Computational Stylistics
for
Natural Language Translation

Chrysanne DiMarco

Technical Report CSRI-239
May 1990

Computer Systems Research Institute
University of Toronto
Toronto, Canada
M5S 1A4

Computational Stylistics
for
Natural Language Translation

Chrysanne DiMarco

Department of Computer Science
University of Toronto
Toronto, Ontario, Canada
April 1990

A Thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy in the
University of Toronto

To my mother

Abstract

The problem of style is highly relevant to machine translation (MT), but current systems deal only superficially, if at all, with the preservation of stylistic effects. At best, MT output is syntactically correct but aims no higher than a strict uniformity in style. The expressive effects contained in the source text, together with their associated meaning, are lost.

I have developed an approach to the computational treatment of style that incorporates three selected components — lexical, syntactic, and semantic — and focuses on certain aspects of syntactic style. I have designed and implemented the foundations of a computational model of goal-directed stylistics that could serve as the basis of a system to preserve style in French-to-English translation. First, I developed a vocabulary of style that contains both *primitive* and *abstract elements of style*. The primitive elements describe the stylistic effects of individual sentence components. These elements are combined into patterns that are described by a stylistic meta-language, the abstract elements, that define the stylistic effects common to a group of sentences. These elements have as their basis the notions of *concord* and *discord*, for it is my contention that style is created by patterns of concord and discord giving an overall integrated arrangement. These patterns are built from the abstract elements and associated with specific stylistic goals such as clarity or concreteness. Thus, I have developed a *syntactic stylistic grammar* at three interrelated levels of description: primitive shapes, abstract elements, stylistic goals. Grammars for both French and English have been constructed, using the same vocabulary and the same development methodology. As well, Mark Ryan, a colleague at the University of Toronto, has constructed a *semantic stylistic grammar* that uses this vocabulary and methodology. Parsers that implement these grammars have also been implemented.

Together, the English and French parsers could form the basis of a system that would preserve many aspects of style in translation. The incorporation of stylistic analysis into MT systems should significantly reduce the current reliance on human post-editing and improve the quality of MT output.

Preface

The work that will be described in this thesis is inherently interdisciplinary, taking in parts of computer science, artificial intelligence, linguistics, stylistics, translation, and French and English. It is intended to be of interest to researchers in any one of these areas, yet necessarily assumes some familiarity with all of them. I have tried to make the thesis as accessible as possible to all readers, and a reader from one area, without expertise in the others, should not be frightened off. But not all readers will need to read everything. The following guide will help readers find the parts of special interest to them.[1]

Chapter 1 motivates the study of an artificial-intelligence–based approach to computational stylistics. The importance of stylistic understanding to the linguistic analysis of both unilingual texts and texts in translation is introduced. The problems that will be addressed in the thesis are outlined. This is a core chapter and is recommended to all readers.

Chapter 2 reviews the background material in many of the interdisciplinary areas listed above that I will draw on: machine translation (2.1), human translation theory (2.2), and stylistics (2.3, 2.4). The section on stylistics contains sub-sections on basic stylistics (2.4.1, 2.4.2), theoretical stylistics (2.4.3), and computational stylistics (2.4.4). Readers with a knowledge of one or more of these areas may omit the relevant sections.

Chapter 3 presents a computational model for understanding how style is handled in translation (3.1) and a structured vocabulary of style (3.2) that is the basis of the subsequent codification of stylistic knowledge. This is a core chapter and is recommended to all readers.

Chapter 4 proposes a methodology for the codification of stylistic knowledge (4.1), and then applies this methodology to the detailed development of a stylistic grammar for English at increasingly abstract levels of description (4.2, 4.3, 4.4). Section 4.2 presents grammar rules at the most detailed level of description, giving the motivation for each rule. Sections 4.3 and 4.4 do the same for the more general levels of abstract stylistic features and high-level stylistic goals, such as clarity or concreteness. Readers without a background in linguistics will probably wish to omit sections 4.2 and 4.3, but should scan the description of the

---

[1]The following references will be useful to readers who are interested in basic information about these areas: Crystal and Davy (1969) and Kane (1983) for English stylistics, Guiraud (1972) and Marouzeau (1941) for French stylistics, Vinay and Darbelnet (1958) for French-English comparative stylistics, Delisle (1984) for human translation theory, and Hutchins (1986) and Nirenburg (1987) for machine translation.

methodology (4.1) and the more traditionally stylistic level of the grammar (4.4).

Chapter 5 repeats the development of a stylistic grammar, but this time for French. The methodology is an enhancement of that used for its English counterpart. That is, the French grammar has a more-formal functional basis. Readers with an interest in linguistics will find sections 5.3, 5.4, and 5.5, which describe the functional framework of the French grammar, to be particularly relevant. However, the material is not as detailed as in chapter 4, so that even non-linguistic readers may wish to scan these core sections.

Chapter 6 summarizes the application of the vocabulary and methodology developed for the description of *syntactic* aspects of style to the development of a *semantic* stylistic grammar for English that correlates paragraph-level patterns of focus with stylistic goals. The discussion emphasizes the generality of the vocabulary and methodology. I hope that readers with a particular interest in text analysis will find that the discussion of a uniform approach to the codification of syntactic and semantic style will add to their understanding of the integration of these two aspects of language.

Chapter 7 describes an implementation of the English and French syntactic stylistic grammars in the form of STYLISTIQUE, a stylistic parser written in PROLOG. This chapter is intended for readers with a background in computer science and artificial intelligence.

Chapter 8 reviews the contributions and limitations of the research described in this thesis, as well as discussing both the short-term and long-term research goals to which the thesis leads. This is a core chapter and is recommended to all readers.

Appendix A contains the actual unannotated rules for the French syntactic stylistic grammar developed in chapter 5.

Appendix B contains the STYLISTIQUE parses of 75 sample sentences (52 English, 23 French) that are used as illustrations in chapters 4 and 5. The introduction identifies the significant stylistic features of each sentence. The reader is advised to read this appendix selectively, concentrating on the initial part of each parse, which lists the stylistic goals and abstract stylistic elements associated with the sentence. I suggest that readers consult this appendix when they want detailed information about an example in the main body of the thesis.

In summary, the following readings are suggested:

- Computational linguists:
  Read it all.

- Other linguists:
  Omit chapter 7.

- Computational humanists:
  Omit 4.2, 4.3, and all of chapters 5 and 6.

- Non-computational humanists:

Omit 4.2, 4.3, and all of chapters 5, 6, and 7.

- General computer scientists:
  Omit 4.2, 4.3, and all of chapter 5.

Acknowledgements

whose faith sustained me.

Chrysanne DiMarco
April 1990

Contents

Chapter 1

Introduction

1.1 An advocacy of style

Le style, c'est l'homme même.[1]

That one should attempt to analyze stylistic aspects of language may seem a rather frivolous aim. The critic may thoughtlessly dismiss style in language as mere decorative veneer. But quite the reverse is true. Style in language is not just surface appearance; rather, it is an essential part of meaning, part of the author's communication to the reader. Understanding a text requires more than just understanding the concepts it contains: textual comprehension involves the interaction of semantic content, emotional expression, and interpersonal and situational attitudes. This interaction requires a sensitivity to stylistic nuances. To fully understand the stylistic nuances of a text, one must determine not only the propositional content, but also how its communicative effect is coloured by the form, which reflects affective content. If propositional content provides the basic tone, then the expressive form provides the tonal quality. Together, form and content create style, that which distinguishes both an individual text and a collective body of writing.

Style is created through subtle variation, seemingly minor modulations of exactly what is said, the words used to say it, and the syntactic constructions employed, but the resulting effect on communication can be striking. Consider the following versions of the same Biblical verse, Matthew 7:27:

(1-1) And descended the storm and came the floods and blew the winds and beat against that house and it fell and the fall of it was great. (Literal translation of the Hellenistic Greek.)

(1-2) And the rain descended, and the floods came, and the winds blew, and beat upon

---

[1] *lit.*, The style is the man himself. George Louis Leclerc de Buffon, Discourse (on his admission to the French Academy, 1753).

that house; and it fell: and great was the fall of it. (Revised Standard Version 1952)

(1-3) The rain came down, the floods rose, the wind blew, and beat upon that house; down it fell with a great crash. (The New English Bible 1970)

(1-4) Rain came down, floods rose, gales blew and struck that house, and it fell; and what a fall it had! (The New Jerusalem Bible 1985)

(1-5) The rains fell, the torrents came, the winds blew and lashed against his house. It collapsed under all this and was completely ruined. (The New American Bible 1973)

The first variation, a word-by-word translation from the Hellenistic Greek[2], is interesting because it is actually a good deal less striking than subsequent, widely-accepted versions. The initial placements of the verbs would have been considered quite normal and the closing is also quite usual. The sense of discord and resulting poetic effect is not as evident as in the following text, from the Revised Standard Version, which is resoundingly poetic in the imitative form of the opening clauses and in the effective use of an inversion at the end. The text begins in strong concord and dissolves into discord, but not unpleasingly so. *Discord*, as I use the term, is a deviation from the norm but can be used to good effect. As we will see, style is achieved through the construction of patterns of concord *and* discord, particular combinations of order and disorder that create an overall harmonious arrangement.

In the next two examples, versions (1-3) and (1-4), the dramatic effect of the closing has been retained from the Revised Standard Version but, interestingly, through different choices of words and structure. In (1-3), the last clause is inverted but the translator has chosen to emphasize the fall itself *(down it fell)* rather than the sheer magnitude *(great)*. Example (1-4) ends on an intense note, achieved through the use of an exclamation, rather than an inversion of syntactic structure. And here, nothing is said about the degree of magnitude of the fall.

In the final example, the effective dissolution from initial concord to final discord has been lost, and with it has gone the drama and intensity that the Revised Standard Version translators tried to add to the original Greek. In this case, the translator has opted for plainness and clarity, even at the expense of beauty.

(1-1) sounds odd and disjointed in English, (1-2) to (1-4) are dramatic in a way that (1-5) is not, but they all have the same essential content. What then causes the differences in effects? What parameters are being varied across (1-1) to (1-5)? At least four parameters play a role in these stylistic variations: lexical, syntactic, focal, and semantic aspects.

---

[2]I would like to thank Kem Luther for this translation.

Lexical aspects: Compare (1-4) to the following constructed texts:

(1-6) Rain descended, floods rose, gales raged and beat upon that dwelling, and it collapsed; and what a fall it had!

(1-7) Rain fell, the water level rose, winds blew and hit that house, and it fell; and what a fall it had!

The differences between (1-4), (1-6), and (1-7) are primarily lexical, with (1-6) using rather elegant words, (1-7) opting for a more commonplace vocabulary, and (1-4) lying somewhere between the other two in terms of lexical formality.

Syntax: If we compare (1-2) to (1-5), we see that the former uses syntactic structures that create more dramatic effects: a short climactic sentence, *and it fell*, and a striking inversion, *great was the fall of it*, close the text on a powerful note. In contrast, (1-5) ends with a very ordinary, rather forgettable, construction.

Focus: If we compare (1-2) to (1-3), we observe that the two sentence structures bring different elements into focus: *great was the fall of it*, in contrast to *down it fell with a great crash*. In general, variations in focal structure can create different stylistic effects. In chapter 6, I describe work by Ryan (1989), who adapted the research in this thesis to account for the relationship between focal structure and style.

Semantics: Compare (1-4) to the following two constructed versions of the same text:

(1-8) A serious storm, with rain and gales and floods, struck that house, which collapsed.

(1-9) Rain fell and fell and eventually caused a flood, which rose up to that house; also the winds kept blowing until eventually the combined forces of rain, flood, and wind were too great and caused so much structural damage that the house collapsed in a severe crash.

These three variations differ in their semantic content: (1-4) merely reports the events, but (1-8) evaluates, *a serious storm*, while (1-9) emphasizes technical details, *structural damage*. These semantic differences are reflected in the surface structures of the texts, so that different stylistic effects result.

Given that these four parameters — lexical aspects, syntax, focus, semantics — cause stylistic variations, two questions arise:

- How do we characterize each type of variation?

3

- To what end does each variation contribute?

In this thesis, I analyze the stylistic effects created by variation of the syntactic parameter. In the Biblical texts, we have seen how different syntactic forms carry different stylistic import, to the point that one form is poetry while another is just dull, plodding prose. But style isn't just a matter of achieving poetry or not. Every text, large or small, interesting or dull, effective or not, has its own style, as the following examples (all from newspapers) illustrate:

(1-10) Silvia, a commanding woman in her 50's, a shrew falsely mellowed by religion, promptly organized prayer sessions on the lines of Tupperware meetings.[3]

(1-11) The artist provides a dreamy background done in yellow and bistre brushstrokes to a blue gown with woodenly rigid folds or the profile of a brown angel painted so mineral hard and modelled so carefully that the incoherence of virtue does it injury.[4]

(1-12) Crazed with fear, he tried to purify her by dunking her in the ocean and holding her under the water; then in desperation he threw her on the still-smoking pyre.[5]

These three sentences were taken from newspaper articles translated from French into English, so we would expect the translator to have aimed for clarity. Nevertheless, there are quite different effects. The first emphasizes a sense of concord by repeating the same kind of structure, a nominal group, in the postmodification of *Silvia*. The second, more complex, achieves a certain balance and harmony in the judicious use of conjunctions, but is so difficult to understand that it really doesn't make sense. The third has an initial discord, *crazed with fear*, a stark participle clause, that emphasizes the intensity of the subject's emotional state.

The effects of style need not be intense; while still expressive, the effects may be quite subtle. In the next sentence, for example, we perceive a quiet understated tone:

(1-13) A House-Senate conference committee agreed today to preserve a feature of the tax code that allows businesses to deduct the cost of certain meals as it moved toward final agreement on a bill to raise taxes by $98.9 billion over three years.[6]

At first glance, this seems a rather bland and boring exercise in bureaucratese, but the author actually builds up the complex structure through a sophisticated nesting of subordination and still, I believe, achieves clarity. In contrast, the next passage seems to get lost in its own complexity:

---

[3] Adapted from the *Manchester Guardian Weekly*, 7 February 1988. Translated from *Le Monde*.

[4] *Manchester Guardian Weekly*, 14 February 1988. Translated from *Le Monde*.

[5] *Manchester Guardian Weekly*, 7 February 1988, with minor punctuation corrections. Translated from *Le Monde*.

[6] *New York Times*, 16 August 1982.

(1-14) Refraining from using such, strictly speaking, extratextual information and applying instead the information explicitly given in the form of titles and the like seems to be a much more organic way of consulting the human, not only about the domain of a whole text, but much more subtly about appropriate pieces, such as paragraphs, sections, chapters, etc., exactly in those portions the author has chosen to subdivide it.[7]

In this sentence, the authors achieve a striking and probably unintended discord through the use of the adverbial phrase *strictly speaking*. As we have seen, long sentences need not be difficult to understand, but, as in this example, an unfortunate choice of words and syntactic structure can unintentionally obscure the meaning that the authors wanted to convey.

I believe that the syntactic stylistic differences of concord/discord and clarity/complexity can be recognized and represented in a formal notation. They are, in a word, *codifiable*. However, if we want to analyze and understand stylistic nuances, we need to codify more than just the common strictures enforcing standard style. As I have mentioned, textbooks of style tend to give prescriptions for classic "good" style: be clear, be plain, be simple. This does not tell us how to achieve the kinds of complex stylistic effects that people need to use in writing. I will propose that we need a *goal-directed* understanding of style. People aim to convince, to persuade, to impress and, even, sometimes, to obscure, but standard textbooks tell us very little about how to intentionally achieve varied and subtle stylistic and pragmatic goals.

A text can vary with respect to a number of stylistic goals, such as clarity or obscurity, abstraction or concreteness, staticness or dynamism. Particular choices of words, syntactic structure, and semantic structure make a text more — or less — stylistically varied and effective. Our ability to answer the question of how to codify these choices is the basis of understanding how to transform stylistics in natural language into AI-based *computational stylistics*.[8]

1.2 The function of style

Style does not occur without reason. Research on language generation shows that propositional content alone is insufficient to determine the nature and form of a sentence (Hovy 1987, McDonald & Pustejovsky 1985b, Halliday 1985). Even after the propositional content has been decided upon, there are still a number of lexical, syntactic, and even semantic,

---

[7]Bart Papegaaij and Klaus Schubert, *Text coherence in translation*, Dordrecht: Foris Publications (Distributed language translation 3), 1988, 26.

[8]The term *computational stylistics* has also been used (Milic 1982) to describe what might better be called computer-*aided* stylistics in which computer-generated data and pattern-matching aid human analysis and judgement of style. In contrast, my use of the term entails fully-automatic computer analysis of style.

decisions that the language producer must make before a sentence can be formed. These decisions are not made randomly, but rather in specific, deliberate ways that allow the encoding of additional information, such as opinion, emotional affect, and interpersonal relationships. To the extent that a piece of text exhibits a particular, recognizable style, it also reflects the author's intent to convey the effect associated with that style. Therefore, full understanding of a text must represent not only propositional content, but also stylistic effects. This is true in both unilingual or multilingual processing. In the latter case, we must transfer stylistic effects from the source-language to target-language text — making appropriate use of the stylistic conventions of the target language.

However, this introduces a dilemma: the basic criteria for the proper translation of style are the following complementary, but sometimes conflicting, aims:

- One wants to produce a style appropriate to the particular target language so that the translation is more acceptable and more natural, yet

- One should preserve the original author's stylistic intent, the information being conveyed through the manner of presentation.

Sometimes, there is no way to resolve this dilemma, and one is left with an unsatisfactory translation. But, with a knowledge of the stylistic resources of a language and the possible range of effects they can create, one can substantially improve the quality of a translation. This is the motivation for focusing on a study of style in machine translation in this thesis. By taking a computational approach, we are forced to reach a level of concreteness and specificity that many purely linguistic studies lack. By focusing on translation, we are forced to transcend the particular stylistic conventions of one language and to seek underlying cross-linguistic effects and communicative intents. Though the study is not complete (for example, it does not contain any actual machine translations), it does go a long way toward making available a machine translation system that will be able to perform the translation of syntactic style between French and English, and deal with the various types of problems that arise.

1.3 Style in translation

These problems of style in translation occur at the lexical, syntactic, and semantic levels, as the following examples illustrate[9]. At the *lexical level* we have situations such as the following, in which the two languages differ in the use of the premodifying pronouns:

(1-15) a) This is your receipt.
        b) Reçu du client.

---

[9]These sample translations are taken from a textbook for translators: J.P. Vinay and J. Darbelnet, *Stylistique comparée du français et de l'anglais*, Paris: Didier, 1958.

If we contrast the preceding sentences, we see that English is more concrete in its use of a personal pronoun, *your*, while French uses an abstract impersonal construction, *du*.

In the following example, distinctly different effects are associated with the words chosen to express the amount:

(1-16) a) Give <u>a pint</u> of your blood.

b) Donnez <u>un peu</u> de votre sang.

The English is more concrete in its use of a specific amount, *a pint*, while the French prefers to be more abstract in the indeterminateness of the amount requested, *un peu: a little*.

Not only individual words but whole phrases can express different nuances:

(1-17) a) <u>flight after flight</u>

b) des <u>escaliers interminables</u>

(1-18) a) as they covered <u>mile after mile</u>

b) à mesure que <u>les kilomètres s'allongeaient</u> derrière eux

English has a preference for concreteness and this is illustrated above by its marking of the stages of a process, where French, in contrast, uses a single word. (Stylistic preferences such as this are catalogued for French and English by Vinay and Darbelnet (1958).)

One must also consider different preferences in *syntactic structure* between the source and target languages:

(1-19) a) He waited unconcernedly for the opening of the case, as he felt sure to win.

b) Sûr d'obtenir gain de cause, il attendit sans inquiétude l'ouverture du procès. (*lit.*, Sure that he would win the case, he waited without anxiety for the opening of the trial.)

In French, adverbial phrases or clauses are placed by preference at the head of a sentence, especially if they have a causal sense, *i.e.*, the cause precedes the effect. English, on the other hand, is more straightforward in presenting information in the order of importance in the text.

The stylistic differences between French and English are not confined to abstraction versus concreteness. As we shall see, another important distinction is staticness versus dynamism, as in these examples:

(1-20) a) People cheered as the troops <u>marched</u> by.

b) Les gens ont applaudi sur <u>le passage</u> des troupes. (*lit.*, People cheered along the passage of the troops.)

(1-21) a) When he returns

b) Après son retour (*lit.*, After his return)

7

(1-22) a) The natives opened out as he came up.

b) Les indigènes s'écartèrent à son approche. (*lit.*, The natives parted at his approach.)

French tends to be more static in its use of nominalizations, while English, more dynamic, prefers verbal constructions, like the adverbial clause in (1-20).

In addition to lexical or syntactic re-organization in translation, there may be a complete re-statement, a change in *semantic structure*:

(1-23) a) There is no future in the country if <u>this</u> is allowed to prevail.

b) Avec <u>un pareil état d'esprit</u>, le pays est voué à la stagnation. (*lit.*, With such a state of mind, the country is destined for stagnation.)

(1-24) a) You're quite a stranger.

b) On ne vous voit plus. (*lit.*, We don't see you any more.)

In these examples, English is more concrete and personal in its use of deictics (*this, you*) while French is correspondingly more abstract and impersonal in its use of nouns (*un pareil état d'esprit*).

To preserve style in translation, we must deal with all the types of lexical, syntactic, and semantic problems: we must learn to recognize stylistic effects and formally represent knowledge about stylistics. The problems become even more complicated when we consider the *machine translation* (MT) of stylistic characteristics. This seems a rather idealistic goal for, after all, basic problems of syntax and semantics still remain in MT. However, to ultimately win wider public acceptance, MT will have to be less obvious; machine translation should not sound like translation.

1.4 Style in machine translation

As style in translation must be an essential concern of professional translators, we should aim to incorporate it in MT systems. Currently, though, typical MT output has the quality of the following passage, an unedited German-English sample translation by the LOGOS system, 1985 (taken from Hutchins (1986, 257)):

(1-25) A field-by-field control of the occurrence of the different fields is luckily not necessary. There are groups of fields which occur always commonly, or occur not and which we sucked therefore too. Field groups are able to combine. In fact, it suffices to relate the control mentioned above (depending on account and posting key) to field-groups instead of on fields what a considerable simplification means.

German original:

(1-26) Eine feldweise Steuerung des Auftretens der verschiedenen Felder ist glücklicherweise nicht nötig. Es gibt Gruppen von Feldern, die stets gemeinsam auftreten oder nicht aufreten und die wir deshalb zu sog. "Feldgruppen" zusammenfassen können. Tatsächlich genügt es, die oben erwähnte Steuerung (in Abhängigkeit von Konto und Buchschlüssel) auf Feldgruppen anstatt auf Felder zu beziehen, was eine erhebliche Vereinfachung bedeutet.

(*lit.,* Fortunately, a field by field control of the occurrences of the different fields is not necessary. There are groups of fields which always occur or don't occur together and which we can, therefore, collect in so-called "field groups" In fact, it is sufficient to link the control mentioned above (depending on the account and pass book key) to field groups rather than to fields, something which simplifies matters considerably.)[10]

This translation is almost syntactically correct, but it is awful English. We can be certain that this is not what the author meant to convey, but even human translators would not expect a perfect first draft. Style would only be seriously considered in the post-editing stage, after the raw output had been produced.

But current MT systems deal superficially, if at all, with style in translation. As we have seen, the output may be syntactically correct but stylistically distorted. Clarity and other expressive effects, together with the associated meaning, are quite often lost. Of course, a translated text like example (1-25) would not be used in its preliminary form, but would receive significant human post-editing. A codification of stylistic knowledge, a formal representation, will be the basis for a system that could carry out *machine* post-editing of preliminary MT output.

1.5 A computational approach to style in translation

My goal is to create a formal representation of stylistics for use in machine translation and, moreover, to do so in a manner applicable to different languages. The solution I will propose is a codification of stylistic knowledge in the form of a *stylistic grammar*.

In the next chapter, I will review the current status of the codification of style: a foundation does exist, but a great deal remains to be done. Primarily, what remains to be done is the accumulation, formalization, and organization of stylistic knowledge.

First, I will construct a *vocabulary* for stylistics. Defining the requisite terminology will have the effect of "drawing a line" around the problem. The definition of concepts and the attempt to organize them into a recognizable structure is a necessary first step towards understanding the problem of style in translation.

---

[10]I would like to thank Gerhard Lakemeyer and Eduard Hovy for this translation.

After constructing a stylistic vocabulary, I will develop a *methodology* for converting stylistic knowledge into a formal representation. The methodology will be as general as possible, ideally applicable to the codification of style for the sentence and paragraph levels; appropriate for lexical, syntactic, and semantic style; and applicable to both English and French. In order to develop so general an approach, various issues must be addressed:

- The stylistic rules must be structured in a manner that allows the definition of interrelationships between the codifications of lexical, syntactic, and semantic stylistics, as a system that can preserve style in translation will require a knowledge of all three aspects. Ideally, a common vocabulary of stylistic concepts should be applicable to all aspects.

- If possible, a single set of concepts should serve to codify both English and French style; therefore, a level of abstraction higher than basic syntax must be considered.

- The functions of different styles must be represented in order to perform accurate translation. This involves the correlation of high-level stylistic goals, such as clarity and abstraction, with low-level syntactic structures. As it turns out, we will need a *stratified* grammar to relate primitive elements through more abstract levels to actual stylistic goals. It is this stratification that gives generality to the methodology and makes it applicable to more than one language and more than one aspect of language structure.

- We need formal definitions of stylistic goals. What, for instance, does it *mean* for a text to possess clarity or concreteness? At present, our understanding is either purely subjective or based on informal rules consecrated by established usage.

The methodology will be used in conjunction with the stylistic vocabulary to guide the systematic collection and creation of stylistic rules: *stylistic grammars* for English and French will be developed. These grammars will provide a formal description of the syntactic patterns that differentiate the various stylistic goals. At present, only a very basic foundation of rules exists; more variety in stylistic goals and syntactic structure must be considered.

In addition to theoretical problems, there are implementation issues to be addressed as well. We need *stylistic parsers* that use the formal bodies of rules to analyse the original source text and unedited target text. We need *generators* that can produce the target text. Ultimately, all components must be able to be integrated into a post-editor that will accomplish the actual machine translation of style.

To summarize, my objective is the development and implementation of the foundations of a system that could accept basic French-to-English machine translation output and then edit it to incorporate the appropriate stylistic characteristics.

I will propose a computational model of stylistics in translation, based on the representation and use of three bodies of stylistic knowledge for English and French. The model reflects the way that professional translators work, as translators should follow the stages of first analyzing the source style, then invoking a knowledge of comparative stylistics, and finally editing the target text to express both proper target language style and the author's stylistic intent.[11]

To develop and implement the foundations of this model, the following theoretical and practical problems will be addressed in this thesis:

- The development of a stylistic vocabulary for English and French;

- The codification of syntactic style:

  - The collection and creation of stylistic lexicons and structured bodies of goal-directed stylistic rules;

  - The construction of stylistic grammars, the formal representation of these rules, for English and French;

- The implementation of stylistic parsers that execute these grammars, also for both languages;

- Given these foundations, the directions in which AI-based computational stylistics, both for machine translation and general natural language processing, should develop.

---

[11] Brian Fitch, personal communication.

11

Chapter 2

A Background to Style in Machine Translation

As a prelude to developing a computational approach to style in translation, I will summarize in this chapter the current state of MT, present a theory of human translation, and review relevant work in theoretical and computational stylistics. I will describe the extent of the current foundation for incorporating style into MT systems, discuss what can be adapted for my purposes, and outline the approach that will be taken.

2.1 Current trends in machine translation

When machine translation began, around 1950, the methods were simple, but the goals were lofty. The developers of MT systems aimed at word-for-word translation and employed an approach based on the construction of large mechanical dictionaries. Subsequent systems could handle sentence-by-sentence analysis and were based on an actual syntactic theory. Eventually, three standard strategies evolved:

- The earliest strategy, *direct* machine translation (Toma (1977), Vasconcellos (1984, 1985)), is shown in figure 2.1. Translation proceeded from source language to target language with no intervening representation. Thus, a separate system was required for each source-target pair. This characteristic caused these systems to fall into disfavour and encouraged a search for more general solutions.

- At the other extreme, *interlingual* systems (Vauquois (1975), Mel'čuk and Žholkovskij (1970), Mel'čuk (1973), Lehmann and Stachowitz (1970, 1971–75)), shown in figure 2.2, aimed specifically at economy of effort through the use of an intermediate meaning representation. Such a representation was based on the "semantic primitives" that are allegedly common to all languages.
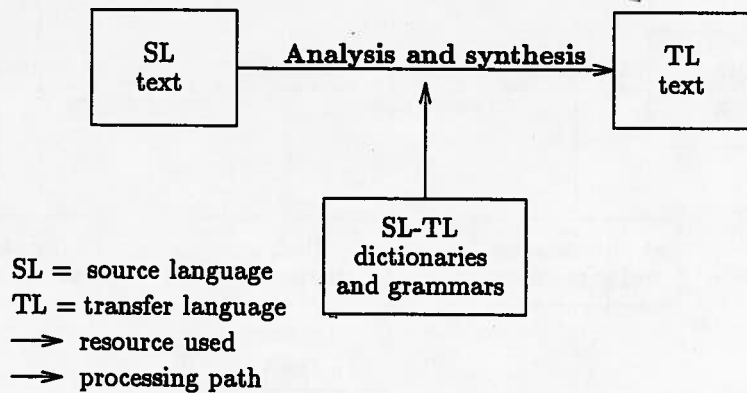
Figure 2.1: Direct strategy
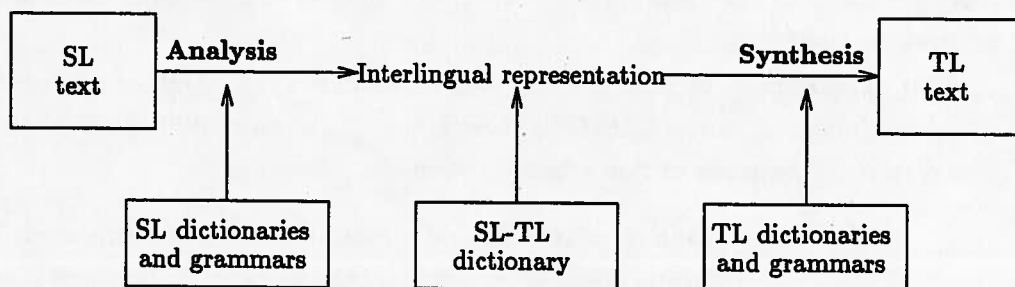
Figure 2.2: Interlingual strategy

- The most common strategy was, and still is, the *transfer* approach (Chandioux (1976), Maas (1978), Boitet and Nedobejkine (1981), Slocum (1984)), shown in figure 2.3. Its philosophy lies between those of the direct and the interlingual. It is reminiscent of direct translation, as it uses a transfer stage specialized for a particular source-target pair, but it also has an intermediate representation for each language. Each representation can be used for all translations involving a particular language.

2.1.1 Interlingual systems

In this thesis, I will take an artifical intelligence-based approach to the problem of style in translation. Therefore, the interlingual method is most relevant, as it is generally associated with the relatively few systems[1] that use an AI approach. The characteristic features of the AI approach have been semantic assistance for parsing, the construction of conceptual

---

[1] Sample AI systems include: Wilks (1973a, 1973b, 1975a), Brown (1974), Carbonell *et al.* (1981), Carbonell & Tomita (1987), Lytinen and Schank (1982), Nirenburg (1989), Tucker and Nirenburg (1984), Huang (1984, 1985), Cullingford (1986), Cullingford and Onyshkevych (1987), Lytinen (1984, 1987), Nirenburg *et al.* (1985).
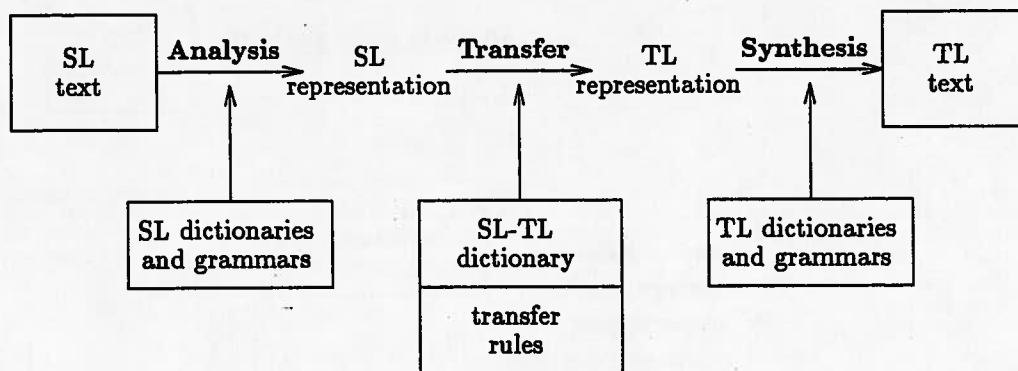
Figure 2.3: Transfer strategy

representations of the meaning of the text, and the use of knowledge bases as an aid in the interpretation of texts.

The development of such systems began around 1970. One of the earliest was the Stanford University project (1970–74) based on Wilks's work (Wilks (1973a, 1973b, 1975a)). The distinctive features of this approach were the following:

- *Templates*, made up of interlingual semantic primitives, were used. For example, MAN HAVE THING, would be matched by the sentence *Mary owns a car*. The basic unit of translation was not the sentence but the phrase. Analysis used semantics to the complete exclusion of syntax.

- To perform the mapping from input to template, Wilks's theory of "preference semantics" was used. For example, in the sentence given above, the semantic primitive THING would "prefer" to match an inanimate entry.

As another example of the interlingual approach, we will consider the MT system, MOP-TRANS, that was developed from the SAM project at Yale University (1978–82) (Carbonell *et al.* (1981), Lytinen and Schank (1982), Lytinen (1985), Cullingford (1986)). It was based on Schank's theories of scripts and conceptual dependency representation (Schank (1975), Schank and Abelson (1977)). An important feature of the project was the representation of world knowledge: there were databases of contextual knowledge to help understand source language text.

SAM, for Script Applier Mechanism (Cullingford 1986), was a story-understander that used scripts as its basic knowledge source and world knowledge about relevant contexts as an aid to analysis. SAM's conceptual dependency structures were, in fact, an interlingual knowledge representation that could be used as the source for generating a summary of the story in any language for which a text generator was provided. These included English, Chinese, and Spanish. In a subsequent development, Lytinen's (1984) MOPTRANS system, the parser was *integrated* so that syntactic and semantic analysis were done in parallel and thus all the available semantic knowledge could be used to resolve syntactic ambiguities.

14

```
                      Concepts to be
                      re-expressed


    Deverbalization                        Reverbalization
          ↑                                      ↓
      SL Text                                  TL Text
```
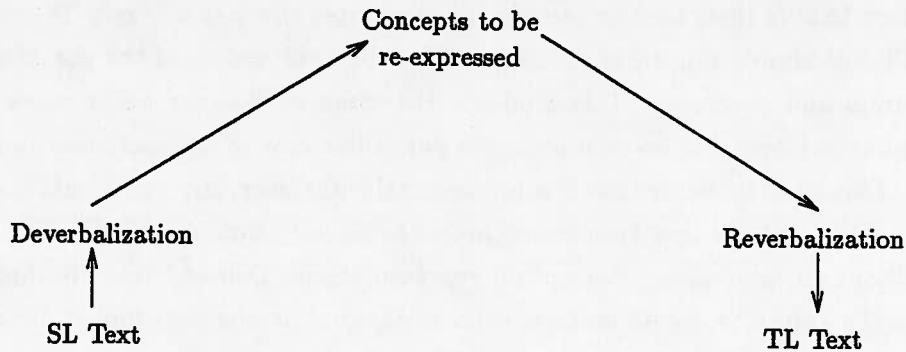
Figure 2.4: Basic model of human translation

MOPTRANS produced translations of short newspaper paragraphs about terrorism and crime. The source languages were English, Spanish, French, German, and Chinese; the target languages were English and/or German.

AI systems, with their emphasis on semantics-based methods, represent one of the most appropriate areas for future MT research. The reason for this is that problems of syntax and parsing have generally been solved for MT, while, as Hutchins (1986) points out, the greatest problems remain in the area of semantics, particularly when information beyond that in the immediate text is required. Yet, even in AI-based MT systems, high-quality output without extensive post-editing remains a distant goal.

2.2 A theory of translation

I will now review a prominent theory of *human* translation, the theory of Delisle (1984, 1988), to consider whether or not it might be adapted by AI-based MT.

2.2.1 Basic requirements

Translation is still very much an art. So-called "theories of translation" tend to be philosophical observations about the nature of translation, rather than a detailed dissection of the process that a translator follows. The work of Delisle (1984) is a rare attempt to take a scientific approach to translation, for he analyzes the process of translation in terms of the representation and the use of relevant knowledge. For this reason, Delisle's theory may have computational applicability that can be adapted by AI-based MT. This section summarizes Delisle's views on the fundamental properties of a theory of translation.[2]

Translating consists of a re-expression of not just the words, but the underlying concepts. Thus, the basic model of human translation (to be discussed in detail in section 2.2.2) is as shown in figure 2.4. The source language text is *deverbalized* into an intermediate represen-

---

[2]Large parts of section 2.2 are my own translation of Delisle's text. I am grateful to Jean Delisle for his permission to incorporate this material.

tation that is then used to *reverbalize* (generate) the target text[3]. Translation is a learned skill, not simply a natural ability, and can be analyzed in of the use of specific knowledge sources and processes. This model is the same as that for unilingual communication, so that translation can be seen as just a particular case of interpersonal communication.

This basic model is that of a professional translator, not a bilingual speaker. For the latter, Delisle claims that translation proceeds directly from deverbalization to reverbalization without an intervening conceptual representation. Delisle bases his theory on the professional's approach, for as he says, even a bilingual person may find it difficult to translate if she has not previously been specially trained.

Delisle's concern is with utilitarian, *i.e.*, non-literary, texts, such as a newspaper or a medical textbook. His focus on such texts is entirely relevant to MT, as it has concentrated on the bulk translation of utilitarian material, such as weather reports, and not on the subtleties of works of fiction.

The following characteristics are essential to a theory of translation:

- The primary objective of translation is to preserve the meaning of the text. The translator's goal should be to produce a second text that is as functional in communication as the original.

- The unit of translation should be structured cohesive discourse, not simply unconnected portions of the text.

- The *process* of translation, not just the final result, is a concern.

2.2.2 The translation process

Delisle describes the process of translation as a series of three stages: *comprehension, reformulation*, and *justification*. These sub-processes correspond respectively to:

- the decoding of the linguistic symbols of the source language text and the analysis of their meaning in context;

- analogical reasoning and the reverbalization of concepts; and

- the justification of the solution, the final target language text.

Delisle traces the complex cognitive process of translation, step by step:

A. Comprehension Comprehension is the first stage in the translation process. It involves the active interpretation by the translator of the source text. In fact, the translator is in a situation identical to that of the ordinary reader aiming to understand the underlying

---

[3]The reader will notice a similarity between this model and that of conceptual dependency–based systems described in section 2.1.

16

content of a text. Like such a person, the translator is an "active pole" (after the term that Delisle uses) in the process of communication, for active, or deliberate, interpretation is indispensable to comprehension.

B. Reformulation   Reformulation has two components, a process of analogical reasoning[4], followed by reverbalization in the target language; it is invoked when there is no prefabricated form available in the target language. It is certain, says Delisle, that the process of reformulation, the search for appropriate equivalences in the target language, cannot be reduced to mechanical retrieval from a repertoire of words — the TL lexicon — corresponding to the concepts to be re-expressed. Rather, reformulation is a far more complex act of intelligence, activating an analogical process in the mind of the translator. Although the translator's reflections during this process are abstract, they must be mirrored in the creation of the written text, so that during the reformulation stage, there will be a constant "going back and forth" in the translator's mind between the SL concepts (that are to be re-materialized in the TL) and the available TL forms in which these abstract ideas can be manifested.

B1. Analogical Reasoning   In order to succeed in establishing the meaning of a statement and re-expressing it in another language, the translator must use *analogical reasoning*. This process, which Delisle likens to "prospecting in the expressive resources of the target language" (p. 78), proceeds by successive associations of ideas and logical deductions or inferences. The translator advances in recognizable stages, but does not necessarily follow a straight trajectory.

An *analogical dictionary*[5] is a highly useful tool at this stage of translation. This type of dictionary groups words together by sense and aids the discovery of the most appropriate word or idiom for a given context. While not always supplying the actual solution, an analogical dictionary can at least provide the inspiration to direct the translator onto the correct "analogical path". For example, in Robert's (1986) analogical dictionary, *facile* has as one of its senses *qui se fait, qui s'obtient sans peine, sans effort*. In the dictionary entry for *facile*, this sense is associated with *aisé, commode, élémentaire, enfantin, simple*. Another sense of *facile* is *lieu d'accès, d'abord facile* which is associated with *abordable, accessible, dégagé*.

Figure 2.5 illustrates analogical reasoning. As an example of analogical reasoning, suppose we have to translate the word *working* in the sense of, for example, a photocopier that is fully operational though not currently photocopying. The figure illustrates the steps

---

[4]Delisle's usage of this term (to be discussed in the next section) is not to be confused with the usual artificial intelligence interpretation.

[5]For example, Paul Robert, *Dictionnaire alphabetique et analogique de la langue française*. Second édition. Paris, 1986.

Literal translation   Idiomatic translation

```
                              1
                    ┌────Working────────────┐
                    │                       ▼
                    │                 'ready to function'
                    ▼  2                    ▼  4
Literal meaning  ┌──────────┐          ┌──────────┐
of 'working', but│ En marche│          │Equivalent│
not an appropriate──────────┘          │  French  │
translation         │                  └──────────┘
                    ▼             Analogic path:
            'which functions'     exploration via
                    │             the negative    5
                    ▼  3                    ▼
              ┌──────────┐          ┌──────────────┐
              │ Un moteur│          │ Not working  │
              │ en marche│          │ Out of order │
              └──────────┘          │ Out of service│
                                    └──────────────┘
                                            │
                                            ▼  6
                                    ┌──────────────┐
                                    │ Hors d'usage │
                                    │   En panne   │
                                    │ *Hors service│
                                    └──────────────┘
                                            │
                                            ▼  7
                   Appropriate        En service
                   idiomatic
                   translation
                   of 'working'
```

Figure 2.5: Analogical reasoning

in reasoning that we might take. Our first attempt is the literal translation of *working*, which is *en marche*, as in *un moteur en marche*, but this does not convey the idea that the machine *can* be used although it is not currently *in* use. We need to convey the idea that the machine is "ready to function". A notion related to "readiness to work" is "failure to operate" so we could approach the translation by an exploration of the negative. Appropriate English text would be *not working*, *out of order*, or *out of service*. Now, we can take the corresponding French translations of these phrases: *hors d'usage*, *en panne*, *hors service*. Then, we can reverse the negative expression to obtain, for example, *en service*, an appropriate idiomatic translation of *working* in this context. This process of translation has used analogical reasoning in its association of related ideas, specifically the exploration via the negative.

B2. Reverbalization Delisle reiterates that reconstitution of the original text in the target language is carried out in accordance with the underlying concepts, not just word-for-word correspondence. The translator's search for the most appropriate reformulation may proceed hesitantly as she uses both conscious and subconscious mechanisms. A store of relevant information, an *encyclopedic* memory, will gradually evoke a series of intermediate solutions, which the translator evaluates for suitability of content and form.

It may happen that a suitable target language equivalent is produced spontaneously. In such "moments of inspiration", the SL-TL linking of concepts is instantaneous. There results, on the part of the translator, a perfect comprehension of the linguistic means by which a SL-TL alliance of concepts can be most suitably expressed. In other cases, the course of reformulation is more labourious: it becomes necessary for the translator to deliberately provoke analogical parallels and to consciously explore alternatives while searching for a provisional solution.

As a general rule, what has been well understood is more easily re-expressed, and the richer the "linguistic palette" of the translator, the less banal the resulting TL text will tend to be.

C. Justification Justification, the third and last stage in the cognitive process of translation, seeks to verify the acceptability of the provisional solution. The translator judges whether the target language text renders, as near perfectly as possible, the entire sense of the initial source language statement. In justifying his translation, the translator is not only attempting to determine in what measure his solution conforms to the meaning of the original passage, but also to what degree he has succeeded in capturing the personal interpretation of the author. A faulty initial interpretation may therefore give way to a more subjective but correct solution.

Thus, the process of translation is essentially a double interpretation: the first is the initial analysis and comprehension of source language concepts, followed by a target language re-expression that aims to capture the meaning of the message; the second interpretation alternates between temporary re-expression and the choice of a final solution that perfectly renders the author's intent.

2.2.3 The four linguistic levels of translation

As shown in the previous section, Delisle's theory of translation is based on the belief that translating is a process that is continually interposed between language and thought, *i.e.*, there is a continual movement back and forth between the SL concepts that are to be re-expressed and the actual TL forms that can express these concepts. We have traced through the various stages of this complex process. However, according to Delisle, translation can be analyzed not just linearly, as a progression through various processing stages, but also vertically, as a set of levels, each with its own concerns. Delisle distinguishes four main

levels:

- A. Writing conventions

- B. Lexical exegesis

    - B1. Transfer of monosemic terms

    - B2. Reactivation of fixed forms in linguistic systems

    - B3. Contextual re-creation

- C. Textual organicity

- D. Interpretation of the stylistic effect

A. Writing conventions This first level deals with established usages of writing, and encompasses all the requirements of formal presentation that differ from one language to another: conventional abbreviations such as titles of civility (for example, *Mrs.* versus *Mme.*), units of measure and time, the writing of numbers, the employment of capital letters, proper names, geographic and historic names, division of words, orthography, punctuation, and other signs. The concerns of this level also include the protocol of administrative and commercial correspondence, and the other etiquettes, codes, or writing conventions in use in utilitarian texts.

B. Lexical exegesis Lexical exegesis is the interpretation and reconstitution of the semantic content of a text. The exegetic analysis necessary to understand and re-express an idea is not the same in all parts of the source language discourse. Indeed, there are some words and grammatical turns of phrase that the translator can render almost instantaneously in the target language without any particular intellectual effort. On the other hand, some words, phrases, and idioms will demand much additional reflection. Sometimes, even the meaning itself will be resistant to exact reformulation in the target language. It is useful, therefore, to distinguish between the following three increasingly complex levels of lexical exegesis:

B1. Transfer of monosemic terms In all texts to be translated, there are, in variable proportions, some elements of information that rarely require exegetic analysis and analogical reasoning. These are the *monosemic units* that the translator can transpose directly into the target language without the need to refer to context or situation. He can carry out a more or less mechanical transfer of such items from one language to another.

Among the words in this category are proper nouns, numbers, and the majority of terms in scientific terminologies. Some English examples: *Joan Dawson, cancer, 1970, 54, three, psychiatrist, surgeon.*

B2. Reactivation of fixed forms When the translator advances to the second level of interpretation, she must deal with the context of a word or phrase and attempt to discover an existing TL equivalent that is used habitually and spontaneously by native speakers to denote the same reality in the same situation as in the SL text. Equivalences of this nature can thus be termed *fixed forms* of the two linguistic systems and a good number of them appear in bilingual dictionaries or the works of comparative stylistics, especially for languages that are closely related.

As an example, consider the translation of the word *removal* in the clause:

(2-1) After the <u>removal</u> of her left breast because of cancer

To interpret this word, the translator must take note of not only the global context in which it appears (in this case, a medical textbook), but also the micro-context (the immediate lexical neighbourhood) for, even in a medical text, *removal* could take on senses other than the one relevant here.

In this case, for translation into French, we need the French word that best expresses the sense of "an action of removing surgically a limb, organ, or tumour". When *removal* appears in this context, it generally has as its French correspondent *ablation*. In other contexts, *removal* would be translated as *déménagement* (removal of furniture or household), *déplacement* (removal from a job), or *soulagement* (removal of pain).

B3. Contextual re-creation The appropriate equivalence is not always an existing fixed form in the target language. Consequently, the translator cannot always rely simply on his knowledge of the target linguistic system to find a correspondence between a concept in the original text and a target language form collectively accepted and justified by habitual usage.

For example, consider the French translation of the phrase *a sense of loss* in the sentence:

(2-2) After the removal of her left breast because of cancer, Mrs. Joan Dawson, 54, of New York City, spent the next three years battling depression and <u>a sense of loss</u>.

The phrase has a nuance unique to this particular situation, even though the expression is habitually used in the context of obituaries:

(2-3) We all share a deep <u>sense of loss</u> at the passing of America's best-loved artist, Norman Rockwell.

There is not in French a fixed expression, ready-made and available, that expresses *a sense of loss* for the particular context in (2-2). Contextual re-creation must be employed. For example, the phrase might be rendered as *un sentiment de perte* (*lit.,* a feeling of loss) or

une impression de vide (*lit.*, an impression of emptiness) or even *un sentiment d'infériorité* (*lit.*, a feeling of inferiority).

We are reminded that translation remains very much a creative art, not an exact science that can be reduced to a set of rules covering all situations. The translator must now use his resources of extra-linguistic knowledge to characterize the situation and then construct a target language equivalent that best captures the sense of the original phrase. Translation at the level of contextual re-creation is by no means a mechanical process.

C. Textual organicity All text unfolds according to an internal logic that renders it coherent, if indeed it is. The organization of statements in a translated version must follow the transitions of the author's thoughts as expressed in the original text.

A neologism derived from *organic, organicity* (or the more familiar term, *discourse cohesion*) denotes a quality in text that refers to the hierarchical interdependence between all the elements of a text. In translation, textual organicity is concerned with the overall dynamic flow of a passage. More concretely, textual organicity is concerned with the following problems: the means of linking statements, the maintenance of precision in textual relations, and the preservation of momentum in the progression of ideas, according to the various genres of written discourse — argumentative, descriptive, narrative, factual, and so on.

To successfully translate textual organicity, the translator must bind ideas between the original and target texts, sometimes implicitly, sometimes explicitly, through the use of appropriate *charnières* (syntactic "hinges"). It is not sufficient to just correctly translate each single word, each statement, each isolated unit of the text. A successful translation will be coherent, "living", target-language text. The best translation, Delisle advises, is that which does not offend by poor composition or betray the fact that it is, indeed, a translation.

D. Interpretation of the stylistic effect Style, says Delisle, is one's manner of writing. All that is added to the purely denotative function of the text, all that is superimposed on the basic communication of information, is concerned with stylistic form. However, as he goes on to say, these connotative additions should not be dismissed as insignificant, for form and content are indissociable, both contributing to the overall meaning of a text and to the reader's cognitive and emotional impressions: "Content expresses, while style underlines."[6]

Even a technical text, apparently neutral in tone, is marked by a characteristic terminology and belongs to a category of writing defined by its style. The various styles (technical, administrative, legal, journalistic, advertising, etc.) are all recognizable by an ensemble of formal stylistic traits easily identifiable and therefore amenable to being systematically

---

[6]Riffaterre, quoted by Delisle (1984, 113) (my translation).

22

taught to apprentice translators.

However, these styles do not differ only in their specialized terminologies. In fact, Delisle enumerates four elements involved in establishing the style of a text: the author, the subject, the *vecteur* (the genre of text, the linguistic resources used), and the potential readers. Translation of style, in a general sense, is adherence to the constraints imposed by the simultaneous presence of these four elements. Even the translator of utilitarian texts is thus compelled to respect a certain number of stylistic conformities in order to achieve effective communication with his readers.

Consider this short passage characteristic of a medical textbook:

(2-4) Then she decided to do something about it. Most women in the same situation turn to a psychiatrist. Mrs. Dawson went to her doctor and asked him to rebuild her missing breast.

Here, the author is trying to impress upon the reader the originality of the action of this woman in her determination to deal with the adjustment to an artificial implant and to put an end to the trauma that was occasioned by the loss of her breast. In this "bare" style, the determination of Mrs. Dawson is expressed by three short, juxtaposed, sentences.

An appropriate French translation is as follows:

(2-5) Un beau jour, elle décide d'agir. La plupart des femmes, en pareil cas, vont s'en remettre à un psychiatre, mais Mme. Dawson, elle, retourne chez son médecin pour qu'il lui refasse un sein. (*lit.,* Finally one day, she decided to act. Most women, in a similar situation, go to a psychiatrist, but Mrs. Dawson, on the other hand, returned to her doctor so that he would rebuild her breast.)

Three stylistic features contribute to the translation of the spirit of the text: the present tense of the narration *(décide, retourne)*, the emphasis through the use of selected lexical elements *(un beau jour, elle)*, and the coordination of the second and third sentences by a conjunction *(mais)*, here introducing a restriction. Although these stylistic options are not the only ones possible, they allow the translator to achieve her main goal of emphasizing the originality of the patient's decision.

As we have seen, the first level of translation deals with writing conventions, the second with the interpretation and reconstitution of semantic content, and the third, with textual organicity. This final level, the interpretation of stylistic effect, is superimposed upon the second. Style, as Delisle puts it, is comparable to a garment, imposed by the imperatives of communication, in which the translator drapes her text to make it conform to the rules of its genre or to affect the sensibilities of the reader.

2.3 A new direction

In his theory, Delisle outlines a number of issues that any translation system must address. Moreover, his approach represents one of the most detailed and scientific analyses of translation. How do the various aspects of the theory relate to AI-based machine translation?

For the first part of his theory, the linear part of translation, Delisle gives a clear definition of the three steps in the translation process (comprehension, reformulation, justification) and describes in considerable detail the sub-processes within each of these main stages. However, the level of description is still quite abstract and not sufficiently detailed to be of immediate use to MT. From Delisle's textbook, it appears that the process of translation is not yet understood well enough to be decomposed into procedures for computational purposes.

In the second part of his theory, the first of Delisle's four levels deals with the translation of writing conventions, and this does not seem to require the application of AI techniques.

However, the second level, lexical exegesis, the interpretation and reconstitution of the semantic content of a text, has been the subject of a substantial portion of previous MT research. Hutchins (1986) suggests that future work is likely to be focused here. The degree to which the sub-problems of lexical exegesis have already been solved varies widely. The translation of *monosemic terms*, for which context need not be considered, has been easily dealt with. The problem of *context*, deciding whether the text to be translated has an existing target language equivalent or must be re-created, has not yet been solved. However, MT researchers who have joined the movement to AI systems and semantic issues appear to have already appropriated the context problem. The preservation of *textual organicity* in translation is related to discourse cohesion, an open computational linguistics problem. As a potential problem for direct MT research, textual organicity appears to be an ill-defined and difficult area for the immediate future.

However, the problem of style, with special reference to translation, has several advantages as a focus for new research. The codification of stylistic knowledge has been a virtually unexplored problem even within the general research area of computational linguistics. With very few exceptions, previous work has been unambitious (for example, counting word frequencies, or advocating basic rules of composition). Despite the neglect, there is, as we shall see, enough existing relevant work in theoretical and computational stylistics to provide a basis for the development of a computational approach to style in MT. Finally, and most importantly, a concern for style is crucial to high-quality MT. Current systems deal only superficially with style in translation and rely heavily on human assistance. At best, MT output is syntactically correct but aims no higher than a strict neutrality in tone. The expressive effects contained in the source text, together with the associated meaning, are lost in machine translation. For these reasons, I have chosen to address in this thesis the problem of developing a computational approach to style in translation and

laying the foundation for AI-based *computational stylistics*.

2.4 Stylistics in translation

2.4.1 Introduction

Style has been a neglected resource, yet it carries a significant portion of the meaning of a text. Until now, this meaning has been lost to machine translation systems. MT systems would be significantly enhanced by an ability to understand and preserve the intent of an author's stylistic characteristics. Likewise, unilingual natural language understanding systems could benefit from an appreciation of these aspects of meaning. However, in translation, style plays an additional role, for here one must also deal with the *generation* of appropriate target-language style. For example, a French source text may be abstract and very precise in style, but the translated English text, while retaining the author's stylistic intent, should be less abstract and looser, for this is characteristic of English.[7]

Having accepted that style should be a concern of MT systems, we must clarify just what style is before we can begin to think about how it can be incorporated in MT systems. In the following sections, various definitions of style will be reviewed and the one most relevant to machine translation will be identified.

2.4.2 Views of style

The study of style has an ancient history, for the concept first appeared in the fifth century B.C. Scholars of the time conceived the notion that the rhetorical form of a writer's text should reflect his thoughts and intentions. This was to be achieved through the appropriate choice and organization of words and syntactic structures in order to "evoke the desired response" (Corbett 1971). Content and form were recognized as inseparable, and as exerting a reciprocal influence upon each other.

Beginning with Corax of Syracuse, rhetoricians developed methods for the systematic instruction of the art of writing. The classical scholars, from Isocrates and Aristotle to Cicero and Quintilian, established standards of rhetoric that influenced curricula for centuries. The contribution of Aristotle was particularly notable. He countered Plato's argument that rhetoric was mere sophistry, deceitful reasoning, by providing a system of instruction that treated the theory and practice of style as a valid discipline, designed to appeal simultaneously to reason and emotion.

This classical approach to style flourished into the Middle Ages, for it formed part of a standard university education. The teaching of formal rhetoric in schools and universities continued to play a significant role throughout the Renaissance and into the eighteenth

---

[7]Such stylistic differences between French and English are catalogued by Vinay and Darbelnet (1958).

century. However, in the nineteenth century, the teaching of "rhetoric" gave way to the teaching of composition, which came to be associated with a set of basic prescriptive rules. This approach was in direct contrast to the original classical theory that stressed the education of the whole person as a preparation for achieving style in writing.

Today, the common view of style is still one of conformity to standard good taste and an avoidance of bad form. Classic textbooks (Strunk and White (1979), Fowler (1968), Kane (1983), Grevisse (1986)) promote the idea that there is a universal and correct mode of expression. This approach does have the advantages of disciplining thought and providing a basis for effective communication. If all writers accepted the same rules of good style then naturally this would lead to increased clarity in writing and greater understanding of other authors' works. However, discipline, while necessary in some degree so that communication is possible at all, may, if too inflexible, deaden the expression of a writer's individual voice. Universal rules of good style are best-used, I suggest, simply as a guide to avoiding bad constructions and obstacles to clear writing, but not as the sole basis for deciding how to communicate effectively.

A view of style for machine translation

The views of style that we have just seen are not appropriate for machine translation. We can direct the search for a more relevant definition by considering the distinction between *individual* and *group style*. By individual style, I refer to the ability of an experienced writer to choose words and syntactic patterns that express his personal outlook. By group style, I refer to a characteristic of text that, although possibly produced by one individual, shares the stylistic standards of a body of writers.

For machine translation, where we expect to deal with large amounts of similar types of text, the analysis of group style is of more interest than the idiosyncratic style of any one writer. Group style can be subdivided into two major types, each associated with a different view of stylistics: *literary* style and *utilitarian* (or *functional*) style. The fundamental distinction between the two is that literary group styles classify *individuals* while utilitarian group styles classify *situations*.

In the first case, literary group style, characteristic patterns of sounds, words, and syntax are associated with the work of a group of writers who, while not necessarily addressing a common theme or purpose, nevertheless display similar stylistic mannerisms. Cluett (1976) mentions the following example of literary group style:

> Literary historians often lump together as a classifiable group the "Elizabethan Novelists" — that group of writers loosely connected by the fact that they wrote prose fiction or romance between 1570 and 1605 — of whom the most notable practitioners were Lyly, Sidney, Greene, and Nashe. ...Among our samples from ...seven works ...there is common distortion of the language frame away from certain word classes and to-

ward others. The word classes in which these novels are abnormally plentiful are the verbs ...and pronouns ...The word classes in which the novels are unusually sparse are the adjective, the descriptive adverb, and the preposition. (Cluett 1976, 102–103)

Utilitarian group styles are distinguished from the literary type by their association with a genre of text that has a particular function or purpose, such as medical textbooks or political newspaper writing. In such styles, the writer accommodates her language to what readers expect in a specific, restricted, situation. The fact that functional group styles *are* more restrictive than literary group styles, as they are characteristic of a particular genre, suggests that the problem of codifying utilitarian style will be more tractable than the literary case. For this reason, I will focus on utilitarian texts in general and newspaper writing in particular, using English translations in *The Manchester Guardian Weekly* of articles from *Le Monde* as my main source of examples.

We now have a group-based, utilitarian view of style, but this is not yet adequate for dealing with the translation of stylistic effects. As I mentioned in chapter 1, section 1.2, the basic criteria for the translation of style are two complementary, but sometimes conflicting, aims:

- The output text must express a style that is appropriate and natural to the particular target language.

- It must preserve, as much as possible, the author's stylistic intent, the information being conveyed through the particular manner of presentation.

Our current definition of style will allow us, to some extent, to realize the second goal. For example, if the author is a journalist, then dealing with utilitarian group style will mean that we will attempt to understand and codify the lexical, syntactic, and semantic choices that are characteristic of a newspaper manner of presentation.

But the first goal, the creation of appropriate target-language style, requires a further enhancement of our view of style. In translation, we must account for the fact that different languages tend to favour particular stylistic characteristics, such as abstraction versus concreteness or staticness versus dynamism. For the same text, therefore, the French source language may express an abstract style, but the English target language must be more concrete in its lexical, syntactic, and semantic organization. As well, there will be situations where the two languages will express the same aspect of style (clarity or economy, for instance), but not necessarily through the same means. One language, for example, may use lexical methods, the other, syntactic in the same situation. If we are to properly translate from French to English style, then we must adopt a more completely *goal-directed* definition, so that we can correlate lexical choice, syntactic structure, and semantic organization with particular stylistic goals.

We must remember, though, that our concern is with *machine* translation and that it presents particular problems when we try to deal with style in translation:

> Machine translation facilitates the translation of a great number of documents. Large amounts often mean uniformization: all machine translated texts (by a given system) are most likely to be uniformized as regards style. (Laurian 1986, 219)

The uniformity to which Laurian alludes is, above all, what this thesis aims to overcome. I am proposing a view of style for MT that is group-based, utilitarian, and, most significantly, goal-directed to allow me to achieve a codification of style that will be both more precise and more expressive than existing approaches.

Goal-directed stylistics is, of course, a relevant problem in the understanding of literary texts, but the codification of utilitarian style deals with an easier subset of the issues involved and is thus more suitable as the initial problem to be addressed in this research. The stylistic distinctions between utilitarian texts are more recognizable than those that would have to be considered for understanding literary translation. What we learn from implementing goal-directed functional stylistics in a MT system may subsequently be applied to the larger area of problems with finer shadings of style.

2.4.3 Current progress towards the theoretical codification of stylistics

As we shall see, a goal-directed understanding of stylistics in computational systems, even for utilitarian texts, has been implemented rarely and only in limited ways. Indeed, even the theoretical *codification* of goal-directed stylistics has not been seriously addressed.

I will now summarize the work of several authors in English and French stylistics with the purpose of seeing if their approaches can be adapted to the codification of stylistics, in general, and the goal-directed approach, in particular, that I will take in this thesis.

In this section, I review research that is representative of the current extent of the codification of style. For my purposes, I will require a formal representation of a broad coverage of stylistic rules that is built upon a well-defined vocabulary of stylistic terms. In addition, this representation should incorporate a knowledge of goal-directed stylistics.

Vinay and Darbelnet

The title of Vinay and Darbelnet's (1958) book, *Stylistique comparée du français et de l'anglais*, is somewhat misleading, for their purpose was not just to deal with comparative stylistics in translation, but to enumerate the more common rules and procedures in the overall translation process. But they did not construct a specific vocabulary for comparative stylistics and, in fact, virtually all of their "stylistic" terms refer to basic syntactic constituents. However, they did develop a very extensive vocabulary for talking about the

process of translation, a feature of their research methodology that serves to illustrate that in order to codify a body of knowledge, one must first define a formal vocabulary.

Using their vocabulary of terms, Vinay and Darbelnet defined rules, expressed in ordinary French, that encoded knowledge about French-English comparative stylistics. The rules certainly fell short of the repertoire needed by a professional translator, but no one has yet improved upon their codification of comparative stylistics. Their book is still used as a prerequisite text for translation courses. Their codification may not be complete but, so far, it is unequalled.

Vinay and Darbelnet did not explicitly take a goal-directed approach, but their book does contain a great deal of information about the correlation of stylistic goals with particular lexical, syntactic, and semantic choices. Unfortunately, however, their rules proved to be too language-dependent for the framework to be proposed in this thesis. But the success of a goal-directed codification, albeit an implicit one, supports the approach to be taken in this thesis.

Crystal and Davy

It was the aspiration of Crystal and Davy (1969) to codify the formal linguistic features that characterize utilitarian group styles of different sublanguages, such as newspaper reporting or scientific writing:

> As a starting-point, we would say that the aim of stylistics is to analyse language habits with the main purpose of identifying, from the general mass of linguistic features common to English as used on every conceivable occasion, those features which are restricted to certain kinds of social context; to explain, where possible, why such features have been used, as opposed to other alternatives; and to classify these features into categories based upon a view of their function in the social context. ...
>
> Our task is, accordingly, threefold:
>
> We must identify the entire range of linguistic features which people intuitively feel to be stylistically significant, and specify a precise way of talking about them (a metalanguage).
>
> We must outline a method of analysis which will allow us to organise these features in such a way as to facilitate comparison of any one use of language with any other.
>
> We must decide on the function of these features, by classifying them into categories based on the kind of extra-linguistic purpose they have. (Crystal and Davy 1969, 10–12)

Their approach required the systematic construction of a vocabulary of stylistic terms. They planned, but did not implement, a hierarchical organization of stylistic rules at five levels: inter-sentence relationships, sentence typology and structure, clause typology and structure, group typology and structure, and word typology and structure.

Crystal and Davy hypothesized the creation of a formal stylistic grammar, built upon a vocabulary of stylistic terms, and intended to represent the sentence structures characteristic of a particular stylistic sublanguage. However, the grammar that they sketched contained virtually no terms other than purely syntactic ones and no correlations with stylistic goals; it was only a first step, although an ambitious one, towards a codification of the stylistic rules that define a sublanguage.

Kane

Kane's (1983) purpose was to provide a rhetoric and handbook to teach the rules of classic good writing. The systematic construction of a stylistic vocabulary seems not to have been an explicit goal, but Kane used many terms unique to stylistics. However, his terminology was apparently augmented whenever the need arose to describe a new feature; there was no underlying structure, no formal representation of rules. The stylistic rules were expressed in ordinary English and achieved, as the author intended, good coverage of classic but plain writing style. This body of rules was "structured" to the extent that there were hierarchies of stylistic sentence types, but, in general, Kane's rules appear to be just an enumeration of stylistic tenets, not a deliberately constructed organization.

Kane did not take an explicitly goal-directed approach in his stylistic rules, but gave numerous references to the stylistic goals associated with particular syntactic structures.

Summary

From this review, we can conclude that a foundation exists for a codification of stylistics for MT purposes:

- The need for a vocabulary of stylistic terms is an accepted idea. However, the nature and structure of such a vocabulary, which must describe more than basic syntax and be amenable to systematic construction, have not yet been addressed. These issues will be subjects of chapter 3.

- Similarly, while large bodies of stylistic rules already exist, they have not been organized into the formal structure necessary to a computational approach. Chapter 3 will also develop such a structured method for representing stylistic rules by constructing formal stylistic grammars.

- The feasibility of a goal-directed analysis of style is supported by previous research, but an actual goal-based codification has not been attempted. In the grammars that I will develop in chapters 4 and 5, I will incorporate such a goal-directed knowledge of stylistics.

30

2.4.4 Current progress towards the computational codification of stylistics

From existing research in theoretical stylistics, we have seen that there is a basis for the codification of group-based, utilitarian, goal-directed stylistics. In this section, I will review representative research in computational stylistics to determine what progress has been made towards the implementation of a codification of style appropriate for use in a MT system.

Style-checking programs

It is true that computer software concerned with stylistics already exists: the UNIX-based Writer's Workbench, Grammatik I and II, RightWriter, PC-Style, Punctuation and Style, Electric Webster, and CRITIQUE are examples. However, none of these systems are appropriate for MT purposes:

> Overall these programs are interesting nitpickers, but they really function only at the microscopic level. I'll bet that even the best writers will occasionally produce a few obvious mistakes in a document that these programs can sniff out. But when it comes to evaluating style in relation to context, they all fail. To judge content, flow, organization, and sentence structure, I recommend that you find a sympathetic and grammatically knowledgeable friend who likes to read and is willing to help. At this juncture, software that analyzes writing style can only make your document more technically correct, and it does even that in a limited fashion. (Raskin 1986, 13)

Existing style-checkers enforce the basic classic virtues: be clear, be simple, be precise. These programs check for common grammatical errors such as: number disagreement, pronoun case problems, unbalanced punctuation, split infinitives, excessive sentence length, and excessive sentence complexity. There is no systematic approach to constructing a vocabulary of style, no structured representation of stylistic rules. Stylistic knowledge may simply consist, as in the case of CRITIQUE (Jensen *et al.* 1986, 190), of an unstructured mass of rules. As one reviewer commented:

> ...true style analysis is unbelievably complex and requires AI-like capabilities. The program needs to understand each component of a sentence, relate all the components, and then pass judgment on their suitability. Perhaps this kind of coordination will be possible in a future generation of software programs. (*ibid*, 17)

And, definitely, current style-checking programs are not goal-directed. They tend, in fact, to the other extreme, the belief that "the stylistic component has no reference to intentions, goals, focus, etc." (McDonald and Pustejovsky 1985a, 192).

At present, style-checking programs do not have "AI-like capabilities", no clear delimitation of style, and no understanding of the difference in significance of parameters from style to style. They do not even have the basic requirement, a structured knowledge of stylistics, that will form a key part of the approach taken in this thesis.

Cluett

Virtually all computational stylistics programs take a non-AI approach to the representation and use of stylistic knowledge. However, the usefulness and degree of sophistication of some of these programs should not be underestimated. The York Computer Inventory of Prose Style (Cluett 1976, 1989) has been undergoing development since 1970. Its goal was to provide a stylistic "mapping" of the work of selected authors of the last 400 years, as well as literary texts in general. The strategy was to characterize, using statistical comparisons to other writers, an author's use of stylistically significant syntactic features, such as the various types of sentence openings and closings.

The analysis was done both on a macroscopic level, recognizing general techniques of subordination and coordination, for example, and on a more delicate microscopic level, enumerating individual syntactic patterns, such as *if when* or *while unless* which, in this case, indicate a style making heavy use of subordination.

The principal contribution of the York project was its convincing demonstration that the richness and subtlety of literary style could in fact be correlated, to a perhaps surprising degree of accuracy, with a catalogue of syntactic patterns. However, what the project failed to do is significant: it had to rely on human interpretation of the stylistic meaning of the statistics computed. This was not AI-based computational stylistics, for the program that performed the stylistic analysis had no understanding of the meaning of the statistical results. Nevertheless, the York project's findings were still very useful because they did catalogue the syntactic features that produce particular stylistic effects.

Anderson (the LOGOS system)

Appearances can be deceptive. Anderson's (Anderson and McMaster (1982a, 1982b, 1986, 1989), Anderson *et al.* (1987), McMaster and Anderson (1989)) LOGOS system seems to display a true understanding of style. It produces an analysis of the emotional tone in literary texts, including poetry. A demonstration of the system's ability is quite striking until one realizes how unsubtle the analysis really is. LOGOS takes a keyword approach; significant words are stored in a lexicon with stylistic associations indicated. This information might include, for example, the degree of *sadness* associated with a word. The strength of LOGOS's strategy is that it recognizes the importance of a stylistic vocabulary as the basis of any computational analysis of style. The weaknesses are that the lexicon's structure is too unsophisticated to be a really effective tool for stylistic analysis, and the system is

purely lexical, with no ability to understand how syntactic or semantic organization affects style.

However, Anderson rightly recognized that style is indeed more than the classic virtues of plainness and simplicity. Stylistic analysis must go farther to deal with complex nuances, even emotional tone.

Hovy (the PAULINE system)

Hovy's (1987) PAULINE system is the first computer system that implemented goal-directed stylistic analysis with any degree of sophistication. Given pragmatic and stylistic constraints, PAULINE generates text that conforms to them. The system is goal-directed, able to correlate such stylistic goals as formality, simplicity, and respect with the lexical and syntactic characteristics of the text produced. The theme of Hovy's work is very much in line with the philosophy of this thesis:

> Text style contains pragmatic information: it may be stuffy, slangy, prissy, etc. In order to produce pragmatic-based, goal-directed language, generators have to be able to manipulate style: therefore, they require an understanding of what it is, what effects various styles have on the hearer, and what information various styles convey. (Hovy 1987, 107)

> Though many of the programs's rules for achieving rhetorical goals of style may need refining, the underlying claim — that style is the result of following a coherent policy when making decisions during the process of generation — is undeniable. (*ibid*, 138)

Hovy contrasts the inadequacy of the descriptive approach taken by standard textbooks of good writing with his own decision-based method:

> Unfortunately, this descriptive approach is of very little use in a theory of language production, since it never makes clear why and how each style is formed out of words; nor does it indicate any systematicity behind the classification of the stylistic features.

> In contrast to such descriptions, a functional approach is to describe styles in terms of the decisions a generator has to make. The decision-based approach enables a more concrete description of each style and its relation to other styles. (*ibid*, 44)

Hovy's decision-based method is based on the definition of *rhetorical goals of style*, such as formality, force, and partiality, that control broader pragmatic goals. For example, a low degree of formality, high force, and high partiality together give a *no-nonsense* effect.

To achieve a particular rhetorical goal, the generator examines the options at various *decision points* during the production of text and applies the appropriate strategies: For example, to achieve formality, the generator would perform the following actions at the decision points indicated:

Topic organization: Make long, complex sentences by subordinating them in relative clauses or by conjoining two or more sentence topics.

Sentence organization: Make the sentence seem weighty by including a number of adverbial clauses, by placing these clauses toward the beginning of a sentence, by building parallel clauses, by using the passive voice, by using more "complex" tenses such as the perfect tenses, and by avoiding ellipsis.

Phrase/word choice: Select formal words and phrases. Avoid doubtful grammar, popular idioms, slang, and contractions.

Although structured in its correlation of actions with decision points, this approach to representing goal-directed knowledge about style is essentially heuristic.

Hovy's success in implementing a goal-based understanding of style, even though limited in scope and informal in the mode of knowledge representation, does support the feasibility of a computational approach to goal-directed style in translation.

2.5 Summary

I have traced through the history of machine translation and observed that fully-automatic high-quality output remains an elusive goal. I have investigated the state of human translation theory and found that the problem of style in translation has advantages as a focus for MT research. I have proposed a group-based, utilitarian, and goal-directed view of style as an appropriate basis for MT. A review of theoretical and computational stylistics established that a foundation exists for a computational approach to style in natural language translation.

To implement a computational model of stylistics in translation, we will require a codification of stylistic knowledge, a grammar, to guide the analysis of text. However, an adequate formal representation of stylistic knowledge does not exist. In order to develop such a representation, the following requirements must be fulfilled:

- Stylistic knowledge must be amenable to codification.
  Cluett (1976, 1989) demonstrated convincingly that style can be analyzed in terms of characteristic syntactic patterns.

- A formal, structured vocabulary of stylistics must be established.
  Vinay and Darbelnet's (1958) development of an extensive vocabulary for French-English comparative stylistics supports the feasibility of a stylistic lexicon.

- Given a vocabulary, a formal representation of stylistic rules is needed.
  Crystal and Davy (1969) advanced the idea that a stylistic grammar is both necessary and achievable although they only provided a sketch of what such a grammar might look like.

- A goal-directed view of style should be used for MT purposes.

  Hovy (1987) pioneered the representation and use of goal-directed stylistics in a computational system.

In subsequent chapters, I will realize all these requirements to establish the foundations of a system that can accept raw MT output and edit it to incorporate appropriate stylistic characteristics. To begin this, I will propose in the next chapter a model for the computational treatment of style in translation and construct an appropriate stylistic vocabulary. Following this, chapter 4 will develop a suitably general methodology for building a stylistic grammar that will provide the basis for the implementation of the model. Chapter 4 will also present a detailed description of the English syntactic stylistic grammar. Chapter 5 will describe the development of the corresponding French grammar. Chapter 6 will discuss the application of the methodology to the development of a *semantic* stylistic grammar. The implementation of the syntactic stylistic grammar, in the form of a definite clause grammar, will be the subject of chapter 7. Finally, the contribution of this thesis to the creation of the area of computational stylistics and the directions in which this research could lead, will be reviewed in chapter 8.

Chapter 3

A Vocabulary of Style

3.1 A computational model of style in translation

Before we can develop a vocabulary of style for machine translation purposes, we must understand how to model the process of preserving style in translation. An appropriate abstract model is needed to act as both guide and constraint on the development of the computational approach and its foundation, the stylistic vocabulary. From the earlier overview of human translation theory, we have seen that current models of translation are not sufficiently detailed to be of immediate use in a practical system. Therefore, we must develop a suitable model. In this chapter, I will describe such a model and introduce a vocabulary for talking about style in machine translation. In the following two chapters, I will use this vocabulary to construct syntactic stylistic grammars for English and French.

For MT purposes, we have chosen to look at style that is group-based, utilitarian, and goal-directed. Now, this view will be reflected in an appropriate computational model of style in translation. We will account for the group-based and utilitarian aspects of style with general rules characterizing the stylistic standards shared by a body of writers who produce functional texts, such as newspaper articles. And, we will deal with goal-directed stylistics, so that the model will correlate lexical, syntactic, and semantic structures with specific stylistic goals. Figure 3.1 depicts a model that satisfies our requirements and outlines the sources of knowledge and associated procedures necessary to deal with style in translation. The model is language-independent, but, as I mentioned in chapter 1, French-to-English translation will be used in the examples. As the figure shows, in the first stage of the process, source-language internal stylistics is considered. The *internal stylistics* of a language tells how to choose lexical, syntactic, and semantic structures to express a particular stylistic goal. For each *stylistic translation unit* in the source text, *i.e.*, the current section of text within which the style remains constant, we determine its *stylistic context*, *i.e.*, a correlation of lexical, syntactic, and semantic structures with a particular stylistic goal.

In the second stage, we use knowledge of source-target comparative stylistics. *Compara-*
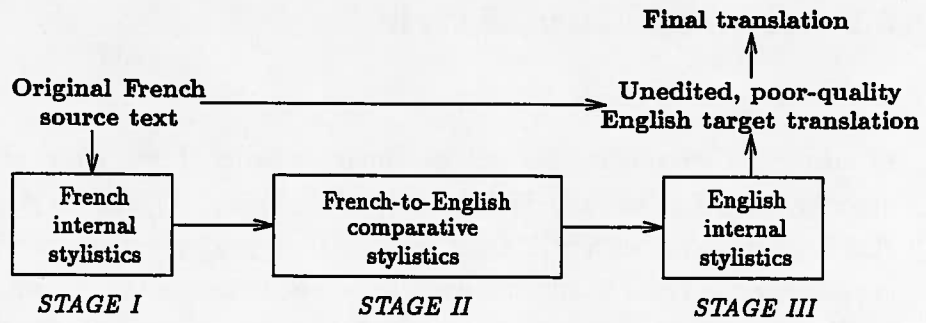
Figure 3.1: A computational model of stylistics for natural language translation

tive stylistics tells when the target text should embody a different style from the source text and when the styles should remain the same. For each stylistic translation unit in the source text, given its stylistic context, we determine the appropriate target-language stylistic goal corresponding to the possibly different source style. Default rules of comparative stylistics are used, but these can be broken if the situation warrants.

The third and final stage requires an understanding of target-language internal stylistics. For each stylistic translation unit in the unedited translation, we edit lexical, syntactic, and semantic choices to achieve an appropriate style that corresponds to the source style, but is good target-language style as well.

The key feature of the model is that the translation of style, according to our definition, requires three distinct bodies of knowledge: French internal stylistics, French-English comparative stylistics, and English internal stylistics. Recall from section 1.2 that where a French text may express a rather static style, the translated English text would sound more natural if a slightly more dynamic style were employed. And, we may want to express economy, but different methods may have to be used in each language: what is expressed lexically in one language may be realized through syntactic means in the other, and vice versa.

The need for three kinds of stylistic knowledge may not appear obvious. Why not just edit the raw output of a MT system to remove awkward syntax and achieve a more natural flow of words? The reason is that goal-directed translation requires us to consider the original source text; to choose an appropriate target-language style or to preserve the author's stylistic intent, we must first analyze and understand the source-language style.

Now, in order to implement this model, we must consider how to actually represent stylistic knowledge: we will need a vocabulary of stylistic concepts — a *stylistic lexicon*. In the next section, I will develop such a lexicon.

3.2 A vocabulary of style

3.2.1 Stylistic goals

In creating a vocabulary for talking about stylistics, I will construct a single lexicon to describe both English and French internal stylistics. It will be constructed from terms that are associated with utilitarian, group-based, goal-directed stylistics.[1] We will start by considering the kinds of stylistic goals to be dealt with in the lexicon.

For internal, or author-dependent, stylistic goals — those that vary with the individual author, such as economy — the source and target languages will both express the same style for a given passage of text, although not necessarily through the same means. For example, to express the terminative aspect[2], English uses particles, as in *Clare crumpled up the telegram*, while French prefers implication, as in *Clare froissa la dépêche*. The author's goal may be in accord with, or in conflict with, the stylistic preferences of the language. Comparative, or language-dependent, stylistic goals — those that vary with the language — are, by definition, characteristic of a particular language. As a consequence, in the same situation, two languages may use quite different, or even opposite, stylistic means to realize the same propositional content. For example, French tends to be a more static language than English, as there is a predominance of the noun over the verb. Language-dependent, rather than author-dependent, goals are therefore basic to the study of style in translation. I have chosen six representative goals[3] that represent the opposite ends of three dimensions:

- clarity and obscurity;

- abstraction and concreteness;

- staticness and dynamism.

3.2.2 A catalogue of stylistic terms

Let us begin the construction of a goal-directed stylistic lexicon by cataloguing the terms that stylists have previously used. From this list, we will extract the abstract features that are being identified. Consider the following groups of terms, which I have collected from a number of works in stylistics (Kane (1983), Hendricks (1976), Crystal and Davy (1969), Vinay and Darbelnet (1958), Read (1952)):[4]

---

[1] Specifically, I will draw many of my examples from *Manchester Guardian Weekly* translations of articles from *Le Monde*.

[2] The terminative aspect indicates an action that has been completed, according to Vinay and Darbelnet (1958).

[3] These goals are taken from Vinay and Darbelnet (1958).

[4] Note that these stylistic terms can have multiple characteristics and can thus fall into multiple groups.

Group 1 preposition, postposition, conjunction, subordinating conjunction, coordinating conjunction, intra-sentential coordinator, pronoun, proper noun, noun, adjectivals (premodifying genitive, intensifier, adjunct noun), adverb, verb, present participle, past participle, phrases (adjectival, demonstrative, adverbial, prepositional), clauses (adverbial, noun, non-finite, relative);

Group 2 position (initial, medial, final) of any word or phrase; postpositive adjective, adverbs (pre-verbal, post-verbal, post-clause), complex pre- and postmodification, various types of postmodification (preposition and nominal group, non-finite construction, relative clause, adjective), inverted sentence;

Group 3 paired adjectives, piled-up adjectives, balanced phrases, compound sentence, compound-complex sentence, serial ("freight-train") sentence, parallel and balanced sentences, hierarchic (convoluted, centred) sentence, interrupted sentence, coordinate sentence, alliteration, repetition, intra-sentence and inter-sentence coordination, symmetry and counterpoint, symmetric and asymmetric construction;

Group 4 isolated word or phrase, detached adjectival clause, detached adverbial clause, detached participle, simple sentence, complex sentence, compound-complex sentence, serial (segregating, cumulative) sentence, hierarchic (loose, periodic, convoluted, centred) sentence.

The groups into which I have divided these terms are correlated with four stylistic aspects:

- **Group 1:** basic syntax;

- **Group 2:** position;

- **Group 3:** balance; and

- **Group 4:** dominance.

The first group of terms are all familiar syntactic items.

By *position*, I mean that a term in the second group describes a stylistic effect created by the particular placement of a syntactic component within a sentence. For example, in English, a *postpositive* adjective, as in *the house ablaze*, can be more emphatic than the more usual *premodifying* type, as in *the blazing house*.

I classify a term as one concerned with *balance* and therefore a member of the third group if it characterizes a stylistic effect created by the relationship between components on the same level of sentence structure. *Parallelism* in sentence structure is an illustration of a balancing relationship between sentences.

39

Lastly, in the fourth, *dominance*, group, I mean that the terms describe the relative weight, or stylistic importance, that a component contributes to the overall stylistic effect of a sentence. In a *simple* sentence, for example, there is a single and therefore, by default, dominant clause.

If we look closely at the nature of each group, we observe that the terms can also be classified along another dimension: linear or vertical sentence orderings. I call these orderings *connective* (linear) and *hierarchic* (vertical).

By *connective ordering*, I refer to the cohesive bonds that draw components together on a single level of sentence architecture. By *hierarchic ordering*, I refer to the bonds of subordination and superordination that occur across multiple levels of sentence structure. The existence of connective ordering is indicated in the catalogue by such terms as *intra-sentence* and *inter-sentence coordination* in group 3, while hierarchic ordering is most evident in the *hierarchic sentence* types in group 3. I will be concerned, however, with connective and hierarchic orderings at a level of detail finer than that of the sentence, and so I will catalogue the stylistic effects of syntactic components as small as individual phrases and clauses. The work of stylisticians such as Cluett (1976, 1989) and Bureau (1976) supports the observation that the stylistic structure of text can be viewed in these complementary ways.

So far, our target is a stylistic vocabulary that catalogues stylistic effects of position, balance, and dominance, and also incorporates both the connective and hierarchic views of sentence structure. However, I will include one more requirement: the stylistic vocabulary will be based on effects of *concord* and *discord*, for it is my contention that style is created by patterns of concord and discord giving an overall integrated arrangement (*cf.* Gleick (1987)). It is the discord, the disorder, the perturbations of order that are especially significant. Discord that may seem random actually has an underlying order and is controlled by the writer. The idea that style arises from deviations from the norm is, in fact, widely-accepted (Bureau (1976), Corbett (1971), Cressot (1971), Guiraud (1972)), but the formal representation of concord *and* discord within a stylistic grammar will be novel.

3.2.3 Basic terms

As the next step in constructing a vocabulary of style, I will define a set of basic terms that will subsequently be used in the descriptions of more-complex terms that will be discussed in a later section. We will start with the most elementary unit, the *stylistic constituent*:

Stylistic constituent: A passage of text, associated with a particular stylistic goal, within which the style remains constant.

I will be concentrating on the development of a syntactic stylistic grammar for the sentence level and below, so that a stylistic constituent, the most basic stylistic unit, will usually be a clause. As we saw in section 3.1 in the discussion of the computational model, we want to analyze source-language text in terms of successive stylistic translation units; for

our purposes, this will mean clause-by-clause analysis.

We will also look at structures smaller than the clause:

Stylistic component: A part of a stylistic constituent.

A stylistic component can, for example, be a phrase or a clause. Although such a component may have a stylistic effect, it will be too local and fine-grained to be incorporated at the top level of the stylistic grammar. Consequently, we won't try to correlate a small piece of text like an individual phrase with a stylistic goal like clarity.

The next term, *stylistic shape*, is the most fundamental concept in the vocabulary and, indeed, in the whole grammar:

Stylistic shape: A stylistic component that has a particular stylistic effect.

I will associate a stylistic effect with each basic syntactic component, so that I will, in effect, thereby define a set of stylistic shapes. As we shall see, individual shapes will be composed into larger ones with more global stylistic effects, and eventually these larger stylistic units will be correlated with stylistic goals. So, although we will be concerned with the effects of individual stylistic shapes, more importantly, we will want to analyze the relationships between shapes and discover how these give rise to a more global effect, a *stylistic texture*:

Stylistic texture: A set of stylistic shapes whose inter-relationships create a particular stylistic effect.

In the development of the grammar, we will see that *parallelism*, or imitation, plays a key role in creating stylistic effects, and so we need the notion of a *stylistic equivalence class*:

Stylistic equivalence class: A set of stylistic components that have the same kind of stylistic shape.

Syntax is not always sufficient to define a stylistic equivalence class. Therefore, we next go beyond mere syntactic form to recognize the more abstract qualities that are shared by a set of sentence components.

3.2.4 Abstract elements of style

From looking at the compilation of existing stylistic terms, we observed that they can be classified by effects associated with position, balance, and dominance. Now, I shall propose a set of stylistic terms, also correlated with this grouping, that make explicit the abstract stylistic features that are only implicit in existing terminology. These stylistic terms will be based on effects of *concord* and *discord*, which I define as follows:

Concord: A stylistic texture that expresses a unity of style, agreement, accord, stability, and does not require resolution (to be defined below).

41

Discord: A stylistic texture that expresses a disunity of style, disagreement, contention, conflict, incongruity, and does require resolution.

I will now use these notions to define abstract elements that are related, in turn, to position, balance, and dominance.

Position elements

The first type of abstract element deals with the effects created by the particular position of a component within a sentence. The most common type of position element describes an *imitative* effect:

Imitation: A stylistic texture in which two or more successive shapes belong to the same stylistic equivalence class.

Usually, imitation involves repetition of the same type of syntactic structure; this is the most trivial basis for defining an equivalence class. For example, in the following sentence, successive initial participle clauses are used to create a concordant effect:

(3-1) <u>Universally celebrated since 1830</u>, <u>regarded as the equal of Velasquez and for many superior to Murillo</u>, <u>sought by art collectors and museums</u>, Francisco de Zurbarán is the despair of historians, one of those painters more admired than really known.[5]

In another type of "imitation", the similar shapes are not successive, but begin and end a sentence, thus forming a *cycle*:

Cycle: A stylistic texture in which the initial and terminal shapes belong to the same stylistic equivalence class.

In the following example, the sentence begins and ends with a yes-no clause,[6] so that a cyclic pattern of stylistic imitation is created:

(3-2) <u>Whether the book is good or not</u>, the reviewers will determine <u>whether it will sell</u>.[7]

In addition to effects created by the strategic placement of similar shapes, we can observe other kinds of effects related to changes in the nature of shapes over the length of a sentence:

Resolution: A shift in stylistic effect that occurs at the end of a sentence and is a move from a relative discord to a stylistic concord.

---

[5] *Manchester Guardian Weekly*, 14 February 1988, 15.
[6] The term *yes-no clause* is used by Quirk *et al.* (1985).
[7] This is a constructed example.

We can see an example of a resolution in the following example. There is an initial discord, created by the misplacement of the adverb *entirely*, which is not usually found in the initial position. However, there is a terminal concord as the subsequent main clause contains no incongruities and restores the sense of harmony:

(3-3) Entirely in the spirit of protective support, could I suggest you pass on an appropriate comment to the personnel concerned.[8]

And the complementary effect is dissolution:

Dissolution: A shift in stylistic effect that occurs at the end of a sentence and is a move from a relative concord to a stylistic discord.

We have already seen an example of a dissolution in the Biblical text repeated below. A strong initial concord, created by imitative clauses, is set against a terminal discord, producing a syntactic inversion:

(3-4) And the rain descended, and the floods came, and the winds blew, and beat upon that house; and it fell: and great was the fall of it.[9]

Balance elements

The second group of abstract elements is related to effects of balance within a sentence. Here, we shall be looking at relationships that tend to either reinforce or perturb the harmony of a sentence. The distinction between effects related to position and those related to balance is that the latter are not restricted to one position in the sentence, but can occur more freely. Thus, resolution and dissolution are effects on the harmony of the sentence, but are dependent on their occurring in terminal position.

The first and simplest type of balance element is a *homopoise* ("same weight"):

Homopoise: A stylistic texture with a single stylistic weight, allowing coordination of stylistically equivalent shapes, but no subordination.

In other words, there are one or more stylistic shapes in a homopoisal sentence, each contributing the same weight to the overall concordant effect of the sentence. A homopoisal sentence may consist of a single uninterrupted clause which contributes the sole weight to the stylistic effect of the sentence:

(3-5) True, posterity has not been kind to him.[10]

(3-6) He was born in 1598 in the small town of Fuente de Cantos in Badajoz province.[11]

---

[8]Quirk *et al.* (1985, 652).

[9]Matthew 7:27, Revised Standard Version (1952).

[10]*Manchester Guardian Weekly,* 14 February 1988, 15.

[11]*Manchester Guardian Weekly,* 14 February 1988, 15.

Or, a homopoisal sentence may contain a coordination, a conjunction of stylistically similar components, with each component contributing the same relative weight to the overall weight of the coordinate structure:

(3-7) The style was formed and the principles acquired.[12]

More-complex sentences can have their balance interrupted or perturbed by a *heteropoisal* ("different weights") component:

Heteropoise: A stylistic texture with more than one stylistic weight that contributes either to an overall balance or imbalance.

A heteropoise can appear in initial, terminal, or medial position:

Initial heteropoise: A heteropoise in which an initial stylistic shape provides a weight that creates an imbalance within the sentence.

In the following example, the sentence contains an initial offset, an appositive noun phrase, that contributes a stylistic weight separate from that of the main clause:

(3-8) The heir to a fortune, her friend did not care about passing examinations.[13]

Terminal heteropoise: A heteropoise in which a terminal stylistic shape provides a weight that creates an imbalance within the sentence.

In the following example, the sentence contains a terminal offset, an appositive noun phrase, that contributes a stylistic weight separate from that of the main clause:

(3-9) Anna was here last night, my best friend.[14]

Medial heteropoise: A heteropoise in which a medial stylistic shape provides a weight that can either support or oppose the balance of the rest of the sentence.

We will distinguish between two types of medial heteropoise: the first type is concordant, a *counterpoise*, while the second is discordant, a *contrapoise*:

Counterpoise: A medial heteropoise in which a medial stylistic shape *supports* the overall stylistic balance.

Contrapoise: A medial heteropoise in which a medial stylistic shape *opposes* the overall stylistic balance.

---

[12] *Manchester Guardian Weekly*, 14 February 1988, 15.
[13] Quirk *et al.* (1985, 1314).
[14] Quirk *et al.* (1985, 1311).

In the following counterpoisal example, a participle clause interrupts the main clause, yet does not disturb the flow of the sentence:

(3-10) The measure, which brought no protests, was decided, <u>according to a company spokesman</u>, because of the dangers to which these employees are exposed in travelling to particularly exposed subtropical countries.[15]

On the other hand, an interruption can seriously perturb the balance of a sentence, Here, two successive noun phrases rather stridently interrupt the main text:

(3-11) The idea of combined French and British patrols by nuclear submarines — <u>a proposal once made by the Social Democrat leader David Owen — let alone the plan for "sharing the work" where the targets and missiles carried by these submarines are concerned</u> was not even raised, according to a French military spokesman.[16]

Dominance elements

The third type of abstract element deals with stylistic dominance, which is concerned with the relative weight contributed by each sentence component to the overall stylistic effect. The first of these elements describes a stylistic shape that creates a dominant effect by its incongruity; it is syntactically incomplete:

Aschematic: A stylistic constituent, that while having a stylistic shape, is syntactically incomplete.

In the following examples, we observe that most aschematic shapes are noun phrases. However, the last one illustrates a rather unusual use of a prepositional phrase:

(3-12) No genealogy, no explanations or only a vague hint of them.[17]

(3-13) A strange escape.[18]

(3-14) An upmarket sect.[19]

(3-15) To God or nature when the atoll begins to pitch in the heavy swell and the sky looks solid and friendly compared to the frail and precariously anchored earth.[20]

---

[15] *Manchester Guardian Weekly*, 21 February 1988, 14.
[16] *Manchester Guardian Weekly*, 7 February 1988, 13.
[17] *Manchester Guardian Weekly*, 7 February 1988, 15.
[18] *Manchester Guardian Weekly*, 7 February 1988, 16.
[19] *Manchester Guardian Weekly*, 7 February 1988, 14.
[20] *Manchester Guardian Weekly*, 7 February 1988, 16.

A far more common type of dominance element is the *monoschematic*, a very simple shape. The reader will notice a similarity to a homopoise; in fact, the two elements represent almost identical starting-points along two different dimensions of stylistic analysis. The monoschematic is, however, the more basic element of the two, as it does not allow coordination.

Monoschematic: A stylistic constituent with a single dominant shape and no accompanying subordinate or coordinate shapes.

We have already seen examples of monoschematic sentences in the discussion of homopoise:

(3-16) True, posterity has not been kind to him.[21]

(3-17) He was born in 1598 in the small town of Fuente de Cantos in Badajoz province.[22]

The most common dominance element in the texts that I have studied is the *centroschematic*:

Centroschematic: A stylistic constituent in which the components are organized around a single dominant component.

Centroschematic sentences can be quite varied in structure, but their shared characteristic is a predominant component that serves as the organizational centre for all other components. Such structures are built with subordination and coordination. In the first example below, the main clause is supported by a complex, but subordinate and coordinate, relative clause structure:

(3-18) Neither these devices nor the cramped viewing rooms <u>which are too narrow and whose ceilings are much too low for the big altarpieces</u> manage to spoil the works.[23]

Two subordinate clauses, the first adverbial, the second relative, accompany but do not overshadow the main clause in the following sentence:

(3-19) Not all that long ago, the famous collector Charles de Bestegui, <u>when unable to get hold of certain paintings</u>, was quite prepared to adorn the walls of his Venetian palace with copies, <u>which happily rubbed shoulders with his numerous genuine canvases</u>.[24]

---

[21] *Manchester Guardian Weekly*, 14 February 1988, 15.
[22] *Manchester Guardian Weekly*, 14 February 1988, 15.
[23] *Manchester Guardian Weekly*, 14 February 1988, 15.
[24] *Manchester Guardian Weekly*, 7 February 1988, 14.

Finally, the complex but imitative postmodification in the next example incorporates a substantial amount of information without weakening the main clause:

(3-20) Silvia, a commanding woman in her 50's, a shrew falsely mellowed by religion, promptly organised prayer sessions on the lines of Tupperware meetings.[25]

As we have seen, centroschematic sentences can be quite complex, containing subordinate and coordinate constructions, but, in all cases, a dominant component, usually the main clause, provides the organizing core.

Given that we have a progression in complexity from monoschematic to centroschematic sentences, a natural extension is to the *polyschematic*:

Polyschematic: A stylistic constituent in which the components are organized around more than one dominant component.

Such sentences occur rarely, at least in the corpus used in this thesis. However, a sentence with obviously disparate components occasionally occurs, usually with unfortunate results, as in the following obscure text:

(3-21) If we consider the progress already achieved, the opposition that had to be overcome, for example, in order to open schools for girls, and the fact that Saudi Arabia is less than 60 years old, we could think that time will permit resolving the contradictions between the most liberal aspirations of one part of society and the ulemas' determination to keep the country as it is, not to mention the Islamic fundamentalist movements which are threatening Saudi Arabia.[26]

Now that a set of abstract stylistic elements has been defined, we must next consider how to use them in practical stylistic analysis. As they are, the level of definition is too general to apply to the interpretation of an arbitrary sentence. We must relate these *stylistic* elements to more basic *syntactic* elements, whose stylistic characteristics are more specific and concrete. When we considered the catalogue of existing stylistic terms in section 3.2.2, we observed that there were two views of stylistic analysis: connective (an ordering on a single level of sentence structure) and hierarchic (an ordering across multiple levels). In the next section, I will use this notion of two views to guide the definition of more-primitive stylistic elements that provide a precise syntactic basis to the vocabulary, but also allow a mapping to the abstract elements.

3.2.5 Primitive elements of style

Primitive stylistic elements are, in fact, primitive stylistic *shapes*, individual constituents that have a "shape" due to the stylistic effect they create. But what should we use as

---

[25] Adapted from the *Manchester Guardian Weekly*, 7 February 1988, 16.
[26] *Manchester Guardian Weekly*, 14 February 1988, 14.

the basis for the definition of "stylistic effect"? I have said that the two views of sentence structure, connective and hierarchic, can provide the appropriate guidance. I will define the stylistic effect and therefore the shape of an individual component in terms of its contribution to each ordering:

- For the connective view, a component acquires a stylistic shape from its inherent integrating effect, its degree of bonding with the rest of the sentence.

- For the hierarchic view, a component acquires a stylistic shape from its inherent degree of subordination or superordination with respect to other components in the sentence.

For the connective view, I will expand upon the notion of syntactic coordination and use general *syntactic integration* as the basis for the definition of stylistic shape. I introduce the terms *conjunct, antijunct, subjunct,* and *superjunct* (to be defined below) and I use superscripts in all the terms to indicate the degree of integration or subordination. In the connective view, I classify syntactic components as either $conjunct^4$ (extremely integrating), $conjunct^3$ (strongly integrating), $conjunct^2$ (integrating), $conjunct^1$ (less integrating, but still having a connective effect), or $conjunct^0$ (neutral). Similarly, I use the terms $antijunct^0$ through $antijunct^4$ to indicate increasingly disconnective effects.

There is a complementary vocabulary of primitive shapes for the hierarchic view. The stylistic effects of syntactic components are correlated with the degree of subordination or superordination; the classifications are analogous to the connective: $subjunct^0$ through $subjunct^4$ (increasingly subordinate) and $superjunct^0$ through $super\text{-}junct^4$ (increasingly superordinate), where $conjunct^0$ is equivalent to $antijunct^0$ and $subjunct^0$ and $superjunct^0$ are the same.

As an illustration of connective primitive shapes, the following sentences exhibit distinct stylistic effects due to the different primitive shapes of the marked components:
$Conjunct^0$ verbless clause:

(3-22) These books, <u>rather valuable</u>, are expensive.

$Conjunct^1$ non-finite clause:

(3-23) These books, <u>being rather valuable</u>, are expensive.

$Conjunct^2$ relative clause:

(3-24) These books, <u>which are rather valuable</u>, are expensive.

In the hierarchic view, the components marked in the following examples exhibit a growing degree of subordination and have a consequent variation in stylistic effect and shape:
$Subjunct^0$ non-finite clauses:

(3-25) The best thing would be <u>to tell everybody</u>.

(3-26) <u>Leaving the room</u>, he tripped over the mat.

Subjunct[1] non-finite clauses:

(3-27) The best thing would be <u>for you to tell everybody</u>.

(3-28) <u>Her aunt having left the room</u>, I declared my passionate love for Celia.

Now that we have developed a stylistic vocabulary of abstract elements and primitive shapes, we have one of the basic tools needed to construct the stylistic grammar. In the next two chapters, I will present the detailed development of the English and French syntactic stylistic grammars.

Chapter 4

The English Syntactic Stylistic Grammar

4.1 Introduction: A methodology for developing a stylistic grammar

We have constructed a vocabulary of style. We can now define a method for using the vocabulary to systematically build up a stylistic grammar for both the connective and hierarchic views of style.

To construct the stylistic grammar, we will use a methodology whose steps are as follows:

- the classification of primitive stylistic shapes of the language in question;

- the correlation of the stylistic effects of these shapes with the abstract stylistic elements; and

- the correlation of patterns of these abstract elements with specific stylistic goals.

The grammar to be constructed in this manner will be stratified with internal branching, as illustrated in figure 4.1. As the figure shows, at the bottom level there are three branches — lexical, syntactic, and semantic — each with its own vocabulary of primitive stylistic shapes and rules for combining them. At the central level, we use a single vocabulary of abstract elements, stylistic terms that are maximally expressive. Rules relate these elements to patterns of lexical, syntactic, and semantic stylistic shapes. As we shall see, this level is the unifying core of the grammar, for the same abstract elements will describe source and target-language style, and syntactic and semantic aspects of style. Finally, at the top level, rules correlate individual stylistic goals with patterns of abstract elements. Together, these levels form a language-independent schema for a goal-directed grammar for style in translation. In the remainder of this chapter, I will use the vocabulary and methodology described above to construct the syntactic component of the English stylistic grammar.
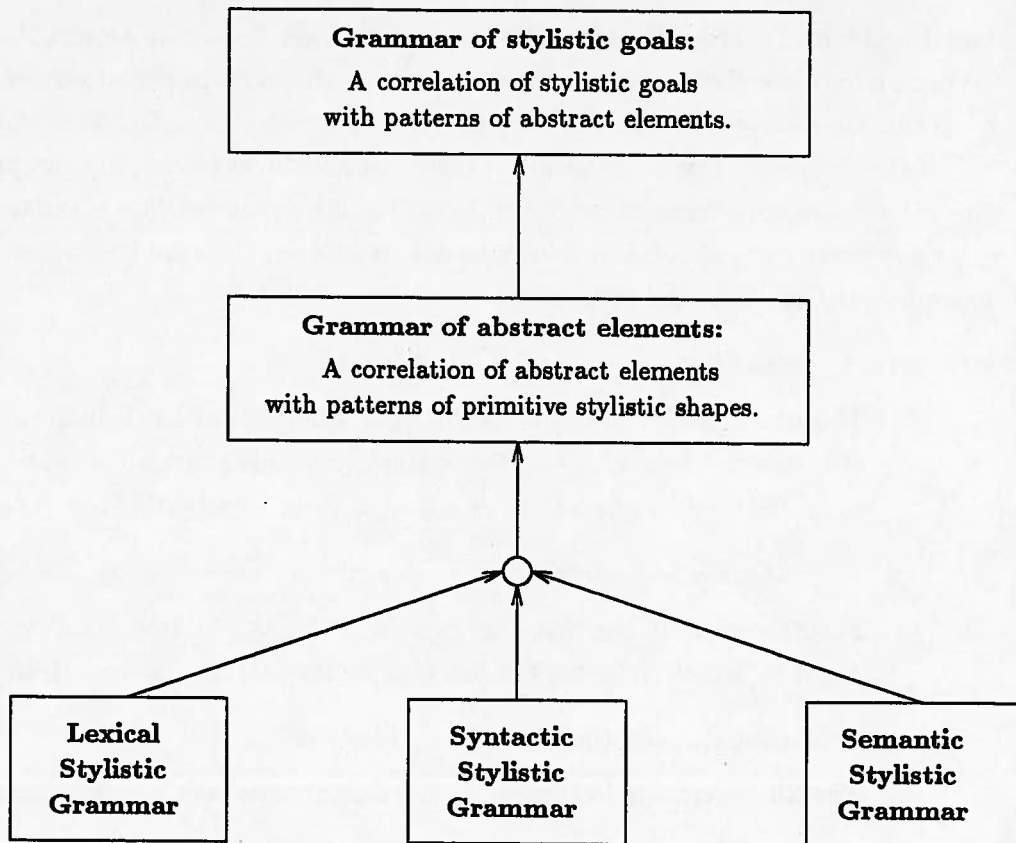
Figure 4.1: A stylistic grammar

4.1.1 Notes on terminology

At all levels of the grammar, the left-hand side of each rule identifies the primitive shape being defined, while the right-hand side lists one or more alternative realizations of this shape, one per line. Sometimes, a particular alternative will be illustrated by an accompanying example. For example, the following rule describes the integrating *conjunct²* type of *adjectival*:

conjunct² adjectival ⟶

    premodifying genitive
        his religious works.

    (intensifier)   adjective
        very substantial selection.

In this rule, the first alternative realization of a *conjunct²* *adjectival* is a *premodifying genitive*, such as the possessive *his* in *his religious works*. The second alternative is an optional *intensifier* and *adjective*, such as the intensifying *very* and the adjective *substantial* in *very substantial selection*. In almost all cases, the sources of the examples that will be used in the rules are the *Manchester Guardian Weekly* and Quirk *et al.* (1985). Sentences

annotated with "(parse n)" are in the corpus that have been used to test the parser; their stylistic parses are given in appendix B. In general, they are simplified versions of sentences from the *Manchester Guardian Weekly* or actual sentences from Quirk *et al.* (1985).

In the grammar, I will use various shorthand notations to simplify the presentation of the rules. However, these abbreviated forms can be expanded into standard context-free grammar rules. The shorthand notations are as follows; they are illustrated by particular examples, but are intended for general use:

1.   adjectival $\longrightarrow$ intensifier   adjective

   The juxtaposition of terms on the right-hand side of a rule indicates a succession of instances of these terms. For example, the rule above allows the intensifier *very* to be followed by the adjective *happy* to form an adjectival, *very happy*.

2.   adjectival $\longrightarrow$ (intensifier)   adjective

   Parentheses indicate that the form is optional. In this example, an adjectival could be either an intensifier followed by an adjective or an adjective alone.

3.   adjectival $\longrightarrow$ (intensifier)$^{+}$ adjective

   The Kleene cross indicates one or more occurrences of the form within parentheses.

4.   adjectival $\longrightarrow$ (intensifier)* adjective

   The Kleene star indicates zero or more occurrences of the form within parentheses.

5.   *any* conjunct adjectival

   Any is a shorthand for all positive degrees of conjunctness, antijunctness, subjunctness, or superjunctness. In this example, the shorthand form could be replaced by:

   conjunct^4 adjectival

   conjunct^3 adjectival

   conjunct^2 adjectival

   conjunct^1 adjectival

6.   premodification *with* discordant excessive imitation

   Imitation, repetition of any construct, on the right-hand side of a grammar rule is allowed, unless specifically forbidden. The rules in which it will be forbidden will be the rules for implicitness (superordination). If premodification were defined

52

to be an adjectival then imitative premodification would mean that a repeated number of adjectivals would be considered as premodifiers of a noun, as in *shady lawn, lush shady lawn* and *green lush shady lawn*. However, I set a limit on the amount of imitation that is allowed. If the limit is exceeded, as in *wet small green lush shady lawn*, the imitation becomes discordant. Assuming an arbitrary limit of three imitative items, the rule above could have been written:

adjectival   adjectival   adjectival   adjectival   (adjectival)*

As premodification has several alternatives, this shorthand notation abbreviates a long sequence of rules.

7.   premodification *with no* discordant excessive imitation

A variation of the previous one, this rule abbreviates a sequence of rules, each of which would ensure that imitation does not involve more than the allowable number of items. For example, the rule above could have been written:

adjectival   (adjectival)   (adjectival)

8.   concordant explicit static premodification $\longrightarrow$
explicit static premodification *and* concordant premodification

And indicates that all conditions on the right-hand side of a rule must simultaneously be satisfied by a single constituent.

9.   postmodification *except* prepositional phrase

Except is used to omit an alternative from a rule. If postmodification were defined as:

relative clause

nominal group

prepositional phrase

then the rule above would be shorthand for:

relative clause

nominal group

10.   postmodification *with* (discordant excessive imitation *or* embedded discord)

Parentheses, when used after *with*, indicate the scoping of conditions. For example, in the rule above, either condition may be true: the postmodification must have either a discordant excessive imitation or an embedded discord, but not necessarily both.

11.   nominal group *with* (concordant premodification *and* concordant postmodification)

In this example, the parentheses indicate that both conditions must be true: the same nominal group must contain both concordant premodification and concordant postmodification.

12.   nominal group *with no* postmodification

No is used to omit a component of a rule. For example, if a nominal group is defined to be:

(premodification)*   noun   (postmodification)*

then the above rule means:

(premodification)*   noun

13.   nominal group *with* concordant premodification *and* (neutral *or no* postmodification)

This rule is a shorthand for:

nominal group *with* (concordant premodification *and* neutral postmodification)

nominal group *with* (concordant premodification *and no* postmodification)

14.   nominal group *with* (concordant *or* neutral premodification) *and* (concordant *or no* postmodification)

This rule is a shorthand for:

nominal group *with* (concordant premodification *and* concordant postmodification)

nominal group *with* (neutral premodification *and* concordant postmodification)

nominal group *with* (concordant premodification *and no* postmodification)

nominal group *with* (neutral premodification *and no* postmodification)

15.   concordant major ⟶ major *with* all components concordant

If a major sentence is defined as:

noun phrase   verb phrase   (complement)

then the rule above is shorthand for:

concordant noun phrase   concordant verb phrase (concordant complement)

16.   discordant major ⟶ major *with* at least one component discordant

This rule is shorthand for:

discordant noun phrase   verb phrase   (complement)

noun phrase   discordant verb phrase   (complement)

noun phrase   verb phrase   discordant complement

17. *In* is used to indicate that one shape is embedded in a larger one. For example, the following rule:

initial monoschematic *in* final explicit complete

means that the initial portion of a final explicit complete sentence is an embedded monoschematic component. Such a rule can be re-written as an ordinary grammar rule, such as:

concordant major   final explicit active clause

4.2 Grammar of primitive shapes

I will begin the development of the stylistic grammar with the most detailed and most closely syntactic level, the grammar of primitive shapes. As I proposed in section 3.2.2, I will consider two views of sentence structure, connective and hierarchic, each with its own stylistic shapes.

For the connective view, a sentence component acquires shape from its integrating effect, its degree of bonding with the rest of the sentence. Connective shapes are classified as *conjunct*[0] through *conjunct*[4] (increasingly connective) and *antijunct*[0] through *antijunct*[4] (increasingly disconnective), where *conjunct*[0] is equivalent to *antijunct*[0]. To assign a connective shape to a syntactic component, I use the following criteria:

- The degree of usage of the component: is it used in a usual manner, with a frequent degree of usage, or not? I assume that constructions with a high degree of usage will seem less incongruous and more connective than constructions that are not often used. Compare the premodifying adjective, with its high degree of usage, as in *a timid man*, to a postmodifying adjective, with its low degree of usage, as in *a man always timid*. The premodifying case has a less incongruous, more connective effect.

- The presence of syntactic cues in the component in the form of connector words that promote the solidarity of the "block" of words in which the component is contained.

- The presence of other syntactic cues in the component, such as subject-verb accord, that promote syntactic solidarity.

Consider the classifications of three types of noun postmodifiers. The first example is:

(4-1)   These books, <u>rather valuable</u>, are expensive.

In this sentence, the postmodifying construction is an adjectival, but its postposition is the less usual usage, so that there is an incongruity, a disconnective effect: therefore, the postmodifying adjectival is classified as *antijunct*[1].
The second example is:

(4-2)   These books, <u>being rather valuable</u>, are expensive.

In this sentence, it is quite usual to use a postmodifying participle clause, so that there is a connective effect. However, the clause lacks a subject, so that the solidarity gained by a subject-verb accord is missing. As a consequence, the connective effect of the clause is muted: the postmodifying participle clause is classified as *conjunct*[1].
The third example is:

(4-3) These books, <u>which are rather valuable</u>, are expensive.

In this sentence, it is again quite usual to use a postmodifying relative clause, so that there is a connective effect. As well, the presence of a *wh*-element forces an accord with the verb in the clause, so that an integrated subject-verb block, with a high degree of connectivity, is produced: the postmodifying relative clause is classified as *conjunct*[2].

For the hierarchic view, shape is acquired from the degree of subordination or super-ordination. *Subordination* refers to the degree to which something is subservient and has a secondary, or lesser, syntactic importance. *Superordination* refers to the degree to which something is a higher kind and has an overwhelming syntactic importance. The essential difference is that something that is subordinate tends to be included in something larger, while something that is superordinate tends to include other, lesser, things. Hierarchic shapes are classified as $subjunct^0$ through $subjunct^4$ (increasingly subordinate) and $superjunct^0$ through $superjunct^4$ (increasingly superordinate), where $subjunct^0$ is equivalent to $superjunct^0$. To assign a hierarchic shape to a syntactic component, I use the following criterion:

- The degree to which a syntactic component expands (makes more implicit) or limits (makes more explicit) the field of reference is correlated with its degree of superordination or subordination.

Consider the following classifications of non-finite clauses: The first example is:

(4-4) The best thing would be <u>for you to tell everybody</u>.

In this sentence, the dependent non-finite clause contains a subject, so that the action of "telling everybody" is limited to the particular person "you". The presence of a subject and verb gives the clause a limiting, subordinating effect: it is classified as $subjunct^1$. The second example is:

(4-5) The best thing would be <u>to tell everybody</u>.

In this sentence, the dependent non-finite clause lacks a subject, so that the action of "telling everybody" is not limited to a particular person, but can refer to an indeterminate number of people. Its lack of a subject gives the clause, considered independently, an expanding, superordinate effect, but its dependent role in the sentence limits its field of reference. Therefore, its superordinating effect is muted: it is classified as $subjunct^0$.

In this base-level grammar of primitive shapes, each syntactic category will be given both a connective and a hierarchic primitive shape by corresponding rules. The presentation of the rules will begin with the elementary components and work up to full sentences.

4.2.1 Adjectivals

I will begin the presentation of the grammar by describing various types of *adjectivals*.

Connective view

Adjectivals can be *conjunct²* or *conjunct¹*. In the first case, there are three alternatives. The first alternative, the genitive form, is always used as the premodifier of a noun; it cannot be independent. Therefore, it is a highly connective shape.

In a similar manner, the second alternative, an intensifier followed by an adjective, forms a highly cohesive block because the intensifier cannot be used independently.

The third alternative, a noun, has a strong syntactic affinity with the noun it modifies, so that they can sometimes seem to form a single noun, as in *bank notes*.

conjunct² adjectival $\longrightarrow$

    premodifying genitive
        his religious works

    (intensifier)   adjective
        very substantial selection

    noun
        fake cloth architectural backdrops

The less-conjunct case has only one alternative, an adjective. An adjective is usually used as a premodifier of a noun, so that it is generally part of the syntactic block formed around a noun. Thus, the adjective appears to be a strongly connective shape. However, an adjective can also be used independently of a noun, as in *The sun is hot*. As a consequence, the adjective has a muted cohesive effect.

conjunct¹ adjectival $\longrightarrow$

    adjective
        medieval iconographic subject

Hierarchic view

Adjectivals can be *subjunct²* or *subjunct¹*. In the first case, there are two alternatives. The first, the genitive form, strongly limits the field of reference of the noun it modifies to a particular person or thing. Thus, it is a strongly subordinating shape.

The second alternative, an intensifier followed by an adjective, strongly limits the field of reference of the noun it modifies to a particular subclass of the noun. Thus, it is a strongly subordinating shape.

subjunct² adjectival $\longrightarrow$

    premodifying genitive
        his religious works

(intensifier)   adjective
very substantial selection

The rule for a *subjunct[1] adjectival* has two alternatives, an adjective and a noun. Both alternatives limit the field of reference of the noun they modify: they are subordinating shapes.

subjunct[1] adjectival $\longrightarrow$

adjective
medieval subject

noun
fake cloth architectural backdrops

4.2.2 Adverbials

The next category to be defined is the *adverbials*. For the connective view, I have adapted the classification scheme for adverbs used by Quirk *et al.* (1985), who describe the positional preferences of individual adverbs, that is, the positions where an adverb tends to appear in a sentence. The positions may be *initial*, at the start of the sentence, *medial*, somewhere within the sentence, or *final*, at the end of a sentence. I propose that the connective shape of an adverbial is related to its position within the sentence and can be assigned by the following criteria:

- Each sentence position (initial, medial, and final) has a default degree of connectivity associated with it.

- The integrating effect of any particular occurrence of an adverbial is:

   - equivalent to the default connectivity of its position if it generally appears in adverbial constructions in this position; but

   - less than the default connectivity of its position, if it does not generally appear in adverbial constructions in this position.

The default degrees of connectivity associated with initial, medial, and final positions are assigned on the basis of the following material from Quirk *et al.* (1985):

Initial position is described as:

> ...usually indicat[ing] a general premise or background of which the hearer/reader needs to be aware as we proceed to communicate the real stuff of our message. (*ibid*, 650)

That is, the initial position sets up the ground for what is to follow; it provides a basis upon which the rest of the sentence will be built. Thus, the initial position is strongly integrating, and so it is associated with a *conjunct[2]* degree of connectivity.

An adverbial in *medial* position is "between two closely associated constituent elements, S [subject] and V [verb], or between two constituent parts of the phrase realizing V (operator and main verb)" (*ibid*, 493). That is, the medial position is generally used to link the components of the subject-verb block. Thus, the medial position is strongly integrating, and so it is also associated with a *conjunct²* degree of connectivity.

There are various types of medial position for an adverbial:

- *Initial medial*, between the subject and operator, as in the following example:

(4-6)   The driver, <u>suddenly having decided to leave</u>, had started the engine.[1]

- *Medial medial*, between auxiliaries, as in the following example:

(4-7)   The driver must have <u>suddenly</u> been getting ready to leave.[2]

- *End medial*, immediately before the main verb, as in the following example:

(4-8)   The driver, <u>suddenly making a decision</u>, started the engine.[3]

All medial positions are considered equivalent in the grammar and are associated with a strongly integrating, *conjunct²* degree of connectivity.

Finally, Quirk *et al.* describe the final position as indicating "a climax to which all that has preceded contributes" (*ibid*, 650). That is, the final position generally provides a point to which the rest of the sentence builds. Thus, the final position is extremely integrating, and so it is associated with a *conjunct³* degree of connectivity.

For example, the adverb *where*, an adverb of place, tends to appear in adverbial constructions in initial or final positions:[4]

(4-9)   <u>Where the fire had been</u>, we saw nothing but blackened ruins.[5]

(4-10)   We saw nothing but blackened ruins <u>where the fire had been</u>.

In the initial and final positions, *where* takes on the default degree of connectivity associated with each position, and so it is classified as *conjunct²* and *conjunct³*, respectively. Although *where* can also appear in medial position, the effect can be incongruous and disconnective, and so is less conjunct:

(4-11)   We saw nothing <u>where the fire had been</u> but blackened ruins.

(4-12)   They saw, <u>where I saw only wilderness</u>, abundant signs of life.[6]

(4-13)   He put, <u>where he should have put semicolons</u>, colons.[7]

---

[1] Constructed example.
[2] Constructed example.
[3] Constructed example.
[4] Quirk *et al.* (1985) document the positional preferences of a large set of English adverbs.
[5] *Ibid*, 1087.
[6] *Ibid*, 1087 (adapted).
[7] *Ibid*, 1087 (adapted).

60

(4-14) You'll find, <u>where the coffee is</u>, the sugar.[8]

Up to now, we have been considering adverbial *constructions*, but the basic "adverbial construction" is the adverb itself, and so we can classify the degree of integration of an adverb separate from its use in larger constructions.

The adverb *completely* appears in medial and final positions, and so it receives the default classifications, *conjunct²* and *conjunct³*, when used in these positions:

(4-15) He <u>completely</u> drank up his beer.

(4-16) He drank up his beer <u>completely</u>.[9]

However, *completely* cannot be used alone in initial position, as in:

(4-17) *<u>Completely</u> he drank up his beer.

If used alone in initial position, *completely* would be not only disconnective, but ungrammatical. However, *completely* could be tolerated in initial position if it were in a larger construction, as in:

(4-18) <u>Completely drinking up his beer</u>, he left.

An adverb might not be allowed to be used on its own in a certain position, but could be used in a larger construction in that position. Given this fact, an adverb should therefore ideally have two connective stylistic shapes, one for each position, depending on whether or not it is used alone. However, to simplify, I will assign only one connective shape for each position, according to whether arbitrary constructions containing this adverb are normally used in this position.

For the hierarchic view, I have modified the four-fold distinction made by Quirk *et al.* (1985):

> *Adjuncts* are similar in the weight and balance of their sentence role to other sentence elements such as subject and object.
>
> *Subjuncts* have in general a lesser role than the other sentence elements; they have for example less independence both semantically and grammatically and in some respects are subordinate to one or other of the sentence elements.
>
> *Disjuncts*, by the same analogy, have a superior role as compared with the sentence elements; they are syntactically more detached and in some respects 'superordinate', in that they seem to have a scope that extends over the sentence as a whole. (Quirk *et al.* 1985, 613)

---

[8] *Ibid*, 521 (adapted).
[9] *Ibid*, 595.

Like subjuncts and disjuncts, the adverbials that we call *conjuncts*[10] are grammatically distinct from adjuncts ...Conjuncts are more like disjuncts than adjuncts in having a relatively detached and 'superordinate' role as compared with other clause elements. But they are unlike disjuncts in not typically filling the semantic roles characteristic of adjuncts (*ibid*, 631).

In my terminology, adjunct adverbs are $subjunct^0$, for they neither limit nor expand the field of reference of the sentence component of which they are a part. Subjunct adverbs are, by definition, subordinating and are therefore $subjunct^1$. Conjunct and disjunct adverbs are, by definition, superordinating and are therefore $superjunct^1$.

For example, in the following sentence, the adverb *where* appears in a dependent clause and the field of reference associated with this adverbial clause is simply the clause itself:

(4-19) You'll find the sugar <u>where the coffee is</u>.[11]

In this case, *where* has neither a subordinating nor a superordinating effect, and so it is classified as $subjunct^0$.

However, in the following sentence, the adverb *casually* appears in the main clause, but limits the field of reference associated with the main clause to only a part of it, the subject. *Leslie*:

(4-20) <u>Casually, Leslie</u> greeted the stranger.[12]

In this case, the field of reference of the adverbial does not extend to the whole sentence, for it is not the act of greeting that is casual, but Leslie himself. "Leslie was casual, offhand, when he greeted the stranger" (*ibid*, 573). Because *casually* limits the field of reference of the main clause, it has a subordinating effect, and so it is classified as $subjunct^1$.

On the other hand, in the following sentence, the adverb *whereas* appears in a dependent clause, but it expands the field of reference associated with the clause to encompass the whole sentence:

(4-21) William has poor eyesight whereas Sharon has poor hearing.

Because *whereas* expands the field of reference of the dependent clause, it has a superordinating effect, and so it is classified as $superjunct^1$.

Quirk *et al.* (1985) classify a large set of English adverbs using their four categories. Their system of classification does provide a basis for the assignment of hierarchic shapes to adverbs, but I will not completely adopt their system as it is more complex than I can deal with in the current grammar. In their system, an adverb can have different classifications depending on how it is used. For example, the adverb *sadly* is a disjunct (superjunct[1]) in the first sentence below, but an adjunct (subjunct[0]) in the second:

---

[10]I use the term *conjunct* in a different sense from Quirk *et al.* (1985).

[11]*Ibid*, 564 (adapted).

[12]*Ibid*, 573.

(4-22) <u>Sadly</u>, the storm destroyed the entire soybean crop.[13]

(4-23) Dr. Fox sat <u>sadly</u> in her room.[14]

In the first sentence, the field of reference expands to include the whole sentence, but, in the second sentence, it narrows to include only *Dr. Fox sat.* It is not the form or position of an adverbial that determines its hierarchic shape; rather, it is the grammatical function, sentence modifier or verb modifier, that is significant. For example, the adverb *then* can be "an adjunct [subjunct⁰] concerned with time, or a conjunct [superjunct¹] concerned with enumeration, reinforcement, summation, inference, or antithesis" (*ibid*, 647–648).

To simplify, I will assign only one hierarchic shape to an adverb, according to its dominant grammatical function in the sample corpus. As we will see in the next chapter, the stylistic grammar can be made more flexible to incorporate information about the functional roles of syntactic components.

4.2.3   Premodification

Crystal and Davy's (1969) "stylistic" grammar, although elementary, rightly recognized the stylistic importance of pre- and postmodification of the nominal group. My stylistic grammar is built upon the stylistic effects created by these types of modification. I will begin by describing *premodification*.

Connective view

The rule for *conjunct² premodification* has two alternatives. The first, a conjunct² adjectival, is self-explanatory. The second is an optional predeterminer, followed by a determiner, followed by an adjectival with any degree of conjunctness. Neither a predeterminer nor a determiner can be used independently of a noun. Because of their syntactic dependence, the predeterminer and determiner contribute to the solidarity of the noun phrase block. Thus, they are highly connective shapes.

conjunct^2 premodification $\longrightarrow$

   conjunct^2 adjectival
      <u>his</u> religious works

   ((predeterminer) determiner)   *any* conjunct adjectival
      <u>all the evangelistic</u> bodies

This rule for *conjunct¹ premodification* is self-explanatory.
conjunct^1 premodification $\longrightarrow$

---

[13] *Ibid*, 612.
[14] *Ibid*, 612.

conjunct[1] adjectival
  religious works

The following rule for *conjunct[0] premodification* has three alternatives. The first, a conjunct[0] adjectival, is self-explanatory. Although the other alternatives, an adverbial and a participle, can be used as premodifiers, they can also be used in other contexts. Thus, they do not have the same solidarity with a noun as a determiner, for example, does. They are not connective but neither are they disconnective: they are neutral shapes in terms of connectivity.

conjunct[0] premodification $\longrightarrow$

  conjunct[0] adjectival

  adverbial
    increasingly arresting self-portraits

  participle
    arresting self-portraits

The following rule for *antijunct[1] premodification* has only one alternative, a reduced sentence. A premodifying reduced sentence occurs rarely, so that the incongruity of this construction creates a disconnective effect.

antijunct[1] premodification $\longrightarrow$

  reduced sentence
    I visited his pop-down-for-the-weekend cottage.

If premodification is moderately or strongly conjunct, then it is considered concordant, for there are no disconnective constructions to disturb the solidarity of the premodifiers-noun block.

concordant premodification $\longrightarrow$

  conjunct[2] premodification

  conjunct[1] premodification

A question that arises at this point is the *projection problem*, that is, the problem of how the stylistic effect of a sentence component is modified by the stylistic characteristics of the components embedded within it. My grammar takes a simple solution to this problem. I assume that if a component is concordant then all its components, to all levels of embedding, must be concordant, but if a component is discordant than at least one of its components, at some level of embedding, must have been discordant. Consider the following constructed example:

64

(4-24) The man on the hill which was green and which was shady and which was covered
with flowers and which was in the centre of the park was my brother.

The sentence is concordant at its outer level, for it consists of a simple structure with only
one postmodifying prepositional phrase attached to the subject noun. However, embedded
within this prepositional phrase is an excessive and therefore discordant postmodification.
And so the whole sentence becomes discordant.

In the following rule for *discordant premodification*, if premodification is neutral or anti-
junct, then it is considered discordant, for there is a degree of disconnectivity that disturbs
the solidarity of the premodifiers-noun block. Recall that *imitation* is allowed to occur on
the right-hand side of all the rules in the grammar, unless noted otherwise. However, if the
imitation becomes excessive, it has a discordant effect. For example, in the third alternative
of the following rule, the constructed example has an imitative premodification composed
of four adjectives; the imitation is excessive and therefore discordant.

discordant premodification $\longrightarrow$

    conjunct^0 premodification

    antijunct^1 premodification

    premodification *with* discordant excessive imitation
        the <u>small green lush shady</u> lawn

Hierarchic view

The following rule for *subjunct^2 premodification* has four alternatives. The first, a premod-
ifying genitive, strongly limits the field of reference of the noun it modifies to a particular
person or thing, and so it is a highly subordinating shape.

The second alternative, a definite article, strongly limits the field of reference of the
noun it modifies to a particular instance, and so it is a highly subordinating shape.

The third alternative, a demonstrative determiner, strongly limits the field of reference
of the noun it modifies to a particular instance, and so it is a highly subordinating shape.

The fourth alternative, a reduced sentence, provides such detailed premodification that
it strongly limits the field of reference of the noun it modifies, and so it is a highly subor-
dinating shape.

subjunct^2 premodification $\longrightarrow$

    premodifying genitive

    definite article

    demonstrative determiner
        this, that, these, those

65

reduced sentence

The following rule for *subjunct[1] premodification* has six alternatives. The first, a subjunct[1] adjectival, is self-explanatory.

The other alternatives limit the field of reference of the noun they modify to a subclass of all instances of the noun. Thus, they are moderately subordinating shapes.

subjunct[1] premodification $\longrightarrow$

subjunct[1] adjectival
such precise incidents

noun
fake cloth architectural backdrops

adverbial
increasingly arresting self-portraits

participle
arresting self-portraits

predeterminer

assertive determiner
some, one, most

The following rule for *subjunct[0] premodification* has two alternatives. The first, a subjunct[0] adjectival, is self-explanatory. The second alternative, a quantitative determiner, neither definitely limits nor definitely expands the field of reference of the noun it modifies, and so it is a neutral shape in terms of subordination and superordination.

subjunct[0] premodification $\longrightarrow$

subjunct[0] adjectival

quantitative determiner
enough

The following rule for *superjunct[1] premodification* has three alternatives. The first, an indefinite determiner, expands the field of reference of the noun it modifies to an arbitrary instance, and so it is a mildly superordinating shape.

The second alternative, a non-assertive determiner, expands the field of reference of the noun it modifies to an arbitrary instance, and so it is a mildly superordinating shape.

The third alternative, a negative determiner, leaves implicit the scope of the field of reference of the noun it modifies, and so it is a mildly superordinating shape.

superjunct[1] premodification $\longrightarrow$

indefinite determiner
  a

non-assertive determiner
  any, neither

negative determiner
  no, neither

The following rule for *superjunct*[2] *premodification* has two alternatives, the universal determiner and the zero article, both of which expand the fields of reference of the nouns they modify to all possible instances. Thus, they are moderately superordinating shapes.
superjunct[2] premodification $\longrightarrow$

  universal determiner
    every, each

  zero article

The grammar rules that we have seen up to now are quite broad in scope. It would be useful to be able to distinguish between the *static* stylistic effects related to nominal constructions and the more *active* verbal effects. This distinction is incorporated in the hierarchic rules. Thus, there are rules describing subordinate effects as either *explicit static* or *explicit active*, and complementary rules describing superordinate effects as either *implicit static* or *implicit active*.

Explicit static premodification is produced by subordinating (explicit), non-verbal (static) premodifying constructions. Subjunct[2] and subjunct[1] types of premodification are, by definition, subordinating. These types are all obvious non-verbal constructions, except the reduced sentence and the participle. However, in these cases, the notion of active process that is normally associated with a verb form is almost non-existent. A premodifying reduced sentence provides a description of a *state* rather than a process, as in *pop-down-for-the-weekend*. A premodifying participle lacks definite verbal markings of tense and mode; it is closer to an adjective than to a verb form. Thus, the premodifying reduced sentence and participle are static, rather than active, forms.

explicit static premodification $\longrightarrow$

  subjunct[2] premodification

  subjunct[1] premodification

Neutral premodification is produced by non-subordinating forms. To simplify, I have broadened this category slightly to include superjunct[1] premodification, rather than defining two categories, neutral premodification and implicit (superordinating) premodification.

neutral premodification $\longrightarrow$

67

superjunct^0 premodification

superjunct^1 premodification

In the hierarchic view, the only source of discord is excessive imitation. As imitation acts to limit further the field of reference, it can be considered a form of subordination. (In retrospect, it would have been useful to have considered other forms of excessive subordination as sources of discord.)

concordant premodification $\longrightarrow$

premodification *with no* discordant excessive imitation

discordant premodification $\longrightarrow$

premodification *with* discordant excessive imitation

concordant explicit static premodification $\longrightarrow$

explicit static premodification *and* concordant premodification

discordant explicit static premodification $\longrightarrow$

explicit static premodification *and* discordant premodification

4.2.4 Postmodification

Continuing to build upon the stylistic features that Crystal and Davy (1969) judged important, I will now turn to describing *postmodification*.

Connective view

The rule for *conjunct^3 postmodification* is self-explanatory.

conjunct^3 postmodification $\longrightarrow$

conjunct^3 adverbial clause
That was the meeting <u>during which I kept falling asleep</u>.

The rule for *conjunct^2 postmodification* has three alternatives. The first two a *wh*-relative clause and a *that*-relative clause, contain a syntactic cue: a connector word, either a *wh*-element or the relative pronoun *that*. These syntactic cues force a subject-verb accord within the clause and so strongly promote the solidarity of the subject-verb block. Thus, relative clauses are strongly connective shapes.

The third alternative, a conjunct^2 adverbial clause, is self-explanatory.

conjunct^2 postmodification $\longrightarrow$

68

wh-relative clause
>the man *who founded the religious association*

that-relative clause
>the laboratory *that will not insist on a qualified pharmacist being present at the point of distribution*

conjunct[2] adverbial clause
>*Our homely evening fire, when the fiery heat of the desert daylight is done, is pleasant.*

The rule for *conjunct[1] postmodification* has three alternatives. The first, a non-finite clause, lacks the syntactic cue of a connector word or a definite subject-verb accord that promotes connectivity. However, the frequent usage of a postmodifying non-finite clause serves to give it a moderately connective shape.

The second alternative, a nominal group, has a syntactic affinity with the noun it modifies, as both belong to the same syntactic category. Thus, a postmodifying nominal group is a moderately connective shape.

The third alternative, a prepositional phrase, contains a syntactic cue, a preposition. Prepositions cannot be used independently of a noun phrase, so that they tend to promote an effect of solidarity with the noun phrase. However, a prepositional phrase lacks strong syntactic cues, such as a subject-verb accord, and so it is only a moderately connective shape.

conjunct[1] postmodification $\longrightarrow$

non-finite clause
>*You will look in vain for any concrete measures emerging from this summit.*

nominal group
>*Paul Jones, the distinguished art critic, died in his sleep last night.*

prepositional phrase
>*his long black cloak with its purple beading and ornamentations of gold and precious stones*

The rule for *conjunct[0] postmodification* has just one alternative, a verbless clause,[15] which does not have the subject-verb accord normally expected in a clause. This lack of accord rules out a postmodifying verbless clause being a connective shape, but does not actually make it a disconnective shape. Thus, a postmodifying verbless clause is a neutral shape in the connective view. In the examples, the elided component is shown in brackets.

conjunct[0] postmodification $\longrightarrow$

---

[15] I follow Quirk *et al.* (1985) in using this apparent contradiction in terms.

verbless clause
> *a play [that was] <u>popular in the 1890's</u>*
> *Norman Jones, [who was] <u>then a student</u>, wrote several best-sellers.*
> *I do not wish to describe his assertions, <u>some of them [being] offensive</u>.*

The rule for *antijunct*[1] *postmodification* has but one alternative, an adjectival, which is rarely used in postposition. Because of the uncommonness of this usage, a postmodifying adjectival is a disconnective shape.

antijunct[1] postmodification $\longrightarrow$

adjectival
> *A man <u>always timid</u> is unfit for this task.*

Imitative postmodification consists of one or more sequential occurrences of postmodification, optionally separated by conjunctions. The postmodifying constructions should belong to the same stylistic equivalence class, as defined in section 3.2.3, and thus create the same type of stylistic effect; in practical terms, this means they have the same syntactic form.

imitative postmodification $\longrightarrow$

x   (conjunction)   y   (conjunction)   (z)
where x,y, and z are postmodification, *but not* antijunct postmodification,
and are members of the same stylistic equivalence class.
> *the man <u>in the hall of the house</u>*
> *(constructed example of imitative postmodifying prepositional phrases)*

Because imitation involves a strong affinity between constructions of the same stylistic equivalence class, it tends to promote connectivity. Even a disconnective shape, if imitated, may become more concordant. For example, in the first sentence below, the postmodifying adjectival is a disconnective shape, but in the second sentence, the imitation makes it less incongruous and a more connective shape:

(4-25)   A man <u>always timid</u> is unfit for this task.

(4-26)   A man <u>always timid and hesitant</u> is unfit for this task.

If postmodification is moderately or strongly conjunct, then it is considered concordant, for there are no disconnective constructions to disturb the solidarity of the noun-postmodifiers block.

concordant postmodification $\longrightarrow$

conjunct[3] postmodification

conjunct^2 postmodification

conjunct^1 postmodification

imitative postmodification

If postmodification is neutral, antijunct, or contains a source of discord, then it is considered discordant, for there is a degree of disconnectivity that disturbs the solidarity of the noun-postmodifiers block. As I have mentioned, excessive imitation creates discord. However, a component may still be discordant, even if not imitative, if it contains a discordant subcomponent, an *embedded discord*. In the constructed example given in the third alternative below, a postmodifying relative clause contains a conjunct^0, and therefore discordant, postmodifying verbless clause. Although a relative clause is inherently conjunct and concordant, the embedded discord causes the whole relative clause in the example to be classified as discordant postmodification.

discordant postmodification ⟶

conjunct^0 postmodification

antijunct^1 postmodification

postmodification *with* (discordant excessive imitation *or* embedded discord)
   the policeman *who told us that lives, many of them children, were lost*

Heteropoisal postmodification is any form of postmodification that tends to be separated from the noun it modifies by punctuation — that is, all forms but prepositional phrases.

heteropoisal postmodification ⟶

postmodification *except* prepositional phrase

In the following example, the postmodification is heteropoisal, as it is separated from the noun it modifies by punctuation, and is concordant, as it is a conjunct^2 adverbial clause.

concordant heteropoisal postmodification ⟶

heteropoisal postmodification *and* concordant postmodification
   The famous collector, when he was unable to acquire certain canvases,
   bought copies. (parse 13)

In the next example, the postmodification is heteropoisal, as it is separated from the noun it modifies by punctuation, and is discordant, as it is a conjunct^0 verbless clause.

discordant heteropoisal postmodification ⟶

heteropoisal postmodification *and* discordant postmodification
   Lives, a great number of them children, were lost. (parse 10)

71

Hierarchic view

In the rule for *subjunct³ postmodification*, both alternatives, a *wh*-relative and a *that*-relative clauses, limit the field of reference of the noun they modify to a particular item or subclass, and so they are extremely subordinating shapes.

subjunct³ postmodification ⟶

    wh-relative clause

    that-relative clause

In the rule for *subjunct² postmodification*, the single alternative, a non-finite clause, limits the field of reference of the noun it modifies to a subclass, and so it is a moderately subordinating shape.

subjunct² postmodification ⟶

    non-finite clause

In the rule for *subjunct¹ postmodification*, the first alternative, a subjunct¹ adverbial clause, is self-explanatory.

The other alternatives, an adjectival, nominal group, and prepositional phrase, limit the field of reference of the noun they modify. However, they lack the additional explicitness of the verb form that postmodifying clauses possess, and so they are only slightly subordinating shapes.

subjunct¹ postmodification ⟶

    subjunct¹ adverbial clause

    adjectival

    nominal group

    prepositional phrase

In the rule for *subjunct⁰ postmodification*, the one alternative, a verbless clause, lacks the explicitness of a verb form that is marked for tense and mode. Thus, it is a neutral shape in the hierarchic view

subjunct⁰ postmodification ⟶

    verbless clause

The following rule is self-explanatory.

superjunct¹ postmodification ⟶

superjunct[1] adverbial clause

Neutral postmodification is produced by non-subordinating forms. To simplify, I have broadened this category slightly to include *subjunct[1] postmodification*, rather than defining a separate category for it.

neutral postmodification $\longrightarrow$
  subjunct^0 postmodification
  subjunct^1 postmodification

Explicit active postmodification is produced by forms of postmodification that are both subordinating (explicit) and verbal (active), which are subjunct^3 and subjunct^2 clauses.

explicit active postmodification $\longrightarrow$
  subjunct^3 postmodification
  subjunct^2 postmodification

Explicit static postmodification is produced by forms of postmodification that are subordinating (explicit) and non-verbal (static), which are subjunct^1 adjectivals, nominal groups, and prepositional phrases.

explicit static postmodification $\longrightarrow$
  subjunct^1 postmodification *except* adverbial clause

In the hierarchic view, the only sources of discord are excessive imitation or an embedded discordant component that contains such imitation.

concordant postmodification $\longrightarrow$
  postmodification *with* (no discordant excessive imitation *and* no embedded discord)
discordant postmodification $\longrightarrow$
  postmodification *with* (discordant excessive imitation *or* embedded discord)
concordant explicit active postmodification $\longrightarrow$
  explicit active postmodification *and* concordant postmodification
discordant explicit active postmodification $\longrightarrow$
  explicit active postmodification *and* discordant postmodification
concordant explicit static postmodification $\longrightarrow$
  explicit static postmodification *and* concordant postmodification
discordant explicit static postmodification $\longrightarrow$
  explicit static postmodification *and* discordant postmodification

4.2.5 Nominal groups

We will now combine the various kinds of pre- and postmodification to define different types of *nominal groups*.

nominal group ⟶

    (premodification)*   noun   (postmodification)*

    pronoun

Connective view

concordant nominal group ⟶

    nominal group *with* (concordant premodification *and* concordant postmodification)

discordant nominal group ⟶

    nominal group *with* (discordant excessive imitation *or* embedded discord)

heteropoisal nominal group ⟶

    nominal group *with* heteropoisal postmodification
        Silvia, a commanding woman in her fifties, a shrew falsely mellowed by religion,
        organizes prayer sessions on the lines of Tupperware meetings. (parse 29)

concordant heteropoisal nominal group ⟶

    heteropoisal nominal group *and* concordant nominal group

discordant heteropoisal nominal group ⟶

    heteropoisal nominal group *and* discordant nominal group

Hierarchic view

The next three rules describe the three basic types of nominal groups: *neutral, concordant* and *discordant.* The rule for a *neutral nominal group* has three alternatives. The first two alternatives are self-explanatory.

In the third alternative, I allow *concordant* premodification, but not concordant postmodification, in a neutral (non-subordinating) nominal group, as premodification does not have the same degree of explicitness (subordinating effect) as postmodification:

> In general, premodification is to be interpreted (and, most frequently, can only be interpreted) in terms of postmodification and its greater explicitness. That is, *some tall college girls* will be interpreted as 'some girls who are tall and who are (studying) at a college' (Quirk *et al.* 1985, 1243).

neutral nominal group ⟶

nominal group *with no* premodification *and no* postmodification

nominal group *with* neutral premodification *and* neutral postmodification

nominal group *with* concordant premodification *and* (neutral *or no* postmodification)

concordant nominal group ⟶

nominal group *with* (concordant *or* neutral premodification) *and* (concordant *or no* postmodification)

discordant nominal group ⟶

nominal group *with* discordant premodification

nominal group *with* discordant postmodification

The next three rules describe the more detailed types of *active* and *static nominal groups.*

explicit active nominal group ⟶

nominal group *with* explicit active postmodification

explicit static nominal group ⟶

nominal group *with* explicit static premodification *and* explicit static postmodification

The rule for *implicit static nominal group* has two alternatives, both of which lack pre- and postmodification, so that they expand the field of reference of the nominal group to its greatest possible extent. Thus, they are superordinating (implicit) shapes. As I have mentioned, imitation is allowed to occur on the right-hand side of rules. However, only the explicit, subordinating rules can incorporate imitation, For the implicit, superordinating rules, imitation is not allowed, for it is inherently subordinating, as it acts to limit the field of reference of the component being described.

implicit static nominal group ⟶

nominal group *with no* premodification *and no* postmodification

pronoun

The following four rules described the most finely-detailed types of *concordant* and *discordant nominal groups.*

concordant explicit active nominal group ⟶

explicit active nominal group *with no* discordant excessive imitation *and* no embedded discord

discordant explicit active nominal group ⟶

    explicit active nominal group *with* discordant explicit active postmodification

concordant explicit static nominal group ⟶

    explicit static nominal group *with no* discordant excessive imitation *and*
    no embedded discord

discordant explicit static nominal group ⟶

    explicit static nominal group *with* discordant explicit static premodification *or*
    discordant explicit static postmodification

I have based the definition of discord on disconnective stylistic effects, in the connective view, and excessive imitation, in both views. Implicit, or superordinating, constructions are inherently concordant as, by definition, they do not allow imitation. So, in this case, a concordant rule can simply be written as:

concordant implicit static nominal group ⟶

    implicit static nominal group

4.2.6 Noun phrases

A *noun phrase* category will now be introduced to emphasize the similar roles played by nominal groups and nominal clauses.

noun phrase ⟶

    nominal group

    nominal clause

Connective view

concordant noun phrase ⟶

    concordant nominal group
        Personal affinities play their role in this encounter. (parse 3)

    concordant nominal clause
        Her aunt having left the room, I declared my passionate love for Celia.
        (parse 20)

discordant noun phrase ⟶

    discordant nominal group

    discordant nominal clause

heteropoisal noun phrase $\longrightarrow$

    heteropoisal nominal group

concordant heteropoisal noun phrase $\longrightarrow$

    concordant heteropoisal nominal group

discordant heteropoisal noun phrase $\longrightarrow$

    discordant heteropoisal nominal group

Hierarchic view

neutral noun phrase $\longrightarrow$

    neutral nominal group
        True, <u>posterity</u> has been kind. (parse 1)

concordant noun phrase $\longrightarrow$

    noun phrase *with no* discordant excessive imitation *and no* embedded discord
        <u>Personal affinities</u> play their role in <u>this encounter.</u> (parse 3)

discordant noun phrase $\longrightarrow$

    noun phrase *with* (discordant excessive imitation *or* embedded discord)
        Personal affinities play their role in <u>this significant and unexpected,</u>
        <u>brief and fleeting encounter.</u>

The rule for an *explicit active nominal phrase* has four alternatives. The first is self-explanatory. The others, various types of subjunct nominal clauses, are constructions that are both subordinating (explicit) and verbal (active).

explicit active noun phrase $\longrightarrow$

    explicit active nominal group
        The artist provides <u>a dreamy background which is done in yellow and bistre</u>
        <u>brushstrokes.</u> (parse 9)

    subjunct[3] nominal clause

    subjunct[2] nominal clause

    subjunct[1] nominal clause

The following set of rules is self-explanatory.

explicit static noun phrase $\longrightarrow$

explicit static nominal group
> *Personal affinities* play their role in this encounter. *(parse 3)*

implicit static noun phrase $\longrightarrow$

    implicit static nominal group

concordant explicit active noun phrase $\longrightarrow$

    explicit active noun phrase *and* concordant noun phrase

discordant explicit active noun phrase $\longrightarrow$

    explicit active noun phrase *and* discordant noun phrase

concordant explicit static noun phrase $\longrightarrow$

    explicit static noun phrase *and* concordant noun phrase

discordant explicit static noun phrase $\longrightarrow$

    explicit static noun phrase *and* discordant noun phrase

4.2.7 Complements

Several of the syntactic categories that we have seen can play the role of a *complement*, in either initial or terminal position, as in the following examples:

(4-27) To my regret, they rejected the offer.[16]

(4-28) One likely result of the postponement is that the cost of constructing the college will be very much higher.[17]

complement $\longrightarrow$

    adjectival

    nominal group

    nominal clause

    prepositional phrase

---

[16]Quirk *et al.* (1985, 712).
[17]*Ibid*, 1047.

78

Connective view

concordant complement ⟶

    adjectival

    concordant nominal group

    concordant nominal clause

    concordant prepositional phrase

discordant complement ⟶

    discordant nominal group

    discordant nominal clause

    discordant prepositional phrase

In the rule for an *initial discordant complement*, the first alternative, an initial prepositional phrase, whether concordant or discordant internally, is discordant as an initial complement because it has a disconnective effect: it is not immediately obvious to which component the prepositional phrase is bound. For example:

(4-29) Behind the fence, the children jeered at the soldiers.[18]

In this case, it is not absolutely clear whether it is the children or the soldiers who are behind the fence, and so the initial prepositional phrase has a disconnective effect. This is not so for the other types of complements; they retain internal concord even in initial position:

1. An initial adjectival can be taken as a comment about the rest of the sentence:

(4-30) Strange, it was she who initiated divorce proceedings.[19]

2. An initial nominal group is a connective shape, as it has a syntactic affinity with the nominal construction, the subject:

(4-31) Traitor he has become and traitor we shall call him.[20]

3. An initial nominal clause is rarely disconnective, as it usually has its own subject-verb block that provides an effect of solidarity and integration:

---

[18] *Ibid*, 1287.
[19] *Ibid*, 426.
[20] *Ibid*, 1378.

(4-32) <u>That the cost of constructing the college will be very much higher</u> is one likely result of the postponement.[21]

initial discordant complement ⟶

    prepositional phrase

    discordant complement

Hierarchic view

The rule for a *neutral complement* has only two alternatives. The "neutral adjectival" that might have been expected does not occur, as I do not make such fine distinctions as explicit, neutral, or implicit adjectivals. A "neutral nominal clause" does not occur either, for, as we shall see, nominal clauses are either subordinating or superordinating, but not neutral.

neutral complement ⟶

    neutral nominal group
        In <u>its energy</u>, its lyrics, its advocacy of frustrated joys,
        rock is a symphony. (parse 46)

    neutral prepositional phrase

concordant complement ⟶

    complement *with no* discordant excessive imitation *and no* embedded discord
        In its energy, its lyrics, <u>its advocacy of frustrated joys</u>,
        rock is a symphony. (parse 46)

discordant complement ⟶

    complement *with* (discordant excessive imitation *or* embedded discord)

explicit active complement ⟶

    explicit active nominal group

    nominal clause

    explicit active prepositional phrase

explicit static complement ⟶

    adjectival

    explicit static nominal group

---

[21] *Ibid*, 1047 (adapted).

explicit static prepositional phrase

implicit static complement $\longrightarrow$

implicit static nominal group

concordant explicit active complement $\longrightarrow$

explicit active complement *with* (*no* discordant excessive imitation *and* *no* embedded discord)

discordant explicit active complement $\longrightarrow$

discordant explicit active nominal group

discordant nominal clause

discordant explicit active prepositional phrase

concordant explicit static complement $\longrightarrow$

explicit static complement *with* (*no* discordant excessive imitation *and* *no* embedded discord)

discordant explicit static complement $\longrightarrow$

adjectival *with* discordant excessive imitation

discordant explicit static nominal group

discordant explicit static prepositional phrase

4.2.8 Prepositional phrases

The definitions of the various types of *prepositional phrases* are based on their constituent nominal group.

prepositional phrase $\longrightarrow$

preposition   nominal group

Connective view

concordant prepositional phrase $\longrightarrow$

prepositional phrase *with* concordant nominal group

discordant prepositional phrase $\longrightarrow$

prepositional phrase *with* discordant excessive imitation

prepositional phrase *with* discordant nominal group

81

Hierarchic view

neutral prepositional phrase $\longrightarrow$

> prepositional phrase *with* neutral nominal group
> *In its energy,* *its lyrics, its advocacy of frustrated joys,*
> *rock is one long symphony of protest. (parse 47)*

concordant prepositional phrase $\longrightarrow$

> prepositional phrase *with* concordant nominal group

discordant prepositional phrase $\longrightarrow$

> prepositional phrase *with* discordant nominal group

explicit active prepositional phrase $\longrightarrow$

> prepositional phrase *with* explicit active nominal group

explicit static prepositional phrase $\longrightarrow$

> prepositional phrase *with* explicit static nominal group

concordant explicit active prepositional phrase $\longrightarrow$

> explicit active prepositional phrase *with* concordant explicit active nominal group

discordant explicit active prepositional phrase $\longrightarrow$

> explicit active prepositional phrase *with* discordant explicit active nominal group

concordant explicit static prepositional phrase $\longrightarrow$

> explicit static prepositional phrase *with* concordant explicit static nominal group

discordant explicit static prepositional phrase $\longrightarrow$

> explicit static prepositional phrase *with* discordant explicit static nominal group

4.2.9   Verb phrases

I will simplify the *verb phrase* category by considering only concordant, discordant, and neutral rules, and not splitting the rules into static and active subrules.

verb phrase $\longrightarrow$

> (adverbial)   verb   (adverbial)   (complements and verb modifiers)

Connective view

concordant verb phrase ⟶

    verb phrase *with no* embedded discord
        Personal affinities <u>play their role in this encounter.</u> (parse 3)

In the example sentence given below for a *discordant verb phrase*, the disconnective verbless clause, *rather expensive*, is an embedded source of discord.

discordant verb phrase ⟶

    verb phrase *with* embedded discord
        Most people <u>consider these books rather expensive</u>. (parse 8)

Hierarchic view

In the following example, the verb phrase contains only the main verb, *told*, and the pronoun, *him*, a neutral nominal group: thus, this is a *neutral verb phrase*.

neutral verb phrase ⟶

    verb phrase *with* all components neutral
        I <u>told him</u> that she was wrong. (parse 22)

In the example below, the verbless clause, *rather expensive*, is not considered discordant, as it is in the connective view, because it does not contain excessive imitation, which is the only source of discord in the hierarchic view.

concordant verb phrase ⟶

    verb phrase *with no* embedded discord
        Most people <u>consider these books rather expensive</u>. (parse 8)

discordant verb phrase ⟶

    verb phrase *with* embedded discord

4.2.10 Dependent clauses

We have now defined all the subcomponents needed to construct the various types of dependent clauses.

clause ⟶

    adverbial clause

    nominal clause

    nonfinite clause

    relative clause

    verbless clause

Connective view

Adverbial clauses   As I discussed earlier, an adverbial construction is *conjunct²*, if it appears in initial or medial position, and *conjunct³*, if it appears in final position.

conjunct³ adverbial clause ⟶

    clause *with* conjunct³ adverbial
       ...*but, <u>nevertheless, you should send her the agenda</u>.*

conjunct² adverbial clause ⟶

    clause *with* conjunct² adverbial
       <u>Completely drinking up his beer</u>, he left.

Nominal clauses[22]   Because of their infrequent usage, the connectivity of nominal clauses is muted, so that even the most connective nominal clauses are moderately, rather than strongly, connective.

The following rule for a *conjunct² nominal clause* has three alternatives. Each contains a connector word (*that*, *wh-*element, *if* or *whether*) that forces the presence of a subject-verb block that contributes to the moderate degree of integration and connectivity of these clauses. Even if these clauses are not used in nominal position, this feature makes them moderately connective shapes.

conjunct² nominal clause ⟶

    nominal *that* clause
       <u>That she is still alive</u> is a consolation. (parse 21)

    nominal *wh-*interrogative clause
       <u>How the book will sell</u> depends on its author. (parse 23)

    nominal yes-no interrogative clause
       <u>Whether she likes the present</u> is not clear to me.

The rule for a *conjunct¹ nominal clause* has just one alternative, a nominal infinitive clause with a subject. The presence of a subject contributes to the solidarity of the subject-verb block in the clause. However, there can be no accord with the infinitive form of the verb, so that the subject-verb solidarity is muted. Thus, this type of clause is only a mildly connective shape.

conjunct¹ nominal clause ⟶

    nominal *"to"*-infinitive clause *with subject*
       <u>For you to tell everybody</u> is the best thing. (parse 14)

---

[22]Most of the basic syntactic terms, including *yes-no interrogative clause*, are adopted from Quirk *et al.* (1985). In some cases, their terminology differs from that used in standard generative linguistics.

The rule for a *conjunct[0] nominal clause* has two alternatives, clauses that lack a subject and the solidarity of a subject-verb block. However, they have no disconnective components, and so they are neutral shapes in the connective view.

conjunct[0] nominal clause $\longrightarrow$

    nominal *"to"*-infinitive clause *without subject*
        To tell everybody is the best thing. (parse 15)

    nominal participle clause
        Telling lies is wrong. (parse 25)

In the rule for an *antijunct[1] nominal clause*, a nominal verbless clause is a disconnective shape, as it can contain an apparent number disagreement between the subject and the verb.

antijunct[1] nominal clause $\longrightarrow$

    nominal verbless clause
        [Having] wall-to-wall carpets in every room is expensive.

Non-finite clauses The rule for a *conjunct[2]* nonfinite clause has one alternative, an infinitive clause that contains a subject. The presence of a subject contributes to the solidarity of the subject-verb block within the clause. However, the lack of accord between the subject and verb mutes the effect of solidarity and integration. However, unlike a *nominal* infinitive clause, a *dependent* infinitive clause has a high degree of usage, which enhances its connective effect. Thus, a dependent infinitive clause with a subject is a moderately connective shape.

conjunct[2] nonfinite clause $\longrightarrow$

    infinitive clause *with "to" and subject*
        The best thing is for you to tell everybody

The rule for a *conjunct[1] nonfinite clause* has three alternatives. The first, an infinitive clause without a subject, lacks the solidarity of a subject-verb block. However, its frequency of usage causes it to be a mildly connective shape.

The second alternative, an infinitive clause without the connector word *"to"*, but with a subject, has a potential subject-verb solidarity. However, the lack of an accord between the subject and the infinitive form of the verb mutes the connective effect. This tendency to disconnectivity is enhanced by the absence of the connector *"to"*, which would have indicated that the verb form is an infinitive, so that a subject-verb accord would not be expected. Because of these conflicting connective and disconnective characteristics, this type of clause is only a mildly connective shape.

The third alternative, a participle clause with a subject, has a potential subject-verb solidarity, but the lack of accord between the subject and verb mutes the effect of solidarity and integration. In addition, this type of clause lacks the connector *"to"* that binds a dependent infinitive clause to the main clause. Thus, this type of clause, too, is only a mildly connective shape.

conjunct[1] nonfinite clause ⟶

    infinitive clause *with "to" and without subject*
      The best thing is <u>to tell everybody</u>.

    infinitive clause *without "to" and with subject*
      <u>Rather than John do it</u>, I prefer Mary. (parse 16)

    participle clause *with subject*
      <u>Her aunt having left the room</u>, I declared my passionate love for Celia.
      (parse 20)

The rule for a *conjunct[0] nonfinite clause* has two alternatives. The first, a "bare" infinitive clause with neither the connector *"to"* nor a subject, lacks both the solidarity of a subject-verb block and the frequent usage of other infinitive clauses. Because of these characteristics, it does not have a connective shape, but neither does it have any discordant components. Thus, it is a neutral shape in the connective view.

The second alternative, a participle clause without a subject, lacks both the solidarity of a subject-verb block and the connector *"to"*. However, it has no disconnective components, and so it is a neutral shape in the connective view.

conjunct[0] nonfinite clause ⟶

    infinitive clause *without "to" and without subject*
      All I did was <u>hit him on the head</u>.

    participle clause *without subject*
      <u>Leaving the room</u>, he tripped over the mat. (parse 18)

Relative clauses The rule for a *conjunct[2] relative clause* has two alternatives, both of them relative clauses, that contain an element that forces a syntactic accord with its verb. Thus, a relative clause has the solidarity of a subject-verb block, and so it is a moderately connective shape.

conjunct[2] relative clause ⟶

    wh-relative clause
      It is unthinkable to move the whole of the works
      <u>which are the only Zurbaran paintings in the palace</u>
      <u>where they were hung in the year when the artist died.</u>
      (parse 27)

that-relative clause

Verbless clauses The rule for an *antijunct[1] verbless clause* has one alternative, a verbless clause, that can contain an apparent number disagreement: there is no verbal element in the clause, and so the clause can be misinterpreted as a noun phrase that is the subject of the main clause. Potential syntactic disagreement, combined with infrequent usage, gives the verbless clause a mildly disconnective shape.

antijunct[1] verbless clause $\longrightarrow$

verbless clause
[Having] wall-to-wall carpets in every room is expensive.

Concordant and discordant clauses The following three rules for *concordant* and *discordant clauses* use disconnectivity and excessive imitation, the sources of discord in the connective view. In the second rule, as with imitative postmodification, the imitation of clauses that belong to the same stylistic equivalence class tends to have an integrating, concordant, effect because of the strong affinity between constructions of the same type.

concordant clause $\longrightarrow$

any conjunct clause *with no* embedded discord

imitative clauses

imitative clauses $\longrightarrow$

s (conjunction) t (conjunction) (u)
where s,t, *and* u *are* conjunct *clauses and
are members of the same stylistic equivalence class.*

discordant clause $\longrightarrow$

antijunct[1] clause

clause *with* (discordant excessive imitation *or* embedded discord)

A dependent clause, unless nominal or adverbial, is usually used in medial or terminal position.[23] As a consequence, initial placement in a sentence will tend to create a disconnective, discordant, effect, unless the clause has an inherently strong connective shape.

initial discordant clause $\longrightarrow$

---

[23]Suggested by examples of typical clause usage in Quirk *et al.* (1985, 1047).

conjunct^0 clause
  To tell everybody is the best thing. (parse 15)

conjunct^1 clause

discordant clause

Hierarchic view

Adverbial clauses   Degrees of subordination or superordination of adverbial construc-
tions are assigned according to the degree to which the adverbial limits or expands the field
of reference of the construction.

subjunct^1 adverbial clause $\longrightarrow$

  adverbial clause *with* subjunct^1 adverbial
    Mary was hesitant but, casually, Leslie greeted the stranger.

subjunct^0 adverbial clause $\longrightarrow$

  adverbial clause *with* subjunct^0 adverbial
    You'll find the sugar where the coffee is.

superjunct^1 adverbial clause $\longrightarrow$

  adverbial clause *with* superjunct^1 adverbial
    William has poor eyesight whereas Sharon has poor hearing.

Nominal clauses   The rule for a *subjunct² nominal clause* has three alternatives, all
of which contain explicit indicators (*wh*-element, *that*, *whether* or *if*), subjects, and verb
forms. These elements act to limit the field of reference of the clause, so that these clauses
are moderately subordinating shapes. Even if these clauses are not used in nominal position,
these features make them subjunct^2 shapes.

subjunct^2 nominal clause $\longrightarrow$

  nominal *wh*-interrogative clause
    How the book will sell depends on its author. (parse 23)

  nominal *that* clause
    That she is still alive is a consolation. (parse 21)

  nominal yes-no interrogative clause
    Whether she likes the present is not clear to me.

The rule for a *subjunct¹ nominal clause* has one alternative, which contains a subject
that limits the field of reference, but does not contain a verb form that marks, and therefore
limits, tense or mood. Overall, this clause is a mildly subordinating shape.

subjunct^1 nominal clause $\longrightarrow$

nominal *"to"*-infinitive clause *with subject*
> _For you to tell everybody_ is the best thing. (parse 14)

The rule for a *superjunct[1] nominal clause* has three alternatives, each of which lacks a crucial specifying element, either the subject or verb, that normally limits the field of reference of the clause. These clauses lack not only a major element, but also, by virtue of their initial position, previous constraints on their field of reference. Thus, these clauses are mildly superordinating shapes.

superjunct[1] nominal clause $\longrightarrow$

nominal *"to"*-infinitive clause *without subject*
> _To tell everybody_ is the best thing. (parse 15)

nominal participle clause
> _Telling lies_ is wrong. (parse 25)

nominal verbless clause
> _[Having] wall-to-wall carpets in every room_ is expensive.

Nonfinite clauses   The rule for a *subjunct[1] nonfinite clause* has three alternatives, each containing a subject and a verb, both of which limit the field of reference of the clause. Thus, these clauses are mildly subordinating shapes.

subjunct[1] nonfinite clause $\longrightarrow$

infinitive clause *with "to" and subject*
> The best thing is _for you to tell everybody_.

infinitive clause *without "to" and with subject*
> _Rather than John do it,_ I prefer Mary. (parse 16)

participle clause *with subject*
> _Her aunt having left the room,_ I declared my passionate love for Celia.
> (parse 20)

The rule for a *subjunct[0] nonfinite clause* has three alternatives, each lacking a crucial specifying element, the subject, that normally limits the field of reference. However, there are no superordinating elements, and so these clauses are neutral shapes in the hierarchic view.

subjunct[0] nonfinite clause $\longrightarrow$

infinitive clause *with "to" and without subject*
> The best thing is _to tell everybody_.

infinitive clause *without "to" and without subject*
> All I did was _hit him on the head_.

participle clause *without subject*
> _Leaving the room,_ he tripped over the mat. (parse 18)

Relative clauses The rule for a *subjunct²* *relative clause* has two alternatives, both relative clauses, that contain a specifying indicator (*wh*-element or *that*), that acts as the subject, and a verb. The combination of these elements limits the field of reference of the clause. Thus, this clause is a moderately subordinating shape.

subjunct² relative clause $\longrightarrow$

    wh-relative clause
       It is unthinkable to move the whole of the works
       <u>*which are the only Zurbaran paintings in the palace*</u>
       <u>*where they were hung in the year when the artist died.*</u>
       (parse 27)

    that-relative clause

Verbless clauses The rule for a *superjunct¹* *verbless clause* has one alternative, a verbless clause, which can lack two crucial elements, a subject and a verb,[24] that normally limit the field of reference of the clause. Thus, this clause is a superordinating shape.

superjunct¹ verbless clause $\longrightarrow$

    verbless clause
    <u>*[Having] wall-to-wall carpets in every room*</u> *is expensive.*

Concordant and discordant clauses Now, we shall describe more general categories of clauses in terms of concordant and discordant effects.

concordant clause $\longrightarrow$

    clause *with no* discordant excessive imitation *and no* embedded discord

discordant clause $\longrightarrow$

    clause *with* (discordant excessive imitation *or* embedded discord)

An *explicit active clause* is a shape that is both subordinating (explicit) and verbal (active).

explicit active clause $\longrightarrow$

    subjunct⁰ clause

    subjunct¹ clause

---

[24]Sometimes, the subject is present in verbless clauses, as in *I do not wish to describe his assertions, <u>some of them [being] offensive</u>*. However, at other times, the subject is missing, as in *Norman Jones, [who was] <u>then a student</u>, wrote several best-sellers.*

subjunct[2] clause

subjunct[3] clause

An *initial explicit active clause* is at least inherently mildly subordinating (explicit) and obviously verbal (active). As we saw in the discussion of nominal clauses, initial position in a sentence can have a superordinating effect, as there is no existing field of reference for the sentence. As a consequence, to maintain a subordinating effect in the initial position, at least a mildly subordinating (subjunct[1]) shape is required.

initial explicit active clause $\longrightarrow$

    subjunct[1] clause

    subjunct[2] clause

        If we can judge from the canvases on the walls of the gallery,
        those who are responsible are myopic. (parse 30)

    subjunct[3] clause

final explicit active clause $\longrightarrow$

    explicit active clause

The final set of clause rules are self-explanatory.

concordant explicit active clause $\longrightarrow$

    explicit active clause *and* concordant clause

discordant explicit active clause $\longrightarrow$

    explicit active clause *and* discordant clause

concordant initial explicit active clause $\longrightarrow$

    initial explicit active clause *and* concordant clause

discordant initial explicit active clause $\longrightarrow$

    initial explicit active clause *and* discordant clause

4.2.11 Major sentences

We have defined the components of a sentence and can now describe increasingly complex sentence structures. The most basic structure is the *major*, a single main clause; the more complex is the *complete*, which adds dependent clauses to the main clause; and the most general is the *sentence*, which can be complete or incomplete. This section defines majors; subsequent sections describe the other types of sentences.

major $\longrightarrow$

    (conjunction) (adverbial)* (complement)* noun phrase (adverbial)* verb phrase
    (complement)*

Connective view

This rule is self-explanatory.

concordant major ⟶

    major *with* all components concordant

A *discordant major* includes an *inverted major*, which is discordant because the solidarity and connective structure of the subject-verb block are disturbed.

discordant major ⟶

    major *with* at least one component discordant

    inverted major
        Had John only known about the examination! (parse 37)

inverted major ⟶

    (conjunction) (adverbial)* (complement)* (adverbial)* copula verb noun phrase (complement)*
    Was John angry!

    (conjunction) (adverbial)* (complement)* auxiliary verb noun phrase (adverbial)* verb phrase (complement)*
    Had John only known about the examination!

Hierarchic view

A *neutral major* is neither subordinating nor superordinating.

neutral major ⟶

    major *with* all components neutral
        Rather than John do it, I prefer Mary. (parse 16)

This rule is self-explanatory.

concordant major ⟶

    concordant major *with* all components concordant

A *discordant major* includes an *inverted major*, which is discordant because the usual hierarchical structure of the subject-verb block is disturbed. In the example below, the complement *pleasant* has been moved from its usual subordinate position to the more superordinate initial position.

discordant major ⟶

discordant major *with* at least one component discordant

inverted major
> *Pleasant is our homely evening fire when the fiery heat of the desert daylight is done. (parse 51)*

In an *explicit active major*, certain subordinating (explicit) components (noun phrase or medial adverbial) have a verbal (active) form.

explicit active major ⟶

major *with* explicit active noun phrase
> *Telling lies is wrong. (parse 25)*

major *with* medial subjunct[1] adverbial clause
> *Our homely evening fire, when the fiery heat of the desert daylight is done, is pleasant. (parse 50)*

In an *explicit static major*, a certain subordinating (explicit) component (noun phrase) has a non-verbal (static) form.

explicit static major ⟶

major *with* explicit static noun phrase
> *Personal affinities play their role in this encounter. (parse 3)*

In an *implicit static major*, a certain superordinating (implicit) component (noun phrase) has a non-verbal (static) form.

implicit static major ⟶

major *with* implicit static noun phrase

Initial and *final explicit static majors* have a component that is both subordinating and non-verbal in the initial or final position.

initial explicit static major ⟶

explicit static major *with* initial explicit static complement
> *True, posterity has been kind. (parse 1)*

final explicit static major ⟶

explicit static major *with* final explicit static complement
> *John hit his sister, the great cad that he is. (parse 39)*

Initial and *final implicit static majors* have a component that is both superordinating and non-verbal in the initial or final position.

initial implicit static major ⟶

major *with* initial implicit static complement

final implicit static major $\longrightarrow$

    major *with* final implicit static complement

The rules for *concordant* and *discordant explicit active majors* thus become self-explanatory.

concordant explicit active major $\longrightarrow$

    explicit active major *with* all components concordant

discordant explicit active major $\longrightarrow$

    explicit active major *with* at least one component discordant

concordant explicit static major $\longrightarrow$

    explicit static major *with* all components concordant

discordant explicit static major $\longrightarrow$

    explicit static major *with* at least one discordant component

An *implicit static major* is inherently *concordant*, for, by definition, it cannot contain excessive imitation, the only source of discord in the hierarchic view.

concordant implicit static major $\longrightarrow$

    implicit static major

The rules for *concordant* and *discordant explicit static majors* are now self-explanatory.

concordant initial explicit static major $\longrightarrow$

    initial explicit static major *and* concordant major

discordant initial explicit static major $\longrightarrow$

    initial explicit static major *with* discordant initial explicit static complement

concordant final explicit static major $\longrightarrow$

    final explicit static major *and* concordant major

discordant final explicit static major $\longrightarrow$

    final explicit static major *with* discordant final explicit static complement

4.2.12 Complete sentences

Now, we will allow initial or terminal clauses to be added to the basic major sentence.

complete ⟶

    (clause)*   major   (clause)*

Connective view

In the following example, all components are connective and do not contain any discordant elements. Thus, this *complete* sentence is concordant.

concordant complete ⟶

    complete *with* all components concordant
       If we can judge from the canvases on the walls of the gallery,
       those who are responsible are myopic. (parse 30)

In the following example, one component, an inverted major, is disconnective. Thus, this *complete* sentence is discordant.

discordant complete ⟶

    complete *with* at least one component discordant
       Pleasant, when the fiery heat of the desert daylight is done, is our homely
       evening fire. (parse 52)

initial discordant complete ⟶

    discordant complete *with* initial discordant clause

Hierarchic view

A *neutral complete* sentence is neither subordinating (explicit) nor superordinating (implicit).

neutral complete ⟶

    neutral major
       Great Britain opposes it ... (parse 6)

The simplest forms of *concordant* and *discordant complete* sentences consist of either a *concordant* or *discordant major* and no initial or terminal clauses.

concordant complete ⟶

    concordant major

discordant complete ⟶

discordant major

I distinguish between complete sentences that have a subordinating (explicit) component in the *initial*, *medial*, or *final* position.

initial explicit complete ⟶

    initial explicit active complete

    initial explicit static complete

medial explicit complete ⟶

    medial explicit active complete

    medial explicit static complete

final explicit complete ⟶

    final explicit active complete

    final explicit static complete

The following six rules define different types of *explicit complete* sentences according to the presence of subordinating (explicit) *static* or *active* components in *initial*, *medial*, or *final* position.

initial explicit active complete ⟶

    complete *with* initial explicit active clause

initial explicit static complete ⟶

    complete *with* initial explicit static major

medial explicit active complete ⟶

    complete *with* explicit active major

medial explicit static complete ⟶

    complete *with* explicit static major *and* no terminal clause

final explicit active complete ⟶

    complete *with* final explicit active clause

final explicit static complete ⟶

    complete *with* final explicit static major *and* no terminal clause

The rules for *concordant* and *discordant initial explicit complete* sentences are formed from the general rules given above either by·requiring all components to be concordant or by requiring the "defining" component in the rules for discord to be discordant, *e.g.*, a discordant final explicit static major in the final explicit static complete.

The following example contains an explicit active clause in initial position, and so it is an *initial explicit active complete* sentence. And, as it has no discordant components, it is *concordant*.

concordant initial explicit complete ⟶

    concordant initial explicit active complete
    Her aunt having left the room, I declared my passionate love for Celia.
    (parse 20)

    concordant initial explicit static complete

discordant initial explicit complete ⟶

    discordant initial explicit active complete

    discordant initial explicit static complete

The first example below contains a postmodifying relative clause in medial position, and so it is a *medial explicit active complete* sentence. And, as it contains no discordant components, it is *concordant*.

The second example contains an explicit static major, a major that has no verbal forms other than the main verb, in "medial"[25] position, and so it is a *medial explicit static complete* sentence. And, as it contains not discordant components, it is *concordant*.

concordant medial explicit complete ⟶

    concordant medial explicit active complete
    John, my brother who is tall, is an engineer. (parse 11)

    concordant medial explicit static complete
    These personal affinities play their role in this encounter. (parse 4)

discordant medial explicit complete ⟶

    discordant medial explicit active complete

    discordant medial explicit static complete

---

[25] I consider a single main clause to be in medial position.

The following example contains an explicit active clause in the terminal position, and so it is a *final explicit active complete* sentence. And, as it contains no discordant components, it is *concordant*.

concordant final explicit complete ⟶
   concordant final explicit active complete
      I wonder if you can help me. (parse 24)
   concordant final explicit static complete

discordant final explicit complete ⟶
   discordant final explicit active complete
   discordant final explicit static complete

The following rules collapse activeness and staticness for each position in the superordinating (implicit) case.

initial implicit complete ⟶
   initial implicit active complete
   initial implicit static complete

medial implicit complete ⟶
   medial implicit active complete
   medial implicit static complete

final implicit complete ⟶
   final implicit active complete
   final implicit static complete

An *initial implicit active complete* sentence contains a component that is both superordinating (implicit) and active (verbal) in the initial position.

initial implicit active complete ⟶
   complete *with* initial superjunct clause

I do not believe that there are any *medial* implicit active complete sentences, given the previous definitions, because medial constructions are formed by pre- and postmodification, but these are inherently explicit and subordinating.

The following rules define different types of *implicit complete* sentences according to the presence of superordinating (implicit) *static* or *active* components in *initial* or *final* position.

final implicit active complete ⟶

complete *with* final superjunct clause

initial implicit static complete $\longrightarrow$

   complete *with* initial implicit static major

medial implicit static complete $\longrightarrow$

   complete *with* implicit static major

final implicit static complete $\longrightarrow$

   complete *with* final implicit static major *and* no terminal clause

4.2.13   General sentences

Finally, we expand the definition of complete sentences to include *incomplete fragments*. An incomplete sentence can be simple, as in:

(4-33)   A strange escape.

or complex, as for the imitative nominal group:

(4-34)   Van Gogh as he was, Van Gogh stripped of the hype.

but it is most often a nominal group that stands alone. For simplicity, I only deal with complete sentences in the grammar.

sentence $\longrightarrow$

   complete

   (incomplete)*

Connective view

concordant sentence $\longrightarrow$

   concordant complete

discordant sentence $\longrightarrow$

   discordant complete

Hierarchic view

In the hierarchic view, the only source of discord is excessive imitation. As superordinating (implicit) rules do not, by definition, allow imitation, they are inherently concordant.

concordant sentence $\longrightarrow$

concordant initial explicit complete

concordant medial explicit complete

concordant final explicit complete

initial implicit complete

medial implicit complete

final implicit complete

discordant sentence $\longrightarrow$

discordant initial explicit complete

discordant medial explicit complete

discordant final explicit complete

4.3 Grammar of abstract elements

We have completed the construction of the bottom level, the classification of primitive stylistic shapes, in the grammar. Now, we will define the central level, the grammar of abstract elements, that will correlate the stylistic effects of the primitive shapes with the abstract elements defined in section 3.2.4.

4.3.1 Connective view

A *monoschematic* sentence is a single dominant shape with no accompanying subordinate or coordinate shapes — for example, the sentence below, which is a concordant major with no subordinate clauses.

monoschematic $\longrightarrow$

concordant major
Personal affinities play their role in this encounter. (parse 3)

A *centroschematic* sentence is a stylistic constituent in which the components are organized around a single dominant component — for example, the sentences below, which are concordant sentences with central concordant majors and one or more concordant dependent clauses.

centroschematic $\longrightarrow$

concordant sentence
> *It is unthinkable to move the whole of the works which are the only Zurbaran*
> *paintings in the palace where they were hung in the year when the artist died.*
> *(parse 27)*
> *This painter has adjusted to the tastes of the day, softening his line,*
> *sketching gracefully, and converting to sfumato. (parse 28)*
> *Our homely evening fire is pleasant when the fiery heat of the desert daylight*
> *is done. (parse 49)*

A *polyschematic* sentence is a stylistic constituent in which the components are organized around more than one dominant component — for example, the sentence below, which has a discordant inversion and a concordant remaining main clause.

polyschematic ⟶

discordant sentence
> *Pleasant, when the fiery heat of the desert daylight is done, is our homely*
> *evening fire. (parse 52)*

A *homopoisal* sentence is a stylistic texture with a single stylistic weight, allowing coordination of stylistically equivalent shapes. For example, the sentence below has a coordination of two concordant complete sentences.

homopoise ⟶

concordant complete   (concordant complete)+
> *Great Britain opposes it and Holland has raised slightly less strenuous*
> *objections. (parse 6)*

A *heteropoisal* sentence is a stylistic texture with more than one stylistic weight that contributes either to an overall balance or imbalance.

heteropoise ⟶

sentence *with* heteropoisal noun phrase

A *counterpoisal* sentence is a medial heteropoise in which a medial stylistic shape supports the overall stylistic balance of the sentence. For example, the sentences below contain noun phrases with a concordant heteropoisal postmodification, an adverbial clause or a participle clause.

counterpoise ⟶

sentence *with* concordant heteropoisal noun phrase
> *The famous collector, when he was unable to acquire certain canvases,*
> *bought copies. (parse 13)*
> *Politicians, being rather eloquent, capture our interest. (parse 43)*

101

A *contrapoisal* sentence is a medial heteropoise in which a medial stylistic shape opposes the overall stylistic balance of the sentence. For example, the sentence below contains a concordant main clause that is concordant except for the discordant heteropoisal postmodification, a verbless clause.

contrapoise ⟶

    sentence *with* discordant heteropoisal noun phrase
        Lives, a great number of them children, were lost. (parse 10)

The various types of *concord* and *discord* are defined according to the presence of a concordant or discordant component in *initial, medial,* or *final* position.

initial concord ⟶

    concordant major   (clause)*
        John went to get his book, so he said. (parse 48)

    concordant clause   major   (clause)*
        If we can judge from the canvases on the walls of the gallery,
        those who are responsible are myopic. (parse 30)

initial and medial concord ⟶

    centroschematic

final concord ⟶

    (clause)*   concordant major

    (clause)*   major   concordant clause

initial discord ⟶

    discordant major   (clause)*
        To the lighthouse, the way is not long. (parse 40)

    initial discordant clause   major   (clause)*
        Leaving the room, he tripped over the mat. (parse 18)

medial discord ⟶

    contrapoise

final discord ⟶

    (clause)*   discordant major
        John went into the house and was he angry! (parse 45)

    (clause)*   major   discordant clause

A *resolution* is a shift in stylistic effect that occurs at the end of a sentence and is a move from a relative discord to a concord. For example, the sentences below each begin with a discord, a disconnective clause, but end with a concordant main clause.

resolution ⟶

(initial discord)⁺   (medial discord)*   final concord
Covered with confusion, I left the room. (parse 19)
Being rather eloquent, politicians capture our interest. (parse 41)

(initial discord)*   (medial discord)⁺   final concord

A *dissolution* is a shift in stylistic effect that occurs at the end of a sentence and is a move from a relative concord to a discord. For example, the sentence below begins with imitative concordant main clauses, but ends with a discordant inverted major.

dissolution ⟶

initial concord   final discord

initial and medial concord   final discord
And the rains descended and the house fell and great was the fall of it.
(parse 35)

4.3.2 Hierarchic view

In the hierarchic view, a *monoschematic* sentence has no subordinating or superordinating components; it is a *neutral* sentence.

monoschematic ⟶

neutral complete
And the rains descended ... (parse 35)

Recall that in the hierarchic view, the only source of discord is excessive imitation, so that the three examples in the following rule are all concordant.

centroschematic ⟶

concordant sentence
The artist provides a dreamy background done in yellow and bistre
brushstrokes. (parse 7)
Lives, a great number of them children, were lost. (parse 10)
In its energy, its lyrics, its advocacy of frustrated joys, rock is one long
symphony of protest. (parse 47)

polyschematic ⟶

discordant sentence

homopoise ⟶

    neutral complete   (neutral complete)[+]
    And the rains descended and the floods came and the house fell. (parse 34)

A *heteropoisal* sentence has a subordinating (explicit) shape that provides an offset to the rest of the sentence. For example, the sentence below has a medial subordinating postmodifying nominal group.

heteropoise ⟶

    medial explicit complete
    John, my brother who is tall, is an engineer. (parse 11)

In the following two rules for *resolution* and *dissolution*, a monoschematic component is embedded either at the beginning or the end of a final or initial explicit complete sentence. Thus, there is a conflict between subordinating and neutral shapes that is either resolved *(resolution)* or left unresolved *(dissolution)*.

resolution ⟶

    initial monoschematic *in* final explicit complete
    I told him that she was wrong. (parse 22)

dissolution ⟶

    final monoschematic *in* initial explicit complete
    Being rather eloquent, politicians capture our interest. (parse 41)
    In its energy, its lyrics, its advocacy of frustrated joys, rock is a symphony.
    (parse 46)

4.4   Grammar of stylistic goals

With the completion of the central level in the stylistic grammar, the grammar of abstract elements, we can now define the rules at the top level that correlate patterns of the abstract elements in both views with the writer's specific goals. Stylistic goals, such as clarity, are elusive qualities that, up to now, have been defined by stylists by means of examples and many simple syntactic rules. However, with the vocabulary and rules that I have defined, we now have a way of seeing and abstracting what these examples have in common. We can abstract from a plethora of low-level syntactic rules to specific stylistic goals.

4.4.1 Clarity

Kane (1983) defines *clarity* to be associated with the following types of sentences:

- *Simple* sentences consist of one independent clause: these are the *monoschematic* sentences.

- *Centred* sentences consist of dependent constructions, followed by a main clause, followed by additional dependent clauses. I expand the notion of "centred sentence" to include any sentence in which there is a dominant, concordant core: these are the *centroschematic* sentences.

- *Parallel* sentences reduce ambiguity by stressing the same grammatical form: these are the *homopoisal* sentences.

- I introduce the concept of a *resolution* as a variation on the centroschematic sentence. In a resolution, the dominant, concordant core is in the terminal position.

I adapt the definitions given above and define clarity as follows:

clarity ⟶

> monoschematic
> > *True, posterity has been kind. (parse 1)*

> homopoise
> > *The style was formed and the principles were acquired. (parse 5)*

> centroschematic
> > *Silvia, a commanding woman in her 50's, a shrew falsely mellowed by religion, organizes prayer sessions on the lines of Tupperware meetings. (parse 29)*

> resolution
> > *Leaving the room, he tripped over the mat. (parse 18)*

Kane (1983) associates *obscurity* with the following types of sentences:

- *Complex* sentences can contain too many dependent clauses. I expand upon this instance of too much imitation, and consider all types of excessive imitation to have a discordant effect.

- *Convoluted* sentences contain an interrupted main clause. I use this notion of interruption to define medial discord.

Crystal and Davy (1969) associate clarity with various types of coordinating devices at the clause and group level. I expand this notion to general connectivity and therefore associate obscurity with the discordant effects of disconnectivity.

I adapt the definitions given by the sources mentioned above and define obscurity to be associated with constructions that contain excessive discord.

> obscurity ⟶

105

initial discord *and* medial discord

initial discord *and* final discord

medial discord *and* final discord

polyschematic
> *Lives, a great number of them children, were lost. (parse 10)*
> *Politicians, rather eloquent, capture our interest. (parse 42)*
> *Pleasant, when the fiery heat of the desert daylight is done, is our homely*
> *evening fire. (parse 52)*

4.4.2 Abstraction

Crystal and Davy (1969) associate *abstraction* with unmodified nouns. I expand this notion
to a general lack of modification: these are the *monoschematic* sentences.

Kane (1983) associates abstraction with *balanced* sentences, which contain parallel con-
structions that have a similar form and function and approximate equal length: these are
the *homopoisal* sentences.

I define abstraction to be created by constructions that are quite stark, as a monoschematic
sentence that tends to use unmodified nominal and verbal components, or that are very bal-
anced and ordered, as a homopoisal sentence.

abstraction $\longrightarrow$

monoschematic
> *Great Britain opposes it ... (parse 6)*

homopoise
> *The style was formed and the principles were acquired. (parse 5)*

Kane (1983) associates *concreteness* with sentences that suggest an effect of immediacy,
in which the writer has arranged elements to reflect the natural order of events or ideas,
so that syntax mirrors events. I adapt this idea to define concreteness as being associated
with sentences that express an effect of immediacy by emphasizing a particular component,
which may be highlighted because it is discordant or because it is in a prominent position,
as with a medial heteropoise.

concreteness $\longrightarrow$

initial discord
> *To the lighthouse, the way is not long. (parse 40)*

medial discord
> *Lives, a great number of them children, were lost. (parse 10)*

final discord

106

heteropoise
> *The famous collector, when he was unable to acquire certain canvases, bought copies. (parse 13)*

dissolution
> *Rather than John do it, I prefer Mary. (parse 16)*

4.4.3 Staticness

I associate *staticness* with standard structures, the *monoschematic* sentences, or more elaborate but ordered structures, the *homopoisal* sentences. I associate *dynamism* with structures that deviate from the norm. These are the sentences with a touch of discord that invigorates, but does not obscure. I will discuss the details of the stylistic parser in chapter 7 and explain how the *coarse grain* of the grammar leads to anomalous analyses. Here, we see other examples of the crudeness of the grammar rules, for the abstract elements are not sufficiently fine-grained to make a distinction between abstraction and staticness or between concreteness and dynamism. For example, monoschematic sentences are created by various types of structures, some abstract, others static, but these subtle distinctions are not captured at the top level of the grammar. The ability to make such a distinction *is* available in the grammar. For example, we could correlate *staticness* with sentences that have at least two static components, as in the following rule:

staticness ⟶

   initial explicit static complete *and* medial explicit static complete

   initial explicit static complete *and* final explicit static complete

   medial explicit static complete *and* final explicit static complete

However, such a rule is inelegant for it makes use of primitive stylistic shapes, but top-level rules are meant to be patterns of the more abstract stylistic elements. Instead, we require finer-grained abstract elements that reflect more-varied patterns of primitive shapes, such as *static centroschematic* or *active centroschematic*.

staticness ⟶

   monoschematic

   homopoise
> *And the rains descended and the floods came and the house fell. (parse 34)*

dynamism ⟶

   initial discord

   medial discord

final discord

heteropoise

dissolution
> *And the rains descended and the house fell and great was the fall of it.*
> *(connective dissolution) (parse 35)*
> *In its energy, its lyrics, its advocacy of frustrated joys, rock is a symphony.*
> *(hierarchic dissolution) (parse 46)*

Chapter 5

The Development of the French Syntactic Stylistic Grammar

5.1 Introduction

In the last chapter, I described the syntactic component of the English stylistic grammar, which was constructed using the vocabulary and methodology developed earlier. Now, I will review the development of the corresponding French syntactic stylistic grammar. As we will see, the English and French grammars are distinct at the base-level grammar of primitive shapes. However, they are identical at the higher levels of abstract elements and stylistic goals. The French grammar, like its English counterpart, has a stylistically-tuned base level, which, in this case, will be adapted from Dubois and Dubois-Charlier (1970) and Galichet (1970)[1] with supplementary material from Grevisse (1986).

For the development of the French grammar, I will use all the principles that were applied to the construction of its English counterpart: the stylistic vocabulary, the methodology, and the connective and hierarchic views of sentence structure. And, as a result of my experience with the English grammar, I will now add a new principle to guide the construction of the French grammar: the use of functionally based syntactic cues. Although connective primitive shapes will still be classified by their degree of syntactic integration and the hierarchic shapes by degree of subordination, I will use a more homogeneous approach to defining integration and subordination. For the English grammar, we used several syntactic cues, such as the presence of a subject-verb accord, as indicators of a particular degree of integration or subordination. For the French grammar, we will also use linguistic cues, but now the justification for all these cues will have a common basis, the *functional structure* of text. Such a homogeneous approach will provide more — and more-varied — cues for the

---

[1]Some of the text in this chapter consists of my translation of Galichet (1970). The examples have been translated by Nathalie Japkowicz, Jean-François Lamy, Yves Lespérance, Hector Levesque, and Julie Payette.

classification of primitive shapes.

A functional grammar, unlike other grammars, provides not just a system of rules for judging whether a sentence is grammatically correct, but a means of understanding what the writer is trying to express and why he has used a particular sentence construction. For example, the active and passive forms represent complementary ways of viewing a process, either in terms of an agent triggering an action (the active voice) or an object being subjected to an action (the passive voice). A functional grammar emphasizes the choice between different sentence structures and takes into consideration how a particular choice reflects not only the structural role, but also the functional role, that a sentence constituent plays. An understanding of style in language involves the study of the different nuances expressed by the different sentence structures. In effect, style regulates the conditions in which a particular grammatical form should be used by taking into account the nuances associated with the concept to be expressed (Galichet (1970), Halliday (1985)). As I have proposed, stylistic analysis in language translation should be goal-directed, the result of deliberate lexical, syntactic, and semantic choices, in service of the author's interpersonal and other pragmatic goals.

In the remainder of this chapter, I will present a functional framework for the French syntactic stylistic grammar and, in doing so, demonstrate how the principles developed for the construction of the English stylistic grammar can be adapted to another language.

5.2 Towards a functional framework

For the English syntactic stylistic grammar, several syntactic cues, such as the presence of a *wh*-element, were used to assign degrees of integration and subordination to sentence components. Now, for the French grammar, functionally-based cues will provide a more homogeneous basis for these classifications. With respect to syntactic structure, Galichet (1970) documents three sources of functional information that I will use as stylistic cues:

1. Inherent properties of a syntactic category.

2. Unactualized and actualized functions; that is, syntactic functions that do or do not situate a syntactic component in a particular temporal context.

3. Characterization and determination functions; that is, syntactic functions that refer to either intrinsic or extrinsic qualities associated with a syntactic component.

In succeeding sections, I will review the types of cues that each source contributes to the classification of primitive stylistic shapes. Although I will not present the actual grammar in this chapter, I will discuss its development in sufficient detail to justify the suitability of a functional approach to the construction of a stylistic grammar. As well, appendix A lists the full grammar at the levels of primitive shapes, abstract elements, and stylistic goals.

5.3 Inherent functional properties

The first source of functional cues is provided by properties inherent to a particular syntactic category. These cues are similar to the ones used for the English grammar, but differ in having a common functional justification for the role they play in the classification of primitive shapes. I will describe, in turn, the functional cues and stylistic classifications provided by the following categories: nominals, verbals, associates (adjectivals and adverbials), junctions, and indicators.

5.3.1 Nominal category: The expression of permanence

When a writer wishes to focus the attention of her readers, she will tend to choose syntactic forms that describe what is essential, what is abstracted from all notion of movement and duration. For example, she might wish to describe a man walking, and could express this phenomenon in two ways:

(5-1) Cet homme <u>marche</u> rapidement. (*lit.*, This man walks quickly.)

(5-2) <u>La marche</u> de cet homme est rapide. (*lit.*, The stride of this man is fast.)

She would choose the second form of expression when she wishes the reader to regard the action of walking as an object. That is, it is not the unfolding of the process that is of interest, but its essential nature. It is this quality of capturing what is essential that distinguishes the "action noun", *stride*, from the verb, *walks*. Active nominal constructions present the process as an object, eliminating everything associated with the notion of duration, which includes aspect, temporality, voice, and modality.

The use of a nominal construction allows the writer to focus on inherent properties associated with the construction, to highlight the degree of permanence of the relationship between the constituents of the construction, to render, in some way, the abstract more concrete. The *nominal category* corresponds to this intellectual approach. It is frequently employed, for it is one of the basic grammatical categories. Nominal constructions can be divided into four types:

1. *Nouns* are the typical nominal construction. They are the most precise means of of specifying the permanent, rather than the ephemeral. Nouns are classified as conjunct[1] in the connective view, as they provide an integrating core to the sentence, and subjunct[2] in the hierarchic view, as they make explicit the permanent qualities of an object.

2. *Pronouns,*[2] unlike nouns, are not independent, but refer to a preceding or subsequent nominal construction. Also, they accord in gender and number with the

---

[2]Here, I refer to third-person pronouns in their anaphoric or cataphoric use.

111

noun. As a consequence of this accord, they have a strong connective effect and are classified as conjunct[2] in the connective view. However, pronouns are, in general, less explicit than a noun, as they sacrifice specificity for economy, and so they are classified as subjunct[1] in the hierarchic view.

3. *Indefinite pronouns*, such as *nul, personne, rien, tout,* and *on* lack the usual pronominal markings for gender and number, and do not necessarily refer to another nominal construction. Therefore, they are less integrating than other pronouns and are classified as neutral shapes, conjunct[0], in the connective view. They are even less specific than the usual pronouns and are mildly implicit, superordinating shapes, superjunct[1] in the hierarchic view.

4. *Functional nominals* are certain groups of words whose unity is purely functional, and that exhibit temporarily some of the properties of the nominal category. This is the case with certain nominal clauses, as in the following sentence:

(5-3) J'ai appris que son père était mort. (= la mort de son père.) (*lit.,* I learned that his father had died.)

Here, the dependent nominal clause expresses information that can be considered in its entirety as a single fact. However, this type of construction describes a "syntactic instant" that has solidarity only at a given moment. Essentially a functional group, these constructions exhibit the basic functional properties of nouns, including the possibility of being an apposition, subject, or complement. But, with this temporary type of nominal construction, the notion of permanent solidarity is tenuous. Here, the fact that the construction plays the nominal role of specifying permanence is engendered only by its temporary function. As functional nominal constructions, they are less inherently integrating than basic nouns because they describe an ephemeral rather than a permanent syntactic unity, and so they are classified as conjunct[0] in the connective view.

5.3.2 Verbal category: The expression of process

The *verbal category* provides an expression of process rather than permanence. We visualize phenomena according to our current tendencies or needs, sometimes in terms of an object, sometimes in terms of the corresponding process. The latter is a dynamic interpretation or, one may say, a dramatic view of the world. The two basic elements, nominal and verbal, are not isolated from each other, for object and process are not radically distinct.[3] On

---

[3]I am aware that there are arguments for and against the idea that events can be considered to be objects (Davidson (1980), Gentner (1981)). I have found it useful to take Davidson's viewpoint that, in a sense, an event can be seen as an object.

the contrary, they are fundamentally interdependent to the point that it is possible to pass imperceptibly from one viewpoint to the other. On the one hand, we do not consider the existence of an object that is not acting, or could not act, or could not be acted upon. On the other hand, it is equally difficult, perhaps impossible, for us to think of a process independently of the object that engenders it. Basically, a process is still concerned with the existence of an object, but an object that is in motion and evolving over time.

Because the nominal and verbal viewpoints are so closely interrelated, we would expect that the qualities of connectivity and subordination possessed by nominal constructions would have counterparts in the verbal category. And, in fact, we can assign degrees of integration and subordination to the four types of verbal constructions:

1. *Strong verbal forms*[4] correspond to a fully actualized process, that is, one endowed with aspects of time, mode, voice, aspect, as in the following sentence:

(5-4) Que M. Gorbatchev l'emporte, qu'il parvienne à imposer un régime présidential et à faire du parti un « *autre parti* » ouvert au dialogue avec des organisations concurrentes et il aura peut-être su éviter le chaos à son pays.[5] (*lit.*, If Mr. Gorbachev wins and manages to impose a presidential regime and makes of the Party an "other Party" open to dialogue with competing organizations, then he will perhaps be able to avoid chaos in his country.)

As such strong forms are fully actualized, they provide a strong integrating core to a sentence.

2. *Weakened verbal forms* describe an incompletely actualized process. In fact, the process may be only potential, as in the case of the infinitive:

(5-5) Dormir, rêver peut-être ... (Hamlet)
(*lit.*, To sleep, perchance to dream ...)

Or, the process may have terminated, as in the case of the past participle:

(5-6) Les progrès réalisés dans les expressions de visage sont très impressionnants.[6]
(*lit.*, The progess made in representing facial expressions is very impressive.)

Here, the verbal form still describes a process, but does not express a full actualization in terms of time, mode, or voice. Thus, the weakened verbal form treats a process as more abstract, more implicit, and therefore more superordinate and

---

[4]Galichet (1970) uses the term *strong verb* in a sense different from the more usual meaning: of or denoting a classification of verbs in certain languages, including the Germanic languages, whose conjugation shows a vowel gradation, as *sing, sang, sung.*

[5]*Le Monde*, 31 January 1990, 1.

[6]*Le Monde*, 31 January 1990, 29.

superjunct. Compare, for example the partially actualized verb form in *son toast fini* to the fully actualized forms in *ayant fini son toast* and *qu'il finisse son toast*. It is only in the latter examples that the verb form is explicitly marked by nuances of time and modality.

3. *Empty verbal forms* are nearly devoid of notions of time, mode, and voice to the point that even the notion of process is diminished. These forms behave as much like nominal constructions as verbal ones, as in the case of certain uses of the infinitive, in general, and the nominal infinitive, in particular:

(5-7) Prétendre dépasser la scission de Tours dans les conditions actuelles de la gauche française relève de la politique-fiction.[7] (*lit.*, Claiming to get beyond the split of Tours given the current conditions of the French left reads like political fiction.)

Through the use of such forms, we can express subtle aspects of the notion of process. Object and process can be realized simultaneously in a nominal-verbal form. In broad terms, the use of an empty verbal form in place of the customary nominal form may suggest a disconnective effect, in the connective view, and an abstract, superordinate effect, in the hierarchic view. However, we are now dealing with very subtle stylistic effects and, as we shall see with the next type of verbal form, the present stylistic vocabulary is not capable of codifying such fine-grained inflections.

4. *Regenerated verbal forms* can take on the value of a strong verbal form by aggregation with other forms. Often, these weakened forms benefit from a proximity to other actualized forms and take on a sort of implicit actualization. So, these forms are not isolated, but can combine with other verbal forms to the point of complete absorption and regeneration of a new form. This regeneration of verbal forms occurs most often, and most effectively, with the aid of indicators of aspect, time, and voice. For example, in the following sentences, the regenerated forms introduce temporal, modal, or personal aspects, while the infinitive or participle expresses the pure notion of process:

(5-8) Il se mit à chanter. (inchoative) (*lit.*, He began to sing.)

(5-9) Wilhelmine Schröder allait devenir l'interprète fétiche de Wagner et créer le rôle de Senta dans *le Vaisseau fantôme*.[8] (near future) (*lit.*, Wilhelmine Schröder was about to become the archetypal interpreter of Wagner and to create the role of Senta in *The Flying Dutchman*.)

---

[7]*Le Monde*, 30 January 1990, 9.
[8]Adapted from *Le Monde*, 31 January 1990, 11.

(5-10) Il <u>voulut</u> s'enfuir.[9] (durative) (*lit.*, He tried to run away.)

(5-11) Depuis plus de quarante-huit heures, toutes les routes menant à Bakou <u>étaient</u> bloquées par des manifestants armés, retranchés derrière de véritables barricades formées de vehicules.[10] (action to which something was subjected) (*lit.*, For more than forty-eight hours, all the roads leading to Baku were blocked by armed demonstrators, entrenched behind veritable barricades formed of vehicles.)

As these regenerated forms bind to other verbal constructions, they play a strong connective role. As the examples above illustrate, the specific nuances conveyed by regenerated verbal forms can be quite subtle. However, these subtleties are beyond the descriptive ability of the current vocabulary of style.

As we have seen, verbal forms can express finely-detailed stylistic effects. However, as these nuances cannot be captured by the current vocabulary, I will use a broad classification of verb phrases. In the connective view, verb phrases are classified as either concordant or discordant and, in the hierarchic view, as concordant, neutral, or discordant. These classifications are based on the corresponding stylistic properties of the nominal components of the verb phrase, not the particular properties of the verb form itself.

5.3.3 Associate category: Adjectivals and adverbials

In addition to the basic nominal and verbal categories, a third, associate, category comprises the adjectivals and adverbials. Associate constructions are subservient to nominal and verbal constructions, so that, separated from them, they have neither existence nor inherent value: they are only abstractions and possibilities. In English, they are designators of properties. Because associate items, together with the principal form to which they are bound, constitute an elementary syntactic "molecule", they are strongly connective components.

Adjectivals

In French, the degree of connectivity between a nominal form and an adjectival is usually very strong because of a syntactic cue, the accord in gender and number between the adjective and the noun. This accord is both a consequence and an indication of "psychological" solidarity, to the extent that some adjectivals, such as the possessives and demonstratives, create a homogeneous block with the noun. Thus, adjectivals are, in the default case, classified as conjunct[2] in the connective view.

However, in addition to gender and number accord, other syntactic cues can contribute to the degree of connectivity possessed by an adjectival:

---

[9]Vinay and Darbelnet (1958, 145).

[10]*Le Monde*, 22 January 1990, 1.

1. An adjective can be bound to a noun by an intermediary, such as a copula verb, a relative pronoun, or a preposition:

(5-12) Cet enfant est <u>gentil</u>. (*lit.*, This child is nice.)

(5-13) <u>Jeune qu'il soit</u>, il est trés sage. (*lit.*, Young as he may be, he is very wise.)

(5-14) C'est un <u>drôle</u> d'homme. (*lit.*, He's a funny-looking man.)

Such adjectivals are strongly connective and are classified as conjunct[3].

2. The adjective may be bound to a noun without an intermediary. This is the usual case, in which the adjective is placed as close as possible to the noun, sometimes preceding, sometimes following. By virtue of their accord and position, adjectives form a cohesive block with the noun and so their default classification is conjunct[2] in the connective view, as noted above.

3. The adjective may be assimilated by the noun to the point of disappearance as a separate entity:

(5-15) La <u>grand</u>-mère appela sa <u>petite</u>-fille. (*lit.*, The grandmother called her grand-daughter.)

There are increasing degrees of assimilation, ending with the creation of a new noun, such as *le plafond* (*lit.*, ceiling) from *plat* (*lit.*, flat) and *fond* (*lit.*, bottom). This assimilating, extremely connective, type of adjectival is classified as conjunct[4].

Thus, we observe that specific inherent properties of adjectivals can be used to classify connective primitive shapes. However, general functional properties, properties that are shared with other syntactic categories, will provide the basis for the classification of the adjectival hierarchic shapes. These will be discussed later in the chapter.

Adverbials

Adjectives are attached by preference to an object, that is represented by a noun, while adverbials qualify a process, that is represented by a verb. The relationship between an adverbial and a verb is, in general, less binding than that between an adjective and a noun. In semantic terms, an adjectival describes an intrinsic quality of a noun, for a noun denotes an object that can be permanent, but an adverbial often describes only a transient quality of a verb, for a verb denotes an event that is more impermanent. This reflects the difference between the permanence of objects and the transience of processes. In purely syntactic terms, an adverbial is inherently less integrating than an adjective, for there is no accord between adverb and verb as there is between adjective and noun.

116

Adverbials can be classified along two dimensions, the first, their inherent strength, the second, accompanying syntactic cues.

In the first case, adverbials divide into three groups:

1. *Strong adverbs* do have a permanent value:

(5-16) Il travaille <u>habilement</u>. (*lit.*, He works skillfully.)

(5-17) Je <u>ne</u> mens <u>jamais</u>. (*lit.*, I never lie.)

These adverbials, although closely bound to the verb, are yet not as connective as the strongest adjectives, and so are only conjunct[2].

2. *Functional*, or *occasional adverbs*, are words or groups of words that obtain an adverbial value from their temporary function. For example, certain adjectives can be employed as adverbs:

(5-18) Parlez tout <u>bas</u>. (*lit.*, Speak in a whisper.)

As these "adverbials" are only temporary, they lack the inherent degree of bonding with the verb that adverbials demonstrate and so are classified as only conjunct[0].

3. *Attenuated adverbial forms*, such as *même* or *tout*, can, in certain instances, behave as a member of another grammatical category:

(5-19) Elles étaient <u>tout</u> yeux et <u>tout</u> oreilles.[11] (*lit.*, They were all eyes and ears.)

Here, the adverbial value of *tout* is attenuated; its adjectival value is emphasized instead. It is difficult to judge how to classify the degree of integration of such attenuated adverbials, for, as adverbials, their bond with the verb is diminished, but, as adjectivals or other categories, their degree of connectivity may be affected by the properties of these other categories.

Adverbials can also be classified in terms of syntactic cues. Although the bond between adverb and verb is not as close as that between adjective and noun, the adverb does share a solidarity with the verb, not simply because of the general relationship between the two grammatical categories, but as a consequence of frequent usage of particular instances. This solidarity passes through all the degrees up to complete assimilation and is aided by syntactic intermediaries:

1. The adverb can be bound to the verb by an intermediary, often a preposition:

(5-20) Il est parti <u>depuis</u> hier. (*lit.*, He's been gone since yesterday.)

---

[11]Grevisse (1986, 1453).

117

(5-21) Venez, vous n'êtes pas de trop. (*lit.*, Come, you're not too many.)

This type of adverbial construction is tightly integrating and is classified as conjunct[2] in the connective view.

2. In general, the adverb is bound to the verb without an intermediary:

(5-22) Le docteur est venu hier. (*lit.*, The doctor came yesterday.)

The adverb is more independent of the verb than the adjective is of the noun, as it can often be separated from the verb:

(5-23) Hier, comme je vous l'ai écrit, je ne suis pas sorti. (*lit.*, Yesterday, as I wrote you, I did not go out.)

In this default case, adverbs are classified as conjunct[1], less connective than the average adjective.

3. The adverb can be assimilated by the verb to the point that it loses its separate grammatical existence and combines to form a new verbal construction:

(5-24) Il faut y aller. (*lit.*, We must go there.)

(5-25) Il ferait bien de ... (*lit.*, He would do well to ...)

This type of adverbial is extremely connective and is classified as conjunct[3].

As in the case of adjectives, the inherent properties of adverbs have guided the classification of connective primitive shapes, but the classification of hierarchic shapes will be based on general functional properties that will be discussed later in the chapter.

5.3.4 Junction category

Although junction constructions play only a minor syntactic role, they still create significant stylistic effects. Junction items are divided into two types. The first establishes a simple logical bond between the two terms that it unites: these are the *coordinative*, or *conjunctive*, relationships. The second type marks a grammatical bond, a functional subordination of one term with regard to the other: these are the *subordinative* or *subjunctive*, relationships. These two types of relationships correspond to two types of junction constructions: conjunctions and subjunctions.

Coordinative relationships: The conjunctions

The first type of junction relationships, the conjunctive, binds two grammatical constituents, including words, groups of words, clauses, and sentences while leaving them grammatically independent of each other.

We can distinguish between two kinds of conjunctions by the different role each plays in making explicit the nature of the bond between two terms:

1. *Strong conjunction* occurs when the conjunction is indispensable to the clarification of the relationship between two terms. If the conjunction is lacking, the sentence is ambiguous or obscure. If it is replaced by another conjunction, the meaning of the sentence can change completely. Galichet (1970) reminds us of the famous argument in *The Marriage of Figaro* in which Figaro assures his listeners that he has said:

(5-26)   Je paierai la demoiselle <u>ou</u> je l'épouserai. (*lit.*, I will pay the young lady or I will marry her.)

But, Marceline's lawyer claims that the statement means:

(5-27)   Je paierai la demoiselle <u>et</u> je l'épouserai. (*lit.*, I will pay the young lady and I will marry her.)

Not the same thing at all. Obviously, in this case, the conjunction is indispensable to the clarification of the meaning of the sentence. Therefore, this strong type of conjunction plays a tightly integrating role and is classified as conjunct[3] in the connective view.

2. *Weak conjunction* occurs when the conjunction is not indispensable. This type of conjunction only confirms or makes explicit a relationship between two terms that is already made evident by their juxtaposition. In this case, the conjunction can often be replaced by punctuation, such as a comma or colon. Consider the difference between this pair of examples:

(5-28)   Il rentre chez lui fort content de sa journée car il a vu des tulipes. (La Bruyère) (*lit.*, He came home very pleased with his day because he saw some tulips.)

(5-29)   Il rentre chez lui fort content de sa journée: il a vu des tulipes. (La Bruyère) (*lit.*, He came home very pleased with his day: he saw some tulips.)

According to the particular usage, the same conjunction can be either strong or weak. Compare the following sentences:

(5-30)   Le vent mugit et tourbillonne. (*lit.*, The wind howls and swirls.)

(5-31)   Je plie et ne romps pas. (*lit.*, I bend but do not break.)

The first *et* may be suppressed, but the second is indispensable in marking apposition. As weak conjunctions contribute, but are not indispensable, to the connectivity of a sentence, they are classified as conjunct[1].

Subordinative relationships: The subjunctions

The second type of junction relationship, the subordinative, is manifested by prepositions and subordinate conjunctions. However, although these two types of subordinators both establish a functional relationship between two terms, they play quite different roles.

Minor subordination: The prepositions   Prepositions play a syntactic role, as they establish a functional bond between two words or groups of words, but also a semantic role, as they make notions of time, place, manner, cause, and so on, explicit. In their syntactic role, prepositions are, in the default case, mildly integrating, conjunct[1] stylistic shapes. In their semantic role, they are explicit, subjunct[1] shapes.

Prepositions can be divided into three groups:

1. A *strong preposition* is required as an intermediary to clarify the nature of the relationship between two terms. Consider the following example:

(5-32)   Il vient avec moi. (*lit.*, He is coming with me.)

Without the preposition, the sentence would be obscure, ambiguous, or even ill-formed:

(5-33)   *Il vient moi. (après? avant? chez? pour?)

Thus, strong prepositions are more connective than the default case and are classified as conjunct[2].

2. An *agglutinating preposition* is dominated by one of the terms that it binds, sometimes to the point of absorption:

(5-34)   Char-à-bancs (*lit.*, Charabanc (a sightseeing motorcoach))

(5-35)   Tête-en-l'air (*lit.*, Scatterbrained)

(5-36)   Pince-sans-rire (*lit.*, The deadpan type)

Agglutinating prepositions are highly connective and are classified as conjunct[4].

3. A *weak preposition* is not needed to clarify the relationship between the terms that it unites. In the following sentence, for example, the meaning of the sentence is unambiguous even when the preposition is missing:[12]

(5-37) Il aime <u>à</u> jouer aux boules. (*lit.*, He likes to play bowls.)

Thus, weak prepositions play only a minor connective role and are classified as conjunct[0].

Major subordination: The subordinating conjunctions *Subordinating conjunctions*, like prepositions, establish a relationship, a functional hierarchy, between two terms, but to a greater extent than prepositions. A subordinating conjunction usually links large terms, while a preposition is generally limited to linking words or simple groups of words. Because its range of application is more extended, a subordinating conjunction has a greater potential than a preposition to significantly influence the nature of the relationship between two terms. Therefore, subordinating conjunctions are both moderately strong connectors, conjunct[2], and moderately strong subordinators, subjunct[2].

Subordinating conjunctions are divided into two groups:

1. A subordinating conjunction is *strong* if the proximity of two terms is not in itself sufficient to establish the nature of their relationship. Compare the following:

(5-38) Descends, animal, je te parle. (*lit.*, Come down here, animal, I am talking to you.)

(5-39) Descends, animal, <u>que</u> (= afin que) je te parle. (*lit.*, Come down here, animal, so that I can talk to you.)

In the first case, the specific nature of the relationship between the two juxtaposed clauses is not evident. In the second case, it is the subordinating conjunction that makes explicit the exact relationship. Thus, strong conjunctions strongly limit the field of reference of the relationship between two clauses, and so they are classified as subjunct[3] in the hierarchic view.

2. A subordinating conjunction is *weak* if the mere juxtaposition of two terms is sufficient to indicate the nature of their relationship. In the following example, the meaning of the sentence would be quite clear even if no conjunction connected the clauses:

(5-40) Je souhaite <u>que</u> vous réussissiez. (*lit.*, I hope that you will succeed.)

---

[12]The possibility of leaving out the preposition does not occur very often in French. *Aimer* is the only verb that is commonly used that has this quality.

Weak subordinating conjunctions, being superfluous, are less explicit than the default case and are classified as subjunct[1]. However, as the examples have shown, the same subordinating conjunction can play either a strong or weak role, depending on circumstances.

5.3.5 Nominal and verbal indicators

We have catalogued the dominant stylistic effects of the basic syntactic categories, nominal and verbal, and the lesser but still significant effects of the associate and junction categories. The final category, nominal and verbal indicators, is minor, but nevertheless provides the expression of important, subtle stylistic effects. In French, the *article* is the indicator of the noun, while the pronoun of conjugation is the indicator of the verb. These grammatical indicators are used to specify the nominal features of gender and number and the verbal feature of person. Separated from the main nominal or verbal construction, these indicators have no value, but are pure abstractions.

Nominal indicators: The articles

The article plays an exceptionally strong connective and subordinating role because of its ability to indicate both gender and number. The marking of these features is a consequence of their "ownership" by a noun. Thus, an article has a very connective effect and is classified as conjunct[3]. In certain cases, the article limits the field of reference of the noun, individualizes it, determines it. Compare the following sentences:

(5-41) Les fleurs de montagne ont un charme particulier. (*lit.*, Mountain flowers have a special charm.)

(5-42) Les fleurs de <u>la</u> montagne sont déjà fanées. (*lit.*, The flowers of the mountain have already faded.)

In the first sentence, the absence of an article expands the field of reference of "mountain flowers" to generic mountain flowers, but, in the second sentence, the article limits the field of reference of "mountain flowers" to a particular mountain and its flowers.

Thus, articles are generally explicit, subordinating, shapes and are classified as subjunct[1]. However, there are several types of articles, including definite, indefinite, demonstrative, and possessive, each with a subtly different stylistic nuance. For example, demonstrative determiners are explicit and subjunct[2], while indefinite articles are more implicit and superjunct[1]. To observe the difference, compare the following:

(5-43) <u>Ce</u> cheval a quatre pattes. (*lit.*, This horse has four legs.)

(5-44) <u>Un</u> cheval a quatre pattes. (*lit.*, A horse has four legs.)

In the first sentence, the demonstrative determiner limits the field of reference of the noun to a particular horse, but, in the second sentence, the indefinite article expands the field of reference to include all horses.

Verbal indicators: The pronouns of conjugation

As the article distinguishes the noun by specifying certain indicators of permanent existence, so the pronoun of conjugation distinguishes the verb by specifying and, in fact, promoting, a grammaticalization of process. Pronouns of conjugation can be divided into two groups:

1. *Independent pronouns of conjugation* can act as the subject. Examples include *je, tu, il, elle, nous, vous, ils,* and *elles*. Because they can play the role of subject, independent pronouns of conjugation can affect the form of the verb.

2. *Integrated pronouns of conjugation,* such as *se,* are used with reflexive and reciprocal verbs. These pronouns are bound so tightly to the verb as to be inseparable.

Although both types of pronouns of conjugation create stylistic effects, these effects are quite subtle. The current vocabulary of style does not have the delicacy to codify these nuances.

5.4 General functional properties

As we have seen, specific inherent functional properties of the basic syntactic categories provide a basis for the classification of connective and hierarchic primitive shapes. However, other, more general, functional properties that are shared by more than one syntactic category can also contribute to the classification of stylistic shapes. The classifications associated with these general properties take precedence over those associated with the category-specific properties. The latter are defaults, to be invoked only when no general property applies. In this section, I will describe the contribution that each of these general functions makes to the classification of connective and hierarchic stylistic shapes.

Although these general properties play a role in the classification of shapes in both views, they are particularly relevant to the latter case. Simple connective ordering is not as stylistically significant for French as for English since French is, by its nature, a much more tightly bound language. Thus, there are fewer perturbations of cohesive ties and consequently less stylistic expressiveness arising out of patterns of concord and discord on a single level of sentence architecture. However, the variations in hierarchic ordering are highly significant.

In the connective view, I will use the distinction between *unactualized* and *actualized* functional properties to classify the degree of inherent syntactic integration of a sentence component. Unactualized functional properties indicate a functional relationship between

sentence components that is not bound to a particular time or duration; actualized properties indicate a functional relationship between sentence components that *is* bound to a particular point in time.

Both unactualized and actualized functions have a connective effect, for they both indicate a functional relationship, but unactualized components are more strongly integrating, because they are more general in scope. For example, a component that acts as the subject, an actualized function, only has existence within the framework of the verb: it is connective, but in a very specific context. A verb is a predicate, in the mathematical sense, and actualizing functions are its arguments. For example, in *l'oiseau chante*, the subject *oiseau* forms a syntactic block with *chante*, but only for the specific time and duration indicated by this particular verb form. However, a component that acts as an nominal epithet, an unactualized function, binds its constituents tightly together in a relationship not limited to a specific time. For example, the adjective *noir* in the phrase *le chapeau noir*, describes a permanent quality of the noun.

In the hierarchic view, I will correlate the degree of *characterization* or *determination* inherent in a functional role with stylistic effect. *Characterization* is associated with implicit or inherent characteristics of a syntactic component; it tends to give a superordinating effect, widening the field of reference of a component to all possible contexts. For example, a characterizing, qualificative adjective specifies an intrinsic quality, such as in *la robe rose* or *le chien méchant*. *Determination* is associated with more extrinsic characteristics; it localizes a component in a context and, by so doing, tends to give a subordinating effect, narrowing the field of reference to a particular context. For example, a determining, demonstrative adjective situates an object in time, space, or other specific circumstances, as in *ce siècle* or *cette hypothèse*.

In the following sections, we will trace the contribution to the classification of primitive shapes of first the unactualizing, and then the actualizing, functions, both of which can be either characterizing or determining.

5.4.1 Unactualized functions

A grammatical function is *unactualized* if the syntactic unity that it creates within the sentence is devoid of all temporal influences. The following sentences show examples of unactualized sentence components:

(5-45) Encre à stylo (*lit.*, Pen ink)

(5-46) Vin blanc (*lit.*, White wine)

(5-47) Les animaux malades de la peste (*lit.*, The animals sick with the plague)

(5-48) Porte de sortie (*lit.*, Exit door)

124

The solidarity of an unactualized group is demonstrated by the fact that the group can often be replaced by a single word, such as a noun, a verb, or an adjective. Compare the following:

(5-49) Rendre ridicule *and* ridiculiser (*lit.,* To make a fool of, to ridicule)

(5-50) Âpre au gain *and* cupide (*lit.,* Grasping, greedy)

Unactualized relationships are based on essential affinities between syntactic categories. Thus, in forming an unactualized construction, an instance of a syntactic category tends to bind to an instance of another category from which it is abstracted or to an instance of a category with the same nature. An example of the first case is the binding of the adjective and noun, while an example of the second is the affinity between two nouns. In either case, a homogeneous syntactic group is created. Thus, unactualized constructions are strongly connective and are classified as conjunct[2].

Unactualized functions can be divided into three groups: *unactualized characterization*, *unactualized determination*, and *unactualized mixed*.

Unactualized characterization

Unactualized characterization, the expression of inherent qualities, of both the object and process can occur.

Unactualized characterization of the object For an object, the basic function of unactualized characterization is the *epithet*. An epithet can be considered to be an "abstraction function". It consists of disengaging, of abstracting, a characteristic of an object and labelling it, so that the object can then be classified with others of the same "family". As abstract characterization is inherent to the object itself, the characterizing element forms a close bond with the object. In the following sentences, compare the unactualized characterizing use of *noir* in the first example to the non-characterizing use in in the second:

(5-51) Ce chapeau <u>noir</u> vous va bien. (*lit.,* This black hat suits you well.)

(5-52) Quand on l'aura teint, ce chapeau sera <u>noir</u>. (The hat is not black at this moment; *lit.,* Once it has been dyed, this hat will be black.)

Because of their abstract nature, nominal epithets are classified as superjunct[2] in the hierarchic view.

Epithets can be bound to a principal word with or without an intermediary, or may even be completely detached. Compare the following:

(5-53) Le geranium est une plante <u>qui vit longtemps</u>. *(parse 5)*[13] (*lit.*, The geranium is a plant that lives a long time.)

(5-54) Une <u>petite</u> maison *(parse 4)* (*lit.*, A small house)

(5-55) Un <u>drôle</u> de bonhomme (*lit.*, A funny-looking man)

The first type of epithet is more strongly connective than the default case and is classified as conjunct[3], the second is the default case, conjunct[2], and the third, being the detached case, is classified as antijunct[1].

Unactualized characterization of the process For a process, the basic function of unactualized characterization is the *characterizing adverbial*. These adverbials describe intrinsic qualities of a process. Consider the different effects created by the *adverbs of manner* in the following sentences:

(5-56) Les soldats avancent <u>hardiment</u>. (*lit.*, The soldiers advance boldly.)

(5-57) Les soldats avancent <u>prudemment</u>. (*lit.*, The soldiers advance cautiously.)

In both cases, the soldiers are advancing, but the inherent rhythm and pace of the advances are quite different: the characterizing adverbs have abstracted different essential qualities of the process of advancing. In each case, the adverb expands the field of reference of the process of advancing. That is, whether the soldiers advance through mud, advance over fences, advance through rivers, or advance through enemy lines, at all times and in all contexts, they advance boldly, in the first case, and cautiously, in the second. Because of this abstracting quality, characterizing adverbials, the verbal epithets, are classified as superjunct[2], moderately superordinating, in the hierarchic view.

Unactualized determination

In their purest forms, the functions of characterization and determination must be carefully distinguished, for they correspond to fundamentally different mechanisms. The characterizing functions describe inherent qualities, while the determining functions make precise exterior characteristics of origin, destination, location, goal, cause, material, agent, object, possessor, and so on. Consider the following determining constructions:

(5-58) L'armoire <u>de la cuisine</u> (indication of location) (*lit.*, The kitchen cupboard)

(5-59) L'armoire <u>à provisions</u> (indication of destination) (*lit.*, Supply cupboard)

---

[13]Examples that are marked by *"(parse nn)"* in this chapter are part of the corpus used to test the French stylistic parser and are listed in full in appendix B.

(5-60) L'armoire <u>en bois</u> (indication of material) (*lit.,* Wooden cupboard)

Unactualized determination can be expressed through a variety of syntactic means:

    1. Nouns or nominal expressions.

(5-61) La liste <u>des rues de Paris</u> (*lit.,* The list of streets of Paris)

    2. Infinitives.

(5-62) Douceur d'<u>être</u> et de <u>n'être pas</u> (P. Valéry) (*lit.,* Sweetness of being and of not being)

    3. Determinative adverbs.[14]

(5-63) Ne pas se pencher <u>au dehors</u>. (*lit.,* Do not lean outside.)

    4. Clauses.

(5-64) Vous êtes libres <u>de recevoir toutes les personnes que vous voudrez</u>. (*lit.,* You are free to receive anyone that you wish.)

The functions of unactualized determination are rich and varied, but the current vocabulary of style cannot distinguish the subtleties of degrees of explicitness that these functions can express. Therefore, a default classification of subjunct[2] will be used in the hierarchic view.

Mixed unactualized functions: Apposition

Both unactualized characterizing and determining functions can be expressed through the use of *apposition*, as in the following:

(5-65) Le film — <u>un chef d'oeuvre absolu</u> — fut donc le testament d'un cinéaste.[15] (*lit.,* The film — an absolute masterpiece — was thus the definitive statement of a film producer.)

(5-66) M. Jacques Chancel, <u>directeur des programmes de FR3</u>, a dévoilé, vendredi 19 janvier, les nouveaux programmes de la châine.[16] (*lit.,* On Friday, January 19, Mr. Jacques Chancel, director of programming for FR3, unveiled the network's new programmes.)

Apposition may be expressed through various types of constructions, including a noun, a phrase, a clause, or even a series of clauses, as in the following:

---

[14]This term is used by Galichet (1970).

[15]*Le Monde*, 25 January 1990, 13, abridged.

[16]*Le Monde*, 21–22 January 1990, 8.

(5-67) J'aime cette heure fraîche et légère du matin, <u>lorsque l'homme dort encore et</u> <u>que s'éveille la terre</u>. (Maupassant) (*lit.,* I like this cool and light morning hour when man still sleeps and the earth awakens.)

In the default case, appositive constructions are detached and disconnective, antijunct[1] shapes, as in the following:

(5-68) Le malheur, <u>bûcheron sinistre</u>, était monté. (V. Hugo) *(parse 15)* (*lit.,* Unhappiness, a sinister lumberjack, climbed up.)

In other cases, appositions can be juxtaposed, conjunct[2] shapes, as in the first example below, or can even be bound by an intermediary and therefore be conjunct[3], as in the second example:

(5-69) Les arbres <u>squelettes</u> ressemblaient à des vieillards grotesques. (R. Rolland) *(parse 14)* (*lit.,* The skeletal trees resembled grotesque old men.)

(5-70) La mort a ceci de bon <u>qu'elle réconcilie les pires ennemis</u>. *(parse 16)* (*lit.,* Death has this of good in it, that it reconciles the worst enemies.)

5.4.2 Actualized functions

A grammatical function is *actualized* if the syntactic unity that it creates within the sentence is dependent on temporal influences. A single syntactic category can play both unactualized and actualized roles. The basic actualizer is the verb, because of its inherent property of relating a process to aspects of time and duration. An actualized process can, in turn, actualize other sentence components with which it is associated. However, the actualized group lacks the homogeneity of the unactualized group and is therefore slightly less connective, conjunct[1].

Actualized functions can be divided into two groups: *actualized determination* and *actualized characterization.*

Actualized determination

Actualized determination: The subject   The basic, most common, function of actualized determination is the surface *subject*. In the active voice, the subject identifies the agent directing the process, while in the passive voice, it identifies the "patient" of the process. Because the subject is an inherently explicit element, it strongly limits the field of reference of the sentence and is therefore classified as subjunct[2] in the hierarchic view.

The role of the subject can be played by various syntactic categories:

1. Nouns, nominal groups, pronouns.

(5-71) <u>Le mouvement de grève des internes et des chefs de clinique</u> se poursuit.[17]

---

[17]Le Monde, 21–22 January 1990, 1.

(*lit.*, The strike movement of interns and clinic directors continues.)

2. Nominal infinitives.

(5-72) <u>Prétendre dépasser</u> la scission de Tours dans les conditions actuelles de la gauche française relève de la politique-fiction.[18] (*lit.*, Claiming to get beyond the split of Tours given the current conditions of the French left reads like political fiction.)

3. Nominalized adverbs.

(5-73) L'armée soviétique est entrée en force à Bakou. <u>Beaucoup</u> pensent que c'est un échec de la pereströika. (*lit.*, The Soviet army entered Baku in force. Many people think that this is a failure of perestroika.)

4. Nominal clauses.

(5-74) <u>Qui boude la politique</u> est souvent enfant gâté de la démocratie. (*lit.*, He who sulks about politics is often the spoiled child of democracy.)

Actualized determination: Verbal complements   The subject-verb block is not always sufficient to express a concept. Often, it is necessary to more fully determine the process by verbal complements that indicate:

- Its goal or point of arrival (direct object);

- Its author or point of departure (complement of agent); or

- Its external circumstances (circumstantial complements).

Verbal complements strongly determine, or make explicit, the nature of the process and are therefore classified as subjunct[2] in the hierarchic view. They can be divided into three groups: *reversible complements*, *irreversible complements*, and *circumstantial complements*.

A. Reversible verbal complements   The first type of verbal complements, the reversible verbal complements, allow the complete reversal of the sentence structure, as in the following example:

(5-75) Le professeur a puni l'élève. *(parse 17)* (*lit.*, The teacher punished the pupil.)

(5-76) L'élève a été puni par le professeur. (*lit.*, The pupil was punished by the teacher.)

---

[18] *Le Monde*, 30 January 1990, 9.

A1. Reversible verbal complements: The direct object The first and purest type of reversible verbal complement, the direct object, is associated with a line of continuity between the process and an object. Galichet observes that the three fundamental elements (agent, process, object) are, so to speak, psychologically "in a straight line", which allows the process to be considered either from the point of view of the agent (active construction) or the object (passive construction). The direct object is the point of arrival of the process as the agent is its point of departure (Galichet 1970, 145). In the case of the direct object, the process terminates directly in the object, whether it creates the object, as in:

(5-77) La maman tricote un gilet. (*lit.,* The mother knits a cardigan.)

or whether it simply involves the process, as in:

(5-78) Le professeur a puni l'élève. *(parse 17)* (*lit.,* The teacher punished the pupil.)

Thus, the solidarity between the verb and the direct object is emphasized. As a consequence, direct objects are highly connective and are classified as conjunct[3].

A2: Reversible verbal complements: Passive voice In the passive voice, the object is also linked with the process, and the process with the agent:

(5-79) L'est d'une ligne Toulouse-Strasbourg sera épargné par les pluies et ne sera affecté que par des passages nuageux.[19] (*lit.,* The area east of a line from Toulouse to Strasbourg will not be subject to rains and will only be affected by cloudy intervals.)

(5-80) Il est rejeté de tous les siens. *(parse 18)* (*lit.,* He is rejected by all his peers.)

However, as Galichet points out, the passive voice is not a spontaneous construction in French, for it reverses the natural syntactic order (Galichet 1970, 157). In effect, the passive voice upsets the solidarity of the usual subject-verb block. Thus, it has a strongly disconnective effect.

B. Irreversible verbal complements The second type of verbal complement, the indirect object, does not allow a reversal of sentence structure because the agent, the process, and the object are not in a continuous line. In this case, the process does not terminate in the object, but only "forks" around it. In the following sentence, for example, the indirect object remains in the same position even when the rest of the sentence is reversed:

(5-81) On a soumis le voeu à la commission. (*lit.,* The wish was submitted to the commission.)

---

[19]*Le Monde*, 31 January 1990, 23.

(5-82) Le voeu a été soumis <u>à la commission</u>.

Because the indirect object lacks the solidarity that the direct object has with the rest of the sentence, it is less connective and is classified as conjunct[2].

C. Verbal complements: Complements exterior to the process The third and final type of verbal complement, the circumstantial complement, differs from the previous types in being exterior to the process. The circumstantial complement situates the agent-process or object-process in a specific context. It allows the expression of the most varied nuances of time, place, cause, aim, instrument, manner, origin, price, measure, and so on. As with the verbal complements that we have already seen, circumstantials "determine" the subject-object unit. However, unlike other verbal complements, they determine in terms of coordinates exterior to the process. These coordinates localize the process by relating it to particular circumstances. As circumstantial complements are exterior to the process, they are bound less tightly than the agent or object. Thus, they are only mildly integrating and are classified as conjunct[1] in the connective view. But, because circumstantials describe very fine-grained nuances, they strongly limit the field of reference of the sentence and are classified as subjunct[3] in the hierarchic view.

Circumstantial nuances are infinitely varied and a diversity of words and groups of words can play the role of circumstantial complements:

1. Nouns and nominal groups.

(5-83) Un savetier chantait <u>du matin jusqu'au soir</u>. (La Fontaine) *(parse 20)* *(lit., A cobbler was singing from morning to evening.)*

2. Infinitives.

(5-84) On doit manger <u>pour vivre</u>. *(lit., One must eat to live.)*

3. Participles.

(5-85) Le savetier <u>en chantant</u> l'éveillait. (La Fontaine) *(lit., The cobbler was waking him by singing.)*

4. Certain adverbs.

(5-86) Marchez <u>devant</u>. *(lit., Walk in front.)*

(5-87) Montez <u>derrière</u>. *(lit., Climb on behind.)*

5. Circumstantial clauses.

131

(5-88) À les entendre, ses amis et lui, M. Fabius se serait lancé dans une entreprise comparable à celle de M. Rocard à Metz, il y a onze ans, <u>lorsque le rival de M. Mitterrand avait, selon eux, tenté de conquérir le Parti socialiste de l'extérieur, en prenant appui sur l'opinion et sur les médias.</u>[20] (*lit.*, To hear them, him and his friends, Mr. Fabius had launched himself on an undertaking comparable to that of Mr. Rocard eleven years ago when the rival of Mr. Mitterrand had, according to them, tried to take over the Socialist Party from the outside by relying on the support of public opinion and the media.)

The circumstantial clause is particularly effective in permitting the expression of varied, complex relationships between its verb and the main verb. However, although the circumstantial clause can encompass all the subtle variations of tense and modality, the current vocabulary of style lacks the delicacy to describe these distinctions.

Actualized characterization and determination

Actualized characterization and determination are both incorporated in the *attribute* function which, like the epithet, can characterize an object, but, like apposition, can play a determining role. However, the attribute, unlike the other two functions, is actualized, as it affirms the co-existence in a given moment of an object and its characterizing or determining quality. Consider the following examples:

(5-89) Sans bruit, sous le miroir des lacs <u>profonds</u> et <u>calmes</u>, le cygne chasse l'onde avec ses <u>larges</u> palmes. (characterizing attribute) (Sully-Prudhomme) *(parse 22)* (*lit.*, Noiselessly, beneath the mirror of the deep and calm lakes, the swan brushes away the water with its large webbed feet.)

(5-90) Le ciel était <u>rose</u>, la mer <u>tranquille</u>, et la brise <u>endormie</u>. (determining attribute) (G. Flaubert) *(parse 23)* (*lit.*, The sky was pink, the sea quiet, and the breeze languid.)

Various syntactic constructions can play the role of the attribute:

1. Adjectives, nouns, nominal groups.

(5-91) M. Strauss-Kahn, observant que le Parti socialiste « *a une image de gestion* » mais « *n'a plus une image d'espoir* », s'est montré <u>rude</u> pour M. Michel Rocard.[21] (*lit.*, Mr. Strauss-Kahn, observing that the Socialist Party "has a management image", but "no longer has an image of hope", behaved harshly to Mr. Michel Rocard.)

---

[20] *Le Monde*, 31 January 1990, 7.
[21] *Le Monde*, 31 January 1990, 7.

2. Adverbs.

(5-92) Parler est <u>bien</u>, se taire est <u>mieux</u>. (*lit.*, Talking is good, keeping quiet is better.)

3. Infinitives.

(5-93) Travailler, c'est <u>se distraire</u>. (*lit.*, To work is to enjoy oneself.)

4. Clauses.

(5-94) Mon avis est <u>qu'il a tort</u>. (*lit.*, My opinion is that he is wrong.)

The stylistic classification of the attribute is problematic because the verb is also involved in the attribute function. For example, a particular verb form can indicate that the attributive quality only exists at a given moment, as in the following:

(5-95) Hier, le ciel <u>était</u> nuageux; aujourd'hui, il <u>est</u> clair; demain il <u>sera</u> probablement brumeux. (*lit.*, Yesterday, the sky was cloudy; today, it is clear; tomorrow, it will probably be foggy.)

However, it is beyond the scope of this thesis to deal with stylistic classifications that are modified by context.

5.5 Summary

In the previous section, we saw that a functional grammar provides a homogeneous basis for the classification of the French primitive stylistic shapes. It has allowed us to develop more — and more-varied — stylistic cues to use for these classifications. The incorporation of functional considerations produces a French stylistic grammar that is more sophisticated than its English counterpart. The next step in the methodology calls for the development of a French grammar of abstract elements. At this level, the English and French grammars are integrated, for it is the same patterns of connective and hierarchic shapes, regardless of the method used to classify them, that are correlated with the same abstract elements. And, at the top level of the grammar, the grammar of stylistic goals, it is the same patterns of abstract elements that are correlated with the same goals, regardless of the particular language, so that the English and French grammars are identical. All the rules for the grammars of primitive shapes, abstract elements, and stylistic goals are listed in appendix A.

Chapter 6

The English Semantic Stylistic Grammar

6.1 Introduction

In the last two chapters, we traced the development of the English and French syntactic stylistic grammars. We observed how the vocabulary and methodology developed earlier were applied to the construction of grammars at increasingly abstract levels: first, the grammar of primitive shapes; then, the grammar of abstract elements, and, finally, the grammar of stylistic goals. However, as figure 6.1 reminds us, the overall stylistic grammar has multiple branches as well as multiple levels, for it is intended to incorporate lexical, syntactic, and semantic aspects of style. Ryan[1] (1989) adapted and extended the research described in this thesis to design and implement a partial[2] semantic stylistic system for a subset of English.

6.2 What is focus?

Ryan bases his codification of some semantic aspects of style on the identification of paragraph-level patterns of *focus* and their correlation with stylistic goals. The term *focus* has been used in many different ways; for Ryan, it essentially means "what a sentence is about". For a clearer definition of focus, Ryan turned to the interpretations, summarized by Carter (1987, 91–92), that linguists have given to the term:

1. The *word* or *expression* in a sentence that is the centre of phonological prominence.

---

[1]Some of the text of this chapter has been drawn from unpublished work by Mark Ryan, Chrysanne DiMarco, and Graeme Hirst, with the permission of the other co-authors. Also, definitions, tables, examples, and discussions of examples are quoted verbatim from Ryan (1989) with the permission of the author. Minor changes have been made for clarity and conciseness.

[2]We recognize that focus can provide only a partial account of semantic style.
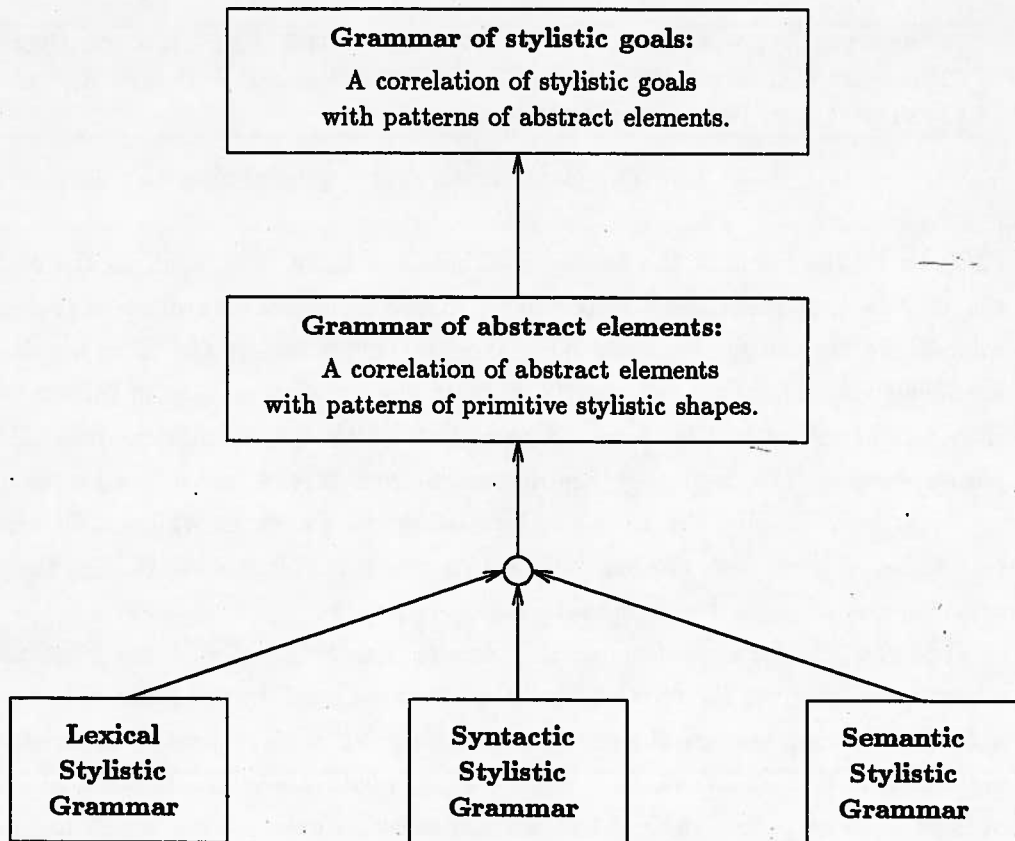
Figure 6.1: A stylistic grammar

2. The *state* of the attention of the discourse participants at a given moment.

3. The *entity*, in the world, on which the discourse participants are centring their attention.

4. The *process* of transferring attention from one set of entities to another.

Ryan adopted definition (3) as the interpretation of focus in his research. He also took into account the distinction between *global* and *local* focus:

> *Global* focus refers to the centre of attention of an entire text. *Local* focus refers to the centre of attention of individual sentences in a text ...(Ryan 1989, 25)

It is with local focus that Ryan is concerned in his thesis.

6.3   The focus partial ordering

Instead of trying to determine which *unique* element in each sentence constitutes the focus, Ryan introduces the idea of a *focus set*. The focus set is the set of the NPs that are most

135

(1) direct object ≻ subject	(4) NP1 ≻ NP2 if NP2 is a constituent of NP1
(2) subject ≻ indirect object	(5) if A ≻ B *and* B ≻ C *then* A ≻ C
(3) subject ≻ object of preposition	

Table 6.1: The *focus partial ordering* focal-allowed rules.

likely to be the focus of the sentence. There are some NPs, such as the complements of the verb in cleft sentences,[3] that will be in the focus set regardless of their grammatical role. These are the *focal-assured* NPs, and they are placed in the focus set as soon as they are identified. There are other NPs, such as the understood *you* in imperative sentences, that will never be in the focus set regardless of their grammatical role. These are the *focal-prevented* NPs, and they are discarded from further consideration as soon as they are identified. Finally, there are the focal-allowed NPs, those which fit in neither of these categories. Those *focal-allowed* NPs above which nothing is ranked by the *focus partial ordering* are placed in the focus set.

The FPO, the focus partial ordering, is a ranking relation ≻ on the focal-allowed NPs of a sentence that gives the relative likelihood that each will be the focus of the sentence. It is a *partial* ordering because it does not rank every NP with respect to every other NP. Only certain pairs of NPs are ranked, and nothing is said about the relationship between NPs outside of these pairs. Table 6.1 shows the rules for determining which focal-allowed NPs will be in the focus set of a sentence; the justification for these rules comes from (Taglicht (1984), Sidner (1983), Günthner and Lehmann (1983), and from the results of a test that Ryan carried out to determine the focus potential of the different grammatical roles.[4]

6.4 The relationships between elements in different sentences

The patterns of focus that Ryan developed, which will be described in the next section, are based on *cohesion relationships* between NPs in different sentences. These are semantic relationships based on the types of cohesion defined by Halliday and Hasan (1976). They define cohesion as follows:

> Cohesion occurs where the interpretation of some element in the discourse is dependent on that of another. The one presupposes the other, in the sense that it cannot be effectively decoded except by recourse to it. (Halliday and Hasan 1976, 4)

---

[3]It is cleft sentences that have the form of this one.

[4]Ryan describes the test as follows: "The test consisted of 175 sentences (all taken from existing texts) divided into six groups. Each sentence had two or more words underlined, and the text respondents were instructed to rank the underlined words in each sentence according to how focal they were. The idea of focus was explained in the instructions at the beginning of the test." (Ryan 1989, 97)

NPs in different sentences that are cohesively related are either *co-specificational* (the NPs have the same referent), or *specificationally related* (the NPs have semantically related referents). Ryan uses the terms *co-specificational* and *specificationally related* while Halliday and Hasan (1976) use the terms *co-referential* and *referentially related*. He explains the distinction between these two sets of terms as follows:

> Given two elements that occur in different sentences, there are two ways they can be semantically related: either they refer to the *same* entity, idea, or action, or they refer to entities, ideas, or actions that are *semantically close* to each other. Halliday and Hasan (1976, 3) call elements in the former group *co-referential*, while those in the latter group are called *referentially related*. These terms, however, present some problems for a computational application, and therefore I use the terms *co-specificational* and *specificationally related* to describe the relationships between elements in different sentences ... for now we can say that two elements are co-specificational only if they are co-referential, and two elements are specificationally related only if they are referentially related. The only difference between these two sets of terms is that the formal definitions of *co-specificational* and *specificationally related* are based on abstract representations of real-world entities rather than the entities themselves. (Ryan 1989, 12–13)

NPs can be co-specificational in ways that include the following:

Repetition — A lexical element in one sentence is repeated in another sentence.

Pronominal reference — There is a common referent for the pronoun and the antecedent when existential personal pronouns (*I/me, you, she/her*) are used.

Synonyms — Two words have the "same meaning in context".

NPs can be specificationally related in ways that include the following:

Possessive reference — An element in one sentence appears in the possessive form in another. The possessive form can be either pronominal (*my/mine, your/yours, her/hers*), or the *s*-genitive (*Sandra's, the cats', life's*).

Substitution — The primary part of a noun phrase is replaced in subsequent occurrences with *one* or *ones*.

Ellipsis — An element that is understood from a previous occurrence is omitted.

Superordination — One element is a superordinate of another if it is the name of a more general class including the other. For instance, *car* is a superordinate of *Rolls-Royce*.

General nouns — Some closed sets of nouns have generalized reference within major noun classes. For instance, *people, woman, girl, man,* and *boy* are all general nouns associated with the major noun class *human* (Halliday and Hasan 1976, 274).

Collocation — Two lexical items that regularly occur together have a *collocation* relationship.

6.5   Patterns of focus

As we saw for the syntactic stylistic grammar, the first step in the development methodology is to describe a grammar of primitive stylistic shapes. Ryan defines a semantic stylistic shape as "a sequence of sentences with a particular stylistic effect ...[that] is a result of the way that focus changes from sentence to sentence in the sequence" (Ryan 1989, 53). Thus, semantic stylistic shapes are based on *patterns of focus*. The notion of patterns of focus brings together the concepts described in the last two sections in order to describe how the focus changes or remains the same over the course of a paragraph. NPs from the focus sets of consecutive sentences are compared to see if any of them are specificationally related or co-specificational according to the cohesion relationships from the previous section. Patterns of focus in a paragraph are determined by the presence or absence of specificationally related or co-specificational pairs of NPs in consecutive sentences.

Atomic patterns of focus describe how the focus changes between two consecutive sentences, while *composite* patterns of focus describe how the focus changes over a sequence of two or more sentences. As in the syntactic stylistic grammar, the basis of the semantic stylistic grammar is the concept of *stylistic shape*. Paragraphs that can be described by a single composite pattern of focus are said to constitute a single stylistic shape. Paragraphs that can only be described in terms of the patterns of focus of their constituent sequences of sentences will have a stylistic shape for each such sequence. A paragraph that consists of a single sentence has no pattern of focus, and is considered stylistically neutral.

As one moves from one sentence to the next in a sequence of sentences, the focus can remain the same, change slightly, or change completely. These three possibilities are referred to as *static, shift,* and *jump atomic patterns of focus*:

Static — The focus sets of the two sentences have at least one pair of co-specificational NPs, and so it can be said that the focus does not change: it remains *static*. In the following example, the focus set of the first sentence is *Bonn*. The focus set of the second sentence contains *West Germany, an extraordinary summit in Brussels on February 11-12,* and *Germany's turn. Bonn* and *West Germany* are co-specificational.

Mitterrand nonetheless firmly reminded <u>Bonn</u> that it was its move now.

138

static ← static (static)*	jagged ← jump shift	final-jump ← static jagged
stepped ← shift (shift)*	jagged ← jagged (jagged)*	initial-shift ← stepped static
jagged ← jump (jump)*	final-shift ← static stepped	initial-jump ← jagged static

neutral-focus ← no atomic pattern of focus

cycle ← the focus sets of the first and last sentences of the sequence
(which is as least three sentences long) have co-specificational elements,
and these elements are not co-specificational to any elements of the focus
sets of the intervening sentences.

Table 6.2: Composite patterns of focus

He pointed out it was <u>West Germany</u> that asked for an extraordinary summit in Brussels on February 11–12 and it was Germany's turn now to take over the Community presidency for the next six months.[5]

Shift — While the focus sets of the two sentences have no NPs that are co-specificational, there is a semantic relationship between a pair of NPs, one from each sentence, and so the focus changes slightly: it *shifts*. In the following example, *Eeyore* is in the focus set of the first sentence, and is co-specificational with *he*, which is *not* in the focus set of the second sentence:

But <u>Eeyore</u> wasn't listening. <u>He</u> was taking the balloon out, and putting it back again, as happy as could be.[6]

Jump — Two adjacent sentences have no NPs that are specificationally related or co-specificational, and so the focus changes completely: it *jumps*. In the following example, no NP in the first sentence is specificationally related or co-specificational to any NP in the second sentence:

"Yes, she's really feeling fine." I'm tempted, for a moment, to tell him about the Ferrari parked in the driveway.[7]

Table 6.2 shows how the three atomic patterns of focus combine to form *composite patterns of focus*. Composite patterns of focus are formed by combining the atomic patterns *static, shift,* and *jump* that occur between successive sentences. Thus, composite patterns describe how the focus changes, or stays the same, over a sequence of sentences.

---

[5]Dhombres, D. and Tréan, C. "Slim pickings from Anglo-French summit", *Manchester Guardian Weekly*, 7 February 1988, 13.

[6]Milne, A. A. *Winnie-the-Pooh*. Dell Publishing Company (1926, 89).

[7]Ellis, B. E. *Less Than Zero*. Penguin Books (1985, 42).

6.6 Grammar of abstract elements of style

As we saw for the syntactic stylistic grammar, the next step in the methodology is to correlate the abstract elements with patterns of primitive shapes, which, for the semantic stylistic grammar, are the composite patterns of focus. Ryan has adapted and extended the vocabulary of elements as follows[8] (Ryan 1989, 57–58):

- **Balance** — The stylistic effect of the *relationship* between stylistically significant sequences of sentences within a paragraph. The following abstract elements of style are used to describe balance:

  - **Monopoise** — A stylistic shape with no disturbance in the consistency of focus.

  - **Counterpoise** — A stylistic shape containing an offset which disturbs the consistency of focus.

  - **Homopoise** — A counterpoise in which the offset supports the overall stylistic balance.

  - **Polypoise** — A counterpoise in which the offset disrupts the overall stylistic balance.

  - **Neutral** — A stylistic shape which has no distinct effect with respect to balance because it has no focus structure at all.

- **Position** — The stylistic effect of the *placement* of stylistically significant sequences of sentences within a paragraph. The following abstract elements of style are used to describe position:

  - **Concord** — A stylistic shape that shows unity and agreement. At the end of a concord, there is no feeling that "something extra" is needed in order to resolve the shape.

  - **Discord** — A stylistic shape that shows disunity and incongruity. At the end of a discord, there is a feeling that something is missing without which the shape will not be resolved.

  - **Resolution** — A shape containing a terminal modulation that moves from discord to concord.

  - **Dissolution** — A shape that ends with a discord.

  - **Neutral** — A shape that has no distinct effect with respect to position.

---

[8]Ryan uses an earlier version of the vocabulary, so that the following equivalences hold: *monopoise* is used for *homopoise*, *counterpoise* for *medial heteropoise*, *homopoise* for *counterpoise*, *polypoise* for *contrapoise*, and *diaschematic* for *centroschematic*.

- **Dominance** — The stylistic effect of the relative contribution that each sequence of sentences makes to the paragraph overall. The following abstract elements of style are used to describe dominance:

  - **Monoschematic** — A sequence of sentences with a single, dominant shape.

  - **Diaschematic** — A sequence of sentences in which the components can be organized around a single stylistic shape.

  - **Polyschematic** — A sequence of sentences in which the components can only be organized into two or more stylistic shapes. A long paragraph that can only be described by two or more composite patterns of focus is polyschematic.

  - **Neutral** — A sequence of sentences with no distinct effect with respect to dominance.

Now, patterns of these elements are combined to form a grammar of abstract elements of style as illustrated in table 6.3. Ryan describes the grammar of abstract elements as follows:

> Table 6.3 contains the rules from the GAES [grammar of abstract elements of style] that relate patterns of focus to abstract elements of style. There are three groups of rules in the grammar for balance, position, and dominance. For each paragraph, these rules will select an abstract element of style for balance, one for position, and one for dominance based on the composite pattern set assigned to the paragraph ...Consider, for example how the GAES deals with a paragraph whose composite pattern set contains a *cycle* pattern of focus. It will use the rules in table 6.3 to assign the balance element *homopoise*, the position element *resolution*, and the dominance element *diaschematic*. Thus, the triple it (homopoise, resolution, diaschematic) is the output produced by the GAES when given a *cycle* composite pattern of focus as input. (Ryan 1989, 59)

6.7 Grammar of stylistic goals

As we saw for the syntactic stylistic grammar, the final step in the methodology is to correlate stylistic goals with patterns of abstract elements. Ryan uses rules that associate vectors of abstract elements, one from each of the balance, position, and dominance groups, with the settings emphatic/neutral/flat for the goal of *emphasis*, clear/neutral/obscure for *clarity*, and dynamic/neutral/static for *dynamism*. Tables 6.4, 6.5, and 6.6 illustrate the grammar of stylistic goals. As an example, the vector of abstract elements *(homopoise, resolution, diaschematic)* would be associated with a neutral setting for emphasis, a clear

Balance:

monopoise ← static
monopoise ← (monopoise)$^+$
monopoise ← monopoise neutral
homopoise ← initial-shift
homopoise ← initial-jump
homopoise ← cycle
homopoise ← homopoise neutral

polypoise ← final-shift
polypoise ← final-jump
polypoise ← jagged
polypoise ← polypoise neutral
neutral ← stepped
neutral ← (neutral-focus)$^+$

homopoise ← (polypoise | homopoise | monopoise)* homopoise
homopoise ← (polypoise | homopoise | monopoise)* (polypoise | homopoise) monopoise
polypoise ← (homopoise | polypoise | monopoise)* polypoise

Position:

concord ← static
concord ← concord neutral
discord ← final-shift
discord ← final-jump
discord ← jagged
discord ← discord neutral
resolution ← initial-shift

resolution ← initial-jump
resolution ← cycle
resolution ← (discord)$^+$ (concord)$^+$
dissolution ← (concord | discord)* discord
neutral ← stepped
neutral ← (neutral-focus)$^+$

neutral ← (concord | discord)* concord discord (concord)$^+$

Dominance:

neutral ← neutral-focus
monoschematic ← static
monoschematic ← stepped
monoschematic ← jagged
diaschematic ← initial-shift

diaschematic ← initial-jump
diaschematic ← final-shift
diaschematic ← final-jump
diaschematic ← cycle

polyschematic ← (monoschematic | diaschematic) (monoschematic | diaschematic)$^+$

Notation:

(*pattern1* | *pattern2*) matches with one of *pattern1* or *pattern2*.
(*pattern*)* matches with zero or more occurrences of *pattern*.
(*pattern*)$^+$ matches with one or more occurrences of *pattern*.

Table 6.3: The grammar of abstract elements of style

```
Emphasis:

emphatic ← (polypoise, dissolution, _____ )
emphatic ← (polypoise, _____ , diaschematic)
emphatic ← ( _____ , dissolution, diaschematic)
neutral ← (homopoise | neutral, resolution | neutral, _____ )
neutral ← (homopoise | neutral, _____, polyschematic | neutral )
neutral ← (_____ , resolution | neutral, polyschematic | neutral )
flat ← (monopoise, concord, _____ )
flat ← (monopoise, _____ , monoschematic)
flat ← ( _____ , concord, monoschematic)
```

Notation:

> The right-hand side of each rule is a triple produced by the GAES,
> the first element of which describes the balance of the paragraph,
> the second of which describes the position, and the third of which
> describes the dominance. A "_____" matches with any setting.

Table 6.4: The grammar of stylistic goals: emphasis

setting for clarity, and a dynamic setting for dynamism. As another example, the abstract
elements *(polypoise, dissolution, monoschematic)* would be associated with an emphatic
setting for emphasis, an obscure setting for clarity, and a dynamic setting for dynamism.

6.8 A sample analysis

The following example shows how the semantic stylistic grammar would be used to analyze
a relatively complex paragraph (Ryan 1989, 72–77):

> (1) Anyway, before I got to the hotel, I started to go in this dumpy
> looking bar, (2) but two guys came out, drunk as hell, (3) and [they]
> wanted to know where the subway was. (4) One of them was this very
> Cuban-looking guy, (5) and he kept breathing his stinking breath in my
> face while I gave him directions. (6) I ended up not even going in the
> damn bar. (7) I just went back to the hotel.[9]

Let us begin by applying the sentence-level processing to each sentence individually.

6.8.1 Sentence-level processing for the example

Sentence 1

---

[9]Salinger, J. D. *The Catcher in the Rye.* Little, Brown and Company (1951, 118).

```
Clarity:

clear   ← (homopoise, resolution, _____)
clear   ← (homopoise, _____ , diaschematic)
clear   ← ( _____ , resolution, diaschematic)
neutral ← (monopoise | neutral, concord | neutral, _____)
neutral ← (monopoise | neutral, _____ , monoschematic | neutral)
neutral ← (_____ , concord | neutral, monoschematic | neutral)
obscure ← (polypoise, dissolution, _____ )
obscure ← (polypoise, _____ , polyschematic)
obscure ← ( _____ , dissolution, polyschematic)
```

Table 6.5: The grammar of stylistic goals: clarity

```
Dynamism:

dynamic ← (homopoise | polypoise, resolution | dissolution, _____ )
dynamic ← (homopoise | polypoise, _____ , polyschematic)
dynamic ← ( _____ , resolution | dissolution, polyschematic)
neutral ← (neutral, neutral, _____)
neutral ← (neutral, _____ , diaschematic | neutral)
neutral ← (_____ , neutral , diaschematic | neutral)
static  ← (monopoise, concord, _____ )
static  ← (monopoise, _____ , monoschematic)
static  ← ( _____ , concord, monoschematic)
```

Table 6.6: The grammar of stylistic goals: dynamism

(1) Anyway, before I got to the hotel, I started to go in this dumpy looking bar,

This sentence has the following noun phrases:

- **Subject** — *I*

- **Direct object** — *the hotel,*[10] *this dumpy looking bar*

- **Indirect object** — [none]

- **Object of preposition** — [none]

These noun phrases fall into the following categories:

- **Focal-assured** — *this dumpy looking bar*

- **Focal-prevented** — [none]

- **Focal-allowed** — *I, the hotel*

An application of the FPO focal-allowed rules from table 6.1 gives the following relationship:

$$\text{the hotel} \succ I$$

Since *this dumpy looking bar* is focal-assured, and since *the hotel* is not subordinate to any other NPs according to the FPO focal-allowed rules, the focus set for this sentence contains these two NPs. We are now ready to look at the sentence-level processing for sentence (2):
Sentence 2

(2) but two guys came out, drunk as hell,

This sentence has the following noun phrases:

- **Subject** — *two guys*

- **Direct object** — [none]

- **Indirect object** — [none]

- **Object of preposition** — *hell*

These noun phrases fall into the following categories:

- **Focal-assured** — [none]

- **Focal-prevented** — [none]

---

[10]Ryan takes *the hotel* as the direct object of the phrasal verb *got to*. Similar classifications can be seen in subsequent sentences.

- **Focal-allowed** — *two guys, hell*

An application of the FPO focal-allowed rules from table 6.1 gives the following relationship:

two guys ≻ *hell*

Since *two guys* is not subordinate to any other NP, the focus set for (2) contains only this NP.

Sentence 3

(3) and [they] wanted to know where the subway was.

This sentence has the following noun phrases:

- **Subject** — *they, the subway*

- **Direct object** — [none]

- **Indirect object** — [none]

- **Object of preposition** — [none]

These noun phrases fall into the following categories:

- **Focal-assured** — [none]

- **Focal-prevented** — [none]

- **Focal-allowed** — *they, the subway*

Since both of the NPs are subjects, neither one is subordinate to the other. Thus, the focus set for this sentence contains *they* and *the subway*.

Sentence 4

(4) One of them was this very Cuban-looking guy,

This sentence has the following noun phrases:

- **Subject** — *one of them*

- **Direct object** — *this very Cuban-looking guy*[11]

- **Indirect object** — [none]

- **Object of preposition** — [none]

These noun phrases fall into the following categories:

---

[11]Ryan includes the complement of a copula verb with the direct object.

- **Focal-assured** — *this very Cuban-looking guy*

- **Focal-prevented** — [none]

- **Focal-allowed** — *one of them*

Since there is only one focal-allowed NP, it cannot be subordinate to any other focal-allowed NPs, and thus it joins the focal-assured NP *this very Cuban-looking guy* in the focus set for sentence (4).

Sentence 5

> (5) and he kept breathing his stinking breath in my face while I gave
> him directions.

This sentence has the following noun phrases:

- **Subject** — *I, he*

- **Direct object** — *his stinking breath, directions*

- **Indirect object** — *him*

- **Object of preposition** — *my face*

These noun phrases fall into the following categories:

- **Focal-assured** — [none]

- **Focal-prevented** — [none]

- **Focal-allowed** — *I, his stinking breath, directions, him, my face*

An application of the FPO focal-allowed rules from table 6.1 gives the following relationships:

> *his stinking breath* ≻ *I, he, him, my face*
> *directions* ≻ *I, he, him, my face*
> *I* ≻ *him, my face*
> *he* ≻ *him, my face*

Since *his stinking breath* and *directions* are not subordinate to any other NPs, these two NPs form the focus set of sentence (5).

Sentence 6

> (6) I ended up not even going in the damn bar.

This sentence has the following noun phrases:

- **Subject** — *I*

- **Direct object** — *the damn bar*

- **Indirect object** — [none]

- **Object of preposition** — [none]

These noun phrases fall into the following categories:

- **Focal-assured** — [none]

- **Focal-prevented** — [none]

- **Focal-allowed** — *I, the damn bar*

An application of the FPO focal-allowed rules from table 6.1 gives the following relationship:

$$the\ damn\ bar \succ I$$

This means that the focus set consists of *the damn bar*.

Sentence 7

(7) I just went back to the hotel.

This sentence has the following noun phrases:

- **Subject** — *I*

- **Direct object** — *the hotel*

- **Indirect object** — [none]

- **Object of preposition** — [none]

These noun phrases fall into the following categories:

- **Focal-assured** — [none]

- **Focal-prevented** — [none]

- **Focal-allowed** — *I, the hotel*

An application of the FPO focal-allowed rules from table 6.1 gives the following relationship:

$$the\ hotel \succ I$$

This means that the focus set consists of *the hotel*.

148

6.8.2 Paragraph-level processing for the example

Ryan continues the analysis at the paragraph level (p. 77). Now that the focus sets have been defined for each sentence, we can continue with the paragraph-level processing. Using the rules defined in section 6.5, we find that there is a *jump* atomic pattern of focus between (1) and (2) because none of the NPs in (1) is co-specificational or specificationally related to any of the NPs in (2). A *static* pattern of focus exists between (2) and (3) because *two guys* and the elided *they* are co-specificational by pronominal reference. There is a *shift* pattern of focus between (3) and (4) since *they* and *one of them*, are specificationally related. Sentences (4) and (5) have a shift pattern of focus between them because the focus set NP *one of them* from (4) is co-specificational with the non-focus set NP *he* from (5). There is also a *shift* pattern of focus between (5) and (6) since *I* is a non-focus set NP in both sentences. Sentences (6) and (7) have a *shift* pattern of focus between them as well for the same reason. From sentence to sentence, the focus transitions in this paragraph look like this:

$$(1) \overset{jump}{\to} (2) \overset{static}{\to} (3) \overset{shift}{\to} (4) \overset{shift}{\to} (5) \overset{shift}{\to} (6) \overset{shift}{\to} (7)$$

Normally, this paragraph would be assigned the composite pattern set (*initial-jump, stepped*), but this is a special case since the focus set for sentence (1):

> *this dumpy looking bar, the hotel*

and the focus set for sentence (7):

> *the hotel*

have co-specificational NPs, namely *the hotel*. Because of this, and because *the hotel* is not co-specificational with any of the elements of the focus sets of any of the intervening sentences, this paragraph is assigned a composite pattern set containing the single pattern *cycle*.

Now that the composite pattern set has been defined for the paragraph, the grammar of abstract elements can be applied to it to establish the abstract elements of style. An application of the rules in table 6.3 to the composite pattern set gives the balance setting of *homopoise*, the position setting of *resolution*, and the dominance setting of *diaschematic*. The output of the grammar of abstract elements for this paragraph is the triple (*homopoise, resolution, diaschematic*).

This triple is the input to the grammar of stylistic goals. The rules in table 6.4 assign a *neutral* setting for emphasis. The rules in table 6.5 assign a *clear* setting for the *clarity* stylistic goal, and the rules in table 6.6 assign a *dynamic* dynamism setting. The output triple produced by the grammar of stylistic goals to describe the input paragraph is (*neutral, clear, dynamic*). In other words, the semantic stylistic system found that the example was neither especially emphatic nor especially flat, but that it was both clear and dynamic.

6.9 Conclusions

Ryan (1989) successfully adapted and extended the research described in this thesis to develop a semantic stylistic grammar for a subset of English. To demonstrate that the semantic stylistic grammar could be translated into a computational system, Ryan wrote a limited implementation of his system. In the next chapter, I will describe how the syntactic stylistic grammar can also be implemented in a computational system, one, moreover, that is compatible with the semantic stylistic system. It was the shared vocabulary and development methodology that was responsible for the compatibility of the syntactic and semantic stylistic grammars, and that would help to ensure their integration in a complete stylistic grammar.

Chapter 7

STYLISTIQUE: The Syntactic Stylistic Parser

I have developed a vocabulary and methodology for constructing a stylistic grammar and we have applied these tools to the construction of English and French syntactic stylistic grammars and an English semantic stylistic grammar. However, these grammars provide only a *theoretical* foundation for the computational model of stylistics that was proposed in chapter 3. Now, we will see that the syntactic grammars can, in fact, be implemented in a computational system.

In this chapter, I will describe the organization of STYLISTIQUE, the syntactic stylistic parser that interprets the English and French grammars. I will present a short example to illustrate STYLISTIQUE's method of analysis. I will then discuss limitations of the implementation.

7.1 The organization of STYLISTIQUE

The English and French syntactic stylistic grammars are implemented as separate stylistic parsers that together form the STYLISTIQUE system, a definite clause grammar that consists of over 9,000 lines of QUINTUS PROLOG code executed in a UNIX environment. Each stylistic parser consists of the following three major modules:

- **Lexicon:** The *lexicon* module contains entries from the major syntactic categories: adjectives, adverbs, nouns, pronouns, verbs, prepositions, and conjunctions. The vocabulary of the English lexicon is drawn from sentences in selected issues[1] of the *Manchester Guardian Weekly*. The vocabulary of the French lexicon is based on sample sentences from Galichet (1970). The entries in the English and French lexicons are augmented by information indicating the connective and

---

[1] 7 February 1988, 14 February 1988, and 21 February 1988.

hierarchic primitive stylistic shapes associated with each. Compare the following typical English and French lexical entries for *kind* and *divers*:

(7-1) adj(conjunct2_adjective, subjunct1_adjective, kind).

(7-2) adj(styl(conjunct2_adjective),
       stylb(subjunct2_adjective, superjunct1_adjective),
       masculine, plural, divers).

In the English entry, there is one connective shape, a *conjunct2_adjective* (*conjunct²_adjective*), and one hierarchic shape, a *subjunct1_adjective*, associated with the adjective *kind*.

In the French entry, there is one connective shape, a *conjunct2_adjective*, but a list of hierarchic shapes, a *subjunct2_adjective* and *superjunct1_adjective*, associated with the adjective *divers*. As these examples illustrate, the French lexicon can associate a list of connective or hierarchic shapes with a word, but the English lexicon records only a single shape. This difference reflects the functional basis of the French grammar for, in the French lexicon, we may wish to tag an item with its potential functional roles or, as in the example above, with the different stylistic shapes it can have depending on the context in which it is used.

- **Syntactic analysis:** The *parser* module builds a parse tree by performing a syntactic analysis that identifies the grammatical structure of a sentence. The English parser is based on one written by Kem Luther and Rick MacLean at the University of Toronto, with supplementary rules suggested by Crystal and Davy (1969) and Quirk *et al.* (1985). The French parser is also based on Luther and MacLean's code, but with supplementary rules adapted from Dubois and Dubois-Charlier (1970) and Galichet (1970).

- **Stylistic analysis:** The *buildstyl* and *buildstylb* submodules assign connective and hierarchic primitive shapes, respectively, to each sentence component as it is added to the parse tree. The *buildaes* and *buildaesb* submodules build patterns of abstract elements from these connective and hierarchic primitive shapes. The *buildsg* submodule correlates a single set of stylistic goals with the connective and hierarchic patterns of abstract elements. These stylistic modules are identical for the English and French stylistic parsers.

7.2 How STYLISTIQUE works

7.2.1 How processing is done

Using the modules described in the previous section, STYLISTIQUE processes sentences in the following manner:

- **Syntactic processing:** STYLISTIQUE works on sentences one at a time. The *parser* rules are used to perform a top-down syntactic analysis of the input sentence and gradually build up a syntactic parse tree whose nodes contain information from the lexicon.

- **Primitive shape stylistic processing:** In tandem with the syntactic parse,[2] the *buildstyl* and *buildstylb* rules are used in a top-down stylistic analysis that takes the new nodes in the tree as input and annotates each node with the connective and hierarchic primitive stylistic shapes associated with the item stored in it.

- **Abstract element stylistic processing:** Again in tandem with the syntactic parse, the *buildaes* and *buildaesb* rules are used to perform a bottom-up analysis. As nodes are added to the parse tree and annotated with primitive shape information, a subtree is formed. When STYLISTIQUE finishes building a subtree, it calls the *buildaes* and *buildaesb* submodules to assign an abstract element description to the subtree. As STYLISTIQUE builds up the parse tree, it incorporates smaller subtrees in larger ones. Thus, STYLISTIQUE builds abstract element descriptions for larger and larger subtrees. The analysis takes the current annotated parse tree as input and builds two lists of the abstract elements that correlate with the patterns of connective and hierarchic primitive shapes found in the tree. Each list of abstract elements is divided into three sublists of position, dominance, and balance elements.

- **Stylistic goal processing:** When the sentence has been completely parsed, the *buildsg* rules are applied to the two lists of abstract elements to produce a single output list of three stylistic goals that correlate with patterns of the abstract elements in either the connective or hierarchic list. The list of goals is composed of one selection from each of the following three dimensions:

  - Clarity/neutral/obscurity;
  - Abstraction/neutral/concreteness;
  - Staticness/neutral/dynamism.

---

[2]The idea of syntactic and stylistic processing in tandem has been adapted from Hirst (1987), who implemented a semantic interpreter that ran in tandem with the syntactic analysis.

Each dimension has three possible settings: one at either extreme, and a *neutral* setting that indicates the sentence does not show definite indications of either extreme.

7.2.2 How pseudo-cuts are used

Although STYLISTIQUE can usually run unaided following the processing strategy described above, it does require some pre-processing of the input sentences. The underlying syntactic stylistic grammar is highly complex and, as a consequence, contains a substantial degree of ambiguity, so that the stylistic parser can produce a number of syntactially grammatical, but not necessarily correct, parses for a given sentence. Consider the following sentence fragment:

(7-3)   Silvia, a commanding woman in her fifties, a shrew falsely mellowed by religion

In this example, there are two independent postmodifying nominal groups, *a commanding woman in her fifties* and *a shrew falsely mellowed by religion*. However, in one of the possible parses, STYLISTIQUE would consider these two constructions to be a single nominal group, in which *a shrew falsely mellowed by religion* is identified as a postmodifier of the noun *fifties*. This parse is syntactically, although not semantically, quite acceptable. An example of a sentence in which this parse would be both syntactically and semantically correct is:

(7-4)   Silvia, a commanding mother of three toddlers, each tall for its age

A stylistic parser, in order to analyze stylistically expressive sentences, must contain a high degree of syntactic variation and, as a consequence, will necessarily be so complex that numerous ambiguous parses, such as the one above, will be produced by backtracking. The standard PROLOG cut might have constrained backtracking and reduced the number of correct parses, but the STYLISTIQUE system is too complicated and its rules too interdependent for cuts to be easily incorporated as a means of controlling the parsing process. The behaviour of cuts can be unpredictable even in simple PROLOG programs.

As a simpler solution, I introduced *pseudo-cuts*, explicit markers of punctuation, that, in effect, provide "flavours" of cuts, each applicable to a particular situation, so that a fine degree of control can be exerted on the direction of the stylistic parse. Pseudo-cuts provide a form of partial disambiguation, as they do what the system should have done unaided but, because of the complexity of the grammar, couldn't. STYLISTIQUE requires this prior disambiguation mostly for reasons of efficiency. For example, most parsers are unable to handle the conjunction *and* by any means other than trying all possible parses (Snarr 1984). The problem is analogous for *or* and the comma, which can be considered a word. In my parser, the situation is complicated by the same conjunctions and punctuators playing different roles according to their level in the sentence structure. As a consequence,

conjunctions and punctuators in the form of pseudo-cuts are used at the sentence, clause, complement, and noun-phrase level as follows:

- **Sentence-level pseudo-cuts:** At the sentence level, the conjunctions *sAnd*, *sOr*, and *sComma* are used to indicate a conjunction of two complete sentences:

(7-5) The style was formed <u>sAnd</u> the principles were acquired.

In the French parser, the corresponding conjunctions are *sEt*, *sOu*, and *sVirgule*.

- **Clause-level pseudo-cuts:** At the clause level, the punctuator, *clause*, is used to mark the beginning of a clause,[3] while the punctuators *spComma and spPunc*, (in French, *spVirgule and spPunc*), indicate the end of a clause:[4] [5]

(7-6) <u>clause</u> Leaving the room <u>spComma</u> he tripped over the mat.

Within a clause, the conjunctions *clAnd, clOr,* and *clComma (clEt, clOu, clVirgule)*, are used to indicate the conjunction of two clauses:

(7-7) This painter has adjusted to the tastes of the day <u>clause</u> softening his line <u>clComma</u> <u>clause</u> sketching gracefully <u>clAnd</u> clause converting to sfumato.

- **Complement-level pseudo-cuts:**

Complement marks the beginning of a complement. Within a complement, the conjunctions *cAnd, cOr,* and *cComma (cEt, cOu, cVirgule)* are used to indicate the conjunction of two complements. The punctuators *cpComma* and *cpPunc (cpVirgule, cpPunc)* mark the end of a complement. The use of these pseudo-cuts is demonstrated in the following example:

(7-8) <u>complement</u> In its energy <u>cComma</u> its lyrics <u>cComma</u> its advocacy of frustrated joys <u>cpComma</u> rock is a symphony.

- **Noun-phrase–level pseudo-cuts:** At the noun-phrase level, the conjunctions *and, or,* and *comma (et, or, virgule)* mark various types of conjunction. Within a noun phrase, the punctuators *pComma* and *pPunc (pVirgule, pPunc)* mark the beginning and end of each instance of postmodification.[6] The following example illustrates the use of these pseudo-cuts:

---

[3] A special case occurs with nominal clauses, which need not be marked by the punctuator *clause*, as in *To tell everybody spPunc is the best thing.*

[4] A sentence- or clause-level pseudo-cut is not needed at the end of a sentence, but other types of punctuation may be needed to mark the end of a complement or nominal group, as discussed later in this section.

[5] A special case occurs with medial adverbial clauses, which are marked at the beginning and end by the clause-level punctuator, *spComma*, as in *The famous collector spComma when he was unable to acquire certain canvases spComma bought copies.*

[6] The exceptions are postmodifying prepositional phrases and relative clauses, as these are already "marked" by the presence of a preposition, *that*, or *wh*-element.

(7-9) The artist provides a dreamy background <u>pComma</u> done in yellow <u>and</u> bistre brushstrokes <u>pPunc</u>.

The use of these pseudo-cuts improves the efficiency of STYLISTIQUE, so that most of the sentences in the English corpus can be analyzed in less than 30 seconds per sentence.

7.3   A sample stylistic parse

Appendix B contains a set of annotated STYLISTIQUE analyses of 75 sentences (52 English, 23 French) that demonstrates a substantial degree of stylistic variation. The following short example illustrates the kind of analysis that STYLISTIQUE produces for the sentence:

(7-10)   True, posterity has been kind.

In the parse, the final stylistic goal analysis is listed first, then the intermediate abstract element description, and then the detailed parse tree containing the primitive shape information.

```
| ?- startup.


==========================================

|: complement true cpComma posterity has been kind.


-------------------------------------------

(1) complement true cpcomma posterity has been kind
-------------------------------------------
Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)
-------------------------------------------
[clarity,neutral,neutral]

Abstract stylistic elements (Connective view):
-------------------------------------------
[[initial-and-medial-concord,initial-concord],[centroschematic,monoschematic],□]]

Abstract stylistic elements (Hierarchic view):
-------------------------------------------
[□,[centroschematic],□]

Connective stylistic parse:
-------------------------------------------

   c-sentence
     c-complete
       c-major
         c-complement
         adjectival-phrase
```

```
              c-complement
            adjectival-phrase
              adjectival-phrase
                conjunct2-adjective
                  true
        c-noun-phrase
          c-noun-phrase
            c-nominal-group
              c-nominal-group
                c-premodification
                  c-premodification
                    c-premodification
                noun
                  posterity
                c-postmodification
                  c-postmodification
        c-verb-phrase
          c-verb-phrase
            xcopula
              copula
                been
            adjectival-phrase
              conjunct2-adjective
                kind


Hierarchic stylistic parse:
-----------------------------------------------

  c-sentence
    c-complete
    c-initial-explicit-complete
      c-initial-explicit-static-complete
        c-major
        explicit-static-major
        initial-explicit-static-major
        c-initial-explicit-static-major
          c-complement
          explicit-static-complement
          c-explicit-static-complement
            c-complement
            explicit-static-complement
            c-explicit-static-complement
              adjectival-phrase
              subjunct1-adjectival-phrase
                subjunct1-adjective
                  true
          n-noun-phrase
```

```
          n-noun-phrase
            n-nominal-group
              n-nominal-group
                n-premodification
                  n-premodification
                    n-premodification
                noun
                  posterity
                n-postmodification
                  n-postmodification
        n-verb-phrase
          n-verb-phrase
            xcopula
              copula
                been
            adjectival-phrase
            subjunct1-adjectival-phrase
              subjunct1-adjective
                kind
|: quit.
```

7.3.1 Primitive shape analysis of the example

Connective view analysis

The sentence is concordant, for it consists of a concordant main clause, the major, with no subordinate clauses. It begins with a complement, *true*, which is an adjectival phrase and therefore considered to have a concordant effect, even if used in the initial position. After the initial complement, the sentence continues with the bare noun *posterity*, which, lacking both pre- and postmodification[7] is a minimal, and therefore concordant, noun phrase. The sentence ends with the basic verb phrase *has been kind*, consisting of only the copula[8] *been*, and the concordant, conjunct[2] adjective *kind*, which is an inherently concordant verb phrase.

Hierarchic view analysis

Again, this is a concordant sentence, for it has the form of a concordant initial explicit static complete sentence. This indicates that the sentence begins with a subordinating, non-verbal construction, which, in this case is the complement, *true*, a subjunct[1] adjectival. The bare

---

[7]STYLISTIQUE must assign a primitive shape to the postmodification so that this information can be passed up to the higher levels of nominal group and noun phrase. As a consequence, the absence of postmodification must be marked as (trivially) concordant postmodification, in the connective view, and (trivially) neutral postmodification, in the hierarchic view.

[8]The stylistic effects of auxiliary verbs are not taken into account, and so these verb forms are not recorded in the stylistic parse.

noun *posterity*, lacking both pre- and postmodification, is a neutral noun phrase. The verb phrase *has been kind* is a basic, and therefore neutral, verb phrase. STYLISTIQUE can judge only whether verb phrases are concordant, neutral, or discordant and cannot distinguish between subordinating (explicit) and superordinating (implicit) varieties.

7.3.2 Abstract element analysis of the example

In the connective view, the significant position elements are an initial-and-medial concord and an initial concord. Although the first element subsumes the second, STYLISTIQUE does not prune redundancies from the list of abstract elements. The significant dominance elements are centroschematic and monoschematic. That is, this sentence has one dominant shape, which is, in fact, the whole sentence: it is monoschematic but also trivially centroschematic. Again, STYLISTIQUE produces the most detailed analysis it can and does not prune extraneous information. There are no significant balance elements in this sentence.

In the hierarchic view, STYLISTIQUE has found no significant position or balance elements, but has recognized one dominance element: the sentence is centroschematic. It is the initial complement, *true*, that introduces an explicit, subordinating, component that is separate from the main clause; this feature makes the sentence slightly too complex to be monoschematic.

7.3.3 Stylistic goal analysis of the example

The presence of the concords in the connective view, together with the connective and hierarchic centroschematic structures, gives the sentence an effect of clarity. In a less obvious manner, the presence of an initial static complement affects other stylistic goals. Because a slightly explicit, subordinating, complement is present, the sentence cannot be considered abstract, but the emphasis provided by this complement is not strong enough to make the sentence concrete: thus, it is neutral on the abstraction/concreteness scale. Although the complement is static, its separation from the rest of the sentence means that STYLISTIQUE cannot consider it to contribute to the staticness of the whole sentence, but its presence does not create an effect of dynamism: the sentence is neutral on the staticness/dynamism scale.

To summarize, this is a simple, clear sentence with the slight incongruity of an initial complement to relieve its blandness.

7.4 Limitations of the implementation

STYLISTIQUE's limitations arise from the following three characteristics of the system:

1. The implementation of the grammar is incomplete.

2. The French stylistic parser does not use the full power of the functionally-based stylistic grammar.

3. The grammar is too coarse-grained.

In the first case, the incomplete implementation of the grammar, STYLISTIQUE can sometimes produce analyses that are inaccurate, though not incorrect, because only about 90% of the full English and French syntactic stylistic grammars was implemented. The entire connective component was implemented, but only the subordinating (explicit) and neutral rules of the hierarchic component. The implementation of superordinating (implicit) rules would not present any new difficulties, but it was not carried out in order to simplify the initial implementation of the stylistic grammars. The effect of this limitation can be observed in a "flattening" of some stylistic analyses: for example, sentences that should be considered abstract by virtue of their superordinating components are instead labelled as neutral on the abstraction/neutral/concreteness scale.

The incompleteness of the lexicon is part of the first limitation. STYLISTIQUE, as the implementation stands now, might inaccurately assign a primitive shape to an adverb. As discussed in chapter 4, the stylistic effect of an adverb can change with its position or functional role. In the sample sentences used to test STYLISTIQUE, no adverb was used in more than one position, so a single connective shape was listed in the lexicon for each. Because there are separate rules for parsing adverbs in initial, medial, and final positions, it would be straightforward to have the rules check an expanded lexical entry for an adverb's connective shape in a particular position. However, the English syntactic stylistic parser does not associate an adverb's stylistic shape with its current functional role, as the English grammar is not a functional one. As a consequence, default hierarchic shapes of $subjunct^1$ or $subjunct^0$[9] were used as a simplification for all adverbs.

In the second case, the French stylistic parser does not make full use of the power of the functionally-based stylistic grammar because it bases its functional analysis solely on information that can be stored in the lexicon. However, sometimes we have to consider the context in which a syntactic item is used in order to assign its functional role. Now, STYLISTIQUE, as it stands, can be made to use the effect of position to choose from a set of possible stylistic shapes. The adjective, *divers*, for example, is correctly recognized as either subordinating or superordinating depending on its position within a noun phrase. However, functional role is not always tied to inherent characteristics or even to the position of an item, but can depend on the stylistic shape of other items in the sentence. Consider the following sentences:

(7-11)   Sans bruit, sous le miroir des lacs profonds et calmes, le cygne chasse l'onde avec

---

[9]Because I have not implemented the implicit, superordinating rules of the English grammar, superordinating adverbs are "flattened" to $subjunct^0$.

160

ses larges palmes. (*lit.*, Noiselessly, beneath the mirror of the deep and calm lakes, the swan brushes away the water with its large webbed feet.)

(7-12) Le ciel était rose, la mer tranquille et la brise endormie. (*lit.*, The sky was pink, the sea quiet, and the breeze languid.)

In the first example, the adjectives play a characterizing and superordinating role, for the present tense of the verb indicates that the action occurs in the widest temporal scope. However, in the second example, the adjectives play a determining and subordinating role, for the imperfect tense indicates that, at a given moment, the action was taking place. This stylistic difference is due not to inherent qualities of the particular adjective, but to the stylistic effect of the verb. As a consequence, an improved functionally-based stylistic parser would have to use contextual information in its analysis. STYLISTIQUE could be made to do so by the addition of rules to modify the initial assignment of a primitive shape of an item. These rules would take into account the shapes of other items in the sentence. Thus, this limitation of STYLISTIQUE is due to a simplified implementation, rather than an inherent weakness in the overall approach.

While the incompleteness of the English and French implementations does not reflect theoretical limitations, the third case, the coarse grain of the stylistic grammar does. In the final chapter, I will discuss this theoretical limitation, review the contributions of the thesis, and sketch out directions for future research.

Chapter 8

Conclusion: Diagnosis and Prognosis

In this final chapter, I will review the contributions and the limitations of the research described in this thesis. I will follow this up with some suggestions for enhancements of STYLISTIQUE, and conclude with a discussion of some of the future directions that the work might take.

8.1 Contributions of the thesis

The problem of style, with special reference to machine translation, presented advantages as a focus for new research. The codification of stylistic knowledge had been a virtually unexplored problem even within the general research area of computational linguistics. With very few exceptions, previous work had been unambitious (for example, counting word frequencies, or advocating basic rules of composition). Despite the neglect, there was, as we saw, enough existing relevant work in theoretical and computational stylistics to provide a basis for the development of a computational approach to style in MT. And, a concern for style is crucial to high-quality MT. Current systems deal only superficially, if at all, with style in translation and must rely heavily on human assistance. At best, MT output is syntactically correct, but aims no higher than a strict neutrality in tone. The expressive effects contained in the source text, together with the associated meaning, are lost in machine translation. For these reasons, I chose to address the problem of developing a computational approach to style in translation and laying the foundation for AI-based *computational stylistics.*

My goals were to create a formal representation of goal-directed, group-based, and non-literary stylistics for use in machine translation and, moreover, to do so in a manner applicable to different languages. The solution I proposed was the codification of stylistic knowledge in the form of a *stylistic grammar.* The construction of a stylistic grammar

constitutes a theoretical advance over previous work in stylistics, for researchers had not attempted to produce a formal descriptive treatment of style, but had relied simply on unstructured normative or descriptive "rules". The work I have done towards a grammar of style has brought together ideas from formal languages and knowledge representation and applied them to a hitherto unformalized body of knowledge.

The work began by reviewing the current status of the codification of style; a foundation existed, but a great deal remained to be done. The need for a vocabulary of stylistic terms, the basis of a codification of style, was an accepted idea. However, the nature and structure of such a vocabulary, which had to describe more than basic syntax and be amenable to systematic construction, had yet to be addressed.

First, I constructed a vocabulary for stylistics. Defining the requisite terminology had the effect of "drawing a line" around the problem. The definition of concepts and their organization in a recognizable structure were a necessary first step towards understanding the problem of style in translation. Next, I proposed an organization for dealing with style in translation: a *computational model* that outlined the sources of knowledge and associated procedures necessary for preserving style in translation (chapter 3). The development of this model is a contribution to both stylistics and translation, for there had previously been no explicit breakdown of the process of preserving style in translation into knowledge sources and how they should be used. Then, as a basis for the implementation of this model, I developed a multi-level vocabulary of stylistic concepts. I constructed a *vocabulary of abstract elements of style* that catalogued the abstract stylistic effects of sentences and also incorporated complementary connective and hierarchic views of sentence structure. The representation of two views of sentence structure is significant, for I show how distinct views can be integrated by a single metalanguage. This solution may have wider applicability to the general problem in knowledge representation of representing multiple points of view (DiMarco 1984). The abstract elements made explicit the abstract stylistic features that were only implicit in the terminology that had previously been used by stylists. I also defined a set of *more-primitive stylistic elements* that provided a precise syntactic basis for the vocabulary and allowed a mapping to the abstract elements.

After constructing the stylistic vocabulary, I developed a *methodology* for converting stylistic knowledge into a formal representation (chapter 4). The methodology was intended to be general: it was applied to the construction of both English and French grammars and to both syntactic and semantic style. The next step was using the vocabulary and methodology to develop rules of style. Chapters 3, 4, and 5 show how the vocabulary and methodology were used to develop such a structured codification in the form of *stylistic grammars*. The feasibility of a goal-directed analysis of style had been supported by previous research, but an actual goal-based codification had not been attempted. In the grammars that I developed in chapters 4 and 5, I incorporated such a goal-directed knowledge of stylistics. It is the property of *goal-directness* that makes these grammars applicable to

machine translation, for we need to analyze and understand the goals of the original author before we can reproduce them in the target text.

I showed that by using the vocabulary of abstract elements, a metalanguage with a level of abstraction higher than basic syntax, this single set of concepts could be used to codify both English and French syntactic style. The English and French stylistic grammars were stratified, as they related primitive elements to the abstract elements, and the abstract elements to stylistic goals. We saw that it was this stratification that gave generality to the methodology and made it applicable to more than one language and to more than just syntactic style. Although I do not claim that the approach is universally applicable, I do believe that it may be adaptable to a family of stylistically similar languages.

As a result of building the stylistic grammars, I was able to give more-formal definitions of stylistic goals. Previously, our understanding had been either purely subjective or based on established but informal usage. Now we have a grammar that correlates stylistic goals with specific patterns of abstract qualities of text. Our contribution to more-formal definitions of stylistic goals was demonstrated for both syntactic and semantic style, as chapters 4 and 6 described. Ryan (1989) adapted the vocabulary and methodology that I developed for the syntactic stylistic grammar to construct a semantic stylistic grammar that correlated the focus structure of paragraphs with the abstract elements, and the abstract elements with specific stylistic goals. In so doing, he augmented the definitions of stylistic goals.

In chapter 7, I described how the English and French syntactic stylistic grammars were implemented in STYLISTIQUE, a stylistic parser that produced detailed goal-directed stylistical analyses of sentences typical of sophisticated newspaper writing. At present, STYLISTIQUE can use its structured bodies of stylistic rules at various levels of abstraction to analyze original French source text and unedited English target text. Thus, STYLISTIQUE provides the foundations of a system that could accept basic French-to-English machine translation output and then edit it to incorporate the appropriate stylistic characteristics.

Prior to the development of our stylistic grammars, computational stylistic analysis had consisted mainly of unsophisticated style-checkers that enforced the basic virtues: be clear, be simple, be precise. These programs checked only for common grammatical errors. There was no systematic approach to constructing a vocabulary of style, no structured representation of stylistic rules. No significant computational stylistics program took an AI approach to the representation and use of stylistic knowledge. In STYLISTIQUE, I implemented an AI treatment of stylistic analysis that relies on formal, rather than heuristic, methods.

8.2 Limitations of the research

As we saw in chapter 7, there were practical limitations to the implementation of the English and French stylistic grammars. However, there are theoretical limitations as well, specifically in the coverage and the grain size of the grammars.

8.2.1 The limited coverage of the grammars

In the underlying English grammar, I aimed for good coverage, both syntactically and stylistically. Syntactically, the grammar is based on Crystal and Davy's (1969) "stylistic" grammar, which is really mainly syntactic. It is augmented extensively by the major syntactic constructions that Quirk *et al.* (1985) catalogue. Stylistically, the grammar recognizes the same kinds of stylistically significant features as Kane (1983) and Cluett (1976) describe. The English grammar and parser can handle slightly simplified versions of sentences in *Manchester Guardian Weekly* articles that have been translated from *Le Monde*. The level of writing in these articles is at the high end of the scale for complexity in newspaper writing.

In the underlying French grammar, I did not aim for so broad a coverage, either syntactically or stylistically, as in the English version. In this case, my goal was good coverage of functional categories, so that I could determine how and whether this information could be incorporated into a stylistic system. As a consequence, the French stylistic grammar and parser were only designed to handle representative examples of the major functional categories described in chapter 5.

8.2.2 The coarse grain of the grammars

As we saw in chapter 4, the coarse grain of the stylistic grammar can produce anomalous results in the parse, as the goals of staticness and abstraction became indistinguishable in the grammar of stylistic goals, as do dynamism and concreteness. The effect of coarse-grainedness can also be observed in the parses of nine sentences in the corpus (shown in full in appendix B):

- Sentence (8-1) has a *final* discord, because of the postmodifying adjectival, but STYLISTIQUE recognizes an *initial* discord:

(8-1) Most people consider these books <u>rather expensive</u>. *(parse 8)*

- Sentence (8-2) has a *complex* verb phrase, but STYLISTIQUE recognizes it as a *simple concordant* verb phrase rather than a *concordant explicit static* one:

(8-2) The patriarch <u>was muffled in his long black cloak with purple beading</u>. *(parse 12)*

- Both examples (8-3) and (8-4) are parsed as simultaneously having both an initial *concord* and an initial *discord*:

(8-3) To tell everybody is the best thing. *(parse 15)*

(8-4) Telling lies is wrong. *(parse 25)*

- Sentences (8-5) and (8-6) are both judged to have initial *discords* because of a lack of connectivity at the beginning of the sentence, but there is actually a definite stylistic difference between them; the first appears to be more *concordant*:

(8-5) <u>Her aunt having left the room</u>, I declared my passionate love for Celia. *(parse 20)*

(8-6) <u>Leaving the room</u>, he tripped over the mat. *(parse 18)*

- STYLISTIQUE labels sentences (8-7) and (8-8) as simultaneously *mono*schematic and *poly*schematic:

(8-7) And the rains descended and the house fell and great was the fall of it. *(parse 35)*

(8-8) John went into the house and was he angry! *(parse 45)*

- In example (8-9), STYLISTIQUE considers an initial prepositional phrase to be *discordant* even though it is imitative, a property that tends to promote an effect of *concord*:

(8-9) In its energy, its lyrics, its advocacy of frustrated joys, rock is one long symphony of protest. *(parse 47)*

These anomalous results are not due to programming errors, but to the excessive abstractness of the abstract elements and the resulting coarse grain of the grammar. It was a deliberate choice to define elements that were quite abstract. A major limitation of previous work in stylistics was the use of terms that were so numerous and so specific that it was not possible to identify general stylistic features that were common to sentences that were stylistically similar, but not obviously syntactically similar. However, the stylistic terms that I have defined have occasionally erred on the side of being *too* abstract in some cases. For example, an *initial discord* element in a STYLISTIQUE analysis may correctly identify the presence of a discord in the sentence but, because the scope of the element can be so broad, STYLISTIQUE sometimes cannot distinguish between a true initial discord, which occurs at the start of a sentence, and a non-initial discord, which seems "initial" because it affects the whole sentence.

The excessive abstractness of the stylistic elements was further demonstrated, as we saw in section 4.4, by the same patterns of elements appearing to define both abstraction and staticness and both concreteness and dynamism. That there may be, for example, different types of monoschematic sentences, some abstract, others static, has been overlooked by a stylistic analysis that relies on maximally expressive descriptions. Therefore, further study should address the development of more-finely-grained abstract elements that could be used in stylistic analyses that would be both more expressive and more precise.

8.3 Potential enhancements to STYLISTIQUE

8.3.1 A more expressive vocabulary of style

As a theoretical improvement, we obviously need a more expressive set of abstract elements that includes subtypes of elements that can, for example, describe finer nuances of *position*, so that we can be specific about the location of a discord. Quirk *et al.* (1985) distinguish between the following positions within a sentence: *initial, medial, initial medial, medial medial, end medial, end,* and *initial end.* If we correlated subtypes of the abstract elements with more focused positions in the sentence, we would avoid the types of anomalies described earlier. However, as well as defining the position elements more precisely, we could make the features of *dominance* and *balance* more specific.

In the dominance group, we could, for example, distinguish between *static centroschematic* and *active centroschematic,* where both abstract elements would describe complex, well-integrated sentences, but the latter would identify sentences with a higher degree of nominalization.

In the balance group, we could expand the number of elements both with respect to the nature of an element (a medial heteropoise would be *active,* if it were an adverbial clause, but *static,* if it were a nominal group) and to position (a medial heteropoise could be *initial medial, medial medial,* or *end medial*).

By using a set of more expressive abstract elements, STYLISTIQUE could achieve much more precise and meaningful analyses.

8.3.2 A more efficient parser

There are at least two computational enhancements that could be made to STYLISTIQUE. The first is simple, but significant: STYLISTIQUE should run in a more congenial programming environment than it does now. It was developed on a system that is often so heavily-loaded that the potential speed of QUINTUS PROLOG is lost: STYLISTIQUE will sometimes run almost as fast (or as slow) in C-PROLOG on a smaller machine. It has been amply demonstrated that complex stylistic analysis requires a substantial amount of computing power.

The other computational improvement is more complex to implement, but perhaps even more significant: the PROLOG cut could be used to control parsing, for it is unrestrained backtracking that reduces the efficiency of STYLISTIQUE and causes it to be a sometimes less than fully-automatic stylistic parser.

8.3.3 An integrated parser

A combined theoretical and computational enhancement would be to integrate the syntactic and semantic stylistic parsers, for, as I proposed in section 4.1, a stylistic grammar should

incorporate lexical, syntactic, and semantic components. We have traced the development of the syntactic and semantic stylistic grammars and their subsequent separate implementations. Could they now be integrated? The feasibility of integration is supported by the compatibility of the two stylistic parsers. In both cases, they are built upon the same theoretical foundations, which consist of the same vocabulary and development methodology. Also, the two systems are computationally compatible, for both use syntactic analysis as the controlling mechanism.

STYLISTIQUE builds a stylistic parse in tandem with the syntactic parse and produces a list of abstract elements at the completion of the parsing process. But BOGUE, the semantic stylistic parser, initiates stylistic analysis only when the syntactic parse is complete. Thus, STYLISTIQUE could be encapsulated in the initial parsing stage of the BOGUE system and its results used as input to produce a more informed semantic stylistic analysis. As Ryan (1989) observed:

> In a practical system, the stylistic goals achieved by the syntactic content of each individual sentence could be compared to the stylistic goals found for the paragraph as a whole. If the goals selected by the syntactic stylistic grammar and those found by the semantic stylistic system matched, then the output of both systems would be reinforced. If, on the other hand, the goals contradicted each other (for instance, the syntactic stylistic grammar found that each sentence in a paragraph was *clear*, whereas the semantic stylistic system found that the paragraph as a whole was *obscure*), then the system could recognize some kind of stylistic ambiguity.[1] (Ryan 1989, 86)

Consider, for example, the following paragraph, which Ryan analyzed:

(8-10)   We stand there for a while longer. A wind comes through the alley. Sounds of traffic can be heard coming from Melrose.[2]

Each sentence is syntactically simple and clear, but, overall, the paragraph has significant jumps in focus from sentence to sentence so that it is semantically rather obscure. There can be no simple addition of the syntactic and semantic stylistic goals in this paragraph, but there is an interaction between them: why has the author deliberately chosen syntactically clear sentences to express semantic obscurity? As Ryan noted (p. 90), when one considers the context that surrounds the paragraph — it is part of the description of the scene of a murder — it does not seem semantically disconnected at all. How then do syntax and focus-related semantics interact in a given context to produce complex and subtle stylistic effects? That the syntactic and semantic stylistic parsers have been designed to be compatible is only the first step. Future work must address the problem of understanding the interactions between all aspects of style: syntactic, semantic, and lexical.

---

[1] An alternative interpretation is that one or both of the systems is wrong!

[2] Ellis, B.E. *Less than zero*. Penguin Books, 1985, 187.

168

8.3.4   A lexical stylistic grammar

If we want to use the vocabulary and methodology presented in this thesis to develop a *lexical* stylistic grammar, then we require:

- A vocabulary of lexical stylistic "shapes";

- A correlation of stylistically significant "patterns" of these shapes with abstract elements of style;

- A correlation of patterns of these abstract elements with specific stylistic goals.

What would a "lexical stylistic shape" look like? There are at least two ways of giving a stylistic definition to a word. One, used by Vinay and Darbelnet (1958) defines a set of stylistic nuances so finely grained that a word falls into one, or a very small number, of these classifications. The other approach associates a set of features with each word. This approach, used by Hovy (1987), reflects current linguistic thought in emphasizing both the complexity of the lexicon and feature-based descriptions of individual words; it is especially amenable to unification-based parsing, such as the definite clause grammar approach taken in this thesis. So, a lexical stylistic shape would have two components:

- A word and its set of features; For example, a word could have a subset of the features *formal/normal/informal, simple/normal/complex, forceful/normal/quiet,* or *dry/normal/flowery* (Hovy 1987).

  This provides the basis for membership in a stylistic equivalence class, the grouping of words that stand in some kind of stylistic relationship to one another.

- The word's relationships to other stylistic equivalence classes. For example, a class can be a *mitigator* of another class of words, such as the relationship of *tap* to *hit* and *strike*. A class can also be an *enhancer* of another class of words, such as the relationship of *smash* and *slug* to *hit* and *strike* (Hovy 1987).

  These relationships define the classes of words that tend to appear in the same stylistic environment. That is, *smash* and *slug* would tend not to be used in the same environment as *tap*.

Having defined a lexical shape, we would now define patterns of these shapes. In a simplified view, words within a clause or sentence would tend to be related to each other and be members of the same lexical stylistic equivalence class. Therefore, there would be a correlation of lexical stylistic shapes with sentence structure, so that a pattern is formed by lexical equivalence classes changing or staying the same from clause to clause.

As Halliday and Hasan note, "The analysis and interpretation of lexical patterning of this kind is a major task in the further study of textual cohesion" (p. 287). And so for lexical style. The recognition of stylistically significant lexical patterns can lead to a

lexical stylistic grammar. If we can classify a word as a member of a particular stylistic equivalence class and understand its relationships to other words in its environment, we can better understand how to choose a word that expresses a particular stylistic effect. A grammar that takes this approach could then, for example, be used in conjunction with a lexical option generator, such as the one proposed by Miezitis (1988). Miezitis's system takes a situation and tries to match it with an entity in a lexicon that maps meanings to words and returns many possible lexical choices for describing a situation with their stylistic features.

Having developed the idea of lexical stylistic patterns, we would next correlate patterns of lexical shapes with abstract stylistic elements. Then, we would correlate patterns of abstract elements with specific stylistic goals. Finally, the resulting lexical stylistic grammar would be integrated with the existing syntactic and semantic stylistic grammars, forming a complete and compatible stylistic grammar that would have been developed using the same vocabulary and methodology.

8.3.5 An extension to the paragraph level

> It is doubtful whether it is possible to demonstrate generalized structural relationships into which sentences enter as the realization of functions in some higher unit, as can be done for all units below the sentence. (Halliday and Hasan 1976, 10)

I disagree with this quotation. It is well-known to stylisticians that people use basic patterns in the construction of paragraphs, such as a short sentence followed by a long one and rounded off by another short one. However, I believe we can go a good deal farther in recognizing recurring patterns of paragraph structure by building upon the stylistic types of sentences that I have already defined.

The methodology that I developed for the sentence level of the stylistic grammar, if adapted to the paragraph level, would consist of the following steps:

- A vocabulary of paragraph stylistic shapes (stylistic sentence types are composed into paragraphs);

- A correlation of the stylistic effects of these paragraph shapes with abstract elements of style;

- A correlation of patterns of these abstract elements with stylistic goals.

I have incorporated both connective and hierarchic ordering into the syntactic stylistic grammar at the sentence level, but at the paragraph level, issues of connective ordering translate into the study of cohesion between sentences. Other researchers, notably Halliday and Hasan (1976), have made an extensive investigation of cohesion, but I feel that it would

require significant effort to extend their work to stylistics. Ryan's focus-based semantic approach, which deals with the paragraph level, has already done some work in adapting Halliday and Hasan's ideas to issues of style. The problem of how intersentence connectivity creates particular stylistic effects is best left to long-term research, rather than a short-term enhancement of the present work. However, the issue of hierarchic ordering at the paragraph level, how sentences of varying degrees of subordination and superordination form stylistically significant patterns, is a more accessible problem to which I believe the methodology can be quite easily adapted. It is not simply a question of sentence length, for this consideration alone is not a good measure of style, as it is too far away from the author's original decisions.[3]

In a preliminary study, I adapted the vocabulary of the abstract elements of style to account for stylistic patterns at the paragraph level. To do this, I sampled approximately 200 paragraphs from 14 articles in 3 issues of the *Manchester Guardian Weekly*. I applied the same development methodology used at the sentence level. I began by defining stylistic shapes at the paragraph level; I adapted the abstract stylistic elements that I defined in section 3.2.4. At the sentence level, in the hierarchic ordering, these terms are related to patterns of varying degrees of subordination and superordination within a sentence, but they can also be used at the paragraph level to define stylistic paragraph patterns, paragraph "shapes".

Examples of stylistic paragraph patterns include the following:

Simple monoschematic: A sequence of monoschematic and/or homopoisal sentences.

Paragraph (8-11) is *simple monoschematic*, as it is composed of four monoschematic sentences:

(8-11) Followers had to break off all contact with their families and friends. Only five hours of sleep were allowed at night. Boys were separated from girls. Teenagers had to turn in written confessions.[4]

Complex monoschematic: A sequence of centroschematic, monoschematic, or homopoisal sentences.

Paragraph (8-12) is *complex monoschematic*, for it consists of a series of centroschematic sentences:

(8-12) The proof is plain, as all the paintings he turned out during these months of learning his craft are hung alongside the originals he used as models. Stage by stage Vincent attempted to understand the moderns, beginning with Monet and

---

[3] Allan Gleason, personal communication.
[4] Adapted from the *Manchester Guardian Weekly*, 14 February 1988, 14.

Pissarro. From them he acquired a taste for broad and sweeping landscapes and the need to use distinct touches to express colour seen in full light. With some hesitation, the man who had been painting in a *chiaroscuro* style initially experimented even with whites and greys. This was still too low-key. So Van Gogh dabbed a bit of red on a roof or a spot of green in a garden or meadow to make his works stand out.[5]

In the following definitions, I assume that the simpler types of sentences, monoschematic and homopoisal, are inherently more concordant than the more complex sentences.

Dissolution: A shift from a monoschematic and/or homopoisal sequence to a centroschematic and/or polyschematic sequence.

Paragraph (8-13) is a *dissolution* for it begins with a monoschematic sentence and concludes with a complex centroschematic sentence:

(8-13)   The 13th Anglo-French summit produced rather scanty results. Apart from Margaret Thatcher's acceptance of the special tax concessions extended to sales in France of "traditional" brown rum produced in Martinique and Guadeloupe and the announcement that youth exchanges between France and Britain will be encouraged, you will look in vain for any concrete measures emerging from this summit.[6]

Resolution: A shift from a centroschematic and/or polyschematic sequence to a monoschematic and/or homopoisal sequence.

Paragraph (8-14) is a *resolution* as it begins with a centroschematic sentence and concludes with a monoschematic sentence:

(8-14)   This "Van Gogh in Paris" is a highly disciplined and convincing initiative and we would like to believe that it foreshadows the advent of a time when the history of impressionism and post-impressionism will be examined soberly and clear-headedly. Credit for this must go to the exhibition's two organisers.[7]

Contrapoise: A paragraph in which a centroschematic or polyschematic sequence is an offset that perturbs an initial and terminal monoschematic and/or homopoisal sequence.

Paragraph (8-15) is a *contrapoise*, as it begins and ends with a monoschematic sentence and has a medial complex centroschematic sentence:

---

[5] *Manchester Guardian Weekly*, 21 February 1988, 14.
[6] *Manchester Guardian Weekly*, 7 February 1988, 13.
[7] Adapted from *Manchester Guardian Weekly*, 21 February 1988, 14.

(8-15) Bougainville correctly appreciated the situation. The worry is there and it cannot be wiped out by either the coconut palms (their numbers have been quickly recorded), the sun (too fierce), or the videocassettes which are delivered once a month, along with rice, flour, wine, and the mail, from a schooner belonging to a Chinese man. You must pray to survive in Faaité.[8]

Counterpoise: A paragraph in which a monoschematic and/or homopoisal sequence is an offset that does not perturb an initial and terminal centroschematic and/or polyschematic sequence.

Paragraph (8-16) is a *counterpoise*, as it begins and ends with a centroschematic sentence and has a medial monoschematic sentence:

(8-16) Vincent had doubtless been painting and drawing for a long time, but in a seeming unattractive style, in earthy, heavily Rembrandtish browns. He seemed to belong to the academic realistic school. The first self-portrait he did after coming to Paris was dismayingly pedestrian, a long way from alarming anyone at all, and contained not the slightest hint of the Van Gogh he was to become two years later in Arles.[9]

The paragraph patterns defined above were the most common and most obvious ones in the sample paragraphs that I reviewed. We have observed that it is possible to provide definitions for these stylistic paragraph shapes by using patterns of the existing abstract stylistic elements. What remains to be done is an extensive study into the correlation of these patterns with specific stylistic goals. Although newspaper writing style aims mainly for clarity, it seems premature to conclude that the stylistic paragraph patterns that I have defined are always representative of clarity. However, the applicability of the stylistic vocabulary and methodology to the paragraph level of the syntactic stylistic grammar does appear to warrant further study. This conclusion is supported by Ryan's (1989) adaptation of my approach to the paragraph-level semantic stylistic grammar.

8.4   Future directions

In the previous section, I outlined some of the immediate enhancements that could be made to the STYLISTIQUE system. However, there are also longer-term research goals to which this thesis leads, both in basic theory and applications.

---

[8] Adapted from the *Manchester Guardian Weekly*, 7 February 88, 16.

[9] *Manchester Guardian Weekly*, 21 February 1988, 14.

8.4.1 Style in machine translation

I began this thesis with the goal of providing the foundations of a system that could preserve style in machine translation. So far, I have developed separate English and French stylistic grammars and parsers. The next step must be to define a mapping between these grammars. The following pairs of sentences demonstrate stylistic differences between English and French that we can now recognize and name. The first group demonstrates cases where we want to preserve the same stylistic effect from French to English.

In French, adverbial phrases or clauses are placed by preference at the head of a sentence, as in:

(8-17) Sûr d'obtenir gain de cause, il attendit sans inquiétude l'ouverture du procès. (*lit.*, Sure that he would win the case, he waited without anxiety for the opening of the trial.)

But, in English, the preference is usually the opposite:

(8-18) He waited unconcernedly for the opening of the case, as he felt sure to win.

In a machine translation system based on STYLISTIQUE, this change in structure could be recognized as the preservation of an *initial concord* between French and English. In French, the initial adverbial clause may be more concordant than in English, so that, when we translate into English, we must begin with the main clause itself to reproduce the effect of concord.

In the next pair of sentences, the French sentence uses a concordant non-finite clause, while the English sentence begins with a strong concordant word, *because*, which tends not to be used in the initial position in French.

(8-19) Ma première lettre ayant pu s'égarer, je me permets de vous écrire de nouveau. (*lit.*, My first letter having perhaps gone astray, I am writing you again.)

(8-20) <u>Because</u> my first letter may have been lost, I am writing you again.

Another example of the preservation of an initial concord occurs in the next pair of sentences: a *concordant* cleft structure in French is replaced by a strong *concordant* initial adverb in English:

(8-21) <u>Il y eut un moment où</u> il faillit se faire prendre. (*lit.*, There was a moment when he just missed being captured.)

(8-22) <u>Once</u> he was almost captured.

In all these examples, we observe that different situations can be recognized as initial concords that must be preserved, instead of requiring separate heuristic rules.

The second group of examples demonstrates cases where we have to choose different stylistic effects for French and English, each effect being characteristic of the particular language. In the first pair of sentences, we can recognize the difference between a *static* French construction and a more characteristically *active* English sentence and choose to translate accordingly:

(8-23) Les gens ont applaudi sur <u>le passage des troupes</u>. (*lit.*, People cheered along the passage of the troops.)

(8-24) People cheered as <u>the troops marched by</u>.

In the next pair of sentences, we can recognize the French tendency to *abstractness* in a minimally modified noun while English, more *concrete*, uses deictic premodification:

(8-25) <u>Toute</u> partie de la carte que nous ne voyons pas à l'instant même n'existe pas pour nous. (*lit.*, Any part of the map that we do not see at the exact moment does not exist for us.)

(8-26) <u>All that</u> part of the map that we do not see before us is a blank.

Another instance of the French tendency to abstractness can be recognized in the following example, in which French uses a *neutral* noun while English uses a *concordant explicit* noun phrase:

(8-27) <u>Ils</u> passèrent dans un rapide mouvement. (*lit.*, They passed by in a quick motion.)

(8-28) <u>Quick-moving feet</u> pattered by.

Sometimes French will be more *explicit* and precise in its use of a concordant explicit postmodification, a relative clause, while English, more *implicit*, uses only a participle clause without a subject:

(8-29) Là aussi flotte une brume légère <u>qui estompe</u> les durs contours des idées et fond les couleurs de la passion. (*lit.*, There, also, drifts a light mist that softens the hard contours of ideas and melts the colours of passion.)

(8-30) There, too, is a haze <u>rubbing away</u> the hard edges of ideas, softening and blending the hues of passion.

Similarly, French uses an *explicit* postmodification, a relative clause, in the next example, but English uses a more *implicit* premodification:

(8-31) La porte était coincée par une poutre <u>qui était tombée</u>. (*lit.*, The door was jammed by a beam that had fallen.)

175

(8-32) The door was jammed by a <u>fallen</u> beam.

We might even use the stylistic grammar to recognize more complex situations in translation, such as the following:

(8-33) Avec <u>un pareil état d'esprit</u>, le pays est voué à la stagnation. (*lit.*, With such a state of mind, the country is destined for stagnation.)

(8-34) There is no future in the country if <u>this</u> is allowed to prevail.

Here, the English, for once, is more *implicit* while the French is more *explicit* and subordinating.

As another example of contrasting stylistic effects, an initial *concord* in French could be replaced by an initial *discord* in English, a participle clause that lacks a subject:

(8-35) Les organisateurs ont pu s'assurer le concours de professeurs des différentes écoles. (*lit.*, The organizers were able to secure the help of teachers from various schools.)

(8-36) Participating in the program are teachers from the various schools.

In both pairs of sentences that follow, a hierarchic *resolution* in French could be replaced by a hierarchic *dissolution* in English:

(8-37) Il est satisfait, mais je ne <u>le</u> suis pas.

(8-38) He is satisfied, but I am not.

(8-39) C'est aux tribunaux d'enfants qu'il incombe de diriger les sujets appropriés vers une institution chargée du redressement des garçons particulièrement difficiles. (*lit.*, It is the juvenile courts that it is incumbent upon to direct the appropriate subjects towards an institution charged with the responsibility of the straightening-out of particularly difficult boys.)

(8-40) The proper bodies to direct suitable boys into an organization intended to reclaim the exceptionally tough are the juvenile courts.

Finally, an *initial explicit static* construction in French could be replaced by a *final explicit active* structure in English:

(8-41) D'après les chiffres qui ont été fournis, la révolte a coûté la vie à 3.000 civils. (*lit.*, According to the figures which had been furnished, the rebellion cost the lives of 3,000 civilians.)

(8-42) The rebellion cost the lives of 3,000 civilians, a survey showed.

We now have the machinery to recognize and name these differences between English and French style. What is needed next is the representation of *comparative stylistics*, the knowledge of how to map between the source language internal stylistics to the target language internal stylistics, *i.e.*, from the source language stylistic grammar to the target language stylistic grammar. The solution to this problem will necessarily involve the generation and editing of natural language text with specific stylistic constraints.

8.4.2 Natural language generation with stylistic constraints

The ability to deal with stylistic and pragmatic aspects of language is important not only in natural language understanding but in generation as well. My stylistic grammars now provide the formal representation of stylistic knowledge that was previously lacking in generation systems. In addition, the grammars form the basis for building upon the groundwork laid by Hovy (1987) to investigate how low-level stylistic goals such as clarity or concreteness can be used to realize higher pragmatic goals such as *persuasion* or *instruction*.

8.4.3 Second-language teaching

What has been learned from developing STYLISTIQUE could also be applied to machine-aided language instruction. Existing language-teaching systems focus almost exclusively on the basics of composition. An instructional version of STYLISTIQUE could systematically develop a student's understanding of the more advanced aspects of language composition. Catt (1988) developed the foundation of an intelligent computer-assisted second-language teaching system that Payette (1990) is extending to include a stylistic educator. Payette plans to adapt the stylistic rules of STYLISTIQUE, but she will use a heuristic, rather than a formal, approach to the representation of stylistic knowledge. I therefore plan to incorporate the formal stylistic grammars of STYLISTIQUE into Payette's stylistic educator.

8.4.4 Knowledge representation for stylistics

As we saw with the French syntactic stylistic grammar, a functional grammar provided a homogeneous basis for the definition of linguistic cues that guided the classification of the connective and hierarchic primitive shapes. However, I believe we can go farther to develop an even more detailed and linguistically motivated basis for the representation of stylistic knowledge. Halliday (1982) laid the foundations for such an approach in his presentation of a linguistic theory, *systemic functional linguistics*. Where most other formalisms view a grammar as a rule system for judging the correctness of text structure, the systemic approach views a grammar as a resource for expression. Both views are essential in a stylistic grammar. Systemic grammars are based on the representation of systems of lexical, syntactic, and semantic *choices* that create text; the idea that linguistic choices can be codified is strongly in keeping with the philosophy of STYLISTIQUE, which takes a *goal-directed* view

of style and therefore tries to correlate deliberate syntactic choices with particular stylistic goals. Systemic functional linguistics is characterized by its description of language at multiple levels of abstraction and across multiple dimensions of function. In particular, it tries to account for variations across levels and dimensions; it is such variations that create style in language. The systemic functional approach seems the most promising formalism for the foundation of more sophisticated stylistic systems, for it aims at a rich, powerful representation of language.

In Halliday's system, there are three *metafunctions* that are parts of the conceptual framework for representing knowledge about how people use language. These functions are defined as follows (Bateman and Matthiessen 1989, 11–12):

- The *textual* metafunction describes the thematic structure of text. Different word order provides different thematic structures, but without changing propositional content.

- The *interpersonal* metafunction describes the social relations between the speaker and the hearer. It includes the higher pragmatic functions, such as indirect speech acts.

- The *ideational* metafunction describes what other theories call propositional content or semantics.

These metafunctions provide the basis for explaining stylistic variations such as those illustrated by the following examples (from Bateman and Matthiessen (1989, 13):

- **Textual variation (changes in thematic structure):**

(8-43) We're working with silver in this job, Anne.

(8-44) Anne, we're working with silver in this job.

(8-45) Anne, silver is what we're working with in this job.

- **Interpersonal variation (changes in attitudes toward the hearer):**

(8-46) In this job, we're working with silver.

(8-47) In this job, Anne, we're working with silver, aren't we?

(8-48) In this job, Anne, we're surely working with silver.

- **Ideational variation (changes in semantic content):**

(8-49)   In this job, Anne, our business is silver.

(8-50)   In this job, Anne, we deal with silver.

(8-51)   Anne, our job is silver.

(8-52)   In this job, Anne, we're selling silver.

But, current systemic functional theory lacks the formal basis necessary for *computational* stylistics applications. Therefore, I propose to develop a formal semantics for a systemic functional grammar and adapt the vocabulary and methodology of STYLISTIQUE to construct a *systemic stylistic system*. I believe that my work in computational stylistics will best fit into the textual metafunction, which describes text in terms of its thematic structure. I suggest that connective ordering can be related to the maintenance or enhancement of thematic force and the role this force plays in cohesion. Hierarchic ordering could be related to the internal structure of themes, which may themselves contain themes. So both the syntactic and semantic stylistic grammars in the textual dimension would be based on thematic structure, the first using syntactic cues to recognize connective and hierarchic thematic structure, the second using semantic cues, as Ryan (1989) did.

As I mentioned, the other metafunctions are the interpersonal and the ideational. However, variations on all three dimensions are reflected syntactically, so that studies of style must ultimately involve all three metafunctions. So far, I have analyzed some types of variations that are possible, classified them, given them names, and developed a language for describing them. I hope to now adapt my current grammars to fit into the textual slot of a systemic functional grammar. However, similar developments would have to be done for the interpersonal and ideational levels: in effect, we need to develop a formal vocabulary and grammar for each metafunction. Then, these three grammars would together form a complete stylistic grammar.

8.5   Conclusion

Stylistic and pragmatic aspects, though necessary in complete understanding of language, have been neglected in computational linguistics research. These problems had been too vague and ill-defined to be dealt with by computational systems. However, in this work, I have developed a novel, formal representation of stylistic knowledge that makes the problems of stylistic analysis more amenable to computational solution.

It is hoped that this research will lead to a stylistic system sophisticated enough to deal with a range of stylistic problems. Long-term applications include the development of a stylistic post-editor for use in a machine translation system. In addition, the continuing enhancements of the stylistic parser should contribute to a better understanding of the role

style plays in language generation and teaching. The development of a systemic functional framework for the representation of knowledge about stylistics should provide a partial computer model of how people produce style in language.

Appendix A

The French Syntactic Stylistic Grammar

A.1 Grammar of primitive shapes

A.1.1 Conjunctions

conjunct^3 conjunction $\longrightarrow$

    strong conjunction
      Je paierai la demoiselle <u>ou</u> je l'épouserai.

conjunct^1 conjunction $\longrightarrow$

    weak conjunction
      Le vent mugit <u>et</u> tourbillone.

A.1.2 Subjunctions

Connective view

conjunct^4 subjunction $\longrightarrow$

    agglutinating preposition
      Char-<u>à</u>-bancs.

conjunct^2 subjunction $\longrightarrow$

    strong preposition
      Il vient <u>avec</u> moi.

    subordinating conjunction

conjunct^1 subjunction $\longrightarrow$

    conjunct^1 preposition

conjunct[0] subjunction $\longrightarrow$

   weak preposition
     Il aime à jouer aux boules.

Hierarchic view

subjunct[3] subjunction $\longrightarrow$

   strong subordinating conjunction
     Descends, animal, que je te parle.

subjunct[2] subjunction $\longrightarrow$

   subordinating conjunction

subjunct[1] subjunction $\longrightarrow$

   preposition

   weak subordinating conjunction
     Je souhaite que vous réussissiez.

A.1.3 Adjectivals

Connective view

conjunct[4] adjectival $\longrightarrow$

   assimilating adjective
     La grand-mère appela sa petite-fille.

conjunct[3] adjective $\longrightarrow$

   possessive adjectival

   demonstrative adjectival

   indefinite adjectival

   adjectival *with* intermediary
     Cet enfant est gentil.

   epithet adjective
     C'est une petite maison. (parse 4)

conjunct[2] adjectival $\longrightarrow$

   determinative adjectival
     Il s'est fait une entorse à la main.

   adjectival

conjunct[1] adjectival $\longrightarrow$

   determinative complement adjectival
     Un amour sans mesure.

Hierarchic view

subjunct^3 adjectival $\longrightarrow$

    possessive adjectival

subjunct^2 adjectival $\longrightarrow$

    demonstrative adjectival
        Cette armoire est à moi.

    determinative adjectival
        Il s'est fait une entorse à la main.

    determinative complement adjectival
        Un amour sans mesure.

    adjective

subjunct^0 adjectival $\longrightarrow$

    indefinite adjectival

superjunct^2 adjectival $\longrightarrow$

    characterizing adjectival
        J'ai vu des sauvages errants.

    epithet adjectival
        C'est une petite maison. (parse 4)

explicit static adjectival $\longrightarrow$

    subjunct^3 adjectival

    subjunct^2 adjectival

    subjunct^1 adjectival

implicit static adjectival $\longrightarrow$

    superjunct^2 adjectival

    superjunct^1 adjectival

A.1.4 Adverbials

Connective view

conjunct^3 adverbial $\longrightarrow$

    assimilating adverbial
      Il faut y aller.

conjunct^2 adverbial $\longrightarrow$

    determinative adverbial
      Ne pas se pencher au dehors.

    strong adverbial
      Je ne mens jamais.

    adverbial *with* **intermediary**
      Il est parti depuis hier.

    epithet adverbial
      Un Monsieur bien.

conjunct^1 adverbial $\longrightarrow$

    adverbial

conjunct^0 adverbial $\longrightarrow$

    occasional adverbial
      L'on ne doit point croire trop de léger.

Hierarchic view

subjunct^3 adverbial $\longrightarrow$

    circumstantial complement adverbial
      Marchez devant.

    determinative adverbial
      Ne pas se pencher au dehors.

subjunct^2 adverbial $\longrightarrow$

    adverbial

superjunct^2 adverbial $\longrightarrow$

    characterizing adverbial
      Notre professeur, homme doux et bon par excellence, a puni sévèrement un élève qui avait fraudé. (parse 7)

A.1.5 Premodification

Connective view

conjunct^3 premodification $\longrightarrow$

    conjunct^3 adjectival

    article

    prearticle

conjunct^2 premodification $\longrightarrow$

    conjunct^2 adjectival

conjunct^1 premodification $\longrightarrow$

    conjunct^1 adjectival

antijunct^1 premodification $\longrightarrow$

    antijunct^1 adjectival

    detached epithet
        Un <u>drôle</u> de bonhomme.

concordant premodification $\longrightarrow$

    conjunct^3 premodification

    conjunct^2 premodification

    conjunct^1 premodification

discordant premodification $\longrightarrow$

    antijunct^1 premodification

    premodification *with* discordant excessive imitation

Hierarchic view

subjunct^3 premodification $\longrightarrow$

    subjunct^3 adjectival

subjunct^2 premodification $\longrightarrow$

    subjunct^2 adjectival

demonstrative determiner
>   *Cette* armoire est à moi. *(parse 11)*

subjunct^1 premodification $\longrightarrow$

>   subjunct^1 adjectival

>   definite article

>   prearticle

subjunct^0 premodification $\longrightarrow$

>   subjunct^0 adjectival

superjunct^1 premodification $\longrightarrow$

>   superjunct^1 adjectival

>   indefinite article

superjunct^2 premodification $\longrightarrow$

>   superjunct^2 adjectival

>   zero article

concordant premodification $\longrightarrow$

>   premodification *with no* discordant excessive imitation

discordant premodification $\longrightarrow$

>   premodification *with* discordant excessive imitation

explicit static premodification $\longrightarrow$

>   subjunct^3 premodification

>   subjunct^2 premodification

>   subjunct^1 premodification

neutral premodification $\longrightarrow$

>   subjunct^1 premodification

>   subjunct^0 premodification

>   superjunct^1 premodification

implicit static premodification $\longrightarrow$

>   superjunct^1 premodification

>   superjunct^2 premodification

concordant explicit static premodification $\longrightarrow$

>   explicit static premodification *and* concordant premodification

discordant explicit static premodification $\longrightarrow$

>   explicit static premodification *and* discordant premodification

186

A.1.6 Postmodification

Connective view

conjunct[3] postmodification $\longrightarrow$

    epithet *with* intermediary
        Faites un geste <u>d'amitié</u>.

    apposition *with* intermediary
        La ville <u>de Paris</u>.

conjunct[2] postmodification $\longrightarrow$

    relative clause
        Le géranium est une plante <u>qui vit longtemps</u>.

    epithet nominal group
        Elle porte un costume <u>tailleur</u>. (parse 2)

    juxtaposed apposition
        Les arbres <u>squelettes</u> ressemblent à des vieillards grotesques. (parse 14)

    epithet *with no* intermediary
        Un chapeau <u>doublé de feutre.</u>

antijunct[1] postmodification $\longrightarrow$

    apposition
        Le malheur, <u>bûcheron sinistre</u>, était monté. (parse 15)

concordant postmodification $\longrightarrow$

    conjunct[3] postmodification

    conjunct[2] postmodification

    conjunct[1] postmodification

    imitative postmodification

discordant postmodification $\longrightarrow$

    antijunct[1] postmodification

    antijunct[2] postmodification

    postmodification *with* (discordant excessive imitation *or* embedded discord)

heteropoisal postmodification $\longrightarrow$

conjunct^2 postmodification
C'est une fenêtre <u>donnant sur le jardin</u>. (parse 3)

antijunct^1 postmodification
Le malheur, <u>bûcheron sinistre</u>, était monté. (parse 15)

concordant heteropoisal postmodification $\longrightarrow$

    heteropoisal postmodification *and* concordant postmodification

discordant heteropoisal postmodification $\longrightarrow$

    heteropoisal postmodification *and* discordant postmodification

Hierarchic view

subjunct^3 postmodification $\longrightarrow$

    subjunct^3 adjectival

    subjunct^3 adverbial clause

subjunct^2 postmodification $\longrightarrow$

    subjunct^2 adjectival

    subjunct^2 adverbial clause

    determinative relative clause
        L'homme <u>qui médit</u> est méprisable. (parse 13)

    determinative participle clause

subjunct^1 postmodification $\longrightarrow$

    subjunct^1 adjectival

    subjunct^1 adverbial clause

    prepositional phrase

subjunct^0 postmodification $\longrightarrow$

    subjunct^0 adverbial clause

superjunct^1 postmodification $\longrightarrow$

    superjunct^1 adjectival

    superjunct^1 adverbial clause

characterizing relative clause
  L'homme <u>qui médit</u> est méprisable. (parse 13)

superjunct^2 postmodification $\longrightarrow$

 superjunct^2 adjectival

 superjunct^2 adverbial clause

 epithet
  Elle porte un costume <u>tailleur</u>. (parse 2)

concordant postmodification $\longrightarrow$

 postmodification *with* (no discordant excessive imitation *and* no embedded discord)

discordant postmodification $\longrightarrow$

 postmodification *with* (discordant excessive imitation *or* embedded discord)

concordant explicit active postmodification $\longrightarrow$

 explicit active postmodification *and* concordant postmodification

neutral postmodification $\longrightarrow$

 subjunct^1 postmodification

 subjunct^0 postmodification

 superjunct^1 postmodification

explicit active postmodification $\longrightarrow$

 subjunct^3 postmodification *and* clause

 subjunct^2 postmodification *and* clause

 subjunct^1 postmodification *and* clause

explicit static postmodification $\longrightarrow$

 subjunct^3 postmodification *and* not clause

 subjunct^2 postmodification *and* not clause

 subjunct^1 postmodification *and* not clause

implicit active postmodification $\longrightarrow$

 superjunct^2 postmodification *and* clause

superjunct[1] postmodification *and* clause

implicit static postmodification $\longrightarrow$

    superjunct[2] postmodification *and* not clause

    superjunct[1] postmodification *and* not clause

discordant explicit active postmodification $\longrightarrow$

    explicit active postmodification *and* discordant postmodification

concordant explicit static postmodification $\longrightarrow$

    explicit static postmodification *and* concordant postmodification

discordant explicit static postmodification $\longrightarrow$

    explicit static postmodification *and* discordant postmodification

A.1.7 Nominal group

nominal group $\longrightarrow$

    (premodification)*   noun   (postmodification)*

    pronoun

Connective view

concordant nominal group $\longrightarrow$

    nominal group *with* (concordant premodification *and* concordant postmodification)
        J'ai voyagé avec <u>famille suisse excellente et charmante</u>. (parse 1)

discordant nominal group $\longrightarrow$

    nominal group *with* (discordant excessive imitation *or* embedded discord)

heteropoisal nominal group $\longrightarrow$

    nominal group *with* heteropoisal postmodification
        <u>Le malheur, bûcheron sinistre</u>, était monté. (parse 15)

concordant heteropoisal nominal group $\longrightarrow$

    heteropoisal nominal group *and* concordant nominal group

discordant heteropoisal nominal group $\longrightarrow$

    heteropoisal nominal group *and* discordant nominal group

Hierarchic view

neutral nominal group ⟶

    nominal group *with no* premodification *and no* postmodification

    nominal group *with* neutral premodification *and* neutral postmodification
        Elle porte <u>un costume tailleur</u>. (parse 2)

    nominal group *with* concordant premodification *and* (neutral *or no* postmodification)

concordant nominal group ⟶

    nominal group *with* (concordant *or* neutral premodification) *and*
    (concordant *or no* postmodification)

discordant nominal group ⟶

    nominal group *with* discordant premodification

    nominal group *with* discordant postmodification

explicit active nominal group ⟶

    nominal group *with* explicit active postmodification
        <u>L'homme qui médit</u> est méprisable. (parse 13)

explicit static nominal group ⟶

    nominal group *with* explicit static premodification *and* explicit static postmodification
        La mort a ceci de bon qu'elle réconcilie <u>les pires ennemis</u>. (parse 16)

implicit active nominal group ⟶

    nominal group *with* implicit active postmodification

implicit static nominal group ⟶

    nominal group *with no* premodification *and no* postmodification

    nominal group *with* implicit static premodification *and* implicit static postmodification

    nominal group *with no* premodification *and* implicit static postmodification

    nominal group *with* implicit static premodification *and no* postmodification

    pronoun

concordant explicit active nominal group ⟶

    explicit active nominal group *with no* discordant excessive imitation *and*
    no embedded discord

discordant explicit active nominal group ⟶

   explicit active nominal group *with* discordant explicit active postmodification

concordant explicit static nominal group ⟶

   explicit static nominal group *with no* discordant excessive imitation *and*
   no embedded discord

discordant explicit static nominal group ⟶

   explicit static nominal group *with* discordant explicit static premodification *or*
   discordant explicit static postmodification

concordant implicit static nominal group ⟶

   implicit static nominal group

A.1.8   Noun phrases

noun phrase ⟶

   nominal group

   nominal clause

Connective view

concordant noun phrase ⟶

   concordant nominal group
      C'est <u>une fenêtre donnant sur le jardin</u>. *(parse 3)*

   concordant nominal clause

discordant noun phrase ⟶

   discordant nominal group

   discordant nominal clause

heteropoisal noun phrase ⟶

   heteropoisal nominal group
      <u>L'homme qui médit</u> est méprisable. *(parse 5)*

concordant heteropoisal noun phrase ⟶

   concordant heteropoisal nominal group

discordant heteropoisal noun phrase ⟶

   discordant heteropoisal nominal group

Hierarchic view

neutral noun phrase $\longrightarrow$

    neutral nominal group
        Elle porte <u>un costume tailleur</u>. (parse 2)

concordant noun phrase $\longrightarrow$

    noun phrase *with no* discordant excessive imitation *and no* embedded discord
        <u>Les arbres squelettes</u> ressemblent à des vieillards grotesques. (parse 14)

discordant noun phrase $\longrightarrow$

    noun phrase *with* (discordant excessive imitation *or* embedded discord)

explicit active noun phrase $\longrightarrow$

    explicit active nominal group
        C'est <u>une fenêtre donnant sur le jardin</u>. (parse 3)

    subjunct^3 nominal clause

    subjunct^2 nominal clause

    subjunct^1 nominal clause

explicit static noun phrase $\longrightarrow$

    explicit static nominal group
        Les arbres squelettes ressemblent à <u>des vieillards grotesques</u>. (parse 14)

implicit active noun phrase $\longrightarrow$

    implicit active nominal group

implicit static noun phrase $\longrightarrow$

    implicit static nominal group

concordant explicit active noun phrase $\longrightarrow$

    explicit active noun phrase *and* concordant noun phrase

discordant explicit active noun phrase $\longrightarrow$

    explicit active noun phrase *and* discordant noun phrase

concordant explicit static noun phrase $\longrightarrow$

    explicit static noun phrase *and* concordant noun phrase

discordant explicit static noun phrase $\longrightarrow$

    explicit static noun phrase *and* discordant noun phrase

A.1.9 Complements

complement ⟶

    adjectival
        Pâle, il marchait. (parse 6)

    nominal group

    nominal clause

    prepositional phrase

Connective view

concordant complement ⟶

    adjectival

    concordant nominal group

    concordant nominal clause

    concordant prepositional phrase

discordant complement ⟶

    discordant nominal group

    discordant nominal clause

    discordant prepositional phrase

initial discordant complement ⟶

    discordant complement

Hierarchic view

neutral complement ⟶

    neutral nominal group

    neutral prepositional phrase

concordant complement ⟶

    complement *with no* discordant excessive imitation *and no* embedded discord

discordant complement ⟶

    complement *with* (discordant excessive imitation *or* embedded discord)

explicit active complement ⟶

    explicit active nominal group

    nominal clause

    explicit active prepositional phrase

explicit static complement ⟶

    explicit static adjectival
        Pâle, il marchait. (parse 6)

    explicit static nominal group

    explicit static prepositional phrase
        Sans bruit, sous le miroir des lacs profonds et calmes, le cygne chasse l'onde avec ses larges palmes. (parse 22)

implicit static complement ⟶

    implicit static adjectival

    implicit static nominal group

    implicit static prepositional phrase

concordant explicit active complement ⟶

    explicit active complement *with* (*no* discordant excessive imitation *and no* embedded discord)

discordant explicit active complement ⟶

    discordant explicit active nominal group

    discordant nominal clause

    discordant explicit active prepositional phrase

concordant explicit static complement ⟶

    explicit static complement *with* (*no* discordant excessive imitation *and no* embedded discord)

discordant explicit static complement ⟶

    adjectival *with* discordant excessive imitation

    discordant explicit static nominal group

    discordant explicit static prepositional phrase

195

A.1.10 Prepositional phrases

prepositional phrase $\longrightarrow$

   preposition   nominal group

Connective view

concordant prepositional phrase $\longrightarrow$

   prepositional phrase *with* concordant nominal group
      Les arbres squelettes ressemblent <u>à des vieillards grotesques</u>. (parse 14)

discordant prepositional phrase $\longrightarrow$

   prepositional phrase *with* discordant excessive imitation

   prepositional phrase *with* discordant nominal group

Hierarchic view

neutral prepositional phrase $\longrightarrow$

   prepositional phrase *with* neutral nominal group
      C'est une armoire <u>en bois</u>. (parse 10)

concordant prepositional phrase $\longrightarrow$

   prepositional phrase *with* concordant nominal group

discordant prepositional phrase $\longrightarrow$

   prepositional phrase *with* discordant nominal group

explicit active prepositional phrase $\longrightarrow$

   prepositional phrase *with* explicit active nominal group

explicit static prepositional phrase $\longrightarrow$

   prepositional phrase *with* explicit static nominal group
      Les arbres squelettes ressemblent <u>à des vieillards grotesques</u>. (parse 14)

implicit static prepositional phrase $\longrightarrow$

   prepositional phrase *with* implicit static nominal group

concordant explicit active prepositional phrase $\longrightarrow$

   explicit active prepositional phrase *with* concordant explicit active nominal group

discordant explicit active prepositional phrase $\longrightarrow$

explicit active prepositional phrase *with* discordant explicit active nominal group

concordant explicit static prepositional phrase ⟶

explicit static prepositional phrase *with* concordant explicit static nominal group

discordant explicit static prepositional phrase ⟶

explicit static prepositional phrase *with* discordant explicit static nominal group

A.1.11 Verb phrases

verb phrase ⟶

(adverbial)   verb   (adverbial)   (complements and verb modifiers)

Connective view

concordant verb phrase ⟶

verb phrase *with no* embedded discord

discordant verb phrase ⟶

verb phrase *with* embedded discord

Hierarchic view

neutral verb phrase ⟶

verb phrase *with* all components neutral
Pâle, il marchait. (parse 6)

concordant verb phrase ⟶

verb phrase *with no* embedded discord

discordant verb phrase ⟶

verb phrase *with* embedded discord

A.1.12 Dependent clauses

Connective view

conjunct[3] clause ⟶

conjunct[3] adverbial clause

object complement nonfinite clause
J'aime à chanter des airs d'opera.

conjunct^2 clause $\longrightarrow$

    conjunct^2 adverbial clause

    relative clause

    unactualized nonfinite clause

conjunct^1 clause $\longrightarrow$

    conjunct^1 adverbial clause

    circumstantial complement clause
        Le savetier __en chantant__ l'éveillait.

conjunct^0 clause $\longrightarrow$

    conjunct^0 adverbial clause

antijunct^1 clause $\longrightarrow$

    verbless clause

Concordant and discordant clauses
concordant clause $\longrightarrow$

    any conjunct clause *with no* embedded discord

    imitative clauses

imitative clauses $\longrightarrow$

    s   (conjunction)   t   (conjunction)   (u)
    where s,t, and u are conjunct *clauses and
    are members of the same stylistic equivalence class.*

discordant clause $\longrightarrow$

    conjunct^0 clause

    antijunct^1 clause

    clause *with* (discordant excessive imitation *or* embedded discord)

initial discordant clause $\longrightarrow$

    discordant clause

Hierarchic view

subjunct^3 clause $\longrightarrow$

    circumstantial complement clause
      Le savetier <u>*en chantant*</u> *l'éveillait.*

subjunct^2 clause $\longrightarrow$

    determinative relative clause

    determinative nonfinite clause

superjunct^2 clause $\longrightarrow$

    characterizing relative clause

    characterizing nonfinite clause

Concordant and discordant clauses

concordant clause $\longrightarrow$

    clause *with no* discordant excessive imitation *and no* embedded discord

discordant clause $\longrightarrow$

    clause *with* (discordant excessive imitation *or* embedded discord)

explicit active clause $\longrightarrow$

    subjunct^1 clause

    subjunct^2 clause

    subjunct^3 clause

initial explicit active clause $\longrightarrow$

    subjunct^1 clause

    subjunct^2 clause

    subjunct^3 clause

final explicit active clause $\longrightarrow$

    explicit active clause

concordant explicit active clause $\longrightarrow$

    explicit active clause *and* concordant clause

discordant explicit active clause $\longrightarrow$

    explicit active clause *and* discordant clause

concordant initial explicit active clause $\longrightarrow$

    initial explicit active clause *and* concordant clause

discordant initial explicit active clause $\longrightarrow$

    initial explicit active clause *and* discordant clause

A.1.13 Major sentences

major ⟶

 (conjunction) (adverbial)* (complement)* noun phrase (adverbial)* (complement)*
 verb phrase (complement)*

Connective view

concordant major ⟶

 major *with* all components concordant
  Le géranium est une plante qui vit longtemps. (parse 5)

discordant major ⟶

 major *with* at least one component discordant

Hierarchic view

neutral major ⟶

 major *with* all components neutral
  Les soldats avancent prudemment. (parse 8).

concordant major ⟶

 concordant major *with* all components concordant
  Le géranium est une plante qui vit longtemps. (parse 5)

discordant major ⟶

 discordant major *with* at least one component discordant

explicit active major ⟶

 major *with* explicit active noun phrase
  L'homme qui médit est méprisable. (parse 13)

explicit static major ⟶

 major *with* explicit static noun phrase

implicit static major ⟶

 major *with* implicit static noun phrase

initial explicit static major ⟶

 explicit static major *with* initial explicit static complement

medial explicit static major ⟶

explicit static major *with* explicit static noun phrase

final explicit static major $\longrightarrow$

    explicit static major *with* final explicit static complement

initial implicit static major $\longrightarrow$

    major *with* initial implicit static complement

final implicit static major $\longrightarrow$

    major *with* final implicit static complement

concordant explicit active major $\longrightarrow$

    explicit active major *with* all components concordant

discordant explicit active major $\longrightarrow$

    explicit active major *with* at least one component discordant

concordant explicit static major $\longrightarrow$

    explicit static major *with* all components concordant

discordant explicit static major $\longrightarrow$

    explicit static major *with* at least one discordant component

concordant implicit static major $\longrightarrow$

    implicit static major

concordant initial explicit static major $\longrightarrow$

    initial explicit static major *and* concordant major

discordant initial explicit static major $\longrightarrow$

    initial explicit static major *with* discordant initial explicit static complement

concordant final explicit static major $\longrightarrow$

    final explicit static major *and* concordant major

discordant final explicit static major $\longrightarrow$

    final explicit static major *with* discordant final explicit static complement

A.1.14 Complete sentences

complete $\longrightarrow$

    (clause)*   major   (clause)*

Connective view

concordant complete ⟶

> complete *with* all components concordant
> *C'est une fenêtre donnant sur le jardin. (parse 3)*

discordant complete ⟶

> complete *with* at least one component discordant
> *Le ciel était rose, la mer tranquille, et la brise endormie. (parse 23)*

initial discordant complete ⟶

> discordant complete *with* initial discordant clause

Hierarchic view

neutral complete ⟶

> neutral major
> *Les soldats avancent prodemment. (parse 8)*

concordant complete ⟶

> concordant major
> *Le ciel était rose, la mer tranquille, et la brise endormie. (parse 23)*

discordant complete ⟶

> discordant major

initial explicit complete ⟶

> initial explicit active complete
>
> initial explicit static complete

medial explicit complete ⟶

> medial explicit active complete
>
> medial explicit static complete

final explicit complete ⟶

> final explicit active complete
>
> final explicit static complete

initial explicit active complete ⟶

complete *with* initial explicit active clause
 Dès qu'il est entré dans la barque, elle s'est enfoncée prodigieusement. (parse 21)

initial explicit static complete ⟶

 complete *with* initial explicit static major

medial explicit active complete ⟶

 complete *with* explicit active major

medial explicit static complete ⟶

 complete *with* explicit static major *and* no terminal clause
  *Notre professeur, homme doux et bon, a puni sévèrement un élève
  qui avait fraudé. (parse 7)*

final explicit active complete ⟶

 complete *with* final explicit active clause
  Le ciel était rose, la mer tranquille, et la brise endormie. (parse 23)

final explicit static complete ⟶

 complete *with* final explicit static major *and* no terminal clause

concordant initial explicit complete ⟶

 concordant initial explicit active complete

 concordant initial explicit static complete

discordant initial explicit complete ⟶

 discordant initial explicit active complete

 discordant initial explicit static complete

concordant medial explicit complete ⟶

 concordant medial explicit active complete

 concordant medial explicit static complete

discordant medial explicit complete ⟶

 discordant medial explicit active complete

 discordant medial explicit static complete

concordant final explicit complete ⟶

 concordant final explicit active complete

concordant final explicit static complete

discordant final explicit complete $\longrightarrow$

    discordant final explicit active complete

    discordant final explicit static complete

initial implicit complete $\longrightarrow$

    initial implicit active complete

    initial implicit static complete

medial implicit complete $\longrightarrow$

    medial implicit active complete

    medial implicit static complete

final implicit complete $\longrightarrow$

    final implicit active complete

    final implicit static complete

initial implicit active complete $\longrightarrow$

    complete *with* initial superjunct clause

medial implicit active complete $\longrightarrow$

    complete *with* implicit active major

final implicit active complete $\longrightarrow$

    complete *with* final superjunct clause

initial implicit static complete $\longrightarrow$

    complete *with* initial implicit static major

medial implicit static complete $\longrightarrow$

    complete *with* implicit static major

final implicit static complete $\longrightarrow$

    complete *with* final implicit static major *and* no terminal clause

A.1.15 General sentences

sentence $\longrightarrow$

    complete

    (incomplete)*

Connective view

concordant sentence $\longrightarrow$

    concordant complete

discordant sentence $\longrightarrow$

    discordant complete
        Le ciel était rose, la mer tranquille, et la brise endormie. (parse 23)

Hierarchic view

concordant sentence $\longrightarrow$

    concordant initial explicit complete
        Dès qu'il est entré dans la braque, elle s'est enfoncée prodigieusement. (parse 21)

    concordant medial explicit complete
        Notre professeur, homme doux et bon, a puni sévèrement un élève
        qui avait fraudé. (parse 7)

    concordant final explicit complete
        Le ciel était rise, la mer tranquille, et la brise endormie. (parse 23)

    initial implicit complete

    medial implicit complete

    final implicit complete

discordant sentence $\longrightarrow$

    discordant initial explicit complete

    discordant medial explicit complete

    discordant final explicit complete

A.2 Grammar of abstract elements

Connective view

monoschematic ⟶

    concordant major
        Les soldats avancent prodigieusement. (parse 8)

centroschematic ⟶

    concordant sentence
        Le géranium est une plante qui vit longtemps. (parse 5)

polyschematic ⟶

    discordant sentence

homopoise ⟶

    concordant complete   (concordant complete)$^+$

heteropoise ⟶

    sentence *with* heteropoisal noun phrase

counterpoise ⟶

    sentence *with* concordant heteropoisal noun phrase
        *Notre professeur, homme doux et bon, a puni sévèrement un élève
        qui avait fraudé. (parse 7)*

contrapoise ⟶

    sentence *with* discordant heteropoisal noun phrase

initial concord ⟶

    concordant major   (clause)*

    concordant clause   major   (clause)*

initial and medial concord ⟶

    centroschematic

final concord ⟶

    (clause)*   concordant major

    (clause)*   major   concordant clause

initial discord ⟶

discordant major   (clause)*

medial discord $\longrightarrow$

  contrapoise

final discord $\longrightarrow$

  (clause)*   discordant major

  (clause)*   major   discordant clause

resolution $\longrightarrow$

  (initial discord)$^+$ (medial discord)*   final concord

  (initial discord)*   (medial discord)$^+$ final concord

dissolution $\longrightarrow$

  initial concord   final discord

  initial and medial concord   final discord

Hierarchic view

monoschematic $\longrightarrow$

  neutral complete
    Les soldats avancent prudemment. (parse 8)

centroschematic $\longrightarrow$

  concordant sentence
    Le géranium est une plante qui vit longtemps. (parse 5)

polyschematic $\longrightarrow$

  discordant sentence

homopoise $\longrightarrow$

  neutral complete   (neutral complete)$^+$

heteropoise $\longrightarrow$

  medial explicit complete

resolution $\longrightarrow$

  initial monoschematic *in* final explicit complete
    La mort a ceci de bon qu'elle réconcilie les pires ennemis. (parse 16)

dissolution $\longrightarrow$

  final monoschematic *in* initial explicit complete
    Pâle, il marchait. (parse 6)

A.3 Grammar of stylistic goals

clarity $\longrightarrow$

    monoschematic
        Les soldats avancent prudemment. (parse 8)

    homopoise

    centroschematic
        Les arbres squelettes ressemblent à des vieillards grotesques. (parse 14)

    resolution
        La mort a ceci de bon qu'elle réconcilie les pires ennemis. (parse 16)

obscurity $\longrightarrow$

    initial discord *and* medial discord

    initial discord *and* final discord

    medial discord *and* final discord

    polyschematic
        Le ciel était rose, la mer tranquille, et la brise endormie. (parse 23)

abstraction $\longrightarrow$

    monoschematic
        Les soldats avancent prudemment. (parse 8)

    homopoise

concreteness $\longrightarrow$

    initial discord

    medial discord

    final discord .

    heteropoise
        Le malheur, bûcheron sinistre, était monté. (parse 15)

    dissolution
        Pâle, il marchait. (parse 6)

staticness $\longrightarrow$

    monoschematic
        Les soldats avancent prudemment. (parse 8)

homopoise

dynamism $\longrightarrow$

initial discord

medial discord

final discord

heteropoise

dissolution

Dès qu'il est entré dans la barque, elle s'est enfoncée prodigieusement. (parse 21)

Appendix B

Sample English and French Stylistic Parses

In the dissertation, this appendix contained the complete stylistic parses of the corpus of 75 test sentences, many of which are referred to in the body of the dissertation. To save space, only 18 examples are included here: English parses number 6, 10, 13, 28, 29, 30, 31, 42, 43, 44, 46, 47; French parses number 1, 7, 12, 21, 22, 23. The reader interested in seeing the other examples should refer to the dissertation, or write to the author at her current address:

> Department of Computer Science
> University of Waterloo
> Waterloo, Ontario, Canada
> N2L 3G1

A particular parse can be identified by the file name, so that English parse 1 is called "english1", while French parse 1 is called "french1", and so on. The following abbreviations are used in the parses:

c concordant

d discordant

n neutral

hp heteropoisal

B.1   Sentences in the English stylistic parses

1. True, posterity has been kind.

    — Has an initial complement *true.*

2. Affinities play their role in this encounter.

   — Has no premodification.

3. Personal affinities play their role in this encounter.

   — Has an adjective as premodification.

4. These personal affinities play their role in this encounter.

   — Has a deictic and an adjective as premodification.

5. The style was formed and the principles were acquired.

   — Illustrates a conjunction of independent clauses.

6. Great Britain opposes it and Holland has raised slightly less strenuous objections.

   — Illustrates a conjunction of independent clauses.

7. The artist provides a dreamy background done in yellow and bistre brushstrokes.

   — Has a postmodifying participle clause.

8. Most people consider these books rather expensive.

   — Has a postmodifying verbless clause.

9. The artist provides a dreamy background which is done in yellow and bistre brushstrokes.

   — Has a postmodifying relative clause.

10. Lives, a great number of them children, were lost.

    — Has a complex postmodifying verbless clause.

11. John, my brother who is tall, is an engineer.

    — Has a postmodifying nominal group.

12. The patriarch was muffled in his long black cloak with purple beading.

    — Has a complex copulative structure.

13. The famous collector, when he was unable to acquire certain canvases, bought copies.

    — Has a medial interruption in the form of an adverbial clause.

14. For you to tell everybody is the best thing.

    — Begins with a non-finite nominal clause that contains a subject.

15. To tell everybody is the best thing.

    — Begins with a non-finite clause that lacks a subject.

16. Rather than John do it, I prefer Mary.

    — Has a hierarchic dissolution.

17. I prefer John do it.

    — Has a hierarchic resolution.

18. Leaving the room, he tripped over the mat.

    — Begins with a present participle clause that lacks a subject.

19. Covered with confusion, I left the room.

    — Begins with a past participle clause that lacks a subject.

20. Her aunt having left the room, I declared my passionate love for Celia.

    — Begins with a participle clause that contains a subject.

21. That she is still alive is a consolation.

    — Begins with a nominal *that* clause.

22. I told him that she was wrong.

    — Contains a dependent *that* clause.

23. How the book will sell depends on its author.

    — Begins with a *wh*-interrogative nominal clause.

24. I wonder if you can help me.

    — Contains a dependent *yes-no* interrogative clause.

25. Telling lies is wrong.

    — Begins with a nominal participle clause.

26. No one enjoys deceiving his own family.

    — Contains a dependent participle clause that lacks a subject.

27. It is unthinkable to move the whole of the works which are the only Zurbarán paintings in the palace where they were hung in the year when the artist died.

    — Contains three nested dependent clauses.

28. This painter has adjusted to the tastes of the day, softening his line, sketching gracefully, and converting to sfumato.

    — Contains imitative dependent participle clauses that each lack a subject.

212

29. Silvia, a commanding woman in her fifties, a shrew falsely mellowed by religion, organizes prayer sessions on the lines of Tupperware meetings.

— Has a sequence of complex postmodifying nominal groups.

30. If we can judge from the canvases on the walls of the gallery, those who are responsible are myopic.

— Begins with a dependent *yes-no* interrogative clause that contains a subject.

31. To judge from the canvases on the walls of the gallery, those who are responsible are myopic.

— Begins with a non-finite clause that lacks a subject.

32. Since she was concerned with the spiritual good health of the inhabitants, she transferred her powers to the young followers.

— Begins with an adverbial clause that contains a subject.

33. Concerned with the spiritual good health of the inhabitants, she transferred her powers to the young followers.

— Begins with a participle clause that lacks a subject.

34. And the rains descended and the floods came and the house fell.

— Has a conjunction of three independent clauses.

35. And the rains descended and the house fell and great was the fall of it.

— Has a conjunction of three independent clauses, the last one having an inverted structure.

36. Was John angry!

— Has an inverted structure with a simple final complement.

37. Had John only known about the examination!

— Has an inverted structure with an initial auxiliary verb.

38. John went to the palace, very happy.

— Has a simple final complement.

39. John hit his sister, the great cad that he is.

— Has a complex final complement.

40. To the lighthouse, the way is not long.

— Begins with a simple prepositional phrase.

41. Being rather eloquent, politicians capture our interest.

— Begins with a dependent participle clause that lacks a subject.

42. Politicians, rather eloquent, capture our interest.

— Contains a postmodifying adjectival phrase.

43. Politicians, being rather eloquent, capture our interest.

— Contains a postmodifying participle clause that lacks a subject.

44. Politicians who are eloquent capture our interest.

— Contains a postmodifying relative clause.

45. John went into the house and was he angry!

— Contains a conjunction of two independent clause, the second having an inverted structure and a simple complement.

46. In its energy, its lyrics, its advocacy of frustrated joys, rock is a symphony.

— Begins with an imitative complement and ends with a hierarchic dissolution.

47. In its energy, its lyrics, its advocacy of frustrated joys, rock is one long symphony of protest.

— Does not have a hierarchic dissolution, in contrast to (46).

48. John went to get his book, so he said.

— Ends with a supplementary clause.

49. Our homely evening fire is pleasant when the fiery heat of the desert daylight is done.

— Ends with an adverbial clause.

50. Our homely evening fire, when the fiery heat of the desert daylight is done, is pleasant.

— Has a medial adverbial clause.

51. Pleasant is our homely evening fire when the fiery heat of the desert daylight is done.

— Has an inverted structure and a final adverbial clause.

52. Pleasant, when the fiery heat of the desert daylight is done, is our homely evening fire.

— Has an inverted structure and a medial adverbial clause.

B.2 Sentences in the French stylistic parses

Sentences (1) to (6) contain constructions that provide characterization of a noun. Sentences (7) and (8) contain constructions that provide characterization of the verb. Sentences (9) to (11) contain functions of determination.

1. J'ai voyagé avec une famille suisse excellente et charmante. (*lit.*, I travelled with an excellent and charming Swiss family.)

   — Contains a nominal epithet, the adjective *suisse*.

2. Elle porte un costume tailleur. (*lit.*, She is wearing a tailored suit.)

   — Contains a nominal epithet, the noun *tailleur*.

3. C'est une fenêtre donnant sur le jardin. (*lit.*, It is a window looking out onto the garden.)

   — Contains a nominal epithet, a participle clause.

4. C'est une petite maison. (*lit.*, It is a small house.)

   — Contains a nominal epithet, the adjective *petite*, that is bound to the noun *maison* without an intermediary.

5. Le géranium est une plante qui vit longtemps. (*lit.*, The geranium is a plant that lives a long time.)

   — Contains a nominal epithet, a postmodifying relative clause, that is bound to the noun *plante* by an intermediary, a relative pronoun.

6. Pâle, il marchait. (*lit.*, Pale, he was walking.)

   — Contains a nominal epithet, an initial adjective, that is bound to the pronoun *il* by an intermediary, a comma.

7. Notre professeur, homme doux et bon, a puni sévèrement un élève qui avait fraudé. (*lit.*, Our teacher, a gentle and good man, severely punished a pupil who had cheated.)

   — Contains the verbal epithet *sévèrement*.

8. Les soldats avancent prudemment. (*lit.*, The soldiers are advancing cautiously.)

   — Contains the verbal epithet *prudemment*.

9. C'est une armoire à provisions. (*lit.*, It is a supply cupboard.)

   — Contains a determining construction, *à provisions*, that indicates the destination.

10. C'est une armoire en bois. (*lit.*, It is a wooden cupboard.)

    — Contains a determining construction, *en bois*, that indicates the type of material.

11. Cette armoire est à moi. (*lit.*, This cupboard is mine.)

— Contains a determining construction, *cette*, that points out a particular object.

12. Divers orateurs tiennent des propos divers. (*lit.*, Several speakers hold different positions.)

The first occurrence of *divers* is determining, while the second is characterizing.

13. L'homme qui médit est méprisable. (*lit.*, He who slanders is contemptible.)

— Contains a characterizing relative clause.

14. Les arbres squelettes ressemblent à des vieillards grotesque. (*lit.*, The skeletal trees resemble grotesque old men.)

— Has a juxtaposed apposition, *squelettes.*

15. Le malheur, bûcheron sinistre, était monté. (*lit.*, Unhappiness, a sinister lumberjack, climbed up.)

— Contains an apposition, *bûcheron sinistre*, that is set off by commas.

16. La mort a ceci de bon qu'elle réconcilie les pires ennemis. (*lit.*, Death has this of good in it, that it reconciles the worst enemies.)

— Has an apposition, a relative clause, that has the binding intermediary *que.*

17. Le professeur a puni l'élève. (*lit.*, The teacher punished the pupil.)

— Has a direct object, *élève.*

18. Il est rejeté de tous les siens. (*lit.*, He is rejected by all his peers.)

— Has an indirect object, *tous les siens.*

19. Il songe à son malheur. (*lit.*, He is thinking about his sorrow.)

— Has an indirect object, *son malheur.*

20. Un savetier chantait du matin jusqu'au soir. (*lit.*, A cobbler was singing from morning to evening.)

— Contains a circumstantial complement in the form of a nominal group, *du matin jusqu'au soir.*

21. Dès qu'il est entré dans la barque, elle s'est enfoncée prodigieusement. (*lit.*, As soon as he got into the rowboat, it sunk tremendously.)

— Contains a circumstantial complement in the form of an initial adverbial clause.

22. Sans bruit, sous le miroir des lacs profonds et calmes, le cygne chasse l'onde avec ses larges palmes. (*lit.,* Noiselessly, under the mirror of the deep and calm lakes, the swan brushes away the water with its large webbed feet.)

— Contains attribute functions in the form of the characterizing adjectives *profonds, calmes,* and *larges.*

23. Le ciel était rose, la mer tranquille, et la brise endormie. (*lit.,* The sky was pink, the sea quiet, and the breeze languid.)

— Contains attribute functions in the form of the determining adjectives *rose, tranquille* and *endormie.*

|: GreatBritain opposes it sAnd Holland has raised slightly less strenuous objec
tions.

(1) greatbritain opposes it sand holland has raised slightly less strenuous obje
ctions

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,abstraction,staticness]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord];[centroschematic,monoschematic],[h
omopoise]]

Abstract stylistic elements (Hierarchic view):

[[],[monoschematic],[]]

Connective stylistic parse:

```
c_sentence
  c_complete
    c_major
      c_noun_phrase
        c_nominal_group
          c_premodification
            c_premodification
              c_premodification
          proper_noun
            greatbritain
          c_postmodification
            c_postmodification
      c_verb_phrase
        xverb
          verb
            opposes
      c_noun_phrase
        c_noun_phrase
          c_nominal_group
            c_premodification
          pronoun
            it
  c_complete
    c_major
      c_noun_phrase
        c_noun_phrase
          c_nominal_group
            c_premodification
              c_premodification
                c_premodification
```

```
              proper_noun
                holland
              c_postmodification
                c_postmodification
      c_verb_phrase
        c_verb_phrase
          xverb
            verb
              raised
          c_adverbial_phrase
            conjunct2_adverb
              slightly
          c_noun_phrase
            c_noun_phrase
              c_nominal_group
                c_nominal_group
                  c_premodification
                    c_premodification
                      adjectival_phrase
                        conjunct2_adjective
                          less
                      adjectival_phrase
                        conjunct2_adjective
                          strenuous
                  noun
                    objections
              c_postmodification
                c_postmodification
```

Hierarchic stylistic parse:

```
n_sentence
  n_complete
    n_major
      n_noun_phrase
        n_noun_phrase
          n_nominal_group
            n_nominal_group
              n_premodification
                n_premodification
                  n_premodification
              proper_noun
                greatbritain
              n_postmodification
                n_postmodification
      n_verb_phrase
        xverb
          verb
            opposes
      n_noun_phrase
        n_noun_phrase
          pronoun
            it
```

```
c_complete
 c_major
  n_noun_phrase
   n_noun_phrase
    n_nominal_group
     n_nominal_group
      n_premodification
       n_premodification
        n_premodification
      proper_noun
       holland
      n_postmodification
       n_postmodification
  c_verb_phrase
   c_verb_phrase
    xverb
     verb
      raised
    c_adverbial_phrase
     subjunct0_adverb
      slightly
  c_noun_phrase
   explicit_static_noun_phrase
    c_explicit_static_noun_phrase
     c_noun_phrase
      explicit_static_noun_phrase
       c_explicit_static_noun_phrase
        c_nominal_group
         explicit_static_nominal_group
          explicit_static_nominal_group
           explicit_static_nominal_group
          c_nominal_group
           explicit_static_nominal_group
            explicit_static_nominal_group
          c_premodification
           explicit_static_premodification
            c_explicit_static_premodification
           c_premodification
            explicit_static_premodification
             c_explicit_static_premodification
            c_premodification
             explicit_static_premodification
              c_explicit_static_premodification
               subjunctl_premodification
                adjectival_phrase
                 subjunctl_adjectival_phrase
                  subjunctl_adjective
                   less
               subjunctl_premodification
                adjectival_phrase
                 subjunctl_adjectival_phrase
                  subjunctl_adjective
                   strenuous
          noun
           objections
          n_postmodification
           n_postmodification
```

| ?- walk([lives,pcomma,a,great,number,of,them,complement,children,spcomma,pcomm
a,were,lost]).
stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[obscurity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_discord,initial_discord,medial_discord,medial_discord],[polyschematic]
,[medial_heteropoise,contrapoise,medial_heteropoise,contrapoise]]

Abstract stylistic elements (Hierarchic view):

[[],[monoschematic],[]]

Connective stylistic parse:
_____

```
d_sentence
 initial_d_complete
  d_major
   d_noun_phrase
   hp_noun_phrase
   d_hp_noun_phrase
   d_noun_phrase
   hp_noun_phrase
   d_hp_noun_phrase
    d_nominal_group
    hp_nominal_group
    d_hp_nominal_group
    d_nominal_group
    hp_nominal_group
    d_hp_nominal_group
     c_premodification
     c_premodification
      noun
      lives
      d_postmodification
      hp_postmodification
      d_postmodification
      hp_postmodification
      d_postmodification
      hp_postmodification
       conjunct0_clause
       verbless_clause
       c_clause
        c_noun_phrase
        c_nominal_group
        c_nominal_group
         c_premodification
         c_premodification
         c_premodification
          conjunct2_determiner
```

```
          a
          c_premodification
           adjectival_phrase
            conjunct2_adjective
            great
          noun
          number
          c_postmodification
          c_postmodification
           c_prep_phrase
            preposition
            of
            c_noun_phrase
            c_noun_phrase
             pronoun
             them
```

```
c_complement
c_nominal_group
c_complement
c_nominal_group
c_nominal_group
 c_premodification
 c_premodification
 c_premodification
  noun
  children
  c_postmodification
  c_postmodification
```

```
c_verb_phrase
c_verb_phrase
xverb
verb
lost
```

Hierarchic stylistic parse:
_____

```
n_sentence
 n_complete
  n_major
   n_noun_phrase
    n_noun_phrase
     n_nominal_group
      n_nominal_group
       n_premodification
        n_premodification
         n_premodification
          noun
          lives
          n_postmodification
          n_postmodification
           subjunct0_postmodification
           superjunct1_clause
```

```
noun
    children
    n_postmodification
        n_postmodification

n_verb_phrase
    n_verb_phrase
        xverb
            verb
                lost
```

```
verbless_clause
c_clause
    c_noun_phrase
        explicit_static_noun_phrase
        c_explicit_static_noun_phrase
            c_noun_phrase
                explicit_static_noun_phrase
                c_explicit_static_noun_phrase
                    c_nominal_group
                        explicit_static_nominal_group
                        explicit_static_nominal_group
                    c_nominal_group
                        explicit_static_nominal_group
                        explicit_static_nominal_group
                            c_premodification
                                explicit_static_premodification
                                c_explicit_static_premodification
                                    c_premodification
                                        explicit_static_premodification
                                        c_explicit_static_premodification
                                            c_premodification
                                                n_premodification
                                                    superjunctl_determiner
                                                        a
                                            c_premodification
                                                explicit_static_premodification
                                                c_explicit_static_premodification
                                                    subjunctl_premodification
                                                        adjectival_phrase
                                                        subjunctl_adjectival_phrase
                                                            subjunctl_adjective
                                                                great
                            noun
                                number
                            c_postmodification
                                explicit_static_postmodification
                                c_explicit_static_postmodification
                                    c_postmodification
                                        explicit_static_postmodification
                                        c_explicit_static_postmodification
                                            subjunctl_postmodification
                                                prep_phrase
                                                n_prep'phrase
                                                    preposition
                                                        of
                                                    n_noun_phrase
                                                    n_noun_phrase
                                                        pronoun
                                                            them

n_complement
    n_complement
        n_nominal_group
        n_nominal_group
            n_premodification
            n_premodification
                n_premodification
```

|: The famous collector spComma when he was unable to acquire certain canvases s
pComma bought copies.

(1) the famous collector spcomma when he was unable to acquire certain canvases
spcomma bought copies

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[m
edial_heteropoise,counterpoise]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[heteropoise]]

Connective stylistic parse:

```
c_sentence
  c_complete
    c_major
      c_noun_phrase
        c_noun_phrase
          c_nominal_group
            c_nominal_group
              c_premodification
                c_premodification
                  c_premodification
                    conjunct2_determiner
                      the
                  c_premodification
                    adjectival_phrase
                      conjunct2_adjective
                        famous
            noun
              collector
          c_postmodification
            c_postmodification
conjunct2_clause
adverbial_clause
  c_clause
    conjunct2_adverb
      when
  c_major
    c_noun_phrase
      c_noun_phrase
        pronoun
          he
    c_verb_phrase
```

```
              xcopula
                copula
                  was
              adjectival_phrase
                conjunct2_adjective
                  unable
            verbmods
          c_verb_phrase
            xverb
              verb
                acquire
          c_noun_phrase
            c_noun_phrase
              c_nominal_group
                c_nominal_group
                  c_premodification
                    c_premodification
                      c_premodification
                        adjectival_phrase
                          conjunct2_adjective
                            certain
                  noun
                    canvases
              c_postmodification
                c_postmodification

c_verb_phrase
  xverb
    verb
      bought
  c_noun_phrase
    c_noun_phrase
      c_nominal_group
        c_nominal_group
          c_premodification
            c_premodification
              c_premodification
          noun
            copies
      c_postmodification
        c_postmodification
```

Hierarchic stylistic parse:

```
c_sentence
  c_complete
    c_medial_explicit_complete
      c_medial_explicit_active_complete
        c_major
          explicit_active_major
            c_explicit_active_major
              c_noun_phrase
                explicit_static_noun_phrase
                  c_explicit_static_noun_phrase
                    c_noun_phrase
```

```
            explicit_static_noun_phrase
          c_explicit_static_noun_phrase
          c_nominal_group
          explicit_static_nominal_group
          explicit_static_nominal_group
            c_nominal_group
            explicit_static_nominal_group
            explicit_static_nominal_group
            c_premodification
            explicit_static_premodification
            c_explicit_static_premodification
              c_premodification
              explicit_static_premodification
              c_explicit_static_premodification
                c_premodification
                n_premodification
                subjunct2_determiner
                  the
              c_premodification
              explicit_static_premodification
              c_explicit_static_premodification
                subjunctl_premodification
                adjectival_phrase
                subjunctl_adjectival_phrase
                subjunctl_adjective
                  famous
          noun
            collector
          n_postmodification
          n_postmodification
subjunctl_clause
adverbial_clause
c_clause
subjunctl_adverb
  when
c_major
n_noun_phrase
n_noun_phrase
  pronoun
    he
c_verb_phrase
xcopula
copula
  was
adjectival_phrase
subjunctl_adjectival_phrase
subjunctl_adjective
  unable
verbmods
c_verb_phrase
xverb
verb
  acquire
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
```

```
            c_noun_phrase
            explicit_static_noun_phrase
          c_explicit_static_noun_phrase
          c_nominal_group
          explicit_static_nominal_group
          explicit_static_nominal_group
            c_nominal_group
            explicit_static_nominal_group
            explicit_static_nominal_group
            c_premodification
            explicit_static_premodification
            c_explicit_static_premodification
              c_premodification
              explicit_static_premodification
              c_explicit_static_premodification
                c_premodification
                explicit_static_premodification
                c_explicit_static_premodification
                  subjunctl_premodification
                  adjectival_phrase
                  subjunctl_adjectival_phrase
                  subjunctl_adjective
                    certain
          noun
            canvases
          n_postmodification
          n_postmodification

        n_verb_phrase
        xverb
        verb
          bought
        n_noun_phrase
        n_noun_phrase
        n_nominal_group
        n_nominal_group
        n_premodification
        n_premodification
          noun
            copies
          n_postmodification
          n_postmodification

================================================
```

===
|: This painter has adjusted to the tastes of the day clause softening his line
c1Comma clause sketching gracefully c1And clause converting to sfumato.

(1) this painter has adjusted to the tastes of the day clause softening his line
c1comma clause sketching gracefully c1and clause converting to sfumato

stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,neutral,neutral]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic],[]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[terminal_heteropoise]]

Connective stylistic parse:

```
c_sentence
 c_complete
  c_major
   c_noun_phrase
    c_nominal_group
     c_nominal_group
      c_premodification
       c_premodification
        conjunct2_determiner
         this
       c_premodification
        noun
         painter
      c_postmodification
       c_postmodification
   c_verb_phrase
    c_verb_phrase
     xverb
      verb
       adjusted
     c_prep_phrase
      preposition
       to
    c_noun_phrase
     c_noun_phrase
      c_nominal_group
       c_premodification
        c_premodification
         c_premodification
          conjunct2_determiner
           the
         c_premodification
          noun
           tastes
        c_postmodification
         c_postmodification
          c_prep_phrase
           preposition
            of
          c_noun_phrase
           c_noun_phrase
            c_nominal_group
             c_nominal_group
              c_premodification
               c_premodification
                c_premodification
                 conjunct2_determiner
                  the
                c_premodification
                 noun
                  day
              c_postmodification
               c_postmodification
```

```
c_clause
 conjunct0_clause
  nonfinite_clause
   c_clause
    c_verb_phrase
     xverb
      verb
       softening
    c_noun_phrase
     c_noun_phrase
      c_nominal_group
       c_nominal_group
        c_premodification
         c_premodification
          c_premodification
           conjunct2_determiner
            his
          c_premodification
           noun
            line
        c_postmodification
         c_postmodification
 conjunct0_clause
  nonfinite_clause
   c_clause
    c_verb_phrase
     xverb
      verb
       sketching
    c_adverbial_phrase
```

```
conjunct2_adverb
  gracefully
conjunct0_clause
nonfinite_clause
c_clause
c_verb_phrase
  xverb
    verb
      converting
c_prep_phrase
  preposition
    to
c_noun_phrase
  c_noun_phrase
    c_nominal_group
      c_nominal_group
        c_premodification
          c_premodification
            c_premodification
        noun
          sfumato
        c_postmodification
        c_postmodification
```

Hierarchic stylistic parse:
_____

```
c_sentence
c_complete
c_final_explicit_complete
c_final_explicit_active_complete
c_major
  n_noun_phrase
    n_noun_phrase
      n_nominal_group
        n_nominal_group
          n_premodification
            n_premodification
              c_premodification
                c_premodification
                  n_premodification
                    subjunct2_determiner
                      this
                    n_premodification
          noun
            painter
        n_postmodification
        n_postmodification
c_verb_phrase
  c_verb_phrase
    xverb
      verb
        adjusted
prep_phrase
c_prep_phrase
explicit_static_prep_phrase
```

```
c_explicit_static_prep_phrase
  preposition
    to
c_noun_phrase
  explicit_static_noun_phrase
    c_explicit_static_noun_phrase
      c_noun_phrase
        explicit_static_noun_phrase
          c_explicit_static_noun_phrase
            c_nominal_group
              explicit_static_nominal_group
              explicit_static_nominal_group
                c_nominal_group
                  explicit_static_nominal_group
                  explicit_static_nominal_group
                    n_premodification
                      n_premodification
                        c_premodification
                          c_premodification
                            n_premodification
                              subjunct2_determiner
                                the
                            n_premodification
                        noun
                          tastes
                    c_postmodification
                    explicit_static_postmodification
                    c_explicit_static_postmodification
                      c_postmodification
                      explicit_static_postmodification
                      c_explicit_static_postmodification
                        subjunct1_postmodification
                          prep_phrase
                            n_prep_phrase
                              preposition
                                of
                          n_noun_phrase
                            n_noun_phrase
                              n_nominal_group
                                n_nominal_group
                                  n_premodification
                                    n_premodification
                                      c_premodification
                                        c_premodification
                                          n_premodification
                                            subjunct2_determiner
                                              the
                                            n_premodification
                                        noun
                                          day
                                  n_postmodification
                                  n_postmodification

c_clause
explicit_active_clause
subjunct0_clause
nonfinite_clause
c_clause
n_verb_phrase
```

```
            xverb
            verb
              softening
        n_noun_phrase
         n_nominal_group
          n_nominal_group
           n_premodification
            c_premodification
             n_premodification
              subjunct2_determiner
               his
             n_premodification
              noun
               line
           n_postmodification
            n_postmodification
subjunct0_clause
 nonfinite_clause
  c_clause
   n_verb_phrase
    xverb
    verb
      sketching
     c_adverbial_phrase
      subjunct0_adverb
       gracefully
subjunct0_clause
 nonfinite_clause
  c_clause
   n_verb_phrase
    xverb
    verb
      converting
     prep_phrase
      n_prep_phrase
       preposition
        to
       n_noun_phrase
        n_noun_phrase
         n_nominal_group
          n_premodification
           n_premodification
            n_premodification
             noun
              sfumato
          n_postmodification
           n_postmodification
```

```
| ?- walk([silvia,pcomma,a,commanding,woman,in,her,fifties,pcomma,pcomma,a,shrew
,pcomma,falsely,mellowed,by,religion,pcomma,organizes,prayer,sessions,on,
the,lines,of,tupperware,meetings]).
stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)
```

[clarity,neutral,neutral]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[]
]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[]]

Connective stylistic parse:

```
c_sentence
 c_complete
  c_major
   c_noun_phrase
    hp_noun_phrase
     c_hp_noun_phrase
      c_noun_phrase
       hp_noun_phrase
        c_hp_noun_phrase
         c_nominal_group
          hp_nominal_group
           c_hp_nominal_group
            c_nominal_group
             hp_nominal_group
              c_hp_nominal_group
               proper_noun
                silvia
               c_postmodification
                hp_postmodification
                 c_postmodification
                  hp_postmodification
                   c_postmodification
                    hp_postmodification
                     c_nominal_group
                      c_premodification
                       c_premodification
                        conjunct2_determiner
                         a
                        c_premodification
                         adjectival_phrase
                          conjunct2_adjective
                           commanding
```

```
                           noun
                            woman
                           c_postmodification
                            c_postmodification
                             c_postmodification
                              c_prep_phrase
                               preposition
                                in
                               c_noun_phrase
                                c_noun_phrase
                                 c_nominal_group
                                  c_nominal_group
                                   c_premodification
                                    c_premodification
                                     c_premodification
                                      conjunct2_determiner
                                       her
                                     c_premodification
                                      noun
                                       fifties
                                   c_postmodification
                                    c_postmodification
                          c_postmodification
                           hp_postmodification
                            c_nominal_group
                             c_premodification
                              c_premodification
                               c_premodification
                                conjunct2_determiner
                                 a
                                c_premodification
                           noun
                            shrew
                           c_postmodification
                            c_postmodification
                             c_postmodification
                              conjunct0_clause
                               nonfinite_clause
                                c_clause
                                 c_verb_phrase
                                  xverb
                                   c_adverbial_phrase
                                    conjunct2_adverb
                                     falsely
                                   verb
                                    mellowed
                                   verbmods
                                    c_prep_phrase
                                     preposition
                                      by
                                     c_noun_phrase
                                      c_noun_phrase
                                       c_nominal_group
                                        c_nominal_group
                                         c_premodification
                                          c_premodification
```

```
                                    meetings
                                      c_postmodification
                                        c_postmodification
```

```
            c_premodification
              noun
                religion
          c_postmodification
            c_postmodification
```

Hierarchic stylistic parse:
_____

```
c_sentence
  c_complete
    c_medial_explicit_complete
      c_medial_explicit_static_complete
        c_major
          explicit_static_major
            c_explicit_static_major
              c_noun_phrase
                explicit_static_noun_phrase
                  c_explicit_static_noun_phrase
                    c_noun_phrase
                      explicit_static_noun_phrase
                        c_explicit_static_noun_phrase
                          c_nominal_group
                            c_nominal_group
                              explicit_static_nominal_group
                                explicit_static_nominal_group
                                  c_nominal_group
                                    explicit_static_nominal_group
                                      explicit_static_nominal_group
                                        n_premodification
                                          n_premodification
                                            n_premodification
                                              proper_noun
                                                silvia
                                  c_postmodification
                                    explicit_static_postmodification
                                      c_explicit_static_postmodification
                                        c_postmodification
                                          explicit_static_postmodification
                                            c_explicit_static_postmodification
                                              subjunct1_postmodification
                                                c_nominal_group
                                                  explicit_static_nominal_group
                                                    explicit_static_nominal_group
                                                      c_premodification
                                                        explicit_static_premodification
                                                          c_explicit_static_premodification
                                                            c_premodification
                                                              explicit_static_premodification
                                                                c_explicit_static_premodification
                                                                  n_premodification
                                                                    superjunct1_determiner
                                                                      a
                                                      c_premodification
                                                        explicit_static_premodification
                                                          c_explicit_static_premodification
                                                            subjunct1_premodification
```

```
c_verb_phrase
  xverb
    verb
      organizes
  c_noun_phrase
    c_nominal_group
      c_nominal_group
        c_premodification
          c_premodification
            c_premodification
              adjectival_phrase
                conjunct2_adjective
                  prayer
        noun
          sessions
      c_postmodification
        c_postmodification
          c_postmodification
            c_prep_phrase
              preposition
                on
              c_noun_phrase
                c_noun_phrase
                  c_nominal_group
                    c_nominal_group
                      c_premodification
                        c_premodification
                          conjunct2_determiner
                            the
                      c_premodification
                        c_premodification
                          noun
                            lines
                    c_postmodification
                      c_postmodification
                        c_postmodification
                          c_prep_phrase
                            preposition
                              of
                            c_noun_phrase
                              c_noun_phrase
                                c_nominal_group
                                  c_nominal_group
                                    c_premodification
                                      c_premodification
                                        adjectival_phrase
                                          conjunct2_adjective
                                            tupperware
                                  noun
```

```
                    adjectival_phrase
                  subjunct1_adjectival_phrase
                  subjunct1_adjective
                    commanding
              noun
                woman
            c_postmodification
              explicit_static_postmodification
                c_explicit_static_postmodification
              c_postmodification
                explicit_static_postmodification
                c_explicit_static_postmodification
            subjunct1_postmodification
              prep_phrase
                n_prep_phrase
                preposition
                  in
                n_noun_phrase
                  n_noun_phrase
                    n_nominal_group
                    n_premodification
                      n_premodification
                      c_premodification
                        n_premodification
                      subjunct2_determiner
                        her
                    n_premodification
                      noun
                        fifties
                    n_postmodification
                      n_postmodification
          subjunct2_postmodification
        c_nominal_group
          explicit_active_nominal_group
          explicit_active_nominal_group
          n_premodification
            n_premodification
            c_premodification
              n_premodification
            superjunct1_determiner
              a
          n_premodification
            noun
              shrew
        c_postmodification
          explicit_active_postmodification
          c_explicit_active_postmodification
          c_postmodification
            explicit_active_postmodification
            c_explicit_active_postmodification
        subjunct2_postmodification
      subjunct0_clause
        nonfinite_clause
        c_clause
          c_verb_phrase
```

```
                        xverb
                        c_adverbial_phrase
                        subjunct0_adverb
                          falsely
                        verb
                          mellowed
                        verbmods
                          prep_phrase
                          n_prep_phrase
                          preposition
                            by
                          n_noun_phrase
                            n_noun_phrase
                            n_nominal_group
                            n_nominal_group
                            n_premodification
                              n_premodification
                            n_premodification
                              noun
                                religion
                            n_postmodification
                              n_postmodification
```

```
  c_verb_phrase
  xverb
    verb
      organizes
    c_noun_phrase
    explicit_static_noun_phrase
    c_explicit_static_noun_phrase
    c_noun_phrase
      explicit_static_noun_phrase
      c_explicit_static_noun_phrase
      c_nominal_group
        explicit_static_nominal_group
        explicit_static_nominal_group
        explicit_static_nominal_group
        c_premodification
          explicit_static_premodification
          c_explicit_static_premodification
          c_premodification
            explicit_static_premodification
            c_explicit_static_premodification
          c_premodification
            explicit_static_premodification
            c_explicit_static_premodification
          subjunct1_premodification
            adjectival_phrase
            subjunct1_adjectival_phrase
            subjunct1_adjective
              prayer
      noun
        sessions
      c_postmodification
        explicit_static_postmodification
```

```
            c_explicit_static_postmodification
          c_postmodification
        explicit_static_postmodification
      c_explicit_static_postmodification
    subjunct1_postmodification
      prep_phrase
      c_prep_phrase
      explicit_static_prep_phrase
      c_explicit_static_prep_phrase
      preposition
        on
        c_noun_phrase
        explicit_static_noun_phrase
        c_explicit_static_noun_phrase
          c_noun_phrase
          explicit_static_noun_phrase
          c_explicit_static_noun_phrase
          c_nominal_group
          explicit_static_nominal_group
          explicit_static_nominal_group
            c_nominal_group
            explicit_static_nominal_group
            explicit_static_nominal_group
              n_premodification
              c_premodification
              n_premodification
              subjunct2_determiner
                the
                n_premodification
                noun
                lines
          c_postmodification
          explicit_static_postmodification
          c_explicit_static_postmodification
          c_postmodification
          explicit_static_postmodification
          c_explicit_static_postmodification
          subjunct1_postmodification
            prep_phrase
            c_prep_phrase
            explicit_static_prep_phrase
            c_explicit_static_prep_phrase
            preposition
              of
              c_noun_phrase
              explicit_static_noun_phrase
              c_explicit_static_noun_phrase
                c_noun_phrase
                explicit_static_noun_phrase
                c_explicit_static_noun_phrase
                c_nominal_group
                explicit_static_nominal_group
                explicit_static_nominal_group
                  c_nominal_group
                  explicit_static_nominal_group
```

```
                  explicit_static_nominal_group
                  c_premodification
                  explicit_static_premodificat              ion
                  c_explicit_static_premodific
                  c_premodification                         ation
                  explicit_static_premodific
                  c_explicit_static_premodif                ation
                  c_premodification
                  explicit_static_premodif                  ication
                  c_explicit_static_premod
                  subjunct1_premodificat                    ication
                                                            ification
                  adjectival_phrase
                  subjunct1_adjectival                      ion
                  subjunct1_adjectiv
                                                            phrase
                    tupperware
                                                            e
                  noun
                  meetings
                  n_postmodification
                  n_postmodification
```

|: clause If we can judge from the canvases on the walls of the gallery spComma
those who are responsible are myopic.

(1) clause if we can judge from the canvases on the walls of the gallery spComma
those who are responsible are myopic

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,neutral]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic],[]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[heteropoise]]

Connective stylistic parse:
_____

```
c_sentence
 c_complete
  c_clause
   conjunct2_clause
    conjunct2_clause
    yn_interr_clause
     c_clause
      c_major
       c_noun_phrase
        c_noun_phrase
         pronoun
          we
       c_verb_phrase
        c_verb_phrase
         xverb
          verb
           judge
        verbmods
         c_prep_phrase
          preposition
           from
          c_noun_phrase
           c_noun_phrase
            c_nominal_group
             c_premodification
              c_premodification
               conjunct2_determiner
                the
              c_premodification
```

```
              noun
               canvases
             c_postmodification
              c_postmodification
               c_postmodification
                c_prep_phrase
                 preposition
                  on
                 c_noun_phrase
                  c_noun_phrase
                   c_nominal_group
                    c_nominal_group
                     c_premodification
                      c_premodification
                       c_premodification
                        conjunct2_determiner
                         the
                      c_premodification
                       noun
                        walls
                   c_postmodification
                    c_postmodification
                     c_postmodification
                      c_prep_phrase
                       preposition
                        of
                       c_noun_phrase
                        c_noun_phrase
                         c_nominal_group
                          c_nominal_group
                           c_premodification
                            c_premodification
                             c_premodification
                              conjunct2_dete...
                               the
                            c_premodificatio...
                             noun
                              gallery
                         c_postmodification
                       c_postmodification
```

```
c_major
 c_noun_phrase
  hp_noun_phrase
   c_hp_noun_phrase
    c_noun_phrase
     hp_noun_phrase
      c_hp_noun_phrase
       c_nominal_group
        hp_nominal_group
         c_hp_nominal_group
          c_nominal_group
           hp_nominal_group
            c_hp_nominal_group
```

```
              c_premodification
            c_premodification
          c_premodification
pronoun
    those
c_postmodification
hp_postmodification
    c_postmodification
    hp_postmodification
    c_postmodification
    hp_postmodification
      conjunct2_clause
      relative_clause
      c_clause
        c_clause
        conjunct2_relpro
          who
        c_verb_phrase
          xcopula
          copula
            are
          adjectival_phrase
          conjunct2_adjective
            responsible
```

```
        c_verb_phrase
          xcopula
          copula
            are
          adjectival_phrase
          conjunct2_adjective
            myopic
```

Hierarchic stylistic parse:
_____

```
c_sentence
c_complete
c_initial_explicit_complete
c_initial_explicit_active_complete
    c_clause
    initial_explicit_active_clause
    explicit_active_clause
      subjunct1_clause
      yn_interr_clause
      c_clause
      c_major
        n_noun_phrase
        n_noun_phrase
          pronoun
            we
        c_verb_phrase
        c_verb_phrase
          xverb
            verb
              judge
```

```
verbmods
prep_phrase
c_prep_phrase
explicit_static_prep_phrase
c_explicit_static_prep_phrase
preposition
    from
    c_noun_phrase
    explicit_static_noun_phrase
    c_explicit_static_noun_phrase
      c_noun_phrase
      explicit_static_noun_phrase
      c_explicit_static_noun_phrase
        c_nominal_group
        explicit_static_nominal_group
        explicit_static_nominal_group
          c_nominal_group
          explicit_static_nominal_group
          explicit_static_nominal_group
            n_premodification
            n_premodification
              c_premodification
              n_premodification
              subjunct2_determiner
                the
            n_premodification
              noun
                canvases
        c_postmodification
        explicit_static_postmodification
        c_explicit_static_postmodification
        c_postmodification
        explicit_static_postmodification
        c_explicit_static_postmodification
        subjunct1_postmodification
          prep_phrase
          c_prep_phrase
          explicit_static_prep_phrase
          c_explicit_static_prep_phrase
          preposition
            on
            c_noun_phrase
            explicit_static_noun_phrase
            c_explicit_static_noun_phrase
              c_noun_phrase
              explicit_static_noun_phrase
              c_explicit_static_noun_phrase
                c_nominal_group
                explicit_static_nominal_group
                explicit_static_nominal_group
                  c_nominal_group
                  explicit_static_nominal_group
                  explicit_static_nominal_group
                    n_premodification
                    n_premodification
                      c_premodification
```

n_premodification
  pronoun
    those
  c_postmodification
    explicit_active_postmodification
    c_explicit_active_postmodification
      c_postmodification
        explicit_active_postmodification
        c_explicit_active_postmodification
          subjunct3_postmodification
            subjunct2_clause
              relative_clause
                c_clause
                  c_clause
                    subjunct3_relpro
                      who
                    n_verb_phrase
                      xcopula
                        copula
                          are
                    adjectival_phrase
                      subjunct1_adjectival_phrase
                        subjunct1_adjective
                          responsible

n_verb_phrase
  xcopula
    copula
      are
  adjectival_phrase
    subjunct1_adjectival_phrase
      subjunct1_adjective
        myopic

================================

n_premodification
  subjunct2_determiner
    the
  n_premodification
    noun
      walls
  c_postmodification
    explicit_static_postmodification
    c_explicit_static_postmodification
      c_postmodification
        explicit_static_postmodification
        c_explicit_static_postmodificati
          subjunct1_postmodification
            prep_phrase
              n_prep_phrase
                preposition
                  of
                n_noun_phrase
                  n_noun_phrase
                    n_nominal_group
                      n_nominal_group
                        n_premodification
                          n_premodificatio
                            c_premodificat
                              n_premodificat
                                subjunct2_de
                                  the
                                n_premodificat
                                  noun
                                    gallery
                                n_postmodification
                                  n_postmodificati

c_major
explicit_active_major
c_explicit_active_major
c_noun_phrase
explicit_active_noun_phrase
c_explicit_active_noun_phrase
c_noun_phrase
explicit_active_noun_phrase
c_explicit_active_noun_phrase
c_nominal_group
explicit_active_nominal_group
explicit_active_nominal_group
c_nominal_group
explicit_active_nominal_group
explicit_active_nominal_group
n_premodification
n_premodification

==
|: clause To judge from the canvases on the walls of the gallery spComma those w
ho are responsible are myopic.

(1) clause to judge from the canvases on the walls of the gallery spComma those
who are responsible are myopic

stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[neutral,concreteness,dynamism]

Abstract stylistic elements (Connective view):
_____
[[resolution,initial_discord,final_concord),(polyschematic),[]]

Abstract stylistic elements (Hierarchic view):
_____
[[],(centroschematic),[heteropoise]]

Connective stylistic parse:
_____

```
d_sentence
 initial_d_complete
  initial_d_clause
   d_clause
    conjunct1_clause
     conjunct1_clause
      nonfinite_clause
       c_clause
        c_verb_phrase
         xverb
          verb
           judge
         verbmods
          c_prep_phrase
           preposition
            from
           c_noun_phrase
            c_noun_phrase
             c_nominal_group
              c_premodification
               c_premodification
                c_premodification
                 conjunct2_determiner
                  the
                 c_premodification
              noun
               canvases
              c_postmodification
               c_postmodification
                c_postmodification
                 c_prep_phrase
                  preposition
                   on
                  c_noun_phrase
                   c_noun_phrase
                    c_nominal_group
                     c_premodification
                      c_premodification
                       c_premodification
                        conjunct2_determiner
                         the
                        c_premodification
                     noun
                      walls
                     c_postmodification
                      c_postmodification
                       c_postmodification
                        c_prep_phrase
                         preposition
                          of
                         c_noun_phrase
                          c_noun_phrase
                           c_nominal_group
                            c_nominal_group
                             c_premodification
                              c_premodification
                               c_premodification
                                conjunct2_determin
```
er
```
                                the
                             c_premodification
                           noun
                            gallery
                           c_postmodification
                            c_postmodification
```

```
c_major
 c_noun_phrase
  hp_noun_phrase
   c_hp_noun_phrase
    c_noun_phrase
     hp_noun_phrase
      c_hp_noun_phrase
       c_nominal_group
        hp_nominal_group
         c_hp_nominal_group
          c_nominal_group
           hp_nominal_group
            c_hp_nominal_group
             c_premodification
              c_premodification
           pronoun
            those
           c_postmodification
            hp_postmodification
```

```
                c_postmodification
                hp_postmodification
                c_postmodification
                hp_postmodification
                conjunct2_clause
                relative_clause
                c_clause
                c_clause
                conjunct2_relpro
                who
                c_verb_phrase
                xcopula
                copula
                are
                adjectival_phrase
                conjunct2_adjective
                responsible

        c_verb_phrase
        xcopula
        copula
        are
        adjectival_phrase
        conjunct2_adjective
        myopic
```

Hierarchic stylistic parse:
_____

```
c_sentence
c_complete
c_initial_explicit_complete
c_initial_explicit_active_complete
c_clause
explicit_active_clause
subjunct0_clause
nonfinite_clause
c_clause
c_verb_phrase
xverb
verb
judge
verbmods
prep_phrase
c_prep_phrase
explicit_static_prep_phrase
c_explicit_static_prep_phrase
preposition
from
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
c_nominal_group
```

```
explicit_static_nominal_group
explicit_static_nominal_group
c_nominal_group
explicit_static_nominal_group
explicit_static_nominal_group
n_premodification
c_premodification
n_premodification
subjunct2_determiner
the
n_premodification
noun
canvases
c_postmodification
explicit_static_postmodification
c_explicit_static_postmodification
c_postmodification
explicit_static_postmodification
c_explicit_static_postmodification
subjunct1_postmodification
prep_phrase
c_prep_phrase
explicit_static_prep_phrase
c_explicit_static_prep_phrase
preposition
on
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
c_nominal_group
explicit_static_nominal_group
explicit_static_nominal_group
c_nominal_group
explicit_static_nominal_group
explicit_static_nominal_group
n_premodification
c_premodification
n_premodification
subjunct2_determiner
the
n_premodification
noun
walls
c_postmodification
explicit_static_postmodification
c_explicit_static_postmodification
c_postmodification
explicit_static_postmodification
c_explicit_static_postmodification
subjunct1_postmodification
prep_phrase
```

```
c_major
explicit_active_major
c_explicit_active_major
c_noun_phrase
explicit_active_noun_phrase
c_explicit_active_noun_phrase
c_noun_phrase
explicit_active_noun_phrase
c_explicit_active_noun_phrase
c_nominal_group
explicit_active_nominal_group
explicit_active_nominal_group
c_nominal_group
explicit_active_nominal_group
explicit_active_nominal_group
n_premodification
n_premodification
n_premodification
pronoun
those
c_postmodification
explicit_active_postmodification
c_explicit_active_postmodification
c_postmodification
explicit_active_postmodification
c_explicit_active_postmodification
subjunct3_postmodification
subjunct2_clause
relative_clause
c_clause
c_clause
subjunct3_relpro
who
n_verb_phrase
xcopula
copula
are
```

iner

```
n_prep_phrase
preposition
of
n_noun_phrase
n_noun_phrase
n_nominal_group
n_nominal_group
n_premodification
c_premodification
n_Premodification
subjunct2_determiner
the
n_premodification
noun
gallery
n_postmodification
n_postmodification

n_verb_phrase
xcopula
copula
are
adjectival_phrase
subjunct1_adjectival_phrase
subjunct1_adjective
myopic
adjectival_phrase
subjunct1_adjectival_phrase
subjunct1_adjective
responsible
```

|: Politicians pComma rather eloquent pComma capture our interest.

(1) politicians pcomma rather eloquent pcomma capture our interest

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[neutral,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_discord,initial_discord],[polyschematic],[]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[]]

Connective stylistic parse:

```
d_sentence
 initial_d_complete
  d_major
   d_noun_phrase
    hp_noun_phrase
     d_hp_noun_phrase
      d_noun_phrase
       hp_noun_phrase
        d_hp_noun_phrase
         d_nominal_group
          hp_nominal_group
           d_hp_nominal_group
            d_nominal_group
             hp_nominal_group
              d_hp_nominal_group
               c_premodification
                c_premodification
                 c_premodification
                  politicians
                   noun
                    d_postmodification
                     hp_postmodification
                      d_postmodification
                       hp_postmodification
                        d_postmodification
                         hp_postmodification
                          adjectival_phrase
                           conjunct2_adverb
                            rather
                             conjunct2_adjective
                              eloquent
            c_verb_phrase
             xverb
```

```
verb
 capture
  c_noun_phrase
   c_noun_phrase
    c_nominal_group
     c_nominal_group
      c_premodification
       c_premodification
        c_premodification
         conjunct2_determiner
          our
           c_premodification
            noun
             interest
              c_postmodification
               c_postmodification
```

Hierarchic stylistic parse:

```
c_sentence
 c_complete
  c_medial_explicit_complete
   c_medial_explicit_static_complete
    c_major
     explicit_static_major
      c_explicit_static_major
       c_noun_phrase
        explicit_static_noun_phrase
         c_explicit_static_noun_phrase
          t_noun_phrase
           explicit_static_noun_phrase
            c_explicit_static_noun_phrase
             c_nominal_group
              explicit_static_nominal_group
               explicit_static_nominal_group
                explicit_static_nominal_group
                 c_nominal_group
                  n_premodification
                   n_premodification
                    n_premodification
                     noun
                      politicians
                       c_postmodification
                        explicit_static_postmodification
                         c_explicit_static_postmodification
                          c_postmodification
                           explicit_static_postmodification
                            c_explicit_static_postmodification
                             subjunct1_postmodification
                              adjectival_phrase
                               subjunct1_adjectival_phrase
                                subjunct0_adverb
                                 rather
```

```
                              subjunctl_adjective
                                   eloquent
        n_verb_phrase
          xverb
           verb
          capture
       n_noun_phrase
        n_noun_phrase
         n_nominal_group
          n_nominal_group
           n_premodification
            n_premodification
             c_premodification
            n_premodification
             subjunct2_determiner
                  our
             n_premodification
          noun
         interest
         n_postmodification
          n_postmodification
```

|: Politicians pcomma being rather eloquent pcomma capture our interest.

(1) politicians pcomma being rather eloquent pcomma capture our interest

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[m
edial_heteropoise,counterpoise]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[heteropoise]]

Connective stylistic parse:

```
c_sentence
  c_complete
    c_major
      c_noun_phrase
      hp_noun_phrase
      c_hp_noun_phrase
      c_noun_phrase
      hp_noun_phrase
      c_hp_noun_phrase
        c_nominal_group
        hp_nominal_group
        c_hp_nominal_group
        c_nominal_group
        hp_nominal_group
        c_hp_nominal_group
          c_premodification
          c_premodification
            c_premodification
            c_premodification
              noun
                politicians
              c_postmodification
              c_postmodification
              hp_postmodification
              c_postmodification
              hp_postmodification
              c_postmodification
              hp_postmodification
                conjunct0_clause
                nonfinite_clause
                  c_clause
                    c_verb_phrase
                      xcopula
                        copula
```

```
                          being
              c_adverbial_phrase
                  conjunct2_adverb
                      rather
              adjectival_phrase
                  conjunct2_adjective
                      eloquent

c_verb_phrase
  xverb
    verb
      capture
c_noun_phrase
  c_noun_phrase
    c_nominal_group
      c_nominal_group
        c_premodification
          c_premodification
            c_premodification
              conjunct2_determiner
                  our
            c_premodification
              noun
                interest
              c_postmodification
              c_postmodification
```

Hierarchic stylistic parse:

```
c_sentence
  c_complete
    c_medial_explicit_complete
    c_medial_explicit_active_complete
      c_major
        explicit_active_major
        c_explicit_active_major
          c_noun_phrase
            explicit_active_noun_phrase
            c_explicit_active_noun_phrase
              c_noun_phrase
                explicit_active_noun_phrase
                c_explicit_active_noun_phrase
                  c_nominal_group
                    explicit_active_nominal_group
                    explicit_active_nominal_group
                      c_nominal_group
                        explicit_active_nominal_group
                        explicit_active_nominal_group
                          n_premodification
                          n_premodification
                            n_premodification
                              noun
                                politicians
                              c_postmodification
                              explicit_active_postmodification
```

```
c_explicit_active_postmodification
 c_postmodification
explicit_active_postmodification
c_explicit_active_postmodification
 subjunct2_postmodification
  subjunct0_clause
  nonfinite_clause
  c_clause
   n_verb_phrase
    xcopula.
    copula
     being
   c_adverbial_phrase
    subjunct0_adverb
     rather
   adjectival_phrase
   subjunct1_adjectival_phrase
    subjunct1_adjective
     eloquent


n_verb_phrase
 xverb
  verb
   capture
n_noun_phrase
 n_noun_phrase
  n_nominal_group
   n_nominal_group
    n_premodification
     n_premodification
      c_premodification
       n_premodification
        subjunct2_determiner
         our
        n_premodification

   noun
    interest
   n_postmodification
    n_postmodification
```

```
|: Politicians who are eloquent capture our interest.

(1) politicians who are eloquent capture our interest
```

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,neutral]

Abstract stylistic elements (Connective view):

[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[]
]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[heteropoise]]

Connective stylistic parse:

```
c_sentence
  c_complete
    c_major
      c_noun_phrase
        hp_noun_phrase
          c_hp_noun_phrase
            c_noun_phrase
              hp_noun_phrase
                c_hp_noun_phrase
                  c_nominal_group
                    hp_nominal_group
                      c_hp_nominal_group
                        c_nominal_group
                          hp_nominal_group
                            c_hp_nominal_group
                              c_premodification
                                c_premodification
                                  c_premodification
                                    noun
                                      politicians
                              c_postmodification
                                hp_postmodification
                                  c_postmodification
                                    hp_postmodification
                                      c_postmodification
                                        hp_postmodification
                                          conjunct2_clause
                                            relative_clause
                                              c_clause
                                                c_clause
                                                  conjunct2_relpro
                                                    who
```

```
                        c_verb_phrase
                          xcopula
                            copula
                              are
                          adjectival_phrase
                            conjunct2_adjective
                              eloquent
    c_verb_phrase
      xverb
        verb
          capture
    c_noun_phrase
      c_noun_phrase
        c_nominal_group
          c_nominal_group
            c_premodification
              c_premodification
                c_premodification
                  conjunct2_determiner
                    our
              c_premodification
                noun
                  interest
        c_postmodification
          c_postmodification
```

Hierarchic stylistic parse:

```
c_sentence
  c_complete
    c_medial_explicit_complete
      c_medial_explicit_active_complete
        c_major
          explicit_active_major
            c_explicit_active_major
              c_noun_phrase
                explicit_active_noun_phrase
                  c_explicit_active_noun_phrase
                    c_noun_phrase
                      explicit_active_noun_phrase
                        c_explicit_active_noun_phrase
                          c_nominal_group
                            explicit_active_nominal_group
                              explicit_active_nominal_group
                                c_nominal_group
                                  explicit_active_nominal_group
                                    explicit_active_nominal_group
                                      n_premodification
                                        n_premodification
                                          n_premodification
                                            noun
                                              politicians
                                  c_postmodification
                                    explicit_active_postmodification
```

```
c_explicit_active_postmodification
    c_postmodification
    explicit_active_postmodification
    c_explicit_active_postmodification
        subjunct3_postmodification
            subjunct2_clause
            relative_clause
                c_clause
                c_clause
                    subjunct3_relpro
                        who
                    n_verb_phrase
                        xcopula
                            copula
                                are
                        adjectival_phrase
                            subjunct1_adjectival_phrase
                                subjunct1_adjective
                                    eloquent


n_verb_phrase
    xverb
        verb
            capture
    n_noun_phrase
    n_noun_phrase
        n_nominal_group
        n_nominal_group
            n_premodification
                n_premodification
                    c_premodification
                    n_premodification
                        subjunct2_determiner
                            our
            n_premodification
                noun
                    interest
            n_postmodification
            n_postmodification
```

```
|: complement In its energy cComma its lyrics cComma its advocacy of frustrated
joys cpComma rock is a symphony.
```

```
(1) complement in its energy ccomma its lyrics ccomma its advocacy of frustrated
joys cpcomma rock is a symphony
```

stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[neutral,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_discord,initial_discord],[polyschematic],[]]

Abstract stylistic elements (Hierarchic view):

[[dissolution],[centroschematic],[]]

Connective stylistic parse:

```
d_sentence
  initial_d_complete
    d_major
      initial_d_complement
        c_complement
          c_prep_phrase
          c_complement
          c_prep_phrase
            c_prep_phrase
              preposition
                in
              c_noun_phrase
                c_noun_phrase
                  c_nominal_group
                    c_nominal_group
                      c_premodification
                      c_premodification
                        conjunct2_determiner
                          its
                        c_premodification
                          noun
                            energy
                      c_postmodification
                      c_postmodification
                    c_complement
                    c_nominal_group
                      c_nominal_group
                        c_premodification
                        c_premodification
```

```
                        c_premodification
                          conjunct2_determiner
                            its
                          c_premodification
                            noun
                              lyrics
                        c_postmodification
                        c_postmodification
                    c_complement
                    c_nominal_group
                      c_nominal_group
                        c_nominal_group
                          c_premodification
                          c_premodification
                            c_premodification
                              conjunct2_determiner
                                its
                              c_premodification
                                noun
                                  advocacy
                          c_postmodification
                          c_postmodification
                          c_postmodification
                            c_prep_phrase
                              preposition
                                of
                              c_noun_phrase
                                c_noun_phrase
                                  c_nominal_group
                                    c_nominal_group
                                      c_premodification
                                      c_premodification
                                        adjectival_phrase
                                          conjunct2_adjective
                                            frustrated
                                        noun
                                          joys
                                      c_postmodification
                                      c_postmodification
          c_noun_phrase
          c_noun_phrase
            c_nominal_group
              c_nominal_group
                c_premodification
                c_premodification
                  c_premodification
                    noun
                      rock
                c_postmodification
                c_postmodification
          c_verb_phrase
            xcopula
              copula
                is
          c_noun_phrase
```

```
c_noun_phrase
  c_nominal_group
   c_nominal_group
    c_premodification
     c_premodification
      c_premodification
       conjunct2_determiner
        a
       c_premodification
        noun
         symphony
    c_postmodification
    c_postmodification
```

Hierarchic stylistic parse:
_____

```
c_sentence
 c_complete
  c_initial_explicit_complete
  c_initial_explicit_static_complete
   c_major
    explicit_static_major
    initial_explicit_static_major
    c_initial_explicit_static_major
     c_complement
      explicit_static_complement
      c_explicit_static_complement
       n_complement
        prep_phrase
        n_prep_phrase
         preposition
          in
         n_noun_phrase
         n_noun_phrase
          n_nominal_group
          n_nominal_group
           n_premodification
           n_premodification
            c_premodification
            n_premodification
             subjunct2_determiner
              its
             n_premodification
              noun
               energy
           n_postmodification
           n_postmodification
        n_complement
         n_nominal_group
         n_nominal_group
          n_premodification
           n_premodification
            c_premodification
            n_premodification
```

```
             subjunct2_determiner
              its
             n_premodification
              noun
               lyrics
              n_postmodification
              n_postmodification
        c_complement
        explicit_static_complement
        c_explicit_static_complement
         c_nominal_group
         explicit_static_nominal_group
         explicit_static_nominal_group
          c_nominal_group
          explicit_static_nominal_group
          explicit_static_nominal_group
           n_premodification
           n_premodification
            c_premodification
            n_premodification
             subjunct2_determiner
              its
             n_premodification
              noun
               advocacy
             c_postmodification
             explicit_static_postmodification
             c_explicit_static_postmodification
              c_postmodification
              explicit_static_postmodification
              c_explicit_static_postmodification
               subjunct1_postmodification
                prep_phrase
                c_prep_phrase
                explicit_static_prep_phrase
                c_explicit_static_prep_phrase
                 preposition
                  of
                 c_noun_phrase
                 explicit_static_noun_phrase
                 c_explicit_static_noun_phrase
                  c_noun_phrase
                  explicit_static_noun_phrase
                  c_explicit_static_noun_phrase
                   c_nominal_group
                   explicit_static_nominal_group
                   explicit_static_nominal_group
                    c_nominal_group
                    explicit_static_nominal_group
                    explicit_static_nominal_group
                     c_premodification
                     explicit_static_premodification
                     c_explicit_static_premodification
                      c_premodification
                      explicit_static_premodification
                      c_explicit_static_premodification
```

```
c_premodification
  explicit_static_premodification
  c_explicit_static_premodification
    subjunctl_premodification
      adjectival_phrase
        subjunctl_adjectival_phrase
          subjunctl_adjective
            frustrated

noun
  joys
n_postmodification
  n_postmodification

n_noun_phrase
  n_noun_phrase
    n_nominal_group
      n_nominal_group
        n_premodification
          n_premodification
            n_premodification
              noun
                rock
      n_postmodification
        n_postmodification

n_verb_phrase
  xcopula
    copula
      is

n_noun_phrase
  n_noun_phrase
    n_nominal_group
      n_nominal_group
        n_premodification
          n_premodification
            c_premodification
              n_premodification
                superjunctl_determiner
                  a
        n_premodification
          noun
            symphony
      n_postmodification
        n_postmodification
```

```
================================
```

```
|: complement In its energy cComma its lyrics cComma its advocacy of frustrated
joys cpComma rock is one long symphony of protest.

(1) complement in its energy ccomma its lyrics ccomma its advocacy of frustrated
joys cpcomma rock is one long symphony of protest
```

Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[neutral,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_discord,initial_discord),[polyschematic),[]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[]]

Connective stylistic parse:

```
d_sentence
  initial_d_complete
    d_major
      initial_d_complement
        c_complement
          c_prep_phrase
            c_complement
              c_prep_phrase
                c_prep_phrase
                  preposition
                    in
                  c_noun_phrase
                    c_noun_phrase
                      c_nominal_group
                        c_premodification
                          c_premodification
                            conjunct2_determiner
                              its
                            c_premodification
                          noun
                            energy
                        c_postmodification
                          c_postmodification
            c_complement
              c_nominal_group
                c_nominal_group
                  c_premodification
                    c_premodification
```

```
                        c_premodification
                          conjunct2_determiner
                            its
                          c_premodification
                    noun
                      lyrics
                  c_postmodification
                    c_postmodification
              c_complement
                c_nominal_group
                  c_nominal_group
                    c_premodification
                      c_premodification
                        c_premodification
                          conjunct2_determiner
                            its
                          c_premodification
                      noun
                        advocacy
                    c_postmodification
                      c_postmodification
                        c_prep_phrase
                          preposition
                            of
                          c_noun_phrase
                            c_noun_phrase
                              c_nominal_group
                                c_premodification
                                  c_premodification
                                    c_premodification
                                      adjectival_phrase
                                        conjunct2_adjective
                                          frustrated
                                  noun
                                    joys
                                c_postmodification
                                  c_postmodification
```

```
c_noun_phrase
  c_noun_phrase
    c_nominal_group
      c_nominal_group
        c_premodification
          c_premodification
            c_premodification
        noun
          rock
      c_postmodification
        c_postmodification
c_verb_phrase
  xcopula
    copula
      is
c_noun_phrase
```

```
c_noun_phrase
 c_nominal_group
  c_nominal_group
   c_premodification
    c_premodification
     c_premodification
      conjunct2_determiner
       one
     c_premodification
      adjectival_phrase
       conjunct2_adjective
        long
   noun
    symphony
   c_postmodification
    c_postmodification
     c_postmodification
      c_prep_phrase
       preposition
        of
        c_noun_phrase
         c_noun_phrase
          c_nominal_group
           c_nominal_group
            c_premodification
             c_premodification
              c_premodification
   noun
    protest
   c_postmodification
    c_postmodification
```

Hierarchic stylistic parse:
_____

```
c_sentence
 c_complete
  c_initial_explicit_complete
   c_initial_explicit_static_complete
    c_major
     explicit_static_major
      initial_explicit_static_major
       c_initial_explicit_static_major
        c_complement
         explicit_static_complement
          c_explicit_static_complement
           n_complement
            prep_phrase
             n_prep_phrase
              preposition
               in
            n_noun_phrase
             n_noun_phrase
              n_nominal_group
               n_nominal_group
```

```
n_premodification
 n_premodification
  c_premodification
   n_premodification
    subjunct2_determiner
     its
   n_premodification
    noun
     energy
   n_postmodification
    n_postmodification
n_complement
 n_nominal_group
  n_nominal_group
   n_premodification
    n_premodification
     c_premodification
      n_premodification
       subjunct2_determiner
        its
      n_premodification
       noun
        lyrics
   n_postmodification
    n_postmodification
c_complement
 explicit_static_complement
  c_explicit_static_complement
   c_nominal_group
    explicit_static_nominal_group
     explicit_static_nominal_group
      c_nominal_group
       explicit_static_nominal_group
        explicit_static_nominal_group
         n_premodification
          n_premodification
           c_premodification
            n_premodification
             subjunct2_determiner
              its
            n_premodification
             noun
              advocacy
   c_postmodification
    explicit_static_postmodification
     c_explicit_static_postmodification
      c_postmodification
       explicit_static_postmodification
        c_explicit_static_postmodification
         subjunct1_postmodification
          prep_phrase
           c_prep_phrase
            explicit_static_prep_phrase
             c_explicit_static_prep_phrase
              preposition
               of
```

```
n_noun_phrase
 n_noun_phrase
  n_nominal_group
   n_nominal_group
    n_premodification
     n_premodification
      n_premodification
    noun
     rock
    n_postmodification
     n_postmodification
c_verb_phrase
 xcopula
  copula
   is
c_noun_phrase
 explicit_static_noun_phrase
  c_explicit_static_noun_phrase
   c_noun_phrase
    explicit_static_noun_phrase
     c_explicit_static_noun_phrase
      c_nominal_group
       explicit_static_nominal_group
        explicit_static_nominal_group
         c_nominal_group
          explicit_static_nominal_group
           c_noun_phrase
            explicit_static_noun_phrase
             c_explicit_static_noun_phrase
              c_noun_phrase
               explicit_static_noun_phrase
                c_explicit_static_noun_phrase
                 c_nominal_group
                  explicit_static_nominal_group
                   explicit_static_nominal_group
                    c_nominal_group
                     explicit_static_nominal_group
                      explicit_static_nominal_group
                       c_premodification
                        explicit_static_premodification
                         explicit_static_premodification
                          c_explicit_static_premodification
                           explicit_static_premodification
                            c_explicit_static_premodification
                             c_premodification
                              explicit_static_premodification
                               c_explicit_static_premodification
                                subjunctl_premodification
                                 adjectival_phrase
                                  subjunctl_adjectival_phrase
                                   subjunctl_adjective
                                    frustrated
                    noun
                     joys
                    n_postmodification
                     n_postmodification
```

```
explicit_static_nominal_group
 c_premodification
  explicit_static_premodification
   c_explicit_static_premodification
    c_premodification
     explicit_static_premodification
      c_explicit_static_premodification
       c_premodification
        n_premodification
         subjunctl_determiner
          one
       c_premodification
        explicit_static_premodification
         c_explicit_static_premodification
          subjunctl_premodification
           adjectival_phrase
            subjunctl_adjectival_phrase
             subjunctl_adjective
              long
 noun
  symphony
 c_postmodification
  explicit_static_postmodification
   c_explicit_static_postmodification
    c_postmodification
     explicit_static_postmodification
      c_explicit_static_postmodification
       subjunctl_postmodification
        prep_phrase
         n_prep_phrase
          preposition
           of
          n_noun_phrase
           n_noun_phrase
            n_nominal_group
             n_nominal_group
              n_premodification
               n_premodification
                n_premodification
             noun
              protest
             n_postmodification
              n_postmodification
```

=================================
|: Je ai voyage avec une famille suisse virgule excellente et charmante.

(1) je ai voyage avec une famille suisse virgule excellente et charmante

stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,neutral,neutral]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[]
]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[]]

Connective stylistic parse:

```
c_sentence
 c_complete
  c_major
   conjunct1_subject
    c_noun_phrase
     c_nominal_group
      c_nominal_group
       c_premodification
       c_premodification
        c_postmodification
        pronoun
         je
        c_postmodification
        c_postmodification
   c_verb_phrase
   c_verb_phrase
    xverb
     verb
      voyage
     verbmods
      c_prep_phrase
       preposition
        avec
        conjunct2_prep
         c_noun_phrase
         c_noun_phrase
          c_nominal_group
          c_nominal_group
           c_premodification
            c_premodification
             c_premodification
              conjunct3_determiner
```

Hierarchic stylistic parse:

```
c_sentence
 c_complete
  c_major
   subjunct2_subject
    n_noun_phrase
     n_noun_phrase
      n_nominal_group
       n_nominal_group
        n_premodification
         n_premodification
          n_premodification
           pronoun
            je
          n_postmodification
          n_postmodification
   c_verb_phrase
   c_verb_phrase
    xverb
     verb
      voyage
     verbmods
      prep_phrase
      n_prep_phrase
       preposition
        avec
        subjunct1_prep
         n_noun_phrase
         n_noun_phrase
          n_nominal_group
           n_nominal_group
            n_premodification
             n_premodification
              n_premodification
```

```
              une
               c_premodification
                conjunct1_noun
                 famille
                c_postmodification
                c_postmodification
                 adjectival_phrase
                  conjunct2_adjective
                   suisse
                 c_postmodification
                  adjectival_phrase
                   conjunct2_adjective
                    excellente
                 c_postmodification
                  adjectival_phrase
                   conjunct2_adjective
                    charmante
```

```
n_premodification
    superjunct1_determiner
        une
n_premodification
subjunct2_noun
    famille
n_postmodification
n_postmodification
    superjunct1_postmodification
        adjectival_phrase
        superjunct1_adjectival_phrase
            superjunct1_adjective
                suisse
    superjunct1_postmodification
        adjectival_phrase
        superjunct1_adjectival_phrase
            superjunct1_adjective
                excellente
    superjunct1_postmodification
        adjectival_phrase
        superjunct1_adjectival_phrase
            superjunct1_adjective
                charmante
```

| ?- walk([notre,professeur,pvirgule,homme,doux,et,bon,pvirgule,qui,avai
t,un,eleve,qui,avait,fraude]).
Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[m
edial_heteropoise,counterpoise]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[]]

Connective stylistic parse:

```
c_sentence
c_complete
 c_major
  conjunct1_subject
   c_noun_phrase
   hp_noun_phrase
   c_hp_noun_phrase
    c_noun_phrase
    hp_noun_phrase
    c_hp_noun_phrase
     c_nominal_group
     hp_nominal_group
     c_hp_nominal_group
      c_nominal_group
      hp_nominal_group
      c_hp_nominal_group
       c_premodification
       c_premodification
        c_premodification
         adjectival_phrase
          conjunct3_adjective
           notre
        conjunct1_noun
         professeur
       c_postmodification
       hp_postmodification
       c_postmodification
       hp_postmodification
        c_nominal_group
        hp_nominal_group
         c_premodification
          c_premodification
           c_premodification
            conjunct1_noun
             homme
         c_postmodification
```

```
          c_postmodification
           c_postmodification
            adjectival_phrase
             conjunct2_adjective
              doux
           c_postmodification
            adjectival_phrase
             conjunct2_adjective
              bon
c_verb_phrase
c_verb_phrase
 xverb
  verb
   puni
  c_adverbial_phrase
   conjunct1_adverb
    severement
conjunct3_direct_object
c_noun_phrase
hp_noun_phrase
c_hp_noun_phrase
 c_noun_phrase
 hp_noun_phrase
 c_hp_noun_phrase
  c_nominal_group
  hp_nominal_group
  c_hp_nominal_group
   c_nominal_group
   hp_nominal_group
   c_hp_nominal_group
    c_premodification
    c_premodification
     c_premodification
      conjunct3_determiner
       un
    c_premodification
     conjunct1_noun
      eleve
    c_postmodification
    hp_postmodification
    c_postmodification
    hp_postmodification
     conjunct2_clause
      relative_clause
       c_clause
        c_clause
         conjunct2_relpro
          qui
        c_verb_phrase
        c_verb_phrase
         xverb
          verb
           fraude
```

Hierarchic stylistic parse:
_____

c_sentence
c_complete
c_medial_explicit_complete
c_medial_explicit_static_complete
c_major
explicit_static_major
c_explicit_static_major
subjunct2_subject
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
c_noun_phrase
explicit_static_noun_phrase
c_explicit_static_noun_phrase
c_nominal_group
explicit_static_nominal_group
explicit_static_nominal_group
c_nominal_group
c_premodification
explicit_static_premodification
c_explicit_static_premodification
c_premodification
explicit_static_premodification
c_explicit_static_premodification
c_premodification
explicit_static_premodification
c_explicit_static_premodification
subjunct3_premodification
adjectival_phrase
subjunct3_adjectival_phrase
subjunct3_adjective
notre
subjunct2_noun
professeur
c_postmodification
c_postmodification
superjunct2_postmodification
n_nominal_group
n_premodification
n_premodification
n_premodification
subjunct2_noun
homme
n_postmodification
n_postmodification
superjunct1_postmodification
adjectival_phrase
superjunct1_adjectival_phrase
superjunct1_adjective
doux

superjunct1_postmodification
adjectival_phrase
superjunct1_adjectival_phrase
superjunct1_adjective
bon

c_verb_phrase
c_verb_phrase
xverb
verb
puni
c_adverbial_phrase
superjunct2_adverbial_phrase
superjunct2_adverb
severement
subjunct2_direct_object
c_noun_phrase
explicit_active_noun_phrase
c_explicit_active_noun_phrase
c_noun_phrase
explicit_active_noun_phrase
c_explicit_active_noun_phrase
c_nominal_group
explicit_active_nominal_group
explicit_active_nominal_group
c_nominal_group
explicit_active_nominal_group
explicit_active_nominal_group
n_premodification
c_premodification
c_premodification
n_premodification
superjunct1_determiner
un
n_premodification
subjunct2_noun
eleve
c_postmodification
explicit_active_postmodification
c_explicit_active_postmodification
c_postmodification
explicit_active_postmodification
subjunct2_postmodification
subjunct2_clause
relative_clause
c_clause
c_clause
subjunct2_relpro
qui
n_verb_phrase
n_verb_phrase
xverb
verb
fraude

```
| ?- walk([divers,orateurs,tiennent,des,propos,divers]).
Stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,neutral,neutral]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[]
]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[]]

Connective stylistic parse:
```

```
c_sentence
  c_complete
    c_major
      conjunct1_subject
        c_noun_phrase
          c_nominal_group
            c_nominal_group
              c_premodification
                c_premodification
                  adjectival_phrase
                    conjunct2_adjective
                      divers
              conjunct1_noun
                orateurs
              c_postmodification
              'c_postmodification
      c_verb_phrase
        xverb
          verb
            tiennent
      conjunct3_direct_object
        c_noun_phrase
          c_nominal_group
            c_nominal_group
              c_premodification
                c_premodification
                  c_premodification
                    conjunct3_determiner
                      des
                  c_premodification
                    conjunct1_noun
                      propos
              c_postmodification
              c_postmodification
                c_postmodification
```

```
adjectival_phrase
  conjunct2_adjective
    divers
```

Hierarchic stylistic parse:

```
c_sentence
  c_complete
    c_medial_explicit_complete
      c_medial_explicit_static_complete
        c_major
          explicit_static_major
            c_explicit_static_major
              subjunct2_subject
                c_noun_phrase
                  explicit_static_noun_phrase
                    c_explicit_static_noun_phrase
                      c_noun_phrase
                        explicit_static_noun_phrase
                          c_explicit_static_noun_phrase
                            c_nominal_group
                              explicit_static_nominal_group
                                explicit_static_nominal_group
                                  c_nominal_group
                                    explicit_static_nominal_group
                                      explicit_static_nominal_group
                                        c_premodification
                                          explicit_static_premodification
                                            c_explicit_static_premodification
                                              c_premodification
                                                explicit_static_premodification
                                                  c_explicit_static_premodification
                                                    c_explicit_static_premodification
                                                      c_explicit_static_premodification
                                                        subjunct2_premodification
                                                          adjectival_phrase
                                                            subjunct2_adjectival_phrase
                                                              subjunct2_adjective
                                                                superjunct1_adjective
                                                                  divers
                                                              adjectival_phrase
                                                                superjunct1_adjectival_phrase
                                                                  subjunct2_adjective
                                                                    superjunct1_adjective
                                                                      divers
                                                    subjunct2_noun
                                                      orateurs
                                              n_postmodification
                                                n_postmodification
                                  n_verb_phrase
                                    xverb
                                      verb
                                        tiennent
```

```
subjunct2_direct_object
n_noun_phrase
  n_noun_phrase
    n_nominal_group
      n_nominal_group
        n_premodification
          n_premodification
            c_premodification
          n_premodification
            superjunct1_determiner
              des
        n_premodification
          subjunct2_noun
            propos
        n_postmodification
          n_postmodification
            superjunct1_postmodification
              adjectival_phrase
                subjunct2_adjectival_phrase
                  subjunct2_adjective
                    superjunct1_adjective
                      divers
              adjectival_phrase
                superjunct1_adjectival_phrase
                  subjunct2_adjective
                    superjunct1_adjective
                      divers
```

```
| ?- walk([clause,desque,il,est,entre,dans,la,barque,sppunc,elle,sest,enfoncee,p
rodigieusement]).
stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic],[]]

Abstract stylistic elements (Hierarchic view):

[[dissolution],[centroschematic],[]]

Connective stylistic parse:
_____

c_sentence
 c_complete
  c_clause
   conjunct2_clause
   conjunct2_clause
   adverbial_clause
   c_clause
    conjunct2_adverb
    desque
   c_major
    conjunct1_subject
    c_noun_phrase
     c_noun_phrase
      c_nominal_group
       c_nominal_group
        c_premodification
         c_premodification
          c_premodification
           pronoun
           il
         c_postmodification
          c_postmodification
    c_verb_phrase
     c_verb_phrase
      xverb
       verb
       entre
      verbmods
       c_prep_phrase
        preposition
        dans
        conjunct2_prep
        c_noun_phrase
         c_noun_phrase
          c_nominal_group
           c_nominal_group
            c_premodification
             c_premodification
```

```
             c_premodification
              conjunct3_determiner
              la
             c_premodification
              conjunct1_noun
              barque
            c_postmodification
             c_postmodification

c_major
 conjunct1_subject
 c_noun_phrase
  c_noun_phrase
   c_nominal_group
    c_nominal_group
     c_premodification
      c_premodification
       c_premodification
        pronoun
        elle
      c_postmodification
       c_postmodification
  c_verb_phrase
   c_verb_phrase
    xverb
     verb
     enfoncee
    c_adverbial_phrase
     conjunct1_adverb
     prodigieusement

Hierarchic stylistic parse:
_____

c_sentence
 c_complete
  c_initial_explicit_complete
  c_initial_explicit_active_complete
   c_clause
    initial_explicit_active_clause
    explicit_active_clause
     subjunct3_clause
     adverbial_clause
      c_clause
       subjunct0_adverb
       desque
    c_major
     subjunct2_subject
     n_noun_phrase
      n_noun_phrase
       n_nominal_group
        n_nominal_group
         n_premodification
          n_premodification
           n_premodification
            pronoun
```

```
            il
              n_postmodification
                n_postmodification
          c_verb_phrase
          c_verb_phrase
            xverb
              verb
                entre
              verbmods
                prep_phrase
                  n_prep_phrase
                    preposition
                      dans
                    subjunct1_prep
                      n_noun_phrase
                        n_noun_phrase
                          n_nominal_group
                            n_nominal_group
                              n_premodification
                                n_premodification
                                  c_premodification
                                    n_premodification
                                      subjunct1_determiner
                                        la
                                  n_premodification
                                    subjunct2_noun
                                      barque
                              n_postmodification
                                n_postmodification

n_major
  subjunct2_subject
    n_noun_phrase
      n_noun_phrase
        n_nominal_group
          n_nominal_group
            n_premodification
              n_premodification
                pronoun
                  elle
            n_postmodification
              n_postmodification
  n_verb_phrase
    n_verb_phrase
      xverb
        verb
          enfoncee
      c_adverbial_phrase
        superjunct2_adverb
          prodigieusement
```

```
| ?- walk([complement,sans,bruit,cvirgule,sous,le,miroir,des,lacs,profonds,et,ca
lmes,cpvirgule,le,cygne,chasse,le,onde,avec,ses,larges,palmes]).
stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[clarity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[initial_and_medial_concord,initial_concord],[centroschematic,monoschematic],[]
]

Abstract stylistic elements (Hierarchic view):

[[dissolution],[centroschematic],[]]

Connective stylistic parse:

c_sentence
 c_complete
  c_major
   c_complement
    c_prep_phrase
     c_complement
      c_prep_phrase
       c_prep_phrase
        preposition
         sans
        conjunct2_prep
         c_noun_phrase
          c_noun_phrase
           c_nominal_group
            c_nominal_group
             c_premodification
              c_premodification
               c_premodification
                conjunct1_noun
                 bruit
             c_postmodification
              c_postmodification
   c_complement
    c_prep_phrase
     c_prep_phrase
      preposition
       sous
      conjunct2_prep
       c_noun_phrase
        c_noun_phrase
         c_nominal_group
          c_nominal_group
           c_premodification
            c_premodification
             c_premodification
              conjunct3_determiner
               le
```

```
               c_premodification
                conjunct1_noun
                 miroir
             c_postmodification
              c_postmodification
               c_postmodification
                c_prep_phrase
                 c_prep_phrase
                  preposition
                   des
                  conjunct2_prep
                   c_noun_phrase
                    c_noun_phrase
                     c_nominal_group
                      c_nominal_group
                       c_premodification
                        c_premodification
                         c_premodification
                          conjunct1_noun
                           lacs
                       c_postmodification
                        c_postmodification
                         c_postmodification
                          adjectival_phrase
                           conjunct2_adjective
                            profonds
                          c_postmodification
                           adjectival_phrase
                            conjunct2_adjective
                             calmes

conjunct1_subject
 c_noun_phrase
  c_noun_phrase
   c_nominal_group
    c_nominal_group
     c_premodification
      c_premodification
       c_premodification
        conjunct3_determiner
         le
      c_premodification
       conjunct1_noun
        cygne
     c_postmodification
      c_postmodification
c_verb_phrase
 xverb
  verb
   chasse
conjunct3_direct object
 c_noun_phrase
  c_noun_phrase
   c_nominal_group
    c_nominal_group
     c_premodification
      c_premodification
       c_premodification
```

```
                    conjunct3_determiner
                      le
                c_premodification
                conjunct1_noun
                  onde
            c_postmodification
            c_postmodification
              c_prep_phrase
                preposition
                  avec
                conjunct2_prep
                c_noun_phrase
                  c_nominal_group
                    c_premodification
                    c_premodification
                      c_premodification
                        conjunct3_determiner
                          ses
                      c_premodification
                        adjectival_phrase
                          conjunct2_adjective
                            larges
                      conjunct1_noun
                        palmes
                    c_postmodification
                    c_postmodification
```

```
                    n_premodification
                      n_premodification
                        subjunct2_noun
                          bruit
                    n_postmodification
                    n_postmodification
            n_complement
              prep_phrase
                n_prep_phrase
                  preposition
                    sous
                  subjunct1_prep
                  n_noun_phrase
                    n_noun_phrase
                      n_nominal_group
                        n_nominal_group
                          n_premodification
                          n_premodification
                            c_premodification
                            n_premodification
                              subjunct1_determiner
                                le
                            n_premodification
                              subjunct2_noun
                                miroir
                        n_postmodification
                        n_postmodification
                          subjunct1_postmodification
                          prep_phrase
                            n_prep_phrase
                              preposition
                                des
                              subjunct1_prep
                              n_noun_phrase
                                n_noun_phrase
                                  n_nominal_group
                                    n_nominal_group
                                      n_premodification
                                      n_premodification
                                        subjunct2_noun
                                          lacs
                                  n_postmodification
                                  n_postmodification
                                    superjunct1_postmodification
                                    adjectival_phrase
                                    superjunct1_adjectival_phrase
                                      superjunct1_adjective
                                        profonds
                                  superjunct1_postmodification
                                  adjectival_phrase
                                  superjunct1_adjectival_phrase
                                    superjunct1_adjective
                                      calmes

                              subjunct2_subject
                              n_noun_phrase
```

Hierarchic stylistic parse:

```
c_sentence
  c_complete
    c_initial_explicit_complete
      c_initial_explicit_static_complete
        c_major
          explicit_static_major
            initial_explicit_static_major
              c_initial_explicit_static_major
                c_complement
                  explicit_static_complement
                    c_explicit_static_complement
                      n_complement
                        prep_phrase
                          n_prep_phrase
                            preposition
                              sans
                            subjunct1_prep
                            n_noun_phrase
                              n_noun_phrase
                                n_nominal_group
                                  n_nominal_group
                                    n_premodification
```

```
n_noun_phrase
 n_nominal_group
  n_nominal_group
   n_premodification
    n_premodification
     c_premodification
      n_premodification
       subjunct1_determiner
        le
      n_premodification
       subjunct2_noun
        cygne
   n_postmodification
    n_postmodification
n_verb_phrase
 xverb
  verb
   chasse
 subjunct2_direct_object
  n_noun_phrase
   n_noun_phrase
    n_nominal_group
     n_nominal_group
      n_premodification
       n_premodification
        c_premodification
         n_premodification
          subjunct1_determiner
           le
         n_premodification
          subjunct2_noun
           onde
     n_postmodification
      n_postmodification
   subjunct1_postmodification
    n_postmodification
     prep_phrase
      n_prep_phrase
       preposition
        avec
       subjunct1_prep
        n_noun_phrase
         n_noun_phrase
          n_nominal_group
           n_nominal_group
            n_premodification
             n_premodification
              c_premodification
               n_premodification
                subjunct3_determiner
                 ses
              n_premodification
               superjunct1_premodification
                adjectival_phrase
                 superjunct1_adjectival_phrase
                  superjunct1_adjective
                   larges
```

```
              subjunct2_noun
               palmes
         n_postmodification
          n_postmodification
```

```
| ?- walk([le,ciel,etait,rose,clause,la,mer,complement,tranquille,clet,clause,la
,brise,complement,endormie]).
stylistic goals of this sentence:
(clarity/obscurity, abstraction/concreteness, staticness/dynamism)

[obscurity,concreteness,dynamism]

Abstract stylistic elements (Connective view):

[[dissolution,initial_discord,final_discord,initial_concord,dissolution],[polysc
hematic],[]]

Abstract stylistic elements (Hierarchic view):

[[],[centroschematic],[terminal_heteropoise]]

Connective stylistic parse:
_____

d_sentence
  d_complete
    c_major
      conjunct1_subject
        c_noun_phrase
          c_nominal_group
            c_premodification
              c_premodification
                conjunct3_determiner
                  le
                c_premodification
                  conjunct1_noun
                    ciel
            c_postmodification
              c_postmodification
      c_verb_phrase
        xcopula
          copula
            etait
      adjectival_phrase
        conjunct2_adjective
          rose
    initial_d_clause
      d_clause
        antijunct1_clause
          antijunct2_clause
            verbless_clause
              c_clause
                c_noun_phrase
                  c_nominal_group
                    c_premodification
                      c_premodification
```

```
                        c_premodification
                          conjunct3_determiner
                            la
                          c_premodification
                            conjunct1_noun
                              mer
                    c_postmodification
                      c_postmodification
                c_complement
                  adjectival_phrase
                c_complement
                  adjectival_phrase
                    adjectival_phrase
                      conjunct2_adjective
                        tranquille
      antijunct2_clause
        verbless_clause
          c_clause
            c_noun_phrase
              c_noun_phrase
                c_nominal_group
                  c_nominal_group
                    c_premodification
                      c_premodification
                        c_premodification
                          conjunct3_determiner
                            la
                          c_premodification
                            conjunct1_noun
                              brise
                    c_postmodification
                      c_postmodification
              c_complement
                adjectival_phrase
              c_complement
                adjectival_phrase
                  adjectival_phrase
                    conjunct2_adjective
                      endormie

Hierarchic stylistic parse:
_____

c_sentence
  c_complete
    c_final_explicit_complete
      c_final_explicit_active_complete
        c_major
          subjunct2_subject
            n_noun_phrase
              n_noun_phrase
                n_nominal_group
                  n_nominal_group
                    n_premodification
                      n_premodification
                        n_premodification
```

```
                c_premodification
                n_premodification
                    subjunct1_determiner
                    le
                n_premodification
                    subjunct2_noun
                    ciel
                n_postmodification
            n_postmodification
        c_verb_phrase
            xcopula
                copula
                etait
            adjectival_phrase
                superjunct1 adjectival_phrase
                superjunct1 adjective
                rose
    c_clause
        initial_explicit_active_clause
            explicit_active_clause
                superjunct1_clause
                    verbless_clause
                        c_clause
                            n_noun_phrase
                                n_noun_phrase
                                    n_nominal_group
                                        n_nominal_group
                                            n_premodification
                                                c_premodification
                                                n_premodification
                                                    subjunct1_determiner
                                                    la
                                                n_premodification
                                                    subjunct2_noun
                                                    mer
                                                n_postmodification
                                            n_postmodification
                                    c_complement
                                        explicit_static_complement
                                        c_explicit_static_complement
                                    c_complement
                                        explicit_static_complement
                                        c_explicit_static_complement
                                        adjectival_phrase
                                            subjunct2_adjectival_phrase
                                            subjunct2_adjective
                                            tranquille
                superjunct1_clause
                    verbless_clause
                        c_clause
                            n_noun_phrase
                                n_noun_phrase
                                    n_nominal_group
                                        n_nominal_group
                                            n_premodification
```

```
                n_premodification
                    c_premodification
                    n_premodification
                        subjunct1_determiner
                        la
                    n_premodification
                        subjunct2_noun
                        brise
                    n_postmodification
                n_postmodification
        c_complement
            explicit_static_complement
            c_explicit_static_complement
        c_complement
            explicit_static_complement
            c_explicit_static_complement
            adjectival_phrase
                subjunct2_adjectival_phrase
                subjunct2_adjective
                endormie
```

Bibliography

[Anderson & McMaster, 1982a] Anderson, C.W., and McMaster, G.E. "Objective Analysis of Emotional Tone in Stories and Poems", *ALLC Journal*, 3(2), Autumn 1987, 45–51.

[Anderson & McMaster, 1982b] Anderson, C.W., and McMaster, G.E. "Computer assisted modeling of affective tone in written documents", *Computers and the Humanities*, 16, 1982, 1–9.

[Anderson & McMaster, 1986] Anderson, C.W., and McMaster, G.E. "Modeling emotional tone in stories using tension levels and categorical states", *Computers and the Humanities*, 20, 1986, 3–9.

[Anderson & McMaster, 1989] Anderson, C.W., and McMaster, G.E. "A computer program and models for the testing of hypotheses on the creating of exciting literature", Paper presented at the Canadian Information Processing conference, Edmonton, Alberta, June 1989.

[Anderson *et al.*, 1987] Anderson, C.W., McMaster, G.E., and Mitchell, T.A. "Computer assisted enhancement of emotional tone accuracy in translated narrative", *Literary and Linguistic Computing*, 2(1), 1987, 1–6.

[Bateman & Matthiessen, 1989] Bateman, John, and Matthiessen, Christian. *Systemic linguistics and text generation.* Unpublished manuscript, 1989.

[Birch & O'Toole, 1987] Birch, David, and O'Toole Michael (editors) *Functions of style.* Pinter Publishers Limited, London, 1987.

[Boitet & Nedobejkine, 1981] Boitet, C., and Nedobejkine, N. "Recent developments in Russian-French machine translation at Grenoble", *Linguistics*, 19(3/4), 1981, 199–271.

[Brown, 1974] Brown, G.P. "Some problems in German to English machine translation", Interim scientific report (MAC-TR-142), Department of Electrical Engineering, Massachusetts Institute of Technology (AD/A-003-002), 1974.

[Bureau, 1976] Bureau, Conrad. *Linguistique fonctionnelle et stylistique objective.* Presses Universitaires de France, 1976.

[Carbonell *et al.*, 1981] Carbonell, Jaime G., Cullingford, Richard E., and Gershman, Anatole V. "Steps toward knowledge-based machine translation", *IEEE transactions on pattern analysis and machine intelligence*, 3(4), 376–392.

[Carbonell & Tomita, 1987] Carbonell, Jaime G., and Tomita, Masaru. "Knowledge-based machine translation, the CMU approach". In: Nirenburg (1987), 68–89.

[Catt, 1988] Catt, Mark. *Intelligent diagnosis of ungrammaticality in computer-assisted language instruction.* MSc thesis, Department of Computer Science, University of Toronto, 1988 [published as technical report CSRI-218].

[Chandioux, 1976] Chandioux, J. "METEO: un système opérationnel pour la traduction automatique des bulletins météorologiques destinés au grand public", *Meta* 21, 1976, 127–133.

[Cluett, 1976] Cluett, Robert. *Prose style and critical reading.* Teachers College Press, Columbia University, 1976.

[Cluett, 1989] Cluett, Robert. Unpublished manuscript on Canadian literary style. 1989.

[Corbett, 1971] Corbett, Edward P.J. *Classical rhetoric for the modern student.* Oxford University Press, 1971.

[Crystal & Davy, 1969] Crystal, David, and Davy, Derek. *Investigating English style.* Longmans, Green and Co. Ltd., 1969.

[Cullingford, 1986] Cullingford, Richard E. "SAM". In: Schank, Roger C., and Riesbeck, Christopher K. (editors). *Inside computer understanding: Five programs plus miniatures.* Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1981, 75–119. In: Grosz, Barbara J.; Sparck Jones, Karen; and Webber, Bonnie Lynn. *Readings in Natural Language processing.* Morgan Kaufmann Publishers, Inc., 1986, 627–650.

[Cullingford & Onyshkevych, 1987] Cullingford, Richard E., and Onyshkevych, Boyan A. "An experiment in lexicon-driven machine translation". In: Nirenburg (1987), 278–301.

[Davidson, 1980] Davidson, Donald. *Essays on actions and events.* Clarendon Press, Oxford, 1980.

[Delisle, 1984] Delisle, Jean. *L'Analyse du discours comme méthode de traduction.* Éditions de l'Université d'Ottawa, Ottawa, 1984.

219

[Delisle, 1988] Delisle, Jean. *Translation: An interpretive approach.* Translated by Patricia Logan and Monica Creery, University of Ottawa Press, Ottawa, 1988.

[DiMarco, 1984] DiMarco, Chrysanne. "Recognition and representation of multiple points of view", Depth oral document, Department of Computer Science, University of Toronto, 1984.

[Dubois, 1969] Dubois, Jean. *Grammaire structurale du français: la phrase et les transformations.* Librairie Larousse, Paris, 1969.

[Dubois & Dubois-Charlier, 1970] Dubois, Jean, and Dubois-Charlier, Françoise. *Éléments de linguistique française: syntaxe.* Librairie Larousse, Paris, 1970.

[Fowler, 1968] Fowler, H.W. *A dictionary of modern English usage.* Second edition, Oxford University Press, 1968.

[Galichet, 1970] Galichet, Georges. *Grammaire structurale du français moderne.* Éditions HMH, Montreal, 1970.

[Gentner, 1981] Gentner, Dedre. "Some interesting differences between nouns and verbs", *Cognition and brain theory.* 4(2), Spring 1981, 161–178.

[Gleick, 1987] Gleick, James, *Chaos.* Viking Penguin Inc., 1987.

[Grevisse, 1986] Grevisse, Maurice. *Le bon usage.* Duculot, 1986.

[Günthner & Lehmann, 1983] Güunthner, F., and Lehmann, H. "Rules for pronomialization", *Proceedings of the First Conference of the European Chapter of the Association for Computational Lingsuitics*, 1983, 144–151.

[Halliday, 1985] Halliday, M.A.K. *An introduction to functional grammar.* Edward Arnold, London, 1985.

[Halliday & Hasan, 1976] Halliday, M.A.K., and Hasan, Ruqaiya. *Cohesion in English.* Longman Group Limited, 1976.

[Hendricks, 1976] Hendricks, William O. *Grammars of style and styles of grammar.* North-Holland Publishing Co., The Netherlands, 1976.

[Hirst, 1987] Hirst, Graeme. *Semantic interpretation and the resolution of ambiguity* (Studies in natural language processing). Cambridge University Press, 1987.

[Hovy, 1987] *Generating natural language under pragmatic constraints.* PhD thesis, Department of Computer Science, Yale University, 1987.

[Huang, 1984] Huang, Xiuming. "The generation of Chinese sentences from semantic representations of English sentences", International Seminar on Machine Translation, Cranfield, England, February 1984.

[Huang, 1985] Huang, Xiuming. "Machine translation in the SDCG formalism", In: Nirenburg (1985), 135–144.

[Hutchins, 1986] Hutchins, W.J. *Machine translation: Past, present, future.* Ellis Horwood Ltd., Chichester, 1986.

[Jensen *et al.*, 1986] Jensen, Karen; Heidorn, George; Richardson, Stephen; and Haas, Norman. "PLNLP, PEG, and CRITIQUE: Three contributions to computing in the humanities", *Computers and the Humanities Conference Guide*, University of Toronto, Toronto, Ontario, 15–18 April 1986, 183–193.

[Kane, 1983] Kane, Thomas S. *The Oxford guide to writing.* Oxford University Press, 1983.

[Laurian, 1986] Laurian, Anne-Marie. "Stylistics and computing: machine translation as a tool for a new approach to stylistics". *Computers and Translation.* 1(4), October–December 1986, 215–223.

[Lehmann & Stachowitz, 1971–75] Lehmann, W.P., and Stachowitz, R.A. Development of German-English machine translation system. Final (annual) report(s), February 1970 to June 1974 (RADC-TR-72-47, RADC-TR-72-74, RADC-TR-73-260, RADC-TR-73-309, RADC-TR-75-2) Lingustics Research Center, Austin, Texas.

[Lehmann *et al.*, 1970] Lehmann, W.P.; Stachowitz, R.; and Tosh, L.W. *Research in German-English machine translation on syntactic level.* 2 vols. Linguistics Research Center, Austin, Texas, 1970.

[Lytinen, 1984] Lytinen, Steven L. *The organization of knowledge in a multi-lingual integrated parser.* PhD thesis (RR340), Department of Computer Science, Yale University, 1984.

[Lytinen, 1987] Lytinen, Steven L. "Integrating syntax and semantics". In: Nirenburg (1987), 302–316.

[Lytinen & Schank, 1982] Lytinen, Steven L., and Schank, Roger. "Representation and translation", *Text* 2(1/3), 1982, 83–111.

[Maas, 1978] Maas, H.D. "Das Saarbrücker Übersetzungssystem SUSY", *Sprache und Datenverarbeitung* 2(1), 1978, 43–61.

[McDonald & Pustejovsky, 1985a] McDonald, David D., and Pustejovsky, James D. "A computational theory of prose style for natural language generation", *Proceedings of*

the Second Conference of the European Chapter of the Association for Computational Linguistics, University of Geneva, Geneva, Switzerland, 27–29 March 1985, 187–193.

[McDonald & Pustejovsky, 1985b] McDonald, David D., and Pustejovsky, James D. "Description-directed natural language generation", *Proceedings of the Ninth International Joint Conference on Artificial Intelligence*, Los Angeles, California, 18–23 August 1985, 799–805.

[Mel'čuk, 1973] Mel'čuk, Igor A. "Towards a linguistic 'meaning ↔ text' model", In: Kiefer, F. (editor) *Trends in Soviet theoretical linguistics*. Reidel, Dordrecht, 1973, 33–57.

[Mel'čuk & Žholkovskij, 1970] Mel'čuk, I.A., and Žholkovskij, A.K. "Towards a functioning 'meaning-text' model of language", *Linguistics* 57, 1970, 10–47.

[Miezitis, 1988] Miezitis, Mara. *Generating lexical options by matching in a knowledge base.* MSc thesis, Department of Computer Science, University of Toronto, 1988 [published as technical report CSRI-217].

[Milic, 1982] Milic, Louis T. "The annals of computing: Stylistics", *Computers and the Humanities*, Volume 16, Number 1, September 1982, 19–24.

[Morris, 1988] Morris, Jane. *Lexical cohesion, the thesaurus, and the structure of text.* MSc thesis, Department of Computer Science, University of Toronto, 1988 [published as technical report CSRI-219.]

[Nirenburg, 1985] Nirenburg, Sergei (editor). *Proceedings of the Conference on Theoretical and Methodological Issues in Machine Translation of Natural Languages*, Colgate University, Hamilton, New York, 14–16 August 1985.

[Nirenburg, 1987] Nirenburg, Sergei (editor). *Machine translation: Theoretical and methodological issues* (Studies in Natural Language Processing). Cambridge University Press, 1987.

[Nirenburg, 1989] Nirenburg, Sergei. "Knowledge-based machine translation", *Machine translation*, 4(1), March 1989, 5–24.

[Payette, 1990] Payette, Julie. *Intelligent computer-assisted instruction for second-language teaching* (working title). MSc thesis, Department of Electrical Engineering, University of Toronto (forthcoming 1990).

[Quirk et al., 1985] Quirk, Randolph; Greenbaum, Sidney; Leech, Geoffrey; and Svartvik, Jan. *A comprehensive grammar of the English language.* Longman Group Limited, 1985.

[Raskin, 1986] Raskin, Robin. "The quest for style", *IEEE Transactions on Professional Communication*, **PC-29**(3), September 1986, 10–18.

[Ryan, 1989] Ryan, Mark B.P. *The computational codification of the semantic aspects of style.* MSc thesis, Department of Computer Science, University of Toronto, 1989 [published as technical report CSRI-231].

[Read, 1952] Read, Herbert. *English prose style.* G. Bell and Sons Ltd., London, 1952.

[Schank, 1975] Schank, Roger C. *Conceptual information processing.* American Elsevier Publishing Company, New York, 1975.

[Schank & Abelson, 1977] Schank, Roger, C., and Abelson, Robert P. *Scripts, plans, goals, and understanding: An enquiry into human knowledge structures.* Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1977.

[Sidner, 1983] Sidner, Candace Lee. "Focusing in the comprehension of definite anaphora". In: Brady, Michael, and Berwick, Robert C., (editors) *Computational Models of Discourse.* The MIT Press, Cambridge, Massachusetts, 1983, 267–330.

[Slocum, 1984] Slocum, Jonathan. METAL: the LRC machine translation system. (Working paper LRC-84-2; April 1984) Lingistics Research Centre, Austin, Texas, 1984.

[Snarr, 1984] Snarr, Victoria L. *Theory and parsing of the coordinate conjunction "and".* MSc thesis, Department of Computer Science, University of Toronto, 1984 [published as technical report CSRI-171].

[Strunk & White, 1979] Strunk, William, Jr., and White, E.B. *The elements of style.* Third edition. Macmillan Publishing Co. Inc., 1979.

[Taglicht, 1984] Taglicht, Josef. *Message and emphasis: On focus and scope in English.* English language series, Longman Group Limited, New York, 1984.

[Toma, 1977] Toma, P. "Systran as a multilingual machine translation system", In: CEC. *Overcoming the language barrier. Third European Congress on Information Systems and Networks*, Luxembourg, May 1977. 2 vols. Verlag Dokumentation, 569–581.

[Tucker & Nirenburg, 1984] Tucker, Allen B., and Nirenburg, Sergei. "Machine translation: A contemporary view", *Annual review of information science and technology*, **19**, 1984, 129–160.

[Vasconcellos, 1984] Vasconcellos, Muriel. "Machine translation at the Pan American Health Organization", British Computer Society, Natural Language Translation Specialist Group Newsletter 14, 1984, 17–34.

[Vasconcellos, 1985] Vasconcellos, Muriel. "Management of the machine translation environment: interaction of functions at the Pan American Health Organization. In: Lawson, V. (editor) *Tools of the trade: Translating and the computer 5*. 10–11 November 1985, Aslib, London, 115–129.

[Vauquois, 1975] Vauquois, Bernard. *La traduction automatique à Grenoble*. Paris, Dunoc, 1975.

[Vinay & Darbelnet, 1958] Vinay, J.-P., and Darbelnet, J. *Stylistique comparée du français et de l'anglais*. Didier, Paris, 1958.

[Wilks, 1973a] Wilks, Yorick. "An artificial intelligence approach to machine translation", In: Schank, Roger C., and Colby, Kenneth M. (editors) *Computer models of thought and language*. Freeman, San Francisco, 1973, 114–151.

[Wilks, 1973b] Wilks, Yorick. "The Stanford machine translation project", In: Rustin, R. (editor) *Natural language processing. Courant Computer Science Symposium no. 8*, 20–21 December 1971, New York, Algorithmics Press, 1973, 243–290.

[Wilks, 1975] Wilks, Yorick. "An intelligent analyzer and understander of English", *Communications of the ACM*, 18(5), 1975, 264–274.

Other works consulted

[1] Cressot, Marcel. *Le style et ses techniques: précis d'analyse stylistique.* Presses Universitaires de France, Paris, 1974.

[2] Dubois, J., Edeline, F., Klinkenberg, J.M., Minguet, P., Pire, F., and Trinon, H. *Rhétorique générale.* Librairie Larousse, Paris, 1970.

[3] Guiraud, Pierre. *La syntaxe.* Presses Universitaires de France, Paris, 1962.

[4] Guiraud, Pierre. *La stylistique.* Presses Universitaires de France, Paris, 1972.

[5] Lanham, Richard A. *Style: An anti-textbook.* Yale University Press, New Haven and London, 1974.

[6] Marouzeau, Jules. *Précis de stylistique française.* Masson et Cie., 1941.

[7] Quirk, Randolph, and Greenbaum, Sidney. *A university grammar of English.* Longman Group Limited, 1979.

[8] Steiner, George. *After Babel.* Oxford University Press, 1975.

[9] Tatilon, Claude. *Traduire: pour une pédagogie de la traduction.* Éditions du Groupe de Recherche en Études Francophones, Toronto, 1986.