Aspects of Mandarin Morphosyntax

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Part I

Introduction

Chapter 1

Introduction to Modern Standard Mandarin Chinese

1.1 Genetic affiliation

1.2 Demography, sociolinguistic situation and varieties

1.3 What language? What grammar?

This book is about aspects of the grammar of the contemporary Chinese language (现代汉语). Each word in this phrase can trigger controversy. Before starting substantial discussion, it is a wise idea to clarify what I am actually talking about.

1.3.1 Standard Mandarin and its variation

In the rest of the book, we use the term *Chinese* 中文，（现代）汉语，华语 interchangeably with the more precise term *Standard Mandarin Chinese.*

1.3.2 The possibility to have a structure-based grammar

People familiar with Chinese often say its grammar depends more on the context, and some goes as far as claiming that a structure-based approach – or even a truth-value semantics-based approach – is infeasible when studying Chinese. And indeed, Li and Thompson (1989), arguably the most recognized grammar of the Chinese language, is a functionalist one. Our opinion is that though of course the context can influence strongly the grammar, this is not without limit. Pragmatic information may trigger *pro*-drop or forbid it, but it rarely triggers omission of the object. Sentences in dialogues may have more sentence final particles than written ones, but spoken sentences never have sentence *initial* particles. Though the context means a lot in Chinese, it is safe to assume we still have an underlying rigid structure beside purely semantic or pragmatic information.

The structure-based approach is by no means a rejection of functionalist studies. Rather, the former explores what features can be employed by the latter, so it can be expected the two approaches are complementary.

The next question is how to catch the structure. It is impossible to sit there and just "observe the world without bias". People always do observation within a framework. Some may argue that typologists must be ready to invent completely new concepts when documenting a language (see, for example, Haspelmath (2008)), which is, of course, in principle true, but practically it is common for people to implicitly take some concepts for granted and carry out valuable works. R.M.W Dixon, a famous opponent of generative syntax, mocks "formalists" who fruitlessly try to find concepts exact corresponding to Indo-European ones in underdocumented languages in his Basic Linguistic Theory (BLT) (Dixon, 2009) and advocates "describing a language in its own terms", but he immediately goes on to discuss how to write a grammar *in terms of basic linguistic theory*, where we have predefined terms like *clause, sentence, argument*, a *deep structure* (This is

indeed the term used by him!) which is made up by constituent hierarchy and so on.[1] Indeed, the strange fact that structuralist (and "arbitrary" and "purely empirical") analyses of languages always fall into the same metalanguage – the one with headed (I talk about the term in § 2.1.2.4) phrase structures (IC analysis) and a set of shared concepts like predicate, arguments, etc. – is one motivation of the birth of generative syntax, which is formalized in Chomsky's famous Syntactic Structures (Chomsky, 2009). The same fallacy can be seen in construction grammar, where people talk about stored routinized constructions – but routinization of *what*? It seems if we are to discuss purely structural aspects of a language, assuming a grammatical framework about possible structure building mechanisms is inevitable. This is actually not a bad thing. I will talk about the framework in following sections, and we will find Minimalism, tree-adjoining grammar, the implicit framework employed in many language documentation works, etc. can be reconciled.

1.3.3 "Not limited in Indo-European grammar perspectives"

Another frequently mentioned motto in the study of Chinese language is "Don't be limited to Indo-European perspectives". Again this is a correct statement but does not give much concrete methodological suggestions. In self-identified "non-(or even anti-)generative" communities (the Language Hat, some Twitter circles, among others), this motto is also invoked to argue against formalist approaches. This accusation is very alarming and often contains many serious and insightful criticisms, but the claim itself may not factually hold, especially in recent years, since many generative linguistics are now highly interested in underdocumented languages, and many theoretical proposals (Preminger, 2014) are based on these languages rather than so-called Indo-European perspectives. (Another related accusation is generative works do not view a language in a holistic way – how to solve the problem is also discussed in § 2.1.1.) We should keep in mind that what works in English does not necessarily work in unfamiliar languages in question, but if a formal universal (for example, "the phonetic realization of pronouns is dependent to c-command relations") seems truly reasonable in the new language, we should not hesitate to keep it. What terms in Indo-European language studies should be avoided? Accusing each other as Indo-European-oriented often leads to unproductive results and unnecessary chaos. This book includes some examples: see § 3.1, § 3.3.3.

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[1] It is often justified that it is acceptable to do so because the predefined terms are just for *inspiring* people and not meant to be used in describing any language, and thus BLT is not a framework in the way generative approaches are. This justification seems also to be used by Dixon, since in BLT he writes that BLT is a toolkit of description devices and not all of them should be used and actual language description always feeds back to the Basic Linguistic Theory toolbox, so the toolbox is not a rigid framework.

This justification is not valid. The first reason is it contains a factual error: generative linguistics do not expect to find every concept that has been discovered in English in newly documented languages. For example, there have always been some generative linguists arguing that Chinese does not have adjectives (§ 3.1) or that the passive construction is radically from the one in English (§ 15.1).

In "hard sciences" like physics, it is quite common that a theory breaks the framework in a rigid sense but everyone agrees the theory is just *enriching* the framework, and it is also quite common that a so-called framework is just a toolkit of possible mechanisms and ways to deal them (see, for example, the case in condensed matter many-body theory), but still everyone agrees there *is* and *needs to be* a framework after all.

Chapter 2

Preliminaries and the theoretical framework

2.1 Existing descriptive frameworks

2.1.1 Infeasibility of using derivational syntax as a descriptive tool

Though Minimalism is the most prevalent framework in the generative enterprise, we should acknowledge that the framework is not a good choice for descriptive means (Dryer, 2006), and more surface-oriented grammatical theories ("descriptive theory" in Dryer's terms) are required. The ultimate reason is Minimalism tends to work with rather abstract and fine-grained features with lots of movements and spell-out related post-syntactic morphological processes, which is just the purpose of generative research but proves not suitable for language describing from sketch. When faced with real-world data, it is technically impossible for linguists to immediately work out the right derivation process. To list a few representative cases:

- How to decide the correct derivation procedure of an ergative language, since linguists are still debating about several possible mechanisms?

- How to describe subcagegorization? By selectional features as in Minimalist Grammar, or by Distributed Morphology (DM)-like spellout-based mechanisms(Siddiqi, 2009)?

- How to account for different NP word orders? Should we accept them as they are, or should we introduce some movements without clear motivation (Cinque, 2005) to derive them from a universal supine?

A lot more questions can be added to this list. We see that surface-based "shallow" analysis and fine-grained analysis are conflicting, and hence it is reasonable to adopt other frameworks for language description.

Compared to Minimalism, GB is less fine-grained and we can expect it may be a better descriptive theory, and there are GB grammars about underdocumented languages, for example Holmer (1996). This work, however, has poor reputation in linguists who care more about grammar writing than so-called in-depth analysis (van Driem, 2007). These linguists contribute the most to our knowledge about particular languages, and they tend to be anti-generativism. Their words should definitely be taken seriously. The viewpoint taken in this book is we do need descriptive theories in lieu of Minimalism, but this is for practical reasons discussed above. The formal sides of these descriptive theories, as I discuss later in this chapter, are essentially the same as Minimalism.

The other theory frameworks – for example TAG – are much better at grammar writing. We do not need much explanation for the descriptive power BLT or The Cambridge Grammar of the English Language (CGEL). For dependency grammar, we have the Universal Dependency project, which uses a unified annotation rule to build a large, multi-linguistic treebank (Nivre, 2015). For Tree-adjoining grammar (TAG), we also have the XTAG project.

So now we have a list of a few existing structure-based frameworks that are relevant to our discussions:

- Minimalism, which works on

Table 2.1: Comparison between different formalisms. The yellow color means the corresponding framework is able to have the feature, but relevant discussions are rare in the literature.

Feature	Minimalism	GB	TAG	Dependency grammar	BLT	CGEL
Surface-based segmentation	-	Descriptive works exist but not good	+	+	+	+
Fine grained analysis	+	Cartography	-	-	-	-
Large "domains"	phase theory, cartography, etc.	+	+	-	+	+
Pre-compiled constructions	Nanosyntax-like lexicon		+	valency analysis	+	
Hierarchy details	+	+	+	-	-	+
Functional labels	Through DM-like subcategorization	Through notions like Spec-head relations	-	+	+	+

- The traditional GB-style X-bar scheme

- TAG

- Dependency grammars, which is frequently used in computational works.

- BLT, the framework used in most contemporary descriptive works.

- The grammatical framework used in CGEL (Huddleston and Pullum, 2002; Pullum and Rogers, 2008), which is generative-informed and yet remaining context-free and insists some analysis quite different from contemporary Minimalism (e.g. what is a head – I will discuss these apparent disagreements later).

Their differences can be roughly summarized as Table 2.1. The "surface-based partition" and "find-grained analysis" rows explain why Minimalism fails as a descriptive theory. Minimalism is optimized for the latter, which other grammatical frameworks simply ignore, and as a consequence, Minimalism fails in the former task.

An obvious question is why there are so many frameworks, each of which seems to make some sense. In the rest of § 2.1, I explain items in Table 2.1, the strength and weakness of each framework, and how these differences are mostly just notational differences and are more about methodology instead of worldview. The grammatical framework I use in this book for descriptive works is a mixture of all these framework, with plenty of discussions on how these frameworks are related. This is a reasonable choice in my own point of view. Jacques (2021), for example, is a typical BLT grammar, but when it comes the coordination strategies in NPs, some GB-style X-bar trees are used (Figure 9.1 and 9.2).

2.1.2 Equivalent formalism of Minimalism

Fig. 2.1 gives a coordinate system which classifies possible equivalent formalisms of Minimalism. Fig. 2.2 illustrates how to explicitly build correspondence between different formalisms. In the following sections, I will talk about the three axes in these two figures.

There is yet a final coordinate of formalisms equivalent to Minimalism beside what is shown in Fig. 2.2: pre-compiled trees (read: "construction"). I will not talk about this topic too much in this section, because there is no single way to routinize Minimalism derivations, so routinization cannot be easily represented by adding a more coordinate into Fig. 2.1.
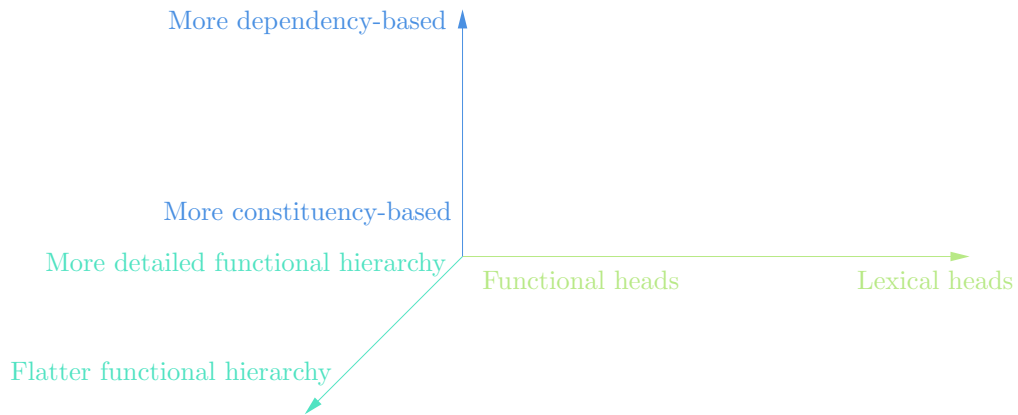
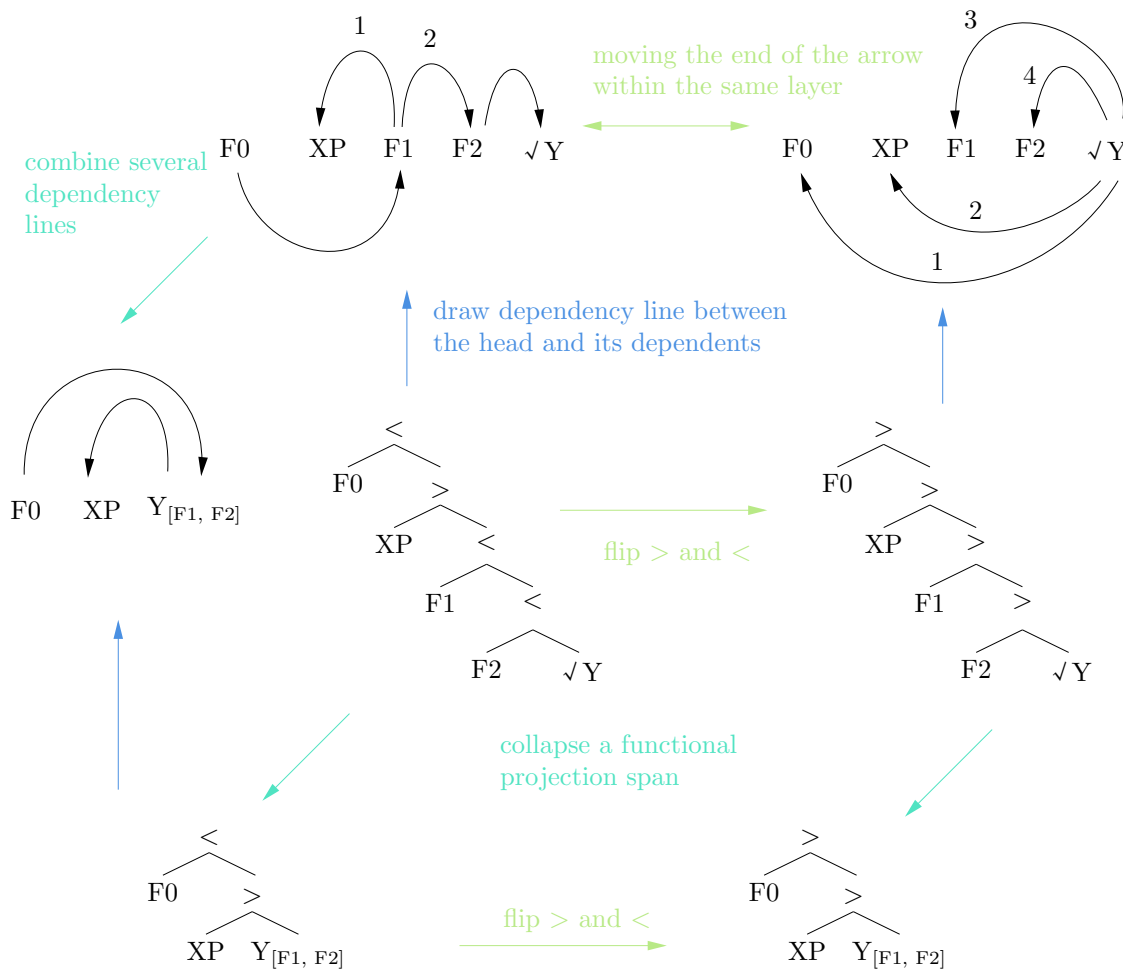Figure 2.1: Coordinates of equivalent Minimalism formalisms

Figure 2.2: Mapping between equivalent formalisms

2.1.2.1   Dependency vs constituency

Dependency grammars are often said to be alternatives to constituency grammars. This is a quite weird claim, since they are better described as *dual* to each other. It has already been demonstrated that there are dependency structures in Minimalism (Boston et al., 2009), and Minimalism, under certain adaptation, is equivalent to a dependency grammar (Osborne et al., 2011). This should not surprise anyone, since there have long been tools converting one into another in old-fashioned NLP. It is actually also possible to mix constituency grammar and dependency grammar Kahane and Mazziotta (2015), in which a dependent ark may point to a constituent and not necessarily a word.

2.1.2.2   Divergent standards of constituency: how to divide a large unit

Note that in Distributed Morphology, a word – a bundle of several features spelt-out together – is a *span* and not a constituent in the generative sense, and yet in lexicalist Minimalism, people recognize it as a construction. This helps to settle the bracketing dilemma in immediate constituency analysis.

So now we can see there is no conflict between the binary branching definition of *verb phrase* as Aux plus V plus NP_{object} and the BLT definition of verb phrase, which does not include the object NP. A good choice is to use the term *verb complex* to denote the verb phrase in the BLT sense (Wilbur, 2014; Friesen, 2017, among others).

2.1.2.3   Divergent standards of constituency: how flat the tree is

The fact that the relative height of dependency relations are never considered in standard dependency grammars raises yet another issue about how flat the syntax *constituency* tree should be, since we can map a dependency grammar without any marking of relative height of dependency relations (i.e. a dependency grammar which does not have labels 1, 2, . . . on dependency arcs as in Fig. 2.2) into a constituency grammar with flat trees. It is kind of strange to talk about flat trees in a theory equivalent to Minimalism, but recall that in lexicalist Minimalism, a terminal node in a syntactic tree can have unrestrictedly large feature bundles i.e. unrestricted branching, and since we know lexicalist Minimalism can be seen as an equivalent formalism of DM-like Minimalism, it is nature to ask whether unrestricted branching for *all* kinds of nodes – not just feature nodes – also gives an equivalent grammar class to the grammar class allowed in Minimalism.

Take the tree structure of a simple clause as an example. In BLT, Dixon accuses the binary division between the subject and the predicate as harmful (without providing much argumentation about it), but when discussing topic and pivots, he distinguishes the subject (in accusative languages, of course) from other arguments and regards it as having a somehow more prominent position. The arguments are licensed by the verb and have dependency relations with the verb. Introducing a position of pivot (or subject in accusative languages) besides the notion of deep S, A and O of course means introducing a layer of construction built *upon* the argument structure layer about "the obligatory and syntactically codified topic", which, in generative terms, is just the TP layer. It is of course possible to draw a syntactic tree with a quite flat clause structure and explain that "the subject somehow has a higher position", but this is eventually the same as the binary branch approach in Minimalism.

Here I give an example of multi-branch trees that are equivalent to Minimalist ones. Since it is hard to define Merge-like fine-grained primitive operations with multiple branching, I will present a tree in a grammar working with routinized pre-compiled constructions, not Merge and a list of syntactic atoms. I will talk about routinization in detail in § 2.1.3.1.

Consider, for example, the derivational process shown in Fig. 2.3. This seems complicated because we are only allowed to use Merge and spellout, but we can certainly find three routinized processes: the first is to assemble the vP structure and to build the argument structure, the second is to add tense and aspect information and to spell out them as auxiliary verbs (hence forming the "verb phrase" in the BLT sense), and the third is the A-movement of the subject. If we work with these routines instead of Merge and spellout, we get the dependency arcs in Fig. 2.4. Dependency relations created in the three layers are labeled by three colors. The deep argument structure is realized in the vP layer in the Minimalism derivation. The clausal non-spatial settings (this is the terminology in BLT) are created in the TP layer. The fact that in
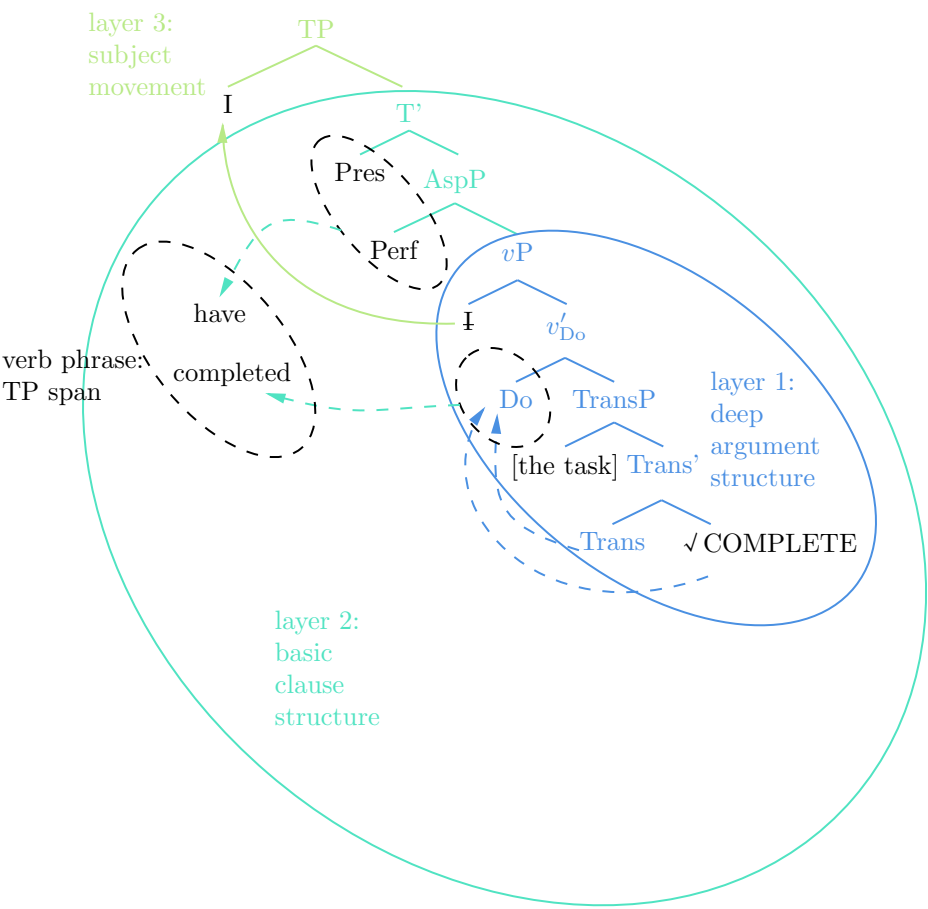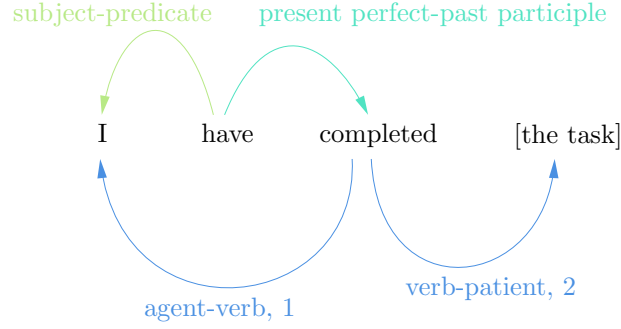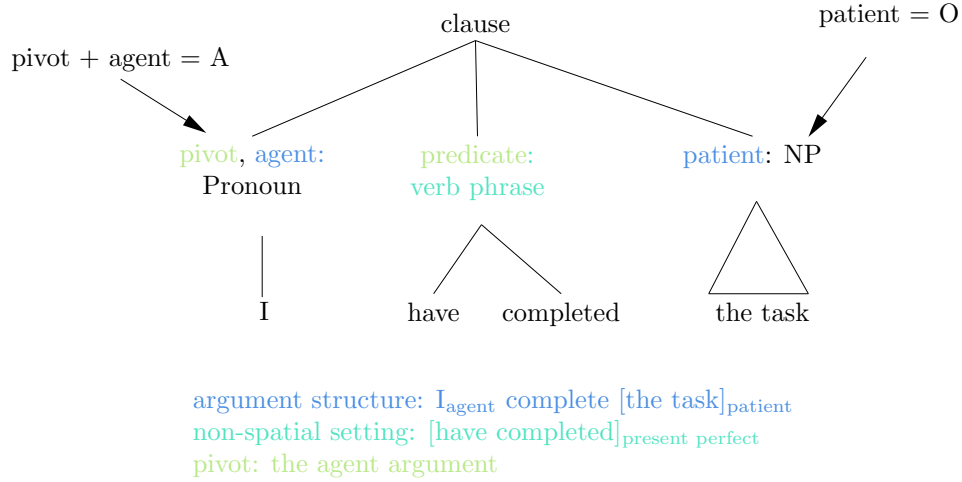
Figure 2.3: The derivation of *I have completed my task* in Minimalism

Figure 2.4: The dependency relation created when deriving *I have completed my task* in BLT

Figure 2.5: The tree diagram representation of *I have completed my task* in BLT

active clauses the A argument is the pivot is realized by the Spec-vP to Spec-TP A-movement.[1]

Now the problem is how can Fig. 2.4 be rephrased into a constituency tree which is multi-branch. After some reflection, it is easy to find that the BLT version of tree diagram shown in Fig. 2.5 is exactly what is wanted. Every syntactic relation in the BLT tree diagram traces back to a dependency relation created by Merge. The grammatical relation between the auxiliary verb and the past participle is shown by combining these two into one unit, called the *verb phrase* (in the BLT sense). This is a *span* in generative terms, being the newly added elements in the TP layer, representing the non-spatial setting of the clause – in this case it is "present perfect". The argument structure BLT tree is realized by putting agent and patient labels to the arguments. The pivot status of the agent is shown by the A label, which marks the agent NP and marks its pivot status at the same time.

Readers need additional knowledge put aside the tree diagram in Fig. 2.5, which, essentially, means we need dependency relations not shown in the tree diagram. This is the cost of rejection of fine-grained constituent structure: coexistence of flat trees and dependency relations is needed.

A similar case where the loss of structural information in less fine-grained formalisms is remended by adding additional dependency relations can be found in CGEL § 5.14.1, where the authors highlight the existence of *indirect* complements, which are licensed by another dependent in the matrix phrase, and the dependency relation between an indirect complement and its licensor is not that transparent in CGEL's phrase structure grammar. In this case, additional dependency relations arise from rejection of invisible movements.

A further issue about the flatness of tree diagrams is how to describe the constituency order.

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[1]One question here might be that layer 2 seems to be the T' projection, while layer 3 seems to be the Spec-TP position and EPP feature, but it seems strange that a construction routinizes an intermediate projection. But for the sake of conciseness, Fig. 2.3 is *not* a true cartographic syntactic tree, and just as is the case with CGEL where a projection corresponding to N' in the classical X-bar theory is actually a maximal projection, so is T' in Fig. 2.3.

The flat-tree approach, which is used in BLT and also known as the functional theory of syntax, views constituent order as a mean to mark the constituents, in the same way case markers mark NPs. For a SVO language like Chinese or English, for example, the BLT perspective is that the O argument is marked by the fact that it follows the predicator. As Dixon points out, the constituent order is about surface realization and is largely arbitrary, easily variable just like case marking strategies. Thus, the generative papers trying to somehow "derive" the constituent order seem to be all meaningless.[2] The problem is this does not goes against the generative idea: in generative syntax, movements which cause deviation from the trivial tree structure created by external Merge are driven by features, in the same way case marking is driven by features. The movement-free template-based approach of syntax, despite its apparent discrepancy with the contemporary generative approach, describes a largely identical grammatical complexity class with the generative one: "a feature attracts S to its surface position" has nothing practically different from "a feature is marked by inserting S to its surface position". What, then, does the invisible and chaotic features and derivations add to our understanding of language? What they add to our understanding of language is that the variation of constituency order is *not* that free: certain antisymmetric effects can be observed, which do not have clear functional explanation (Cinque, 2014). A right-branching Merge-based analysis extracts these observations in the notation, and hence is helpful when doing both internal and cross-linguistic analysis.

2.1.2.4 The notion of *head*

What is the head of a constituent is also a topic causing lots of disputation. Dixon argues in BLT that prepositions should not be taken as the head of a constituent, because otherwise we will end up in ridiculously calling the case affix of a noun the head of "case phrase". The point here is it is *not* ridiculous. What tears linguists apart is what they expect a head to do. It is often said that "a head is what determines the properties of a constituent". If this definition is to be followed strictly and in a surface-oriented manner, then in a NP like *[big [grey bears]]*, the adjectives *grey* and *big* have to be heads: we do not have **[grey [big bears]]*, which means *grey* modifies a bare NP but not a NP modified by *big*, and hence *big* changes the property of the NP and has to be a head, and we have *[< big [< grey bears]]*.

So here we see the root cause of the disagreement between Minimalism and the BLT-and-CGEL-definition of head. The former is about labeling a newly introduced element (i.e. the specifier), while the latter is about the the overall syntactic function of the whole constituent.

2.1.2.5 Information contained in a Minimalism derivational tree

2.1.3 Deriving more surface-oriented formalisms

2.1.3.1 Minimalism as constructivism

Now it is time to discuss routinization in Minimalism, and how this reconciles Minimalism with more surface-oriented theories, or in Dryer's terms, "descriptive theories" (Dryer, 2006). All descriptive theories work on more

One reason to use pre-compiled trees is derivational theories are sometimes practically hard to use when doing computational researches. For example, Liter and Feldman (2020) is about how fine-grained feature hierarchy simplifies learning, but it has to explicitly solve out what a derivational grammatical constraint allows, and then work with the not-so-derivational possibilities.

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[2]There is a widespread myth in functionalists that generative linguistics try to demonstrate all human languages have English-like underlying constituent orders. This myth is sometimes expressed via claims like "Chomsky is a language colonizer" or "Chomsky tells us that all languages are European languages." This myth has factual errors as well as misunderstanding of what generativism tries to do. The factual errors include that in Minimalism, the S-structure v.s. D-structure distinction is canceled, and there is simply no such thing as English-like D-structures in contemporary generative syntax, that though some linguists assume a universal left-branching derivational order or cartographic supine, which captures the essential idea of the old-fashioned D-structure, not all generative linguists insist on this universal supine (Wiltschko, 2014), and that even for those accepting the cartographic syntax completely, due to the Distributed Morphology-like lexical decomposition, the verb root may be in the rightmost position in the universal supine, which moves to its surface position by head movements in SVO languages, and hence the "underlying constituent order" (as functionalists call it) is better described as Japanese-like rather than English-like. In the Chomsky-as-language-colonizer logic, then, if a linguist does not a lexical decomposition approach, he or she is a language colonizer, and otherwise, he or she embraces diversity. This line of thinking is as absurd as it seems. The misunderstanding of what generativism is discussed hereafter.

Another reason to keep pre-compiled trees is it makes the theory more psychologically plausible – attempts trying to localize Merge in the brain are generally not that successful, and assuming that human brains do store constructions, while on the other hand these constructions are still analyzable in terms of Merge seems a plausible answer to what is really going on in our brains (Matchin, 2016a,b). There are also acquisitional evidences supporting the claim that we learn words one by one and not in terms of abstract features (White et al., 2022), but abstract features are useful anyway as one method to narrow down possible languages (Liter and Feldman, 2020).

A third reason – which, in my opinion, is the main reason that typologists like Croft, Bybee, etc. reject generative syntax – is that when describing a poorly documented language, it is impossible to "tell syntax from other factors", as most generative linguists do. Even when investigating syntax, current mainstream Minimalism is just not handy (§ 2.1.1). What can be segmented from raw data are *always* routines, or in other words, *constructions*. This explains the name of Croft (2001). All field linguists, including those with generative backgrounds, are construction grammarian in some senses.

It should be noted, however, that the typological, inductive and *constructivist* approach is by no means the *opposite* of the generative approach, as many may suggest. (see, for example, discussion on distinction between "scientific and cumulative linguistics" and "formal theories" in BLT). Rather, these two approaches are largely *orthogonal*. Field linguists and typologists investigate constructions, while generative linguists investigate the *grammatical complexity* of these constructions. The depiction of generative linguists as people rephrasing observed linguistic phenomena in highly technical metalanguages (Haspelmath, 2021) is therefore not that wrong, but it fails to see what this is all about. What generative linguists do is to verify whether the newly observed constructions are in the same grammatical complexity class hinted by previously observed constructions. If we can identify a stable grammatical complexity class which contains all possible human languages and excludes the impossible ones, this tells a lot about the human language faculty.

What generative linguists do, then, is actually formalizing the intuition of a field linguist when dealing with syntactic constructions. Or maybe semi-formalizing: strict formalizing sometimes leaves loopholes that allows very weird and unintended syntactic derivations, because some implicit rules that everyone follows but never thinks of are not included (Hornstein, 2013). Though many (anti-generativism for reasons discussed above) field linguists insist that languages vary in an unlimited manner, this is not what their reference grammars tell us. The grammars are all written in terms of constituency and dependency relations, which have a rough correspondence but also some subtle mismatches (read: "syntactic structures, be them constituency-based or dependency-based, are created by a single Merge operation, but internal Merge is possible") argument structures (read: vP), non-spatial settings and syntactic obligatory topic (read: TP), syntax-pragmatics interface (read: CP), etc. which fit perfectly in the generative framework. Occasionally, there are disputations like "the definition of a *verb phrase* should not include the object so the generative binary branching is wrong" (§ 2.1.2.2), but in the same section I will show this has no conflict with generative syntax. The motto of "describing languages without prejudice" therefore makes more sense rhetorically: field linguists actually do have some bias (in the machine learning meaning) when describing a new language, but this bias is not negative and hence not really *prejudice*: there is bias not because linguists support Eurocentrism, but because languages *themselves* have bias.

So now the question is when these two approaches come together. This is predictably rare. The problem is the bias is in the *implicit* knowledge passed in the typology world, orally from older generations to younger generations, and subconsciously in modern reference grammars. In the same way, the implicit knowledge about constructions and routinization passes in the generative circle. Both worlds work well without acknowledging explicitly the findings of "the opposite camp", blocking beneficial mutual conservations.

There are several approaches to carry out a grammar in terms of routines. The most radical approaches are probably construction grammars. Construction grammarians tend to think that constructions vary unboundedly. This is quite a claim, since it is in principle possible for a construction to involve the notion of prime number, which is not demonstrated in any natural languages. The standard construction grammar explanation for this is that humans are not sensitive intuitively to abstract number theory concepts, and the concepts do no good to communication. But arguments in this way obviously *do* set some bounds for possible human
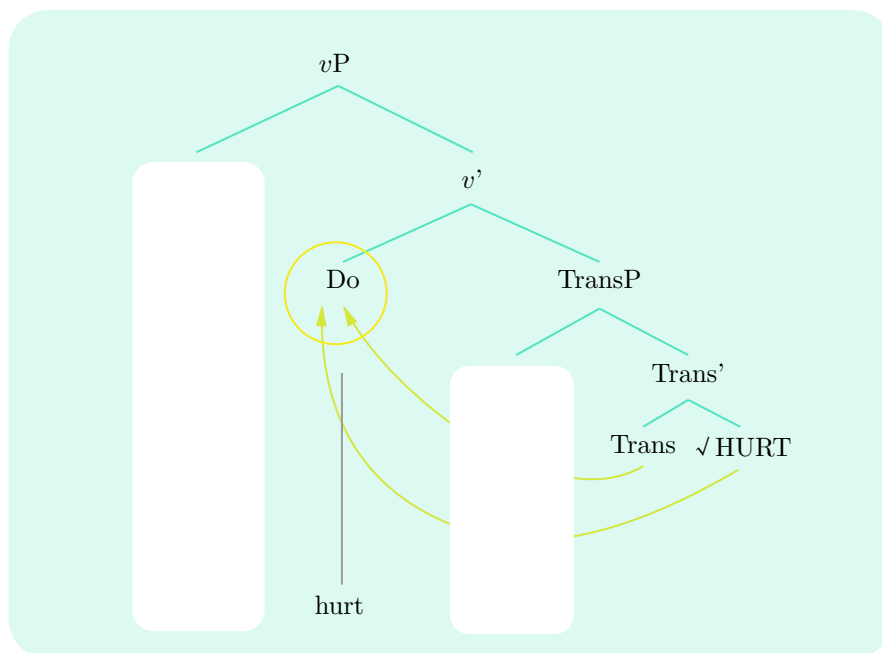
Figure 2.6: Routinized DM vP of the verb *hurt*

languages: they are just about domain general principles. Since

A large type of grammars that are in terms of pre-compiled trees but in a less radical manner is the class of **lexicalist** grammars, where a word is actually a pre-compiled tree, with placeholders in its complement positions, and words are the *only* kind of structure-building primitives. TAG is the most famous example.

Note that this notion of *lexicalism* has subtle differences with *lexicalism* as in *lexicalist Minimalism*, because although the two kind of lexicalist grammars all work with words, not sub-word or even sub-morpheme features, what the former term emphasizes is the status of words as pre-compiled treelets, while the second term emphasizes the inward organization of words is different from syntactic rules. If, for example, we routinize the vP structure of a verb in DM while still keeping the notion of functional projections, we can still get a somewhat lexicalist grammar in the former sense, but the existence of functional heads means the grammar is not lexicalist at all in the latter sense. Fig. 2.6 is an example of a lexical entry in a lexicalist version of DM, and since it involves Merge of features, it is by no means lexicalist in the sense of lexicalist Minimalism. What is emphasized by the former *lexicalism* is that the grammar is determined by the lexicon and a separate set of phrase structure rules (as in early generative theories) is not needed. What is emphasized by the latter *lexicalism* is that there is a morphological grammar engine strictly before syntax happens.

2.1.3.2 Constituency grammar and labeling

Let us start from Fig. 2.6. It still contains many invisible functional heads and is not that surface-oriented and will not please a field linguist. One possible way to throw away these functional heads is to notice that the only purpose of these functional heads is to create grammatical relations (Hornstein, 2021): all grammatical relations (which are more transparently represented as dependency relations – see § 2.1.2.1) are supposed to have something to do with Merge, and only Merge (not Adjoin or something else), and hence the invisible functional head hierarchy. To throw away functional heads while keeping their functions, what we will get is Fig. 2.7. Actually, throwing away functional heads while keeping the grammatical relations they create is not just a procedure of routinization: there is already research on the possibility of so-called "specifier-less syntax", in which the functional head is deemed as the label of a maximal projection, with the previously called specifier and complement being merged in an exocentric manner (Osborne et al., 2011).

In Fig. 2.7, (a) is the syntactic tree in which we use the dependency relation between the left argument slot, the verb *hurt* and the right argument slot to decide the constituency relations:
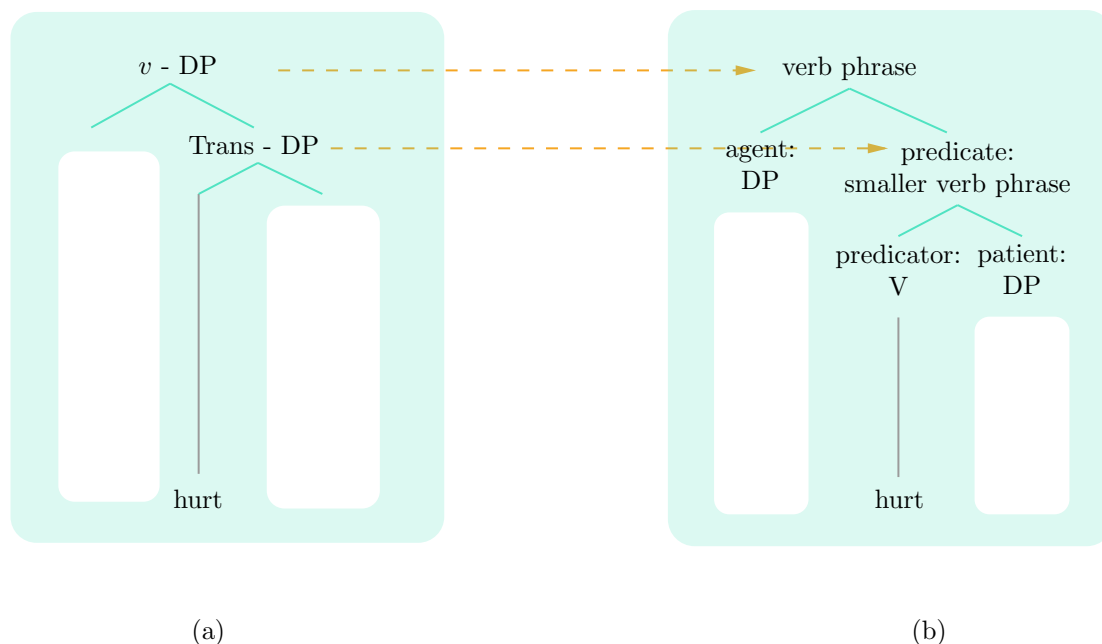
Figure 2.7: Routinized DM vP of the verb *hurt*, with functional heads removed and the grammatical relations reserved

- By the patient DP being the specifier of the Trans head, there is a Trans-DP dependency relation between them; since the Trans head is realized on the verb *hurt*, there is a Trans-DP dependency relation between the patient DP and the verb.

- Similarly, there is a v-DP relation between the agent DP and the verb.

- The v-DP relation is built in a higher position than the Trans-DP dependency relation.

- Thus we get (a) in Fig. 2.7.

We can go further to eliminate the occurrence of functional heads by replacing v-DP dependency relation with predicate-agent relation, which is shown in (b). The final result, as we see, is just a CGEL-like tree. So the phrase structure grammar formalism in CGEL is just routinized constituent-based Minimalism.

Note that (b) in Fig. 2.7 separates *syntactic form* (i.e. the inner structure of a constituent) and *syntactic function* (i.e. the external surrounding of the Constituent). This traces back to the derivational tree: the functional layer introducing a constituent (the *function* of the constituent) is logically independent from the layers that define the inner structure of the constituent (the *form* of the constituent). These two are of course still related, which is reflected by the fact that the patient position selects NPs and not other syntactic objects. We will see many syntactic forms and functions in § 2.2.

The fact that derivational trees can be effectively routinized into pre-compiled trees raises the question about whether Minimalism is *needed* at all. Indeed, the framework used in CGEL is context-free (Pullum and Rogers, 2008), and even after including the whole expressive power of Minimalism, what we get is just a mildly context sensitive grammar, or to be precise, a multiple context-free grammar (Clark, 2014). Both CFGs and MCFGs are close to Standard Theory without movements, or to be frank, *formalized American structuralist grammars*, and the necessity of all the fuss around Merge and its constraints is then questioned. What is even worse for Minimalism is that certain types of CFGs and MCFGs seem to be easily learned via a quite domain-general learning algorithm, and thus Minimalism may just be a good descriptive tool: it shows the tendency of the human statistical learner, but there is no domain-specific language faculty which is said to be described by Minimalism. What we have in this circumstance is therefore a construction grammar with Minimalism flavor.

Note, however, that a typical Minimalist grammar is often mapped to a rather large MCFG, because of the expansion of all possible movements, feature configuration, etc. The fact that

human languages are easier to describe in the Minimalist lens and not the strictly no-feature-no-movement MCFG lens may hint something about the human language faculty. Even the actual case of human linguistic capacity is Minimalism-inspired construction grammar, the Minimalist flavor will still be very strong, and what today's generative linguists do is still useful, even though their story about human language faculty needs adaption.

The routinized (and quite CGEL-like) constituency grammar formalism, especially after accompanied by the notion of complements and modifiers (§ 2.1.3.4), is like the good old X-bar theory, where a lexical word (not a functional word, especially not an invisible functional head) heads a constituent with multiple complements, specifiers and adjuncts (all in generative terms). The main differences between the GB-like X-bar scheme and the CGEL scheme are that in the former terms like "complement" is defined strictly in structural terms (e.g. "the sister of the head"), while in the latter these terms are defined in terms of dependency relations (e.g. "complements are more explicitly licensed by the head than modifiers") without any guarantee that complements are necessarily lower than modifiers (Payne et al., 2007), and that in the CGEL framework there is no intermediate projections: nominals in CGEL corresponds to N' projections in X-bar theory, but the former can appear as a complete unit (e.g. as the modifier of another NP).

We can summarize that the framework in CGEL is a little more flexible than X-bar theory. From the Minimalism perspective, it is easy to explain why: the criteria CGEL uses to draw the line between complements and modifiers are related more to subcagegorization information that is shown in the fine-grained Minimalist tree but not the coarse-grained CGEL tree (§ 2.1.3.4) and hints nothing about whether a constituent is a maximal projection or not. Purely tree structure-based notion of "complements" based on coarse-grained GB or CGEL trees is bond to fail. It is possible to define *complement* purely in terms of tree structure in Minimalism, because all functional projections are present, and thus we can say, for example, that "the specifier of the Trans projection is the O argument, etc. and A and O arguments are complements of a transitive verb", but in coarse-grained formalisms, these functional projections are blurred as in Fig. 2.7. So-called intermediate projections in X-bar theory, like N', are actually maximal projections according to more fine-grained analysis, and hence they indeed can appear as a complete constituency in some occasions.

Another feature of the framework in CGEL that is more flexible than the old-fashioned is that it displays the segmentation of different functional layers of an XP, with X being a lexical head, while the old-fashioned X-bar theory does not shows the fine structure of the dependents between the lexical head and the specifier. This is illustrated in CGEL § 5.2 [11]: the dependents introduced with a *nominal* parent node belong to an inner functional domain, while dependents introduced with a *NP* parent node belong to an external functional domain. The functional domains catch the essential intuition of "maximal projection" in the X-bar scheme, but if we are to implement the idea of two functional domains in terms of X-bar theory, an asymmetry occurs: the lexical head (here it is the noun *salary*) cannot be the head of both the nominal and the NP, so we have to find something else – say the determiner – as the head of the maximal projection corresponding to the external functional domain, and now we have both a lexical head and a functional head, while the ways dependents are related to the lexical head and the functional head are different, so the two heads are not "heads" in the same sense. There are only two roads forward: one is to give up the idea of lexical heads altogether and use functional heads, which leads to Minimalism, while the other is to keep the notion of the lexical head but allow fine-grained segmentation of functional domains surrounding the head, which leads to the CGEL – and essentially BLT – approach, which is dual to the Minimalism approach (Fig. 2.8).

The X-bar theory is therefore just a transitional version of generative syntax between the more surface-oriented formalisms and the more fine-grained formalisms.

2.1.3.3 Movements

Whenever dependency relations that cannot be transparently reflected by a phrase structure grammar occur (i.e. ill-nestedness occurs), movements occur (Boston et al., 2009). Let us consider the Spec-vP-to-Spec-TP A-movement of the subject in Fig. 2.9. We see the notion of this movement is just reflection of the fact that the subject both has an "obligatory topic" position (in the terms of typology) in the whole clause and an agent position in the argument structure. There are two dependency relations involving it, and the movement-free phrase structure grammar can
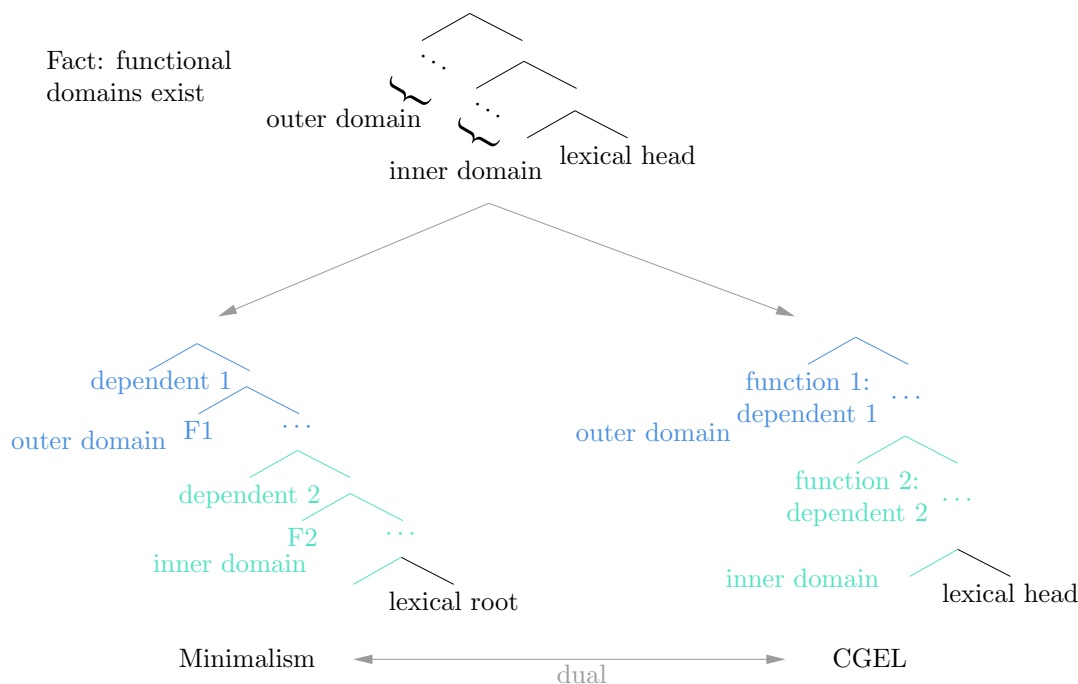
Figure 2.8: Functional domains in CGEL and Minimalism

only easily reflect one, and thus we need a movement if we want to show all dependency relations with constituency structure. Some formalisms, like HPSG, reject the notion of movement, but introduce an "agent" feature in the feature structure of VP, which is merely movement in feature structure's disguise.

If the dual status of the subject is not reflected by movement or by feature structure, it either has to be reflected by something outside the tree, or has to be reflected by enumerating all possible construction types. It is easy to see that although surface-oriented grammarians are mostly more pragmatic than generative linguists, sticking to the surface form sometimes creates unnecessary burdens. Rejecting obligatory A-movements or equivalent notions totally means the linguist has to describe the TP structure and the argument structure always at the same time, which is tiresome both for the linguist and for the reader. But this does not mean A-movement appears in the name of *movement*, either: enumerating all *obligatory* grammatical categories in the TP is still feasible, and thus we can first describe a minimal canonical construction and then introduce adjunctions and transformations to non-canonical constructions.

2.1.3.4 Selection and subcagegorization, complements and modifiers

Fig. 2.9 contains an adverb, traditionally considered as an *adjunct* in generative terms, which is optional and is largely invisible to multiple syntactic constraints. In the terms of CGEL, it is a *modifier*, while *the dog* and *the man* are *complements*.[3] The main differences between complements and modifiers is that the former is licensed or even selected by the CGEL head of a constituent, which is also an important classification criterion of the lexical category of the head (known as **subcategorization**), while the latter can occur in a freer manner. In TAG, therefore, modifiers are introduced via adjunction, while complements are introduced via substitution. This distinction has some theoretical backgrounds. It may be assume that licensors of complements are essential for the spellout of the lexical head word (which is the approach to subcagegorization in Siddiqi (2009)).

Still, the distinction between complements and modifiers are opaque with the above argument about licensing and selection, and this opaqueness is again theoretically rooted. Languages with a relatively fixed word order often impose a word order constraints on clausal adjuncts and adjectives in NPs, which is well explained by the cartographic approach in which modifiers are introduced by a fixed hierarchy of functional heads. Tt follows that adjectives about different

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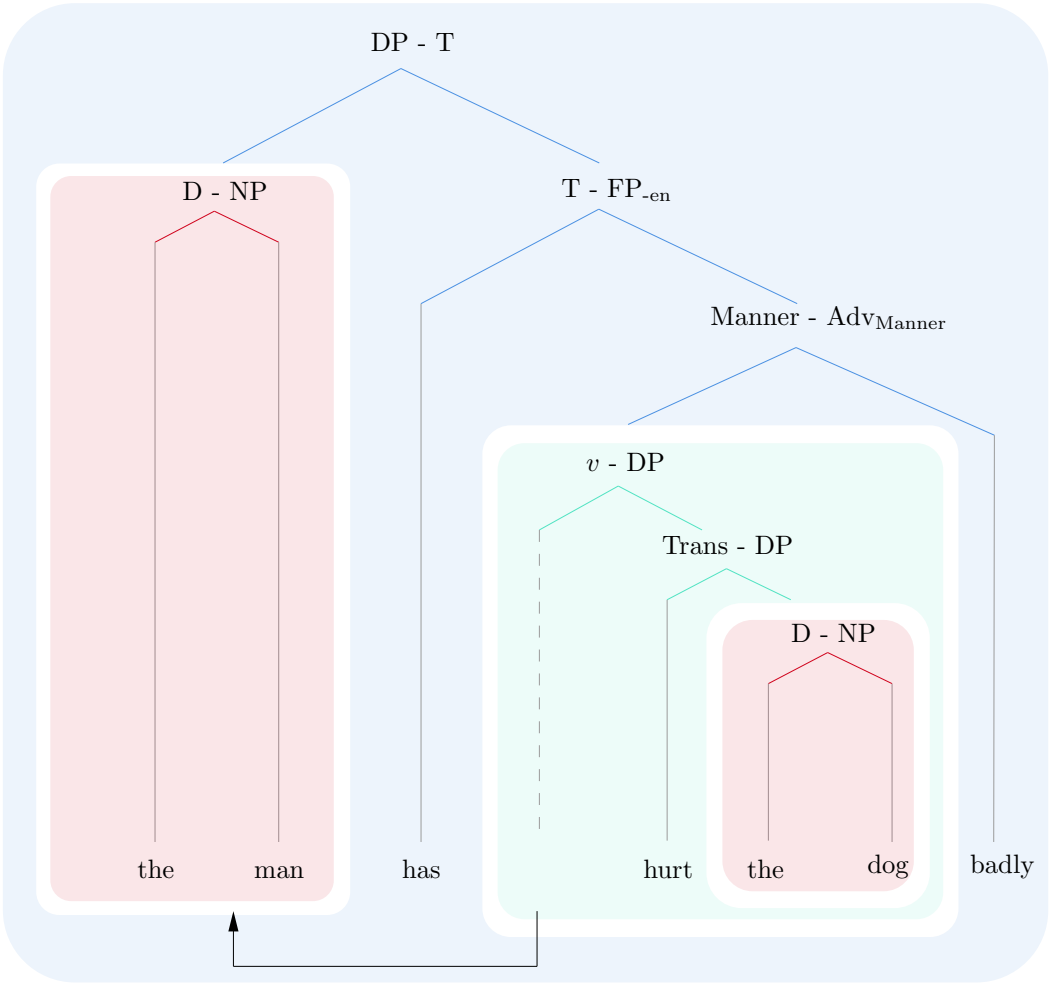
[3]CGEL uses the term "adjunct" for clausal modifiers.

Figure 2.9: The coarse-grained version of the Minimalist derivation of *The man has hurt the dog badly*

properties fill different "slots of modifiers" of the head noun, and similarly adjuncts about different properties fill different "slots of modifiers" of the head verb, in exactly the same way arguments fill argument slots in Fig. 2.7.

Note that I say "licensed *or* even selected" just before. If a dependent has strong correlation with the head, it is a complement, otherwise it is a modifier. Logically, whether a dependent is required is independent of whether a dependent is a complement or a modifier. The complement position may not be filled for some heads. In English, for example, nouns take complements, but these complements are rarely *required* (CGEL § 5.1.2). Obligatory dependents can be understood as generated in core projection layers, while others can be understood as generated in optional projection layers Pan (2022). This also justifies the TAG distinction between substitution and adjunction: we may view the core projection layers as a prototypical and minimal example of the construction type in question, and optional projection layers can be said to be adjoined into the minimal construction. The existence of the adjunction operation means it is unnecessary to routinize the whole Cinque hierarchy into something like Fig. 2.7. Rather, we can first describe a minimal clause, and then go on to introduce possible optional dependents via adjunction. An obligatory dependent, however, is always considered as a complement, because if a dependent is obligatory, it is almost always the case that it has some close licensing relation with the lexical head, though not all complements are obligatory.

Another remark here is that though complements are usually in lower positions in the phrase structure than modifiers, this is not always the case. CGEL § 5.2 [11] is an example. If this analysis is considered controversial, then I have a definitely uncontroversial example: the subject. If the *v*P layer and the TP layer are considered as forming a single construction (i.e. the nucleus clause), and we ignore the inner Spec*v*P copy of the subject, then the subject – a complement – is obviously on a higher position than the adjuncts, which are modifiers. Whether a dependent is a complement or a modifier hints nothing about its syntactic position. What is – and is not – a complement is decided by the above listed tests, not by anything else. And that is why in CGEL, though *kindly* in *He treats us kindly* is a complement, it is, however, discussed together with clausal modifiers (or "adjuncts" in CGEL terms): because *kindly* is in the adverbial functional domain, anyway. It makes sense to separate dependents in terms of functional domains: this is how CGEL discusses clausal dependents, where chap. 4 is about the prototypically "complement" domain, but a kind of predicative – which turns out to be adjunct – is discussed in this chapter, and chap. 8 is about prototypically "adjunct" or "adverbial" domain, while manner complements, etc. are discussed in this chapter.

The conclusion that a clear distinction between complements and modifiers – or in the case of clause structure, arguments and adjuncts – is of limited purely formal interest and is better viewed as a language-specific descriptive concept (Haspelmath, 2014).

2.1.3.5   More discussion on dependents

Some dependents do not fit into the complement-modifier dichotomy, including the determiner, the classifier, etc. Many of them are filled by functional words, wile prototypical complements and modifiers are filled by lexical (phrasal) categories. But there is no strict relation between being neither complement nor modifier and being filled functional words. A determiner in English, for example, can be a genitive NP, so what fills a position that is neither complement nor modifier is not necessarily a functional word. On the other hand, as is shown in chap. 10, certain types of non-argument complements have limited variation and it is reasonable to consider them as filled by functional words, so functional words can fill complement positions.

2.1.3.6   Categories, heads and the notion of "word"

A **category** is defined as a type of constructions with similar distributions. I will first discuss basic syntactic constructions and identify positions that can be filled in them, and then search possible constructions in these positions. This is how categories can be recognized.

A construction that is small enough is said to be a **word** or more precisely, a **grammatical word**. I emphasize *grammatical* because it is quite common to use the term *word* 词 to denote a **prosody word**. Prosody is important in Chinese, which is discussed in § 3.2.2 and chap. 20.

In traditional grammars concerning Latin, a common practice is to roughly define word classes (nouns, verbs, etc.) according to their meaning and then discuss where they can be used. In this book I do not take this approach. Though I will review a lot of work based on the

meaning-first approach, the way I distinguish word classes is mainly distributional. If two words can appear in similar positions, they are classified into one **word class** or **part of speech**. A word class is just a category about words.

In other words, I define concepts like *noun-like* and *verb-like before* listing criteria of what is a noun and what is a verb. Criteria for word classes are always language-specific, but we have more confidence that at least some *features* – like the nominal feature n or the verbal feature v – are cross-linguistic and may be attributed to the language faculty in the broad sense.

2.1.3.7 Dependency relations as in dependency grammars

2.1.3.8 Diverging standards of constituency revisited

So now it is easy to see what is really going on in the flat trees in BLT: a constituent is a large *layer* in generative syntax, with grammatical relations inward being shown as dependency arcs instead of constituency hierarchy.

2.1.3.9 Empty categories and fusion-function constructions

2.1.3.10 Feature structures

2.2 Descriptive terms

I have paid length discussions of *structures* and demonstrated that the superfluously diverging frameworks are actually almost the same. But the formalism of generative syntax is probably not what dissatisfies field linguists the most. Having worked out a *formal* grammatical framework, a list of *building blocks* are still required for fully describing a language. The former is purely about how structures are built, while the latter is about what raw materials are fed into the structure building machine. Universals about the former and the latter are called formal and substantial universals,respectively. Now readers of BLT will find what Dixon complains most about is not about the binary branching trees, but the tendency of "formalists" to find things equivalent to English in newly documented languages. In his depiction, formalists assume there are infinitives, inflection-derivation distinction, etc. in all languages, which he mocks several times. This depiction is actually not quite true for most generative works but is alarming for people seeking universal glossing and annotation rules.

What is discussed in this section is to find a set of grammatical relations as in Fig. 2.7 (especially in (b), since most people in the descriptive community rejects all the functional hierarchies proposed in generative syntax). This has already be done for English in CGEL. We already know some examples of these grammatical relations: § 2.1.3.4, for example, discusses complements and modifiers. CGEL contains more grammatical relations: readers will find prenucleus positions in the clause, which are roughly specifier positions in the CP layer, and also "external modifiers" in NPs.

2.2.1 Clause structure

2.2.1.1 Predicate

We use the term **predicate** to denote the constituent containing the verb complex, complements that are not extracted out (most frequently, the object), some adverbials, etc. This notion is problematic for the surface analysis of a VSO language, where head movement analysis is unavoidable, or otherwise clumsily enumerating all possible clause constructions (i.e. "expanding the phrase structures") is needed but fortunately this is not the case in Chinese. The predicate is roughly TP minus the layer in which the subject is introduced. Note that the term *predicate* is about syntactic function and has nothing to do with its inner structure.

A predicate, if with a lexical verb, is a **verb phrase (VP)**. The concept of VP is about syntactic form, not function. Though a cartographic grammarian may assume a vP in every clause, but it is then possible that the v head is not realized on something that looks like a verb. It is, then, also possible that the predicate is not a typical VP. This is indeed the case in some languages where a NP functions as the predicate (Friesen, 2017, § 10.1.2). BLT calls this "verbless clause".
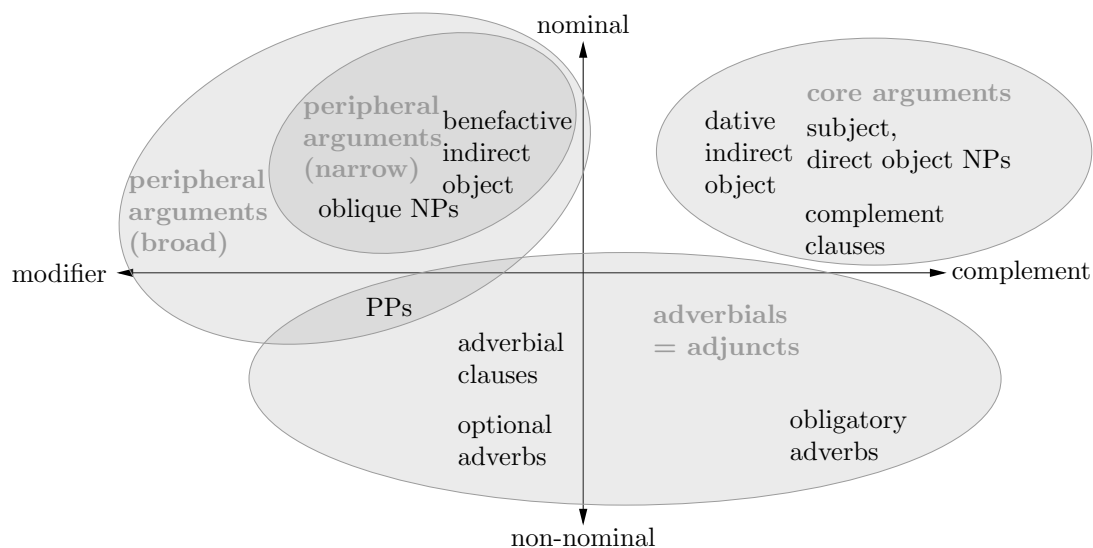
Figure 2.10: Classification of clause dependents in typical European languages

2.2.1.2 Complement in a clause, argument or not

It should also be noted that the term *argument* is not the same as the term **complement**, although the term *argument-adjunct distinction* is much more frequent than the CGEL-style *complement-modifier distinction*. In BLT terms, arguments include *peripheral arguments*, like locative NPs or instrumental NPs, or even PPs (BLT insists that PPs are actually NPs with syntactic rather than morphological case markers), so some arguments are modifiers with the definition in CGEL. Even when we limit ourselves to core arguments, there is still a question whether all complements can be said to be arguments. Nominal complements are of course arguments, but complement clauses are less nominal since across languages they usually do not have person, number, gender and case (or so-called ϕ-**features** in generative terms). Some say it is still kind of nominal, and the complementizer is argued by some people to implicitly carry ϕ-features (Roussou, 2018). Indeed, in traditional grammars, complement clauses are often named as "nominal clauses".

The classification of clausal dependents in typical European languages is shown in Fig. 2.10.

Telling arguments from the general notion of complements is important in Chinese grammar because in Chinese there are obviously non-argument particles which are licensed by the verb, commonly called 补语 "complement" in Chinese School Grammars (§ 3.3.1). Now there is a terminology confusion: we have two kinds of CGEL complements: the first covers the arguments, and the second covers the non-argument complements, i.e. 补语 (chap. 10). What makes things even more complicated is that certain so-called non-argument complements look like grammatical words, which have a finite number and can be enumerated (§ 10.1.1). Therefore, in the Chinese version of Fig. 2.10, we need a third axis about how close a constituent is to a grammatical word.

2.2.2 Noun phrases

The term **nominal** is used mostly as an adjective. Since Chinese does not have explicitly the determiner position, we do not need a separate term for NP-like phrases without a determiner. So, despite the fact CGEL uses the term *nominal* to denote constituents like *red apple*, this book uses the term *nominal* to denote anything that is noun-like.

2.3 How to analyze data

2.3.1 Data source

2.3.2 Organization of grammar

Chapter 3

Syntactic overview and previous works

3.1 Word classes

How to recognize word classes in languages formerly not well understood is always a huge problem. People can debate for decades on questions about "whether Chinese has adjectives" (what do they mean by the term *adjective*, anyway?) or "whether Chinese verbs can be regarded as a subclass of nouns" (what do they mean by the term *noun*?). In the debate name-calling is quite common. A most prevalent activity is to accuse each other of advocating Eurocentrism, often for exactly opposite reasons. People distinguishing an adjective category in Chinese may be claimed as Eurocentrists, because they "use the terms (in this case the notion of adjectives) in European languages as a universal standard in non-European languages". People rejecting an adjective category are also charged with the crime of racism, because "they use properties of European adjectives to find an adjective category and fail to identify the diverse behavior of adjectival categories in world languages". In BLT you can find (quite humorous, I have to admit) depiction of "formalists" trying to fruitlessly find uniform adjectival behaviors in all human languages, while a bunch of formalists are trying to eliminate the notion of adjectives as a primitive feature of human language, as opposed to the notion of nouns and verbs (Mitrović and Panagiotidis, 2020).

This section lists well-recognized word classes in Chinese.

3.1.1 Nouns and verbs

3.1.2 Adjectives or adjectival verbs (or stative verbs, etc.)

3.1.3 Adpositions

3.2 Remarkable features

3.2.1 Controversial grammatical words

3.2.2 Prosody

One distinct feature of Chinese is its morphosyntax relies strongly on *prosody* (冯胜利, 2000).

3.3 Grammars and research papers

There are already multiple comprehensive grammars of the Chinese language, and a terminology system suitable to describe Chinese has emerged, with both Chinese and English as possible metalanguages. An unfortunate fact (which is not restricted to the study of Chinese language) is the title of a grammar has nothing to say about its coverage and organization.

3.3.1 Chinese School Grammar

Like the school grammar 学校文法 in Japanese grammar, there has been a grammatical research tradition in Chinese grammar which is the dominant school of Chinese grammar in schools, introductory textbooks of which are often just named as 现代汉语 (e.g. 王理嘉 et al., 2004). Following the example of Japanese 学校文法, we may call this grammar system the **Chinese School Grammar**. This school of grammar research has no interest in languages outside the Sinitic family – or even outside Standard Mandarin. Its concepts are tailored for describing the modern Standard Mandarin language.

The School Grammar approach is, maybe quite surprisingly for many, quite structuralist in the broad sense.[1] Modern descriptive grammars (or "BLT grammars") tend to have more coarse-grained analysis (Dryer, 2006), while the School Grammar insists a binary branching trees *a la* Bloomberg or *a la* Minimalism or *a la* CGEL. We can, for example, see the fact in chap. 6.

This grammar system deeply influenced how Chinese is taught to foreigners.

3.3.2 Latin-like grammars

There are less structure-oriented approaches to Chinese grammar, which are organized like traditional Latin grammars (and English grammars), in which one starts from word categories and discuss what can be used after or before words in a category. The famous Latin grammar Greenough and Allen (2013) is a model of this type of grammars. The way it treats syntax is via local semantics-syntax mapping and constraints defined on dependency relations: an ablative noun may express means, manner, accompaniment, degree of difference, quality, price or specification; a dative noun can be used together with an adjective; the complement of a preposition always follows the preposition.

It is a wise idea to write a grammar of Latin in this scheme. It is less a wise idea to do so for Chinese, the latter being a language with relatively rigid consistent order, by which dependency relations are manifested. Unfortunately, some contemporary grammars, like Po-Ching and Rimmington (2015), are still written in this way. Readers will not find a chapter about the overall structure of NPs or clauses in Po-Ching and Rimmington (2015). They will only find separate chapters about how small components – classifier constructions, adjectives and adjective phrases, coverbs – are made up and used.

Grammars of this type are handy for learners who already have a grasp of the basics, who do not really need discussion on segmentation of sentences and phrases and just want a grammar as a dictionary when they parsing seemingly weird constructions. For others, this approach of Chinese grammar is of limited use, but certain it is not worthless. It at least serves as a system of consistent terminology, which, in the context of languages without a native grammar tradition, is quite valuable. It is probably also the most uncontroversial way to write a grammar, since as we see in § 2.1, there are huge discrepancies among various grammar schools. It is also the most robust approach to morphosyntax in a diachronic context. Even when the morphosyntax evolves with certain constructions broken and new constructions emerging, the dictionary-like grammars are still of great use.

3.3.3 The GB-style school of Huang et al.

Probably the most controversial school of Chinese morphosyntax is the mostly GB-based generative school led by James Huang 黄正德, Sze-Wing Tang 邓思颖 and others. Several milestone works are completed by this school, but the grammaticality data in most of these works are fiercely questioned by outsiders. Obviously bizarrely ungrammatical examples like (James Huang et al., 2013, § 5.4.2, (65))

(3.1) 把他们，我打得手都肿了

appear in these works, making how seriously people should take them a question mark.

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[1]Early generative grammarians often describe non-generative structuralists using the term *structuralist* without any modification, so the term *structuralist* gains its meaning of "pre-(or even anti-) generativism". Nonetheless, since putting the disputation of what is in the mind aside, generative syntax and structuralist syntax share their phrase structure grammar and transformation metalanguages, both of them are *structuralist* in the broad sense (Newmeyer, 1986).

If critics take a closer look to the allegedly deeply flawed works, they will soon realize another bizarre fact that these questionable grammaticality judgments are often irrelevant to the big picture, despite long and serious discussions on their implications paid by the author. Back to our example of (3.1), in the related discussion of disposal constructions in Chapter 5 of James Huang et al. (2013), what the authors are trying to argue for is that 把 in the disposal constructions is like a light verb (but not a typical light verb) and *not* a preposition as many claim (see the discussion in chap. 14). The fact that (3.1) is ungrammatical for most Chinese speakers actually *lighten* the burden of the authors to defend this position. Scholars in this school are sometimes just like Don Quixote, screwing their brains trying to explain phenomena that do not exist in the first place.

As the reader can expect, the discussion on whether the GB-based school has done anything valuable is also mingled with meaningless conversations about Eurocentrism. "Well, they are just following Chomsky's teaching that all languages are European languages! The best contribution they can make for linguistics is to go die as soon as possible!" One may furiously shout out. "You know nothing about the Chinese language, about how it resembles European languages or not. You are creating linguistic human zoos by blocking discussion about cross-linguistic similarities!" Another may reply. What the chaos reveals

Another disadvantage of the generative approach is it almost never produces anything that interests an outsider. In practice, a generative grammar may resemble a Latin-based and dictionary-like grammar, since the former segments the language into vP layers, TP layers, CP layers, DP layers, etc. and analyze each layer about what can and cannot be used together. For users uninterested in theoretical topics, generative grammars are just more structured Latin-based and dictionary-like grammars with obscure jargons.

That being said, this book relies heavily on the GB-based school, since setting the good old structuralist School Grammar aside, this is the most structure-oriented approach.

3.3.4   Theoretical functional approaches

Unlike the generative schools, functional approaches to Chinese grammar establish their

Part II

Nouns and noun phrases

Chapter 4

Noun phrases: an overview

Chapter 5

The adjective category and adjective phrases

Part III

Simple clauses

Chapter 6

Structure of simple clauses: an overview

This chapter gives a sketch of the inner structure of clauses. Most of the time it is about simple clauses and leave subordination to chap. 17 and chap. 18. This being said, matrix clauses (the surrounding environment of subordinated clauses) will also appear briefly in this part, so what we are talking about in this chapter – and this part – is actually the *v*P layer and the TP layer, but not the CP layer, so topicalization etc. are not discussed in this part.

We can further break the *v*P layer – in more descriptive terms, the argument structure, associated motions, etc. – from the TP layer – in more generative terms, marking of the manner, time, etc. of an event and the obligatory topic. There are descriptive works organizing chapters about clause structure in this way, example Jacques (2021) for Japhug, in which chap. 14 and chap. 15 discuss the argument structure and associated motions (unmarked *v*P properties), and chap. 17 to chap. 19 discuss valency changing devices (valency changing *v*Ps), and chap. 21 and chap. 22 discuss TP properties of simple clauses. But doing so inevitably faces the barrier in § 2.1.3.3: it has to involve some kind of Spec-*v*P-to-Spec-TP A-movement, which is of course to be rejected in a descriptive grammar. Jacques (2021) is able to doing so because Japhug has a complicated argument indexation system and therefore describing the argument structure out of the context of clausal structure (chap. 14) is acceptable for everyone. On the other hand, Chinese does not have argument indexation and hence the argument structure itself may be considered as purely semantic by descriptive linguists and does not worth a single chapter.

6.1 Constituent order and partition

6.1.1 The School Grammar partition

The School Grammar segments clausal constituents in a way quite similar to the CGEL approach. Take the analysis in a prevalent textbook 王理嘉 et al. (2004, chap. 5) as an example. A clause is first divided into 主语 (subject) and 谓语, and 谓语 is then divided into 述语, 宾语 (object) and 补语, and 谓语 has modifiers named 状语, while modifiers in NPs are named as 定语. We can almost identify 谓语 as *predicate* in CGEL, and 述语 as *predicator*. The term for 状语 in CGEL is certainly *adjunct*, but to avoid confusion we use *adverbial* here, in accordance with most works in Chinese grammar. Besides the subject-predicate construction 主谓结构, there are sentence final particle (SFP) added to the whole clause, which, in the School Grammar, are often referred as 语气词 (lit. 'speech tone word'). The School Grammar analysis of clause structure is thus be summarized as Fig. 6.1. This is also the starting point of this book's discussion of clause structure. Note that the constituent order of the verb, the object(s) and non-argument complements are missing in the diagram, because the inner organization of the nucleus predicate is highly complicated and there is no universal scheme.

6.1.2 Distribution of lexical categories in the clause level

Fig. 6.1 is more about syntactic functions than the inner structure of constituents. The prototypical contents of argument positions are of course NPs, while the predicator is prototypically
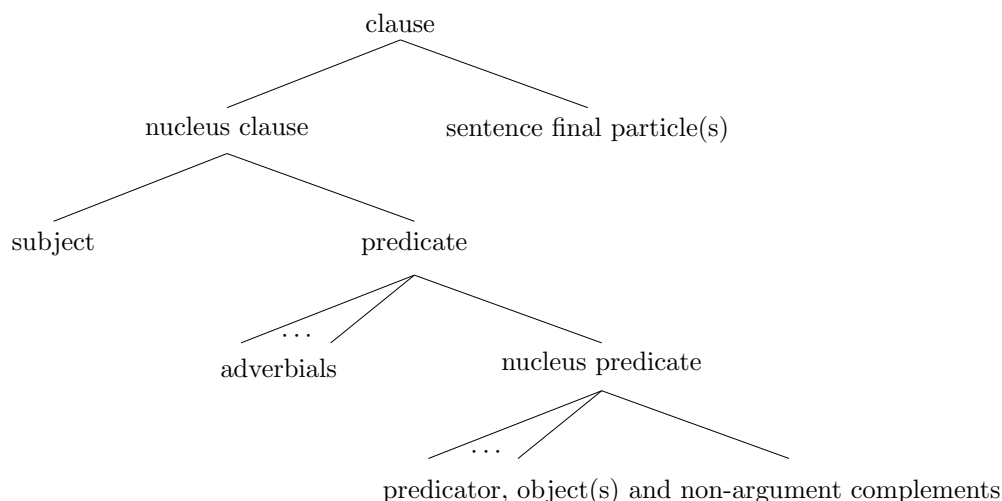
Figure 6.1: The School Grammar analysis of clause structure

filled by a verb (and the nucleus predicate is the verb phrase headed by the verb), but things may vary. Chinese does not have a morphological complementation device, be it nominalization, gerund or infinitive, so verb phrases can fill argument positions, too, just like how nominalized verbs or complement clauses fill argument positions in languages with richer morphology. Consider, for example:

(6.1)   [算   费曼-图   ]$_{\text{verb phrase}}$ 是 非常 费力   的 。
        calculate Feynman-diagram   is very consume-power DE

        '[Calculating Feynman diagrams] is very exhausting.'

We do not need to apply any morphological marking on the verb 算, which heads the subject.
    Besides verbs, adjectives can fill the predicator position and other predicative positions, too.

6.1.3   The position of sentence final particles

There are some disagreements about the position of SFPs. Some place them into the predicate (朱德熙, 2009, § 16.1.1). The disputation here is just like the disputation about whether the object is a part of the verb phrase (§ 2.1.2.2). The SFPs are in the CP layer, and the definition of the predicate is somehow unclear. If we define it as "what remains in the TP layer after removing the subject", then the SFP is not in the predicate for obvious reasons. Under this definition, Fig. 6.1 makes perfect sense. If, however, we define the predicate as "the main verb and all dependents of the verb that are not topic-like", then SFPs should be included into the predicate. From a generative perspective, the second definition is not natural enough, because this means the coarse-grained tree undergoes a not-so-local reconstruction: something in the CP layer is inserted into the TP layers below the subject, and it is highly unlikely to see a grammar construction work on this definition of *predicate*.

6.2   The nucleus predicate

There are several grammatical systems in the nucleus predicate, including the direct and indirect objects (chap. 9), the non-argument complement construction (chap. 10), the serial verb construction (chap. 11), the aspectual system(s) (chap. 8), and the polarity (chap. 12). These systems are not orthogonal. Polarity marking is related to the kind of complement in the predicate: the negative form of a potential complement construction cannot be obtained by simply adding a negative operator (§ 10.4.1,). The "weight" of the direction complement is related to the relative order between the direction complement and the aspectual marker. Finally, the function of the subject is related to the function of the predicate, and hence strongly influences the structure of the nucleus predicate.
    The behaviors of these systems are important criteria of verb classes.

In the post-verbal position are aspectual suffixes (§ 8.1.1), direction complements(§ 10.2), The constituent order in the nucleus predicate is the follows:

(6.2)

6.2.1 Negation

There is no negative concord in Chinese, but there is no uniform negation operator like the English *not* in Chinese, either.

The closest thing to the English *not* is 不. Verbs can be negated by 不 while nouns generally cannot, and this is a criterion to tell verbs from nouns. Other negation operators and strategies are used frequently. The negation operator 没 is used to negate , V不了,

(6.3)　　a.　我做 [不了]$_{\text{potential complement, negative}}$ 这件事。

　　　　　b.　＊我{没有/并非/不}$_{\text{negative operator}}$ 做 [得了]$_{\text{potential complement, positive}}$ 这件事。

Chapter 7

The verb category

This chapter is about the verb category, about what qualifies as a verb and how verbs can be distinguished from words with similar clausal distribution, e.g. adjectives, and the subcategorization of verbs. Grammatical relations involved in subcategorization here includes but is not limited to argument structure.

Some people call certain aspects of verb subcategorization *agreement* (Li and Thompson, 1989, § 6.6, 6.7). This is not the term taken in this book, because the more generally accepted meaning of *agreement* between a word and its complement is that the former can take different forms when the latter varies, each of which is grammatical, while what is covered in Li and Thompson (1989, § 6.6, 6.7) is simply about what the object cannot be. The term *selection* is therefore better than *agreement*.

7.1 Separable verbs

Verbs in the Chinese language can be classified according to multiple criteria defined by possible clause structures headed by them.

Chapter 8

Aspectual system(s) and possible related TAME categories

This chapter is devoted to the aspectual system in Chinese, and the controversies about whether there is only one aspectual system in Chinese, whether there is a simple tense system, and whether Chinese shows certain degree of evidentiality.

8.1 Aspect marking devices

8.1.1 Post-verbal aspectual suffixes

Verb suffixes that are usually regarded as marking aspect include 了, 着 and 过 . It should be noted that the aspectual 了 is not the same as the sentence final particle 了 § 16.1.1, both for distributional and semantic reasons. The aspectual 了 is in a post-verbal position and is about aspectual information, while the sentence final particle 了 is typically analyzed as indicating something new has occurred (朱德熙, 2009, § 16.2.1). The former is usually denoted as 了$_1$, and the latter 了$_2$ (彭小川 and 周苟, 2005). What I discuss in this chapter is 了$_1$ and not 了$_2$.

A sketchy description about 了, 着 and 过 is that 了 means **perfective**, 着 means **durative** or **imperfective**, and 过 means **experiential** (Li and Thompson, 1989, chap. 6).

8.1.2 Verb prefixes

There are also verb prefixes that are considered aspectual. The prefix 在 as in the following example obviously is aspectual:

(8.1) 我 [在]$_{\text{aspectual prefix}}$ 穿　衣服　 。
       1sg ZAI　　　　　　wear clothes

'I am wearing clothes. (I am in the process of getting dressed, but I have not finished yet.)'

Note that though the above example is durative, it has a slightly different meaning with 着, as is illustrated by the following example:

(8.2) 我 穿　着　 衣服　 。
       1sg wear ZHE clothes

'I am wearing clothes (so I am not naked).'

在 frequently appears together with 正, forming 正在. Actually, the *present progressive tense* in English is translated as 正在进行时 in Chinese. 正 itself is not an aspectual marker, at least not yet in this stage of Standard Mandarin Chinese. Its role is more adverbial-like. This fact can be seen from the following minimal pair:

(8.3) a. 我在穿衣服。
       b. *我正穿衣服。

8.1.3 Delimitative duplication

The final device that appears aspectual is reduplication of the verb. It roughly means delimitative, i.e. 'do something but not with an excessive amount'.

So here is a list of aspectual markers in Chinese:

- The perfective 了$_1$

- The imperfective 在

- The durative 着

- The experiential 过

- The delimitative duplication

8.1.4 Compositional usage of aspectual markers

Markers in § 8.1 are not in contrastive distribution. Some markers are indeed in contrastive distribution. If a nucleus predicate contains at least one of 在 and 着, then it never contains 过 or 了$_1$. Also, no more than two aspectual markers appear. These rules are categorical. Other combinations are more or less acceptable, provided the ordering of the aspectual markers is correct.

过 and 了 can be used together in the order of 过了:

(8.4)　他 吃 过　　了 饭　　。
　　　　3sg eat GUO LE meal
　　　　'He has eaten.'

在 and 着 may also be used together by someone, though this construction appears much less frequently:

(8.5)　我们 还 在 走 着 路。
　　　　1pl　still ZAI walk ZHE road
　　　　'We are still walking.'

Note, however, the [在V着] construction is less productive than 过了. It does not work for certain verbs:

(8.6)　*他在穿着衣服。

This fact may be a motivation of Po-Ching and Rimmington (2015, § 6.9)'s rejection of the aspectual status of 着 and 过 – they claim they are "manner and experience indicators". 着 and 过 *are* manner and experience indicators – but since there are more than one systems named "aspect" (BLT § 3.15), it may be helpful to think of them as being a part of a aspectual system, which is good for cross-linguistic comparison.

Finally, 正, despite not an aspectual marker, works together with any non-delimitative aspects, though the frequencies may differ. Here is a list of examples where 正 appears:

(8.7)　a.　他正在吃饭。
　　　　b.　他正吃着饭(，忽然听到窗外传来一声巨响)。
　　　　c.　他正在吃着饭?(呢)。
　　　　d.　??他正吃饭。
　　　　e.　他正吃过饭(，邻居就找上门了)。
　　　　f.　他正吃过了饭(，邻居就找上门了)。
　　　　g.　他吃过了饭。

The alignment of aspectual markers is therefore shown in Table 8.1.

8.2 The perfective 了$_1$

Table 8.1: Order of aspectual markers (正 is not strictly an aspectual marker)

正 or ∅	在 or ∅	verb	着 or ∅		-	
	-		过 or ∅	了 or ∅	-	
-			-		verb delimitative duplication	

Chapter 9

Subjects and objects

9.1 The notion of subject

9.1.1 Subject and topic

The relation between the subject and the predicate is highly diverse. It is so diverse that some people in the School Grammar camp equate the notion of *subject* in Chinese with *topic* (王理嘉 et al., 2004, § 5.6). Under this definition of *subject*, then, in a topic-comment construction, the fronted topic is analyzed as the subject:

(9.1)   但是 [你最对不起的人]$_{\text{subject},i}$，[你]$_{\text{subject before topicalization}}$ 反而轻轻地忘了 e_i。

So topicalization changes the subject. This does not break the consistency in their analysis, because in their analysis a predicate may have an inside subject, so the structure of (9.1) is

(9.2)   但是$_{\text{initial time adverbial}}$ [[你最对不起的人]$_{\text{subject}}$ [[你]$_{\text{subject}}$ [反而轻轻地忘了]$_{\text{predicate}}$]$_{\text{predicate: subject-predicate construction}}$]$_{\text{subject-predicate construction}}$

9.2 Pseudo-attributive constructions in the subject

9.3 Object as goal

Chapter 10

Non-argument complements

10.1 Overview

10.1.1 The name of non-argument complements

In the School Grammar, 补语 or (non-argument) complement in a clause means anything that is licensed and selected by the verb yet does not fill a typical argument slot. From the perspective of argument structure, a non-argument complement does not denote to any *object* that is involved into the action in question. From the perspective of inner structure, a non-argument complement is always predicative (朱德熙, 2009, § 9.1). In CGEL about English, the term *argument* never appears, because in English, all clausal complements are arguments, so I emphasize *non-argument* in the title of this chapter.

The non-argument complements are indeed complements in the complement-modifier dichotomy. Consider, for example, the following examples of quantity complements (§ 10.7):

(10.1)   a. 我打了他[一下]。
        b. 我打了他[一巴掌]。
        c. 我打了他[一拳]。
        d. *我打了他[一口]。
        e. 我咬了他[一下]。
        f. 我咬了他[一口]。
        g. *我咬了他[一巴掌]。
        h. *我咬了他[一拳]。

From the facts above we conclude that the verb licenses the quantity complement. Should a quantity complement appears, its measure word cannot vary arbitrarily. The verb 打 allows 下, 巴掌 or 拳 as the measure word of its quantity complement, but it rejects 口. On the other hand, the verb 咬 only accepts 下 and 口 and rejects 巴掌 or 拳. It is ungrammatical to use a complement that is not licensed by the verb, though the complement may not be obligatory. This is just like complements in NPs in English.

Sometimes a complement is not only *licensed*, but also *required*, just like an argument, but it is by no means nominal, nor is it a clause, and hence should not be seen as an argument (§ 2.2.1.2). Consider the following examples about location complements (§ 10.6):

(10.2)   a. 我住在北京。
        b. *我住。

A remaining question is whether it is better to categorize these so-called non-argument complements as *functional words* like determiners or classifiers, since their variations are much more limited than arguments. Direction complements, for example, are limited to particles like 上, 去, 上去, 下来, etc. (§ 10.2), which is just the case of classifiers and the case of orientation preverbs in Japhug (Jacques, 2021, chap. 15). But on the other hand, a manner or consequence complement may take an inside clause, and a time or location complement takes an inside NP, so these types of non-argument complements are by all means complements. Now the problem is non-argument complements except the quantity complement have largely contrastive

distributions, so it is not reasonable to reject the complement status for direction complements while keep the complement status for manner and consequence complements and time and location complements. Therefore, I follow the tradition in the literature and call all of them complements.

That being said, it should be kept in mind that sometimes the complement functions just like a functional word. It largely determines the structure of the nucleus predicate

10.1.2   Grammatical properties

10.1.2.1   Constituent order

Non-argument complements involve highly complicated grammatical phenomena. Sometimes a non-argument complement precedes the object, as in the case of result complements (§ 10.3):

(10.3)   熊$_{subject}$ 拍$_{verb\ stem}$ 晕$_{result\ complement}$ 了$_{aspect}$ 他$_{object}$ 。
         bear   slap   faint   PERF   3sg

'The bear slapped him into coma. (lit. The bear slapped-fainted him.)'

But for quantity complements (§ 10.7), the inverse order is attested sometimes:

(10.4)   熊$_{subject}$ 拍$_{verb\ stem}$ 了$_{aspect}$ 他$_{object}$ [三   巴掌]$_{quantity\ complement}$。
         bear   slap   PERF   3sg   three hand

'The bear slapped him with its paw for three times. (lit. The bear slapped him for three paws.)'

For a quantity complement with 巴掌 as the classifier, the verb-complement-object order is somehow strange:

(10.5)   ???熊拍了三巴掌我。

While for a quantity complement with 个 as the classifier, the verb-complement-object order in (10.3) is more acceptable:

(10.6)   小朋友拍了几下球。

(10.7)   ??小朋友拍了球几下。

One particular interesting property of non-argument complements is that they often trigger double occurrences of the main verb. All types of non-argument complements show certain degree of this phenomenon:

(10.8)   你找这本书找到了吗？（～你找到这本书了吗？）

(10.9)   他爬山永远爬不上去。（～%他永远爬不上去山。）

(10.10)   我找这本书就是找不到。（～我就是找不到这本书。）

(10.11)   我写文章写不出来啊。（～我写不出来文章啊。）

(10.12)   我打球打得胳膊酸痛。（*我打球得胳膊酸痛。）

(10.13)   我打球打得篮筐坏了。（*我打球得篮筐坏了。）

(10.14)   熊打他连续打了三巴掌。（～熊连续打了他三巴掌。）

(10.15)   我敲桌子敲了两下。（～我敲了两下桌子。）

Sometimes there exists a grammatical counterpart of the above examples with the main verb occurring only once, sometimes there does not.

10.1.2.2   Interplay between non-argument complements and adverbials

In the following sections, the interplay between non-argument complements and objects is discussed. It seems at the first glance that pre-verbal adverbials have no non-trivial interaction with complements:

(10.16)   我$_{subject}$ 昨天$_{time\ adverbial}$ [在那条街上]$_{place\ adverbial}$ [狠狠地]$_{manner\ adverbial}$ [打了]$_{verb,\ perfect}$
          他$_{object}$ [一顿]$_{complement}$

There are, however, some non-trivial interplay between adverbials and complements. (10.19) is a case in which a complement seems to be moved to an adverbial position.

10.1.2.3   Limited compositional usage of non-argument complements

Compositional using of non-argument complements is much more limited. Consider, for example, the following sentences:

(10.17)   a. 那头熊拍了他[一巴掌]_{quantity complement}。

b. 那头熊拍[晕]_{result complement}了他。

c. ＊那头熊拍晕了他一巴掌。

This shows quantity complements (§ 10.7) and result complements (§ 10.3) do not always allow compositional appearing.

Note that it *is* possible sometimes for a quantity complement and a result complement occur together, but some subtleties occur in such constructions – see, for example, § 10.1.2.4.

For the case of (10.17), one possible way to make them appear together is via the following construction:

(10.18)   那头熊[一巴掌]_{quantity complement?}拍[晕]_{result complement}了他。

where the quantity complement is promoted to a pre-verbal position. In this construction no more manner adverbial can appear:

(10.19)   ＊那头熊[用力地]_{manner adverbial}[一巴掌]_{promoted quantity complement}拍晕了他。

while other adverbials can still appear:

(10.20)   那头熊[昨天]_{time adverbial} [在那座山下面的小树林里]_{place adverbial} 一巴掌拍晕了他。

So it seems the fronted quantity complement is in contrastive distribution with the ordinary manner adverbial. Note that the quantity complement cannot be promoted to the pre-verbal position if it is the only non-argument complement:

(10.21)   ＊那头熊一巴掌拍了他。

Some compositional using is indeed possible. Below is the example of a direction complement (§ 10.2) and a quantity complement (§ 10.7) appearing together:

(10.22)   那头熊打[中]_{direction complement} 了他 [两次]_{quantity complement}。

10.1.2.4   Indirect dependency between complements

A slightly adjusted version of (10.17) is shown here:

(10.23)   那头熊拍晕了他三次。

Now compositional usage of a quantity complement and a result complement is possible. . . Or is it? If investigated more closely, the meaning of (10.23) is *not* the composition of 那头熊拍晕了他 and 那头熊拍了他三次. (10.23) means "the bear squatted him into coma, and he fell into coma for three times", while in the clause 那头熊拍了他三次, what happens three times is the bear's squat, not any other events. So we find when a quantity complement and a result complement occur together, there is dependency relation between the two complements, *not* the quantity complement and the main verb. In other words, in (10.23) the quantity complement is an *indirect* dependent (in the sense of CGEL § 5.14.1). It is licensed by the result complement, not the main verb. This explains why (10.17c) is ungrammatical: because 一巴掌 is a grammatical complement of 拍, but not a grammatical complement of 晕.

10.1.2.5   Non-canonical subject

Complements frequently appear together with non-canonical subjects, i.e. subjects in active clauses that are not very agent-like. Consider the following examples:

(10.24)   Result complement

a. 这个电影真是笑死我了。

b. 这个电影真是把我笑死了。

c. ％我被这个电影笑死了。

Table 10.1: Classification of non-argument complements besides quantity complements

	directional	resultive	possibility	manner and consequence	time and location
factual	direction complement	result complement	-	manner and consequence complement	time and location complement
potential		potential complement		-	-

(10.25)   Manner and consequence complement
  a. 这条山路走得我累得不行。
  b. %这条山路把我走得累得不行。
  c. ??我被这条山路走得累得不行。

In all these examples, the subject is not filled by the agent. (Is there an agent at all in the main clause?) But the clauses are all active ones.

10.1.2.6   Complement and negation

Potential complement TODO

10.1.3   Classification of non-argument complements

This section reviews past works on classification of non-argument complements, including the semantic roles (§ 10.1.3.1), whether certain types of constituents should be considered as non-argument complements or objects (§ 10.1.3.2), and morphosyntactic properties (§ 10.1.3.3). I summarize

10.1.3.1   Semantics-based School Grammar classification of uncontroversial non-argument complements

Here I summarize basic types of non-argument complements. A rough analysis based mainly on semantics gives the traditional School Grammar classification. Here is the list of 王理嘉 et al. (2004, § 5.8): 结果补语 'result complement', 趋向补语 'direction complement', 可能补语 'potential complement', 程度补语 'manner and consequence complement' (the literal translation of the term 程度补语 given in 王理嘉 et al. (2004) is 'degree complement'; the name manner and consequence complement is the name in Po-Ching and Rimmington (2015, 10.3), which I deem more transparent), and 介词结构充任的补语 'time and location complement' (again, the literal translation of the Chinese term is 'complement filled by a preposition construction'; I choose the term *time and location complement*, which is from)

The classification of the above mentioned semantic types of complements are shown in Table 10.1. Sections from § 10.2 to § 10.6 discuss in detail the inner structure, external syntactic functions and mutual interactions of these complements. Since complements in Table 10.1 have contrastive distribution, one way to classify nucleus predicates according to the complements they contain.

It should be noted that the above classification is strictly semantic. Some complements, for example, look just like result complements but are figurative and no longer have their literal meanings, as is shown in the following example:

(10.26)   这   部   电影 笑$_{\text{main verb}}$ 死$_{\text{result complement}}$ 我 了   。
          PROX.DEM CLS movie laugh   death   1sg SFP

    'This movie is so funny. (lit. This movie laughs me to death.)'

In this sentence, the complement 死 'death' is about the result of the action denoted by the main verb only in the literal reading. In the actual figurative reading, 死 is about the *degree* of the action, not the result. So in the above example, the complement 死 is classified in a subclass of manner and consequence complements (王理嘉 et al., 2004, § 5.8.4), though it has rather distinct morphosyntactic properties with the rest of the class. 朱德熙 (2009, § 9.9) names this

distinct morphosyntactic class in the manner and consequence complement semantic class as 程度补语 'degree complement', and names the rest of the manner and consequence complement semantic class as 状态补语 'state complement' (also referred to as **得-constructions**, with several subclasses in it as well).

10.1.3.2   Quantity complements

Another semantic class of non-argument complements often seen in textbooks is 数量补语 'quantity complement' (朱庆明, 2005, § 7.1). The status of quantity complements (§ 10.7) is kind of controversial. Since quantity complements look like nominal arguments and can occur together with other types of complements, just like objects do, some authors kick it from the family of complements and assign various names to it, for example quasi-object and time expression. I will discuss these controversies at the beginning of § 10.7.

10.1.3.3   The morphosyntactic classification

There are more details to be said about each complement type shown in Table 10.1. As I has emphasized, Table 10.1 is semantics-based, and there are subtypes in each complement class defined in terms of morphosyntactic criteria. It is also possible that we have morphosyntactic classes that break the boundary of semantic classes.

Some non-argument complements themselves have inner dependents.

All non-argument complements show certain degree of suffix-likeness. Result complements and degree complements (see the end of § 10.1.3.1) are well recognized as (derivational) affixes (朱德熙 2009 § 9.2, 邓思颖 2010 § 7.3), because no other constituents occur between these complements and the main verb, and there are considerable irregularities, both of which are typical indicator for morphology instead of syntax. Potential complements are less suffix-like historically, since there are expressions like 拉他[得过] in older stages of Mandarin 邓思颖 (2010, § 7.3), but in Modern Standard Chinese, such constructions almost completely vanish. Compared to these complement types, direction complements have more phrasal properties, as we have the following examples:

(10.27)   我$_{\text{subject}}$ 带$_{\text{verb stem}}$ 了$_{\text{aspect}}$ [一   瓶   酒   ]$_{\text{object}}$ 来$_{\text{direction complement}}$ 。
          1sg   carry   PERF   one CLS.bottle alcohol   come

'I carry a bottle of alcohol to this place.'

In the example above, the direction complement is detached from the verb, with the object residing between the verb and the direction complement. This may be regarded as a phrasal property,

10.2   Direction complements

Direction complements are post-verbal particles (§ 6.1) and describe the direction of the action described by the main verb. Possible direction complements form a smallish class of particles. A member of this class may be from a small set of monosyllabic movement verbs, or formally a monosyllabic movement verb but with a different meaning from its ordinary meaning when used as a verb, or a disyllabic movement verb made of two monosyllabic movement verbs, or a construction with a quite similar form of the aforementioned disyllabic movement verb but does not stand as a movement verb itself.

The limited variation range of direction complements makes some authors remove them from the family of complements (Po-Ching and Rimmington, 2015, § 8.5). The name Po-Ching and Rimmington (2015) gives for direction complements is *direction indicator*. The name used in this book is still *direction complement* because direction complements and other types of complements except quantifier complements are in contrastive distribution and are better classified as complements since they fill the position of noncontroversial complements, direction complements are sometimes similar to result complements, and direction complements are closely linked to potential complements (§ 10.4.1). However, the limited and heterogeneous nature of the range of direction complements means it is better to enumerate each possible direction complement, just in the same manner people list grammatical words.

10.2.1 The monosyllabic 来 and 去

The two monosyllabic movement verbs, 来 'come' and 去 'go', can fill the direction complement position of movement verbs. Their meanings as direction complements are close to their meaning as movement verbs: 来 means 'moving toward to the given point' and 去 means 'moving away from the given point', where the "given point" is frequently the speaker, but may also be the listener or some point relevant in the dialogue. The distributions of 来 and 去 are almost identical. The differences include the phenomena that some verbs only occur together one of 来 and 去, and that some verb-complement complex has an idiomatic meaning.

10.2.1.1 Constituent order in clauses with 来 and 去

Here are some examples of clauses with complement 来:

(10.28) No object

他　回$_{\text{main verb}}$ [来]$_{\text{direction complement}}$ 了$_{\text{SFP}}$ 。
3sg go.back　　come

'He has comes back (to where the speaker or the listener or someone with close relation with them lives).'

(10.29) With a goal object (§ 9.3)

  a. 我　回$_{\text{main verb}}$ 上海$_{\text{object: goal}}$ [来]$_{\text{direction complement}}$ 了$_{\text{SFP}}$。
    1sg go.back　　Shanghai　　come

    'I have come back to Shanghai (where the listener lives or where the speaker's family lives).'

  b. *我回来上海了。

(10.30) 我回上海来了一趟。

(10.31)   a. With a 他带来了两只鸡。
    b. 他带了两只鸡来。

  (10.29) means the goal object of the main verb, if any, is to be placed between

10.2.1.2 When only one of 来 and 去 may appear

(10.32)   a. 我买来了一只鸡。
    b. *我买去了一只鸡。

10.3 Result complements

A result complement
　　做完

10.4 Potential complements

10.4.1 Potential complements about direction

In a verb-direction complement construction without any aspectual markers, the verb and the direction complement are always adjacent. Inserting 得 between the verb and the direction complement gives us a **positive directional potential complement**, while inserting 不 between the verb and the direction complement gives us a **negative directional result complement**. This is illustrated by the following example:

(10.33)   a. verb-direction complement construction

    爬$_{\text{main verb}}$ 上$_{\text{direction complement}}$ [那　　座　　山　　]$_{\text{object}}$
    climb　　up　　　　DIST.DEM CLS mountain

    'climb up that mountain'

    b. positive directional potential complement construction

我 [爬　　得　上 [那　　　　座　山　　　]object
1sg　climb DE up　DIST.DEM CLS mountain

]positive potential complement construction 。

     'I [am able to climb up that mountain].'

    c. negative directional potential complement construction

我 [爬　　不　　上 [那　　　　座　山　　　]object
1sg　climb NEG up　DIST.DEM CLS mountain

]negative potential complement construction 。

     'I [am not able to climb up that mountain].'

Note that (10.33c) is the only grammatical way to express negative polarity in a nucleus predicate with directional potential complement construction. It is not possible to insert a negative operator into, say, (10.33b) to obtain something equivalent to (10.33c).

10.4.2 Potential complements about possibility

The final type of potential complements is the class of **potential complements about possibility**. This type of complements is about the possibility of the action denoted by the main verb *itself* – not the possibility of the action denoted by the main verb *and* a direction or result complement.

10.5 Manner and consequence complements

Manner complements are also called degree complements 程度补语 for obvious reasons. Consequence complements are also called state complements 状态补语, since they describe the state of objects undergoing the action in question (王理嘉 et al., 2004, § 5.8.4).

10.5.0.1 Manner and consequence complements and pseudo-attributive constructions

(10.34)　Pseudo-attributive constructions
    a. 他的老师当得好。
    b. 他的工作做得细致。

(黄正德, 2008)

10.6 Time and location complements

Time and location complements are often called as **prepositional complements**, because they are realized as prepositional phrases (chap. 13). These complements illustrate where and when the action they modify happens. Here are some examples of time and location complements:

(10.35)　Location of action
    a. 他 住 [在preposition 北京 　]location complement。
     3sg live　at　　　　Beijing
     'He lives in Beijing.'
    b. 我 蹲　 [在preposition [厕所 里　　]location phrase]location complement。
     1sg squat　at　　　　toilet inside
     'I squat in the toilet.'
(10.36)　Time of action

a. 鲁迅　　生　　　[于_{preposition} 1881年_{time phrase}]_{time complement}。
   Lu.Xun be.born　at　　　　1881

   'Lu Xun was born in 1881.'

b. 我 等 他 一直　　　等 [到_{preposition} 昨天_{time phrase}]_{time complement}。
   1sg wait 3sg continuously wait　towards　　yesterday

   'I waited for him until yesterday.'

Since the distinction between Chinese prepositions and verbs is somehow vague, with lots of prepositions being better named as coverbs (chap. 13), location complements are sometimes hard to be separated from serial verb constructions. Consider the following example:

(10.37)　Destination of object

我 交　　了　一 本　　　　书 [给_{coverb} 他]_{???}。
1sg hand.over PERF one CLF.book.like book　give　3sg

'I give him a book.'

The bracketed words give information about towards which place the object 书 moves. Should we analyze it as a marginal location complement?

10.7　Quantity complements

The **quantity complement**, also considered as a subset of time expressions (and not listed in complements) by some authors (Po-Ching and Rimmington, 2015, § 7.2-§ 7.4) or as quasi-objects by others (王理嘉 et al., 2004, § 5.7), is usually filled by a
Quantity complement
黄正德 (2008)

Chapter 11

Serial verb constructions

Chapter 12

Negation

Chapter 13

Prepositions and coverbs in clauses

13.1 The status and structure of coverb constructions

Chapter 14

Disposal constructions

Chapter 15

Passive constructions and the 被-construction

15.1 The name of passive construction

I will first discuss how appropriate it is to use the term *passive* in Chinese syntax.
(梅广, 2018)

Chapter 16

Sentence final particles

16.1 Tense-like sentence final particles

16.1.1 The particle 了$_2$

(梅广, 2018, § 11.2.2) considers the SFP 了 as a marker of a rather weak tense system, which hints the listener to pay attention to the speech time. This analysis entails the changing situation analysis when the dialogue is about a current event, since emphasis on the speech time means emphasis on what has already happened, i.e. how the situation has changed. This is illustrated by the following example:

(16.1)   a. (- 你 在 　干 什么 ?) - 我 在 　穿 　衣服 　　。
             2sg DUR do what   1sg DUR wear clothes

          '(What are you doing?) I am wearing clothes.'

    b. 我 在 　穿 　衣服 　了 。
        1sg DUR wear clothes LE

        'I am wearing clothes *now/already* (so please don't urge me over and over again!)'

However, consider the following example:

(16.2) 我 去年 　　就 来 　这里 了 。
       1sg last.year JIU come here LE

     'I have been living at this place since last year.'

In the above example, the focus is definitely not the *speech time*, but the . My position is therefore that 了$_2$ is not about speech time and hence not a tense marker, but a *sentential aspect* marker (Pan, 2022) indicating a change of the situation.

16.1.2 The particle 呢

Part IV

Sentence types, pragmatics and the information structure

Part V

Multiple clause constructions

Chapter 17

Relative constructions

Chapter 18

Complement clauses

Chapter 19

Coordination

Part VI

Prosody

Chapter 20

Overview of the Chinese prosody structure

Prosody is important in many languages, especially in poetry. In Chinese, however, prosody is not *just* about poetry – it plays a significant role in the grammar, and is responsible for many seemingly weird phenomena.

Part VII

Word formation and etymology

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