5	a little[4]		fog		S
5	(a little)		mud		S
5	the		minds	of the people in the High Court of Chancery	C
5	[the		people	in the High Court of Chancery]	C
5	[[the		High Court of Chancery]]		S

Notes
1 Compare note 2 to Table 7.1.
2 See note 1 to Table 7.1.
3 *Some* in sentence 4 has been regarded as a pronoun which is acting as head, rather than as a predeterminer followed by *of* (Quirk *et al.*, 1985: 383–4).
4 *(a) little* in sentence 5 has been analysed as a postdeterminer (quantifier) rather than a premodifier, the equivalent of 'small' (Crystal, 1996: 134–5).

Tarner's sentence 3, with its supplementive VA clause (see note 3 to Text B1), is, on the face of it, more complex than Dickens' simple sentence 2. However, for her main clause she chooses an 'unmarked' (SVAA) ordering of clause elements. This contrasts with Dickens' 'marked' sequence of A elements which initiate his single clause and act to constantly postpone the appearance of the necessary S element *the Lord High Chancellor*. Dickens' effect is compounded by the similarly unusual placing of the V element *sits* before the S element (see also Carter *et al.*'s discussion of this sentence (2001: 142–3)).

The most complex sentence of all in the Dickens extract is clearly sentence 3, and it is notable, though perhaps not surprising, that this time Tarner makes no attempt to reproduce in a simpler form the multiply complex structures and effects created in the original. Instead she gives us two simple sentences which to some extent aim to reproduce the content in Dickens' sentence 3. The displayed summary analysis in Text A1 gives a clear indication of Dickens' densely packed constructions in this one sentence, both <u>between</u> clauses and <u>within</u> clauses (more interpolated coordinate clauses, each having a parallel marked structure of its own) leading towards the extended, equally densely packed, final Adverbial element. This consists of the time + result and manner adjuncts, beginning *to assort with. ...* and *with the groping and floundering ...* (see notes 2 and 5 to Text A1), the second of these embedded within the first. All of this works cumulatively to create an accretion of highly complex obfuscating structures which appear deliberately to mimic, even embody, the obscure – indeed almost impenetrable – legal processes.

7.8.2 Noun phrases

Tables 7.3, 7.4 and 7.5 show comparisons of simple versus complex noun phrases (**NPs**) for each text – at the highest level (Table 7.3), second and subsequent levels (unpacked embedded noun phrases) (Table 7.4) and finally a comparison overall (Table 7.5). Totals of simple and complex noun phrases respectively are shown as a percentage of total noun phrases for each extract.

It will be seen from Table 7.3 that, at the highest level of noun phrase structure, the actual number of noun phrases is the same (15) in each extract. However, Table 7.4 shows that Dickens has a further ten embedded noun phrases (twice as many as Tarner), and these in fact involve four third-level embeddings (see displayed noun phrase structures in Table 7.1). In terms of complexity, the Dickens extract has a higher percentage of complex noun phrases at <u>each</u> level, and overall – at 48 per cent compared with 25 per cent – it has almost twice as many as the Tarner (see Table 7.5). Tarner has fulfilled the publishers' aims in using a higher proportion of simple noun phrases overall (75 per cent of all noun phrases compared with 52 per cent for the Dickens extract) and in general avoiding complexity at this rank of structure.

So far as <u>kinds</u> of complexity are concerned, Table 7.1 shows that Dickens uses both pre- and postmodification, and the latter is, of course, the potential source of more complexity – especially more embedded noun phrases. Most of the postmodification is via prepositional phrases, with many of the prepositional complements being additional complex noun phrases. There is just one embedded clause (*which this High Court ...* in sentence 3) (the only postmodifying embedded clause in either of the extracts) and this too features several complex noun phrases.

Dickens makes notable use of complex noun phrases in apposition: one noun phrase expresses an attribute or quality of a neighbouring noun phrase, and this can serve to impede the progress of the relevant sentence. All of his appositional noun phrases occur within Adverbial clause elements (a series of three in sentence 1

Table 7.3 Comparison of simple vs. complex noun phrases at highest level

	Total highest level NPs	Simple	%	Complex	%
Dickens	15	8	53.3	7	46.7
Tarner	15	11	73.3	4	26.7

Table 7.4 Comparison of simple vs. complex embedded noun phrases, at second and subsequent levels

	Total embedded NPs	Simple	%	Complex	%
Dickens	10	5	50.0	5	50.0
Tarner	5	4	80.0	1	20.0

Table 7.5 Comparison of all simple vs. complex noun phrases

	Total NPs	Simple	%	Complex	%
Dickens	25	13	52.0	12	48.0
Tarner	20	15	75.0	5	25.0

and of two in sentence 3) and four of the five are particularly complex (see notes a and b to Text A1 and note 4 to Table 7.1). In fact, it would seem to be the combination of complexity of individual structures and their strategic positioning within the clause (see Section 7.8.1) that is so striking. The overall effect is to create the very delay, difficulty and potential confusion conveyed by the content of the Dickens extract.

Table 7.2 shows that Tarner's noun phrase complexity is virtually all via postmodification (she has just one premodifying *very*) and all of her postmodifiers are prepositional phrases. Only one of the prepositional complements, however, is a complex noun phrase. She does use one appositional structure (also in an Adverbial), involving the complex noun phrase *the very heart of London* – see note a to Text B1. Over all, however, the degree of complexity is much less notable than in the Dickens and this, together with the relatively unmarked placing of her A elements (see Section 7.8.1) tends to preclude the creation of the kinds of effects achieved by Dickens.

7.9 Summary and Overall Comparison of Findings

We now return to consider the findings of this small study in the context of the broad questions set out in Section 7.2 and the specific hypothesis in Section 7.5.

It will be apparent that the Dickens extract (Text A) does indeed display greater grammatical complexity than the Tarner extract (Text B). Texts A1 and B1 and Tables 7.1 and 7.2 show that this greater complexity is found at several

different ranks of structure:

1 **in sentences** (numbers of clauses and sequencing of clauses);
2 **in clauses** (numbers of elements and marked ordering of elements);
3 **in specific clause elements** (sequencing of Adverbials and their realizations);
4 **in noun phrases** (sequencing via use of apposition; multiple embedding; marked structural choices).

The cumulative effect of all of these varied instances of grammatical complexity contributes to the difficulty of the Dickens text even for a native speaker of English – and of course prompts Tarner's admirable attempt at simplification for the benefit of learners of the language.

The analysis has demonstrated, however, that the Dickens text is not just complex and 'difficult' in an abstract way. Its difficulty is an intrinsic part of its literary quality: its complexities and their strategic manipulation are all working in the same direction, that is, to keep readers waiting, to make us struggle with the complexities, to cloak in fog-like obscurity the ultimate goal, which is justice. The multiply embedded and swirling grammatical structures create the very confusion which is inherent in the delay, difficulty, and duplicity of the legal process. The linguistic form here is the narrative content.

Has this small contrastive study brought us any closer to saying what might constitute a 'literary' text? Tarner's aim is to make the basic content of a well-loved text accessible to learners of English and at the same time to use the text as a teaching and learning tool. In pursuit of these aims she appears to be making a modest attempt to mirror some aspects of Dickens' style, but presumably she would not make a strong claim to 'literary' quality. The act of carrying out this study has enabled us to:

(a) **identify and describe** some very specific areas of complexity in the linguistic choices made in the original which are thrown into relief precisely because they are not found in the simplified version;
(b) **suggest** some likely explanations for those choices and the effects they appear to create.

It is hoped that in a small way the study has confirmed what was probably already known: that a 'literary' narrative goes beyond the telling of an entertaining, intriguing or even life-enhancing story. On this very limited evidence, the 'literary' quality of a text would seem to consist in its chosen means as much as its ends, its form as much as its meaningful content.

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8 | Grammar in the Construction of Online Discussion Messages

Ann Hewings and Caroline Coffin

8.1 Introduction

Learning to speak and to write effectively and appropriately starts when we are very young. We pick up or are taught appropriate phrases and ways of talking for use in different situations. At school we read and later write different types of text, eventually receiving feedback from teachers on the success of our writing. Recently, a new mode of communication has become common in educational settings, computer-mediated communication (CMC), and this chapter uses the tools of grammatical analysis to explore some of its features and how students and teachers in higher education are learning to use it.

The most widely known form of CMC is email. Initially, CMC was developed as a means for scientists to exchange data and ideas, but email and latterly web sites, discussion lists and computer conferences have moved out of the research domain into that of teaching (Coffin *et al.*, 2003). In higher education, for example, reading lists, notes, and handouts are frequently posted on a computer site dedicated to a particular course. Distance education makes even greater use of electronic media, and sites for interactive discussion are becoming common. Such sites may constitute additional fora for student discussion outside normal class time or they may replace face-to-face contact altogether. They can take place between people who all know each other, or who are geographically distant and may never actually meet. Students can be directed to particular times when they should be interacting online and thus send and receive messages from each other in real time. This *synchronous communication* is in contrast to the more common *asynchronous communication* where messages are sent and responded to over a period of days and sometimes weeks. In asynchronous communication there is no requirement for students to interact simultaneously.

There are a growing number of studies investigating different aspects of CMC in various settings (Rice and Love, 1987; Herring, 1996; Baron, 1998; Gruber, 2000; Hawisher and Selfe, 2000; Tolmie and Boyle, 2000). Analyses can focus on technical concerns, linguistic features, or be more psychologically orientated. Linguistic research, including that reported here, has focused on, among other things, how to characterize the language that is used: does it conform to, or deviate from, usages that we are already aware of? Such considerations are based on the recognition that language influences, and is influenced by, the context in which it

is used (Halliday, 1994). This generates the expectation that language use in CMC will be influenced by the medium as well as the social and institutional constraints of each individual setting. In a higher education setting, where CMC is used for discussion, how we communicate will be a function of:

(a) the medium – the computer;
(b) whether or not we know the person/people we are communicating with and what aspects of formality or hierarchy influence our communications;
(c) our purpose in communicating, for example to discuss and justify our views on a topic, to solve a problem, etc.;
(d) the disciplinary subject matter being discussed.

For many of us this medium for teaching and learning is new. It has great potential, but its unfamiliarity also leads to problems. We need to understand more about how people use CMC in order to maximize its educational potential.

In this chapter, we report on a research project into CMC used in a particular distance education course. The overall purpose of the research project was to help improve communication and learning using the new medium.[1] As CMC is increasingly used to replace face-to-face interaction between students and tutors, it is important to investigate the characteristics of the interaction that is taking place. In the research reported here, we applied two different approaches to language analysis to see what light they shed on the practices taking place.

The first approach was designed to look at grammatical markers of interaction in the online communications. Informal talk such as conversations between friends is generally interactive and dynamic, promoting an exchange of ideas and opinions and for this reason it is often encouraged in face-to-face tutorials. The grammar of conversational exchanges is markedly different from that of writing, particularly more formal academic writing. We used this distinction between grammar in speech and writing to examine whether CMC was more like speech or writing and what this indicated about the nature of the interaction taking place. First, we looked at the role of a small group of grammatical features that have been identified in the literature as more common in CMC than in writing generally. Use of these grammatical features seems to indicate that CMC is developing a style that draws on both conversation and formal writing. CMC, although a written form of communication, nevertheless displays some of the features of spoken interaction. In looking at individual grammatical features we applied the tools of corpus linguistics to help quantify usages which may have resulted from using the computer conference as the medium for communication. We were thus seeking to answer the questions:

> For our data, to what extent does CMC exhibit grammatical choices
> typically associated with conversational exchange? And, to what extent does
> it exhibit grammatical choices typically associated with formal writing?

Our second approach dealt with how grammatical choices contribute to the organization of content – the ideas that were discussed by students and their tutor. Students and tutors posting messages to an electronic conference have to place

their messages either as a contribution to an ongoing discussion, or as an entirely new (even if related) point. How did students and tutors new to this method of communication in an educational context signal the relevance of their messages to the asynchronous dialogue taking place? In other words, did they deploy grammatical signals to take the place of aural and visual clues such as the hand gestures and eye contact common in face-to-face classroom discussions? This is clearly a very broad question – our analysis should be viewed as one way of beginning to investigate this area. We used a qualitative analysis based on the notion of theme from systemic functional linguistics (SFL) in trying to answer the question:

> How do students' text-organizing strategies indicate how their message should be integrated into the ongoing interaction?

We will deal with the two analyses separately after a brief discussion of background details and relevant literature on grammatical choices in CMC.

8.2 Background to this Study

The context for the research is a postgraduate distance learning programme at the Open University, UK. Like many other institutions, the Open University has increasingly drawn on the use of CMC to overcome the problems of distance. The students are a mixture of first- and second-language English speakers and are based in a wide range of countries. They are all studying a globally available module in teaching English to speakers of other languages (TESOL) as part of an MA in Applied Linguistics. The course is primarily taught through traditional distance materials – a combination of print-based study guides, books and audiovisual resources. It also has a tutorial component which draws on new media, namely asynchronous electronic conferencing and a web site with links and resources.

Each year the cohort of about 300 students is divided into small groups of approximately 15–18 people. Each student group is assigned a tutor who, with guidance from the team responsible for designing the course, leads a series of asynchronous electronic 'tutorials'. The tutorials take place on-line within the framework of the First Class® conferencing system and are designed to help the students think about and discuss aspects of their course in greater depth. Activities may include small-group work, whole-group work, or individual contributions and are often related to forthcoming assignments to be submitted by students (see Coffin and Hewings, 2002; Painter et al., 2003). Students participate in these tasks by posting messages to the tutorial group as a whole or to a sub-set of the whole group. Figure 8.1 shows a typical list of messages inside a conference called *Tutorial 1*. All names have been removed for the sake of privacy.

The messages are usually posted over one to two weeks, which is the core time for the tutorial to take place. Each member of the tutorial group can both post messages and respond to those of others. In Figure 8.1, messages preceded by *Re* are responses. Synchronous communication occurs only if two or more students happen to be online at the same time and since students are in different time zones this rarely happens. Our research presents the results of a close examination of three tutorial groups. We collected the messages posted during two tutorials for

Name	Size	⊟	Subject	Last Modified	
	4K		Re: Tutorial 1, Activity 1	01/02/02	20:57
	15K		TMA 01 Feedback	30/03/01	15:48
	1K	⊟	Re: Return of TMA 01	08/03/01	21:04
	2K		Return of TMA 01	05/03/01	11:53
	4K		Tutorial 1 roundup	16/02/01	11:51
	3K	⊟	Re(2): Learning a language	16/02/01	11:48
	1K		Re: Learning a language	15/02/01	11:18
	2K		Learning a language	13/02/01	16:45
	3K	⊟	**Registered: language learning #3**	14/02/01	10:52
	1K		Re(2): Tutorial 1(1st posting)	05/02/01	10:33
	1K		**Registered: Re: Tutorial 1(1st posting)**	05/02/01	09:16
	2K	⊟	**Registered: Re: Tutorial 1 2nd Posting**	14/02/01	06:06
	1K		Tutorial 1 2nd Posting	12/02/01	17:55
	3K		Learning a language	13/02/01	11:04
	3K		Learning a Language	12/02/01	19:34
	2K		Learning a language	12/02/01	18:48
	1K		Test	12/02/01	12:33
	2K		**Registered: Urgent: Experiences learning la**	12/02/01	03:21
	1K		conference	12/02/01	02:46
	3K	⊟	Re: Tutorial 1(2nd posting)	11/02/01	20:57
	2K		Tutorial 1(2nd posting)	09/02/01	13:06
	1K	⊟	Re(5): Tutorial 1(1st posting)	11/02/01	20:42
	2K		Re(4): Tutorial 1(1st posting)	06/02/01	11:26
	2K		Re(3): Tutorial 1(1st posting)	06/02/01	06:31
	2K		Re(2): Tutorial 1(1st posting)	05/02/01	15:41
	5K		Re: Tutorial 1(1st posting)	05/02/01	14:04
	4K		Group A Activity	09/02/01	18:22
	3K		Group B Tutorial Task 1	07/02/01	13:26
	3K		First Group A Activity	05/02/01	19:25
	4K		Tutorial 1(1st posting)	03/02/01	15:10
	4K		Welcome message	02/02/01	18:10

Figure 8.1 View of the messages inside a First Class® conference site

each of the three groups. These tutorials took place at the beginning and mid-way through their course and preceded essay assignments, which we also collected.

8.3 A Hybrid Medium

The premise on which this research project was based was that communication between tutors and students using CMC would be influenced by the medium itself and that CMC as a new and evolving medium would affect the way learning took place. At its simplest, the medium of communication is characterized in terms of whether the language is spoken or written. Studies such as those by Biber and associates (1999), Carter and McCarthy (e.g. 1995), Brazil (1995) and Halliday (2002: 323–52) describe grammatical differences that result from the contexts of spoken interaction as opposed to written. Carter and McCarthy go furthest in identifying grammatical realizations associated not just with speech but with specific contexts of use, such as the language used in telling stories, recounting experiences, or casual conversation. Writing too displays grammatical differences which are context-dependent. The choices of both grammar and lexis are likely to be very different between, for instance, a letter to a friend and an essay written for assessment purposes. It is not enough then just to focus on writing or speech as the descriptive categories for 'medium'.

If we are able to identify grammatical choices that are more commonly associated with writing or speech, we should also be able to characterize the grammatical

choices made in CMC. However, this is complicated by the fact that CMC can be influenced not just by the medium but by other variables as we mentioned earlier (how well the CMC contributors know each other, their communicative purpose, and the subject matter being discussed). In addition, as Baron notes in relation to email, the speed at which the technology is evolving suggests that people are having to familiarize themselves with a medium that is not yet stable:

> Email is more a moving linguistic target than a stable system, thereby complicating the problem of constructing a unified grammar of email. Three major sources of fluidity in email bear note: evolution of the *technology*, growth in *usership*, and partial *maturation* of the genre.
>
> (Baron, 1998: 144)

Despite this lack of stability there are now some studies looking at the grammar of emails and other forms of CMC. Table 8.1 indicates a variety of features differentiated on the grounds of their typicality in speech or writing. The letter C indicates which of these features have also been found commonly in emails/CMC.

Table 8.1 Email/CMC grammar in relation to spoken and written modes

Lexico-grammatical feature	Mode	
	Speech	Writing
Lexical:		
Pronouns (e.g. *I*, *you*, *we* vs. *he*, *she*, *it*, *they*)	heavily first, second person C	heavily third person
Adjectives and adverbs	Heavier use of attributive adjectives and amplifiers C	Varied
Type/token ratio:	Low	high C
Sentential/syntactic:		
Lexical/grammatical density	Lower	higher C
Adverbial subordinate clauses (e.g. since ..., while ...)	Less frequent	common C
Disjunctions (e.g. however ..., in contrast ...)	Less frequent	common C
Tense	present C	present, past, future
Contractions	many C	few

Source: Adapted from Baron (1998: 153)

The features listed in Table 8.1 were identified by Collot and Belmore (1996) and Yates (1996) (both cited in Baron, 1998) and were based on an analysis of 'one to many dialogues', that is, where a message is sent out to a number of recipients such as is the case in computer conference discussions. We followed up this work by examining the grammatical features of our CMC data to help us understand how people are utilizing the new medium and to what extent their interaction more closely resembles speech as it would in a face-to-face tutorial or whether it is more like written academic prose.

8.4 Methodology 1: Corpus Analysis

To answer the question 'Does CMC exhibit differences in grammatical choices from conventional speech or writing?' we made use of an electronic corpus of texts and concordancing software. We aimed to give an empirical basis to our informal impressions that electronic messages in the conference environment show similarities with speech even though they are in fact written text.

To make comparisons between speech, writing, and CMC we collected both CMC messages and conventional written essays from students and made use of a published source of conversational data described below. The messages sent to the conferences and written as essays formed a 'corpus', a collection of texts, that could be examined using the computer software *WordSmith Tools* (Scott, 1996). Two sub-corpora were prepared – the conference messages (142,078 words) and the essays (110,112 words). Texts in both sub-corpora were prepared for analysis by first converting them into rich text format which is readable by the software, and then by tidying up the resultant files. For example, some HTML characters had become embedded in the conference text messages and these were deleted. Where people had sent messages as attachments these were opened and also included in the sub-corpus. The corpus as a whole was left as plain text, that is, it was not grammatically tagged so only words and not parts of speech could be searched for.

In addition to this corpus we also made use of the detailed corpus analysis carried out by Biber *et al.* (1999) published as the *Longman Grammar of Spoken and Written English* (LGSWE). The LGSWE is prefaced on the understanding that grammatical features vary in different contexts and under different circumstances. This is illustrated throughout by comparing the distribution of different grammatical features among groups of texts classified as the registers of *conversation, fiction, news* and *academic prose*. For the purposes of this study, we use the LGSWE findings for conversation to allow comparisons across spoken, written, and CMC interactions. We also give their figures for grammatical structures in academic prose as representative of writing similar to, or more formal than, our student essay data.

The first task was to ascertain whether or not the written conference compositions represented the spoken–written hybrid reported in emails/CMC by Baron. This would enable us to see whether communication in the conferences showed any evidence of the dialogue and interaction that take place in face-to-face tutorials or whether they were more typical of academic *writing*. In general, tutorials are seen as more successful if students interact with each other as well as the tutor and

reflect on their learning. Two simple measures of interactivity were used relating to pronouns and coordinators. The first was based on the findings of Collot and Belmore (1996) and Yates (1996) (summarized in Table 8.2) on personal pronoun usage. In spoken interaction there is greater use of personal pronouns such as *I* and *we*, so if the interaction taking place has spoken-like qualities, pronoun usage is likely to be higher than in traditional written academic prose. A second comparison was based on the findings reported in the LGSWE, which identified marked differences in the distribution of common coordinators (*and*, *but* and *or*) between conversation and academic prose. Both pronouns and coordinators are relatively easy to measure numerically using corpus analysis software and comparisons were made between the CMC and essay data collected for this research and between the findings reported in LGSWE.

8.5 Results and Discussion 1

All personal pronouns and corresponding possessive and reflexive forms (with the exception of *it*, *its*, *itself*) were counted in the conference messages and essays sub-corpora. The raw figures were converted into frequencies per million words to make them comparable with each other and with the data provided by graphs in LGSWE. Table 8.2 shows the comparison between first and second person pronoun usage between the conferences and essays sub-corpora.

The findings support the summary of evidence given by Baron in Table 8.1 above: that first and second person pronoun use is much higher in email/conference messages than in academic prose. Despite the writing being by the same people and on the same topics, first and second person pronouns are three times more common in the conference messages, indicating that interpersonal interactivity in the conference is high.

Biber *et al.* (1999) in LGSWE do not break down their data on pronoun usage in conversation and academic prose to first and second person versus third person. Their statistics indicate only overall usage of personal pronouns. LGSWE data contains all personal and reflexive pronouns, including *it*, *its* and *itself*. To make our data more comparable it was therefore necessary to include third person pronouns. However, we stopped short of including *it*, *its*, and *itself* for two reasons. First, personal pronouns are used as an indicator of the more personal and involved stance of the author. Pronouns such as *I* or *you* are therefore of importance, whereas *it* is likely to be less significant. Second, *it* has functions other than just as a personal pronoun (see Chapter 6 by Hewings and Hewings, this volume). It would have been necessary to edit concordance lines manually for non-personal pronoun uses of *it* and then to run the frequency counts. Had the corpus been grammatically

Table 8.2 Frequencies of first and second person personal pronouns

First and second person pronouns	Conference messages	Essays
Total no. of occurrences	6515	1544
No. per million words	45,862	14,022

tagged, as was that used by Biber *et al.* (1999), this procedure could have been automated. The personal pronoun comparison with our corpora needs therefore to be treated as a very rough guide only.

The results in Table 8.3 show the same general trends in the data as we observed in Table 8.2, but the variation between conference messages and essays is not as great as that between conversation and academic prose. This finding supports the description of CMC messages as a spoken–written hybrid. The conference messages show features of speech in that pronoun usage indicates a personal dialogue between participants. However, as they are written forms and the interactants are not in a face-to-face context, the contrasts are not as marked as the LGSWE findings.

The research by Biber *et al.* also identifies a difference in the use of common coordinators (*and*, *but*, and *or*) in different registers. *And* is the most frequent coordinator, linking both phrases and clauses throughout their corpus, but it is, surprisingly, less frequent in conversation than in academic prose. Example 1 from the academic prose sub-corpus used by LGSWE (Biber *et al.*, 1999: 83) shows both uses. The first and third uses serve to link phrases (*and potassium*, *and iron*) whereas the second and fourth uses serve to link clauses (*and those which are*, *and are transferred*).

> 1 A distinction is needed between elements, which include nitrogen,
> phosphorus **and** potassium, which are mobile in the phloem **and** those
> which are comparatively immobile, for example, calcium, boron **and** iron,
> **and** are transferred only slowly to the developing organ.

The authors of LGSWE suggest that *and* is less frequent in conversation than in academic prose because in conversation phrases are simpler and do not need coordination. In contrast, *but* occurs more frequently in conversation because, although it cannot be used to coordinate noun phrases, it serves to string together clauses in which ideas are contrasted without too much pre-planning. *But* allows the speaker to modify a statement (example 2) and others to disagree (example 3):

> 2 I think he will have salad **but** he doesn't like tomatoes.
> 3 A: The golden rule is if you're reversing you must look behind you!
>   B: Yeah, **but** she said she did.
>
> (Biber *et al.*, 1999: 82)

Table 8.3 Frequencies of personal pronouns

Personal pronouns	Conference messages	Essays	LGSWE conversation	LGSWE academic prose
Total no. of occurrences	8657	3692	–	–
No. per million words	60,931	33,529	138,000 (approx)	18,000 (approx)

Or is the least frequent of the coordinators but is relatively more common in academic prose. This may be because academic discourse frequently considers alternatives (example 4) and explains terminology (example 5):

> 4 Such movements may come from local **or** regional deformation of the land **or** from a global rise **or** fall of sea level.
> 5 According to Chamberlain and Moulton, these broke into small chunks, **or** planetesimals, which went flying as cold bodies into orbits around the Sun.
>
> (Biber *et al.*, 1999: 82)

Frequencies for *and*, *but*, and *or* were obtained in our two sub-corpora and the results made comparable with those in LGSWE (see Table 8.4).

Again, we found that trends are similar. *And* and *or* are used less frequently in conference messages and conversation than in essays and academic prose. *But* is used more frequently in conference messages and conversation than in essays and academic prose. However, as would be expected, given the differences between the corpora, the proportions differ.

In interpreting these comparisons we need to be careful regarding the findings concerning *and*. LGSWE notes that in conversation 80 per cent of occurrences of *and* are to link phrases (single nouns or noun phrases) such as in 'individual personalities **and** learning styles'. In contrast, in academic text 35 per cent of occurrences are as clause-level connectors, 'Does it only happen in a formal framework **and** is it only something experts deal with'. As neither clauses nor noun phrases were tagged within our corpus, it was not possible to verify statistically whether this was the case in the data examined here. However, qualitative observation of the data suggests that *and* does function in this contrasting fashion in different types of conference message. This is returned to in the qualitative analysis discussed below.

Use of a corpus methodology enabled us to observe quantitative trends in the use of certain key grammatical indicators. Analysis of pronouns and coordinators confirms a difference in grammatical choices between the sub-corpora. Personal involvement as indicated by pronoun usage is more significant in conference messages. However, it is still higher in student essays than in the LGSWE academic prose sub-corpus, perhaps indicating that essays in applied linguistics have a more personal dimension than in non-disciplinary specific texts composed by professional academics.

Table 8.4 Frequencies of simple coordinators (per million words)

Occurrences/ million words	Conference messages	Essays	LGSWE conversation	LGSWE academic prose
and	24,000	34,783	20,000 (approx)	27,000 (approx)
but	4237	2942	7000 (approx)	3000 (approx)
or	3829	5030	2000 (approx)	6000 (approx)

With regard to coordination, we can say that the frequency of *and, but,* and *or* in conference messages lies somewhere between its frequency in conversation and academic prose, as represented by the LGSWE corpus evidence. This suggests that conference messages are indeed a hybrid form.

8.6 Methodology 2: Theme

The second analysis was a qualitative look at the way in which conference contributions were organized internally and as part of the conference as a whole. Our own observations and questionnaire feedback from students had indicated that tracking discussions within a CMC environment was causing problems for both students and tutors. In the corpus of texts examined, each message is sent by one person but read by many. Each person in the tutorial group can post and respond to messages leading to the possibility of multiple strands, or 'threads', of dialogue overlapping in time. Given that CMC tends towards a mix of spoken and written features how do interactants signal the internal organization of their messages and how do they show their relation to the discussions in the conference as a whole? How do they indicate that their contribution relates to earlier contributions or invites new contributions? To investigate this particular aspect of CMC we build on the notion of theme, the beginning elements of a clause (Halliday, 1994).

Theme may be used to signal what a message is about, the writer's angle on that message, and/or to signpost the development of a text. The beginnings of clauses, sentences, paragraphs or whole stretches of writing are important in indicating how a piece of writing is structured – how it fits together. A text is perceived to be a unit because the individual elements from which it is composed function together to form a coherent whole. Theme is one of the major ways in which texts are organized to create a unified whole. What a writer chooses to place in theme position, that is, at the beginning, allows reference to be made to the entities being discussed but also to position elements of the text in order to frame the coming discourse, or to demonstrate logical links with preceding parts of the text.

Many analysts who do not work in the systemic functional tradition of grammatical analysis have also highlighted the beginning position as significant. For example, Conrad and Biber (2000: 71) through analysis of large text corpora note that 'an author's framing for a proposition before actually presenting the proposition' frequently occurs in initial or pre-verbal position; that is, it is often thematic. Studies of meta-discourse, that is, interpretative and evaluative content matter, also often concentrate on first position (Vande Kopple, 1985; Crismore, *et al.*, 1993; Hyland, 1999; Hewings and Hewings, Chapter 6, this volume). For these reasons analysing theme, the starting point of the message, is a useful starting point for looking at how CMC messages are organized.

At its simplest, theme in English can be thought of as that element in a clause or larger unit of text which comes first. Theme is a major component in the organization of a text as a message. In the example paragraph below, we have underlined the theme of each sentence (NB not each clause) to illustrate this organizational potential. The non-underlined portion is referred to as the rheme (the remainder after the theme).

1 <u>Immigrant children in my school</u> tend either to be refugees, or arriving to join extended family who already live in this country.
2 <u>Their parents</u> generally do not work, or work in the businesses of family members, where the home language is spoken.
3 <u>As such, their interaction with native English speakers</u> is fairly limited and rarely goes beyond shopping or routine and highly predictable interactions concerning benefits or paying for school dinners.
4 <u>In contrast, their children</u> spend six hours a day at school, surrounded by native English speakers with whom they are expected to interact constantly, from playground games to maths lessons.
5 <u>This difference in experience</u> would be likely to result in a difference in fluency even between learners of the same age.

In sentence 2, the theme picks up on the theme of sentence 1. The use of the possessive personal pronoun *their* would make little sense without the earlier reference to children. In sentence 3 the use of *As such* links back to the whole content of sentence 2. *In contrast* in sentence 4 links back to sentences 2 and 3 and *children* takes us further back to sentence 1. Finally, the theme in sentence 5 encapsulates sentence 4. In each of these sentences, the theme also indicates the topic that is then discussed within the sentence.

Theme has been defined and delimited in many different ways by various researchers (e.g. Berry, 1989; Mauranen, 1993; Ravelli, 1995; North, 2003). In this analysis, we are following Halliday (1994) in classifying theme as extending up to and including the first experiential element, that is the participant, process, or circumstance in functional terms, usually realized as the subject, the verb or a prepositional phrase. The remainder of the clause is classified as the rheme. Theme was analysed at the level of the clause complex, (i.e. only the independent clause in a clause complex containing both dependent and independent clauses was analysed). In declarative clauses, theme most often coincides with the grammatical subject and is referred to as experiential theme. However, additional elements, such as conjunctions and modal adjuncts, can also occur before the grammatical subject and these are thematic too. While experiential theme, possibly preceded by other elements is seen as the most common choice, other starting points are also possible, but less likely. These are known as marked experiential themes. A basic categorization can be summarized as:

• **Experiential theme** – the grammatical subject (in declarative clauses), for example:

  <u>I</u> have no scientific data of my own to back this up …
  <u>The following statement</u> seems rather forceful to me.

• **Marked experiential theme** – circumstantial adjuncts occurring before the grammatical subject, for example:

  <u>In our school</u> we had an agreement with a couple of universities

• **Multiple theme** – experiential theme is preceded by either or both interpersonal or textual elements (only the experiential theme is underlined below).

Organizing resource	Domain
macro-theme	text
hyper-theme	paragraph
theme	clause

Figure 8.2 Relationships between different levels of theme and different focuses for analysis

They can be either (a) marked experiential, for example:

However, in EFL situations such as the majority of classes we have in Greece, the motivation is instrumental

or (b) unmarked, for example:

… and these different relationships can be explored and exploited in the classroom.

In addition to analysis at clause complex level, it is also possible to investigate theme in higher level units. Martin looks at the beginning of paragraphs and whole texts and uses the terms macro-theme and hyper-theme (1992: 434–48) to describe how paragraphs or sentences help to structure larger and larger stretches of the whole. He sees paragraph initial sentences (hyper-theme) as the starting point of the message for the whole paragraph. Similarly, he sees the opening paragraph of a whole text (macro-theme) as helping the reader to perceive the organization of the text as a whole. This is summarized in Figure 8.2.

In writing, the use of macro-themes to predict hyper-themes, which in turn predict a sequence of clause Themes, is an important aspect of texture; and texts which do not make use of predicted patterns of interaction in this way may be read as less than coherent (Martin, 1992: 437).

8.7 Results and Discussion 2

Analysis revealed that the organization of messages in the conferences was accomplished at one level through the use of subject headings. Whenever a message was sent, the writer had the choice of creating a new message and giving it a new subject heading or replying to a previous message in which case 'Re:' plus the previous message heading would appear. This could be further modified if necessary. On entering the conference, the participant would see a screen similar to the one in Figure 8.3 which shows the messages arranged in date and time order. The subject heading is in the centre column and the name of the sender (deleted for publication purposes) on the left. Messages can either be opened sequentially as they were sent, or in relation to subject headings so that you can follow a particular thread through.

Box 8.1 illustrates the types of messages and signalling used. These are all messages from one of the early tutorials, numbered sequentially according to the order in which they were sent. All names have been reduced to initials to preserve

Name	Size	⊟	Subject	Last Modified	
	3K		Re(3): Tutorial 1, Activity 1	06/02/02	19:12
	4K		Re(3): Tutorial 1, Activity 1	05/02/02	08:44
	2K		Re(3): Tutorial 1, Activity 1	05/02/02	08:44
	3K		Re(2): Tutorial 1, Activity 1	05/02/02	07:54
	2K		Re(2): Tutorial 1, Activity 1	04/02/02	17:39
	3K		Re: Tutorial 1, Activity 1	04/02/02	16:49
	3K		Tutorial 1, Activity 1	04/02/02	12:40
	2K	⊟	Re	06/02/02	11:43
	2K		Re:	05/02/02	22:32
	3K			05/02/02	20:34
	3K	⊟	Re: Suggestion	04/02/02	19:27
	2K		Suggestion	04/02/02	19:13
	2K	⊟	Re: Tutorial 1 Activity 1	04/02/02	15:24
	2K		Tutorial 1 Activity 1	02/02/02	23:01
	5K		Factors Affecting Language Learning	04/02/02	11:16
	3K	⊟	Re: Situation in Italy	04/02/02	10:08
	46K		Re(2): Tutorial 1	03/02/02	21:52
	2K		Re(2): Tutorial 1	03/02/02	10:48
	3K		Situation in Italy	03/02/02	08:32
	3K		Re: Tutorial 1	02/02/02	22:11
	3K		Tutorial 1	02/02/02	15:04
	2K	⊟	Re: Tutorial 1 Activity 1	03/02/02	15:02
	2K		Tutorial 1 Activity 1	03/02/02	00:08
	2K		Tutorial 1 Activity 1	03/02/02	10:55
	2K		Tutorial 1 Activity 1	02/02/02	23:53
	2K		Tutorial 1	02/02/02	23:34
	3K		Brainstorm	02/02/02	18:12
	5K		Tutorial 1, Activity 1	02/02/02	12:57
	2K	⊟	Re(2): Tutorial 1, activity 1	02/02/02	12:50
	3K		Re: Tutorial 1, activity 1	02/02/02	11:04

Figure 8.3 List of messages in First Class conferencing environment

Box 8.1 Conference messages

1. SEP 9/2/02 0916
Pronunciation
I live in an area of Germany that speaks High German and have had fair success in pronunciation, finding it easy for some reason. This is contrary to what Lightbown and Spada stipulate as I am definitely an older learner. On the other hand, the studies cited only look at native-like pronunciation (which I definitely don't possess). In fact, I found the Lightbown and Spada chapter frustrating in that it really focused on fluency, which the vast majority of second language learners do not attain. I would have liked to see more focus on which factors enable a second learner achieve a 'pretty good' level of the language.
S

---

2. SB 10/2/02 1700
Spanish class was the answer for me
Spanish class (first FL began at age 14) truly was a joy for me ... due to the positive influences of all of the factors identified by Lighbown and Spada. I thrived on memorizing vocabulary and grammar rules. (Was I looking for something that made sense at an age when emotional chaos is rampant?) I was motivated to succeed from the start!

3. SJJ

...

_____

4. BAN 10/2/02 0928
Re: Pronunciation
Dear S, I found the Lightbrown/Spada article provocative for the reason which you sighted and many others! – which hopefully should enable us to write an equally challenging response for our first TMA. B.

_____

5. HFJ 11/2/02 2110
Re: Spanish class was the answer for me
S,
I wish I had had the same enjoyable experience learning German as you had learning Spanish. I was however very motivated as my job depended on my success at having a good command of the language. I learnt the vocabulary relevant to my work very quickly!!
SB writes:
>Spanish class (first FL began at age 14) truly was a joy for
>me ... due to the positive influences of all of the factors
>identified by Lightbown and Spada. I thrived on memorizing vocabulary and
>grammar rules. (Was I looking for something that made sense at an age
>when emotional chaos is rampant?) I was motivated to succeed from the
>start!

_____

6. SJJ

...

_____

7. SJJ 11/2/02 1240
Re(3) Pronunciation/fluency
HMW writes:
really focused on fluency, which the vast majority of second language learners do not attain.
mmm, S, what do we mean by 'fluency' here?
S

anonymity as much as possible. The first initials are those of the sender; this is followed by the date and time of sending. The subject lines have been emboldened. Text copied from previous messages is in italics. Where text or messages have been omitted this is shown by a short line of dots (...). SJJ is the tutor and has set a discussion concerning what makes language learning a pleasure in relation to overall factors affecting language learning that the students have been reading about.

Looking first at the subject headings (in bold) as indicators of message content, Messages 1 and 2 were among the first to be posted, and responded to the task set by the tutor. The subject headings indicate what aspect of the topic they have chosen to write about. Messages 4 and 5 have subject headings created using the

reply button. Message 7 also used the reply button, but SJJ, the tutor, has added 'fluency' to the subject line to indicate what aspect of Message 1 he is responding to. The subject headings, then, are acting as macro-themes, predicting the main concerns of the message. Messages 1 and 2 can also be said to have hyper-themes. In 1, for example, the macro-theme of pronunciation is refined in the opening sentence (the hyper-theme) to SEP's success in learning German pronunciation and in 2, SB identifies the particular course in which she began to enjoy language learning and attributes this to the factors discussed by Lightbown and Spada. Messages 4, 5 and 7, as responses, are more complex. Message 4 is addressed directly to the writer of Message 1 although it is posted for the whole group to read. It has a dynamic quality akin to conversation in that it doesn't repeat information given in 1, but moves directly into endorsing SEP's misgivings about the chapter by Lightbown and Spada. As such there is no hyper-theme. Message 5, on the other hand, although also addressed directly to another contributor, starts by reiterating the gist of Message 2 and indicating a different experience with Spanish. This opening sentence does, therefore, fulfil the role of a hyper-theme giving an indication that we shall learn something of HFJ's experiences with Spanish. The prediction is not, however, entirely fulfilled as only motivational factors are mentioned. At the bottom of Message 5 we find Message 2 has been copied. Thus, unlike Message 4 which seems to follow on directly from Message 1, Message 5 summarizes Message 2 in the hyper-theme *and* provides the whole of the message almost as an appendix. A different approach is taken in Message 7 where an excerpt from Message 1 is included at the beginning. This excerpt, together with the macro-theme acts as the hyper-theme. The message as a whole is dialogical, picking up on a particular point from Message 1 and asking a question about it, but SJJ has given sufficient contextual information for it to also stand alone without the need to re-read the earlier message.

This sequence of short messages is relatively simple to follow, but as the number of messages and variety of threads increases, participants have more difficulty in following the threads and signalling how their message is to be interpreted in the ongoing discussion. In response to various comments on the problems, one participant wrote:

> One of the difficulties in computer conferencing is certainly keeping all the messages and their authors straight. It doesn't seem very feasible to print out all the messages passed back and forth, or so it seems? Some kind of indexing would be nice!
> D

In Box 8.2 we can see by the subject line (Re(12 ...)) that there have already been at least 12 responses on this topic, so the macro-theme becomes only a very general indicator of what is to come. The opening sentence refers back to an earlier message, a snippet of which is copied at the bottom of the message. Together these might be considered a hyper-theme. However, without reference to the earlier message they do not clarify the content sufficiently.

Here, then, we have an example of where the dialogical nature of a written conference discussion can make for communication difficulties. It is necessary for a

Box 8.2

HJG 6/2/02 2126
Re(12) Problems of dialect
As a standard English speaker, whom you would understand S, I have experienced what you say above with an American colleague teaching English (Language Arts). In initial discussions about syllabus, curriculum, essay and thesis, we were incomprehensible to one another and it was quite difficult to work together until we had sorted this out. It seems that genre use in like institutions might not be straightforward if users of different varieties of a language come together. This could confirm the need for a standard form, but which form?
The problem became rather unattractive at one point, with anxious parents involved in questions of which curriculum. A lot of tolerance was needed and reliance on what was on offer in terms of 'international curricula', which were weak in the middle years range (11 to 14) but have been improving. In terms of interdepartmental interaction, there was a certain adapting of terminology on both sides, an institutionalised hybrid, I suppose, specific to that place at that time. There were some political repercussions though and a certain amount of mischief ensued.

SJJ writes:

SB writes:

Your question is a good one! Can't say that I have an answer!!
HJG implies, that once addressed, the problem could be 'sorted'. Who saw there was a problem? Who sorted it and how? – please – HJG.
SJJ

---

reader to retain a larger number of messages in short-term memory or to be willing to switch back and forth between messages frequently to maintain an understanding of the dialogue. By entering into the dialogic format HGJ has failed to give sufficient information in macro- and hyper-theme positions to facilitate understanding.

In the next example in Box 8.3, the contributor has erred on the side of caution and might even be said to have over-signalled how her contribution fits in with the overall conference. The subject line, as macro-theme, indicates what aspect of the tutorial she is responding to. This is followed by a greeting and a light-hearted reference to an earlier message from P. She then restates the macro-theme *here's my Activity 3* and at the same time indirectly indicates that it is in an attachment. The attachment title then reiterates the macro-theme. Hyper-themes are provided for each paragraph and restate the questions that had been posed as the basis for this activity. The paragraphs themselves have not been reproduced in full below.

This contribution to the discussion is successful from the point of view of integrating it into the whole without creating problems for a reader who is dipping in and out of the conference. This is made easier for the student by the framing of the activity in the form of questions which can serve as sub-headings or hyper-themes.

Box 8.3 More conference messages

DK 13/2/02 0855
Re:Tutorial 1 Activity 3
Good Morning to everyone!
...

I liked the lightbulb joke P!
here's my Activity 3 (hope you can all open it this time!)

take care,
D

Tutorial 1
Activity 3
What purpose did Lightbown and Spada have in writing about language learning?
In their chapter, Lightbown and Spada put forward several characteristics that
have been found to influence second language learning. They ...

What purpose did you have in talking electronically about language learning?
My purpose in talking electronically about language learning was ...

What purpose will you have in writing about language learning in your first TMA?
In order to successfully complete the first TMA for this course I ...

Before leaving the topic of theme, we briefly explore theme choice in relation
to the earlier discussion regarding the use of personal pronouns. In looking at
frequency counts we noted that personal pronouns were more frequent in conver-
sation than in academic prose. In addition, studies of experiential theme in
conversation highlight that 'the overwhelming majority of experiential themes
are personal pronouns or names (*you, he, I*). Where they are not personal pro-
nouns, the experiential theme tends to be "a brief nominal group"' (Eggins, 1994:
301). Below the experiential themes have been underlined for each clause com-
plex in the first two of the messages we looked at earlier.

1 I live in an area of Germany that speaks High German and have had fair
  success in pronunciation, finding it easy for some reason. This is contrary
  to what Lightbown and Spada stipulate as I am definitely an older learner.
  On the other hand, the studies cited only look at native-like
  pronunciation (which I definitely don't possess). In fact, I found the
  Lightbown and Spada chapter frustrating in that it really focused on
  fluency, which the vast majority of second language learners do not attain.
  I would have liked to see more focus on which factors enable a second
  learner achieve a 'pretty good' level of the language.

2 Spanish class (first FL began at age 14) truly was a joy for me ... due to the
  positive influences of all of the factors identified by Lighbown and Spada.
  I thrived on memorizing vocabulary and grammar rules. (Was I looking for

something that made sense at an age when emotional chaos is rampant?)
I was motivated to succeed from the start!

Out of a total of nine experiential themes, six are first person singular personal pronouns (I). The other three were short nominal groups (noun phrases) as predicted by Eggins. There are more extensive experiential themes in the corpus such as A major problem when learning Arabic, but these are less frequent. The examples given are not random but they are typical of the thematic organization of many of the messages. However, there do appear to be some types of message where the pattern is different. In attachments and longer messages we find a greater variety of experiential themes and also longer noun phrases in experiential theme position. In messages of this type some interactants adopt a style more akin to that of academic prose. They show, therefore, fewer features typical of conversation and may promote less dialogic interaction.

> Lightbown and Spada set out to do two things in their article. The first was
> to 'see whether anecdotal evidence is supported by research findings' in the
> area of second language learning and secondly to discover 'to what extent
> can we predict differences in the success of second language acquisition'
> given certain information. They present us firstly with warnings about the
> effectiveness of the research (and in some cases comment on it's lack of
> solidity), present us with the problems encountered by such research and
> then go on to deal with each factor they have chosen to examine and the
> work that has been carried out on it. The research referred to is, in all cases,
> the work of others and anecdotes are employed to forge links between them
> and the investigations made. Having laid bare, for the reader's perusal, all
> the information they deem relevant to the topic they reach the conclusion
> that 'the study of individual learner variables is not easy' and even more
> resoundingly that 'the results of research are not entirely satisfactory'.

In addition to the different varieties of experiential theme, another feature that distinguishes this extract is the use of and to join clauses rather than just noun phrases. We saw above that LGSWE identifies this as a feature common in academic prose. In most of the messages and is predominantly used to join noun phrases such as 'Lightbown and Spada' or 'vocabulary and grammar'. However, in this passage it also links clauses such as: The first was to 'see whether anecdotal evidence is supported by research findings' in the area of second language learning and secondly to discover 'to what extent can we predict differences in the success of second language acquisition' given certain information. One possible explanation for these differences may be that they are the result of greater reflection and are written offline. Such messages therefore lose some of the dynamic, dialogic features found in other messages. Evidence that they are offline compositions comes from the comments of some of the students in response to a questionnaire survey and from the fact that many were in longer messages, often in attachments. Some students specifically mentioned that 'depending on how much consideration [a] response required' they would decide whether to compose their messages on- or offline. Composing offline can be equated more with the reflective mode features associated with academic prose.

8.8 Grammar Applied: Lessons for Tutors and Students

The use of CMC in higher education is increasing and students and staff alike are often plunged into interaction in an unfamiliar medium. Computer conferences, like the ones studied here, are used to replace traditional face-to-face teaching and students are expected to post messages and respond to those of others in an attempt to encourage reflection and discussion of the concepts being considered. Participants in the conference are therefore behaving in ways similar to those involved in face-to-face discussions, but they are not interacting in real time or space.

The research reported here has located the conferencing messages as exhibiting a hybrid character. Like email, they have features that are strongly associated with both written text and spoken discourse. We suggest that this hybridity is the result of the more personal and involved nature of the communications that take place online in comparison to the traditional stereotype of depersonalized academic prose. Corpus analysis allowed us to observe this in the high use of first- and second-person personal pronouns and personal pronoun use overall. The proportions of connectors such as *and* and *but* also mark this out as a written text form but with grammatical similarities with speech. Participants are therefore using the medium to create messages which have their own characteristics.

A particular feature, identified by students as problematic, in using computer conferences is how to keep track of the conversation. To investigate this we applied the SFL notion of theme and the associated concepts of macro-theme and hyper-theme. We identified strategies that were helpful in embedding a response in the ongoing conversation. Specifically, careful use of the subject header to create a macro-theme for a message, and providing a hyper-theme by quoting specific parts of previous messages before responding. Where such methods are not used, it can become difficult to keep track of the multiple threads that are common within a conference. In effect, such thematic devices may be deemed equivalent to conversational strategies such as *Can I just take up the point made by X earlier ... or I'd like to add to what Y was saying ....*

In the course of examining clause themes, it was noted that while many were short and often referred to people, which is typical of speech, a number showed complex patterns more characteristic of writing. They were longer and more abstract and tended to occur in more extended stretches of text. They appear to be associated with more reflective writing where the writer has taken time, possibly offline, to consider their response. The writing therefore takes on the characteristics of typical academic written discourse rather than dynamic conversational exchanges. The occurrence of these more reflective written pieces seemed to depend on the tasks set (see also Painter *et al.*, 2003).

Through the application of two grammatical analysis methodologies we have been able to describe the characteristics of the new medium of CMC as used in this particular educational setting. In addition, we are in a position to apply that knowledge to suggest how tutors and students might engage in more efficient communication and therefore teaching and learning. Given the potential difficulties of navigating through possibly hundreds of messages, tutors should consider

laying out ground rules on how to head messages and include short quotations when conferencing is initiated. Those controlling a conference also need to reflect on the design of tasks and the intended learning outcomes. If they want to exploit the dialogic possibilities of CMC, then activities that prompt shorter exchanges, or exchanges in smaller groups, are likely to be more successful. If the aim is to promote and share reflections on a topic, then dialogism may need to be sacrificed in order to allow people time to reflect and compose their messages. The hybrid nature of computer conferencing creates a flexible medium in which both these strategies can be accommodated.

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9 | The Development of Language as a Resource for Learning

Clare Painter
Adapted from R. Hasan and G. Williams (eds) (1996) *Literacy in Society*, pp. 50–85

9.1 Introduction

In this chapter I will describe some key aspects of language development and use in early childhood in order to clarify the relationship between a child's linguistic and intellectual development. The theoretical framework for the description and interpretation derives from systemic-functional linguistics (SFL) as articulated by M.A.K. Halliday (1978, 1994), who views language as a complex interrelated set of options for meaning – a 'meaning potential' gradually built up from babyhood. This meaning potential is made actual in the innumerable specific instances of spoken or written text that the person engages in. If we examine actual texts, we can infer the meaning options that lie behind them. Thus, an examination of the spontaneous, spoken conversational texts of a growing child can, from this perspective, provide insights into the changing meaning potential that underlies his or her utterances. This chapter will use data from a longitudinal case study of one learner's spoken texts during the pre-school years to illuminate particular aspects of the child's changing meaning potential.

However, my interest here is not simply to document the child's changing language, but to argue that observable linguistic changes both signal and enable further cognitive developments. As Halliday (1981) argues, in the process of learning language, a child is also learning *through* language. In other words, language is both a meaning system to be built up by the child, and also the means by which the child builds up other meaning systems – those that constitute our 'knowledge of the world'. Moreover, the need to understand experience and to build knowledge constitutes one of the primary motivations to develop language further (Halliday, 1975). Thus, an examination of a learner's changing texts will reveal not only instances of the developing linguistic system but instances of the speaker's use of the system as means of understanding non-linguistic phenomena, showing how the system expands as a result of the child's cognitive explorations.

An important consideration here is that the texts of a child learner are interactive, conversational ones in which the child participates with an adult language user who has a much larger meaning potential at their disposal. This means that in the process of engaging in text, the inexperienced speaker is exposed to and must make sense of somewhat more sophisticated linguistic forms and meanings. As a

result, the child and adult together may achieve in interaction more than could be achieved alone (Vygotsky, 1978). Equally important, from the perspective of SFL, is the fact that jointly produced texts may go beyond the child's current meaning potential and thus put pressure on that system to accommodate more extensive meanings. Experience in using the language system – the meaning potential – thus provides a source for ongoing change in that system. Individual texts are both a manifestation of the child's linguistic potential and an impetus to change and develop it.

9.2 A Case Study of Language and Thinking

The data I will draw on to illustrate these ideas come from the developing language of my son, Stephen, between the ages of two years and six months (2;6) and five years (5;0). Stephen is the second child in the family, four and a half years younger than his brother, Hal. Using audio-tape recordings and notebook and pencil jottings without his knowledge, I undertook a naturalistic diary study of Stephen's language development over this period, focusing on parent–child talk (see Painter, 1999, for details of data collection). All the recorded conversations were analysed initially in terms of their observable grammatical characteristics, using Halliday's (1994) functional grammatical description of English.

In the selective description of development that follows here, some of the changes in Stephen's language will be presented in relation to certain specific cognitive efforts by the child, namely:

(a) the construal of things into taxonomies (through naming, classifying and defining);
(b) the construal of more abstract concepts;
(c) the generalization of events;
(d) the inferring of knowledge from textual information.

I shall show how these are realized linguistically and how the texts and their grammatical features develop and change over time. In taking this approach, I am suggesting that it is most useful to see the processes of learning, such as classifying, generalizing or inferencing as strategies for *meaning* – ways of mobilizing the linguistic resource into text – rather than ways of doing some essentially non-linguistic, non-visible mental operation. Thus, the account of linguistic change to be given here is organized in terms of the cognitive goal under focus.

9.3 Construing Phenomena I: Building Taxonomies

When children begin to use their first words, they are beginning to build a resource for naming the things they see and experience in the world around them. A common noun, such as *cat*, an adjective like *big*, or a verb like *open* names a class of things, qualities or actions respectively. Thus, language from the beginning enables the myriad distinct, individual instances of the experience of phenomena to be generalized (under the guidance of others) as *categories* of everyday 'knowledge of the world'.

Once a child starts learning to talk, words that name categories are needed every time he or she speaks. However, I wish to focus initially on those utterances which overtly identify or classify something by name. First let us look at Examples 1a–1c produced by Stephen in the second half of the third year, between 2;6 and 2;8. (Note that throughout, Stephen is 'S', his mother is 'M' and his father is 'F'.)

Example 1 Naming

1a. 2;6 (S enters childcare centre and addresses staff member, A)
        S: I've got a paper
        A: Oh let's have a look. What's on the paper? (opening folded sheet) Do you know?
        S: Um, that's words (pointing) that's words

1b. 2;7 (S pointing at the traffic from the car)
        S: A taxi, another taxi ... a tru – no, a van

1c. 2;8 (S examining pattern on rug)
        S: That's a square. What's that?
        M: That's a circle

In the early period of learning English as a mother tongue these are typical utterances where things are being classified by naming. They are typical in that the child can enquire about or tell how to categorize some observed phenomenon, first by bringing it into shared attention, either through physically pointing and/or through verbal pointing (with *this*, *that*, etc.) to some material entity in the context.[1] Then a 'relational' verb (see Halliday, 1994: 112ff.) such as *be* is used with a name to construe the category to which the observed instance belongs. The clause type can be analysed as having two 'participant' roles brought into a relationship by *be*, as shown below:

Analysis 1 Early context-dependent relational process for naming

that	's	a circle
Participant 1	Relational Process	Participant 2
verbal 'pointer'	=	category

Clearly, examples 1a–1c serve to construe the relation between a lexical symbol and the observed material phenomenon for which it stands. But, as Hasan (1985) has argued, working out what a lexical word 'stands for' cannot proceed without simultaneously working out how different categories relate to each other. For example, to be able to use the word *van* appropriately depends on working out its relations to other relevant words (known as 'co-hyponyms'), such as *truck, station wagon, car*, and this can hardly be done without simultaneously construing a semantic space which might be realized by a superordinate word like *vehicle* or *traffic*. So through these utterances where Stephen was practising naming, he was also

necessarily construing the things of his experience into taxonomies (hierarchies of class and sub-class).

A superordinate category, such as 'vehicle', whether or not the actual word for it is known, will be based on some shared similarity between the co-hyponyms. However, if we look at conversations from Stephen where things are described and compared, we find that while he certainly attended to the various attributes of objects that might serve to discriminate them as members of a category,[2] the status of those attributes was always left ambiguous, as in Examples 2a–2c:

Example 2 Possible criteria for categorizing

2a. 2;7 M: What did you see at the zoo?
          S: Elephants; they got big trunks

2b. 2;8 M: What cars have you got there?
          S: There's a fire engine one with a ladder on

2c. 2;9 (S in bed with M and F, reaches to M's earring)
          S: I haven't got earrings
          M: No, you haven't got earrings
          S: And Hal hasn't got earrings
          M: No, Hal hasn't got earrings
          S: And (reaching to F's face) Daddy hasn't got earrings Daddy's got bristles
          M: Mm, he has, hasn't he?
          S: I haven't got bristles

These examples are entirely typical of the period in that it invariably remains inexplicit as to whether any attributes described (trunks, ladders, bristles, earrings) are seen as incidental to the individual thing being observed or as important in determining the category.

The next developmental step in the use of language to construe categories builds upon experience with the kinds of texts described so far. The need to make sense of experience is the challenge which has led Stephen to classify its various aspects through naming and describing utterances. But having, in this way, built up a linguistic resource to create a taxonomically organized knowledge of the things of his everyday experience, that linguistic resource is then available for use to do something more.

This can be seen if the earlier classifying utterances are compared with Example 3 from a year later:

Example 3 Classifying categories

3. 3;8 (S is examining animal jigsaw puzzle pieces)
         S: There isn't a fox; and there isn't – is a platypus an animal?
         M: Yes
         S: And is a seal is an animal?
         M: Yes (shepherding S to bathroom)

S: And is er- er- er- er-
M: You do your teeth while you're thinking

The difference in this text is that both participants in the classifying clauses are realized by noun groups which name categories, as shown below:

Analysis 2 Relational process: both participant roles construing categories

is	a platypus	an animal
Relational Process	Participant 1	Participant 2
=	(category)	(category)

The first participant role here is not a referring word like *this*, picking out some observable thing from the context, but constructs a class lexically. Two levels of taxonomic hierarchy are thus brought into a relation. There are numerous recorded examples of such utterances from Stephen, but none was recorded before age 3;5. (The later appearance of such clauses is also attested by other case studies, such as Macnamara (1982) and Painter (1984).)

What has happened, then, is that the deployment of the grammar of 'relational' clauses (using *be* and *have*) in order to make sense of material reality has led inevitably to a new orientation towards making sense of the linguistic potential itself, by examining the relations between lexical categories, as in *Is a platypus an animal?*. But this, in turn, requires a further extension of the meaning resources. For example, in the fourth year, even when attention was still focused on categorizing specific observable things, the impetus to explore the meaning potential required something new. This was the development of some means to make explicit the positive criteria upon which an entity was being assigned to a particular lexical class. This was done through a new use of *because* to create what Halliday and Hasan (1976) refer to as an 'internal' conjunctive relation. This can be exemplified by the following texts, from the second half of the fourth year, after 3;7. The relevant utterances are underlined:

Example 4 The use of 'internal' causal links

4a.   3;9   (M refers to airship overhead as 'spaceship balloon')
             S: Not a spaceship – an airship –
                   cause a spaceship has bits like this to stand it up

4b.   3;11   (S is pointing at page numbers)
              S: That's fifteen because it's got a five;
                    that's fourteen because it's got a four

In these examples *because* has the 'internal' conjunctive meaning of 'I know [it's an airship] because ...'; 'I can tell [it is the number 15] because ...', where the relation is between a claim and its evidence (Halliday and Hasan, 1976). And while the 'external' use of *because* (e.g. *Do this because ...; I want this because ...,* etc.) had already appeared, this internal conjunctive option was a fresh move. The importance of the internal link is that it serves to explain the speaker's reasoning for

asserting or inferring something – in this case, the reason for placing something in a particular category.

Another result of the new orientation towards making sense of the linguistic potential is the use of language to define language. Having begun to move towards exploring the meaning system, the metalinguistic verb *mean* was taken up by Stephen as an additional resource for signalling relations between terms within his linguistic potential. This was obviously an important learning tool in itself, but experience in using *mean* to define words was also important in that it provided one of the earliest contexts for the grammatical phenomenon of 'embedding', whereby a larger unit functions in the role of a smaller one.

If we look at examples of Stephen's speech using *mean* we find that creating a synonymy relation by linking single words in a structure X *means* Y was often beyond him. He therefore needed to embed whole clauses or clause complexes[3] into the second participant role, as in Examples 5a–5b, where embedded clauses are enclosed in double square brackets:

Example 5 Embedding in the context of defining

5a.   3;10   (S approaches M holding up a complicated Duplo [i.e. large Lego bricks] structure)
                S: … Balance means [[you hold it on your fingers and it doesn't go on the floor]]

5b.   3;7   M: You're naughty boys to throw them up there
                S: Hal did it, by accident –
                M: Well, Hal's naughty then
                S: No, by accident; that's not naughty, that's mean (pause) [[you say sorry]]

These examples can be analysed as shown in Analysis 3:

Analysis 3 Definitions with embedded clause(s) as participant

Balance	means	[[you hold it on your fingers and it doesn't go on the floor]]
That	's mean	[[you say sorry]]
Participant 1	Process	Participant 2

We can see here that the attempt to use language to explicate itself has created a context where the speaker has needed to manipulate the language in ways rarely needed before. Although the meanings constructed by the embedded clauses themselves are perfectly 'concrete' and familiar, the construction of a clause to realize a participant role is something new, and exemplifies an aspect of what Halliday (1994) has characterized as 'ideational grammatical metaphor'. The metaphor lies in the fact that a whole proposition (e.g. *you say sorry*) is treated grammatically as a participant (i.e. an entity). In other words, the grammar is being manipulated creatively to construe something simultaneously as an event and as a participant.

As well as exhibiting grammatical metaphor by using embedding in the second participant role, these clauses also exhibit grammatical metaphor in relation to the first participant. In Example 5a above, in order to reflect on the meaning of a verb (*balance*) in this overt way, the action of balancing has been construed as a participant within the relational clause. In Example 5b, on the other hand, we have a referring word (*that*) functioning as participant. This may not seem novel, but it is not the familiar verbal pointing out to the context, or even referring to a noun or noun group in the preceding text. In Example 5b, *that* is an example of 'extended' reference (Halliday and Hasan, 1976: 66), because it refers to the whole of *doing it by accident*. Extended reference of this kind paves the way for the possibility of an entire text or for a 'fact' clause to be construed by the reference item – an even further abstraction from the original uses of these referring words.

The linguistic developments described so far are summarized in the Table 9.1. The changes in the use of the meaning potential summarized in the table are significant not only in creating new forms of text but in enabling new ways of thinking and learning. I would argue that there is in fact a spiralling relationship between linguistic and cognitive development whereby experience with text provides the impetus for new cognitive possibilities that the language may then need to expand further to meet. In other words, the use of classifying clauses, such as *that's a car*, and describing clauses, such as *Daddy's got bristles*, enables the child to categorize phenomena, which in turn challenges the child to reflect on the basis for inclusion in categories and the relation of one category to another. To meet this challenge requires an expansion of the language to encompass 'internal' causality (*it's an X because ...*) and the option of

Table 9.1 Summary of selected developments in the system and use of Stephen's language: age 2–4 years

Aspects of language use: 2–3 yrs	New developments in the language system and use: 3–4 yrs
Classifying/naming clauses (using *be*) with one participant realized by a referring word 'pointing out' to the situational context (e.g. *that's a van; what's that called?*)	Classifying clauses with lexical realizations in both participant roles (e.g. *a bus isn't a truck*)
Describing clauses (using *be*, *have*, *got*) (e.g. *Daddy's got bristles*)	'Internal' causal option to link describing clause to classifying clause (e.g. *that's fifteen because it's got a five ...*)
No defining clauses	Defining clauses using *be* and *mean*
	Participants in defining clause realized by verbs or by embedded clauses (e.g. *balance means ...; that means [[you say sorry]]*)
	Extended reference in defining clause (e.g. *... that means ...*)

classifying clauses where – instead of reference to something observable – one category is expressed as a subordinate of another (*a platypus is an animal*, etc.). Experience in using these forms of language to explore the meaning system challenges the child to go further – to explicitly define linguistic terms using the relational verb *mean*. To meet this challenge in turn requires new linguistic developments: the 'metaphorical' construal of actions and propositions into participant roles and the extension of the linguistic system of 'reference' (Halliday and Hasan, 1976) to encompass the possibility of reference to text rather than material reality. Thus linguistic developments herald cognitive challenges that the language must develop further to meet.

9.4 Construing Phenomena II: Moving Beyond 'Everyday' Concepts and Observations

One important result of the developments described in the previous section, is that by Stephen's fourth year of life, building knowledge of the world can take place through overt exploration of meaning, rather than only by accumulating understandings through long-term observation and practice of language in use. In addition, for the first time, abstract meanings become a possibility for the first time.

Both these new possibilities can be clarified and illustrated by the following conversations in which Stephen participated. Example 6 comes from the later period we have been describing, when Stephen was 3;8:

Example 6 Overt discussion of meaning

6. 3;8 (M asks S if he knows the word *dog*, which is in the
             book they are looking at)
       S: No
       M: It's an animal
       S: Rabbit?
       M: No, it's 'dog'
       S: Dog's not an animal!
       M: Yes it is ... [further talk omitted]
             What is it then?
       S: It's, it's just a dog
       M: Yes, but dogs are animals
       S: No, they aren't
       M: Well, what's an animal then?
       S: Um (?a)* giraffes an animal
       M: Oh, I see, you think animal is only for zoo animals
       S: Yeah
       M: Dogs are animals too, they're tame animals. And cats,
             cats are animals too. Did you know that?
       H: (chipping in) And people, we're animals
       S: We're not

* (?...) indicates uncertain transcription

From this text it appears that in the 20 months or so that Stephen had been using his vocabulary for animals, and observing others use the word *animal* in specific contexts of use, he had constructed a taxonomy in which *animal* was in contrast to *pet*, or at any rate had a narrower meaning than the adult term. Yet, because he was now able to talk about the relation of the categories to one another, this became apparent for the first time. In addition, he could be directly and immediately tutored in the adult version of the meaning relationships (*dogs are animals too, they are tame animals*, etc.) without reference to any observable instances of the phenomena being classified.

   The ability to handle this kind of talk is crucial for school learning since many of the categories of 'educational knowledge' (Bernstein, 1975) cannot be inferred from observation because they depend on criteria which cannot be observed directly. Everyday categories can be worked out by acting on and observing things in context, but this is not possible with more specialist concepts. For this, the ability to construct new categories by relating them to known ones, even when no observable example is available, is necessary. This can perhaps be further illustrated by the following brief text, Example 7:

   Example 7 Learning technical classifications

   7.   3;10   (S fails to find a picture of a seal in his fish book)
               H: Seals aren't fish, that's why. They're mammals
               S: Are seals mammals?
               H: Yes, cause they don't lay eggs; they have babies

Whether something lays eggs or not is, in principle, open to observation, but in practice observational knowledge is rarely possible. While perceptual criteria, together with experience of the name in specific observational contexts, may allow the learner to discriminate a seal as a particular kind of water creature, they certainly will not inform the child about the category to which it is assigned within the field of biology. (Indeed, it is only his experiences with books and with children who are already at school that have made the biological category of *mammals* relevant to Stephen.) But having had experience in justifying his own classifications using internal *because* clauses, Stephen, by age four, was in a position to take up a linguistically presented criterion of the kind offered in Example 7. And, indeed I would argue that he will have to do so once he moves into learning more specialized or technical knowledge. This is the point of Vygotsky's distinction between what he calls 'spontaneous concepts' which arise from everyday activities and the 'scientific concepts' of school learning, the development of which he says 'begins in the domain of conscious awareness' (Vygotsky, 1987: 216, cited in Lee, 1987).

   By the fifth year, there is fairly clear evidence that Stephen can manage this kind of learning from deliberate instruction:

   Example 8 Learning from definitions

   8.   4;4   (M and S are discussing whether whales kill people)
              M: There may be one kind of whale that can, but most whales are
                   nice creatures

> S: They're not creatures Mum, they're whales
> M: Yes; creature is anything that's alive
> S: Are *we* creatures?
> M: Yeah
> S: No, we're not! (laughing)

While Example 8 does not involve learning a new category, it does illustrate the way Stephen can revise a taxonomy from participating in a single text. Thus he can not only track the definition that is offered, but he can immediately draw from it a logical inference and realize that this does not match with his current taxonomy.

The new mode of learning, then, is to learn from text where the language is distanced from the immediate context of situation, to learn by making an inference from a definition rather than from observation of language in the context of situated use. This is crucial for school learning, not only because of the time it saves and because the criteria for technical classifications may not be accessible to personal experience, but because the categories themselves may be inaccessible to observation. This can be seen from Example 9, a conversation which took place just before Stephen's fourth birthday:

Example 9 Learning abstract categories

> 9. 3;11   (S overhears F mention *fifty*)
>> S: Is fifty a number?
>> F: Yeah
>> S: How does it go?
>> F: It comes after 49
>> S: A hundred comes after 49
>> F: A hundred comes after 99

Here we see Stephen being able to talk not just about things, but about something more abstract (a number) and thus not accessible to being understood by rehearsing naming.

Although it will take much more than a single text to give Stephen an understanding of the meanings he is trying to explore here, I would argue that what has allowed him to address somewhat abstract ideas is the path of linguistic experience he has travelled. That path has taken him from using 'context-free' relational clauses (such as *a dog is an animal*) to construing 'non-thing' meanings as participants in overt attempts to classify and define. (Note too that, in Example 9, he even co-opts 'action' verbs like *go* and *come* to new metaphorical uses in this process.) Thus, developments that begin as a means of better understanding the material environment provide, in the end, a way of accessing less tangible meanings. Being able to handle these abstractions clearly constitutes a development in thinking, so it is fair to say that new developments in the linguistic potential have opened up new possibilities for thinking and learning.

9.5 The Construal of Events as Generalizations

So far I have discussed the developments occurring in the realm of naming, classifying and defining, a semantic domain which involves that part of the grammar which allows language to become its own metalanguage – that is, relational clause grammar. But if we turn our attention now to the way events and 'goings on' are construed into language, we can find parallel developments and fresh evidence of how the need to understand fuels linguistic developments, which in turn fuel further developments in thinking. And we also see further the dialogue partner's role in guiding the learner towards the adult version of knowledge.

If we contrast some typical utterances from Stephen at about age 2;7 with others at about age 3;7, where he is using language to interpret ongoing events, we can see a parallel development to that illustrated by the classifying utterances. The examples are given in Table 9.2.

What distinguishes the later texts from the earlier examples in Table 9.2 is that each later one takes the here-and-now experience as a springboard from which to generalize. In Example 11a (*He's throwing him cause he's a baddie*), the utterance arises in the familiar context of the child talking about what he is observing, but the second clause, *cause he's a baddie*, only makes sense as an explanation if it is a characteristic of 'baddies' as a class that they throw people. This kind of implicit generalization first emerged at 2;7, but did not become routine until the fourth year. And to turn a running commentary into an implicit generalization in this way necessitates a fresh development: a new deployment of external causality to explain by classifying rather than in terms of affect (cf. *I want it cause I like it*).

In Examples 11b and 11c, the generalizations are made quite explicit. Long experience comparing and contrasting different individuals and their participation in various processes has enabled Stephen to form generalizations about categories of participants. And the desire to construct those generalizations linguistically has

Table 9.2 Stephen's use of language to interpret ongoing events at 2;7 and 3;7

Typical example of talk arising from ongoing observation/action	
Examples at approximately 2;7	Examples at approximately 3;7
10a. S: (scribbling) I'm drawing.	11a. (S explaining TV scene) S: He's throwing him 'cause he's a baddie
10b. S: Mummy's drinking coffee, Daddy's drinking coffee, Hal's drinking juice	11b. S: What are you drinking? M: [Coffee][1] S: [Coffee]. Grown ups drink [coffee]
10c. (out driving) S: The car's going faster	11c. (Watching riders in park) S: Do cars go faster than horses?

Note: 1 Name of drink has been substituted.

required the development of noun and verb groups constructed without 'deixis' – that is, without being tied to time and place – so as to free the meaning from reference to a specific context of situation. The manifestation of this lack of deixis is the construction of 'generic' noun groups referring to whole classes, such as *grown ups* or *cars*, and the use of habitual present tense in the verbal group, as in *cars go, grown ups drink*.

What is the further effect on Stephen's thinking of the repeated construal of such generalizations using these new linguistic possibilities? One effect is that he begins to try to shortcut the inductive process and to construe generalizations based on only a single observed instance. This can be illustrated by the following texts where a single observed experience is recalled and construed in language:

Example 12 Recalling specific incidents as generalizations

12a. 3;7 (The previous day Hal had blown up a plastic bag and
            then burst it)
            S: You know you could pop shopping bags
            M: Can you?
            H: Mm, but they are hard to blow up

12b. 3;9 (Previous day at zoo, a caged lion had pounced onto some meat
            on a shelf)
            S: Lions could jump up their things to eat
            M: Lions could jump up their things to eat?'
            S: You know, at the zoo

These examples show that Stephen might now choose to reconstruct a single recalled incident not as a recount of that specific event – involving specific participants and events tied to specific past time – but as a general statement removed from any specific context or situation.

However, there are dangers in basing a generalization upon a single observational instance, and the fact that Stephen was creating text in interaction with others meant that the conversational partner could alert him to this, as can be seen from Example 13:

Example 13 Overgeneralizing in dialogue

13. 3;6 (S looking at a park from the car)
           S: That can't be shut cause it hasn't got a gate. (pause) All
               parks can't be shut cause they haven't got a gate
           M: Well, some parks have gates. Centennial Park has gates

Here Stephen makes a comment on the park immediately in view and then immediately generalizes from this to parks in general, underlining his shift in focus with the 'universal quantifier' *all*. The adult's response challenges the scope of Stephen's generalization and draws his attention to a particular familiar example as a means of justifying this move.

Experience of this kind taught Stephen how to support and challenge general-izations with observational evidence. In Example 14, he himself cites an instance of experience to back up the generalization being negotiated:

Example 14 Supporting a generalization

14. 3;8 (S is playing with a white cockatoo feather)
   S: Cockatoos can talk
   F: Yes, cockatoos can talk
   S: And parrots can talk
   F: Yes
   M: (interrupts) *Some* parrots can talk
   S: We went to school – we went to school and – and <u>I saw a</u>
     <u>parrot and he was blue and red and (?) lovely and- and- and</u>
     <u>he said hello to hi- and he said hello to me</u>

And in Examples 15a–15b he uses an observed instance as a challenge to the adult's statements:

Example 15 Challenging a generalization

15a. 3;8 S: Can cars go faster than buses?
   M: Oh yes cars go faster than buses
   S: <u>Then how come that bus is beating us?</u>

15b. 3;7 (F and S have noticed a sports car in the traffic)
   F: And they [sports cars] go fast, because they've got a big
     engine
   S: <u>But that doesn't go faster than us. See</u>? We will go faster
   F: He's not trying; if he was really trying he could go much
     faster than us
   S: If he goes very fast he can – if he goes very fast he can
     beat us

As far as the development of the linguistic system is concerned, this negotiation of generalizations in dialogue led to the development and use of 'non-specific deictic' words (Halliday, 1994), such as *all*, not *all*, *every*, *only* and (stressed) *some*, as the inclusiveness of the categories participating in the processes was explored. It also led to the meaning of *can* and *could* being extended from the negotiation of permission and ability between the dialogue partners to the negotiation of possi-bility and ability concerning third persons. This dialogic construal of generalizations also provided an important context for extending the use of conditional links, as in Example 15a (*then how come …?*), links which had originally developed in the negotiation of personal action.

With regard to the development of thinking, we have seen in these texts how, having begun generalizing from a single example, his experience in creating text in interaction was teaching Stephen about the need to hedge such generalizations

and of the value of citing particular observations to support them. And, as in Example 15b, he was learning to construct through language a context in which a disputed generalization would be valid, as with the initial clause of the final utterance, *if he goes very fast*. Thus, in the attempt to construe 'the facts' of experience in interaction, he was also gaining an apprenticeship in strategies for argumentation.

Playing out these strategies repeatedly in dialogue then produced a further development. The familiar pattern of dialogic interaction began to be taken over as part of Stephen's own way of formulating a problem. One way he did this was by incorporating some qualification into his initial generalizations, as he asked a question like the following:

Example 16 Graded queries

16a.   3;9   S: Can trains go faster than <u>most</u> cars?
16b.   3;11 S: Do <u>some</u> cats like dogs?

Another way was for Stephen to express as problematic the relation between the already construed generalization and the observed instance, in the form of a clause complex. This can be seen in an enquiry like the following, which occurred in the fifth year:

Example 17 Constructing a problem monologically

17.   4;5   S: How come that bus is beating us when cars go faster than buses?

The conditional relation which introduced earlier a challenging response to the addressee, as in Example 15a, is now created monologically. Thus practice in thinking through language in interaction with others has led to the ability to construct a logical problem on his own; the problem in question being the need to reconcile the construed generalization that should hold across specific contexts of situation (*cars go faster than buses*) with the current construal of an observation in the immediate context of situation (*that bus is beating us*).

9.6 Summary of Developments

In sum, the various changes in Stephen's linguistic system and its use that I have described can be interpreted in terms of a movement between poles of the kind shown in Table 9.3.

Table 9.3 Developments in language use between 2–3 years and 3–5 years

Use of language at age 2–3 yrs		Use of language at age 3–5 yrs
attend to observed material instance	and	attend to semiotic category
construe meaning in context	and	explore status of instance in terms of potential
build system from text	and	explore system with text
negotiate meaning in dialogue	and	negotiate meaning monologically

It is not of course that the child ceases to be concerned with the foci displayed in the left-hand column of Table 9.3, but rather that those of the right-hand column are new possibilities, and ones which are crucial to later school learning.

All the changes I have described in Stephen's language over the period between 2;6 and 5 years can be characterized in terms of a decreasing dependence of the language on the situational context and a decreasing dependence on the dialogue partner. Initially, Stephen created texts that were highly context-dependent, as phenomena were categorized and events described in the process of using language to accompany, monitor, observe and recall specific experiences. However, from about age three onwards, the texts created were more context-independent, as language was distanced from the specificity of experience. Or else, where the immediate and specific phenomena of observation were interpreted, it was in relation to the construal of things and events as generalizations, as 'potentials underlying and cutting across particular manifestations' (Martin, 1992: 523). Initially, again, the relation between observation and textual generalization was explored through dialogue, an experience enabling the child eventually to manage more monologic formulations of assessment and enquiry.

These moves can be seen as a kind of preparation for the move to more formal learning in school, where language will need to be used in a way abstracted from specific contexts of situation. At the same time, in order to move towards the kinds of information that is negotiated in written (and therefore more monologic) texts and through overt instruction, rather than by doing, experience in overt reflection on knowledge and in the monologic construction of meaning plays a crucial role.

9.7 Conclusion

The approach I have adopted here arises from the theoretical axioms of SFL. This linguistic model, which provides functionally grounded descriptive categories, has permitted me to offer a broad characterization of certain key developments in the early period of language use, based on an examination of conversational interactions within the family. But further than this, it suggests that learning needs to be seen in relation to language and that there is a dynamic relationship between learning through language and developing language itself. In this relationship, language develops to meet the current intellectual challenge but having done so, experience in using the enriched language system may alert the learner to new possibilities for meaning (leading to new options or uses of language).

In this chapter, I have described particular aspects of one child's learning history – moves to explore language as system, to learn from definitions, to privilege linguistic over observational construals, to deploy meaning in contexts distanced from their interpersonal sources, to reason monologically and to begin to handle abstraction. I believe Stephen's developmental history has a wider interest, however, in the fact that these developments are all characteristics of using language when learning educational knowledge. Thus, to the extent that any child on entering school necessarily moves in the direction of making symbol systems (like those of mathematics and written language) the object of study, moves from learning 'common sense' to more specialized bodies of knowledge, and moves towards

accessing knowledge through written texts, then that child will arguably need to make similar moves to Stephen in the way language is deployed for learning. In these terms, data from this case study may serve to suggest the ways in which language must develop to accommodate the requirements of literacy and school learning, as well as illustrating the way developments in language enable developments in thinking.

Notes

1 Verbally 'pointing out' to the context is technically known as 'exophoric reference' (Halliday and Hasan, 1976).
2 For discussions of criteria relevant in the young child's category formation, see e.g. Anglin (1977, 1983); Clark (1973, 1975); Nelson (1974); Rescorla (1980); Rosch (1978); Tversky (1990).
3 A clause complex (Halliday, 1994) is a series of simple clauses linked into a structure, for example, through coordination or subordination.

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10 | Grammar in the Construction of Medical Case Histories

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10.1 Introduction

Several years ago, in a paper for *The American Scholar*, Clifford Geertz reflected on the vast amount of what he called 'genre blurring', or 'jumbling of discourse varieties', in recent academic life. As he sees it, there are a large number of writers and texts that escape any clear definition and location on the academic map. They have emerged not simply as a result of 'another redrawing' of the boundaries between one discipline and another; instead they reflect a radical 'alteration of the very principles of mapping' (Geertz, 1983: 20). Geertz discusses some of the writers who fall into this category, and it is almost certain that if he had written his essay a few years later, he would have included the recent writings of neuropsychologist Oliver Sacks in his list of 'blurred-genre' texts. Sacks' major works, for instance, *The Man who Mistook His Wife for a Hat* and *Awakenings*, can be seen variously as collections of biographical anecdotes, as short stories and as medical case studies. One's difficulties with categorizing and locating these texts begin in the library.

In this chapter we will examine the title piece of *The Man who Mistook His Wife for a Hat*, a 'clinical tale', to use Sacks' expression, about Dr P., who suffers from a particular kind of visual agnosia, affecting the way he sees things and his interpretation of what he sees. We will show how Sacks' linguistic choices, and the interplay between them, reflect his beliefs about neurologically afflicted human beings, their conditions, and the relationships between them and their physicians. We will also compare this text with a text which is more representative of the writing of current dominant neuropsychology; for it is with such 'standard' texts that Sacks' clinical tales carry on an intertextual dialogue, questioning the ideology that they encode. The text we have chosen for comparison is entitled 'Visual agnosia: the dual deficit of perception and recognition', a case report published in *Cortex* (1979), which is a professional journal of neuropsychology. The writer, Andrew Kertesz, is referred to by Sacks himself as one who 'has an unrivalled knowledge of the world literature on the subject and has ... published some extremely detailed studies of patients with such agnosias' (1985: 20).

Following Halliday (1985/1994), we will explore how the lexicogrammatical patterns of both texts realize the metafunctional options available on the semantic level. We will deal separately with the three metafunctions – experiential, textual

and interpersonal – in order to 'understand why the texts mean what they do' (Halliday, 1988: ix), but we will endeavour not to lose sight of the ways in which these functions interact.

10.2 The Experiential Metafunction

Let us turn first to the experiential function. How is experience, both of the 'outside' world and of the inner world of consciousness, encoded in these two texts? In attempting to answer this question, we will at times examine each text as a whole, and at others concentrate on four excerpts (reproduced in the Appendix), selected from the texts because of similarities in function, 'content' or both.

Here we will look at the process types chosen by Sacks and Kertesz to introduce the history of the patient prior to their consultations with the two specialists (see Table 10.1). Notice that the distribution of processes is strikingly similar. However, we still get the impression that the world of events and relations prior to the text's time is significantly different in each case (see Appendix, Excerpt 1). Dr P. has an immediate presence in the drama about to take place: he is granted a definite, almost caricatured personality: that of a likeable and cultured man, interacting nuttily but harmlessly with those around him. Kertesz's account of his '41-year-old woman', on the other hand, is dry and factual: he details her accident briefly, including only minimal personal information ('Prior to her accident, she worked as a nurse's aide, and was considered bright by her family') and the results of the preliminary neurological investigations. She herself, the woman at the centre, does not come through; we cannot imagine her.

In order to explain how these different impressions are created, the participant roles associated with the processes have to be examined. First, Sacks' Dr P. assumes a participant role, that of Actor, or 'doer' in the majority of the processes in which he participates. For instance, he took the initiative to 'consult an ophthalmologist', after which he 'came to me' (Dr Sacks). He himself is capable of observing and evaluating his reactions, for example: 'These odd mistakes were laughed off as jokes, not least by Dr P. himself.'

Kertesz's patient, on the other hand, plays a role of Goal, or 'done to' in all the mental processes, half of the material and a third of the verbal processes in which she is involved. For example, we find clauses such as 'She was institutionalized because of poor memory' and 'She was discovered to have severe visual agnosia'. Her participant roles in the few clauses in which she does participate actively are also noteworthy. In all the material processes, the goals she acts upon are inanimate ('obstacles', 'doorknobs', etc.); in the two verbal processes no receiver is mentioned,

Table 10.1 Process types: patient's history prior to consultation (Excerpt 1)

	Material	Mental	Verbal	Behavioural	Relational	Existential
Sacks	8	8	3	2	11	2
Kertesz	7	6	3	1	11	–

and in all the other instances she is cast as the carrier of relations – a role which is near the bottom of Hasan's scale of dynamism (1985: 46).

Relational processes in the two passages, although identical in number, can be clearly distinguished by the nature of their attributes. A selection of these processes from Excerpt 1 is presented:

> **Relational processes – patient's history prior to consultation (Excerpt 1)**
> **Sacks**
> Dr P. was *a musician of distinction* ...
> [he was] *well-known for many years as a singer* ...
> [he would] be *astounded* when they did not reply.
> [he had] *a quirky sense of humour* ...
> His musical powers were *as dazzling as ever* ...
>
> **Kertesz**
> [she] was *in a serious automobile accident in October 1965* ...
> [she] was *unconscious for 18 days* ...
> She had *linear fractures of the right frontal, parietal and temporal bones.*
> Her deficits appeared to be *essentially stable.*
> Neurological examination was *essentially negative.*

Sacks' choice of largely evaluative, 'subjective' attributes is as intentional as Kertesz's neutral, 'objective' ones. In Sacks' own words 'there is something quite fundamental which is missing in the "objective" styleless style *de rigueur* in neurology' (1983: 207). According to him, Kertesz gives us only the cold hard facts – the patient's biodata; there is no 'colour, warmth, no residue of the living experience' (ibid.). Almost any of the features attached to Kertesz's patient could 'as well apply to a rat as a human being' (Sacks, 1985: x). Kertesz, of course, would not see it this way: his lexical choices are not intended to be judged according to the criteria of literary stylistics.

Let us look now at some of the processes involved in the next section of each paper – the examination of the patient and the reporting of tests and their results (see Table 10.2 and Appendix, Excerpts 2 and 3). Throughout this section, whenever Kertesz's patient is actor, what she does is overwhelmingly mechanical, never creative: write, copy, trace, draw, match, sort, point to, and perform (in the sense

Table 10.2 Process types: examination of patient

	Material	Mental	Verbal	Behavioural	Relational	Existential
Familiar faces (and five related tests in Kertesz) (Excerpt 2)						
Sacks	3	12	1	7	5	4
Kertesz	9	10	2	1	5	–
Memory and verbal intelligence (Excerpt 3)						
Sacks	2	8	9	1	5	1
Kertesz	2	9	–	1	16	–

of 'achieve a particular score'). Similarly, as the sayer of verbal processes, she typically lists, names, and repeats in response to stimuli. Moreover, the text portrays her as the constant receiver of sayer-less messages and sayer of receiver-less ones. She seems to exist in a world where the sayer-less messages she receives are commands to perform actions within tests – for example 'she was asked to keep her head straight'. There are no questions inviting her creative verbal response or encouraging her interaction.

Dr P., on the other hand, is involved in creative action: between tests he is pictured carrying out activities such as dressing, singing, humming, moving, eating and starting ('on the cakes'). He also participates actively and creatively in verbal processes: he announces, exclaims, confirms, asks, and replies, often with an accompanying speech projection.

Let us now look at one set of tests which is similar in both texts. They both include accounts of the specialist's exploration of his patient's reactions to familiar faces, and of his or her memory and verbal intelligence. In Kertesz's tests-and-results section we encounter a highly stabilized, almost behaviourist universe, in which the patient is objectified as a receiver of stimuli, while the specialist (usually unidentified) carries out a series of established tests to measure her reactions. The procedure is routine; there is no improvisation and no mention of the mental processes of the researcher. This accounts for the quick, rather monotonous alternation between two types of process: material transactions, in which the patient is usually the understood recipient of the stimulus/goal, and mental/cognitive reactions. The minimal transitivity structure in most of the 42 test accounts is

> 1 X was/were presented/used
> 2 She recognized/performed, etc. (or she did not/could not
>   recognize/perform) n out of X.

In these processes the goal, X, is typically prescribed test stimuli, such as 'large capital block letters', 'six primary colours', and 'line drawings of common objects'. This information, however cryptic it may seem to outsiders, is relevant to Kertesz's audience of fellow-experts, showing them that all the testing conditions have been conscientiously and rigorously observed and that the results are quantifiable and reproducible. We are even told about the tests which could *not* be performed – for example: 'Elithorn mazes could not be performed, as the patient was unable to proceed beyond the demonstration items.'

Behaviour, then, is tested by Kertesz in an enormous variety of ways, and the patient, the behaver, is led like a circus animal through her whole 'performance' (a non-accidental pun). She is faceless and characterless, crowded out of the situation – and the text – by batteries of tests. The researcher, too, has disappeared into the tests: he has become merely an administrator. There is no speculation, no dialogue, no confrontation, no argument.

Sacks, on the other hand, breaks away from this constrained rhetorical universe in a number of ways. Instead of confronting his patient with routine tests, he takes the initiative and improvises, thus giving at least the illusion that the examination is a natural, unplanned encounter. He does not say how many of the standard tests

he has carried out; instead he reports apparently improvised experiments done with roses, gloves, magazines, and other everyday paraphernalia. The homely nature of these 'tests' enables Sacks to ignore the standards of 'objectivity' observed by other researchers, since no neuroscientist would be able to reproduce his tests in laboratory conditions. Notice the unconventional stimuli participating in the following, from Excerpt 3:

> I asked him to imagine [one of our local squares] from the north side, ... and ... tell me the buildings he might pass as he walked.

and

> Thinking of the almost hallucinatory intensity with which Tolstoy visualises and animates his characters, I questioned Dr P. about *Anna Karenina*.

Moreover, description and interpretation are never kept apart. Each of Dr P.'s reactions immediately leads Sacks to speculate about the mind that produced it. Compare Kertesz's accurate, strictly result-oriented report: 'From a live line-up of 2 very familiar persons and 6 strangers, she could not pick out her sister or the examiner' with Sacks's much more involved and interpretative account of Dr P.'s reaction to similar photographs:

> For he approached these faces – even of those near and dear – as if they were abstract puzzles or tests. He did not relate to them, he did not behold. No face was familiar to him, seen as a 'thou', being just identified as a set of features, an 'it'.
>
> (Excerpt 2)

Here, the four mental process clauses all refer to the same experience – the one which Kertesz succinctly encodes as 'pick out' – rephrasing it in increasingly interpretative, metaphysical terms.

The Memory and Verbal Intelligence excerpts (Excerpts 3) differ most crucially in their distribution of relational processes (16 in Kertesz as opposed to only five in Sacks). Reporting the results of the Wechsler Memory Scale Form I, a set of tests measuring particular cognitive abilities, Kertesz repeatedly uses the structure 'X was Y' (e.g. 'Visual memory for designs was very poor'). X usually encodes, in nominalized form, the aspect being tested, and the attributes Y are largely figures, measurements, or estimations, the meanings of which are clearly established and hence known by other experts.

Kertesz, then, relates his patient's experiences *incongruently*, encoding processes as nouns rather than as verbs. The relations thus encoded are typically static, timeless and 'possessed', such as: 'Auditory association learning was also very poor'. Of the 16 relational processes in this excerpt, eight involve nominalized carriers. Of these, only two nominalizations retain traces of the patient as senser in the form of the possessive pronoun; the remaining six omit such encoding entirely.

Such nominalization is of course typical of scientific writing, and is necessary for the accumulation of shared meanings within the discourse community.

Nevertheless, the consistent emphasis on objects rather than processes, attribution and classification rather than events, affects our perception of the patient, who is presented less as a person than as an experimental resource.

Sacks, on the other hand, encodes his patient's reactions congruently and dynamically; they are personal human experiences. This is how he records Dr P.'s responses to his questions about *Anna Karenina*:

> He *could remember* incidents without difficulty, ... but completely *omitted* visual characteristics, visual narrative or scenes. He *remembered* the words of the characters, but not their faces ...

Such congruence between processes and the recounting of them is conscious and deliberate on Sacks' part. In his view, it is the very depersonalization of the patient apparent in Kertesz, her reduction to an 'it', that neuropsychology must avoid. For, as he puts it: 'here [neuropsychology] the patient's personhood is essentially involved, and the study of identity and disease cannot be disjoined' (1985: x).

Let us turn now to the last part of each text, and compare the processes and participants in the excerpt from Sacks' speculative Postscript with those of Kertesz's Discussion. The process types are set out in Table 10.3.

The larger number of relational processes in the Kertesz excerpt is motivated by what he sees the job of the Discussion to be, given the established science-reporting format. In this section he must draw inferences from his evidence and show how it fits in with, and extends, the existing body of knowledge within his research community. Hence the most recurring type of clause contains an identifying process. Verbs like 'indicate', 'suggest', and 'point to' are repeatedly used, and their agent/assigner is typically an aspect of the central patient's condition or that of other 'cases' with the same or similar symptoms, problems or deficits. There is also a value/medium, usually a fact, expressed clausally or through nominalization. Examples (see Excerpt 4) are:

> Her 'Witzelsucht', or jocularity, tendency to perseverate, and failure of sorting by categories all indicate frontal lobe involvement.

and

> That a callosal lesion is not necessary to visual agnosia is suggested by the unique case of Albert, Soffer, Silverberg and Reches.

Sacks, however, does not share Kertesz's communal, consensus-seeking concerns. He ventures into metatheoretical speculation which is critical of the scientific establishment. In fact, as we have mentioned, he goes as far as to use the case of

Table 10.3 Process types: Postscript and Discussion sections (Excerpt 4)

	Material	Mental	Verbal	Behavioural	Relational	Existential
Sacks	4	9	3	7	15	–
Kertesz	1	3	3	–	25	3

Dr P. to argue against the status quo of neuroscience, making use of many of the features which Martin (1985, 1986) sees as characteristic of persuasive exposition. One of the principal participant roles is 'we', evidently including fellow-members of the discipline who, like Kertesz, are caught up in its conventions. Moreover, neurology and psychology gain life in order to enter the debate: they become sayers – they speak, they talk – and sensers – they suffer. Unlike Kertesz's Discussion, the nominalized participants in Sacks are few, and when Sacks does nominalize he prefers -ing forms – judging, feeling, classifying, and categorizing, which Martin ranks as the most active on his cline of dynamism for nominalizations: they 'retain a sense of something going on' (1986: 242).

Finally, if we look specifically at the roles involving the researcher throughout each text, we see that Kertesz himself (and/or his colleagues) is a participant only once, where the pronoun 'we' is used. In other cases, we can infer that where the patient is the receiver of a verbal process, Kertesz is the sayer, and where she is the goal or recipient of a material process, he is the actor. However, he is always suppressed, largely through the use of the passive voice. His persona is that of the traditional, disengaged researcher, characterized by Bazerman as one who 'assimilate[s] bits, follow[s] rules, ... and add[s his] bit to an encyclopedia of behavior of subjects without subjectivity' (1988: 275), without participating in the processes or the resulting texts.

It is this persona that Sacks tries to overthrow in his work. He portrays himself not as a follower of established procedures in accordance with the expectations of research-paper requirements, but as an on-the-spot decision-maker who relies heavily on his 'feel' for a situation. This is reflected in the transitivity patterns throughout the text, with Sacks himself as actor, senser, and sayer in an appreciable proportion of the processes.

10.3 The Textual Metafunction

The textual metafunction draws on the meanings of the other metafunctions and assigns second-order values to them. Thus experiential – and interpersonal – components are ordered as theme or rheme, focused as given or new, and identified as known or unknown.

One aspect of thematization is 'method of development' – how writers typically select certain participants (human and otherwise) as theme at different points in the text. These participants, as they group, disappear and re-group, provide a shifting framework which establishes for the reader what the text is about. From this point of view it is clear that the Sacks and Kertesz texts are only superficially about the same thing. In Table 10.4 we have summarized the ways in which the patient is thematized in the two texts.

In numerical terms, the picture is very similar – both texts, not surprisingly, are clearly about the patient – who accounts for 30 per cent of the theme-heads in Sacks, and for 26 per cent in Kertesz. The resemblance ends here, however. First, the range of lexis used for reference to these individuals is different: in Sacks' long dialogues, the identification is 'you' and 'I'; elsewhere the themes are often 'Dr P'. Kertesz, on the other hand, avoids dialogue, does not name his patient and

Table 10.4 Patient as theme

Sacks	Dr P.	24
	he	113
	you	7 (in dialogue)
	I	8 (in dialogue)
	a lovely man	1
Total		153
Kertesz	she	78
	you	1 (in dialogue)
	patient	13
	woman	1
	case	2
Total (excluding ellipted themes)		95

prefers 'the patient' and 'this case' as non-pronominal terms of reference. There is also a tie-up, here, between theme and transitivity. Kertesz's patient is thematized as a *passive subject* in 11 of the 95 'patient' themes. In a further 14 clauses she is thematized as participant in a *not* process: the messages here are about what she 'could not' do. In yet a further 13, she is thematized in clauses about negatively marked processes like forgetting and misinterpreting. The text then is essentially about a passive, negative, repetitive person; this is the typical point of departure, the framework within which the case is presented. In Sacks, on the other hand, Dr P. is never asked, or observed, to do anything – he is never thematized as a passive subject. And as we have seen, he is depicted in positive, day-to-day activities, not simply as the recipient of tests.

What about the rest of the themes? Some interesting points emerge if we consider *who* is typically thematized other than the patient. In Sacks, a major thematic participant is Dr Sacks himself, generally referred to as 'I' but occasionally as 'you' by the patient in dialogue – he accounts for a further 71 themes (14 per cent). This text is about the doctor as much as it is about the patient, which reflects Sacks' expressed beliefs about disease and treatment, about the necessity for direct confrontation between the worlds of physicians and patients (1983: 204). The alternation of 'I' and 'Dr P.' (or 'he') themes in the text (see the first part of Excerpt 3, for example) seems to echo this confrontation. In Kertesz, on the other hand, there is no 'I'; the writer/researcher does not emerge as a person.

In Sacks, in addition, there is a total of 13 thematizations of the pronoun 'we': in three instances this refers to various combinations of Dr Sacks, Dr P. and Mrs P., but in the majority of cases 'we' means the neurological establishment – Sacks and his colleagues. In some instances it also seems more inclusive – 'you and I', all of us, the interested and worried 'we' who read this text.

Altogether, then, 'I', 'you' and 'we' themes, with various referents (and one instance of 'the interested reader') account for 85 (17 per cent) of the total themes

of the Sacks text. In Kertesz, on the other hand, there are only two such themes (one 'we'; one 'you'), and neither includes the reader. This again points to a very fundamental difference between the two texts. Sacks conveys the impression of involvement and concern which he wishes to share with the reader, while Kertesz's rigorous 'objectivity' is detached and dispassionate: he presents only the observable, properly collected and reproducible facts, and their least contentious implications.

10.3.1 Nominalized and 'abstract' themes

Where Sacks prefers personal pronoun and other 'human' themes, the majority of the themes in Kertesz are nominalizations and abstractions; in other words, they are incongruent realizations of meanings in grammar. Martin (1986) classifies nominalizations under six headings, ranging from the 'more active' -*ing* clauses, through derived and underived verbal nouns to 'abstractions'.

If we compare the themes of Sacks' Postscript with those of Kertesz's Discussion, we find that no less that 65 per cent of Kertesz's themes are nominalized abstractions, compared with only 27 per cent in Sacks. (This includes only lexicalized nominalizations: pronoun-themes have been ignored.) A short representative selection from Kertesz is listed below.

Nominalizations as theme in Kertesz

1 The relative uniformity of success in the identification by pointing on auditory stimulation
2 The improvement of visual recognition with auditory verbal stimulus
3 Relative sparing of visual identification with auditory stimulus
4 The association of prosopagnosia and visual agnosia
5 Restriction of visual attention to a single object and apraxia of visual fixation
6 Alteration in adaptation rate and visual efficiency
7 The fluctuation of visual function in our patient
8 The nature of frequent confabulatory responses, often from confusions
9 The frequency of severe amnestic deficit in visual agnosia
10 Her 'Witzelsucht', or jocularity, tendency to perseverate, and failure of sorting by categories.

Kertesz not only uses far more nominalizations than Sacks, but they are lengthier and tend to contain embedded prepositional phrases. He also uses classifiers and noun-compounds whose meanings have either been established in the course of the text or are known to his specialist readers. These long nominalized themes are a vital resource for encapsulating and aligning given information. Yet, although they are informative in Martin's sense, they do not necessarily inform the lay reader – their informativeness depends on advanced specialist knowledge.

If we look in more detail at the nominalized themes in Kertesz's Discussion, we see that perhaps half of them are problems, failures, difficulties, and disturbances. In fact, such 'deficits' account for about 17 per cent of the themes in the text as a

whole. Moreover, in many cases the deficit is not preceded by 'her', making it seem curiously detached and reified: for example, 'the difficulty integrating visual stimuli', 'the recognition difficulty in the naming mode'. In Sacks there are seven or eight 'deficit' themes at most; elsewhere (1985) he deliberately rejects the idea that case histories are primarily about what is wrong with a patient. Far too little attention, he says, is paid to what has remained intact in spite of the patient's neurological condition.

10.4 The Interpersonal Metafunction

The interpersonal metafunction is concerned with interaction between the writer of the text and its intended audience, and, as Halliday (1985/1994) points out, it carries a heavy semantic load. Its lexicogrammatical resources are those of mood and the associated patterns of modality, intensification, and other evaluative devices, realized prosodically throughout the text.

10.4.1 Mood

The mood component is important in the realization of role relationships between addresser and addressee. According to Hasan (1985: 41), mood selections are also pertinent to the question of involvement and detachment. There are two relationships which are relevant to our texts: that negotiated between writer and reader and, embedded within it, the relationship between specialist and patient. Both dyads, as Martin argues (1986: 244), tend to establish asymmetrical status relations.

In the case of Kertesz, predictably, we find such asymmetry. He re-encodes the standard role relationships: he is expert physician with his patient and expert writer with his readers. In the entire text only two clauses are non-declarative, one a *wh-* and the other a yes/no interrogative – the only exchanges that are actually projected in 'direct speech'. Elsewhere, Kertesz appropriates his patient's responses through 'indirect' speech and thought projection – all realized declaratively. The writer–reader relationship is similarly asymmetrical: Kertesz sees his task as primarily that of imparting information which will maintain and reinforce the scientific status quo, adding one uncontentious brick to the vast edifice. This again is in accordance with the interpersonal rhetoric of professional science reporting.

Sacks, on the other hand, attempts to defuse the asymmetrical, disengaged relationships between doctor and patient, writer and reader. This is partially achieved through selections from the mood system. Of the 662 clauses in his text, 65 (10 per cent) are non-declarative. Of these, 54 are interrogative and the remainder are imperative and exclamative. As suggested earlier, the doctor–patient dialogue thus encoded has an iconic function: it instantiates the direct confrontation to which Sacks aspires.

Throughout Sacks' text, then, the recurring question–answer patterns, both projected and 'rhetorical', project the image of a doctor whose final diagnosis emerges from a dialogic encounter between himself and his patient, in the course of which he tests and revises his own cognitive processes and tries to develop new

modes of enquiry. Through the externalization of his internal dialogue, he casts his audience in a role similar to his own; he takes us along as co-enquirers in his professional deliberations. Similarly, the audience is given a taste of his helplessness and frustration in the face of the insoluble. With him, we have to try to make sense of Dr P.'s mysterious, seemingly paradoxical behaviour. Thus, with him, we puzzle: 'How could he, on the one hand, mistake his wife for a hat and, on the other, function ... as a teacher at the Music School?'

10.4.2 Modality and other types of evaluation

Modality, in our texts, primarily involves degrees of probability and degrees of usuality. In Kertesz's tests-and-results section, he makes use of a large number of usuality expressions, especially modal adjuncts like *often*, *frequently*, and *usually*. Probability expressions are rare, due to the fact that his evidence-gathering techniques are highly standardized and his results quantifiable.

In his Discussion section, the ratio of usuality to probability is reversed, and probability predominates. 'Caused modality' verbs like *suggest* (ten occurrences) and *indicate* (seven) are very frequent, as are *may* and *could*. Kertesz's tentative authorial stance represents a choice to shape his text according to the modes of argumentation current within the discipline. It reflects both the delimited nature of his contribution to neurological research and his anticipation of detailed criticism.

Sacks' authorial position is a very different one: his task is to convince his audience not simply of the validity of a specific claim, but of the necessity for an entirely new perspective. Hence he must make his presence much more strongly felt, and must launch his criticism of the establishment with force and certainty. This accounts for the sparseness of modulation in the Postscript: where modality is selected, the modal adjuncts are extreme in value (high or low rather than median): *always*, *never*, *precisely*, and of course: *for example*, 'Of course, the brain is a machine and a computer', and others in the Appendix, Excerpt 4.

However, the very modality which is missing from the Postscript is (in stark reversal of the situation in Kertesz) much in evidence throughout the earlier narrative. Here there is uncertainty everywhere, which crystallizes whenever Sacks, in his dialogue with himself/the reader, tries to make sense of Dr P.'s unusual behaviour.

Evaluation is also encoded in emotive lexis and grammatical intensification devices such as exclamatives and rhetorical questions. References to Dr P. are strongly evaluative, with a shift, as the narrative unfolds, from admiration of his genius to mourning his condition. The following clauses illustrate the shift:

> he had a wonderful musical cortex

> What had been funny, or farcical, in relation to the movie, was tragic in relation to real life.

> This wall of paintings was a tragic pathological exhibition, which belonged to neurology, not art.

Finally, intensity – particularly in the Postscript – is also achieved through grammatical parallelism, a characteristic feature of political and other persuasive

discourse. The emphatic, interactive effect of rhetorical questions, for instance, is often increased through their serial arrangement and parallel structure. These overtly evaluative and intensive devices are not found in the Kertesz text.

10.5 Conclusion: Sacks and the Romanticization of Science

In this discussion, we have explored some of the systematic lexicogrammatical features of the two texts at clause level, looking at the choices made by the two writers to encode meanings. We will end by looking at the texts in terms of how they participate in the formulation of genres, defined by Kress as 'codings of relations between participants in social occasions' (1988: 137).

Let us consider Kertesz's case report from the point of view of genre. We find that just as the lexicogrammar tends towards the 'written', maintaining maximal distance from the reader, so its generic structure as a whole is as far as possible from the structure of the activity sequence it encodes. The macrostructural staging into unconnected sections is highly prescribed – Introduction, Tests and Results, and Discussion (with an attached Summary, or abstract).

The same applies to its very technical lexis, which includes many acronyms and abbreviations, and its economical citation format, which succinctly demonstrates the incrementalism of the literature. Similarly prescribed are the accompanying inscriptions, which take the form of tables and photographs whose reading demands knowledge of interpretative procedures. Thus Kertesz's text constructs an audience of fellow experts, who share specialized and highly codified knowledge and who agree on the nature of appropriate subjects to investigate, appropriate procedures for gathering evidence and appropriate ways of interpreting this evidence in the light of existing knowledge. However much Kertesz may – and does – disagree with the interpretations of individual researchers, he is in full epistemological agreement with them as to the goals of the enterprise of neuropsychology.

Sacks' stance is radically different. His view of professional case reports is that their rigour and exactness may be useful in the construction of hypotheses about neurological conditions, but they can never convey the 'experience of the person, as he faces, and struggles to survive, his disease' (1985: x). In order to capture that experience, a dramatic and biographical presentation is called for. Hence Sacks returns to a generic form which mirrors much more closely the actual sequence of experiences than the professional case report. In fact, he recreates one of the most elementary types of staging: in his own words 'that universal and prehistorical tradition by which patients have always told their stories to doctors: the tale' (1985: x).

But Sacks does not merely return to that earlier, archetypal form, nor does he simply see himself as renouncing the procedures for knowing and writing that are current in conventional neurology. In 1985 he speaks lyrically of 'the medicine of the future, a perfectly rational yet practical medicine, and an utterly beautiful and elemental "existential" medicine', which are 'calling to be conjoined'. His aim has been 'the fusion of the scientific and "romantic" penetrations' into what has been called 'romantic science'. In his attempt to make the scientific and romantic meet,

he creates a text in which two 'languages' illuminate one another: his scientific community's rigorous mode of observation and discovery, on the one hand, and on the other, the traditional story-telling mode. The latter, however, is prior: 'science' is neatly embedded in story-telling, as these two passages illustrate:

1. Again he mentioned only those buildings that were on the right side, although these were the very buildings he had omitted before. Those he had 'seen' internally before were not mentioned now: presumably they were no longer 'seen'. It was evident that his difficulties with leftness, his visual field deficits, were as much internal as external, bisecting his visual memory and imagination.

2. How should one interpret Dr P.'s peculiar inability to interpret, to judge, a glove as a glove? Manifestly, here, he could not make a cognitive judgement, though he was prolific in the production of cognitive hypotheses. A judgement is intuitive, personal, comprehensive and concrete – we 'see' how things stand in relation to one another and oneself. It was precisely this seeing, this relating, that Dr P. lacked.

Passage 1 shows Sacks primarily as the clinical psychologist, using objective, rigorous modes of observation and precise, technical wording. The second portrays him as the empathetic interpreter, who can use his clinical observations in the pursuit of an understanding of his patient's 'struggling relation to the world' (1983: 208). Both, however, are iconic, retaining elements of the real-time sequencing of the archetypal doctor–patient encounter.

More complex still is what Bakhtin would call 'hybridization', which he defines as 'a single utterance containing mixed within it two utterances, two speech manners, two styles, two semantic and axiological belief systems' (1981: 304). To give just one example:

Dr P.'s temporal lobes were obviously intact: he had a wonderful musical cortex. What, I wondered, was going on in his parietal and occipital lobes, especially in those areas where visual processing occurred?

The effect of putting these two languages into direct dialogue is intentionally humorous, but it may also be seen as a serious attempt to bridge the gap between distant and near experience, between scientific and 'everyday' knowledge, and between specialized and everyday audiences. We can perhaps say the same of Sacks as Halliday says of Tennyson: that with his grammar he constructs 'a semiotic universe' at the intersection between science and art (1988: 44).

We must conclude, however, on a note of caution. It is easy to stress Sacks' mastery of his chosen genre, which is arguably a true and original generic mutation. True, he argues convincingly for a more human way of writing science. Nevertheless we cannot help but judge his defence of Dr P. as premature and feeble. After all, Kertesz studied his 'remarkable patient' for ten and a half years before writing his pedestrian yet thorough account. Sacks, on the other hand (if we are to believe him), flashed his 'neurological kit', listened awhile, looked closely into his patient's curiously malfunctioning eyes, came up with his penetrating diagnoses, and was then satisfied to write his story without ever seeing Dr P. again – a fact he

admits quite nonchalantly. He compensates by saying that he 'often wonders' about Dr P., which is in keeping with the 'parable' schema and the timelessness of its message.

It is also true that Sacks appears as the doctor-friend, the epitome of empathy and patience. But, on close reading, there are perceptible weaknesses in his position. He comes across as paternalistic and somewhat condescending; he glamorizes the strangeness of Dr P.'s affliction, and insists rather too much on his own exceptional caring for the human being behind the fascinating neurological case. His insistence may do much for Dr P. as a functioning 'I', but it devalues him as a patient, as someone who has a debilitating and worsening neurological condition. We wonder how Dr P. felt when he heard Sacks' almost careless answer to his final, for him existential, question:

> 'Well, Dr Sacks', he said to me. 'You find me an interesting case, I perceive. Can you tell me what you find wrong, make recommendations?'
>
> 'I can't tell you what I find wrong', I replied, 'but I'll say what I find right. You are a wonderful musician, and music is your life. What I would prescribe, in a case such as yours, is a life which consists entirely of music. Music has been the centre, now make it the whole, of your life.'

The romantic, impractical flippancy of this answer will be apparent to anyone who has had any direct contact with neurological problems on the scale of Dr P.'s, and even more so to those who have to take care of such sufferers – in particular 'The Wife who is Mistaken for a Hat'.

Appendix

Excerpt 1 – Sacks

Dr P. was a musician of distinction, well-known for many years as a singer, and then, at the local School of Music, as a teacher. It was here, in relation to his students, that certain strange problems were first observed. Sometimes a student would present himself, and Dr P. would not recognise him; or, specifically, would not recognise his face. The moment the student spoke, he would be recognised by his voice. Such incidents multiplied, causing embarrassment, perplexity, fear – and, sometimes, comedy. For not only did Dr P. increasingly fail to see faces, but he saw faces when there were no faces to see: genially, Magoo-like, when in the street, he might pat the heads of water-hydrants and parking-meters, taking these to be the heads of children; he would amiably address carved knobs on the furniture, and be astounded when they did not reply. At first these odd mistakes were laughed off as jokes, not least by Dr P. himself. Had he not always had a quirky sense of humour, and been given to Zen-like paradoxes and jests? His musical powers were as dazzling as ever; he did not feel ill – he had never felt better; and the mistakes were so ludicrous – and so ingenious – that they could hardly be serious or betoken anything serious. The notion of there being 'something the matter' did not emerge until some three years later, when diabetes developed. Well aware that diabetes could affect his eyes, Dr P. consulted an ophthalmologist, who took

a careful history, and examined his eyes closely. 'There's nothing the matter with your eyes', the doctor concluded. 'But there is trouble with the visual parts of your brain. You don't need my help, you must see a neurologist.' And so, as a result of this referral, Dr P. came to me.

Excerpt 1 – Kertesz

This 41-year-old woman (born in 1937) was in a serious automobile accident, in October, 1965, and was unconscious for 18 days, requiring a tracheotomy. She had linear fractures of the right frontal, parietal and temporal bones. Subsequently, she was observed to have severe memory impairment and difficulty naming objects. Prior to her accident, she worked as a nurse's aid, and was considered bright by her family.

She was discovered to have severe visual agnosia, in October, 1967, during a naming task, in the course of neurological assessment. She was institutionalized because of poor memory, at that time, and her behaviour did not suggest blindness. She avoided obstacles, reached for doorknobs and never stumbled on steps. She never complained about visual difficulty and, when asked about it directly, she would offer a denial or a confabulatory response. In the ensuing 10 and a half years, she was tested on 20 occasions. Her deficits appeared to be essentially stable.

Neurological examination was essentially negative, apart from her recent memory deficit and visual performance. Her visual acuity was difficult to determine because of her agnosia, but using the open E method, and the occasional correct letter identification, it was found to be 20/20 bilaterally. Several attempts to determine her visual fields resulted in variable field defects. At one point, homonymous hemianopia was questioned. She was noted to have difficulty fixating on the centre. Visual fields, in 1978, were still difficult to determine because of excessive adaptability to stimulation, resulting in a 'spiralling' defect, without hemianopia. Optokinetic nystagmus was present bilaterally, but decreased in amplitude and regularity to the right.

Excerpt 2 – Sacks

On the walls of the apartment there were photographs of his family, his colleagues, his pupils, himself. I gathered a pile of these together, and, with some misgivings, presented them to him. What had been funny, or farcical, in relation to the movie, was tragic in relation to real life. By and large, he recognized nobody: neither his family, nor his colleagues, nor his pupils, nor himself. He recognized a portrait of Einstein, because he picked up the characteristic hair and moustache; and the same thing happened with one or two other people. 'Ach, Paul!', he said, when shown a portrait of his brother. 'That square jaw, those big teeth, I would know Paul anywhere!' But was it Paul he recognized, or one or two of his features, on the basis of which he could make a reasonable guess as to the subject's identity? In the absence of the obvious 'markers', he was utterly lost. But it was not merely the cognition, the gnosis, at fault; there was something radically wrong with the whole way he proceeded. For he approached these faces – even of those near and dear – as if they were abstract puzzles or tests. He did not relate to them, he did not behold. No face was familiar to him, seen as a 'thou', being just identified as a set of features, an 'it'. Thus there was formal, but no trace of personal, gnosis. And with this went his

indifference, or blindness, to expression. A face, to us, is a person looking out – we see, as it were, the person through his persona, the face. But for Dr P. there was no persona in this sense – no outward persona, and no person within.

Excerpt 2 – Kertesz

Presentation at an unusual angle, without kinesthetic clues

It was observed that the patient often rotated her head, to try to get a look at the objects from various angles. In order to control the variables of the angle of presentation and the number of visual clues, she was asked to keep her head straight, and then the objects were presented to her at an unusual angle; e.g. the hammer head on. She only recognized 4 out of 20 objects in this mode of presentation, but when the same objects were rotated in front of her immobile head, then 9 out of 20 were recognized.

Line drawings of objects, without kinesthetic clues

Line drawings of common objects, on 20 × 20 cards were used, with visual presentation only, without kinesthetic clues.

Line drawings with rotation and tracing

Subsequently rotating the cards or allowing her to trace the outlines did not improve recognition significantly.

Colours

Six primary colours (blue, red, green, yellow, brown, black) were presented, to avoid ambiguities. Colour recognition was better than for objects and letters, surpassed only by naming of body parts.

Letters

Large, capital, block letters were presented, in groups of six and individually.

Familiar faces

Photographs of 16 famous people, politicians, heads of state, actors etc., recognition of whom was expected for her educational level, were presented individually. She recognized only President Kennedy the first time, but not on subsequent occasions. From a live line-up of 2 very familiar persons and 6 strangers, she could not pick out her sister or the examiner, when they were silent and motionless. She could not tell if the persons were male or female or what they were wearing. However, earlier, she saw her sister walking at a distance of 50 metres and recognized her spontaneously. She recognized everybody familiar, by their voices, spontaneously.

Excerpt 3 – Sacks

The testing I had done so far told me nothing about Dr P.'s inner world. Was it possible that his visual memory and imagination were still intact? I asked him to imagine entering the square from the north side, to walk through it, in imagination or in memory, and tell me the buildings he might pass as he walked. He listed the buildings on his right side, but none of those on his left. I then asked him to imagine entering the square from the south. Again he mentioned only those

buildings that were on the right side, although these were the very buildings he had omitted before. Those he had 'seen' internally before were not mentioned now; presumably they were no longer 'seen'. It was evident that his difficulties with leftness, his visual field defects, were as much internal as external, bisecting his visual memory and imagination.

What, at a higher level, of his internal visualisation? Thinking of the almost hallucinatory intensity with which Tolstoy visualises and animates his characters, I questioned Dr P. about *Anna Karenina*. He could remember incidents without difficulty, had an undiminished grasp of the plot, but completely omitted visual characteristics, visual narrative or scenes. He remembered the words of the characters, but not their faces; and though, when asked, he could quote, with his remarkable and almost verbatim memory, the original visual descriptions, these were, it became apparent, quite empty for him, and lacked sensorial, imaginal, or emotional reality. Thus there was an internal agnosia as well.

Excerpt 3 – Kertesz

Memory and verbal intelligence

Memory was formally tested in the Wechsler Memory Scale Form I, in December, 1967. She could not recall any items from 2 paragraph-length, short stories. Auditory association learning was also very poor. Her recall of digits forward was within normal limits but memory for digits backwards was very poor. Visual memory for designs was extremely poor. Reproduction consisted largely of fragmented displays of squares. She was poorly oriented in time and place, and although she had better memory for the names of more frequently seen persons, she would forget the occasional tester or therapist. Similar performance was obtained in 1969, when she had a memory quotient of 57. At that time, she mixed up the two stories, retaining 3 items from one and 1 from the other. She made only a few mistakes in mental control and was able to carry out serial addition of 3. Her digit forward was a surprising 8, but only 4 backwards. On the paired association task, only the easy items were recalled.

Her memory continued to be impaired in 1978: although she knew where she was, she thought it was 1977 and that Kennedy was the Prime Minister. The MQ was 59, unchanged from 1969, and in contrast to a verbal 10 of 88.

Excerpt 4 – Sacks

Neurology and psychology, curiously, though they talk of everything else, almost never talk of 'judgment' – and yet it is precisely the downfall of judgment (whether in specific realms, as with Dr P., or more generally, as in patients with Korsakov's or frontal-lobe syndromes) ... which constitutes the essence of so many neuropsychological disorders. Judgment and identity may be casual ties – but neuropsychology never speaks of them.

And yet, whether in a philosophic sense (Kant's sense), or an empirical and evolutionary sense, judgment is the most important faculty we have. An animal, or a man, may get on very well without 'abstract attitude', but will speedily perish

if deprived of judgment. Judgment may be the first faculty of higher life or mind – yet it is ignored, or misinterpreted, by classical (computational) neurology. And if we wonder how such an absurdity can arise, we find it in the assumptions, or the evolution, of neurology itself. For classical neurology (like classical physics) has always been mechanical – from Hughlings Jackson's mechanical analogies to the computer analogies of today.

Of course, the brain is a machine and a computer – everything in classical neurology is correct. But our mental processes, which constitute our being and life, are not just abstract and mechanical, but personal, as well – and, as such, involve not just classifying and categorising, but continual judging and feeling also. If this is missing, we become computer-like, as Dr P. was. And, by the same token, if we delete feeling and judging, the personal, from the cognitive sciences, we reduce them to something as defective as Dr P. – and we reduce our apprehension of the concrete and real.

By a sort of comic and awful analogy, our current cognitive neurology and psychology resembles nothing so much as poor Dr P.! We need the concrete and real, as he did; and we fail to see this, as he failed to see it. Our cognitive sciences are themselves suffering from an agnosia essentially similar to Dr P.'s. Dr P. may then serve as a warning and a parable – of what happens to a science which eschews the judgmental, the particular, the personal, and becomes entirely abstract and computational.

Excerpt 4 – Kertesz

The nature of frequent confabulatory responses, often from confusions, also points to perceptual clues being misinterpreted. This is in agreement with Geschwind's (1965) interpretation that confabulation may represent a response of the disconnected speech area to incomplete information. Perception, in fact, seems to take place but it is disconnected (not passive) from visual memory by an associative defect. This patient had a severe and persistent amnestic syndrome, an often observed phenomenon with visual agnosia (Benson *et al.* 1974; Lhermite and Beauvois 1973). This feature underlines the importance of memory in visual perception. The significance of visual–limbic connections has been recognized since the temporal lobectomies in monkeys by Kiuver and Bucy (1937) and has been emphasized in man (1974). The frequency of severe amnestic deficit in visual agnosia is almost certainly more than an anatomical coincidence, occasioned by the same blood supply to the occipital and inferior temporal regions. The rich visual–limbic connections also support the inseparable role recent memory and retrieval mechanisms play in perception, evidenced from behavioural observations in this and other patients. Even though many cases of visual agnosia are associated with an amnestic syndrome, this cannot be blamed for the failure to recognize visually presented material, as this never happens in severe cases of Korsakov's syndrome alone. The relatively low scores in the formal intelligence tests of this patient are related to specific deficits, such as memory loss and her frontal lobe damage. Her 'Witzelsucht', or jocularity, tendency to perseverate, and failure of sorting by categories, all indicate frontal lobe involvement, which was indicated by the C.T. scan, as well. Behaviourally, she did not resemble dementia at all, as she was very quick to use non-visual clues for recognition.

The lesions, in cases of visual agnosia, are most often bilateral, with parieto-occipital, occipito-temporal and callosal lesions, in combination. That a callosal lesion is not necessary to visual agnosia is suggested by the unique case of Albert, Soffer, Silverberg and Reches (1978). There are some cases, where only the dominant occipital lobe and the splenium of the corpus callosum are affected. These patients usually have adequate visual perception, as evidenced by preservation of copying, and therefore, fall in the category of associative visual agnosia. Cases with documented apperceptive visual agnosia and prosopagnosia often have right hemisphere damage, as well. A study by Warrington and Taylor (1973) indicated that deficits in the right parietal-occipital lobes were responsible for impairment on a task where objects had to be identified on an unconventional view. It was postulated that 'Gestalt formation' was intact but 'perceptual classification' was impaired in these patients. Visual agnosia, related to bilateral paneto-occipital lesions and their temporal connections, is a complex deficit; it incorporates, as in this case, other entities, such as simultanagnosia (Wolpert), optic ataxia (Balint's syndrome), prosopagnosia, visual static agnosia (Botez) and alexia without agraphia (Balint 1909; Botez et al. 1964; Wolpert 1924).

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Part **3**

Critical Text Analysis with Corpus and Functional Approaches

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Introduction

(a) Several firms have closed their factories.
(b) Factories have been closed.
(c) Factories have closed.

The three sentences above all represent the same event – *the closure of factories*. However, the different grammatical choices in each one provide a different angle on the event: whereas (a) reveals who is responsible for the factories being closed, (b) and (c) hide those responsible for causing this event. Indeed, sentence (c) could be seen as ideologically motivated – presenting the event, and thus loss of jobs, as almost natural and outside human control. The sentences above are all expressions of 'causativity' – where something causes something to happen. In Chapter 14 by Michael Stubbs, you will be able to find out how two different text books (relative to a more general corpus of English) draw on different representations of causativity and the possible ideological consequences of this.

The importance of grammatical choices in revealing ideologies coded implicitly behind overt propositions is of great interest to those working within an area of language study referred to as Critical Discourse Analysis (CDA) (e.g. Fairclough, 1995; Wodak and Meyer, 2001). In their research, CDA analysts use the evidence of grammatical and lexical choices to – as Veronika Koller and Gerlinde Mautner in Chapter 12 put it – 'unravel how particular discourses (which are rooted in particular socio-cultural contexts) construct reality, social identities and social relationships'.

Discovering grammatical and lexical patterns across long texts and across both general and specialized corpora is greatly facilitated by the techniques of corpus investigation (as illustrated in various chapters in Parts 1 and 2). Not surprisingly, therefore, CDA practitioners have increasingly begun to draw on the technologies of concordancers and corpora to explore the relation between grammar, lexis, and ideology. For example, have a look at the concordance lines below (taken from a set of texts concerning the European Union) and see what patterns of meaning are being built up with the lexical items *federalism* and *federal*. How might such patterns influence a reader's view of the European Union?

The threat posed by Euro-	**Federalism**
the ramifications of	**Federalism**
to lure the UK onto the rocks of	**Federalism**
the ever expanding web of	**Federalism**
induce the public to sleep-walk to	**Federalism**
Relentless march towards	**Federalism**
The slide to	**Federalism**

Continuing to be bulldozed into a	**Federal**	Europe by stealth
Submerging Britain into a	**Federal**	Europe
The encroachments of the	**Federal**	Europe state
the selling of this country to a	**Federal**	Europe
surrendered this country to a	**Federal**	Europe
if we were to be embroiled in a	**Federal**	State
We are being led blindfold into a	**Federal**	super-state

No doubt you will have observed that the lexical items which tend to co-occur with *federalism* and *federal* are invariably negative, an observation made in Chapter 12 by Koller and Mautner when they searched the *Free Britain Corpus*, a collection of anti-European or 'Eurosceptic' texts. The authors thus illustrate how corpus exploration gives us access to particular 'semantic prosodies' (Sinclair, 1991) that are built up over large amounts of text and which are often unavailable to intuition or conscious awareness.

Another way in which researchers can access subliminal meanings is to calculate the relative frequency of lexical items and the frequency with which they take on certain grammatical roles. In Chapter 11, Andrew Goatly uses this technique to compare media and literary representations of nature, establishing the different ideological viewpoints on nature established in a newspaper, on the one hand, and a poem, on the other.

Although corpus search and processing techniques have largely been designed to deal with large collections of undifferentiated texts (Hunston, 2002: 110), Goatly's chapter shows that such techniques can equally be applied to the close examination of specific texts. Both Chapter 13 (by Peter White) and Chapter 15 (by Kieran O'Halloran and Caroline Coffin) likewise show that corpus technologies do not have to obscure the individual character and context of specific texts. Rather, their analyses of individual news stories show that corpus-based approaches can advance our understanding of how a writer positions their readers to potentially take a negative or positive view of the people, events and states of affairs being depicted. For instance, White draws on the Bank of English, a corpus of 450 million words, to check the potential of certain lexical items (e.g. *brush aside, lone, disrupt*) to prompt an attitudinal or evaluative response.

O'Halloran and Coffin also consult a large corpus, this time to investigate how the following extract from a news story (about a new European Union treaty) positions readers of the *Sun* newspaper:

> They (referring to millions of migrants) would be allowed to flock here after ten new nations join the EU next year.

In particular the authors show how researchers can draw on corpus techniques to guard against drawing conclusions which may say something more about the researchers themselves than the readers targeted by the *Sun*.

In sum, this final Part is designed to show how functional analyses of grammatical and lexical patterns can be extended, enhanced, and substantiated through

the technologies of concordancers and large electronic corpora. In particular, the various case studies show how the identification of recurrent grammatical patterns and lexical items, phrases and collocations (items that are often beneath the threshold of conscious awareness) provide fascinating insights into the ways in which texts can potentially influence readers into viewing the world in particular ways as well as potentially cueing extant ideologies.

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11 | Nature and Grammar

Andrew Goatly
Adapted from Andrew Goatly (2000) *Critical Reading and Writing: An Introductory Coursebook*, pp. 275–300

11.1 Introduction: The Need for Ecological Grammatical Analysis

One of the most urgent priorities facing human beings is to address the ideology of the exploitation of nature. This has developed over the last 200 years since the Industrial Revolution in Europe at the end of the eighteenth century. The rather alarming result of our prevalent attitudes toward nature is that

> If today is a typical day on planet earth, humans will add fifteen million tons of carbon to the atmosphere, destroy 115 square miles of tropical rain forest, create 72 square miles of desert, eliminate between forty to one hundred species, erode seventy one million tons of topsoil, add twenty-seven hundred tons of CFC's to the atmosphere, and increase their population by 263,000.
>
> (Orr, 1992: 3)

11.2 Grammatical Modification

I argue in this chapter that we need grammar to be re-jigged in directions favourable to ecology. My belief is that the English language in its most simple material process grammar represents the world in ways that are in tune with the view of the world which grew up out of Newtonian physics, but out of step with modern science and modern ecological theory. The next few paragraphs elaborate on this idea, and suggest how a few less obvious grammatical choices can be exploited for pro-ecological ends.

One of the main features of Newtonian theory is its emphasis on movement. Newtonian dynamics, concerned itself solely with the laws of motion:

> There is only one type of change surviving in [Newtonian] dynamics, one process, and that is motion. The qualitative diversity of changes in nature is reduced to the study of the relative displacement of material bodies.
>
> (Prigogine and Stengers, 1985: 62)

In concentrating on changes which involve movement (rather than chemical changes or evolutionary changes), Newton represented objects as basically inert until they were acted upon by some external force.

It was Newtonian physics, particularly dynamics, which made possible, 200 years ago, the Industrial Revolution in whose aftermath we are struggling, ecologically, to survive. This paradigm of an external agent applying a force to an inert object to set it in motion has been transferred to our dealings with nature. We are the external actor, and we apply force to an apparently inert nature, which is seen as separate from us. The Newtonian world view and the technological world view is one which we should abandon if we are to stop desertification, species destruction, ozone depletion, and those ills which Orr listed at the beginning of this chapter. As we shall see, and as modern scientific theory realizes, we have for too long forgotten that nature is far from inert, that we are part of it, so that it may take revenge on us if we assume blindly that we can dominate it.

11.2.1 Challenges to Newtonian dynamics

There are at least two aspects of twentieth-century science which challenge the Newtonian view of matter – that nature is passive and controllable and that human observers and actors are separate from what they observe and act on.

The second law of thermodynamics and the theory of entropy challenged the idea that natural objects can be completely controlled. This law states that it is impossible to make an engine which will continuously take heat from a heat source and, by itself, turn it all into an equivalent amount of mechanical work. The law indicates that the energy in the universe is inescapably and spontaneously being lost, or dissipated.

> Thus the 'negative' property of dissipation shows that, unlike [Newtonian] dynamic objects, thermodynamic objects can only be partially controlled. Occasionally they 'break loose' into spontaneous change.
>
> (Prigogine and Stengers, 1985: 120)

The study of the movement of fluids, such as phenomena like convection and turbulence, also suggests a spontaneity that Newtonian dynamic systems deny.

Viewed in terms of the second law, the universe is gradually winding down to a disordered state, a state of maximum entropy, a structureless, homogeneous, equilibrium. For example, if cold water and hot water are separated this is a relatively ordered state. But if they are put in the same container they will gradually become a homogenous mass of lukewarm water, relatively disordered and structureless.

However, spontaneity also operates in another direction to balance the tendency to increasing entropy. The biological sciences, and particularly the theory of evolution, show increasing order among living beings, more and more complex structures evolving, and more and more disequilibrium.

Second, quantum mechanics, as Heisenberg showed, implies that when scientific observations are taking place, the observed object and the observing instrument can no longer be regarded as separate (Bohm, 1980: 134). It is as though they are inextricably interconnected, as if they are part of the same phenomenon. The scientific observer is not outside the system which he or she is observing and recording, for at least two reasons. Scientific observations are time-oriented, and time can only be measured through entropy: 'Entropy is time's arrow'. In addition, since scientists are living beings, they themselves are manifestations of the unbalanced system, a disequilibrium (Prigogine and Stengers, 1985: 300).

A modern ecological theory, such as James Lovelock's *Gaia* hypothesis, reinforces these two challenges to the classical physics view of the natural universe. Lovelock believes the world, or the earth goddess *Gaia* – including the atmosphere, the oceans, living things, the rocks and minerals of the crust – functions as one large organism. It is rather like a giant redwood tree, of which more than nine-tenths is dead wood, with only the outer skin and leaves 'alive'. Such an organism is self-regulating. Active feedback processes, operated unconsciously and automatically by living things, keep the temperature, oxidation state, acidity, and aspects of the rocks and waters constant at any one time. For instance, one would expect that the oxygen and methane in the atmosphere would react in the sunlight to produce carbon dioxide and water vapour, and that the atmosphere would return to a state of stable equilibrium. In fact, the amount of oxygen and methane in the atmosphere remains more or less constant; we live in an environment of constant disequilibrium. It can only remain constant because the living sub-systems of the *Gaia* system actively and continuously work to keep the environment suitable for life. The interdependence of these various sub-systems means that evolution and life concern *Gaia*, not the organisms or the environment taken separately (Lovelock, 1988: 19). One rather optimistic scenario along these lines suggests that the melting of the ice-caps and rising sea levels will put more pressure on the earth's crust, leading to more frequent volcanic eruptions which will throw dust into the atmosphere and thereby reduce warming. An ingenious self-regulating device.

Gaia theory most obviously reinforces the first scientific challenge to Newton: the earth goddess *Gaia* is not inert, but is constantly organizing and regulating herself. In addition, the theory underlines the second, emphasizing the wholeness and interrelatedness of nature and of humans as (a small) part of nature. From a *Gaia* angle, exploiting nature as a resource becomes an obvious threat to the well-being of the ecosystem and the human race as part of it. Mining the earth for minerals is about as sensible as eating one's liver for nutrients.

11.2.2 Ordinary grammar and scientific theory

We have sketched briefly how modern physics and ecology undermined two assumptions in the world view of classical science. But what has this to do with the grammar of English? I would suggest that English grammar typically structures reality according to a Newtonian view of the world. Let's take an example of a fairly ordinary sentence.

> Fisherman traditionally caught 100,000 tons of fish per year in the North Sea.

This grammatical construction of reality encourages us to think in ways which are Newtonian in essence, but wrong according to modern science. There are, at least, two things 'wrong' with this kind of grammatical construction of 'the world out there'.

1 The division into the Actors who apply force or energy, the fishermen, and the inert or passive Goal, the fish. This makes us think of the fish as inactive, not allowing for any feedback within the *Gaia* mechanism, as though cause and effect only operate in one direction. Take a clearer example: 'John drove the

car'. In the longer term the Actor, John will be affected by the consequences of his actions: the car will produce sulphur dioxide and nitrogen dioxide which may contribute to John or his children suffering from asthma, and will definitely contribute to global warming which is already affecting him. He may appear to be doing things to the car, and the car to the atmosphere but the atmosphere will actually be doing things to him too.

2 This sentence marginalizes the 'environment' or location circumstance ('in the North Sea') suggesting that the North Sea is either powerless, or is not affected. In fact the catching of so many tons of fish obviously changes the North Sea's ecosystem.

11.2.3 What can we do about grammar?

We need a grammar which constructs a world-view more reflective of modern scientific/ecological theory. Here is a selection of structures and grammatical resources which could be used to reflect the views of the modern natural sciences more closely.

11.2.3.1 Location circumstance as actor

Instead of marginalizing the environment by referring to it in a location circumstance, we have the option of turning it into a Subject, or Actor:

> *Ants are crawling all over the bed* →
> *The bed is crawling with ants*

The environment, the bed, and the participants, the ants, become, in the transformed version, mutual participants in the process.

11.2.3.2 Ergativity

There are a number of verbs which belong to what is called the **ergative** paradigm, (Halliday, 1994: 163–72), for example *sail*, *tear* and *cook* (Table 11.1).

The difference between ergative verbs and non-ergative verbs is that when two participants Actor and Goal are involved, in other words the transitive (or **effective**) version, the clause is extended in a different directions (Table 11.2). With non-ergatives the clause is extended to the right, with ergatives to the left.

Ergative verbs without an object, that is, intransitive, represent changes to an entity as the result of some self-generating process. For example 'the door opened' suggests that the energy for this process originated in the door. When so-called

Table 11.1 Ergative clause patterns

Intransitive/middle			Instigator	Transitive/effective	
Medium	Process			Process	Medium
The boat	sailed	v.	Mary	sailed	the boat
The cloth	tore	v.	The nail	tore	the cloth
The rice	cooked	v.	Pat	cooked	the rice

inanimate things are Actors in such clauses they obviously represent nature as far from inert. Compare this, again, with Prigogine and Stengers' remarks:

> Unlike dynamic objects, thermodynamic objects can only be partially controlled. Occasionally they 'break loose' into spontaneous change.
>
> (Prigogine and Stengers, 1985: 120)

Might the increases in the number of ergative verbs over the last 100 years, be some kind of adaptive response to the insights of modern scientific thinking?

Mühlhäusler, quoting Wilkins (1989: 71ff.), suggests that the use of intransitive ergative verbs is one of the features of Australian aboriginal languages which reinforce the identity between people and things (Mühlhäusler, 1996: 123). The argument goes that the ergative verbs of these languages are usually used intransitively, making human agency a special case.

11.2.3.3 Animation or personification

There are various ways in which grammar can be systematically engineered to represent nature as less than inert, as animate.

First, we can metaphorically reconstruct Experiences in mental process clauses as though they were Actors in material processes, for example *we noticed the river → the river arrested my gaze*, *we love the forest → the forest touches my heart*. Let's call this **activation of experiences**.

Second, we can metaphorically reconstruct relational processes into material ones, so that instead of nature being static, it is seen as active. For example, *There are five trees in the valley/five trees are in the valley → Five trees stand in the valley*, *There is a boulder on top of the hill → a boulder tops the hill*. Let's call this **activation of tokens**.

Besides these more specific patterns of activation, there are general patterns in which verbs which normally take animals or humans as subject are used for natural, traditionally inanimate, objects. All verbal and mental processes that are used in this way will count as **personification** and **animalization** respectively.

We should sum up our discussion up to this point, so that we can bear it in mind as we proceed with our first case study. We discussed:

- how modern science and ecological theory have challenged some of the assumptions of the Newtonian cosmology:
  - nature's passivity and controllability
  - the divisibility of nature from humans as observers and actors.

- how basic grammar is essentially Newtonian, and has led us to think in terms of technological domination of nature;

Table 11.2 Participants and ergativity

	Non-ergative	Ergative
intransitive	John swallowed	The cloth tore
transitive	John swallowed a grape	Paul tore the cloth
	- - - - - - - - - ▶	◀ - - - - - - - - -

- the possibility of grammatical engineering using the following structures:
  - circumstances as Actors
  - ergativity
  - animation/personification,
  - activating experiences and tokens.

11.3 A Case Study in Ecological Grammatical Analysis

One important question is how average modern urban educated humans think of nature or represent their relationships with nature. It would be a massive research project to investigate this, so I considered the easier question how broadsheet newspapers represent nature and construct human relationships to it. The rationale claiming a link between these two questions lies in the importance of newspapers in our modern culture. For many people newspapers are probably the only regular leisure reading, and are the most widely circulated print medium. So I chose to analyse the text of one copy of *The Times* of London (2 May 1996), or more precisely those articles by *Times* journalists, ignoring press agency reports.

But, it is equally interesting to compare the treatment of nature in a modern broadsheet with her treatment in a text by a 'nature poet'. I chose Wordsworth, because his name is synonymous with nature poetry, and, incidentally, *The Prelude* (1850) provides a text of comparable length to one copy of *The Times*. In addition, Wordsworth was writing before the Industrial Revolution had taken hold, and one would therefore expect his attitudes to contrast with the technological attitudes of the last 200 years.

Two specific questions were addressed in this case study:

1 What elements of nature figure most prominently in *The Times* compared with *The Prelude*?
2 What degree of power do *The Times* and The *Prelude* confer on nature?

To answer the first question, the Concorder computer program was used to compile a frequency list of all the vocabulary in the two texts which referred to these classes of natural objects:

animals
plants, flowers, fruit and vegetables
landscape
rivers, lakes, seas and other bodies of water
weather.

The second research question could then be addressed. For all the clauses in which this nature vocabulary occurred, either as Participant or Circumstance, a Hallidayan transitivity analysis was conducted, see Table 11.3 and Table 11.4.

11.3.1 What natural elements figure most prominently?

The most obvious finding is that even if 25 per cent is added to these *Times* figures to compensate for the fact that *The Prelude* is 25 per cent longer (giving the figures in brackets), nature is much more important in *The Prelude* than in *The Times*.

Table 11.3 Frequency of natural elements in *The Times* and *The Prelude*

	The Times			*The Prelude*	
	R	A	P (%)		(%)
Animals	117	156	122	127	100
Landscape	79	105	24	436	100
Weather	16	21	16	133	100
Lakes, seas, rivers	26	35	13.5	259	100
Plants	29	39	14	277	100

Key
R = Raw; A = Adjusted for differing length of texts; P = percentage frequency compared with
The Prelude

Note
To make comparisons, the raw figures had to be adjusted because the rough word counts for
the two texts are *Times* 43,500, and *Prelude* 58,000. This adjustment gives the A figure in
Table 11.3 (and the figure in parenthesis in Table 11.4). The P figure was calculated by taking
The Prelude as 100 per cent, and expressing *The Times* figures as a percentage of this.

Table 11.4 Rank order of natural elements in *The Prelude* and *The Times*

The Prelude		*The Times*		
Landscape	436	Animals	117	(156)
Plants	277	Landscape	79	(105)
Lakes, seas, rivers	259	Plants	29	(39)
Weather	133	Lakes/seas	26	(35)
Animals	127	Weather	16	(21)

It is startling, therefore, that animals are represented so strongly in *The Times*.
This is largely due to the British preoccupation with horses, dogs and other pets
and, during the period of publication, cattle suffering from BSE. Animals as pets
(or horses on which to gamble), perhaps are a deliberate attempt to maintain some
link with nature, even within an urban environment. For the British, dogs and
horses also probably represent a displaced snobbery. You may not have much of
a pedigree yourself, but by buying a pedigree dog you can vicariously experience a
kind of canine aristocracy. (And the Royal Family is, of course, also famous for its
love of dogs and horses, so you are expressing solidarity with them, as a member of the
same consumer club.) Remember the statistics come from the very establishment
paper, *The Times*.

When the frequency list of lexical items had been produced by computer it
had to be checked manually otherwise the results would have been misleading,
with inflated figures for animals and plants in *The Times*. Not surprisingly *plant* is
often industrial plant. *Flora* was the name of the margarine company. The apparent

prevalence of bats turned out to be references to BAT or British American Tobacco. Eagles mainly materialized as *Eagle Star Insurance*. Apparently, newspapers like *The Times* are content to refer to animals and plants simply as parts of company and brand names. It may well be, given the values of consumer capitalism, that the more we build industrial plants, eat margarine, insure ourselves against disasters, and smoke tobacco, the few and less diverse the plants, and the lower the population of eagles and bats. One tiger more in your tank might mean one tiger less in the jungle.

Before we compare the way these natural elements are treated in our two texts, it is interesting to note what aspects of nature are present in the newspaper but absent in *The Prelude*. The main categories seem to be chemistry and disease. *The Times* refers to oxygen, steroids, ozone, CFCs, molecules, polymers, cellulose, acetic acid, and sulphuric acid. It also mentions flu, sickness, Creutzfeldt–Jakob disease, and BSE. Urban populations, though they may isolate themselves from nature to a large extent, still cannot cut themselves off from those small but dangerous natural organisms – bacteria and viruses. In fact, the more people are crowded into cities, the more virulent germs can afford to become – they can kill their victims and still be sure of finding another host.

11.3.2 Which of these texts represents nature as most powerful?

In order to answer this question I carried out a transitivity analysis of the clauses featuring natural elements. To draw conclusions about the representation of power, we have, of course, to make some assumptions about which kinds of participants tend to be more powerful, and which least powerful. For this purpose the following hierarchy might be used.

1 Actor in Transitive Clauses: an active participant powerful enough to affect other entities.
2 Actor (Medium) in Intransitive Clauses: an active participant though not affecting other entities.
3 Sayer: powerful enough to send messages and therefore have an effect on the consciousness of other sentient participants.
4 Experience: capable of impinging on the consciousness of others but non-volitionally.
5 Experiencer: sentient and responsive to outside stimuli.
6 Goal: powerless because acted upon, the victim of the power of Actors.

The details of this hierarchy may be rather debatable, but at least we probably accept that Actors and Sayers, (1)–(3) are rather more powerful than other participants.

11.3.3 Comparison of Actor and Sayer frequencies

One way, therefore, of introducing the general findings of my analysis is to total the numbers of Actors and Sayers and represent these as a percentage of all participants and circumstances, as in Table 11.5. Using these criteria we can say that when nature is mentioned, and of course it is mentioned much less in the newspaper, it is twice as active in *The Prelude* as it is in *The Times*. What is interesting, however, is that

Table 11.5 Actor/Sayer participants as percentage of total for each natural category

Category	The Times	The Prelude
Weather	19	50
Animals	13	21
Lakes, seas, rivers	8	18
Plants	10	17
Landscape	0	9

more or less the same rank ordering occurs in both texts: weather top, animals next, and landscape bottom, but with plants and bodies of water exchanging ranks.

We noted already that urban populations have successfully (or disastrously) isolated themselves from certain aspects of nature, with viruses and chemicals the major exceptions. A further exception is, of course, weather. Although we do our best with our central heating and air-conditioning to escape it, it still impacts on our existence, even within an urban setting, where, on the other hand, plants, natural landscape and bodies of water may be few and far between. This can be seen clearly in an article from the Singapore *Straits Times* newspaper, which illustrates the fact that Singapore has the highest number of deaths from lightning per head of population:

> **Lightning kills worker on board ship**
> A FOREIGN worker died after he was struck by **lightning** at Sembawang Shipyard on Monday afternoon, the second death due to lightning in eight days.
>
> Mr Salauddin Hossain, 31, was a rigger on board the *Rikhard Zorge*, a tanker berthed at the yard for repairs. He was struck by **lightning** at around 1.45 pm, after tightening a mooring rope. There was only a slight drizzle and some thunder at the time.
>
> A boy, seven, died last Monday after being struck by **lightning** while walking to a bus-stop in Jurong during a thunderstorm. His mother and sister were both seriously hurt.

11.3.4 Detailed results and discussion

Let's look, now, in more detail at the way nature is represented in our texts. The text processing procedures and analysis gave the rough percentages for the different participant types and circumstantial elements with regard to each aspect of nature in Tables 11.6 to 11.10. References will be made to these tables in the course of our discussion. We'll start with more specific discussion on Sayers and Actors as these represent the most powerful participants.

11.3.4.1 Nature as sayer

The high incidence of Sayers and Experiences in *The Prelude* suggests Wordsworth's openness to messages from nature. Sayers in *The Prelude* tend to be associated

Table 11.6 Participant status of animals and birds

Participant	*The Times*	*The Prelude*
Total nominal groups	117	127
Actor transitive	8.5%	0.7%
Actor intransitive	1.7%	9.2%
Sayer	2.6%	10.7%
Experiencer	2.3%	4.6%
Experience	7.7%	19.8%
Goal	41.9%	19.8%

Table 11.7 Participant status of bodies of water

Participant	*The Times*	*The Prelude*
Total nominal groups	26	259
Actor transitive	7.7%	5.8%
Actor intransitive	–	6.2%
Sayer	–	5.8%
Experiencer	–	1.2%
Experience	7.7%	4.6%
Goal	19%	9.3%

Table 11.8 Participant status of plants

Participant	*The Times*	*The Prelude*
Total nominal groups	29	277
Actor transitive	–	5.8%
Actor intransitive	10.3%	9.7%
Sayer	–	1.8%
Experiencer	–	1.1%
Experience	6.9%	6.9%
Goal	48.2%	15.5%

with, on the one hand, animals and birds, and on the other hand with rivers and streams. Let's look at some examples of animals and birds first (Table 11.6).

> By the still borders of the misty lake,
> Repeating favourite verses with one voice,
> Or conning more, as happy as **the birds**
> That round us <u>chaunted</u>.

Table 11.9 Participant status of landscape

Participant	The Times	The Prelude
Total nominal groups	79	436
Actor transitive	–	4.8%
Actor intransitive	–	3.2%
Sayer	–	1.1%
Experiencer	–	1.4%
Experience	–	4.4%
Affected	15.2%	16%

Table 11.10 Participant status of weather

Participant	The Times	The Prelude
Total nominal groups	16	133
Actor transitive	6.25%	22.6%
Actor intransitive	12.5%	24.8%
Sayer		3%
Experiencer		0.75%
Experience		3.8%
Affected	25%	16.6%

The heifer <u>lows</u>, uneasy at the voice
Of a new master; <u>bleat</u> the flocks aloud.

By contrast, the avian Sayers in *The Times* are comic:

Birdbrains fight ruff justice in court
A HEN and a duck will appear in court today as character witnesses for a dog
branded a livestock worrier. Mark Hayes, 33, a smallholder from Llangranog
on the Dyfed coast, is relying on Gloria, a brown-feathered chicken, and
Snowy, a white duck, to clear his pet dog Dino.

Mr Hayes insists it is a case of mistaken identity, but to be on the safe side
the defence case will rely heavily on **the birds'** <u>testimony</u>. Gloria has shared
the courtyard of Mr Hayes's farmhouse with Dino, a five-year-old Jack
Russell-Cairn cross, for 18 months. Yesterday **the chicken** showed
confidence in Dino, <u>clucking</u> quietly while it sniffed around.

Snowy, recently judged best of its breed at the Royal Welsh Agricultural
Show, is owned by one of Mr Hayes's friends and <u>quacks</u> happily when Dino
is around, seemingly unruffled by the dog's friendly attentions.

Mr Hayes hopes that by bringing Dino, Gloria and Snowy together at
Cardigan Magistrates' Court he will prove that his dog is innocent. He was
given permission at an earlier hearing to take them to court.

Mr Hayes says that he and Dino were away from the village at the time an informant claimed to have seen Dino worrying ducks belonging to Janet French, a neighbour. He said yesterday: 'Dino is a kind and affectionate dog without an ounce of malice in him.'

Mr Hayes faces a £200 fine if Dino is convicted.

Other animals to have had their day in court include **Barney the parrot**, which 'testified' last year against a man accused of handling it as stolen goods. **The bird** exposed the guilty party by whistling and letting its chin be tickled when its real owner entered the witness box.

Let's now turn to bodies of water, and their representation as Sayers (Table 11.7). While oceans, in the newspaper, are used as labels for political entities ('The Pacific Forum', or 'on both sides of the Atlantic') in Wordsworth, water, personified, speaks for itself:

And when at evening on the public way
I sauntered, like **a river** murmuring
And talking to itself when all things else
Are still, ...

The wild brooks prattling from invisible haunts ...

The sands of Westmoreland, **the creeks and bays**
Of Cumbria's rocky limits, they can tell
How, when the Sea threw off his evening shade ...

... the roar of **waters, torrents, streams**
Innumerable, roaring with one voice!

Wordsworth is, by his own admission:

... **a spoiled child**... in daily *intercourse*
With **those crystalline rivers, solemn heights,**
And mountains, ranging like a fowl of the air

Indeed, in Wordsworth's ideal world, we should not interfere with rivers and treat them as Goals since this will actually inhibit their powers of communication:

The famous brook, who, soon as he was boxed
Within our garden, found himself at once,
As if by trick insidious and unkind,
Stripped of his voice and left to dimple down
(Without an effort and without a will)
A channel paved by man's officious care.

To sum up, water and to a lesser extent animals/birds are much more serious communicators than their counterparts in *The Times*. The idea that nature can speak to us and that we should be receptive to its messages as Experiencers can, of course, give us another trajectory for our scientific and technological advances, perhaps a more positive one than when technology is used to enhance our material power as Actors. Scientific measuring instruments convey messages from nature which may lead to a more reciprocal relationship. Will we respond to messages about the ozone layer and global warming which nature is sending us?

11.3.4.2 Nature as Actor

Let's turn now, to see more details and examples of nature's active power in our texts. In newspapers when animals and bodies of water are Actors in material process clauses usually they are transitive (Tables 11.6 and 11.7):

> LEMON'S MILL, **the Martin Pipe-trained mare**, <u>took</u> over £18,000 in recorded bets out of the ring
>
> Supported down to 11-8 favourite, **the mare** <u>trounced</u> Maremma Gale by 24 lengths
>
> Material, <u>washed</u> on to the minerals periodically by rain or **tide**.
>
> **The subtropical Jurassic seas** that <u>covered</u> southern England.

To be newsworthy animals/birds and water have to make an impact. We might contrast this with clauses typical of *The Prelude*, where their actions can be described, quite apart from any effect they may achieve beyond themselves:

> **The eagle** <u>soars</u> high in the element
>
> That lowly bed whence I had heard **the wind**
> <u>Roar</u> and **the rain** <u>beat</u> hard

Landscape also figures quite commonly as an intransitive Actor. The following passage describes the young Wordsworth ice-skating, and the highlighted clauses in the last ten lines illustrate a blurring of the nature–human distinction, as though the skater's movement makes him aware of an energy inherent in the banks and cliffs:

> So through the darkness and the cold we flew,
> And not a voice was idle; with the din
> Smitten, **the precipices** <u>rang</u> aloud;
> The leafless trees and **every icy crag**
> <u>Tinkled</u> like iron; while far distant hills
> Into the tumult sent an alien sound
> Of melancholy not unnoticed, while the stars
> Eastward were sparkling clear, and in the west
> The orange sky of evening died away.
> Not seldom from the uproar I retired
> Into a silent bay, or sportively
> Glanced sideway, leaving the tumultuous throng,
> To cut across the reflex of a star
> That fled, and flying still before me, gleamed
> Upon the glassy plain; and oftentimes,
> When we had given our bodies to the wind,
> And **all the shadowy banks** on either side
> <u>Came sweeping</u> through the darkness, <u>spinning</u> still
> The rapid line of motion, then at once
> Have I reclining back upon my heels,
> Stopped short; yet still **the solitary cliffs**
> <u>Wheeled</u> by me even as if the earth had rolled

> With visible motion her diurnal round!
> Behind me did they stretch in solemn train,
> Feebler and feebler, and I stood and watched
> Till all was tranquil as a dreamless sleep.

One of our grammatical engineering devices seem quite prominent here: the use of ergative verbs: *sweep*, *spin*, *wheel*, *ring* and *tinkle*. (They are ergative, remember, because when transitive, the extra participant will be Subject rather than Object.)

Landscape Actors in intransitive clauses give us an example of a second kind of pro-ecological grammatical engineering. The example below promotes what is literally a location Circumstance into an Actor:

> and all **the pastures** <u>dance</u> with lambs

Compare this with the more commonsense 'Lambs dance in all the pastures'. And contrast it with the newspaper's

> Residential areas already suffer enough from the noise and damage caused.

Although superficially similar to 'the pastures dance with lambs' we interpret this rather differently. Either it is the residents who suffer, or the pockets of the owners and developers.

We have been looking at the way landscape features as actor in intransitive clauses. However, Table 11.9 shows that more often landscape is an actor in transitive clauses, and it is this active nature of the landscape in Wordsworth which sets it apart from landscape as we commonsensically conceive it. Typically mountains feature as these transitive actors:

> I had seen ...
> **The western mountain** <u>touch</u> his setting orb

> **A huge peak, black and huge,**
> As if with voluntary power instinct
> <u>Upreared</u> its head.

> And **mountains** over all, <u>embracing</u> all;

The last example suggests the unity, connectedness and indivisibility of nature as though Wordsworth were prefiguring Lovelock, or Lovelock echoing him.

Weather, too, is an important transitive actor, but whereas landscape seems to act on other natural objects, weather affects humans and the poet in particular. The very opening of *The Prelude* demonstrates:

> Oh there is blessing in **this gentle breeze**,
> A visitant that while **it** <u>fans</u> my cheek
> Doth seem half-conscious of the joy **it** <u>brings</u>
> From the green fields, and from yon azure sky.

In another famous passage the boy Wordsworth feels the wind (and grass and rock) supporting him as he climbs steep crags:

> Oh! when I have hung
> Above the raven's nest, by knots of grass

And half-inch fissures in the slippery rock
But ill <u>sustained</u>, and almost (so it seemed)
<u>Suspended</u> by **the blast** that blew amain,
Shouldering the naked crag, oh, at that time
While on the perilous ridge I hung alone,
With what strange utterance did the loud dry wind
Blow through my ear! The sky seemed not a sky
Of earth – and with what motion moved the clouds!

The repeated representation of weather affecting humans in *The Prelude* is not very different from its representation in newspapers, for example the passage on lightning in Singapore quoted earlier. What distinguishes the actors in *The Prelude* most from those in the typical newspaper is the energy and potential given to the landscape.

11.3.4.3 Personification/activation of experiences and tokens

We noted earlier, as two kinds of grammatical engineering, the upgrading of Experiences and Tokens to Actors. This is a widespread and stylistically significant phenomenon in *The Prelude*. It applies most obviously to plants, landscape and weather. Many of these Actors are only metaphorically material. In a more commonsense syntax they would be Experiences, though paraphrasing into such syntax (attempted in brackets) becomes increasingly problematical in the following examples:

Till **the whole cave**, so late a senseless mass,
<u>Busies</u> the eye with images and forms
Boldly assembled

(cf. I saw the whole cave ...)

Oh there is blessing in **this gentle breeze**,
A visitant that while it fans my cheek
Doth seem half-conscious of the joy **it** <u>brings</u>
From the green fields, and from yon azure sky.

(cf. I felt joyful (when the breeze fanned my cheek))

... **my favourite grove**,
Tossing in sunshine its dark boughs aloft,
As if to make the strong wind visible,
<u>Wakes</u> in me agitations like its own

(cf. I am disturbed by my favourite grove)

... **Lofty elms**,
Inviting shades of opportune recess,
<u>Bestowed</u> composure on a neighbourhood
Unpeaceful in itself.

(cf. I was calmed by the lofty elms)

> Yet, hail to you
> **Moors, mountains, headlands, and ye hollow vales,**
> **Ye long deep channels** for the Atlantic's voice,
> Powers of my native region! **Ye** that <u>seize</u>
> The heart with firmer grasp!

(cf. I adore/love/worship/am obsessed with the moors, mountains, headlands, etc.)

> Oh! <u>wrap</u> him in your shades, **ye giant woods**
> And you, **ye groves,** whose ministry it is
> To <u>interpose</u> the covert of your shades

(cf. Ye giant woods and groves, prevent me seeing him)

The last two examples illustrate that the Actor potential of landscape and plants often coincides with the use of apostrophes or calls to nature, where the Actor nominal group is used as a vocative term of address: 'ye hollow vales', 'ye long deep channels', 'ye groves'.

A further very significant pattern in Wordsworth is the metaphorical transformation of a basically Relational Process into a Material one, which we refer to as activation of Tokens. Some quite common verbs like *surround, lie* are half Material half Relational, and these proportions may vary with the Subject of the verb (Martin and Matthiessen, 1991). For example 'the moat surrounds the castle' pushes in the direction of a Relational process, whereas 'the soldiers surrounded the castle' pushes towards the Material. Exploiting such vocabulary is a widespread tendency in Wordsworth, so nature becomes more active than static:

> **The visionary dreariness ...**
> <u>Invested</u> moorland waste, and naked pool,
> **The beacon** <u>crowning</u> the lone eminence

> **The garden** <u>lay</u>
> Upon a slope <u>surmounted</u> by **a plain**
> **Of a small bowling-green**; beneath us <u>stood</u>
> **A grove**

> There <u>rose</u> **a crag,**
> That, from the meeting-point of two highways
> Ascending, <u>overlooked</u> them both

Instead of 'being at the top of' an eminence or slope or two highways, the plain or beacon or crag 'surmounts' or 'crowns' or 'overlooks' them. And in this environment of active existence even the quite normal *stood* seems to take on more energy than usual. The high percentage of landscape as Affected in *The Prelude* (Table 11.9) is partly due to those metaphorical material processes, which represent the relative positions of one part of the landscape in relation to another.

11.3.4.4 Nature as experience or affected

Table 11.6 shows two significant patterns which we have not yet commented upon. There is a much higher number of animals as Experiences in *The Prelude* compared with *The Times*. This suggests that they are worth observing and noticing for their own sake, a corollary of their communicative potential:

> I <u>spied</u>
> **A glow-worm** underneath a dusky plume
> Or canopy of yet unwithered fern,

> At leisure, then, I <u>viewed</u>, from day to day,
> The spectacles within doors, **birds and beasts**
> **Of every nature,**

> … <u>see</u> that pair, **the lamb**
> **And the lamb's mother,** and their tender ways

In *The Times*, on the other hand, there is a much higher frequency of animals as affected by humans but doing nothing (but suffer) in return. The following article is typical:

> **Tube drivers ran over injured dog to avoid delays**
> LONDON Underground ordered four trains to pass over a dog lying injured on the track to avoid causing rush-hour delays, it admitted yesterday. One driver who refused to carry out the instruction was replaced by another who was 'less squeamish', a spokesman said.
>
> 'Controllers were satisfied that the dog would not suffer further injury because it was lying between the rails. A lot of passengers had to get to work or important meetings.' He added: 'No disciplinary action was taken against the driver who refused to proceed.'
>
> The National Canine Defence League called for the Underground to be prosecuted for causing unnecessary suffering to **the German Shepherd-cross, which** strayed on to the line and <u>was hit</u> by two trains. **The dog** <u>was</u> eventually <u>taken</u> to a nearby station and <u>put down</u> by the RSPCA after suffering serious head and internal injuries and burns from the live rail. London Underground said it was lying on a sleeper between the tracks and would not have suffered further physical injury from trains passing over it.
>
> The incident began at 7.07 am when the driver of a Northern Line train in the tunnel near Highgate station hit something on the track. He walked back and <u>found</u> **the dog** then radioed to control and was told to continue.
>
> A second train at 7.10 am with two drivers was ordered to proceed over the dog. When the first driver refused he was replaced by the second. The next two trains were also forced to drive over the dog and at 7.28 am two managers who happened to be at Highgate went to the scene. One <u>muzzled</u> **the dog** by wrapping his coat around it and <u>lifted</u> **it** into the cab of another train, which <u>took</u> **it** to East Finchley. The RSPCA was contacted at 7.36 am, arrived at 8.47 am and the dog was destroyed at 8.51 am.

An RSPCA spokeswoman, who said the dog had a collar but no tag, added: 'We cannot understand why they did not give the original driver permission to <u>remove</u> **the dog**, which was in considerable pain. The decision is morally questionable to say the least. We believe the management seriously underestimated the feelings of their passengers who I am sure would not have minded waiting.'

Furthermore, the figures in Tables 11.7 and 11.8 show us that Goal bodies of water and plants are more frequent in the newspapers:

devoting formidable energies to <u>restoring</u> its mountains, **rivers and seas** to their primal beauty.

Britannia is liable to <u>rule</u> **the waves** in very sedate fashion for a season or two.

'<u>Investigate</u> **the plants and trees**.'

The children with her mother on Tuesday night <u>laying</u> **some flowers**

Teenage girls <u>laid</u> **floral tributes** in the road where Miss Allen was attacked

I <u>have</u> **tea** with the Conservative agent

We notice, too, that, even before they become Goals, the plants mentioned have undergone human processing to a lesser or greater extent; less with the floral tributes, much more with tea.

11.4 Summary and Postscript

It is worth summing up the differences in grammatical practice in relation to nature:

* In *The Prelude* nature is represented as twice as powerful as in *The Times*;
* In *The Prelude* weather and animals are the most powerful natural elements, just as they are in *The Times*;
* In *The Prelude* rivers are frequently represented as Sayers, in contrast with *The Times*;
* In *The Prelude* mountains and landscape feature as transitive Actors, which never happens in *The Times*;
* In *The Prelude* natural Actors figure intransitively without Goals, more so than in *The Times*.

Besides this we have seen that Wordsworth uses some grammatical engineering techniques to mitigate the effects of a 'Newtonian' grammar:

* ergative verbs are used to construct natural landscape as possessing its own energy;
* experiences are activated into Actors, especially in conjunction with vocatives of address: the experience of Nature is very powerful;
* tokens and values are activated into Actors: nature *does* rather than *is*;
* location circumstances are treated as Actors, so the environment is less marginalized.

In brief, nature is seen as a communicator and as active not inert.

I would like to suggest, as a parting polemical comment, that the view of the natural world represented by Wordsworth, along with aspects of his grammar, provides a much better model for our survival than that represented by *The Times*. The latter presents a domesticated, processed and relatively passive nature, mainly avoided apart from the impact of weather (and disease) and an interest in dogs and horses, and sometimes subordinated, as brand names or commodities, to economic interests.

In this new millennium, to survive we had better take note of Wordsworth, the physicists and the ecologists, rethink and respeak our participation in nature, before it rethinks or rejects our participation in it.

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12 | Computer Applications in Critical Discourse Analysis

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Adapted from G. Hardt-Mautner (1995) '"Only connect": critical discourse analysis and corpus linguistics' in the UCREL Technical Papers Series, www.comp.lancs.ac.uk/ucrel/tech_papers.html

I would like to see the day when we will all be more versatile in our methodologies, skilled at integrating all the techniques we will be able to discover for understanding this most basic, most fascinating, but also most elusive manifestation of the human mind.

(Chafe, 1992: 96)

12.1 Introduction

A brief look at the genesis of this chapter, a revised and abridged version of Hardt-Mautner (1995), will help to explain its structure and orientation. Until well into the 1990s, most projects in critical language analysis drew solely on the theoretical foundations and descriptive resources of the framework known as critical discourse analysis, or CDA for short (cf. Fairclough, 1989, 1992, 1993, 1995a, 1995b; van Dijk, 1991, 1993; Wodak, 1990; Wodak *et al.*, 1990). However, in starting to analyse a larger body of texts from newspapers and magazines, the mainly qualitative methodology used in CDA proved less suitable. It was this mismatch between the chosen framework and the nature of the data that called for an alternative analytical procedure, combining the use of concordance programs with CDA's traditional qualitative analysis.

The present chapter has been designed primarily in accordance with the agenda of CDA, not that of corpus linguistics. It is not concerned with the computer's role in lexicography or grammatical description but with its potential in helping to unravel how particular discourses (which are rooted in particular sociocultural contexts) construct reality, social identities and social relationships (cf. Fairclough, 1992: 64). The choice of priorities for this chapter means that the technicalities of computer processing will remain in the background and not themselves become the object of investigation. Readers with expertise in corpus linguistics should not be disappointed by the lack of novelty or the step-by-step account, as the main idea is to describe what can be done by using existing programs that are widely available, user-friendly and will run on a PC. The intended audience is linguistics students who work within a CDA framework and whose

general research routine so far would involve using the computer only as a word processor.

In order to undertake the work described in this chapter it is necessary to have software such as *Longman Mini Concordancer*, *Monoconc Pro* or *WordSmith Tools*. (Here and elsewhere in the chapter, reference is made to *WordSmith Tools* 3.0, since at the time of writing (April 2003), version 4.0 was only yet available in parts, as a preliminary copy.) While all of this software creates frequency lists, concordance lines and lists of collocations, some programs, like *Longman Mini Concordancer*, offer only rather basic processing facilities whereas others, such as *WordSmith Tools*, have complex and powerful design features.

Because of the nature of our more recent research interests we are here only concerned with the analysis of written text. We are therefore not addressing any of the complex issues connected with representing speech or multimedia data in computer-readable format (cf. Leech *et al.*, 1995).[1] Even so, the approach outlined below would, *mutatis mutandis*, also be applicable to critical discourse analyses of spoken and multimodal material.

Finally, and emphatically, we want to make the point that the approach discussed here is intended to supplement, not replace, the methods normally used in CDA. Qualitative and quantitative techniques need to be combined, not played off against each other (cf. Mautner, 2001).

12.2 Rationale

At first sight, critical discourse analysis does not appear to be an obvious candidate for computer applications. Its methodological tradition – including an essentially holistic approach to text as well as a concern for the interface between discourse/cognition and society – does not augur well for the integration of computer-aided analysis. Fowler and Kress, in their seminal paper in *Language and Control*, made the point, still valid today, that 'there is no analytic routine through which a text can be run, with a critical description issuing automatically at the end' (1979: 197). Rather, 'critical interpretation requires historical knowledge and sensitivity, which can be possessed by human beings but not by machines' (Fowler, 1991: 68).

The main reason why there is no 'automatic' discovery procedure is, of course, that one particular meaning can be expressed through different structures, just as different structures can have the same meaning. It is impossible – or at least misguided – to ascribe a particular, invariable ideological effect to any one form. You cannot say, for example, 'Passives always do X in a text, and I've found lots of passives in my text, so my text is doing X.' Such simplistic reasoning would be an example of what Simpson (1993: 113) refers to as 'interpretative positivism'.

The quantitative 'dissection' of text made possible by corpus approaches appears to be at odds with CDA's commitment to analysing coherent discourse at all linguistic levels. 'To isolate specific forms', Fowler and Kress argue (1979: 198), 'to focus on one structure, to select one process, in fact to lift components of a discourse out of their context and consider them in isolation would be the very

antithesis of our approach.' By opting for qualitative analysis, what is gained in terms of depth is usually lost in terms of breadth: The more detailed and holistic the method, the less data one can reasonably hope to cope with. Hence, this approach is 'especially relevant to detailed analysis of a small number of discourse samples' (Fairclough, 1992: 230).

Because critical discourse analysis is best suited to deal with small corpora the question of representativeness obviously looms large. There may be a temptation to *proclaim* features as typical rather than build up the notion of 'typicality' on the basis of frequency. The hidden danger is that the reason why the texts concerned are singled out for analysis in the first place is precisely that they are not typical, but in fact quite unusual instances which have aroused the analyst's attention. Any researcher favouring a bottom-up approach rooted firmly in textual evidence will want to work from a larger, potentially more representative empirical base.

Critical discourse analysts wishing to work with larger corpora will almost inevitably confront a methodological dilemma. While a corpus in, for instance, the 100,000+ range is small fry by the standards of corpus linguistics (where corpora like the British National Corpus at Lancaster and the COBUILD Bank of English developed in Birmingham are now in the 100 and 450 million range, respectively), it is a formidable corpus to take on from a discourse analytic perspective, and one definitely too large to be tackled by conventional methods only. This is where concordancing comes in. As we hope to demonstrate in this chapter, even the crudest techniques of corpus linguistics can make useful contributions to the study of discourse from a critical perspective, or, as Silverman (1993: 163) puts it, 'counting techniques can offer a means to survey the whole corpus of data and to gain a sense of the flavour of the data'.

12.3 Procedural Issues

The decision to enlist the services of the computer is inevitably followed by the sobering realization that a host of rather boring and time-consuming preliminaries have to be gone through before the analysis proper can begin. Transforming raw text into a computer file or files readable by a concordancing program involves the following steps.

First, texts need to be transferred into electronic form by scanning or typing, depending on the quality of the hard-copy originals. This stage is arguably the most labour-intensive. Inputting is obviously not necessary if the data already exists in machine-readable form (as is the case with data gathered from the internet, for example). The prior availability of an electronically stored version will naturally make certain data more attractive to work on, as it enables the researcher to all but by-pass the inputting phase. Although this is certainly worth bearing in mind when drawing up a research design, the temptation ought to be resisted to limit corpora a priori to texts published electronically. Apart from the fact that Web content is increasingly provided for paying customers only, another argument for not relying on electronic corpora (such as the online editions of newspapers) exclusively is the need to view texts in their authentic co-textual environment and not restrict oneself to the 'static abstraction [and] decontextualised language'

of mere concordance lines (Widdowson, 2000: 7). Even so, it is also true that electronic communication has spread to virtually all walks of life so that a wide range of genres and registers is now being produced in electronic form. Informal conversation on the internet is a case in point. Recently, (re)searching the huge corpus that is the internet has been greatly facilitated by programs such as *WebCorp*, an online concordance and collocation tool developed at the University of Liverpool (www.webcorp.org.uk).

Second, the scanned, keyed-in and downloaded texts have to be checked meticulously to eliminate typographical errors and any other errors the scanning software may have made in text recognition. Even the least meaning-distorting orthographical error, easily decodable by a human reader, will result in the computer happily recording a new word form. The smaller the corpus, the more serious this kind of mistake is, because if the overall frequency of individual items is quite low anyway, losing (or rather 'mislaying') even a single occurrence through wrong spelling affects the accuracy of the analysis. Finally, the corrected texts have to be fitted with whatever codes the software requires to be able to locate individual occurrences.

These three steps suffice to start off the simplest form of computer analysis. For more complicated procedures, more elaborate labelling or 'tagging' (syntactic and/or semantic) would be required (cf. Leech and Fligelstone, 1992: 124–7; McEnery and Wilson, 2001: 32–53). Whether any such additional investment of time and resources is justified will depend on the kind of information the analyst hopes to extract from the corpus. The researcher has the possibility to 'outsource' such one-time procedures to external tagging services or purchase a licence for the relevant program (examples include AMALGAM at the University of Leeds and CLAWS at the University of Lancaster). For a project in critical discourse analysis in which computer processing is not the only analytical tool, it is probably best to pursue a 'clean text' policy (Stubbs and Gerbig, 1993), starting with only the tags needed for source identification, and re-editing the corpus if and when more ambitious forms of tagging are thought to be essential.

The prospect of having to go through this elaborate preparation phase used to be a powerful deterrent. Nowadays, however, language resource centres like ELRA, the European Language Resources Association (www.elra.info), or TELRI, the Trans-European Language Resources Infrastructure (www.telri.bham.ac.uk/), offer, upon payment of a membership fee, a wide variety of both corpora and processing tools.

When preparing an electronic corpus, we need to be aware that the inputting process involves stripping the text of most of its non-verbal properties (such as layout, typography, pictures, graphic elements, etc.). The resulting loss in semiotic richness is unlikely to worry the lexicographer or the grammarian, but to anyone working within a CDA framework it is far from a trifling matter. The impact of texts depends crucially on their multimodality, and to confine the analysis to the verbal component is to exclude many other elements vital to the meaning-making process. According to Kress (1993: 188):

> the most pressing issue is the recognition of the increasing role of the visual and the
> semiotic in all forms of communication. It is no longer possible to avoid this issue in

critical analyses, on the assumption, explicitly or implicitly held, that all (relevant) meaning in a text is, as it were, fully glossed in the verbal component of the text.

More recently, McEnery and Wilson (2001: 189–90) have explored the opportunities provided by research into multimodal corpora. Their work represents some of the headway that has been made in the direction of programs able to cope with a multimedia environment. Hypertext systems are another step in this direction (Burnard 1992: 17–20).

12.4 Practical Applications

Previous work in what could be called 'corpus-based critical discourse analysis' has tended to focus on minority and/or marginalized discourses associated with, for example environmentalism, professions, ethnicity, or age (Fox, 1993; Krishnamurty, 1996; Stenström, 2000; Alexander, 2002). In these and similar studies, the focus is on features such as action type, pronouns, proper names, and vocabulary. Following this tradition, this paper concentrates on two features to demonstrate how computer-generated concordances can be used in critical analysis. The first is an aspect of pronoun usage, and the second illustrates how even the relatively narrow environment of a single concordance line can point to larger-scale discursive processes. Taken together, these examples ought to reassure critical discourse analysts that the use of concordancing does not compromise their agenda. Far from it: a certain amount of purposefully applied word-crunching can enhance the investigation by offering new vistas.

The researcher's knowledge about the genre and the topic concerned clearly plays an important role in finding a suitable starting point. In the case of Mautner's project dealing with newspaper discourse on the European Union (Mautner, 2000), it was, for example, reasonable to expect that key terms would include *Europe, Brussels, federalism* and *sovereignty*, to name but a few. Likewise, Koller's corpus-based study on metaphor clusters in business media discourse (Koller, 2003) starts out from previous knowledge about frequent metaphorical expressions in media coverage of business topics, such as *price war, corporate marriage*, or *gobble up a company*. Previous experience with media language would further suggest that expressions referring to so-called 'news actors' were worth looking at, just as it would be safe to assume that personal pronouns, especially *we* and *you*, would be central to the way in which newspapers and magazines construct their own and their readers' role and identity, and how they establish a rapport with their readers. Stubbs and Gerbig (1993), in their computer-aided analysis of geography textbooks, concentrate on the representation of change, causation, and agency; accordingly, they focus on linguistic features that studies of factual writing have shown to be central to the linguistic encoding of these notions, namely passives, ergative verbs, and subject nominal groups. In other words, employing a concordancer does not mean that the analyst starts off with a *tabula rasa*. The background research and hypothesis building that the critical discourse analyst would normally engage in remain indispensable guides.

At the same time, the concordancer does provide new ways of kick-starting the analysis because it enables researchers to pursue even the most tentative leads.

Wordlists and the accompanying data on frequency provide just such leads. For example, the wordlists for Mautner's four sub-corpora of newspaper editorials (from the *Daily Telegraph*, the *Guardian*, the *Sun* and the *Mirror*) showed that in the *Sun* and the *Mirror* (both of them popular tabloid dailies) the names of the papers were among the 20 most frequent lexical (as opposed to grammatical) items, whereas this was not the case with the corpora from the quality broadsheets the *Guardian* and the *Daily Telegraph*. This difference served as a very simple initial clue that editorials in tabloids create a much stronger explicit presence for their papers, thus constructing a much more palpable identity, than do broadsheets. In-depth qualitative analyses can then build on such clues, looking closely at the contexts in which the names of the papers appear, and what other linguistic features go into establishing the editorial 'voice' of the papers concerned.

Finally, when we talk about frequency it is necessary to stress, at the risk of labouring the point, that this is a relative notion. We must be clear about what frame of reference we are using. When the data consists of generically and/or topically homogeneous sub-corpora, frequency can be interpreted within the corpus concerned in relation to its different sub-corpora. Ideally, an external standard of comparison should also be sought, so that individual texts, as Stubbs and Gerbig point out, can be 'located in diatypic space' not only in relation to other texts but also in relation to other 'text types and text corpora' (1993: 64), preferably large general reference corpora like the Bank of English (http://titania.cobuild.collins. co.uk/boe_info.html) or the British National Corpus (www.natcorp.ox.ac.uk/).

12.4.1 Example 1 Studying pronoun usage

Personal pronouns play a crucial role in the construction of social identities and social relations. Accordingly, critical linguists and discourse analysts have always paid a great deal of attention to them, and indeed pronouns are invariably included in checklists of which linguistic features to target for analysis. The role of personal pronouns in discourse is thus well documented, and the literature contains plenty of illuminating insights to inspire further analyses (cf. Fairclough, 1989: 179–82; Wilson, 1990: 50–76; Diller, 1994: 100–4; Johnson, 1994). Inevitably, investigations conducted without the help of computing facilities have had to confine themselves to looking at individual texts. Using a concordancer, on the other hand, puts the researcher in a position to survey a much larger amount of text and to compare patterns of pronoun usage in different corpora.

What follows is part of an investigation into the role of personal pronouns in newspaper editorials. For presentation here, the use of *you* has been selected – though the picture obviously remains incomplete unless the full range of personal possessive pronouns is given equal attention.

For the survey of *you* in editorials, the concordances were scanned through twice; first, to set up the different categories of *you* relevant to the genre under investigation; and a second time to allocate each instance to one of these categories. Altogether, five types of *you* were identified:

1 Indefinite *you* (as in *the answer depends on where you start from* [*Guardian*, 19 September 1992]);

2   *you* addressing the reader (as in *Why the* Sun *believes you should vote yes* [Sun, 4 June 1975]);

3   *you* addressing someone other than the reader (as in *Are you paying attention, Tony Benn?* [Daily Mirror, 2 June 1975]);

4   indefinite *you* in a quote (as in *his declaration that 'you cannot bully Britain'* [Daily Telegraph, 13 October 1992]);

5   direct-address *you* in a quote (as in: *In answer to the question: 'Are you personally in favour of joining the Common Market?'* [Daily Mirror, 26 October 1971]).

Among the quantitative results, two seemed particularly remarkable. One was the proportion of occurrences of indefinite *you*. For the *Guardian*, the count stood at 7.4 occurrences per 10,000 words, whereas for the *Daily Telegraph* the figure was only 0.5. On this evidence, one can identify the use of indefinite *you* as one of the features that differentiates the *Guardian's* editorial style from the *Daily Telegraph's*. Considering that generic *you* is generally described as 'informal' (Greenbaum and Quirk, 1990: 115; Leech and Svartvik, 1994: 58), we can also make the more specific claim that the high frequency of *you* is one of the features accounting for the greater informality of the *Guardian* – a claim very much in keeping with intuition.

The second noteworthy observation concerns the use of the 'direct address' types (2) and (3). Taken together, these two types of *you* occurred 52 times in the *Sun* (28.5 instances per 10,000 words) and 23 times in the *Mirror* (15.4 instances per 10,000 words). By contrast, there were only three occurrences of direct address *you* in the *Guardian* (0.4 instances per 10,000 words) and none at all in the *Daily Telegraph*. This type of *you*, which acknowledges the readers' presence and engages them in the argument, thus emerges unequivocally as a feature of the editorial style used in tabloids.

If we had based our analysis on a handful of texts only, as some critical analyses have been wont to do, we would not have been able to make this statement with equal confidence. Concordancers help us broaden the empirical base, and this in turn makes the traditional qualitative analysis more reliable.

12.4.2 Example 2 Semantic prosody

Another area in which corpus linguistics and CDA can be expected to have mutual interests is that of 'semantic prosody', defined by Louw (1993: 157) as '[a] consistent aura of meaning with which a form is imbued by its collocates'. Examining a multitude of examples from a 37-million word corpus held at Birmingham, Louw shows not only that some forms have an overwhelmingly 'good' or 'bad' prosody (*bent on* and *symptomatic of* are two cases of items with a 'bad' prosody) but also that 'the prosodies based on very frequent forms can bifurcate into "good" and "bad"' (Louw, 1993: 171). His example, *build up*, has a good prosody when it is used transitively with a human subject (as in *build up better understanding*), but a negative one when it is used intransitively (it is toxins and armaments, for example, that are said to 'build up').

Following a similar line of enquiry, Channell (2000: 43) shows that in the British Bank of English what she calls the evaluative 'polarity' of the adjective *fat*, for example, is negative when referring to humans and inanimate referents, but positive when referring to animals, reflecting the cultural attitudes that are dominant

in the texts the Bank of English consists of. Channell also argues, on the basis of corpus evidence, 'that speakers and writers cluster negative items so that there is a mutually supporting web of negative words' (2000: 44), confirming Louw's observation 'that in many cases semantic prosodies "hunt in packs" and potentiate and bolster one another' (1993: 173).

Semantic prosody, or polarity, is at least as exciting a concept for the critical discourse analyst as it is for the lexicographer and the grammarian. Differences between socially, ideologically, or historically distinct discourses often crystallize in different semantic prosodies of key lexical items whose descriptive and/or associative meaning is contested. In the context of the British debate on the European Union, for example, such a key role is played by *federal, federalist,* and *federalism.* In the *Guardian, federal** (the * here indicates that all lexemes related to *federal* were investigated) has predominantly neutral collocates, such as *institutions, system, state, nation, Europe,* to the right of the centred search word (which is also referred to as the 'node'), and *talked about, move towards, different regions of,* etc. to the left. In the concordances from the corpus of the *Daily Telegraph* editorials, on the other hand, the lexis within a collocational span of 25 words to the left and right of the node *federal** includes many negatively loaded expressions, such as *fanciful notions, threat, potentially embarrassing, erosion of Parliament's sovereignty,* and *superstate,* to name but a few (Mautner, 2000: 233–4). Using *federal** with negative polarity is characteristic of anti-EU discourse generally, as a search for *federal** in the two million-word Free Britain Corpus, a collection of Euro-sceptic texts, reveals (the corpus can be obtained through the TELRI archive at www.tractor.de/). Nominal collocates to the right of *federal* include *super-state* (shorthand for 'bureaucratic, uncontrollable, huge'), *monster,* and *quicksand; federalist* combines with *straitjacket, juggernaut, babblings, bureaucrats, eurocrats,* and *dreamers; federal superstate* with *sclerotic, protectionist,* and *forced.* Among the phrases to the left of *federalism* as well as of *federal Europe/state/superstate* we find lexis expressing the idea of danger, deception, entanglement, uncontrollability, and subjugation:

The threat posed by Euro-	**federalism**	
the ramifications of	**federalism**	
to lure the UK onto the rocks of	**federalism**	
the ever expanding web of	**federalism**	
induce the public to sleep-walk to	**federalism**	
relentless march towards	**federalism**	
the slide to	**federalism**	
continuing to be bulldozed into a	**Federal**	Europe by stealth
submerging Britain into a	**federal**	Europe
the encroachments of the	**federal**	Europe state
the selling of this country to a	**federal**	Europe
surrendered this country to a	**federal**	Europe
if we were to be embroiled in a	**federal**	state
We are being led blindfold into a	**federal**	super-state

Several quotes also show the clustering of negatively loaded items, which Louw (1993: 173) and Channell (2000: 44) have identified in their work, witness *bulldozed ... by stealth, blindfold ... super-state, pushed ... dreamers*.

Concordance evidence, both from purpose-built as well as from larger reference corpora, allows us to assess the semantic prosody of key terms much more comprehensively and accurately than purely manual analysis would allow. In doing so, we gather evidence for the way in which semantic choices both reflect and construct ideological positions.

12.5 Caveats and Problem Areas

Although the techniques of corpus linguistics offer exciting possibilities for critical discourse analysis, some warnings are in order, and attention should be given to problems that the linguist interested in corpus-based research is likely to encounter.

First, there is a danger, as Stubbs and Gerbig (1993: 78) remind us, of 'counting only what is easy to count' and of ignoring larger-scale linguistic phenomena that are not tied to distinct linguistic units (such as syntactic phenomena and argumentative patterns).

Second, the concept of frequency must not be divorced from the significance that the item in question has in a particular semantic and social context. Certain collocates or semantic prosodies may be very infrequent, in fact, and represent all the more marked choices in a given text precisely because of their rarity. English language textbook writers and lexicographers compiling learners' dictionaries can safely ignore such statistical oddities. Discourse analysts should not. If they do, they risk failing to identify sites at which linguistic innovation and social conflict may be unfolding, or at which certain authors, domains, or ideological positions have left distinctive traces. After all, 'many times, a single occurrence of something is more important ... than multiple occurrences of something' (Seidel, 1991: 113).

Third, care must be taken to look beyond the chosen collocational span or the standard concordance line whenever there is any doubt about the correct interpretation of findings. In using dominant semantic prosody, for example, as a basis for assessing authorial stance, one must be careful not to miss hedges and distancing devices which may be located just outside the narrow frame selected.

Fourth, the smaller the corpus, the more modest the claims must be. However, to a certain extent, a shortfall in words can be partly offset by internal homogeneity (in terms of genre, topic, or social, regional and historical variation) – provided that generalization beyond the genre and/or variety represented in the corpus is approached with great caution. Finally, constant vigilance is needed so as not to become so engrossed in the quantitative data that the computer-based analysis becomes an end in itself and you lose sight of the original aims.

A more general problem is the missing standard for software in corpus linguistics. While *WordSmith Tools* seems to have gained widespread acceptance within the linguistic community, important general corpora such as the Bank of English, the British National Corpus and the International Corpus of English all come with their own integrated concordancing software packages, which, irritatingly,

differ both in the features offered as well as in menu prompts and interfaces. While this heterogeneity does not in itself constitute an obstacle to productive research, novices to corpus linguistics should be aware that a considerable amount of learning time and flexibility will be required of them.

12.6 Conclusion

To recapitulate, a concordance program can contribute to qualitative analysis in the following ways.

First, it allows the researcher to describe syntactic and semantic properties of key lexical items *exhaustively* rather than selectively. With the computer's help, both in retrieving and displaying the data, the analyst can look at a large number of occurrences rather than generalize in an undisciplined fashion on the basis of a few purposely selected examples.

Second, it can function as a heuristic tool, raising questions to be followed up, and drawing analysts' attention to phenomena that they can then investigate with the help of their qualitative apparatus.

Third, the concordancer produces 'results' in its own right. The frequency of a particular form, or the occurrence of certain collocates, may in itself be relevant from a critical perspective. However, care must be taken to recontextualize quantitative evidence and thus put into perspective the bare facts the concordancer has provided (hence the inverted commas around 'results'). Even when the computer has entered the fray, triangulation remains a valuable methodological principle (cf. Miles and Huberman, 1994: 266–7).

Fourth – and this is the most 'mechanical' but none the less important application – the concordancer is an extremely useful search tool, allowing the analyst to retain a much firmer grip on the corpus than would otherwise be possible (cf. Fairclough, 2000, for an example of corpus-based critical linguistics). Seen as such, concordancing programs help to provide a sound footing to the often broad claims made by critical linguists (cf. Stubbs, 1997).

To sum up, concordancing effectively helps to break down the quantitative/ qualitative distinction, providing as it does the basis for quantitative analysis without 'deverbalizing' the data, that is, without transferring it, through human intervention, to the numerical mode. The difference is, precisely, that between number-crunching and word-crunching. The latter leaves the co-text intact, while the former obliterates it.

To integrate the traditional qualitative analysis with the computer-aided component, the following procedure has proved useful:

1 The qualitative analysis of individual texts reveals 'loaded' items whose collocational behaviour (including their aura of meaning, or 'semantic prosody'; see Section 12.4.2) can then be investigated using the larger corpus held in the computer.

2 'Browsing' through the computerized corpus draws the analyst's attention to certain items or collocational patterns which can then also be studied qualitatively in their larger textual environments.

3 The findings resulting from both (a) and (b) should be compared with evidence from larger corpora such as newspapers on CD-ROM, Webcorp, the COBUILD corpus (Birmingham) or the BNC (Lancaster).

The idea is to move constantly between these different views of the data, rather than working in a 'quantitative' and a 'qualitative' compartment respectively. A 'home-grown' corpus will invariably be much smaller than one that has been built as part of a major academic or commercial venture. Yet having a machine-readable corpus at all creates new ways of finding answers to what Biber and Finegan call 'Mount Everest questions – questions arising because the corpora are available but otherwise practically impossible to imagine' (1991: 205).

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Note

1 While corpora of spoken texts – both in transcribed and audio format – are already well established, the growing research in multimedia corpora including visual elements (cf. Maybury, 2002, as well as the workshop papers available at www.mpi.nl/world/ISLE/events/LREC%202000/LREC2000.htm and www.hcrc. ed.ac.uk/~john/inlg-mm/prog.html) has not yet translated into a wide range of easily available data collections (e.g. the ELRA resource centre offers but two multimedia corpora among its more than 160 resources).

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13 | Subjectivity, Evaluation and Point of View in Media Discourse

Peter White

13.1 Introduction

It is a commonly held view that mass media news reporting should be 'objective', that it should provide an impartial record of events free of the influence of the author's or the media organization's opinions and points of view. This chapter provides a framework for investigating what it might mean for a media text to be entirely 'neutral' and 'value free' in this way and how we might systematically distinguish between supposedly 'objective' and 'subjective' texts. In particular, it focuses on the issue of evaluation, on how it is that a text such as a news report might influence or position readers/listeners/viewers to take a negative or positive view of the people, events and states of affairs being depicted in the text.

I will be considering such evaluations under two broad headings. The first concerns a mode of evaluation which is unproblematically incompatible with any notions of journalistic neutrality – positive or negative assessments which the journalistic author explicitly and directly presents on his/her own behalf. For example, 'The President's speech was <u>elegant</u> and <u>well-woven,</u> sounding a panoply of themes without seeming <u>scattered</u>.' The second heading involves evaluative language which is rather more problematic in terms of such notions of 'objectivity' and 'subjectivity'. Here we are concerned with attitudinal assessment which is not so clearly linked to the author and which operates indirectly through association, metaphor, implication or inference and which, as a consequence, is also rather more difficult to deal with analytically.

The discussion will be conducted by reference to three short extracts taken from the news page coverage of the same event by three different British newspapers. They are all the headlines and first few sentences of news reports concerned with a state visit to the United Kingdom by the Chinese head of state, Jiang Zemin, in October 1999.

Extract 1
(from the *Sun*)

RIFLES RAISED BY GUARDSMEN TO STOP RIOT OVER HATED PRESIDENT

Queen's China crisis as coach is charged

Bayonet fixed and rifle raised, a soldier comes to the rescue of his Queen yesterday. The trooper went into action when human rights protesters charged at her carriage as she travelled towards Buckingham Palace with the Chinese president.

Extract 2

(from the *Daily Telegraph*)

Anti-China protests brushed aside

The first Chinese state visit in British history began yesterday with a lone, Tianmen Square-style attempt to disrupt the royal procession in the Mall and muted protests elsewhere.

As the Queen and President Jiang Zemin travelled to Buckingham Palace, a 34-year-old-man jumped over the barriers and attempted to unfurl the Tibetan flag in front of their coach.

Extract 3

(from the *Independent*)

Leader of the unfree world is fêted by the Queen as protesters arrested

Ceremonially speaking, President Jiang Zemin, the first Chinese head of state to visit Britain, was yesterday given the full monty.

A public greeting from the Queen was followed by an inspection of the guard and a carriage trip down the Mall, with Union Jacks and red flags fluttering harmoniously in the breeze.

I believe that it is reasonable to see such language, even when extracted in this way from larger texts, as having the potential to influence whether the reader views the depicted events and those involved in them in positive or negative terms. Certainly in the informal surveys of reader reactions to these extracts which I have conducted over the past several years, there has been almost unanimous agreement that Extract 1 is highly subjective and positively disposed towards the 'guardsman', and Extract 3 is also regarded as evaluative and subjective by the large majority of those surveyed.[1]

In order to explore such evaluative functionality I will be setting out an analytical framework which (a) distinguishes between different types of attitudinal assessments and (b) takes note of the different means by which those assessments are activated in the text.[2] In terms of types of attitude, I will be operating with a taxonomy under which positive and negative assessments are divided into two broad classes – opinions (e.g. 'the president's speech was elegant') versus emotions ('the president terrifies me') – and in which these opinions are further sub-divided into the following sub-categories:

(a) assessments of the human behaviour by reference to its social acceptability/unacceptability, for example by reference to systems of ethics, legality, etiquette and other social norms;
(b) assessments of texts and artefacts (the products of human behaviour) and processes by reference to aesthetic values;

(c) assessments of naturally occurring objects and states of affairs by reference to aesthetics and other systems of social value such as those of significance and benefit/harm.

This framework also recognizes that it is necessary to distinguish between attitudinal assessments for which the author takes direct responsibility and those which are attributed to external sources.

The overall purpose of the chapter, then, is to set out a framework to compare and contrast different media texts in terms of their use of evaluative language and to develop systematic, well-founded arguments about the rhetorical ends which may be served by these evaluations as they occur.

13.2 Media Evaluations

I will begin with a preliminary, relatively informal consideration of the first of the extracts, that from the *Sun*. There are several words/phrases which carry an obviously negative or positive sense – words or phrases which we might imagine would always convey commendation or condemnation regardless of the context in which they operate. They are:

1 The President is described as 'hated' – negative.
2 The trooper's actions are described as 'com[ing] to the rescue' – positive.
3 The events which led up to the guardsman's actions are characterized as a 'riot' – a negative assessment of the actions of the protestors.
4 The whole chain of events, the situation in which the Queen found herself, is characterized as a 'crisis'. This is, perhaps, the least obviously attitudinal term. But this is only because 'crisis' does not clearly single out a human target for approval or criticism. While 'hated' targets the President, 'comes to the rescue' the guardsman and 'riot' those who were protesting, 'crisis' provides a negative characterization of the situation generally, rather than condemning or criticizing any specific human actor.

For ease of reference I will label such items, 'attitudinal terms' – specific words or fixed phrases which explicitly carry a negative or positive sense in that the positivity or negativity would still be conveyed even if the wordings were removed from their current context.

If we turn now to Extract 3 (from the *Independent*) it is possible to identify two words/phrases which function in this way. First, there is 'harmoniously' in 'red flags flutteringly harmoniously in the breeze – a positive assessment of the scene by reference to aesthetic qualities. The second candidate is the phrase 'leader of the unfree world', a depiction which obviously offers a strongly negative assessment of the Chinese President, Jiang Zemin and also possibly of China itself.

There are a couple of other items which are of interest evaluatively, for example 'feted' and 'full monty'. However, neither of these are explicitly and necessarily positive or negative. To 'fête' means 'to enthusiastically and admiringly welcome' and 'to honour'. To say that the Queen enthusiastically entertained Jiang Zemin is not necessarily to indicate either a positive or negative assessment of her behaviour. A similar analysis would apply to 'full monty'. This is not to suggest that such

wordings do not do any attitudinal work. It is just that they do not do this as explicitly 'attitudinal terms' in the sense I have defined above. We will return to examine the evaluative functionality of these items in a later section.

13.3 Emotion and Opinion

This preliminary discussion, then, points to the existence within the texts of words and phrases which explicitly and directly assert a positive or negative assessment on the part of the writer/speaker. It is useful to be able to identify different sub-types within these explicit evaluations. We notice, for example, that the assessments which are being indicated of the Chinese president and the guardsman in Extract 1 are of rather different types (and here I'm not referring to the fact that one is negative and the other positive). The evaluation of the president as 'hated' is by reference to an emotional reaction, here presumably the negative emotions of a large, but unspecified grouping of people. In contrast, terms such as 'comes to the rescue' constitute a claim that the guardsman's actions of themselves possessed a positive or negative quality (in this case positive). They are not to be so viewed because they triggered a particular emotional reaction but because they are said to inherently possess these characteristics.

The point may be easier to make by reference to the following example:

> [President Bush's] speech was <u>elegant</u> and <u>well-woven,</u> sounding a panoply of themes without seeming <u>scattered</u>. A man not known for his <u>silver tongue</u>, he delivered it with an uncharacteristic <u>grace</u>.
>
> (*New York Post*, 21 January 2001, Comment)

Here the writer might have used emotion to evaluate the president's speech. He might, for example, have indicated a positive view of the speech by reporting his own feelings – for example, 'I loved the President's speech', or 'The President's speech impressed me greatly'. Or he might have reported the emotions of some third-party (or parties), for example, 'Those people present at the rally reported being deeply moved by the President's speech'. Instead, he chose to assert that the speech inherently possessed certain positive attributes – that it was 'elegant' and 'well-woven'.

The distinction is between what, for the sake of brevity and clarity, I will term 'emotion' and 'opinion'. I will use the term 'emotion' in essentially its everyday sense to label attitudinal assessments which are indicated through descriptions of the emotional reactions or states of human subjects. I will use the term 'opinion' in a rather narrower sense than is customary in everyday usage to label positive or negative assessments of the type just discussed – assessments under which a positive or negative quality is said to be an inherent property of the phenomenon being evaluated.

It is also necessary to note that, for the purposes of text analysis, emotion-based evaluations can themselves be divided into two broad types. First, there are evaluations in which the writer/speaker describes their own emotional reactions – what I will term 'first person' emotion. For example:

> I AM *saddened*, but not surprised by the fact that Tony Martin has been refused parole. His only crime was protecting his home.
>
> (Letters pages, *Daily Express*, 20 January 2003)

Such formulations obviously ground the attitudinal assessment in the individual, personal responses of the writer/speaker and hence they make highly salient the author's subjective role in constructing the text. But they are more complex than this rhetorically. By describing their own feeling in this way, the writer/speaker invites their audience to share the emotion, or at least to sympathize with it and see it as warranted or appropriate. Second, there are evaluations where the writer/speaker reports on the emotions of others – what I will term 'third party' emotions. For example:

> Many people are upset and outraged by the fact that Tony Martin has not been given parole.

The author is not passing a judgement on his or her own behalf but is presented as simply reporting the 'facts' of other people's reactions. Whether or not the author is seen as sharing this viewpoint will depend on the co-text.

This distinction between 'fact' and 'opinion' is an important one for assessments of modes of 'subjectivity' and 'objectivity' since 'emotions' and 'opinions' are clearly of a different order in terms of subjectivity and in terms of rhetorical effects. Consider the example of the extract we have been considering. The Chinese president was characterized via third party emotion – a report of what are purportedly the negative feelings of some significant grouping, those who 'hate' him. Imagine what a different rhetorical effect might have resulted had an equivalent 'opinion' been used – for example, 'Rifles Raised by Guardsmen to Stop Riot Over Chinese <u>Tyrant</u>'. By the use of such an 'opinion', the writer would have been setting him/herself up as having the authority to pass extremely damning moral judgements on an extremely powerful world leader, a leader who was at the time on good terms with the government of the country (the UK) in which the report was written. In contrast, by the use of the term ' hated', the reporter purports to be simply reporting on the 'facts' of how people felt about the leader and thereby not to be offering their own value judgements at all.

The two types of assessment (opinion versus emotion) amount to different types of evaluative claims, to different modes of subjectivity. Under 'emotion', the assessment is linked to a human individual or grouping and hence is represented as a personal response which may vary from person to person and from situation to situation. In contrast, while 'opinions' are ultimately based in human emotions (to praise or criticize is to imply positive or negative emotions), they nevertheless provide a mode of expression by which this emotional basis can be backgrounded, obscured or even denied. They shift the focus from the human subject responding emotionally to the entity being evaluated. Such evaluations are, accordingly, less explicitly personalizing than 'emotions'. They also have the potential to indicate that the journalistic author is bidding for, or assuming, a greater communicative authority – the authority to make generalised, universal claims about positivity or negativity rather than to simply report their own or other people's feelings.

13.4 Targets of Attitudinal Assessment

In considering the difference between terms such as 'crisis' and terms such as 'hated', and 'come to the rescue' I noted that it may be important to take account

of the target of the attitudinal assessment – most notably whether that target is or is not a human actor. I suggested that 'crisis' had a rather different evaluative quality because, as an assessment, it was directed at some generalized situation, rather than at a human actor. This distinction has some obvious consequences for evaluative positioning and rhetorical effect. We can expect assessments of humans to typically put more at stake than assessments of natural objects or generalized situations. Thus in our analysis of Extract 3, the assessment of the flags waving 'harmoniously' in the breeze puts less at stake evaluatively than the depiction of the Chinese President as 'leader of the unfree world'.

13.5 Asserted versus Assumed Evaluation

There is one final aspect of these 'emotions' and 'opinions' which needs to be considered. It relates to whether the evaluation is asserted as a proposition which is at issue, or alternatively, whether it is treated as 'given' – a proposition which is assumed to be necessarily the case. To illustrate this distinction, consider the following.

> **Example 1** (asserted)
> The behaviour of the government and the police during the visit of Chinese President Jiang Zemin was nothing short of *disgraceful*. The Government's foreign policy is now shown to be *a sham*.

> **Example 2** (assumed)
> After nine years of the government's *betrayal* of the promised progressive agenda, Canadians have a gut feeling that their country is slipping away from them.

Both examples contain strongly negative assessments of 'the government' but take a different view of the contestability or arguability of that proposition. In Example 1, the negative assessment of the government is very much at issue. The text asserts it as the viewpoint it is seeking to get across – its central argument. In contrast, in Example 2, the proposition that the government has behaved badly is treated as a 'given', a point which can be taken for granted as background to the argument which is being developed. In the first instance the evaluative proposition is asserted and in the second it is assumed.

You will notice that in Example 2, the negative 'opinion' is carried by the noun 'betrayal' rather than, for example, by an adverb such as 'treacherously' or a verb such as 'to betray'. It is common feature of attitudinal nouns such as this that they enable the negative assessment to be assumed rather than asserted.

13.6 Attitudinal Triggers – Relying on the Reader/Listener

One last major issues needs to be addressed. The discussion so far has been concerned with formulations by which the writer/speaker overtly and explicitly conveys their negative or positive viewpoint. This mode of evaluation contrasts with formulations which do not operate so directly or overtly and which rely on implication and on inferences drawn by the reader/listener. Consider once again the extract

from the *Sun*. It contained the assertions that the protesters had 'charged' the Queen's carriage. This assertion is essentially a 'fact', rather than an opinion (though we might see some subjectivity at work in the word 'charged') – it contains no explicitly attitudinal terminology. Yet it has the potential to activate negative attitudes towards the protesters, at least in any readers who hold the Queen in high regard and would take a negative view of any possible threat to her safety. This results as a consequence of evaluative inferences or conclusions drawn by such readers. They see such actions as evidence of the wrongfulness of the protestors' behaviour. Crucially, this evaluation of 'wrongfulness' has not been explicitly stated by the text itself. It has been left up to the reader to do this evaluative work. And as such, it would be possible for a reader (perhaps an anti-monarchist or a supporter of the protestors) not to make the inference, not to evaluate the actions of the protestors in this way. Of course, there are plenty of indicators elsewhere in the text that this negative evaluation of the protestors is precisely what is anticipated by the journalistic author – such an assessment is in keeping with the text's earlier explicitly evaluative characterization of the protest as a 'riot' and with the text's general purpose of setting up the guardsman as a hero.

Here, then, is a formulation which uses inference to activate positive and negative attitudinal assessments, formulations which can be termed 'triggers' or 'tokens' of attitudinal assessment.

Some instances of these attitudinal triggers will include elements which, though not explicitly positive or negative, do involve some subjective intervention on the part of the speaker/writer. Consider the following by way of example:

> Even though Fred's father is very old, Fred only visits him once a year.

I read this as activating a negative view of Fred in that, according to the system of social norms which operate in my world, such a son is likely to be seen as uncaring, selfish or undutiful. But there are no words or phrases here which are of themselves positive or negative. On the face of it, this is a factual description since whether or not Fred does visit his father once a year can, in principle, be objectively verified. But of course this is not just 'factual observation'. By the use of the terms 'even though' and 'only', the writer characterizes Fred's behaviour as in some way contrary to what is expected or usual. While unexpected behaviour is often, even typically, viewed negatively, this is not necessarily the case. For example:

> Even though Fred had little time to study, he did extremely well in the exam.

This formulation, then, includes subjective elements which, though not of themselves positive or negative, push the reader towards passing judgement on Fred. In such cases the evaluative work is shared between the text and the reader. The text's subjective elements signal that some attitudinal value is at stake but it is still left up to the reader to apply some conventionalized system of norms in order to pass a specific attitudinal judgement.

There is a diverse array of linguistic elements which can have this effect of pushing or provoking the reader to pass some judgement, and research is continuing to analyse these further. Above we saw how counter-expectation operated in this way. The use of metaphorical language may have a similar effect and likewise words and

Table 13.1 Evaluative mechanisms

Most evaluative work by the text:
Text does most of the evaluative work: (least dependent on reading position)   <u>via attitudinal terms</u> – He's an <u>uncaring</u> and <u>ungrateful</u> son, he <u>selfishly</u> only visits his aged father once a year.
Text provokes, but the reader does much of the evaluative work: <u>via subjective attitudinal triggers</u> – <u>Even</u> though his father is <u>very</u> old, he <u>only</u> visits him once a year.
Reader does all the evaluative work: (most dependent on reading position)   <u>'factual' attitudinal triggers</u> – He visits his 90-year-old father once a year.
Most evaluative work by the reader

phrases which carry with them attitudinal associations but which do not of themselves assert negative or positive assessments. Consider, by way of an example, a term such as 'budge' in 'Fred won't budge on this matter'. Fred is not being directly assessed, and yet there is an entailment at work here by which Fred is likely to be seen as either 'obstinate' or as 'determined' – and hence either negatively or positively evaluated. The term 'budge' is not neutral, and yet it is not of itself explicitly positive or negative. For more on such attitudinal associations see the literature on 'semantic' or 'discourse prosodies', for example, Sinclair (1991), Louw (1993) or Stubbs (2001).

Broadly, then, we can classify attitudinal evaluations according to the amount of work being done by the text and the reader/listener respectively (I am indebted to Gruber 1993 for some key elements of this approach), (Table 13.1).

It should be noted, in conclusion to this section, that analysing how attitude is communicated through media texts can be extremely challenging. Evaluative language can be elusive, indirect and difficult to pin down. This follows from the fact that it often serves writers' own rhetorical purposes to be elusive, indirect and difficult to pin down when they are being evaluative. The difficulty in the analysis follows from the complexity of the linguistic resources being used.

13.7 Attitude and Attribution

One final issues remains to be addressed. It is common in media texts, especially in news reporting texts, for attitudinal assessments to be located in material which is attributed to outside sources. This enables the journalist author to assert that they should not be seen to be supporting or advancing those evaluations. They claim that they simply report other people's views, and leave it up to the reader to make up their own minds. In support of this, they point out that reports often include the attitudinal assessments of various, often opposed, sources.

The question of the separation of the textual voice of the author from the voices of quoted and referenced sources is a complex one. There are various mechanisms

by which the journalist author can indicate that they are more or less closely aligned with the cited source and that they hold the attributed material to be more or less reliable or plausible, and so on. The journalist can manipulate the relationship between his/her own words and those of the attributed source for particular rhetorical ends. There is not space here, however, for a full examination of this issue. For now, we can only acknowledge that this distinction is an important one for analyses of attitudinal positioning. It is necessary to clearly distinguish between attitudinal assessments which are activated by the author's own words and those which are activated by the quoted words of outside sources who have been brought in to comment as experts, eye witnesses, interested parties, victims, community leaders, and so on. In analysing evaluative positioning of texts, it is necessary to at least initially allow the journalistic voice some presumption of innocence – to allow that the journalistic voice may not be implicated in the attitudinal assessments conveyed by the attributed material.

13.8 Text Analytical Applications

Equipped with the framework, we are now in a position to return to our three text extracts and to consider them more systematically in terms of subjectivity/objectivity and their use of evaluative language. In comparing and contrasting the extracts, we will consider the following questions:

1 Is it possible to identify any instances of explicit attitudinal evaluations? If so what types of attitudes do these convey, for example, emotions versus opinions? Do these terms have human or non-human evaluative targets?
2 Are the explicit evaluations asserted as matters which are currently at issue or are they treated as 'givens' which can simply be assumed?
3 Does the text employ attitudinal triggers rather than explicitly attitudinal terms, or does it combine triggers with explicitly evaluative formulations? To what degree do these triggers include subjective elements (for example, assessments of counter expectation) or can they be seen as entirely 'factual'?

> ### Extract 1
> ### RIFLES RAISED BY GUARDSMEN TO STOP RIOT OVER HATED PRESIDENT
> Queen's China crisis as coach is charged
> Bayonet fixed and rifle raised, a soldier comes to the rescue of his Queen yesterday. The trooper went into action when human rights protesters charged at her carriage as she travelled towards Buckingham Palace with the Chinese president.

The position advanced by this extract is one by which political protests which might interrupt a royal procession are viewed as illegitimate and by which a soldier who 'fixes his bayonet' and 'raises his rifle' in a crowded public place is not foolhardy or irresponsible but rather a loyal subject who is heroic in his devotion to the British hereditary monarch.

This particular evaluative interpretation of the events of the day is conveyed by means of both explicit evaluations and less direct attitudinal triggers. The explicitly attitudinal elements include the characterization of the Chinese President as 'hated', the characterization of the protest as a 'riot' and the interpretation of the guardsman's actions as 'com[ing] to the rescue of his Queen'. These assessments are mostly directed towards human targets, although there is the one evaluation of a state-of-affairs – the characterization of the Queen's circumstances as a 'crisis'. The evaluations are also mostly cast as 'opinion' rather than 'emotion'. The one exception is the use of 'hated' to characterize the Chinese leader. However, as discussed previously, this involves an element of journalistic sleight-of-hand. By using what appears to be third party emotion, the writer is able to distance him/herself from the assessment and hence to claim to be simply reporting 'factually' what others feel about the Chinese leader. And yet, revealingly, the author does not actually identify those who feel in this way.

Perhaps most tellingly, all but one of these explicit evaluations are assumed rather than asserted. For the example, the text does not assert that the Queen is troubled or threatened by the current state of affairs. Rather, that this is the case is treated as a given by means of the phrase, 'Queen's China crisis'. That the behaviour of the protestors was illegal and a grave threat to public safety is similarly assumed rather than asserted through the use of the nominal form 'riot'. By this formulation the text passes off a highly contentious assessment by intimating that, rather than authorial opinion, this is a finding grounded in the communal, formalized rationality of the legal system. The already discussed 'hated President' operates in a similar way, with the proposition that many people 'hate' the Chinese leader taken as a given which does not require evidence or justification. There is just the one exception to this pattern. The positive assessment of the guardsman's behaviour as 'com[ing] to the rescue of his Queen' is explicitly asserted.

These explicit evaluations are then reinforced by attitudinal triggers. For example, the assertion that the protestors 'charged at [the Queen's] coach' provides evidence that the British head at stake was actually at risk and accordingly that the actions of the guardsman were, in fact, laudable.

This extract's evaluative profile, then, is one in which there is a predominance of assumed (rather than asserted) explicit attitudinal evaluations, directed primarily at human targets. There is also the one instance of an asserted evaluation. By these explicit, human-targeted evaluations, the author's subjective involvement in the text (as the source of these assessments) is clearly revealed. By any definition of the term, such a text must be seen as subjective rather than objective. I note in this regard that the respondents to the reader response survey which I mentioned above have been unanimous in seeing this extract as obviously reflecting and communicating a particular point of view.

The predominance of assumed evaluation is of some further interest. By this, the author is constructed as not so much presenting an argument or a viewpoint on their own behalf as simply reflecting generally accepted opinion. Their subjective presence may, as a consequence, be somewhat less salient. This, of course, is a rhetorical strategy which may operate to pass off a particular, ideologically interested world view as commonsensical and universally held, and hence as incontestable.

Extract 3

Leader of the unfree world is fêted by the Queen as protesters arrested

Ceremonially speaking, President Jiang Zemin, the first Chinese head of state to visit Britain, was yesterday given the full monty.

A public greeting from the Queen was followed by an inspection of the guard and a carriage trip down the Mall, with Union Jacks and red flags fluttering harmoniously in the breeze.

This extract interprets the events of the day in terms very different from those of the prior extract. It conveys an extremely negative view of the British political establishment for the welcome it has afforded the Chinese leader. However, the text is similar to the previous extract in its use of explicit evaluations – the Chinese leader is negatively characterized as 'leader of the unfree world' and the flags are positively characterized as waving 'harmoniously' in the breeze. As was the case in Extract 1, such explicitness of evaluation acts to point to the subjective presence of the author. There is once again clear grounds for classifying the extract as 'subjective'.

It is also like Extract 1 in the way in which it deals with negative assessments of the Chinese leader. Once again, an extremely damning assessment is presented as a 'given' – that Jiang Zemin is the 'leader of the unfree world' is assumed, not asserted. It would seem that there is something of a trend here which operates at least across the *Sun* and the *Independent* newspapers. Both writers assume a very widespread consensus that the Chinese government is illegitimate and its leader is a despot.

The other explicit evaluation – that the flags were waving harmoniously – may, on the face of it seem rather insignificant. This is an assessment directed at a natural state of affairs rather than human behaviour – an assessment which does not seem to be putting a great deal at stake interpersonally. Presumably no one has too much invested in whether or not the movement of the flags actually was 'harmonious'. But of course such an apparently benign observation on such an incidental detail is intentionally incongruous in this journalistic context. It is offered with ironic intent in order to set up a telling contrast between such pleasant appearances and the supposed moral failings of the Chinese leader and those who have welcomed him. Such irony is a clear departure from standard news reporting practice and acts to strongly foregrounds the subjective presence of the author – irony obviously requires an ironist.

The characterization of the Queen's action as 'fêting' Jiang Zemin is also evaluatively significant. This is an interesting case of an attitudinal trigger involving a number of evaluative mechanisms. First, there is the 'factual' proposition that the Queen has met with and extended the usual diplomatic courtesies to a figure who is characterized as a tyrant. This will trigger a negative assessment of the Queen and the political establishment she represents, at least to the degree that the reader holds the view that it is necessarily wrong for the nation's head of state to have any dealings with 'tyrants'. But of course the term used is not 'met with' or 'hosted' but 'fêted' and accordingly there is an additional evaluative layer. To 'fête' is to welcome enthusiastically, to entertain admiringly and to honour. Accordingly, by this lexical choice, certain emotions are attributed to the Queen – namely, those of being enthusiastic and admiring in the greeting she afforded the Chinese leader,

of being positively disposed towards him. As briefly mentioned previously, the attribution by the author of emotions to others can serve a range of evaluative objectives. Such depictions can operate to engender empathy and support for the person whose emotion's are being reported. For example:

> Widow Tells of Dr Kelly's *Anguish* Before His Death
> 'He Had *A Broken Heart*'
>
> THE widow of arms expert David Kelly yesterday told of his last *anguished* days – and how he killed himself believing he had been betrayed by the MoD. Janice Kelly, 58, said her husband *sank into deep despair* after being named as the source of the BBC's claims that the government 'sexed up' its dossier on Iraq's weapons of mass destruction.
>
> (the *Sun*, 2 September 2003)

But equally they can be used to trigger a negative view when the emotion is seen as excessive, dysfunctional, a sign of weakness or in some other way socially inappropriate or disfavoured. For example:

> Question: My husband is *angry* all the time and every time he yells at me and our children, I feel the wedge driving in further. I love him, but sometimes I feel like I don't care about my marriage anymore. What should I do?
>
> (From Ivillage web site – Redbook Experts – Relationship Doctor:
> By Jane Greer, PhD
> http://magazines.ivillage.com/redbook/experts/relat/qas/0',166964_288254, 00.html)

What this means is that one type of attitude (an emotion attributed by the author to some third party) acts to trigger another type of attitudinal assessment (an ethical judgement by the reader of that third party on the basis of the social unacceptability of that emotion.) Here 'fêted' acts in this way – an attributed value of emotion (the Queen being positively disposed towards the 'leader of the unfree world) acting to trigger an ethical assessment. The phrase 'given the full monty' operates in a somewhat similar way, with the text once again implying an inappropriate enthusiasm for the Chinese leader's visit on the part of the authorities. '[F]ull monty' is also significant by dint of its colloquial, slang quality. By such a lexical choice, the writer very obviously shifts out of the register usual for broadsheet hard news journalism in order to draw attention to the incongruity between the nature of the welcome afforded Jiang Zemin and his assumed moral unworthiness.

Interestingly, then, the extract does stop short of offering fully fledged, overt criticisms of the Queen or the government. Rather than declaring outright that the government's behaviour is disgraceful or immoral, it relies on this somewhat more indirect technique of attributing to the Queen socially inappropriate emotions.

The evaluative profile of this extract, then, is revealed as extremely subjective in the sense that in just a few sentences there are a number of clear pointers to the

author's subjective presence. In fact, the use of irony is much more typical of journalistic commentary than of news reporting.

Extract 2

Anti-China protests brushed aside

The first Chinese state visit in British history began yesterday with a lone, Tiananmen Square-style attempt to disrupt the royal procession in the Mall and muted protests elsewhere.

 As the Queen and President Jiang Zemin travelled to Buckingham Palace, a 34-year-old-man jumped over the barriers and attempted to unfurl the Tibetan flag in front of their coach.

This extract stands apart from the other two texts in that it has no explicit evaluations, only attitudinal triggers. I will consider how these operate in some detail.

Anti-China protests brushed aside

Extract 2 begins by characterizing the protest as having been 'brushed aside'. The term 'to brush aside' is not of itself indicative either of authorial approval or disapproval, while the proposition as a whole (that an anti-Chinese protest has been 'brushed aside' by the British authorities) clearly does have some potential to invoke an attitudinal assessment on the part of the reader. The Bank of English corpus reveals that 'brush aside' is quite frequently used in contexts where some action is being negatively construed and where there is the implication that the action is overly dismissive, negligent or authoritarian. For example:

However, in the long run, the child whose needs are met makes fewer demands than the child whose needs are suppressed or punished. Parents, even well-meaning, loving parents, often ignore or *brush aside* their child's needs because the parents are busy.

(Bank of English – brbooks/UK corpus)

This is certainly the sense I draw from 'brushed aside' in this headline. I infer from this that the authorities responsible for the 'brushing aside' have been heavy-handed and have shown scant regard for the protestor's right to free speech.

 Of course, I must acknowledge the influence of my own particular reading position – one which is generally supportive of anti-government protests and one which is specifically supportive of protests against the Chinese government's actions in Tibet. In fact, an opposite reading of this formulation may be available to those working from a different reading position. The Bank of English provides numerous instances where 'brushing aside' operates with positive associations, with the 'brusher aside' presented as potent or resilient and the 'brushed aside' as weak or ineffective and/or in some other way unworthy. For example:

The only reason she hadn't connected them before was that Richard and Jeremy were poles apart as people. Compared to his son, Jeremy was nothing, just a small-time ex-pat, easy to *brush aside* and forget about completely.

> Earlier, Todd must have been alarmed at the way his defence parted, allowing Fabian Defreitas to *brush aside* a half-hearted challenge from Robbie Elliott and put West Brom ahead.

Accordingly, it may be possible, given a particular reading position, to read this opening headline as indicating a negative view of the protestors as weak, ineffective or poorly organized and perhaps even of the authorities as powerful and in control. Interestingly, this is in fact the view taken by a minority of respondents to the reader response survey mentioned previously. The fact that the evaluative meaning which readers take from this formulation can so drastically vary in this way is further evidence that this formulation indirectly activates rather than explicitly states an attitudinal position.

> a lone, Tiananmen Square-style attempt

The extract characterizes the protestor's actions as 'a lone Tiananmen Square-style attempt'. There are two aspects of this formulation which require our attention – the use of the term 'lone' and the claimed similarity between this protest and the anti-government protests which took place in China in 1989.

The Tiananmen Square protests were one of the major news events of 1989. The event was widely covered in the Western media, typically being construed in extremely positive terms as a bid for freedom by pro-democracy dissidents courageously challenging the oppressive power of a dictatorial regime. One image in particular from that coverage was published very widely and achieved an almost iconic status – that of a single, isolated male protestor standing in front of a line of tanks. As a consequence of these associations, the term 'Tiananmen Square-style' has the potential to position the reader to view the protestor positively and also, though perhaps less directly, to view negatively those forces the protestor is confronting. Thus the evaluative ambiguity or under-specification of 'anti-Chinese protest brushed aside' will be resolved, at least for those readers for whom 'Tiananmen Square-style' carries these evaluative associations. The text's stance is revealed as one which is supportive of the protestor and, perhaps, critical of the procession and its organizers.

This is not to suggest, of course, that 'Tiananmen Square-style' acts to explicitly state a specific attitudinal value. The associations just mentioned are not sufficiently particularized nor sufficiently fixed for us to say that they have become a necessary component of the term's meaning. To describe a protest as 'Tiananmen Square-style' is not the same rhetorically as explicitly declaring it to be 'heroic' or 'indomitable' or 'freedom loving'. It is still available to the reader to interpret the term in essentially experiential terms as simply indicating that here, as before in Tiananmen Square, there is a single protestor, opposed to the Chinese government, setting himself in the way of a procession of the powerful. It is still up to the reader to draw or not to draw evaluative inferences from the term.

There is also the additional evaluative work being done by the term 'lone'. This is a term which, on the face of it, simply conveys some factual information – the protestor acted alone, not as part of a group. However, once again, there is a clear

potential for the term to invoke attitudinal meanings. A search of The Bank of English provides 114 instances in which 'lone' collocates with 'voice' ('lone voice'), with the human individual thereby designated typically being praised for taking a courageous stand against some powerful, often corrupt adversary or institution. For example (from the Bank of English):

> He works for Coni and for much of the last 18 years his has been a **lone voice** of opposition against blood-doping ...

> The claim came as one Russian newspaper published photographs on its front page showing shrouded bodies. Novaya Gazeta, a **lone voice** against the war since the outset, said such photos could only be taken covertly because the Russian military would suppress them.

> The fact that Prince Charles is seen increasingly as a **lone voice** of opposition and independent thought reflects the absence of any political opposition that commands respect.

From this perspective, 'lone' can be seen as strengthening the potential of 'Tiananmen Square-style' to invoke positive assessments of the protestor.

We do, however, also need to acknowledge that positivity is not a necessary aspect of the semantics of 'lone'. The Bank of English provides numerous instances in which it is used with negative associations. For example:

> A **lone** gunman held up post master Malcolm Desoer with a pistol at Burton in Lonsdale, near Skipton, North Yorks, three months ago.
>
> *(Sunnow sub-corpus)*

> But two days ago Metropolitan Police Commissioner Sir Paul Condon contradicted his own detectives when he said he believed a stalker DID kill Jill. He said he thought the culprit was probably a **lone** obsessive.
>
> *(Sunnow sub-corpus)*

Accordingly, 'lone' is revealed to be operating to trigger a positive view of the protestor, rather than explicitly stating it.

> attempt to disrupt the royal procession

The protestor is characterized as attempting to 'disrupt' the royal procession. It is true that the term 'to disrupt' is frequently associated with a negative viewpoint – 'to disrupt' is generally seen as a 'bad thing', hence the explicitly negative term 'disruptive'. However, this need not necessarily be the case. Negativity does not apply where the disruption is seen as in some way merited or when the entity being disrupted is itself negatively evaluated. For example (once again from the Bank of English):

> As MPs return to Westminster, David Blunkett, the Home Secretary, and Gordon Brown, the Chancellor, will outline how the Government plans to change the law to 'deter and **disrupt**' the work of terrorists in Britain.

> Many demonstrators said that they would use force to **disrupt** any foreign
> military operation at the nearby Samungli air base, which could be used as a
> logistical base during a campaign.

> Several scouts may have been disappointed to learn that Jermaine Jenas,
> their promising young midfield player, was out injured, but there was
> sufficient resilience and ability in their ranks to **disrupt** a sluggish Bolton,
> who rested most of the squad that has guided them to fifth place in the FA
> Barclaycard Premiership.

The term 'to disrupt' can be associated with negative or positive viewpoints depend-
ing on reading position and/or upon indicators in the text as to whether the disrup-
tion is positively or negatively regarded. In our current extract, there is a potential
indicator of a positive viewpoint – the prior characterization of the protest as a
'lone Tiananmen Square-style attempt'. To the degree that this depiction estab-
lishes for the reader the protestor's bona fides, it also sets the terms by which the
attempt to disrupt the procession will be seen as legitimate.

The evaluative mechanisms at work here, then, are significantly different in
their rhetorical effects from those found in the previous two extracts. I note that a
large majority of the respondents to the reader survey mentioned above view this
extract as significantly less subjective and more 'factual' than Extracts 1 and 3. It
seems plausible that the basis for this view is the text's use of attitudinal triggers in
place of explicit evaluations. Even though the respondents felt that they were
being positioned attitudinally by the text, they were not easily able to single out
specifically 'subjective' words or phrases nor to identify any opinions on the part
of the author.

Attitudinal tokens have the effect of making the author's subjective presence less
salient or less immediately discernible since the evaluative work is being effected,
not by easily identified attitudinal elements, but by what may pass as 'factual' con-
tent. The author's subjective presence will only be noticed according to the degree
to which the reader views as value-laden and contingent the selection process by
which certain informational content, rather than other informational content, is
chosen for coverage, or according to the degree to which some subjective aspect is
detected in the otherwise informational content, for example, the subjectivity of
likening the current protest in London to the previous protest in Beijing. Texts
which employ implicit rather than explicit evaluation in this way operate by
manipulating and framing informational content in such a way that the reader is
co-opted to do the evaluative work. The events therein depicted are made 'to
speak for themselves' attitudinally as the reader is positioned to interpret them by
reference to what may seem universal, or at least broadly-based, systems of value.
As Macken-Horarik observes: 'within texts, it's implicitly evaluative meanings
that are most coercive of the reader simply because they appear to pass beneath
the threshold of conscious awareness' (2003: 314).

In this instance, the attitudinal triggers operate to make seem natural and
commonsensical a world-view in which governments and political systems such as
those of China are delegitimized and by which certain acts of protest – those
against such governments – are assumed to be politically legitimate and morally

worthy. Accordingly, any action by the local authorities to limit such a protest will also be construed as unworthy. This needs to be understood against the background of how such newspapers evaluate other protests. Anti-globalization protests, for example, are treated very differently in the *Daily Telegraph*. Significantly, this positive perspective is being conveyed without being overtly articulated. A particular set of assessments with respect to legitimacy and illegitimacy is being conveyed by what can be presented as a 'factual' record of events. Consequently these are attitudinal meanings which evade scrutiny – they cannot be so easily challenged as 'just someone's opinion'.

13.9 Conclusion

I began this chapter by mentioning the widespread belief that media news reports are, or at least should be, 'objective'. The framework I have outlined here provides the means by which such notions can be explored through theoretically principled textual analyses. The theory which informs the framework leads to the conclusion that simple distinctions between 'fact' and 'opinion' or even between 'subjectivity' and 'objectivity' may not be particularly useful. It directs the analyst to see attitudinal positioning as a phenomenon which can operate just as easily in apparently 'factual' as in overtly opinionated journalism, though by different mechanisms and with different rhetorical effects. The analyst's focus then becomes one, not of separating the 'objective' from the 'subjective', but of identifying and understanding the different strategies or regimes of evaluation which can be observed operating across different styles of journalistic language. Specifically, the analyst is directed to consider such questions as whether the evaluation is explicitly asserted or implied, whether it makes salient the author's subjective presence or obscures it, whether it is construed as arguable or a 'given' and whether it is represented as grounded in human emotion or is institutionalized as a matter of 'ethics' or 'taste'. The framework, of course, is not limited in its application to media texts. It is relevant to any textual studies which have an interest in evaluation and the rhetorical functionality of language.

Notes

1 The survey group is made up of students who participated in my media language courses. The survey is conducted in the first seminar session of the course and therefore before there is any possibility that the student participants might be influenced by any of the course materials. The students are given the three extracts and asked to rank them in terms of 'factuality' and 'objectivity/subjectivity'.

2 In this approach to evaluative language I rely on work within what is known as the Appraisal framework. This approach has been developed by a group of researchers working within the systemic functional linguistic paradigm of Michael Halliday and his colleagues (see, for example, Halliday, 1994; Martin, 1992; or Matthiessen, 1995). This grouping has been seeking to extend the systemic functional account of interpersonal meanings (see, for example, Iedema *et al.*, 1994; Christie and Martin, 1997; Martin, 2000; White, 2002b, 2003; Macken-Horarik and Martin, 2003).

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Marx (1852) and Giddens (1984: 363) make points about representation:

> Human beings make their own history. (Marx)
> Human beings make their own geography. (Giddens)

14.1 Organization of the Chapter

The main data analysed in this chapter are two school books of 80,000 and 30,000 words. Comparative data are drawn mainly from a corpus of written English of one million words. For a few lexical items, comparative data are drawn from a much larger corpus of 120 million words.

Two main syntactic and semantic features are analysed, which concern, respectively, whether events and knowledge are attributed to agents:

- the expression of causativity in ergative constructions;
- the expression of modality in projective *that*-clauses.

The main finding is that there are large (statistically significant) differences in the distribution of these syntactic patterns in the two books.

The analysis has three main aims. First, I discuss these differences as evidence of the different ideological stances expressed in the books. Second, I show some problems in the analysis: the use of corpus data for the stylistic analysis of long texts requires more detailed semantic analyses of verb classes than are currently available. The necessary baseline data on the use of such verbs can, in turn, come only from corpora. Third, I provide a criticism of work in critical discourse analysis, and argue that work which studies the relationship between grammar, text and ideology can be given a firmer descriptive and methodological basis with the help of computational methods.

14.2 Introductory Discussion

A basic principle of much of the discussion in this book is that the same events can always be talked about in different ways. Consider the following two

paragraphs from a section on Scotland in a school geography textbook:

> The area covered by the HIDB [Highlands and Islands Development Board] lost population every decade between 1851 and 1961. Young people moved away to seek work in the industrial areas of lowland Scotland and England. Many emigrated to North America, Australia and New Zealand. There were few incentives to stay in the scattered farming and fishing communities.
>
> Since 1966, the population has increased slowly, helped by many types of development in the area. Big projects such as oil, aluminium and paper offered large numbers of jobs, although many were lost when the industries cut back or closed.

In this short fragment, different grammatical choices are made in talking about the same events. In some cases, the people involved are represented grammatically as being agents:

> young people moved away
> many emigrated

In other cases, there is no explicit mention of the people involved, as though things were natural events perhaps:

> the area ... lost population
> the population has increased slowly
> many [jobs] were lost
> the industries ... closed

All language in use shows variation, and it may simply be that the authors were trying (consciously or not) to vary their grammatical choices for stylistic reasons. However, if these choices tend in a particular direction, then these tendencies may nevertheless convey meanings to readers.

14.3 The Importance of Comparative Data

It would be quite wrong, however, to imply that such phrases in themselves mean that the book is somehow biased. Comments on individual words and phrases should always be made against the background of comparative data from a corpus. In order correctly to interpret such uses in a particular text, we require findings on how such words are used in the language in general. I studied the typical collocates of LOSE across a corpus of 120 million words. The lemma is predominantly used in abstract and metaphorical meanings (this is a common finding for frequent words in the language). The most frequent collocates of LOSE are abstract nouns, including

> battle, confidence, control, election, interest, job(s), lives, sight (*as in* lose sight of), temper, touch, weight

Even other frequent, and more concrete, uses, such as *lose hair* and *lose money*, do not show a fully literal meaning of the word as in 'to lose and not be able to find again'.

Even if such abstract and metaphorical uses are very common in the language as a whole, this is no reason for authors to take them over uncritically. Analysis shows how such phrases can code reality repeatedly in familiar and reassuring ways, which come to seem natural or inevitable. The metaphors may be dead, in the sense that their implications are no longer conscious. But therein may lie their power to construct objects of thought.

In the 120 million-word corpus (of which a large proportion consisted of texts from British newspapers), the word form *losses* occurred 8795 times: 10 per cent of these occurrences were in the collocation *job losses*. Looked at from the other end, JOBS are *created*, but they are also

> axed, cut, eliminated, lost, shed

Similarly, EMPLOYEE collocates with:

> compensate, dismissals, layoff, relocate, retrain, sacking, severance

When an area is overlexicalized in such a way, it is often a sign of a socially taboo or delicate area (Halliday, 1978: 164–82).

In the remainder of this chapter, I discuss how the use of grammatical constructions can be systematically compared across long texts and corpora.

14.4 Criticisms of Discourse Analysis

Since the mid-1970s, text and discourse analysis have been major areas in linguistics with proliferating conferences, articles and books. Such work has also developed into substantial sub-areas, notably critical discourse analysis, which argues that all linguistic usage encodes ideological positions, and studies how language mediates and represents the world from different points of view. Fowler (1991a: 89), one of the originators of critical linguistics, provides this definition:

> Critical linguistics proposes that analysis using appropriate linguistic tools, and referring to relevant historical and social contexts, can bring ideology, normally hidden through the habitualization of discourse, to the surface for inspection.

My main concern in this book is with the 'appropriate linguistic tools'.

There are several books whose titles relate 'Language' and 'Discourse' to terms such as 'Ideology', 'Social Reality', 'Perspective' and 'Point of View' (e.g. Fowler, 1991b; Hodge and Kress, 1993; Lee, 1992; Martin, 1985; Simpson, 1993). Yet, although critical discourse analysis is now embodied in textbooks and undergraduate courses, there are major unresolved criticisms of its data, methods, and theory.

One criticism questions the uncertain relation between discourse and grammar. In a thorough and severe review of discourse analysis in general, Frawley (1987: 361) has pointed out that 'the field has a negative identity'. By this he means that work frequently attacks formal linguistics, but thus derives its strength only

negatively, from its criticisms of formal grammar. It 'blow[s] loud calls on the neo-empiricist, contextualist trumpet' (p. 361), but is often mere fact-gathering with no clear methods and theories. Frawley praises Halliday's work as the best in the selection he reviews, and Halliday (1985: 345) has argued that 'the study of discourse … cannot properly be separated from the study of grammar that lies behind it'.

A second criticism questions the inadequate linguistic basis for many cultural and ideological interpretations of texts. For example, Bell (1991: 215) has criticized the 'lack of sound basic linguistic analysis' in much work on media language (a central topic in critical linguistics). He argues that 'most studies [have] leapt past the groundwork to premature conclusions about the significance of poorly described linguistic patterns.'

A third criticism is very simple indeed: not much data is analysed. For example, Phillips (1989: 8) points to a limitation not only of sentence linguistics but also, ironically, of much text analysis, namely that it rarely analyses whole texts: 'Linguistics has traditionally been restricted to the investigation of the extent of language which can comfortably be accommodated on the average blackboard.'

So, in this chapter I discuss the descriptive and methodological bases of the linguistics of representation, as Fowler (1991b: 8) calls it. I will develop these criticisms of discourse analysis, by arguing the inseparability of grammar and discourse, and by providing a comparative analysis of grammatical patterns across two whole books and a small corpus.

14.5 Texts and Text Fragments

The main focus in this chapter is on methods of analysing long texts. At many recent conferences on applied linguistics and sociolinguistics, analyses of spoken and written texts have been increasingly common, but such analyses are often based on short texts or text fragments. For example extracts from school textbooks, student writing, speeches by a government minister, simulated business conversations, and magazine advertisements. Features of lexis, syntax, and discourse have been analysed from various points of view; for example, as expressing a particular ideological stance (in a school textbook), as communication failure (in multicultural business meetings), or as semantic engineering (in political speeches).

Such analyses can provide insightful and plausible observations on textual organization. They almost always point out textual features which I, for one, would otherwise not have noticed. But the restriction to data fragments poses problems of evidence and generalization. And criteria for evaluating analyses often receive little explicit discussion; for example, how analyses of different texts can be replicated and compared, and how this can lead to cumulative progress in the field.

14.6 Data and Hypotheses

The data for this chapter are two books and a small corpus.

- Text G (Geography) is a secondary school book, of about 80,000 words, on the physical and human geography of Britain. It is not presented as having any ideological axes to grind, but simply as factual: more on this below.

- Text E (Environmentalist) is a secondary school book, of about 30,000 words, on the damage being caused to the environment by industrial processes. It is written with explicitly persuasive purposes.
- As comparative data, I will use the LOB corpus: one million words of written (published) British English, divided into 500 samples from a range of genres, including newspaper articles and editorials, fiction and non-fiction, academic and non-academic.

Much recent text analysis, especially within critical linguistics, starts from the Hallidayan assumption that all linguistic usage encodes representations of the world. It is always possible to talk about the same thing in different ways, and the systematic usage of different patterns encodes different points of view. I start from this assumption, and will test whether the difference of ideological stance in the two books is expressed in their different use of the grammatical resources of English. More specifically, my hypotheses are that the environmentalist text – because of its explicit orientation to the responsibility for environmental problems and solutions – attributes both events and knowledge more frequently and more explicitly to their agents. These hypotheses, formulated more precisely below, will be strongly corroborated, though I will also draw attention to problems in such interpretations.

Unless otherwise stated, all linguistic examples cited are attested in the data, and are cited in an unmodified form. Upper case indicates lemmas: for example, the lemma CHANGE is realized by the word forms *change, changes, changed, changing*.

14.7 Computer-Assisted Comparative Analysis

A major criterion for text analysis is that individual texts or text fragments must be analysed in ways which allow comparisons to be made to other texts and text corpora. The reason is stated clearly by Sinclair (1965: 76–7):

> Any stretch of language has meaning only as a sample of an enormously large body of text; it represents the results of a complicated selection process, and each selection has meaning by virtue of all the other selections which might have been made, but have been rejected.

This quote raises major issues of scale, comparison and interpretation. And the principle of comparative analysis has implications for methodology. Some patterns of language use are not directly observable, because they are realized across thousands or millions of words of running text, and because they are not categorical but probabilistic. Such patterns may be discernible, in a rough way, via intuition. But in order to describe such distributions systematically, significant amounts of text must be stored in a computer and searched, and quantitative methods must be used to describe the patterns.

Such methods bring immediate advantages. Subjective decisions are always involved in the choice of texts and of linguistic features for analysis. But computer assistance means that exhaustive and objective searches may be possible for all examples of a feature.

14.8 Example 1: Ergative Verbs – the Syntax of Key Words

Every clause encodes a representation of the world. A language makes available various resources, but different selections are made from this potential in different texts.

Transitivity has frequently been studied within critical linguistics (e.g. Fowler, 1991b: 70ff; Lee, 1992: 59ff; Simpson, 1993: 86ff), since it places agents, actions, processes, and patients in various relations to each other. Transitivity is often discussed with reference to passives, and to the possibility of expressing or ignoring agency. But the passive is only one way of avoiding mention of agency in English, and omission of agent is only one reason for using passives or intransitives. Other ways of constructing agentless clauses include non-specific subjects and impersonal constructions (e.g. *somebody* ...; *there was* ...), and ergatives, which are discussed in detail here.

My first analysis of the two school books concerns lexical and syntactic patterns which express change, causation and agency, since these are inevitable topics for books on physical and human geography and on the environment. Consider these examples [all A][1] with the lemmas CONCENTRATE and EXPAND. In their subject, verb and object, clauses which are active and transitive encode a chain of agent, action and goal:

> management *have concentrated* investment in a few yards
> the company *expanded* their labour force

Passive structures allow the agent to be omitted:

> services *will be concentrated* at category B airports
> the refinery *was expanded* in 1981

And when combined with inanimate subjects, intransitive structures do not allow the agent to be expressed, since there is no available syntactic slot:

> works *have concentrated* at these sites
> Britain's cities *have expanded* outwards

14.8.1 Definitions and terminology

Following Halliday (1985: 145) and Sinclair (1990: 155), I will refer to such verbs as ergatives. Ergativity is an important area of English syntax, though it is not identified as such in major grammars of English (e.g. Quirk *et al.*, 1985). When it is discussed, this is usually (e.g. Lyons, 1968: 305ff.) in relation to other constructions (including passives) which express causation, agency and animacy. Ergatives are verbs

- which can be transitive or intransitive; and
- which allow the same nominal group as object in transitive clauses and as subject in intransitive clauses.

(Other verbs, such as EAT – *Gill is eating, Gill is eating oranges* [I][2] – can be both transitive and intransitive, without being ergative.)

This is the definition of ergativity used by Sinclair (1987: 1620-1; 1990: 155ff.). Or as Sinclair (1990: 155) puts it, such verbs 'can describe an action from the point of view of the performer of the action or from the point of view of something which is affected by the action'. For example, in the following [all A] clauses from text G:

> several firms *have closed their factories* [transitive]
> factories *have been closed* [passive]
> factories *have closed* [intransitive]

factories is both object and subject: but in all three cases the closing happens to the factories. Other structures can also be used with the same lemmas; for example [also A]:

> ... caused *the closure* of many factories [nominal]

The essential point is that ergative verbs have agentive and non-agentive uses. Halliday (1985: 144ff.) points out that after a passive, but not after an intransitive, it is possible to ask: who by, or what by? Thus even agentless passives have an underlying agent; intransitives do not. Halliday analyses ergativity semantically as a pattern of transitivity which is based on one variable of causation: whether the process is represented as being caused from without, or from within, as self-caused. He claims that this pattern has come to prominence as part of a far-reaching process in modern English, which has left the transitivity system in a particularly unstable state, and that the majority of verbs in common use in English are ergative.

This area of English grammar is terminologically confused: see the appendix to this chapter. However, Lyons (1968: 350ff.), Halliday (1985) and Sinclair (1990) all use the term ergative for such verbs in English, and I will continue this practice here, since it labels an interesting verb class for which no other term is conveniently available.

So, ergativity is an essential structure in the assignment of semantic roles. Such facts are often discussed in critical linguistics, but usually on the basis of short illustrative fragments, not with reference to the distribution of patterns across long texts.

14.8.2 Data analysis

Sinclair (1990: 155ff.) points out that many verbs of change are ergative: for example, CHANGE, CLOSE, DEVELOP, FORM, IMPROVE, INCREASE. In text G, CLOSE occurs 80 times, all in collocations with *factories, plants, works, firms, mines mills, docks, schools, railway lines*, etc. Occurrences are: transitives (6), passives (9, all agentless), intransitives (41) and nominals (24, all agentless). In the few transitives, the agent is never an individual, always an organization (*ICI, BSC,* etc.) or a more abstract metaphor; for example (with reference to a British Minister of Transport who ordered the closure of railway lines)

> the 'Beeching axe' *closed* hundreds of lines

There is a similar pattern with DEVELOP (276): transitives (19), passives (11, all agentless), intransitives (51) and nominals (189), respectively:

> Birmingham *developed* a jewellery quarter
> Aviemore *has been developed* as an all-year centre
> air links *have developed* between the mainland and islands
> the stages of *development* for western economies

14.8.3 Comparison of texts G and E

In order to compare texts G and E, all the ergative verbs (about 430 lemmas) were extracted from the COBUILD dictionary (Sinclair, 1987), the only English dictionary to code such verbs explicitly. Using concordance software, I then extracted all occurrences of all forms of these lemmas from the two school books, and studied their occurrence in concordance lines of 132 characters. This provides a span of about ten words to left and right, which is usually sufficient to identify the syntax co-selected with the verb. See sample lines in concordance, Box 14.1.

I studied just three patterns:

[Tr] transitive (VERB + NP)
[Pa] passive (mainly BE + VERB-*ed*)
[In] intransitive (VERB)

Here are further examples for three lemmas from text G:

> ICI *closed* its Carrickfergus plant [Tr]
> industrial premises and shops *were being closed* [Pa]
> most of the quarries *have* now *closed* [In]
> British Shipbuilders ... *have concentrated* investment [Tr]
> services *will be concentrated* at category B airports [Pa]
> works *have concentrated* at these sites [In]
> Brazil *has expanded* its steel production [Tr]
> the refinery *was expanded* in 1981 by the construction [Pa]
> Britain's cities *have expanded* outwards [In]

Table 14.1 gives the summed figures for all forms of all ergative verbs in texts G and E.

Table 14.1 Two school books, all ergative verbs, all forms

	Transitive	Passive	Intransitive	n
Text G	179 (23%)	204 (26%)	403 (51%)	786
Text E	147 (52%)	30 (11%)	107 (38%)	284

Note: χ^2 = 88.22; d.f. = 2; $p < 0.001$.

14.8.4 Interpretation

Relative to text length, texts G and E have almost exactly the same number of ergative verbs: slightly fewer than one per 100 words of running text. However, the distribution of transitive, passive and intransitive choices is significantly different ($p < 0.001$). Text E has many more transitive forms, with correspondingly fewer passives and intransitives. Consistent with explicit orientation to the responsibility for environmental damage, text E expresses causation and agency more frequently through more frequent transitives. The relative percentages of transitives and intransitives are reversed in the two books, and this reversal is in the intuitively expected direction. The hypothesis that explicit causation would be more frequently expressed in text E is strongly corroborated.

More accurately, it is the combination of intransitivity and inanimate subjects which leaves agency unexpressed. For all sentences in text G, only 2.5 per cent have named and identifiable persons in subject nominal position. Other subjects are: organizations (12.2 per cent) and unidentifiable groups of people (29.5 per cent). The largest set is non-human: 55.8 per cent. Stubbs and Gerbig (1993) give details.

14.8.5 Comparison of texts G and E and LOB

However, without comparative corpus data, we are limited in how we can interpret such figures. We do not know whether such distributions are within a typical range for English: does text G have relatively few transitive uses, or is it text E that has relatively many? Furthermore, although the two books are on comparable topics, their content differs, and they use different vocabulary, including overlapping, but different, sets of ergative verbs.

To ensure that I was comparing like with like, I therefore selected the five ergative verbs which are most common in both texts and which also occur in all three forms (transitive, passive and intransitive) in one or both texts. These lemmas are CHANGE, DEVELOP, FORM, IMPROVE, INCREASE. Table 14.2 gives the summed figures for the three verbal structures across these five lemmas.

14.8.6 Interpretation

The frequency of these five lemmas together relative to 1000 words of running text is: text G, 4; text E, 3.2; LOB, 0.8. This is straightforward enough: as one

Table 14.2 Two books and LOB, five ergative verbs, all forms

	Transitive	Passive	Intransitive	n
Text G	97 (31%)	54 (17%)	161 (52%)	312
Text E	53 (55%)	12 (13%)	31 (32%)	96
LOB	395 (49%)	156 (20%)	249 (31%)	800

Notes: χ^2 G by E = 18.48; d.f. = 2; $p < 0.001$.
χ^2 G by LOB = 43.06; d.f. = 2; $p < 0.001$.
χ^2 E by LOB = 2.86; d.f. = 2; not significant at 0.2 level.

Box 14.1 Verb and noun CLOSE in one school book, sample only

ing. In the mid-1970s, the rich Icelandic fishing grounds were closed to all except Icelandic vessels. The so-called 'cod war' showed Thames Valley, they can be dredged. Quarries and gravel pits close down when their profitable deposits have been exhausted. Do the than Britain's ageing expensive shaft mines. 4 Many coalmines closed because the most easily and cheaply mined coal was exhausted. ed coal-cutting caused unemployment. Many small pits had to be closed because the large machines were unable to operate in them. Co processing coal to produce synthetic oil and natural gas. The closure of old mines will continue, until by the year 2000 a small nu elby will be from older Yorkshire collieries which are soon to close. Selby should achieve a productivity of 13 tonnes per manshift had to be modified. Many older coalfield-based ironworks were closed because they were unsuitable. Stage D: The move to the coal teelworks in home-produced. The old coalfield-based steelworks closed as large coastal works opened. The economics behind this are s over 6000 kilometres by sea. Stage E: Rationalisation : The closure of the coalfield-based steelworks has meant the disappearance nable to sell the steel they produced,the corporation rapidly closed its old paints, causing severe unemployment. Even the sites ch ace was opened at Redcar and the three Cleveland furnaces were closed. The Redcar site was chosen because it was close to a new deep ops, cafes and pubs. There were few other industries. When BSC closed the iron and steelmaking part of the plant in 1980, 6000 men l tube-steel plant remains open, employing 5000. Following the closure, Corby was declared a development area and an enterprise zone BSC (Industry), to help create jobs in areas affected by steel closures. Corby is seriously affected by closure of the steelworks as affected by steel closures. Corby is seriously affected by closure of the steelworks. The unemployment rate is over 20 per cent. e is no hospital or railway station. The technical college has closed and shops are closing. Hundreds of council houses stand empty. ailway station. The technical college has closed and shops are closing. Hundreds of council houses stand empty. Some new firms have ynes, but its situation is more encouraging than that of steel- closure areas such as Consett in north-east England and Ebbw Vale in te for a steel-works in the 1930s? 4 Why was Corby steelworks closed? 5 The table below shows the population of Corby between 1931 e British steel industry between 1840 and 1980? 3 Why did the closure of the steelworks have such a dramatic effect upon the commun ing prices and the economic recession. Six oil refineries have closed. QUESTIONS A1 What processes take place at an oil refinery en. The resulting overcapacity has caused job losses and plant closures. QUESTIONS A1 How important is the chemical industry for easy to compete with foreign imports. The Invergordon smelter closed in 1981, a victim of the economic recession. The smelter's own ropped, workforces were reduced and three assembly plants were closed (Linwood in Scotland, Speke on Merseyside and Abingdon in Oxfo as 7000 separate firms contributing to the Metro. If BL was to close, the British industrial economy might face disaster. British L es disappeared as companies merged. Rationalisation caused the closure of many factories. Today, one company dominates the industry: ately available in many declining manufacturing areas. Factory closures can leave whole communities without work (Fig D). Certain gr n West Yorkshire, population began to fall after textile mills closed. The town council made efforts to stop the town dying. Its pol

ow and inefficient methods. In 1963, Dr Beeching proposed the closure of unprofitable lines and the improvement of money-making routes. The 'Beeching axe' closed hundreds of lines and thousands of stations. The closures have not been spread evenly throughout the country. More of them as shown by the statistics below: 2 Suggest some uses for closed railway lines. 3 (a) Describe the Tyneside Metro system. (b) large ships has meant that fewer are needed. Ports have had to close their older, smaller docks and reduce the size of their workforme of the larger east coast ports have declined because of the closure of old and inadequate dock systems. 3 A select group of seapwas completed when the City Docks in the heart of Bristol were closed to commercial traffic in 1980. Today, only pleasure craft use ands of England. When industrial premises and shops were being closed elsewhere, and city populations were falling, Milton Keynes was grew fast with early industrialisation, Now, factories have closed and the housing is old. People and industry have been attractekets on price or range of stock, and many have been forced to close. Village schools have closed as the number of children has decltock, and many have been forced to close. Village schools have closed as the number of children has declined. Village clinics, post he end of the nineteenth century, Cornish mines were forced to close because of low-cost ores coming from abroad, for example tin frng and trade in wines and sherry. The inner Bristol docks have closed to commercial traffic but trade continues downstream where the pppropriate areas of the coalfield, write: Many small mines now closed; A few large mines; Mines extending under the sea-bed. 2 Why neering products has declined and many jobs lost as firms have closed. QUESTIONS A1 Look at Fig B. Measure the sections of the first phase has been completed. Meanwhile, smaller works have closed at Skinningrove, Cargo Fleet and Hartlepool. There have been r, , Cargo Fleet and Hartlepool. There have been redundancies and closures in the shipbuilding and heavy engineering industries. Durin 0. In places like Consett, County Durham, where the steelworks closed in 1980, the rate of population fall is much greater. Small mi cheduled as 'D villages') have declined to zero because of the closure of the coalmines. The decline in population is not the only ccess. Units at Washington remain empty and several firms have closed their factories. QUESTIONS A1 Link Fig C with Fig D to a 7 mines remain, employing 27,000 miners. Older mines are still closing. However, a number of new mines are opening in response to th s than 20,000 today. the last inland steelworks, at Ebbw Vale, closed in 1978. Only the coastal works at Port Talbot and Llanwern ar 1 Figure C shows the Nine Mile Point colliery in Gwent which closed in 1964. It left behind old pithead buildings, rusting railway ing equipment is old and inefficient. In 1972, the South Docks closed. Many of the other docks are being used less and less. Ferries

might expect from the content of the books, the lemmas are four to five times as frequent in texts G and E as in the samples in the corpus.

Again, for these five summed lemmas, the percentages of transitive and intransitive forms are almost exactly reversed in texts G and E. And again, this reversal is in the expected direction. The differences between texts G and E, and also between text G and the corpus, are statistically highly significant ($p < 0.001$). However, text E and the corpus are very similar on this feature. That is, it is the environmentalist text which is very close to the norm for the language, as represented by the corpus. And it is text G which represents agency infrequently, in comparison to the (small) corpus.

14.8.7 Variation across verbs

It is sometimes objected that the concept of global frequencies of occurrence across the language (e.g. as here, averaged patterns on ergative verbs across LOB) is meaningless. Such frequencies vary across different text types: indeed, such systematic variation defines register. Every text is in some specific register. *Ergo*, global frequencies represent a meaningless averaging. Halliday (1992: 68–9) answers this objection sharply as follows. 'Global probabilities are just that: global probabilities.' It is always spring, summer, autumn or winter. But this does not mean that it is meaningless to talk of an average annual rainfall. It usually rains less in Scotland in May and September than in other months, and on some days it doesn't rain at all [*sic*!]. But Scotland is still wetter, on average, than the south of England.

However, such figures do hide variation: that is what average figures do. And there can be interesting variation across different verbs within one text. For example, Table 14.3 gives the figures on OPEN and CLOSE in text G. When things get opened (usually an optimistic, more positive event), then there is at least an implicit agent there somewhere to take the credit (most occurrences are agentless passives). When they get closed (not so positive), then intransitivity prevails! Closing is represented as something that just happens. Examples include:

> the reservoir was ... officially opened by the Queen
> the first power station in Great Britain was opened in 1882
> when the aluminium works closed, unemployment ... rose
> most of the quarries have now closed

Averaging across a corpus can make sense, but it is also important to remember that every lemma has different syntax.

Table 14.3 One school book, two ergative verbs

	Intransitive	Other	n
OPEN	7 (16%)	36 (84%)	43
CLOSE	41 (76%)	13 (24%)	54

Note: $\chi^2 = 34.07$; d.f. = 1; $p < 0.001$.

14.8.8 Comparison of texts G and E: passives

The figures above show that, for ergative verbs, text E has fewer passives than text G. It is widely reported that passives are frequent in genres such as scientific articles and school textbooks. Nevertheless, many studies give no quantified findings, and many studies do not define passive explicitly. These two facts often make comparison between studies impossible. Such errors in presentation are serious, because they prevent readers from re-analysing findings or replicating them. Comparisons between different studies and cumulative research become imprecise or impossible.

Svartvik (1966) carried out a computer-assisted study of passives in a 320,000 word corpus. This corpus is small by present-day standards, but the study was carefully done and still provides useful comparative findings. Svartvik studied passives in eight text types. He found, per 1000 words of running text, an average of 11.3 passives overall; with a range from 3.0 in advertising to 23.0 in science. Active was more frequent than passive overall, but this frequency varied from about three to one to nine to one. (Svartvik (1966) is usefully re-interpreted by Halliday (1991).)

Independently of the study of ergative verbs above, I identified all passives, with all verbs, ergative and non-ergative, for both texts (see concordance, Box 14.2). Text G has 20 passives per 1000 words: almost as many as Svartvik found in scientific writing for adults. Text E has fewer, 13.5 per 1000 words: something above Svartvik's average for his corpus.[3]

Further, Leech and Svartvik (1975) estimate that 'about 4 out of 5 English passive clauses have no agent'. (This estimate is much rougher: they do not specify their corpus.) In text G, more than seven out of eight passives have no agent. Text E has the same percentage of *by*-passives with agents, but fewer abstract agents. (Stubbs and Gerbig, 1993, provide further details of these analyses.)

These various differences between texts G and E, in the frequency of ergatives, passives and agents, all tend in the same direction as regards the representation of agency. A useful methodological strategy, seldom used in text analyses, other than very informally and intuitively at best, is to compare analyses of different features, to see if they corroborate or contradict each other.

14.9 Interpretative Problems

The above comparisons are very striking and the levels of statistical significance are very high. But stylistic interpretations are less straightforward than such figures may suggest.

14.9.1 Further notes on ergatives

First, ergative is not a well defined verb class. The class of verbs which can be ergative is increasing in contemporary English. Examples from text G, which are probably relatively recent ergative usage, are:

why these companies *relocate* in development areas
organizations that have *located* in Milton Keynes

The COBUILD Dictionary (Sinclair, 1987) records RELOCATE but not LOCATE as ergative. I heard the following instance recently on British radio. The manager

Box 14.2 Passive in one school book, small sample only

holera and typhoid killed thousands of Britons. These diseases were caused by infected water. Now all the water supplied to homes ca Wells: Permeable rocks such as chalk, limestone and sandstone are called aquifers because they bear water. The water usually remain can be artificially pumped out through wells. When the aquifer is sandwiched between two impermeable rocks, pressure can build up at supplied to the water system. Water in the storage reservoirs is purified naturally and is readily available in times of shortage. rally and is readily available in times of shortage. The water is passed through filter beds before it can be used. Figure E shows t ary Reservoir which is over twice the size of Hyde Park. Water is pumped into the Thames from the ground water stored within the lim system linking rivers by pipelines and tunnels (Fig E). Water is transferred from the wetter areas to the drier areas of the countr sewers and eventually to the local sewage works. Sewage works are located beside rivers in or near towns. The water discharged into the water you drink comes from C 500 million litres of water are used in Greater London every day. Discuss the problems associated , England's largest natural lake. One and a half million trees were felled to make way for it, and a hamlet, several buildings and t r it, and a hamlet, several buildings and the main valley road were drowned by the rising water. Why was this remote Northumberland lopment Fund and the British government. A further £43 million was loaned by the EEC at reduced rates of interest. Kielder Water wi ng permits are sold direct to the public. Worm and fly fishing are permitted and motorboats are available for hire. Water sports: ion of the water takes place further downstream. The reservoir is used by small boats of all kinds, and water skiers. Boat trips: e a farmer in the Kielder Valley when the Kielder Water Scheme is announced. You learn that half your land is to be flooded. What ar demand for consumer goods increased. The new industrial growth was concentrated in the Midlands and south. In the older industrial a e distribution of old people. (c) How do you think old people are distributed in your area? (d) Are some areas espeically attracti because there was little money available. 1930s More success was achieved through the creation of trading estates such as Trefores three-tier system shown on Fig D. 1982 The three-tier system was retained but the size of the assisted areas was greatly reduced. ze of the assisted areas was greatly reduced. Enterprise zones were established. Figure F lists the incentives provided by the gove of investment costs for industry in the assisted areas, which is used to top up national regional development grants. Between 1975 as crops as continuously grown. Nutrients and minerals which were replaced by roots and fallow years are now replaced by soil cond uch 'free range' chickens are rare. Most eggs and chicken meat are produced on factory farms like that illustrated. There are thousa completely sterile so that no disease can enter. The chickens are fed on concentrated feed pellets and may be injected with drugs t y per cent of the EEC's budget is spent on the CAP. The farmer is guaranteed a price which is fixed each year. An intervention price

et is spent on the CAP. The farmer is guaranteed a price which is fixed each year. An intervention price is set up for each product, often surplus production within the EEC. The surplus products are stored (butter 'mountains' and wine 'lakes') or sold cheaply with ectares were grown and the rape sold for cash. The black seeds are crushed to extract oil which is used for cooking oil, margarine a old for cash. The black seeds are crushed to extract oil which is used for cooking oil, margarine and salad dressing. The residue of g' B1 Study Fig A. (a) What percentage of farmland in the UK is used for (i) arable corps, (ii) temporary grass, (iii) permanent g rm with dairy cattle, cereals and fodder corps. Seventy people were employed. By 1984, the farm had taken over several neighbouring and barley which are grown in vast fields. Only fifteen people are employed on the farm in 1984.' Account for these changes. 2. n England. Soft wheat is not suitable for bread production; it is used in the making of cakes and biscuits. 'Hard' wheat for bread m mported from the USA and Canada. The dramatic decline of oats is explained by its inferiority to barley: oats have a lower average.

The geography of cereal production is shown on Fig B. Wheat is limited to the east of the country, barley and oats can be grown o ing has become highly mechanised. The first combine harvesters were introduced on British farms in the early 1930s, but it was not u ines worked most efficiently in large fields because less time was wasted in turning and manoeuvring, so cereal farmers have removed refinery where the sugar content (about 20 per cent by weight) is extracted; the pulp and the green tops are used for animal feed. S per cent by weight) is extracted; the pulp and the green tops are used for animal feed. Sugar beet has precise climatic requirement e liberal use of nitrogen fertilisers, and agrochemical sprays are needed to combat weeds and disease. The high yields possible each em in the future. QUESTIONS A1 What areas of arable land were used for barley in 1937 and 1982? Explain the increase in area nt crops in certain areas. The intensive growing of vegetables is called market gardening. Market gardens are usually less than ten nsist mainly of greenhouses. Heating, ventilation and humidity are controlled automatically and the greenhouse crop may be watered a Many of the apples grown in Somerset, Devon and Herefordshire are used in the production of cider. Another important crop is the f and Cox's Orange Pippin. Conference pears are grown. The trees are raised in a nursery and then planted at 5 m × 2 m intervals. They sed in a nursery and then planted at 5 m × 2 m intervals. They are pruned annually but it is four of five years before fruit can be five years before fruit can be harvested. The apples and pears are picked by local casual labour during August and September, and th local casual labour during August and September, and the fruit is stored in cool airtight chambers. During the winter, the fruit is stored in cool airtight chambers. During the winter, the fruit is graded and packed as required. Strawberries: Strawberry plant h a central marketing office in Paddock Wood. The strawberries are marketed throughout Britain and some exports are arranged. The ap strawberries are marketed throughout Britain and some exports are arranged. The apple co-operative consists of ten farmers combinin There are fourteen women in the packhouse. Extra casual labour. is employed for the fruit harvest from mid-June through to October. U

of a large nationalized concern was discussing privatization. With reference to staff likely to lose jobs, he said

> they will be able to *relocate*

That is, staff were grammatically represented not as being sacked, but as having an opportunity to be the cause of their own relocation. Other examples, all from one letter to the editor of a newspaper (*Times Higher Education Supplement*, 8 April 1994) are:

> X cites women's reluctance to work overtime or *relocate* to gain promotion ...
> there will indeed be many women who cannot offer ... the capacity to
> *relocate* ... I cannot be alone in noticing men who achieve promotion ...
> without *relocating*

Sinclair (personal communication) has suggested that intransitive uses are probably intelligible with almost any verb, although such uses may initially need an evaluative adverb, as in this example from an applied linguistics textbook:

> subjects who ... do not *test well* (who become over-anxious)

In summary, ergativity is a productive feature of English. However, the verbs coded as V-ERG in the COBUILD dictionary occur relatively frequently as ergatives in the 20 million words corpus used for the dictionary, and therefore provide a good sample for my purposes. This provides a good example of a case where intuitions do not provide reliable data. Trask (1993: 93) regards ergatives as 'far from fully productive in English'. This is almost certainly wrong, but only a corpus could provide data on which verbs are frequently ergative, on diachronic changes in such ergative usage and on productive and idiosyncratic(?) uses with evaluative adverbs.

14.9.2 Probabilistic patterns

A more serious problem is that such stylistic patterns are probabilistic. There is no absolute difference between the two texts, and stylistic interpretation of frequency and probability data is very uncertain. One might ask, simplistically, why intransitive uses occur at all in text E. One reason is that intransitives with inanimate subjects can express events which have no agent: they are out of control. This is an important theme of the book: that processes have been started which cannot easily be stopped. Consider these uses of ergative ROLL and STOP, both transitive and intransitive, in text E:

> it's like trying to *stop* [transitive] a truck that's *rolling* [intransitive] down a
> hill with bad brakes ... we have so much momentum that it takes a long time
> to *stop* [intransitive]

Intransitives in text E often refer to physical processes, which are beyond human control:

> chlorine atoms *bond* with the free oxygen atoms
> free oxygen atoms which would otherwise *combine* with oxygen molecules
> grasslands and desert will *expand*
> these chemicals *float* up into the stratosphere
> mortality rates from skin cancer are now *increasing*
> if the earth's surface warms up, some snow and ice will *melt*

14.9.3 Another analysis: unexpected findings

This area of meaning – animacy, human and non-human agency, causation, control – has been studied in related work by Gerbig (1993). Starting from the findings above, Gerbig carried out an identical analysis of ergative verbs on a different corpus, consisting of texts about ozone depletion, written in connection with pending international industrial legislation: 20,000 words from each of industrial, research and environmental oganizations, and 10,000 words from the press. In their texts, industry is attempting to slow down legislation and to spread the responsibility for environmental damage, while environmentalist groups are attempting to speed things up and to sharpen the focus of responsibility.

However, contrary to expectation, Gerbig found environmental organizations using slightly more intransitive constructions than industry. How could this be explained? Explanations might lie both in what is taken for granted in the texts and in the different meanings expressed by ergativity. Texts G and E are school textbooks, and they cannot assume too much prior knowledge in their readers. Gerbig's texts, however, show different interest groups responding differently to a common theme. Everyone knows who is responsible for ozone depletion: this is the whole point of the legislation. There is therefore no need to focus explicitly on agency and causation. But, in addition, Gerbig argues that different meanings are expressed by ergatives in different sets of texts. In the environmentalist texts, a central meaning encoded by intransitives is that the destruction caused by industry is out of control:

> the crisis *deepens*
> the size of the Antarctic ozone hole *has increased*
> the rate of ozone loss *has been accelerating*

In the research texts, intransitives are also frequent, perhaps because the one-participant-only construction allows the focus of the clause to be on the event itself. As in other scientific writing, human agency is in the background:

> the Arctic polar vortex *forms* each winter
> ozone levels *are* now *dropping*
> not only *has* the surface *warmed* but …

In the industry texts, the 'blame avoidance' meaning may be relevant, along with the 'objective scientific findings' meaning. It is in the press that transitive

constructions, and therefore agents, are more frequent: perhaps in line with the well known tendency of the press to personalize events.

Gerbig's analysis shows the following. First, the comparison of her analysis and mine is possible only on the basis of quantified and replicable findings. Second, a study of global frequency patterns must be combined with a study of the corresponding concordance data from individual texts. Neither analysis is sufficient on its own. In particular, one must take into account the assumptions with which readers approach texts. Third, classes of verbs, such as ergatives and reporting verbs, require much corpus-based work (see Hunston, 1993a, b; Francis, 1993) before the range of meanings which they convey will become clearer.

One type of probabilistic information which is starting to become available from corpus-driven grammar is what is to be expected syntactically with various lexical items; for example, which verbs are likely to be passive or intransitive, or to have impersonal subjects (for examples, see Sinclair, 1990; Francis, 1993).

14.10 Example 2 Projecting Clauses

In the analysis of ergative verbs, I discussed whether events are attributed to agents. The second analysis, of projecting clauses, concerns whether factual knowledge is attributed to agents. I take it for granted that there are no brute facts (Firth, 1957; Martin, 1985). However, textbooks are repositories of what we believe to be accredited facts. So one can study the linguistic means used to present them. Are they encoded as reliable and objective knowledge, obvious to common sense and independent of the persons who discovered or formulated them? Or are they presented as hypotheses for which some named source is responsible, and which are open to different interpretations? Textbook writers are interested in facts. Linguists are interested in factivity. Textbook writers, teachers and pupils should be aware of some of the relations between the two.

The modality system of a language provides ways of indicating the speaker/writer's commitment to propositions; for example, how certain or reliable they are. All languages have evidential devices (Chafe, 1986) which encode epistemological considerations, such as the degree of reliability the speaker/writer attributes to a proposition and the source of the knowledge (for example, direct personal experience, hearsay, inference). Languages differ considerably, however, in which kinds of evidence it is obligatory to encode. And within languages, genres differ considerably in which kinds of evidentials are frequently used.

14.10.1 Definitions

I studied systematically how the source of propositions is encoded, with reference to just one evidential device: projecting clauses. In English, modality can be encoded within a clause, for example by a modal verb and/or adverb. A bald statement, expressing certainty by a simple present very form (*CFCs destroy ozone*), can be explicitly modalized (*CFCs can destroy ozone* or *CFCs certainly destroy ozone*).

But Halliday (1985: 332) and Hunston (1993a) point out that modality can also be encoded as a separate projecting clause:

> *scientists have discovered that* CFCs destroy ozone [M][4]
> *many people now recognize that* CFCs destroy ozone [M]

I will discuss only such projecting clauses which precede *that* (and which have been identified via a concordance of the word *that*).[5] All the following examples are attested in one of the two texts. Most occurrences involve VERB + *that*:

> scientists *discovered* in 1974 *that* ...
> scientists *say that* ...
> many people *feel that* ...
> the electricity boards *point out that* ...

But projecting clauses are also introduced by adjectives and nominal groups:

> several local people were *afraid that* ...
> it is *possible that* ...
> there is still *no scientific proof that* ...
> it is now *scientific fact that* ...

The lexico-semantic classes of words associated with these structures encode thought processes or their results (e.g. *discover, recognize*), illocutions (e.g. *say, argue*) or feelings (e.g. *feel, afraid*), and many involve sub-technical words (e.g. *proof, conclude*). Using corpus evidence, Francis (1993) provides a preliminary classification of the hundreds of lexical items involved in such structures.

14.10.2 World-creating predicates

So, propositions about the world can be prefaced as, for example, accredited scientific fact or unaccredited possibility. Chafe (1986) compares evidentials in spoken and written corpora of dinner table conversations and academic articles. He finds that the two corpora have approximately the same percentage of evidential markers, but that they differ in the frequency of specific types of device. For example, speakers more frequently than writers signal that knowledge derives from personal opinion (e.g. *I think, I suppose*). And academic writing encodes hearsay evidence through reference citations. Chafe's examples include projecting clauses, though he does not draw specific attention to them.

Hunston (1993a) presents a comparable study. She starts from proposals by Halliday (1985) and Stubbs (1986), and compares projecting clauses in spoken political radio discussion and written academic articles. She finds significant differences in how these genres express modality, and shows that these differences in the use of projecting clauses provide evidence of how different value systems are expressed: whether personal opinion is valued, or whether an outside public

source is given responsibility for the proposition, as in, respectively:

> I think I'd probably argue that ...
> Eisenberg concluded that ...

None of these specific findings is surprising. For example, bibliographic references in academic articles are an elaborate convention for encoding hearsay evidence. However, the detailed statistics provided by Chafe and Hunston contribute to our understanding of how genres can be defined by the systematic variation in the occurrence of different selections from the language system.

Consider examples from texts G and E. Some projecting clauses attribute the following proposition to a source of judgement [+At]:

> the government has *recognized that* ...
> farmers *discovered that* ...
> several local people were *afraid that* ...
> opponents of nuclear power *say that* ...

When the source of the judgement is encoded, this is usually (as above) as the grammatical subject of the projecting clause. But other possibilities include:

> it was clear *to BSC* that ...

Others leave the source unattributed [−At]:

> it is *not surprising to learn that* ...
> it has been *predicted that* ...
> there are *fears that* ...
> there is *no guarantee that* ...

Frequent examples (as above) have impersonal constructions with *it* and *there*. But other possibilities include passives:

> the *view* was taken *that* ...

If the source of the judgement is attributed, then a further systemic choice is possible. Attributions can be personal [+P], by which I mean that the judgement is attributed either to an individual or to a group of people, however vaguely identified:

> *Dr Watson* explains that ...
> *the people of Hull* hoped that ...
> *some countries* felt that ...

Or the attribution may be impersonal [−P]:

> *all three techniques* show us that ...
> *their measurements* showed that ...
> *the latest studies* seem to indicate that ...
> *lack of investment* meant that ...
> *a tabloid* reported that ...

This coding is not without problems. Perhaps *a tabloid* implies a group of people, just as much as *some countries*. Nevertheless, the impersonal examples code sources of objective, public knowledge (in Popper's, 1972, 1994, sense). If most or all projecting clauses were of this type, the implication would be that studies, reports and the like generate their own truth without the reader being involved in interpretation (Hunston, 1993a).

14.10.3 Comparison of texts G and E

These distinctions can be summarized in a small system network (Figure 14.1): And Tables 14.4, 14.5 and 14.6 give the occurrences in the two texts.
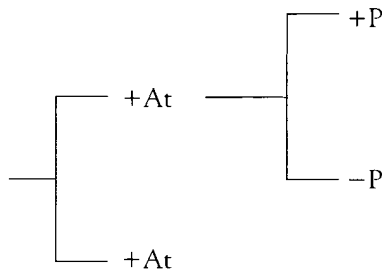
Figure 14.1 A small system network

14.10.4 Interpretation

First, relative to text length, text E has nearly three times as many projecting clauses as text G (2.9 versus 1 per 1000 words of running text). Second, text E has significantly more ($p < 0.01$) propositions which are attributed to a source of knowledge: see Table 14.5. And third, among the attributed propositions, text E also has significantly more ($p < 0.01$) personal attributions: see Table 14.6. These findings all lie in the expected direction. The environmentalist book emphasizes more frequently and explicitly the status of the facts discussed. And it attributes responsibility for knowledge of those facts to individuals and groups. Again, the political stance is expressed in the syntax used.[6]

Table 14.4 Two books, projecting clauses

	+At		−At	n
	+P	−P		
Text G	18	26	33	77
Text E	48	21	17	86

Notes: χ^2 + P by −P = 9.08; d.f. = 1; $p < 0.01$
χ^2 + At by −At = 10.19; d.f. = 1; $p < 0.01$.

Table 14.5 Two books, attributed and non-attributed projecting clauses

	+At	−At	n
Text G	44 (57%)	33 (43%)	77
Text E	69 (80%)	17 (20%)	86

Note: $\chi^2 = 10.19$; d.f. = 1; $p < 0.01$.

Table 14.6 Two books, personal and impersonal projecting clauses

	+P	−P	n
Text G	18 (41%)	26 (59%)	44
Text E	48 (70%)	21 (30%)	69

Note: $\chi^2 = 9.08$; d.f. = 1; $p < 0.01$.

14.11 Some Principles for Text Analysis

There is a long way to go in developing descriptive methods for text analysis. In the past, it has often been difficult to find studies which build on previous work, and this is an indication that discourse studies have not always been on well-defined problems in well defined areas.

I will conclude with a summary of some principles which outline a substantial cumulative research programme.

1 Comparative analysis. Interpretations of texts must compare different texts and text types: otherwise we cannot know what is typical or atypical, or whether features of texts are significant, linguistically or ideologically, or not.
2 Long texts. The analysis of short texts and text fragments must be complemented by the analysis of long texts, since some patterns of repetition and variation are only realized across long texts (such as complete books).
3 Text corpora. Similarly, some patterns of variation are realized only across text types, and categories of text can be studied only via samples of texts in a corpus.
4 Range of coverage of corpora. No corpus can represent the whole language: the language changes as new text types are constantly created. The concept of range of coverage may be more useful: corpora can be wider or narrower in their range of text types, and methods could be developed for assessing the range of text types represented by corpora.[7]
5 Textual homogeneity and heterogeneity. The present chapter has shown significant differences between two texts, which are on comparable topics within the same text type. On the other hand, I have assumed that texts G and E are internally homogeneous, though very few linguistic features are evenly distributed throughout a text. It has been claimed (e.g. Fairclough, 1992) that mixed genres are becoming increasingly common. But co-occurrence, homogeneity and heterogeneity (within texts, text types and authors) are not well understood.

6 Interpretation of frequency. Literary scholars take it for granted that meanings are conveyed by patterns of repetition and variation. (Burrows, 1992, is a useful discussion.) And register (text type, style, genre, etc.) is usually defined as systematic variation in the frequency of linguistic features across texts (Halliday, 1991; Biber, 1988). But there is no well developed theory of how the frequency of linguistic features contributes to the meaning of individual texts. The comparison of my analysis with Gerbig's (1993) showed the need to combine the analysis of large-scale patterns across long texts with the detailed study of concordance lines.

7 Variables and variants. Many linguistic features are of potential stylistic interest, and several overlapping lists are proposed (e.g. by Fairclough, 1989: 110–11; Fowler, 1991b: 68ff.; Myers, 1992; Biber, 1988, provides a list of lists). However, these lists summarize experience and intuition, as Fowler (1991b: 90) admits. Apart from Biber's, they are unformalized and only partly usable in computer-assisted studies. We lack a representative list of such variables and their variants. Since linguistic patterns are defined in different ways in different studies (and are often not explicitly defined), and since findings are often not quantified, it is often impossible to make precise comparisons across studies and work is not cumulative.

8 Comparative statistics. Such a representative list would facilitate the collection of normalized statistics for a range of linguistic features across a range of text types. This would make interpretations of individual texts much more reliable.

9 Statistical methods. Burrows (1992) and Woods et al. (1986: 147, 181) warn that statistical tests generally assume that observed data are independent of each other. But linguistic features of texts are not independent variables: they normally occur in clusters. Sinclair (1991: 3) admits that, in corpus linguistics, 'the numerical and statistical side has scarcely begun'.

10 Quantitative analysis. Perhaps [this] chapter merely provides a little more detail on things which are already known from study of text fragments (for example, that transitivity choices have ideological implications). However, when quantitative analysis supports a familiar belief, the comment is often that everyone knows that. When it provides an unexpected finding, the comment is often that you can prove anything with statistics (Burrows, 1992: 183).

In summary, linguists should be developing methods to meet Frawley's (1987) objections that discourse analysis is either 'all program with no analysis, or simple analysis with no program' (p. 371): 'discourse analysis has no metamethod, no way of separating the correct and useful from the banal. One gets the impression that discourse analysis is an omnivorous field, where one thing is as good as another' (p. 363). The 'metamethod' must be based on explicit comparative description of substantial corpora of data, in which clearer relations are drawn between lexico-grammar and text, and which incorporates a theory of probabilistic grammar.

14.12 Conclusion: Computer-Assisted Studies

Computer assistance does not bring pure objectivity to text analysis. It is evident that intuition is involved at several stages: which features to study, how delicately to

code, how to interpret the findings. It has long been widely recognized that stylistic statistics merely provide quantitative evidence whose significance can be assessed only by experience and common sense (Posner, 1963; Thomson, 1989).

However, statistical stylistic studies show that concordances can identify syntactic features of texts which can then be semantically interpreted. Independent of intuitive judgement (within the limitations noted), a concordance program identifies every example in the data, and helps to ensure that analysts do not merely pick evidence to fit their preconceptions. It also helps to present quantitative evidence in ways which can be checked by readers.

It is currently fashionable to emphasize the interpretative aspects of such analysis, and to play down the inherent patterning in data (though Sinclair (1991) provides a strong counter-argument). We select what to look for, on the basis of hunches or what others have found useful. But, as instruments of observation and memory, computers help considerably with the criterion of comprehensiveness of coverage. When correctly instructed, computers make it more difficult to overlook inconvenient instances, and are to that extent a move towards descriptive neutrality. We select what to look for, but should then accept as evidence what the computer finds (Sinclair, 1991; Burrows, 1992).

(And note my use, for persuasive purposes, of four projecting *that*-clauses in the last three paragraphs!)

Appendix: Further Notes on Ergativity

The area of ergativity is in terminological confusion. For example, Trask (1993), in his *Dictionary of Grammatical Terms*, gives relevant entries under: causative, ergative, intransitive, labile verb, medio-passive, middle verb, pseudo-intransitive, pseudo-passive, transitive, unaccusative, and unergative! Pullum (1991) documents further confusion.

In work on universal grammar and linguistic typology, the term *ergative* is used to refer to morphological case marking in languages such as Dyirbal (Dixon, 1972). English is not ergative in this sense, and the very large comparative linguistic literature (see Comrie, 1981; Croft, 1990) on ergativity is not directly relevant. It is a useful reminder, however, that languages have different ways of grammaticalizing meanings such as agent–goal and giver–receiver, and that ergativity in various languages interacts with animacy (e.g. human versus non-human). It is because languages have different means for encoding the same semantic roles that causative constructions are a central topic in universal grammar. For example, Comrie (1981: 158ff.) studies semantic relations between events (which are often encoded in the verb) and participants (which are often encoded as subjects and objects).

So, ignoring squabbles about mere terms, the essential points are: (a) languages have different means of encoding causativity, and (b) observations about the verbs which I am calling ergative have been central to important theories of grammar, notably in work by Fillmore and Halliday.

Causative constructions were central in generative semantics (recall analyses of KILL as 'cause to die'). And an indication of the theoretical importance of ergatives as a verb class is that Fillmore (e.g. 1969) uses them to motivate deep grammatical case in his proposals for case grammar. Fillmore's argument is that the traditional

concepts of grammatical subject and object ignore important semantic facts. For example, 'there is a semantically relevant distinction between *the door* and *open* that is the same' (p. 363) in (invented) sentences such as:

> the janitor will open the door
> the door will open
> the door will open with this key
> this key will open the door

Fillmore gives a list of verbs which 'have a certain amount of freedom with respect to the syntactic environments into which they can be inserted' (p. 365). The list (although he does not use the term) consists of ergative verbs. And the behaviour of these verbs is then at the basis of his proposal for a case grammar which uses concepts including Agentive, Objective, and Instrumental.

Halliday (1976) initially used the term *neutral* verbs, since it is not possible to decide which form is basic in (invented) examples such as:

> she poured the water out
> the water poured out

Halliday also talks of *middle* and *non-middle* clauses. Lakoff (1970: 33ff., 44ff.) discusses relevant verbs as *inchoatives* and *causatives*. Palmer (1974: 92ff.) calls them *pseudo-passives*. (One of the most widely used grammars, Quirk *et al.* (1985), uses the terms *middle verb* and *pseudo-passive* differently from Halliday and Palmer respectively. Quirk *et al.* talk of transitive and intransitive verbs with reference to causality.) Fillmore uses *Objective* for the function which is the subject of an intransitive verb and the object of the corresponding transitive verb. This is what is called *Affected* by Halliday (1976) and *ergative* more recently by Halliday (1985).

Fontenelle and Vanandroye (1989) define in detail ergatives in English, based on semantic, syntactic and morphological properties, and give a useful list of verbs. Fontenelle (1990) discusses the ergative verbs identified in the COBUILD dictionary.

Notes

1 The letter A refers to attested, actual, authentic data: data which have occurred naturally in a real social context without the intervention of the analyst.
2 The letter I refers to intuitive, introspective, invented data: data invented purely to illustrate a point in a linguistic argument.
3 Syntactic coding was usually straightforward, but it is important to record carefully how it was done: text is always messier than grammars imply. Passive included constructions with BECOME and whiz-deletions (both infrequent). Further, any form with BE plus *-ed* (plus other endings on irregular verbs, and plus phrases with words intervening between BE and past participle) was coded passive, with no distinction between stative and dynamic passives. For example, both of the following were coded passive:

> during World War 2, aircraft factories were *dispersed*
> the clothing industry is more *dispersed*

4 The letter M refers to modified data: examples which are based on attested data, but which have been modified (e.g. abbreviated) to exclude features deemed irrelevant to the current analysis.

5 In projecting clauses, *that* may be omitted, or verbs may be followed by *how* or by an *it*-construction, as in text G:

> census statistics *show* people here may not have an inside toilet
> most people *realize* how ...
> figure C *shows how* ...
> we don't *expect it to* ...

In other words, the computer did not find every relevant example. However, a reverse check on relevant verbs showed that examples without *that* are infrequent in texts G and E. I have no reason to suspect that the occurrences with *that* are unrepresentative of projecting clauses in the two texts. See Ball (1994) on problems of recall and precision in computer-assisted work.

6 In his major study of the LOB and Lund corpora, Biber (1988: 114, 159) discusses *that*-complements, as I do here, as an indication of the stance of the speaker towards information. But he finds the co-occurrence patterns 'surprising' (p. 154) and 'counter to previous theoretical expectations' (p. 113). The point relevant to my analysis is that such *that*-complements are not found to be characteristic of academic prose. Indeed, it is questionable whether academic articles constitute a well defined genre. In this case, therefore, it makes little sense to average across the samples in LOB to study whether attributed or non-attributed clauses are typical or not. The LOB samples from the category of academic writing simply differ on this feature.

7 Lexical density could be used for such a purpose. The LOB corpus is unrepresentative in many ways: for example, it contains no samples of either textbooks or business correspondence, both massive written genres. However, it does represent a range in lexical density from under 40 to over 60 per cent (see Section 3.9). So, we know that if other corpora do not show *at least* this range, then some text types are missing.

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15 | Checking Overinterpretation and Underinterpretation: Help from Corpora in Critical Linguistics

Kieran O'Halloran and Caroline Coffin

15.1 Introduction

In the film *LA Story*, the central character Harris Telemacher is looking to impress a female journalist working for *The Times* newspaper, who has come to write a piece on Los Angeles. They are both in front of a painting in an art gallery in Los Angeles, the camera fixed on them from the vantage of the painting so that we do not actually see it. With Harris's goal to impress the journalist, he begins describing what is going on in the painting, getting more and more absorbed, moving closer to it, walking back and moving closer again: he talks about the set of people who are being depicted, saying that each character has its own story, that there are onlookers peering from a doorway at a man and woman entranced by one another, that the puppy is probably superfluous but that you have to forgive such things with these kinds of paintings, and so on. He finishes his interpretation by saying that when he comes across a painting like this he gets emotionally aroused. The camera angle then changes so that we now see the backs of Harris and the journalist, Harris then moving away slowly to the side while gazing at her. The journalist is left looking at a huge, completely red painting with some vague dark red splodges.

Clearly, Harris has overinterpreted the painting in line with this all too human goal of wanting to impress people and the result is amusing for the audience. Presumably too the film is poking fun at the pretentiousness of some art critics whose criticism is so subjective that many of us cannot see what they see at all. Harris might have been better off underinterpreting it – by saying it was a red painting. But then again the effect of such a statement would be to make little or no impression. And though he could not be accused of pretentiousness, he might well fail to recognize aspects of the painting that *The Times* journalist would see and react to. Indeed, if *The Times* journalist knew a good deal about the artist and their other works, such a statement would surely be seen as severe underinterpretation.

These dangers of over and underinterpretation can affect text analysis too. Let us say the text under analysis is a news text and the goal of the analysis is to do the following: to isolate how readers are potentially positioned by ideological meanings in the news text (where, for example, certain groups of people in the text are described in a racist way). By 'position' we mean the way that a writer tries to persuade readers into accepting a point of view. To have validity, the analysis of

reader positioning should try to avoid a purely subjective interpretation. In other words, a valid analysis of reader positioning should not just highlight values that analysts have noticed – particularly so if they are not regular readers of this newspaper and the newspaper does not target their social group. An analysis of reader positioning should involve the analyst trying to comprehend how the text might connect with values potentially present in the target readership. Otherwise, the reader positioning analysis runs the risk of being narcissistic; it might tell us too much about the analyst and too little about how the target readership is being positioned.

The sort of linguistic analysis which is concerned (among other things) with detecting and systematically articulating how values are represented in text is known as Critical Linguistics. Significant critical linguistic works include Fowler *et al.* (1979), Fowler (1991) and Hodge and Kress (1993), and draw substantially on Hallidayan systemic functional grammar (Halliday, 1978, 1985/1994). Critical Linguistics also forms one branch of a much larger enterprise in linguistics known as Critical Discourse Analysis (on the relationship between Critical Linguistics and Critical Discourse Analysis, see Fairclough and Wodak, 1997).

Often, Critical Linguistics has sought to locate ideological meanings in tabloid newspapers which target a working-class readership. But many, if not most, established critical linguists are university-educated, middle-class academics. Moreover, in the act of highlighting ideological meanings in a text, critical linguists read a text with a particular goal, one which the more casual reader would not have. So how do analysts know that they are not overinterpreting the text from the perspective of the casual reader as a result of who the analysts are, the values they carry (often liberal-left), their own specific goals, and the amount of effort they are putting into their reading of it? Critical Linguistics has indeed been accused of overinterpretation, for fixing on particular aspects of a text and construing meaning that would not necessarily be there for other readers (e.g. Widdowson, 1995, 1998). The critical linguist may see puppies when all the casual reader sees are red splodges.

While overinterpretation is a problem for critical linguists, there is the complementary problem of underinterpretation. Let us take the same situation of critical linguists examining a tabloid text for its ideological meanings where the tabloid is one they do not read regularly. It is possible the critical linguist will miss meanings and nuances which are familiar to more regular readers. In this case, they would be underinterpreting from the perspective of the casual, regular reader of that newspaper.

The purpose of this chapter is to illustrate ways in which critical linguists and those studying linguistics can make their analyses of reader positioning more rigorous by reducing the prospect of over- and underinterpretation. We say reducing rather than removing since *total* value-free analysis is very difficult to achieve; some theorists, in fact, regard this as impossible (Gouveia, 2003). However, an analysis of a text's reader positioning which attempts to check the prospect of over- and under-interpretation by the analyst has to be preferable to one which does not, and especially where the analyst is not part of the target readership. In an analysis of the reader positioning of a news text, we reduce the prospect of over- and under-interpretation through the use of corpora, searching through these with

the aid of a concordancer. In Section 15.2, we outline the news text we use in our analysis. To illustrate the problems of analysing how texts position other readers, we deliberately use a news text from a tabloid which we do not read regularly and which does not target our particular social group. In Section 15.3, we highlight reader positioning while showing how we guard against overinterpretation of the text. In Section 15.4, we do the same while showing how we guard against under-interpretation of the text.

15.2 Two Million Jobs in Peril

15.2.1 Orientation

We will be focusing on a news report from the *Sun* (27 May 2003), a UK tabloid newspaper which has a very large circulation of over 3.5 million.[1] It thus has the potential to exert a large influence in Britain, particularly amongst the working-class readership it targets.[2] The specific news report we will focus on is concerned with an issue that has been significant in British politics for a number of years – whether Britain should adopt the euro as its currency, making the pound redundant. The euro is the currency of the majority of countries that make up the European Union (EU), the latter being a political, economic and legislative body which at the time of writing consisted of 15 countries, including Great Britain (see http://europa.eu.int). The European Commission – a seat of great power in the EU – is based in Brussels, Belgium. A significant issue which faced the EU when the text was written was its imminent expansion to include several countries from eastern Europe such as Poland, Latvia, and Lithuania.

In certain quarters of the British press, there is considerable opposition to any more ceding of economic independence to the EU, and one of the strongest voices against the EU is the *Sun*. The ultimate ceding of economic independence for the *Sun* would be the adopting of the euro as the currency for the UK.

Before we start with our analysis, it will be helpful for you to read the news report and detect how it is positioning the reader to accept a particular point of view. To make sense of our ensuing argument, it will be particularly useful if you consider how the journalist tries to position the reader into thinking that signing the EU constitution/treaty is the wrong thing for Britain to do. The report was taken from the *Sun*'s website (thesun.co.uk) and the layout is as it appeared there.

Two million jobs in peril (The *Sun* Tue May 27th 2003)

By GEORGE PASCOE-WATSON
Deputy Political Editor

TWO million jobs will be lost if Tony Blair signs the new EU treaty, it was feared last night.

A revised draft of the proposed constitution revealed that Britain would be forced to surrender control of its economy to Brussels.

And other key elements of our way of life would be affected even more drastically than first thought.

The draft proved Brussels also aimed to snatch power over UK employment, foreign affairs, defence and welfare.

And it meant Britain would have to dish out generous benefits to millions of migrants from eastern Europe.

They would be allowed to flock here after ten new nations join the EU next year.

The scale of the masterplan for a United States of Europe triggered outrage last night.

Critics said booming Britain would be crippled by the sort of economic edicts that have wrecked Germany.

Tory MP David Heathcoat-Amory said: 'We could be facing another two million British workers on the dole.

'The EU will be driving our employment policies in the same direction as Germany. They are struggling with mass unemployment and their dole queue is rising.'

Mr Heathcoat-Amory sits on the convention thrashing out the constitution but his attempts to limit its powers have been swept aside.

He backed The *Sun's* call for Britain to be allowed a referendum on joining the treaty. Mr Blair has refused to stage one – although other EU states will get a vote.

A crucial phrase in yesterday's blueprint stated: 'The Union shall work for a Europe of sustainable development based on balanced economic growth with a social market economy.'

Experts leaped on the final three words and warned they would be a death sentence to our freewheeling economy.

Germany has laboured for years under this system which forces firms and individuals to pay high taxes which stifle growth and enterprise.

Dr Madsen Pirie, president of the Adam Smith Institute – a free market think-tank – said the constitution would be disastrous for UK employment.

He said: 'There is no doubt that if we were to sign up to the proposals it would result in large numbers of people being unemployed.

'The reason we are not in the bad position that most of our European partners are in is because we kept our independence from the single currency.

'This constitution would make us lose an important part of that independence.

'We absolutely must have a referendum.'

Patrick Minford, professor of economics at Cardiff University, said: 'This could easily put another two million on the unemployment register.

'We will bring back mass unemployment just as they have got in Germany, France and Italy.'

Mr Blair will be expected to sign up to the constitution blueprint by the end of June.

15.2.2 General intuitions about migrants and positioning

It is likely, based on your reading, that one of your impressions, like ours, is the following: the journalist is in part trying to create solidarity with the reader around the notion that the new European Union treaty would have a negative impact on Britain since it would lead to mass unemployment. Apart from tapping into readers' fears of losing their jobs, we feel he is also trying to tap into a potential fear of migrants with the rather sensationalist *millions* in *millions of migrants from eastern Europe*. Because we, the authors, operate with what might be called 'liberal radar', we readily lock on to the part of the text on migrants:

> And it meant Britain would have to dish out generous benefits to millions of migrants from eastern Europe.

This part of the text 'appeals' to us in that we feel there are problematic values being communicated which, as critical linguists, we would wish to draw attention to. All analysis starts with intuition. This is why we said above that we feel the author is tapping into fear of migrants or that we feel that problematic values are being communicated – there seems to be something in this sentence which is inflecting *migrants* with negativity. However, the important thing is to narrow down and work through intuitions systematically so that they are corroborated, falsified or limited.

So what can we say more systematically about our intuition about *migrants* in the above? Certainly, in the *Sun* text, *millions of migrants* is sensationalist through the use of *millions*. But how is this being particularly negative about *migrants*? From a semantic point of view, there is nothing inherently negative about *millions of migrants*; indeed it could be used in sentences with neutral or even positive evaluation such as in 'America was built on the dynamism of millions of migrants'. So if *millions of migrants* is not an example of negative evaluation, perhaps *millions of migrants* is a text *cue* for negative evaluation. That is, we could imagine *millions of migrants* worrying particular readers of the *Sun* for whom immigration to the UK is a problem. The negativity here would, then, be an interaction between the text and the values held by certain readers of the *Sun*. The negative evaluation would not then be inherent in the text.

At best what we have just said is speculative and intuitive. We only really have a vague idea about the habitual content of the *Sun* as we are not regular readers

of it. We have, then, come up against some problems of interpretation. To what extent can we as analysts say that negative evaluation is inherent in this text (or any text we care to examine) and to what extent are we consciously or unconsciously making intuitions about how certain textual cues will be treated by the readership of the *Sun* (or readership of any text) given the values we think a large portion of its readers will hold? We have now some general intuitions about possible negative evaluation with regard to the *Sun* text. In the next stage we need to shore these intuitions up, making them more concrete so that we can test them out. In Sections 15.3 and 15.4, we will tease apart where negative evaluation lies with regard to *migrants* – whether in the text or potentially in the interaction between text and values that could be held by the readership. We *are* aware that we are initially focusing on one sentence in this text, something which a casual reader is much less likely to do. But at the same time, this focus will be checked through our guarding against the prospect of overinterpretation and underinterpretation, achieved through use of corpora and concordancer software.

15.3 Checking Overinterpretation: Help from Corpora and the Concordancer

15.3.1 Collocations

We have established that *millions of migrants* may not be negative in itself. But if we start to explore the textual environment where *millions of migrants* occurs, our intuitions about negative evaluation may start to become more specific, making them easier to test out. When we inspect *millions of migrants* in:

> [Millions of migrants from eastern Europe] would be allowed to flock here after ten new nations join the EU next year.

we see it is bound up with the process *would be allowed to flock* which includes the infinitive *to flock*. A more specific intuition we have is that *flock* seems to be derogatory to migrants. We might say this compounds the sensationalist *millions* in *millions of migrants* since *flock* dehumanizes them, implying migrants are animals like birds or sheep. Indeed, others we showed this text to and who also regard themselves broadly as critical linguists came to a similar interpretation. A critical linguistic analysis of reader positioning, however, has to be able to say something about the significance of the text for non-analysts rather than something about us as analysts – otherwise it is just a subjective reading of the text. Would indeed a more casual reader who was skimming through the *Sun* text create this meaning of *flock*? We may just be overinterpreting the text here, fixing on a single word, according it a significance that the more casual reader is unlikely to give it.

Widdowson (2000), in an examination of a critical linguistic analysis in Fairclough (1995), illustrates the dangers of critical linguists fixing on a single word in a text and thus overinterpreting it from the perspective of non-analysts. In a television documentary about world poverty, Fairclough analyses and criticizes the programme as representing the poor as passive since grammatically they

are represented as Goals and not Actors.[3] However, there is one exception where the poor are represented in the role of Actor:

> The poor people   flock to the city
>   Actor

From a grammatical point of view, this representation of the poor would seem to be in tension with the rest of the television programme since they are not the Goal here as in:

> The poor people   can usually be kept in their place   by the military
>   Goal   Actor

This is how Fairclough deals with the inconsistency:

> Interestingly, the Action here (flock) is one more usually associated with sheep – notoriously passive – than people, so the exception does not really contradict what I have said so far.
>
> (Fairclough, 1995: 113)

But is Fairclough's intuition here correct? Is the verb *flock* usually associated with sheep? Or is his claim merely conveniently fitting in with his general analysis and criticism of the way poverty is portrayed in the programme? By going to a large corpus of English, we can easily check this intuition. To test out Fairclough's assumption, Widdowson (2000: 18–19) used a corpus of English, the British National Corpus (BNC), a 100 million word collection of samples of written and spoken language from a wide range of sources, designed to represent a broad cross-section of current British English, both spoken and written.

Since *flock* is used as a verb in the sentence Fairclough examines, Widdowson searched for the verb *flock*. As Widdowson points out, it was important to look at instances of the lemma of the verb *flock* (and not the noun) since different morphological forms and syntactic categories of a lemma[4] may be found with different lexical company, what are known as collocations. In his search, Widdowson found 17 instances of the lemma *flock* used as a verb. And interestingly, he found that the verb *flock* usually collocated with human Actors: railway enthusiasts, journalists, golf spectators, gold diggers, etc. These are referred to as collocates of *flock*. The corpus evidence of the BNC would suggest no warrant for Fairclough's analysis of *flock*.

As the above shows, a great advantage of corpus analysis is that it can reveal how unreliable intuition can be. Let us return to our original reading of *flock* in the *Sun* text where intuitively we felt that the use of *flock* dehumanizes migrants. The corpus evidence tells us that the verb *flock* usually collocates with human Actors and not sheep or other animals. It would now seem that seeing 'migrants flocking' in terms of dehumanization would be an interpretative pitfall – focusing on only one word and ignoring collocation and its capacity for modifying meaning. The BNC evidence thus tells us that our interpretation is most likely an overinterpretation from the perspective of non-analysts. To be more precise, it is an overinterpretation

of *experiential* meaning – meaning associated with how things are represented conceptually. What we learn from this is that if we want to understand what a particular lexical item means in a text, it is helpful to check the company it keeps and therefore the meanings that are generated in this company. Meaning cannot be read off from one word in isolation. (For a cognitive analysis of why *flock* is unlikely to be associated by casual readers with sheep in the above, see O'Halloran (2003)).

15.3.2 Co-Text and Dynamic Meaning

15.3.2.1 Dynamic experiential meaning

So far we have restricted our focus to meaning in a single sentence. However, the preceding meanings in a text naturally will impinge on how a particular portion of text is read. To see what we mean, let us go back to the TV documentary data examined by Fairclough. The start of the narration in the TV documentary was the following:

> Everywhere in the Third World life in rural areas gets harder – and poor
> people flock to the city

Before the clause *poor people flock to the city* we have co-text.[5] In this example, just on the basis of the clause that immediately precedes the one under focus, we automatically make the inference that poor people flocked to the city because of the hardship of rural life. Given the information in the previous co-text, it would be difficult to claim that the poor people here were behaving passively as Fairclough claims. From the previous co-text, it would seem they are taking action to escape hardship. Taking account of the previous co-text here reinforces the corpus-informed collocational analysis and also helps to check overinterpretation involved in focusing too much on one part of a text in isolation. So if critical linguistic analysis seeks to show how a certain text communicates ideological meaning, it also needs to take account of how preceding co-text affects the portion of text under analysis. It needs not only to take account of meaning in the text but also how previous co-text *dynamizes* meaning in the text.

So let us now go back to the sentence:

> [*Millions of migrants from eastern Europe*] *would be allowed to flock here after ten*
> *new nations join the EU next year.*

In the light of what we have established with the Fairclough example above, we need to understand how the preceding co-text of the above sentence dynamically affects its meaning. This would then affect how we might be able to corroborate, falsify, or just limit our intuitions about negative evaluation with regard to *migrants* and *to flock*. We are looking here at dynamic experiential meaning.

Employing functional categories from Halliday's systemic functional grammar (1994), we can see in the preceding co-text that there is a pattern where Brussels

or the EU are the primary 'doers'. In this pattern, when the EU is the implicit Initiator,[6] Britain is an Actor carrying out an activity initiated by the EU. When Brussels or the EU is an implicit or explicit Actor, Britain or the UK is part of a Goal:

... Britain   would be forced to surrender   control of its economy   to Brussels   [by the EU].
    Actor   [Goal   ]   implicit Initiator

... our [British] way of life   would be affected   [by the EU] ...
   [Goal   ]   implicit Actor

... Brussels   aimed to snatch   power over UK employment, foreign affairs ... welfare.
    Actor   [Goal   ]

Britain   would have to dish out   generous benefits   to millions of migrants ... [by the EU].
Actor   [Goal   ]   implicit Initiator

The continual reinforcement of this pattern helps to establish the experiential meaning in the text of Britain as powerless in the face of the EU. And indeed the sentence we have been focusing on – *They would be allowed to flock* ... – fits in with this pattern as can be seen in the following:

     They   would be allowed to flock   here   [by the EU]
     Actor   Circumstance   Initiator

For the first clause of this sentence, *they [millions of migrants from eastern Europe]* is the Actor, *would be allowed to flock* is a Process realized by a verb complex, *Britain* is construed as the Circumstance *here* and the implicit Initiator is *the EU*.

Our analysis sheds light on how readers would likely accumulate a pattern of meaning before they arrive at the sentence *they [millions of migrants from eastern Europe] would be allowed to* ... In other words, we can see that the previous co-text for the 'migrants flocking' sentence above impinges on it so that it is associated with the experiential meaning being constructed of a Britain made impotent by the EU. It may well be that *migrants* is a negative text cue for *Sun* readers who are anti-immigration (see Section 15.4). But in the text, the use of the word *migrants* is less significant than the way that the pattern of this sentence (and thus *migrants* in this pattern) is simultaneously absorbed by and contributes to a more global pattern of meaning. Given that the co-text impinges dynamically on this sentence in this way, this would then be in tension with a critical linguistic analysis which focuses on *migrants* and *flock* in isolation and thus in tension with a focus which sees the 'eastern European migrants flocking' as dehumanized. Taking account of the preceding co-text hence enables us once more to avoid overinterpreting this portion of the text. But is there a way of using a corpus search to substantiate the above analysis – that is, that the sentence *they would be allowed to flock here* ... fits in with the pattern we have drawn attention to?

We have seen in the sentence we have focused on that *They [millions of migrants from eastern Europe]* is being used as an Actor and the implicit Initiator is *the EU*. But interestingly, in Widdowson's BNC analysis of the verb *flock* that we referred

to earlier, he found that the verb *flock* habitually collocated with non-passive Actors, that is, Actors that did not have Initiators controlling them. Perhaps then *flock* being used as part of a process where an Initiator controls an Actor is unusual. If this is the case, then it might provide a different kind of evidence for the (conscious or unconscious) design of a pattern by the journalist. That is, we might be able to say the journalist has used the sentence on *migrants* and *flock* to reinforce the meanings constructed that Britain is powerless against the EU.

We explored this hypothesis with a bigger corpus than the BNC, a corpus known as the Bank of English. It is sited at the University of Birmingham, UK, and consists of around 450 million words of everyday, spoken and written English (informal, conversation, journalism, etc.). We used a search which permitted any form of the verb *allow* to be followed by any form of the verb *flock* and with up to ten intervening words. Ten intervening words is excessive but it meant we would almost certainly capture unusual strings such as the following:

> They would never be allowed in a million, billion, trillion, zillion (etc.) years to flock

To do this search of the Bank of English, we used a piece of software called a concordancer. What this does is to generate 'concordance lines'. The lines show many instances of use of a word or phrase and make visible regularities in the use of that word or phrase which would often be difficult for us to intuit. In fact, in the whole corpus of 450 million words (which actually includes a 45 million word sub-corpus of recent *Sun* texts and its Sunday version, the *News of the World*), this pattern does not occur. And in a subsequent search, we found that for any form of the verb *flock* (infinitive or not), use of Initiators is very rare in the corpus. Indeed, out of the 118 concordance lines for *to flock*, *to flock* is not used in clauses where Initiators control Actors. Figure 15.1 shows some sample concordance lines for *to flock*.

To conclude this section: the fact that the *allow ... to flock* pattern does not exist at all in a 450 million word corpus, and the fact that *flock* generally is very rarely used in clauses with Initiators controlling those who flock, seems to indicate the following: that the sentence *they would be allowed to flock ...* has been designed by the journalist, whether consciously or unconsciously, to fit in with the pre-established pattern where the primary 'doer' is the EU. That is, it would seem the author is fitting this sentence in with the experiential meaning of a Britain which is impotent in the face of the EU. All this supports our earlier point that we have to understand the meaning of 'migrants flocking' in terms of how the previous co-text impinges dynamically upon it.

15.3.2.2 Dynamic interpersonal meaning: attitude

We have established that there is a pattern of experiential meaning where Brussels/EU is the primary 'doer' and thus where Britain is impotent in the face of the EU. In effect we have been trimming our intuitions of negativity with regard to migrants in the text by locating *one* type of negativity – negative experiential meaning. But preceding co-text can channel us to read a sentence as positive, neutral or negative regardless of a sentence's experiential content.

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                 to vote before are expected  to flock to  the polling booths. Latest polls
      HOLLYWOOD stars will continue  to flock to  Ireland thanks to further tax
         from both countries are expected  to flock to  St Etienne for the vital match
            had expected up to 1,000 tourists  to flock to  the grand opening at Leith
               all over the world are expected  to flock to  the capital for a Mardi Grass-
          than a million people are expected  to flock to  Cornwall to see the first total
    Thousands of mourners are expected  to flock to  the resort of Weston-super-Mare
       About 500,000 fans were expected  to flock to  the city to see their heroes.
          expecting thousands of music fans  to flock to  Tralee for the concerts. The
     Crying </subh> Happy couples used  to flock from miles to get married at
          an Aberdaron family. People used  to flock there for help. And for a great
                 extra visitors are expected  to flock there each year and 5,000 jobs are
            the club's faithful will continue  to flock to  home games in their droves. And
       than 350,000 visitors are expected  to flock to  Butlins centres in the first
    Hundreds of thousands are expected  to flock to  the seaside resort city around
             of revellers are also epected  to flock to  BIGGAR where there will be a
      they earned and how free they were  to flock to  the shops full of the luxury
              or that 'Anglo-Saxons' tend  to flock together; and it is probably one of
        of the 19th century visitors began  to flock to  Llandudno, attracted as much by
           of the large species are known  to flock at specific sites. <p> The large
    <c>PHOTO </c> <h> Celebrities set  to flock to  Jamaica festival </h> <p> LONDON
       visitors to the UK where they tend  to flock in open country. This cock
              to go by, clubbers will continue  to flock to  their door. <p> Eat Static have
    Line 43 of 118.   Corpus brmags/UK.
```

Figure 15.1 Sample concordance lines for 'to flock' from the whole of the Bank of English

To illustrate this point, consider the following two texts referring to hypothetical scenarios:

(a) Immigration is very important to our economy. Our population is rapidly falling, and is now ten million short of what it was 50 years ago. But new European legislation will sort out this crisis. Millions of migrants from eastern Europe will be allowed to flock here after ten new nations join the EU next year.

(b) With unemployment and the birth rate at record levels what this country does not need is more immigration. But new European legislation will make this problem worse. Millions of migrants from eastern Europe will be allowed to flock here after ten new nations join the EU next year.

The third sentence in each scenario is identical and is clearly very similar to one from the *Sun* text we have been examining in this chapter. Its preceding sentences do not contain a similar experiential pattern as in the actual *Sun* text and which we explored in the last section. Nevertheless, the nature of the preceding co-text dynamically affects whether the *Sun* sentence is regarded as having positive, neutral, or negative attitude – a particular kind of interpersonal meaning irre-spective of its experiential content. In (a), the 'flocking of migrants' is established in the text via the preceding co-text as a positive event but in (b) as a negative one. Given the dynamism of meaning-making as the text proceeds, analysis of a sentence in a text needs to take account of how what precedes it affects not just the experiential meaning but its (interpersonal) attitude as well. In the

Concordance–(be)

Deputy Political Editor TWO million jobs will **be** lost if Tony Blair signs the new EU treaty, it w posed constitution revealed that Britain **would be** force **to** surrender control of its economy to B nd other key elements of our way of life **would be** affected even more drastically than first though of migrants from eastern Europe. They **would be** allowed **to** flock here after ten new nations join

4 matches	Original text order	Strings matching: be

Concordance–(to – infinitive)

titution revealed that Britain would **be** forced **to** surrender control of its economy to Brussels. and welfare. And it meant Britain would have **to** dish out generous benefits to millions of migra hought. The draft proved Brussels also aimed **to** snatch power over UK employment, foreign af from eastern Europe. They would **be** allowed **to** flock here after ten new nations join the EU n

Figure 15.2 Concordance lines for 'be' and 'to' (infinitive) from the *Sun* text

same way that experiential meaning can occur in patterns so can interpersonal meaning.

In the last section, we used the concordancer to analyse a corpus of texts. But the concordancer can also be useful in making patterns more visible in just one text. Figure 15.2 contains the concordance lines for *be* and *to* (infinitive), two words which are found in the sentence *They would be allowed to flock here ....*

Having words stacked by a concordancer facilitates comparison. As can be seen in Figure 15.2, there is a regular pattern of modal finites (*would* or *will*) which precede *be*. These modal finites and *be* are used to make predictions in lexico-grammatical strings carrying negative attitude, for example *two million jobs will be lost, Britain would be forced to surrender, our way of life would be affected even more drastically*. With *to* there is a regular pattern of infinitives which in their lexico-grammatical environments carry negative attitude, for example *to surrender; have to dish out; to snatch power over UK employment*. Taken together we can see very clearly that there is a preceding co-textual pattern of negative interpersonal lexico-grammatical meaning which dynamically acts to influence how *they would be allowed to flock here* is understood. Thus, this pattern of dynamic negative attitude reinforces the pattern of dynamic negative experiential meaning where Brussels/EU is the primary 'doer'.

In Section 15.3, we have demonstrated how to check overinterpretation which is potentially committed through fixing upon an element of a text, *flock* in this case, at the expense of how its meaning is affected by the following: (a) its collocations in English generally; (b) its preceding co-text. In drawing on corpus findings and systemic functional grammar and in using the concordancer, we have also established how meanings are dynamized at the start of the *Sun* text and thus how the beginning portion of the text positions the reader. But we should be clear in saying this that this does not mean a reader necessarily accepts these meanings.

Our use of corpus evidence for collocations so far has related to English use generally. This means that we may not have picked up on meanings and values that

relate more specifically to the *Sun*. These would be meanings and values which *Sun* readers are routinely exposed to, but which we, as non-regular readers of the *Sun*, would miss. So, for example, while we have looked at how the meaning of *millions of migrants* is dynamized in the text, for all we know *migrants* may communicate negative meaning to the *Sun* readership on the basis that *Sun* readers are routinely exposed to negative evaluation of *migrants*. We could then be under-interpreting from the perspective of *Sun* readers in our reader positioning analysis.

15.4 Checking Underinterpretation: Help from Corpora and the Concordancer

15.4.1 'United States of Europe' and negative attitude in *Sunnow*

To check the prospect of underinterpreting from the perspective of *Sun* readers, a large corpus of *Sun* texts is clearly a useful resource in that it serves as a more specialized set of texts than those found in the more general corpora referred to in the last section. The Bank of English is made up of a number of sub-corpora, one of which, as we mentioned earlier, is a 45 million word sub-corpus consisting of the *Sun* alongside its Sunday version, the *News of the World*. When this chapter was being written, the *Sunnow* corpus had 729 editions of the *Sun* and *News of the World* during the period 1998 to 2000.

As an example of using a specialized corpus to check underinterpretation, consider the expression *United States of Europe* as used in the *Sun* report. In the text, we can see how the preceding pattern of negative attitude would project negative attitude on to 'United States of Europe'. But that is the dynamic accruing of negative interpersonal meaning *in* the text. Someone who was not a regular *Sun* reader and knew nothing about its anti-euro stance and its vocabulary may inadvertently assume that *outside* the text this was a fairly neutral expression interpersonally speaking; (it refers to an imaginary federal Europe made up of its member countries rather like the way the USA is a federation of states). If we are not members of a particular reading community, and thus not so familiar with its vocabulary, with only one instance of an expression in front of us, it can be hard to know what non-dynamic value to put on it. But by going to a corpus which relates closely to the text in question, we are in a better position to see what the value is. To illustrate the potential for underinterpretation, we turn to a set of concordance lines for *United States of Europe* in the *Sunnow* sub-corpus of the Bank of English (Figure 15.3).

As Figure 15.3 shows, some of the lexico-grammatical environments above indicate negative evaluation as regards *United States of Europe*, for example *hopeless dream of*, *bleak plan for*, *fanatics who believe*. Sometimes, however, the lexico-grammatical environment does not yield a clear perspective on how a concept is being evaluated. Sometimes we have to expand the co-text to be able to see more clearly what evaluation is being placed on a particular word or phrase. In the Bank of English, we can activate co-texts for each of these lines which will reveal five screen lines. Here is the expanded co-text for the first line:

> ... *that for the same wages paid for one Austrian worker, an employer can get eight from the Czech Republic. The elite in Brussels have been busy for years building*

```
        towards their ambition of a  United States of Europe, stretching from Shetland
              could pave the way for a  United States of Europe. British people have made
              leader's bleak plan for a  United States of Europe came as a hammer blow to
          the road towards a Federal  United States of Europe. Hague has never tried to
                  forming into a giant  United States of Europe -with the same tax and
                 attacks to push for a  United States of Europe. <p> The former Italian
            were evidence we need a  United States of Europe. 4 <p> COMPLETE WOBBLERS
       The empire-builders want a  United States of Europe. Thank goodness you have
          thirds say there will be a  United States of Europe within the next 20 years.
          for a hopeless dream of a  United States of Europe. He is certain to pay the
               was the first step to a  United States of Europe – which would cost
      or a state in a newly-formed  United States of Europe? These are the central
         Just as many are against a  United States of Europe under a federal
       pressure to become part of a  United States of Europe. Martin Phillips gives 20
         for EU leaders' dreams of a  United States of Europe. Now analysts want to
                 the creation of a  United States of Europe. The battle is now on to
SANTER leads the drive for a  United States of Europe, and says: 'We must
elected government running a  United States of Europe. Or we can leave the EU
      hurl Britain into a growing  United States of Europe run under the same
            to set the pace for a  United States of Europe. A triumphant Mr Blair
    fanatics who believed in a  United States of Europe.' And he warned pro-EU
       the EU is the creation of a  United States of Europe. Countries can either be
       stride along the road to a  United States of Europe. It demands the same tax
Line 1 of 33.   Corpus sunnow/UK.
```

Figure 15.3 Concordance lines for 'United States of Europe' from the *Sunnow* sub-corpus of the Bank of English

> *towards their ambition of a* United States of Europe, *stretching from Shetland to the borders of Russia. They have demolished national independence in critical areas, and paid not the slightest attention to genuine fears and problems* …

In the above, it should be apparent that *United States of Europe* is construed with fairly negative attitude. Indeed, the other expanded co-texts are negative too. (This regular negative attitude for 'United States of Europe' is referred to by some linguists as a negative 'semantic prosody', see, for example, Louw, 1993). Going to the concordance lines and then the expanded co-texts is useful in that it allows us access to how the readership of the *Sun* is likely to understand *United States of Europe* when reading this newspaper – that it carries negative attitude. Initially, for the *Sun* readership, *United States of Europe* would have accrued negative attitude dynamically – through the way its co-text had been set up, just as in the *Sun* text we have been examining. But through routine exposure to such co-texts for *United States of Europe*, it would eventually accrue a negative non-dynamic attitude. *Sun* readers may of course disagree with the evaluation. Nevertheless corpus evidence shows that they are routinely exposed to this evaluation.

Finally, though we used the *Sunnow* corpus to reveal a regular negative attitude associated with *United States of Europe*, we cannot yet know for sure that this is more likely to be associated with the *Sun* than other newspapers or, indeed, the main newspaper we both regularly read – the *Guardian* – another UK newspaper.

As a control, we investigated *United States of Europe* in a 32 million word sub-corpus of *Guardian* news texts in the Bank of English. We found no negative instances of *United States of Europe* in this corpus. So, while a negative attitude for *United States of Europe* may not be solely specific to the *Sun*, nevertheless our comparison here shows us the following: that without the *sunnow* exploration we may well have underinterpreted *United States of Europe* from the perspective of the target readership given our habitual newspaper reading.

15.4.2 Is 'flock' regularly associated with 'migrants' in *Sunnow*?

If we can see that *United States of Europe* could well be recognized by regular readers of the *Sun* as carrying non-dynamic negative attitude, perhaps there are words or phrases in the *Sun* text we have been examining which both of us would see as fairly interpersonally neutral in everyday use but which regularly carry negative attitude in *sunnow*. We established in the last section that 'migrants flocking', looked at in relation to its preceding co-text, accrued negative meaning, both experiential and interpersonal. But perhaps in any case variations of 'migrants flocking' are found regularly in editions of the *Sun* in co-texts which would confer negative attitude – making *migrants* and *flock* a negative collocation. (Remember when we referred to collocations of *flock* in the BNC, the BNC is a general English corpus; it does not include the more specialized *Sunnow* corpus.) If this is the case, then 'migrants flocking' in the *Sun* text we have been examining in this chapter might be recognized consciously or unconsciously by *Sun* readers as carrying negative attitude. *Sun* readers would then be more likely to interpret the expression negatively, especially given how it accrues negative dynamic interpersonal meaning in the text as we saw in Section 15.3. But then again, perhaps 'migrants flocking' is not found regularly in co-texts which would confer negative attitude. Either way, we as non-regular *Sun* readers would not know. We need then to explore the *sunnow* corpus to investigate this possibility and thus guard against potentially under-interpreting from the perspective of the *Sun* reader. To start with we need to find out whether the lemma *flock* regularly collocates with the lemma *migrant*. This is what we do in the rest of Section 15.4.2.

Concordancers not only generate concordance lines. They can also be used to generate collocations. We searched the *Sunnow* corpus in the Bank of English to see if there was a strong collocation between *flock* and *migrants*. In our concordancer search, we used a span of 4:0 which means that for the node word *flock* – the word that we were interested in – we searched one, two, three or four words before *flock*. (A span of 4 is actually the maximum the Bank of English provides.) We decided to use the maximum span because smaller spans such as 1:0 would preclude expressions such as '.... migrants who flock ...'. Because we were interested in the word *migrants* when it comes before the verb *flock* – that is, mirroring the Actor *migrants* in the *Sun* text – in the first instance we did not look to the right side of the node, hence the span we wanted was 4:0 and not 4:4.

Our search revealed that in fact there were no instances of *migrants* collocating with the verb *flock*. There were, however, two instances of immigrants. This was

fans	23202	27
who	133713	27
and	937231	20
are	167762	20
people	46398	17
s	484147	17
000	47968	16
thousands	4554	16
tourists	1112	16
as	209407	14
brits	1655	13
expected	7186	13
million	6567	10
1999	75520	9
has	179403	8
in	714619	8
their	126452	8
all	113859	7
punters	2318	7
world	61327	7

Figure 15.4 Collocates for 'flock' from the *sunnow* sub-corpus of the Bank of English

in contrast to the following collocates for the verb *flock*: 27 instances of *fans*, 17 of *people*, 16 of *tourists*, 13 of *Brits*, 5 of *visitors*, 4 of *holidaymakers*. The first column in Figure 15.4 shows a selection of these collocates. The second column shows the number of instances of the word in the entire *Sunnow* corpus. The third column shows the number of collocations of that word and 'migrants'.

It would seem then that there is no strong collocation between *migrants* and *flock* in *Sunnow*.[7] *Sun* readers are not routinely exposed to 'migrants flocking' (or 'immigrants flocking'). In turn, *Sun* readers cannot have been routinely exposed to instances of 'migrants flocking' which have been associated with negative attitude. It turns out, then, that had we not inspected the *sunnow* corpus we would not have been guilty of underinterpretation. But we would not have known that without inspecting it.

15.4.3 Is 'flock' regularly associated with negative attitude in *Sunnow*?

All the same, the above collocational evidence does not mean that the *Sun* readership is routinely exposed to a neutral attitude with regard to the verb *flock*. Perhaps it is just the verb *flock* which is perceived as having negative attitude by *Sun* readers (consciously or unconsciously) because of how it is used regularly with *all* of its collocates. If this was the case, then *migrants* in our *Sun* text, by association with the verb *flock* regularly used in a negative way, could then have negative attitude conferred upon it by *Sun* readers. We cannot see whether these collocations carry negative attitude just from the collocation list. We need to look at concordance lines instead. However, when we look at concordance lines for the verb *flock* (194 occurrences), we find in the main there is nothing particularly negative about its use. For example, *tourists* flock here and there and this is not conveyed as negative

by reporters. Indeed, when we searched only for the verb *flock* with the adverbial *here*, in order to more closely mirror the *Sun* sentence *they would be allowed to flock here* ..., we found all the uses (six of them) to be positive. Here is one of the instances with expanded co-text:

> Elton John sang the world's best-selling single – Candle in the Wind.
> Teletubbies are taking the world by storm, challenging top-rated Barney the
> Dinosaur in the U.S. More than 20 million tourists **flock here** every year.
> We don't have a ridiculous national dress – like German lederhosen or
> French berets. English designers are taking Paris by storm. Stella McCartney
> is in charge of fashion house ...

Interestingly too, we can see that it is the preceding co-text which seems to tell us that this sentence is to be read dynamically with positive attitude.

What can we say from all this – from the collocational evidence and the con-cordance line search? We can say that negative attitude associated with *flock* in the *Sun* text we have been examining in this chapter is more likely to be triggered because of the way the text is configured. That is, any negative meaning, experi-ential or interpersonal, associated with *flock* is more likely to come from the way the sentence *they [millions of migrants from eastern Europe] would be allowed to flock here* ... is part of the following: (a) an experiential pattern of meaning where Britain is powerless in the face of the EU; (b) a pattern of negative interpersonal meaning which involves modal finites and infinitives. Outside the *Sun* report we have been examining, *flock* does not carry negative attitude *per se* in how it is used in *Sunnow*. By extension we suggest it is not likely to do so for the *Sun* readership in their habitual reading of this newspaper. We have then been able to tease apart, with regard to *flock*, meanings created in the text from those that might have been created because of values likely to be projected during reading.

15.4.4 Is 'Migrants' regularly associated with negative attitude in *Sunnow*?

But if *flock* is not routinely associated with negative attitude in *sunnow*, perhaps we need to change tack. Perhaps we should make *migrants* the focus of an analysis which guards against underinterpretation. So to find out if *migrants* is evaluated negatively in the *Sun* on a regular basis, let us find out what its collocates are. And to get some perspective on these collocates, let us also do a comparison between collocates of *migrants* in the *Sun* and the liberal, middle-class *Guardian* newspaper corpus of 32 million words we referred to earlier and which is also part of the Bank of English. This sub-corpus is referred to in the Bank of English as *Guard*. This is what we found for a span of 1:0; for each corpus, we itemized the collocates for all instances of *migrants* and then the number of times it featured:

> *Sunnow*
> economic 10, illegal 10, of 8, the 8, bogus 3, to 3, stop 2, Afghan 1, African
> 1, be 1, behind 1, but 1, by 1, cheat 1, ensure 1, fellow 1, fewer 1, foil 1, how
> 1 in 1, kick 1, legitimate 1, let 1, lorry 1, many 1, million 1, more 1, new 1,
> on 1, refugees 1, roll 1, Scots 1, seen 1, some 1, tie 1, tunnel 1.

Guard
economic 25, illegal 4, peasant 4, returning 4, Chinese 3, European 3, child
2, Kurdish 2, Madurese 2, Albanian 1, Asian 1, Bangladeshi 1, bogus 1,
British 1, country 1, desperate 1, drift 1, early 1, EU 1, exiles 1, forcing 1,
former 1 , frustrated 1 , genuine 1, in 1, Irish 1, Jamaican 1, Jewish 1, Latino,
1, many 1, Mexican 1, million 1, most 1, Muslim 1, often 1, other 1, passage 1,
rare 1, receive 1, songbird 1, stricken 1, summer 1, targets 1, them 1, to 1,
trafficking 1, Turkish 1, undocumented 1, unwashed 1, we 1, well, 1, west 1,
when 1, where 1, winter 1.

What differences are there in the findings? One rather obvious difference is that
migrants receives greater discrimination in *Guard* than in the *Sunnow* corpus. This
is even more marked given that the *Guard* corpus contains 13 million fewer words
than *Sunnow*. Compared with the *Sun*, religion and race are not lumped together
and, as the expanded co-texts show, different situations of different types of
migrants are indicated. For this reason, greater appreciation of the different types
and circumstances of migrants and thus sympathy for them is afforded. They are
not just treated as one homogeneous group but different groups. Second, we see
that the rather loaded *illegal* is used the same number of times in the *Sunnow* corpus
as the more interpersonally neutral *economic migrants*. *Economic migrants* is used
much more in *Guard* than *illegal migrants*. We have found, then, some differences
in the collocates of *migrants* between the two newspapers. Let us go a little further
and compare the lexico-grammatical environments for *illegal migrants* in the
Guard corpus with the use of *illegal migrants* in *Sunnow*. First, those for *Guard* (see
Figure 15.5).
    In the first concordance line, the author distances himself or herself from the
meaning of *illegal migrants* with the modifier *so-called*. In the third concordance line,
as the expanded co-text substantiates, a group of Sudanese workers were expelled
from Libya *on the charge* of being illegal migrants. We now compare these lexico-
grammatical environments for *illegal migrants* in *guard* with the use in *sunnow* (see
Figure 15.6).
    Examining the lines above as well as the expanded co-texts, we see in contrast
to the *Guardian* that the issue of *illegal migrants* refers in the main to the British sit-
uation and the control of migrants. Here is an example of one of the expanded co-
texts in *Sunnow* to indicate the fairly negative British context for illegal migrants:

> ...racist or xenophobic.' But Mr Hague, 40, will attack the crisis that has
> turned us into Europe's No1 immigration target. And he will blame Labour
> for sending the wrong signal to **illegal migrants** by offering an amnesty to
> 20,000 arrivals. Mr Hague will add: 'As a result of Labour's policies, Britain is
> no longer just a safe haven, but a soft touch.

To sum up Section 15.4: by using corpora as we have done we have some insight
into the kind of world that the *Sun* readership is presented with on a fairly regular
basis. We have been able to show that negativity associated with *flock* is likely to
be as a result of meanings created in the text rather than it being a negative cue

to track down so-called illegal migrants. A cordon sanitaire has been
about 55,000 of them illegal migrants, mostly doing the poorly paid 3-D (
expelled from Libya as illegal migrants, the al-Ingaz al-Watani government
of the last group will be illegal migrants. The scheme would cost business ú

Line 1 of 4.   Corpus guard/UK.

Figure 15.5 Concordance lines for 'illegal migrants' from the *Guard* sub-corpus of The Bank of English

up Pounds 5,000' to cut illegal migrants </hl> <bl>Simon Hughes </bl> <dt>
battle to halt the flood of illegal migrants is to be won. Immigration Minister
boss gives Xtra help to illegal migrants; Now Investigation </hl> <bl>
sending the wrong signal to illegal migrants by offering an amnesty to 20,000
deal with it. <p> They are illegal migrants. Should we accept illegal
migrants. Should we accept illegal migrants? Our law does not allow it." <p>
to open a second camp for illegal migrants. <p> The move defied Home
<hl> Sisters marry 24 illegal migrants </hl> <bl>Sara Nathan </bl> <dt>
trade went into recession. Illegal migrants vied with Americans for jobs and
increased vigilance against illegal migrants. When the Asylum and Immigration

Line 1 of 10.   Corpus sunnow/UK.

Figure 15.6 Concordance lines for 'illegal migrants' from the *sunnow* sub-corpus of The Bank of English

for the target readership. In contrast, we have also been able to show that while *migrants* accrues negative meaning in the text, it could also be a negative cue for the *Sun* readership based upon what its readers are routinely exposed to.

15.5 Conclusion

In the course of our investigation in this chapter, we have established a number of principles:

1 In assessing how a text positions its target audience, we as analysts have to try to check the prospect of overinterpretation and underinterpretation, and especially so if the target audience does not include us as analysts. *Totally* removing the values we bring as analysts to the text in question is difficult to achieve if indeed it is possible at all. But if we make no attempt to keep these in check, our analysis runs the risk of being merely narcissistic and would then lack generalizability – that is, we would only be analysing from our own perspective and

so could not really claim that we are interpreting text positioning from the perspective of the general target readership.

2 Corpus evidence is useful in guarding against the prospect of us as analysts overinterpreting and/or underinterpreting in critical linguistic analysis of reader positioning.

3 A specialized corpus is useful since we can obtain evidence of what the specific readership is routinely exposed to. We used the specialized corpus to guard against underinterpretation. But it could be used to guard against overinterpretation as well.

4 As a result of employing corpus evidence (both general and specific) to check over- and underinterpretation, analysis of how a text positions its readers is more likely to carry generalizability than one which does not employ corpus evidence in these ways.

5 Use of corpora and the concordancer enables us to see clearly how meanings in a text are constructed to set up a dynamic reader position. We did this for the start of the text but space restrictions prevented an analysis of the whole text. Using corpora and the concordancer in the ways we have shown can help to capture the reader positioning of the text. But, we make no claim whatsoever that we have captured reader interpretation. Empirical analysis would be needed for the latter given its variability.

6 With the aid of a concordancer, the use of general corpora and specialized corpora can help us tease apart how a text positions readers to make meanings – dynamically, shaped through the accumulation of co-text, or projected on to the text because of values that may be extant in a particular reading community.

7 Use of the concordancer allows us to make lexico-grammatical patterns of meaning more visible, which enables us to see whether they form wider patterns in the text.

8 Ultimately whether we are guarding against overinterpretation or underinterpretation rather depends on whether we come to the text full of intuitions about how meanings would be made by (a) the casual reader generally speaking; (b) the casual reader who belongs to a particular readership. The more abundant our intuitions the more likely we have to guard against overinterpretation. The fewer our intuitions, the more likely we have to guard against underinterpretation.

We should also be clear about the inherent limits on claims arising from the kind of investigation illustrated in this chapter. As Widdowson (2000: 19) says:

> You cannot read off significance from text as if it were a simple projection
> from textual features, and you could not do it, even if you managed to
> account for their intratextual relations. For with discourse we have to
> consider not just co-textual but contextual relations, and these too, of
> course, have a modifying effect.

In this chapter we have been interested in how the *Sun* text positions readers. Our focus has then been text focused rather than discourse focused. Discourse refers to

the meanings that readers would make from a text depending on the context they are in and in line with their goals, their background, values, etc. One possible context could be solitary reading where the reading is for gist. Another could be two people who are anti-EU reading the *Sun* text simultaneously and negotiating their response to it. And so on. To analyse the discourse of readers of the *Sun* text, we would not only have to analyse the text but we would have to know something of these readers rather than just what they are routinely exposed to. So, we would have to interview them, understand their reading habits, something about their lives, attitudes towards migrants, etc., and thus how these contextual factors might have a modifying effect on their reading. Naturally, to carry conviction, the sample of *Sun* readers should be as large as possible.

All of the above would not just be Critical Linguistics since this has only a text-analytical focus. It would instead be empirical Critical Discourse Analysis (CDA). CDA goes beyond Critical Linguistics in being concerned with the reception of texts as well as the circumstances of production (see Fairclough and Wodak, 1997; Titscher *et al.*, 2000). So our investigation in this chapter could be much broader in not only exploring the reception of the text but empirically investigating why the *Sun* journalist wrote in the way he did. We could do this through examining the social and political constraints of the *Sun*, the linguistic conventions he and his editor operate under and so on. Whether the empirical focus is text reception, text production or both, such an examination is however an academic ideal. It would only be realistic as part of a large research project. One of the advantages, though, of the way corpora and the concordancer have been used in this chapter is that they enable the generation of constrained hypotheses about reader reception; constrained because overinterpretation and underinterpretation would be checked. Given this degree of constraint, these would be hypotheses worth testing if empirical CDA could ensue.

By its very nature, Critical Linguistics, as part of CDA, is going to be more concerned with how texts position readers rather than investigating how texts are produced or received. A critical linguistic approach is more likely to be interested in how the nature of a text's configuration affects how meanings are accrued dynamically and thus how this dynamic accruing of meaning serves to position readers. For those analysts who do not have the need, let alone the resources, time, research expertise, etc., to go on to engage in empirical CDA, using corpora and the concordancer as we have done, and in particular using a relevant specialized corpus, can at least give a partial but highly practical way into seeing the kind of discourse that could be generated in reading a text. Analysts can then decide whether they can or need to follow through this partial view of discourse into a thorough-going empirical CDA. Above all, regardless of whether those practising Critical Linguistics wish to, need to, or can do this, the approaches we have suggested in this chapter help to reduce the prospect of them doing the following: seeing puppies where other readers see dark red splodges.

Acknowledgements

Notes

1 This is the figure for January 2003. See: http://media.guardian.co.uk/
   presspublishing/tables/0,7680,893996,00.html
2 Just over half the *Sun*'s readers are in working-class occupations, and only about
   10 per cent are in the professions or in management. See the following *Guardian*
   newspaper article (11 April 2000) by Paul Whiteley, professor of politics at
   Sheffield University.
   www.guardian.co.uk/Archive/Article/0,4273, 3984707,00.html
3 Actor refers to the doer of an action; Goal refers to who or what is 'done to'.
   Actor and Goal are known as participant types. Their origin is the systemic
   functional grammar of Halliday (1985, 1994).
4 The lemma of a word consists of all its grammatical instances. So for the lemma
   of the verb *flock*, there is *flock, flocks, flocked, flocking*.
5 Co-text refers to the pieces of text which precede and/or succeed the clause
   under analysis.
6 An Initiator is another participant type in Halliday's (1994) systemic functional
   grammar. The Initiator brings about the action performed by an Actor, e.g.:

Mary	made	John	roll	the ball
Initiator		Actor		Goal

7 We also did a collocate search for 'flock' with a span of 4:4 as well as searching
   for other instances of the lemma 'flock' – flocks, flocked, flocking. There was no
   evidence found that any of these other versions of 'flock' collocated with
   'migrants' in *sunnow*.

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Index